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Abstract

This report is a compilation of data on contaminant concentrations in marine fish used in the Norwegian contribution to the Joint Assessment and Monitoring Programme (JAMP) and concerns mainly selected metals organochlorines, polycyclic aromatic hydrocarbons that were collected during the period 1998-2001

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**JOINT ASSESSMENT AND MONITORING PROGRAMME (JAMP),
CONTAMINANTS IN FISH 1997-2001**

Oslo, 25 December 2002

Project co-ordinator: Norman W. Green

Foreword

This report presents the Norwegian aggregated data for contaminants in marine fish species 1981-2001 compiled for the Joint Assessment and Monitoring Programme (JAMP). JAMP is administered by the Oslo and Paris Commissions (OSPAR) and their Environmental Assessment and Monitoring Committee (ASMO). JAMP receives guidance from the International Council for the Exploration of the Sea (ICES).

The Norwegian JMP was carried out by the Norwegian Institute for Water Research (NIVA) by contract from the Norwegian State Pollution Control Authority (SFT, NIVA contract 80106). Norwegian Institute for Air Research (NILU) has also contributed.

The Norwegian contribution to the JAMP was initiated by SFT in 1981 as part of the national monitoring programme. Three main areas have been investigated: the Oslofjord and adjacent areas (Hvaler-Singlefjord area and Langesundsford, 1981-), Sørpfjord/Hardangerfjord (1983-1984, 1987-) and Orkdalsfjord area (1984-1989, 1991-1993, 1995-96).

Initiated by the North Sea Task Force Monitoring Master Plan in 1990, Arendal, Lista and Bømlo-Sotra areas have also been monitored. On the initiative of SFT and NIVA "reference" or merely diffusely contaminated areas from Bergen to Lofoten have been monitored since 1992 and from Lofoten to Norwegian-Russian border from 1994.

The report is one of four in a series of data reports:

- 1. Contaminant data for sediments 1986-1997
SFT report no.861/02, NIVA report no. 4599-2002*
- 2. Contaminant data for shellfish 1998-2001,
SFT report no.862/02, NIVA report no. 4600-2002*
- 3. Contaminant data for fish 1998-2001
SFT report no. 863/02, NIVA report no. 4601-2002*
- 4. Summary statistics for contaminants in shellfish and fish 1981-2001
SFT report no. 864/02, NIVA report no. 4602-2002*

Because of their similarity, appendices A, B, C (biota only), D (biota only) and E concerning abbreviations, analyses, station positions and maps are the same for all four reports.

Thanks are due to my colleagues at NIVA and Institute for Energy Technology, Institute for Nutrition, Fisheries Directorate, Norwegian Institute for Air Research (NILU), Nordic Analytical Center (NAC), Norwegian Veterinary Institute and Fondation for Scientific and Industrial Research (SINTEF) for helping to compile this data. These have been credited earlier in JAMP data reports and annual JAMP National Comments.

Oslo, 25 December 2002

Project co-ordinator Norman W. Green

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1. Background and aims

The Oslo and Paris commissions were established in the seventies with the aim to protect the marine environment against anthropogenic contamination. The Oslo commission focuses on problems relating to dumping at sea in the Northeast Atlantic and Baltic areas. The Paris commission focuses on discharges from land based sources. Together, the commission (Oslo and Paris Commission - OSPAR), govern the "Joint Assessment and Monitoring Programme" (JAMP). JAMP commenced in 1995 as a continuation of the "Joint Monitoring Programme" (JMP). It receives guidance from the "International Council for the Exploration of the Sea" (ICES). Norway and other European countries, which are members of OSPAR have committed themselves to protection of the marine environment of the North East Atlantic for preventing and elimination pollution, protecting human health and ensuring sound and healthy marine ecosystems (OSPAR 1998).

The Norwegian contribution to JAMP focuses on two JAMP areas: Oslofjord-area (including the Hvaler area, Singlefjord and Langesundsfjord) and the Sjørfjord/Hardangerfjord area. Orkdalsfjord, a third JAMP area, was discontinued after 1996. During 1990-1995 Norway has also included other areas, mostly remote from point sources of pollution, along the coast from the Swedish border in the South to the Russian aborder in the North. This was in connection with the Norwegian contribution to the investigation of the North Sea (*North Sea Task Force (NSTF) Monitoring Master Plan (MMP)*) in 1990 when the programme expanded to include areas from Oslofjorden to Bergen. The programme has since included areas farther north; Bergen to Lofoten in 1991-1992 and Lofoten to Varangerfjorden in 1993-1994.

An overview of the analytical methods (1981-2001) has been presented (Green *et al.* 2001a). The raw data has been presented for 1981-1983 (only Oslofjord; Enger *et al.* 1984, 1985), 1984-1985 (Green 1988), 1986 (Green 1987; SFT 1987), 1987 (SFT 1988), 1988 (Green 1989; SFT 1989), 1989 (Green 1991, SFT 1990), 1990 (Green 1992, JMG 1994), 1991 (Green 1993), 1992 (Green 1994, Green & Knutzen 1994), 1993 (Green 1995a), 1994 (Green 1995b), 1995 (Green 1997a), 1996 (Green 1997b), 1997 (Green *et al.* 1999), 1998 (Green *et al.* 2000), 1999 (Green *et al.*, 2001c), 2000 (Green *et al.*, 2002), 2001 (Green, *et al.*, in prep.). The results have been incorporated in European JMG regional assessments of biota (ICES 1988, JMG 1992b) and temporal trends in biota (ICES 1989; 1991; ASMO 1994). The raw data has been presented for biota 1981-1992 (Green & Rønningen 1994a, b) and 1993-1997 (Green & Severinsen 1999a, b, c). The results for 1981-1992 have been assessed by Green *et al.* (1995). The results for 1981-1999 have been assessed by Green *et al.* (2001c). An evaluation of "background" levels of contaminants in biota based on JMP data has been done by Knutzen & Green (1995, 2001). Application of pollution and reference indices using the blue mussel and coordinated with JAMP has also been assessed (Green & Knutzen 2001).

2. Sampling

The JAMP stations monitored 1981-2001 by Norway are spread from the Swedish border to Varangerfjorden (Appendix D. Appendix E.).

The sampling of biota follows the OSPAR guidelines (1997) as closely as possible. These have replaced relevant portions of earlier guidelines (ICES 1986, 1992 including revisions up to 1994). A summary of sampling methods can be found in Green (2002).

Cod (*Gadus morhua*) and one flatfish species are sampled; 25 individuals of each species. If possible, the same species collected in previous years at the selected stations are to be collected in 1999. The order of preference for flatfish species is: **dab** (*Limanda limanda*), **flounder** (*Platichthys flesus*), **plaice** (*Pleuronectes platessa*) and **lemon sole** (*Microstomus kitt*). If possible, the fish samples are sampled with five individuals within each of the five length classes roughly geometrically distributed, viz.:

size-class	cod	flatfish
1	370-420mm	300-320mm
2	420-475mm	320-340mm
3	475-540mm	340-365mm
4	540-615mm	365-390mm
5	615-700mm	390-420mm

3. Analyses

JAMP (OSPAR 1990) agreed that the concentration of at least cadmium, copper, mercury, lead, zinc and polychlorinated hydrocarbons should be monitored in biota. In these investigations many other contaminants have also been quantified. A complete list of variables used is given in Appendix B.

An overview of the contaminants and associated analytical methods is shown in Appendix B. A brief description of the analytical methods is given by Green *et al.* (2001a). Nearly all the metal analyses and most of the organic analyses were performed at the Norwegian Institute for Water Research (NIVA) (cf. Appendix B.). Analyses of biota were also made by: Institute for Energy Technology, Institute for Nutrition, Fisheries Directorate, Norwegian Institute for Air Research (NILU), Nordic Analytical Center (NAC), Norwegian Veterinary Institute and Fondation for Scientific and Industrial Research (SINTEF).

For **fish** two types of tissue are analysed. The fish fillet is analysed for the mercury and PCB content and the liver for all mentioned contaminants except mercury. In addition, the age, sex, and pathological state for each individual is determined. Other measurements include: fish weight and length, weight of liver, liver dry weight and fat content (% total extractable fat), the fillet dry weight and its % fat content.

4. Comment on QA and detection limit

Analytical labs have been routinely involved in international and national intercalibration exercises for quality assurance (QA), including QUASIMEME since 1994. In addition the laboratories have (more regularly in recent years) analysed standard reference material in connection with analyses of the samples used in monitoring. The results of intercalibration exercises and analyses of the standard reference material are discussed in part in the annual National Comments (cf. Green *et al.* 2002).

The detection limits are approximations based on 3 times the standard deviation of the 'blank' or near zero concentration of a solution. Day-to-day variations in the analytical instrument may lead to minor variation in detection limits.

5. Comment on raw data

The raw data for fish 1998-2001 is shown in Appendix F. Special attention should be made to notes and comments preceding each Appendix.

The data is stored in MS ACCESS 1997. The tables are generated using MS ACCESS 97 and MS EXCEL 97.

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Appendix A. Abbreviations

Abbreviation¹	English	Norwegian
ELEMENTS		
Al	aluminium	<i>aluminium</i>
As	arsenic	<i>arsen</i>
Cd	cadmium	<i>kadmium</i>
Co	cobalt	<i>kobolt</i>
Cr	chromium	<i>krom</i>
Cu	copper	<i>kobber</i>
Fe	iron	<i>jern</i>
Hg	mercury	<i>kvikksølv</i>
Li	lithium	<i>litium</i>
Mn	manganese	<i>mangan</i>
Ni	nickel	<i>nikkel</i>
Pb	lead	<i>bly</i>
Pb210	lead-210	<i>bly-210</i>
Se	selenium	<i>selen</i>
Ti	titanium	<i>titan</i>
Zn	zinc	<i>sink</i>
PAHs		
PAH	polycyclic aromatic hydrocarbons	<i>polysykliske aromatiske hydrokarboner</i>
ACNE	acenaphthene	<i>acenaften</i>
ACNLE	acenaphthylene	<i>acenaftylen</i>
ANT	anthracene	<i>antracen</i>
BAA³	benzo[a]anthracene	<i>benzo[a]antracen</i>
BAP³	benzo[a]pyrene	<i>benzo[a]pyren</i>
BBF³	benzo[b]fluoranthene	<i>benzo[b]fluoranten</i>
BBJKF³	benzo[b,j,k]fluoranthene	<i>benzo[b,j,k]fluoranten</i>
BBJKF³	benzo[b+j,k]fluoranthene	<i>benzo[b+j,k]fluoranten</i>
BBKF³	benzo[b+k]fluoranthene	<i>benzo[b+k]fluoranten</i>
BEP	benzo[e]pyrene	<i>benzo[e]pyren</i>
BGHIP	benzo[ghi]perylene	<i>benzo[ghi]perylen</i>
BIPN²	biphenyl	<i>bifenyl</i>
BJKF³	benzo[j,k]fluoranthene	<i>benzo[j,k]fluorantren</i>
BKF³	benzo[k]fluoranthene	<i>benzo[k]fluorantren</i>
CHR	chrysene	<i>chrysen</i>
CHRTR	chrysene+triphenylene	<i>chrysen+trifenylen</i>
COR	coronene	<i>coronen</i>
DBAHA³	dibenz[a,h]anthracene	<i>dibenz[a,h]antracen</i>
DBA3A³	dibenz[a,c/a,h]anthracene	<i>dibenz[a,c/a,h]antracen</i>
DBP³	dibenzopyrenes	<i>dibenzopyren</i>
DBT	dibenzothiophene	<i>dibenzothiofen</i>
DBTC1	C ₁ -dibenzothiophenes	<i>C₁-dibenzotiofen</i>
DBTC2	C ₂ -dibenzothiophenes	<i>C₂-dibenzotiofen</i>
DBTC3	C ₃ -dibenzothiophenes	<i>C₃-dibenzotiofen</i>
FLE	fluorene	<i>fluoren</i>
FLU	fluoranthene	<i>fluoranten</i>

Abbreviation ¹	English	Norwegian
PAHs (cont.)		
ICDP ³	indeno[1,2,3-cd]pyrene	<i>indeno[1,2,3-cd]pyren</i>
NAP ²	naphthalene	<i>naftalen</i>
NAPC1 ²	C ₁ -naphthalenes	<i>C₁-naftalen</i>
NAPC2 ²	C ₂ -naphthalenes	<i>C₂-naftalen</i>
NAPC3 ²	C ₃ -naphthalenes	<i>C₃-naftalen</i>
NAP1M ²	1-methylnaphthalene	<i>1-metylnaftalen</i>
NAP2M ²	2-methylnaphthalene	<i>2-metylnaftalen</i>
NAPD2 ²	1,6-dimethylnaphthalene	<i>1,6-dimetylnaftalen</i>
NAPD3 ²	1,5-dimethylnaphthalene	<i>1,5-dimetylnaftalen</i>
NAPDI ²	2,6-dimethylnaphthalene	<i>2,6-dimetylnaftalen</i>
NAPT2 ²	2,3,6-trimethylnaphthalene	<i>2,3,6-trimetylnaftalen</i>
NAPT3 ²	1,2,4-trimethylnaphthalene	<i>1,2,4-trimetylnaftalen</i>
NAPT4 ²	1,2,3-trimethylnaphthalene	<i>1,2,3-trimetylnaftalen</i>
NAPTM ²	2,3,5-trimethylnaphthalene	<i>2,3,5-trimetylnaftalen</i>
NP	Collective term for naphthalenes, phenanthrenes and dibenzothiophenes	<i>Samlebetegnelse for naftalen, fenantren og dibenzotiofens</i>
PA	phenanthrene	<i>fenantren</i>
PAC1	C ₁ -phenanthrenes	<i>C₁-fenantren</i>
PAC2	C ₂ -phenanthrenes	<i>C₂-fenantren</i>
PAM1	1-methylphenanthrene	<i>1-metylfenantren</i>
PAM2	2-methylphenanthrene	<i>2-metylfenantren</i>
PADM1	3,6-dimethylphenanthrene	<i>3,6-dimetylfenantren</i>
PADM2	9,10-dimethylphenanthrene	<i>9,10-dimetylfenantren</i>
PER	perylene	<i>perylen</i>
PYR	pyrene	<i>pyren</i>
DI-Σn	sum of "n" dicyclic "PAH"s (footnote 2)	<i>sum "n" disykliske "PAH" (fotnote 2)</i>
P-Σn	sum "n" PAH	<i>sum "n" PAH</i>
PK-Σn	sum carcinogen PAH's (footnote 3)	<i>sum kreftfremkallende PAH (fotnote 3)</i>
PAHΣΣ	DI-Σn + P-Σn etc.	<i>DI-Σn + P-Σn mm..</i>
SPAH	"total" PAH, specific compounds not quantified (outdated analytical method)	<i>"total" PAH, spesifikke forbindelser ikke kvantifisert (foreldet metode)</i>
BAP_P	% BAP av PAHΣΣ	<i>% BAP av PAHΣΣ</i>
BAPPP	% BAP of P-Σn	<i>% BAP av P-Σn</i>
BPK_P	% BAP of PK-Σn	<i>% BAP av PK-Σn</i>
PKn_P	% PK-Σn av PAHΣΣ	<i>% PK-Σn av PAHΣΣ</i>
PKnPP	% PK-Σn av P-Σn	<i>% PK-Σn av P-Σn</i>

Abbreviations (cont'd.)

Abbreviation ¹	English	Norwegian
PCBs		
PCB	polychlorinated biphenyls	<i>polyklorerte bifenyler</i>
CB	individual chlorobiphenyls (CB)	<i>enkelte klorobifenyl</i>
CB28	CB28 (IUPAC)	<i>CB28 (IUPAC)</i>
CB31	CB31 (IUPAC)	<i>CB31 (IUPAC)</i>
CB44	CB44 (IUPAC)	<i>CB44 (IUPAC)</i>
CB52	CB52 (IUPAC)	<i>CB52 (IUPAC)</i>
CB77 ⁴	CB77 (IUPAC)	<i>CB77 (IUPAC)</i>
CB81 ⁴	CB81 (IUPAC)	<i>CB81 (IUPAC)</i>
CB95	CB95 (IUPAC)	<i>CB95 (IUPAC)</i>
CB101	CB101 (IUPAC)	<i>CB101 (IUPAC)</i>
CB105	CB105 (IUPAC)	<i>CB105 (IUPAC)</i>
CB110	CB110 (IUPAC)	<i>CB110 (IUPAC)</i>
CB118	CB118 (IUPAC)	<i>CB118 (IUPAC)</i>
CB126 ⁴	CB126 (IUPAC)	<i>CB126 (IUPAC)</i>
CB128	CB128 (IUPAC)	<i>CB128 (IUPAC)</i>
CB138	CB138 (IUPAC)	<i>CB138 (IUPAC)</i>
CB149	CB149 (IUPAC)	<i>CB149 (IUPAC)</i>
CB153	CB153 (IUPAC)	<i>CB153 (IUPAC)</i>
CB156	CB156 (IUPAC)	<i>CB156 (IUPAC)</i>
CB169 ⁴	CB169 (IUPAC)	<i>CB169 (IUPAC)</i>
CB170	CB170 (IUPAC)	<i>CB170 (IUPAC)</i>
CB180	CB180 (IUPAC)	<i>CB180 (IUPAC)</i>
CB194	CB194 (IUPAC)	<i>CB194 (IUPAC)</i>
CB209	CB209 (IUPAC)	<i>CB209 (IUPAC)</i>
CB-Σ7	CB: 28+52+101+118+138+153+180	<i>CB: 28+52+101+118+138+153+180</i>
CB-ΣΣ	sum of CBs, includes CB-Σ7	<i>sum CBer, inkluderer CB-Σ7</i>
TECBW	Sum of CB-toxicity equivalents after WHO model, see TEQ	<i>Sum CB- toksitets ekvivalenter etter WHO modell, se TEQ</i>
TECBS	Sum of CB-toxicity equivalents after SAFE model, see TEQ	<i>Sum CB-toksitets ekvivalenter etter SAFE modell, se TEQ</i>

Abbreviations (cont'd.)

Abbreviation ¹	English	Norwegian
DIOXINS		
TCDD	2, 3, 7, 8-tetrachloro-dibenzo dioxin	<i>2, 3, 7, 8-tetrakloro-dibenzo dioksin</i>
CDDST	Sum of tetrachloro-dibenzo dioxins	<i>Sum tetrakloro-dibenzo dioksiner</i>
CDD1N	1, 2, 3, 7, 8-pentachloro-dibenzo dioxin	<i>1, 2, 3, 7, 8-pentakloro-dibenzo dioksin</i>
CDDSN	Sum of pentachloro-dibenzo dioxins	<i>Sum pentakloro-dibenzo dioksiner</i>
CDD4X	1, 2, 3, 4, 7, 8-hexachloro-dibenzo dioxin	<i>1, 2, 3, 4, 7, 8-heksakloro-dibenzo dioksin</i>
CDD6X	1, 2, 3, 6, 7, 8-hexachloro-dibenzo dioxin	<i>1, 2, 3, 6, 7, 8-heksakloro-dibenzo dioksin</i>
CDD9X	1, 2, 3, 7, 8, 9-hexachloro-dibenzo dioxin	<i>1, 2, 3, 7, 8, 9-heksakloro-dibenzo dioksin</i>
CDDSX	Sum of hexachloro-dibenzo dioxins	<i>Sum heksakloro-dibenzo dioksiner</i>
CDD6P	1, 2, 3, 4, 6, 7, 8-heptachloro-dibenzo dioxin	<i>1, 2, 3, 4, 6, 7, 8-heptakloro-dibenzo dioksin</i>
CDDSH	Sum of heptachloro-dibenzo dioxins	<i>Sum heptakloro-dibenzo dioksiner</i>
CDDO	Octachloro-dibenzo dioxin	<i>Oktakloro-dibenzo dioksin</i>
PCDD	Sum of polychlorinated dibenzo-p-dioxins	<i>Sum polyklorinaterte-dibenzo-p-dioksiner</i>
CDF2T	2, 3, 7, 8-tetrachloro-dibenzofuran	<i>2, 3, 7, 8-tetrakloro-dibenzofuran</i>
CDFST	Sum of tetrachloro-dibenzofurans	<i>Sum tetrakloro-dibenzofuraner</i>
CDFDN	1, 2, 3, 7, 8/1, 2, 3, 4, 8-pentachloro-dibenzofuran	<i>1, 2, 3, 7, 8/1, 2, 3, 4, 8-pentakloro-dibenzofuran</i>
CDF2N	2, 3, 4, 7, 8-pentachloro-dibenzofurans	<i>2, 3, 4, 7, 8-pentakloro-dibenzofuran</i>
CDFSN	Sum of pentachloro-dibenzofurans	<i>Sum pentakloro-dibenzofuraner</i>
CDFDX	1, 2, 3, 4, 7, 8/1, 2, 3, 4, 7, 9-hexachloro-dibenzofuran	<i>1, 2, 3, 4, 7, 8/1, 2, 3, 4, 7, 9-heksakloro-dibenzofuran</i>
CDF6X	1, 2, 3, 6, 7, 8-hexachloro-dibenzofuran	<i>1, 2, 3, 6, 7, 8-heksakloro-dibenzofuran</i>
CDF9X	1, 2, 3, 7, 8, 9-hexachloro-dibenzofuran	<i>1, 2, 3, 7, 8, 9-heksakloro-dibenzofuran</i>
CDF4X	2, 3, 4, 6, 7, 8-hexachloro-dibenzofuran	<i>2, 3, 4, 6, 7, 8-heksakloro-dibenzofuran</i>
CDFSX	Sum of hexachloro-dibenzofurans	<i>Sum heksakloro-dibenzofuraner</i>
CDF6P	1, 2, 3, 4, 6, 7, 8-heptachloro-dibenzofuran	<i>1, 2, 3, 4, 6, 7, 8-heptakloro-dibenzofuran</i>
CDF9P	1, 2, 3, 4, 7, 8, 9-heptachloro-dibenzofuran	<i>1, 2, 3, 4, 7, 8, 9-heptakloro-dibenzofuran</i>
CDFSP	Sum of heptachloro-dibenzofurans	<i>Sum heptakloro-dibenzofuraner</i>
CDFO	Octachloro-dibenzofurans	<i>Oktakloro-dibenzofuran</i>
PCDF	Sum of polychlorinated dibenzo-furans	<i>Sum polyklorinertedibenzo-furaner</i>
CDDFS	Sum of PCDD and PCDF	<i>Sum PCDD og PCDF</i>
TCDDN	Sum of TCDD-toxicity equivalents after Nordic model, see TEQ	<i>Sum TCDD- toksitets ekvivalenter etter Nordisk modell, se TEQ</i>
TCDDI	Sum of TCDD-toxicity equivalents after international model, see TEQ	<i>Sum TCDD-toksitets ekvivalenter etter internasjonale modell, se TEQ</i>

Abbreviations (cont'd.)

Abbreviation¹	English	Norwegian
PESTICIDES		
ALD	aldrin	<i>aldrin</i>
DIELD	dieldrin	<i>dieldrin</i>
ENDA	endrin	<i>endrin</i>
CCDAN	cis-chlordane (=α-chlordane)	<i>cis-klordan (=α-klordan)</i>
TCDAN	trans-chlordane (=γ-chlordane)	<i>trans-klordan (=γ-klordan)</i>
OCDAN	oxy-chlordane	<i>oksy-klordan</i>
TNONC	trans-nonachlor	<i>trans-nonaklor</i>
TCDAN	trans-chlordane	<i>trans-klordan</i>
OCS	octachlorostyrene	<i>oktaklorstyren</i>
QCB	pentachlorobenzene	<i>pentaklorbenzen</i>
DDD	dichlorodiphenyldichloroethane 1,1-dichloro-2,2-bis- (4-chlorophenyl)ethane	<i>diklordifenyldikloreten</i> <i>1,1-dikloro-2,2-bis-(4-klorofenyl)etan</i>
DDE	dichlorodiphenyldichloroethylene (principle metabolite of DDT) 1,1-dichloro-2,2-bis- (4-chlorophenyl)ethylene*	<i>diklordifenyldikloretylen</i> <i>(hovedmetabolitt av DDT)</i> <i>1,1-dikloro-2,2-bis-</i> <i>(4-klorofenyl)etylen</i>
DDT	dichlorodiphenyltrichloroethane 1,1,1-trichloro-2,2-bis- (4-chlorophenyl)ethane	<i>diklordifenyltrikloreten</i> <i>1,1,1-trikloro-2,2-bis-(4-klorofenyl)etan</i>
DDEOP	o,p'-DDE	<i>o,p'-DDE</i>
DDEPP	p,p'-DDE	<i>p,p'-DDE</i>
DDTOP	o,p'-DDT	<i>o,p'-DDT</i>
DDTPP	p,p'-DDT	<i>p,p'-DDT</i>
TDEPP	p,p'-DDD	<i>p,p'-DDD</i>
DDTEP	p,p'-DDE + p,p'-DDT	<i>p,p'-DDE + p,p'-DDT</i>
DD-nΣ	sum of DDT and metabolites, n = number of compounds	<i>sum DDT og metabolitter,</i> <i>n = antall forbindelser</i>
HCB	hexachlorobenzene	<i>heksaklorbenzen</i>
HCHG	Lindane γ HCH = gamma hexachlorocyclohexane (γ BHC = gamma benzenehexachloride, outdated synonym)	<i>Lindan</i> <i>γ HCH = gamma heksaklorsyκλοheksan</i> <i>(γ BHC = gamma benzenheksaklorid,</i> <i>foreldret betegnelse)</i>
HCHA	α HCH = alpha HCH	<i>α HCH = alpha HCH</i>
HCHB	β HCH = beta HCH	<i>β HCH = beta HCH</i>
HC-nΣ	sum of HCHs, n = count	<i>sum av HCHs, n = antall</i>
EOCI	extractable organically bound chlorine	<i>ekstraherbart organisk bundet klor</i>
EPOCI	extractable persistent organically bound chlorine	<i>ekstraherbart persistent organisk bundet klor</i>
NTOT	total organic nitrogen	<i>total organisk nitrogen</i>
CTOT	total organic carbon	<i>total organisk karbon</i>
CORG	organic carbon	<i>organisk karbon</i>
GSAMT	grain size	<i>kornfordeling</i>
MOCON	moisture content	<i>vanninnhold</i>

Abbreviations (cont'd.)

Abbreviation ¹	English	Norwegian
INSTITUTES		
IFEN	Institute for Energy Technology	<i>Institutt for energiteknikk</i>
FIER	Institute for Nutrition, Fisheries Directorate	<i>Fiskeridirektoratets Ernæringsinstitutt</i>
FORC	FORCE Institutes, Div. for Isotope Technique and Analysis [DK]	<i>FORCE Institutterne, Div. for Isotopteknik og Analyse [DK]</i>
IMRN	Institute of Marine Research (IMR)	<i>Havforskningsinstituttet</i>
NACE	Nordic Analytical Center	<i>Nordisk Analyse Center</i>
NILU	Norwegian Institute for Air Research	<i>Norsk institutt for luftforskning</i>
NIVA	Norwegian Institute for Water Research	<i>Norsk institutt for vannforskning</i>
SERI	Swedish Environmental Research Institute	<i>Institutionen för vatten- och luftvårdsforskning</i>
VETN	Norwegian Veterinary Institute	<i>Veterinærinstituttet</i>
SIIF	Fondation for Scientific and Industrial Research at the Norwegian Institute of Technology - SINTEF (a division, previously: Center for Industrial Research SI)	<i>Stiftelsen for industriell og teknisk forskning ved Norges tekniske høgskole- SINTEF (en avdeling, tidligere: Senter for industriforskning SI)</i>

- 1) After: ICES Environmental Data Reporting Formats. International Council for the Exploration of the Sea. July 1996 and supplementary codes related to non-ortho and mono-ortho PCB's and "dioxins" (ICES pers. comm.)
- 2) Indicates "PAH" compounds that are dicyclic and not truly PAH's typically identified during the analyses of PAH, include naphthalenes and "biphenyls".
- 3) Indicates PAH compounds potentially cancerogenic for humans according to IARC (1987), i.e., categories 2A+2B (possibly and probably carcinogenic).
- 4) Indicates non ortho- co-planer PCB compounds ie., those that lack Cl in positions 1, 1', 5, and 5'
- *) The Pesticide Index, second edition. The Royal Society of Chemistry, 1991.

Other abbreviations andre forkortelser

	English	Norwegian
TEQ	"Toxicity equivalency factors" for the most toxic compounds within the following groups:	" <i>Toxisitetsequivallentfaktorer</i> " for de giftigste forbindelsene innen følgende grupper.
	<ul style="list-style-type: none"> polychlorinated dibenzo-p-dioxins and dibenzofurans (PCDD/PCDFs). Equivalents calculated after Nordic model (Ahlborg 1989) ¹ or international model (Int./EPA, cf. Van den Berg <i>et al.</i>, 1998) ² non-ortho and mono-ortho substituted chlorobiphenyls after WHO model (Ahlborg <i>et al.</i>, 1994) ³ or Safe (1994, cf. NILU pers. comm.) 	<ul style="list-style-type: none"> <i>polyklorete dibenzo-p-dioksiner og dibenzofuraner (PCDD/PCDF)</i>. <i>Ekvivalentberegning etter nordisk modell (Ahlborg 1989) ¹ eller etter internasjonal modell (Int./EPA, cf. Van den Berg et al. 1998) ²</i> <i>non-orto og mono-orto substituerte klorobifenylar etter WHO modell (Ahlborg et al., 1994) ³ eller Safe (1994, cf. NILU pers. medd.)</i>
ppm	parts per million, mg/kg	<i>deler pr. milliondeler, mg/kg</i>
ppb	parts per billion, µg/kg	<i>deler pr. milliarddeler, µg/kg</i>
ppp	parts per trillion, ng/kg	<i>deler pr. tusen-milliarddeler, ng/kg</i>
d.w.	dry weight basis	<i>tørrvekt basis</i>
w.w.	wet weight or fresh weight basis	<i>våttvekt eller friskvekt basis</i>

¹) Ahlborg, U.G., 1989. Nordic risk assessment of PCDDs and PCDFs. Chemosphere 19:603-608.

²) Van den Berg, Birnbaum, L, Bosveld, A. T. C. and co-workers, 1998. Toxic equivalency factors (TEFs) for PCBs, PCDDs, PCDFs for humans and wildlife. Environ Hlth. Perspect. 106:775-792.

³) Ahlborg, U.G., Becking G.B., Birnbaum, L.S., Brouwer, A, Derks, H.J.G.M., Feely, M., Golor, G., Hanberg, A., Larsen, J.C., J.C., Liem, A.K.G., Safe, S.H., Schlatter, C., Wärn, F., Younes, M., Yrjänheikki, E., 1994. Toxic equivalency factors for dioxin-like PCBs. Report on a WHO-ECEH and IPSC consultation , December 1993. Chemosphere 28:1049-1067.

Appendix B. Analytical overview

Sorted by:

- Contaminant, year, laboratory, intercalibration

Abbreviations are defined in Appendix A. and Appendix C.

Contamin.	Contaminant defined in Appendix A.
Mon. Year	Monitoring year
Lab.	Analytical laboratory (cf. Appendix A.)
Intercalibr. +basis	Intercalibration exercise (cf. Appendix C.) and basis where W = wet weight and D = dry weight .
Detect limit	"Normal" detection limit
Count below d.lim	Number of analyses below normal detection limit
N (<) above d.lim	Number of analyses where detection limit was higher than normal.

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Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
ACNE	1992-NIVA		W	309	0.2	8			309	0.2	46		
	1995-NIVA		W						309	0.2	72		20
	1996-NIVA		W						309	0.2	65		19
	1997-NIVA		W						309	0.5	34		
	1998-NIVA	CI	W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	38		
	2001-NIVA		W						309	0.5	42		
ACNLE	1992-NIVA		W	309	0.2	8			309	0.2	46		
	1995-NIVA		W						309	0.2	72		49
	1996-NIVA		W						309	0.2	65		42
	1997-NIVA		W						309	0.5	34		
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	41		
AG	1996-NIVA		W						999 miss		3		
ANT	1992-NIVA		W	309	0.2	8			309	0.2	45		
	1995-NIVA		W						309	0.2	72		28
	1996-NIVA		W						309	0.2	65		30
	1997-NIVA		W						309	0.5	35		
	1998-NIVA	CI	W						309	0.5	39		
	1999-NIVA	EK	W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
AS	1996-NIVA		W						999 miss		3		
BAP	1992-NIVA		W	309	0.2	8			309	0.2	45		
	1995-NIVA		W						309	0.2	72		21
	1996-NIVA		W						309	0.2	65		26
	1997-NIVA	AL	W						309	0.5	36		
	1998-NIVA	CI	W						309	0.5	39		
	1999-NIVA	EK	W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
BBF	1992-NIVA		W	309	0.2	8			309	0.2	45		
	1995-NIVA		W						309	0.2	59		9
	1996-NIVA		W						309	0.2	57		6
BBJKF	1995-NIVA		W						309	0.2	12		
	1996-NIVA		W						309	0.2	8		
	1997-NIVA		W						309	0.2	36		1
	1998-NIVA		W						309	0.2	39		
	1999-NIVA		W						309	0.2	34		
	2000-NIVA		W						309	0.2	39		10
	2001-NIVA		W						309	0.2	42		
BEP	1992-NIVA		W	309	0.2	8			309	0.2	45		
	1995-NIVA		W						309	0.2	72		5
	1996-NIVA		W						309	0.2	65		6
	1997-NIVA		W						309	0.2	36		
	1998-NIVA	CI	W						309	0.2	38		
	1999-NIVA	EK	W						309	0.2	34		
	2000-NIVA		W						309	0.2	39		10
	2001-NIVA		W						309	0.2	42		
BGHIP	1992-NIVA		W	309	0.2	8			309	0.2	46		
	1995-NIVA		W						309	0.2	72		20
	1996-NIVA		W						309	0.2	65		10
	1997-NIVA		W						309	0.5	36		
	1998-NIVA	CI	W						309	0.5	35		
	1999-NIVA	EK	W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
BIPN	1992-NIVA		W	309	0.2	8			309	0.2	46		

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Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
	1995-NIVA		W						309	0.2	72		52
	1996-NIVA		W						309	0.2	62		39
	1997-NIVA		W						309	0.5	34		
	1998-NIVA		W						309	0.5	39	1	
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	38		1
	2001-NIVA		W						309	0.5	41		
BJKF	1992-NIVA		W	309	0.2	8			309	0.2	45		
	1995-NIVA		W						309	0.2	24		21
	1996-NIVA		W						309	0.2	57		16
BAA	1992-NIVA		W	309	0.2	8			309	0.2	44		
	1995-NIVA		W						309	0.2	72		9
	1996-NIVA		W						309	0.2	65		8
	1997-NIVA		W						309	0.5	36		
	1998-NIVA	CI	W						309	0.5	39		
	1999-NIVA	EK	W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
CB101	1987-SIIF		W						111	0.2	21	1	
	1988-SIIF		D						111	0.1	6		
	1988-SIIF		W						111	0.1	22		
	1989-NACE		W	510	20	93							
	1989-SIIF		W						111	0.1	36		
	1990-NIVA	2G	W	340	1	169	1		341	0.05	58		
	1990-SIIF	2G	W						111	0.4	41	6	
	1991-NIVA	2H	W	340	1	179		8	341	0.05	62		
	1991-SIIF	2H	W						111	0.2	35		1
	1992-NIVA	2J	W	340	5	192	3		341	0.1	140		
	1993-NIVA	2K	W	340	4	212	12		341	0.1	133		
	1994-NIVA	2Z	W	340	3	300	3		341	0.05	165	39	
	1995-NIVA		W	340	3	318	10		341	0.05	225	10	
	1996-NIVA		W	340	3	332	14		341	0.05	237	9	
	1997-NIVA		W	340	3	260	24						
	1997-NIVA	AJ	W						341	0.05	221	4	
	1998-NIVA		W	340	3	284	19	1					
	1998-NIVA	CH	W						341	0.05	197	1	3
	1999-NIVA		W	340	3	249	6						
	1999-NIVA	EG	W						341	0.05	226		13
	2000-NIVA		W	340	3	230	24						
	2000-NIVA	GU	W						341	0.05	180	11	7
	2001-NIVA		W	340	3	250	19	4					
	2001-NIVA	IO	W						341	0.05	205		16
CB105	1991-NIVA	2H	W	340	1	87		1	341	0.05	47		
	1992-NIVA		W	340	5	192	3		341	0.1	140		
	1993-NIVA	QM	W	340	4	212	21		341	0.1	133		
	1994-NIVA	2Z	W	340	3	300	8		341	0.05	165	53	
	1995-NIVA		W	340	3	318	13		341	0.05	224	34	
	1996-NIVA		W	340	3	332	22		341	0.05	231	23	
	1997-NIVA		W	340	3	260	24		341	0.05	221	3	1
	1998-NIVA		W	340	3	284	31	19					
	1998-NIVA	CH	W						341	0.05	201	11	16
	1999-NIVA		W	340	3	249	17						
	1999-NIVA	EG	W						341	0.05	226	4	61
	2000-NIVA		W	340	3	230	32						
	2000-NIVA	GU	W						341	0.05	180	21	37
	2001-NIVA		W	340	3	250	29	2					
	2001-NIVA	IO	W						341	0.05	205		76
CB118	1989-NACE		W	510	20	93							
	1989-SIIF		W						111	0.1	36		
	1990-NIVA	2G	W	340	1	169			341	0.05	58		
	1990-SIIF	2G	W						111	0.2	41	1	

JAMP contaminant data for fish 1998-2001 - Norway

Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
	1991-NIVA		2H W	340	1	179			341	0.05	62		
	1991-SIIF		2H W						111	0.2	35		1
	1992-NIVA		2J W	340	5	192	2		341	0.1	140		
	1993-NIVA		2K W	340	4	212	10		341	0.1	133		
	1994-NIVA		2Z W	340	3	300	2		341	0.05	165	25	
	1995-NIVA		W	340	3	318	2		341	0.05	225	2	
	1996-NIVA		W	340	3	332	6		341	0.05	237	4	
	1997-NIVA		W	340	3	260	5						
	1997-NIVA		AJ W						341	0.05	221		
	1998-NIVA		W	340	3	284	6	1					
	1998-NIVA		CH W						341	0.05	203	3	1
	1999-NIVA		W	340	3	249	2						
	1999-NIVA		EG W						341	0.05	226		7
	2000-NIVA		W	340	3	230	5						
	2000-NIVA		GU W						341	0.05	180	6	7
	2001-NIVA		W	340	3	250	1	1					
	2001-NIVA		IO W						341	0.05	205		21
CB126	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.0001	18		
CB138	1988-SIIF		D						111	0.1	6		
	1988-SIIF		W						111	0.1	21		
	1989-NACE		W	510	20	93							
	1989-SIIF		W						111	0.1	36		
	1990-NIVA		2G W	340	1	169			341	0.05	58		
	1990-SIIF		2G W						111	0.3	41		
	1991-NIVA		2H W	340	1	179			341	0.05	62		
	1991-SIIF		2H W						111	0.3	35		1
	1992-NIVA		2J W	340	5	192			341	0.1	137		
	1993-NIVA		QM W	340	4	212	3		341	0.1	133		
	1994-NIVA		2Z W	340	3	300			341	0.05	165	12	
	1995-NIVA		W	340	3	318	2		341	0.05	225		
	1996-NIVA		W	340	3	331	1		341	0.05	235		
	1997-NIVA		W	340	3	260	1						
	1997-NIVA		AJ W						341	0.05	221		1
	1998-NIVA		W	340	3	284	3						
	1998-NIVA		CH W						341	0.05	203		
	1999-NIVA		W	340	3	249							
	1999-NIVA		EG W						341	0.05	226		1
	2000-NIVA		W	340	3	230	3						
	2000-NIVA		GU W						341	0.05	180	3	
	2001-NIVA		W	340	3	250	1	1					
	2001-NIVA		IO W						341	0.05	205		7
CB153	1988-SIIF		D						111	0.1	6		
	1988-SIIF		W						111	0.1	22		
	1989-NACE		W	510	20	93							
	1989-SIIF		W						111	0.1	36		
	1990-NIVA		2G W	340	1	169			341	0.05	58		
	1990-SIIF		2G W						111	0.3	41		
	1991-NIVA		2H W	340	1	179			341	0.05	62		
	1991-SIIF		2H W						111	0.5	35		1
	1992-NIVA		2J W	340	5	192			341	0.1	140		
	1993-NIVA		2K W	340	4	212	3		341	0.1	133		
	1994-NIVA		2Z W	340	3	300			341	0.05	165	9	
	1995-NIVA		W	340	3	318	1		341	0.05	225		
	1996-NIVA		W	340	3	332	1		341	0.05	237		
	1997-NIVA		W	340	3	260							
	1997-NIVA		AJ W						341	0.05	221		
	1998-NIVA		W	340	3	284	1						
	1998-NIVA		CH W						341	0.05	203	1	1
	1999-NIVA		W	340	3	249							
	1999-NIVA		EG W						341	0.05	226		1
	2000-NIVA		W	340	3	230	3						

JAMP contaminant data for fish 1998-2001 - Norway

Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
	2000-NIVA		GU W						341	0.05	180	1	
	2001-NIVA		W	340	3	250		1					
	2001-NIVA		IO W						341	0.05	205		5
CB156	1991-NIVA		2H W	340	1	87		15	341	0.05	47		5
	1992-NIVA		W	340	5	192	3		341	0.1	140		
	1993-NIVA		QM W	340	4	212	31		341	0.1	133		
	1994-NIVA		2Z W	340	3	300	24	1	341	0.05	162	70	
	1995-NIVA		W	340	3	317	27		341	0.05	225	67	
	1996-NIVA		W	340	3	332	48		341	0.05	237	62	
	1997-NIVA		W	340	3	260	46						
	1997-NIVA		AJ W						341	0.05	221	9	10
	1998-NIVA		W	340	3	284	52	70					
	1998-NIVA		CH W						341	0.05	203	37	47
	1999-NIVA		W	340	3	249	39	2					
	1999-NIVA		EG W						341	0.05	225	12	134
	2000-NIVA		W	340	3	230	71	5					
	2000-NIVA		GU W						341	0.05	180	28	90
	2001-NIVA		W	340	3	250	82	3					
	2001-NIVA		IO W						341	0.05	205	9	134
CB169	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.0001	18	2	
CB180	1987-SIIF		W						111	0.2	21	6	
	1988-SIIF		D						111	0.1	6		
	1988-SIIF		W						111	0.1	22		
	1989-NACE		W	510	20	93	1						
	1989-SIIF		W						111	0.1	36		
	1990-NIVA		2G W	340	1	169			341	0.05	58		
	1990-SIIF		2G W						111	0.2	41	8	
	1991-NIVA		2H W	340	1	179			341	0.05	62		
	1991-SIIF		2H W						111	0.2	35		
	1992-NIVA		2J W	340	5	192	3		341	0.1	140		
	1993-NIVA		2K W	340	4	212	15		341	0.1	133		
	1994-NIVA		2Z W	340	3	300	3		341	0.05	162	49	
	1995-NIVA		W	340	3	318	5		341	0.05	225	22	
	1996-NIVA		W	340	3	332	14		341	0.05	237	25	
	1997-NIVA		W	340	3	260	18						
	1997-NIVA		AJ W						341	0.05	221	1	1
	1998-NIVA		W	340	3	284	20	14					
	1998-NIVA		CH W						341	0.05	203	18	44
	1999-NIVA		W	340	3	249	7	1					
	1999-NIVA		EG W						341	0.05	226	2	77
	2000-NIVA		W	340	3	230	15						
	2000-NIVA		GU W						341	0.05	180	15	80
	2001-NIVA		W	340	3	250	17	1					
	2001-NIVA		IO W						341	0.05	205		99
CB209	1990-NIVA		W	340	2	169	24	11	341	0.05	58		
	1991-NIVA		W	340	2	179	11	88	341	0.05	62	5	7
	1992-NIVA		W	340	5	192	3		341	0.1	140		1
	1993-NIVA		W	340	4	212	46	14	341	0.1	133		
	1994-NIVA		W	340	3	300	29	24	341	0.05	165	91	
	1995-NIVA		W	340	3	318	36		341	0.05	225	92	5
	1996-NIVA		W	340	3	332	255		341	0.05	237	107	9
	1997-NIVA		W	340	3	260	196		341	0.05	221	30	14
	1998-NIVA		W	340	3	283	120	121	341	0.05	203	50	69
	1999-NIVA		W	340	3	243	163	17	341	0.05	224	19	172
	2000-NIVA		W	340	3	228	151	18	341	0.05	172	33	105
	2001-NIVA		W	340	3	250	184	10	341	0.05	205	21	179
CB28	1988-SIIF		D						111	0.1	6		
	1988-SIIF		W						111	0.1	22		
	1989-NACE		W	510	20	93							
	1989-SIIF		W						111	0.1	36		1

JAMP contaminant data for fish 1998-2001 - Norway

Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
	1990-NIVA		2G W	340	1	169	2	2	341	0.05	58		
	1990-SIIF		2G W						111	0.2	41	7	
	1991-NIVA		2H W	340	1	179	2	52	341	0.05	62	5	1
	1991-SIIF		2H W						111	0.3	35		
	1992-NIVA		2J W	340	5	192	3		341	0.1	137		
	1993-NIVA		2K W	340	4	212	44	5	341	0.1	133		
	1994-NIVA		2Z W	340	3	282	18	4	341	0.05	163	73	
	1995-NIVA		W	340	3	313	27		341	0.05	225	75	
	1996-NIVA		W	340	3	332	107		341	0.05	236	70	
	1997-NIVA		W	340	3	260	81						
	1997-NIVA	AJ	W						341	0.05	221	22	14
	1998-NIVA		W	340	3	284	96	99					
	1998-NIVA	CH	W						341	0.05	201	33	46
	1999-NIVA		W	340	3	249	96	18					
	1999-NIVA	EG	W						341	0.05	226	14	143
	2000-NIVA		W	340	3	230	110	7					
	2000-NIVA	GU	W						341	0.05	180	26	60
	2001-NIVA		W	340	3	250	146	10					
	2001-NIVA	IO	W						341	0.05	205	17	145
CB52	1987-SIIF		W						111	0.2	20	1	
	1988-SIIF		D						111	0.1	6		
	1988-SIIF		W						111	0.1	22		
	1989-NACE		W	510	20	93							
	1989-SIIF		W						111	0.1	36		
	1990-NIVA	2G	W	340	1	169	2	6	341	0.05	58		
	1990-SIIF	2G	W						111	0.4	41	7	
	1991-NIVA	2H	W	340	1	179	1	37	341	0.05	62	5	1
	1991-SIIF	2H	W						111	0.3	35		
	1992-NIVA	2J	W	340	5	192	3		341	0.1	137		
	1993-NIVA	2K	W	340	4	212	40		341	0.1	133		
	1994-NIVA	2Z	W	340	3	300	9		341	0.05	165	64	
	1995-NIVA		W	340	3	312	19		341	0.05	214	28	
	1996-NIVA		W	340	3	332	49		341	0.05	235	31	
	1997-NIVA		W	340	3	260	116						
	1997-NIVA	AJ	W						341	0.05	221	25	10
	1998-NIVA		W	340	3	281	47	44	341	0.05	168	12	17
	1999-NIVA		W	340	3	249	52	11					
	1999-NIVA	EG	W						341	0.05	216	7	71
	2000-NIVA		W	340	3	230	65	4					
	2000-NIVA	GU	W						341	0.05	177	22	20
	2001-NIVA		W	340	3	250	66	4					
	2001-NIVA	IO	W						341	0.05	180	7	58
CB77	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.0001	18		
CB81	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.0001	18		
CD	1981-SIIF	1E	W	130	10	28			130	5	27		
	1981-SIIF	1F	W						130	10	7		
	1982-SIIF	1F	W						130	10	18		
	1982-VETN		W	230	10	54							
	1983-SIIF	1F	W						130	10	17		
	1983-VETN	1Z	W	230	10	46							
	1984-FIER	1H	W	402	1	23							
	1984-SIIF	1G	W						130	10	27		
	1984-VETN	1Z	W	230	10	66							
	1985-SIIF	1G	D						130	10	35		
	1985-VETN	1Z	W	230	10	45		3					
	1986-NIVA	1H	D	312	30	56	1		312	30	20		
	1987-FIER	1G	W	402	1	37							
	1987-NIVA	1H	D	312	30	57		4	312	30	37		
	1988-NIVA	1H	D	312	30	61	11	1	312	30	55		
	1989-NIVA	1H	D	312	30	135	11	8					

JAMP contaminant data for fish 1998-2001 - Norway

Tissue				Fish liver					Fish fillet, Shrimp tail, Muscel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
	1989-NIVA		1H W						312	30	36		
	1990-NIVA		1H W	312	10	189	9	2	312	30	77	5	
	1991-NIVA		1H W	312	10	190	29	2	312	10	67		
	1992-NIVA		1H W	312	10	191	4		312	10	111		
	1993-NIVA		1H W	312	50	221	98		312	50	79		
	1994-NIVA		1Z W	312	50	302	134		312	50	81		
	1995-NIVA		W	312	50	318	129		312	50	139	2	
	1996-NIVA		V1 W						312	50	125		
	1996-NIVA		V2 W	312	50	368	128						
	1997-NIVA		W	312	50	287	90						
	1997-NIVA		AH W						312	50	107		
	1998-NIVA		W	312	50	285	101		312	50	93		
	1999-NIVA		W	312	50	235	79						
	1999-NIVA		EF W						312	50	132	15	
	2000-NIVA		W	312	50	227	82						
	2000-NIVA		GS W						312	50	90		
	2001-NIVA		W	312	50	261	103						
	2001-NIVA		IM W						312	50	93		
CDD1N	1995-NILU		W						841	0.00002	6	1	1
	1996-NILU		W						841	0.00001	18		2
CDD4X	1995-NILU		W						841	0.00002	6	3	1
	1996-NILU		W						841	0.00002	18		1
CDD6P	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00004	18		
CDD6X	1995-NILU		W						841	0.00002	6		1
	1996-NILU		W						841	0.00002	18		1
CDD9X	1995-NILU		W						841	0.00002	6	2	1
	1996-NILU		W						841	0.00002	18		1
CDDO	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.0001	18		
CDDSN	1995-NILU		W						841	0.00002	5		
	1996-NILU		W						841	0.00001	18		3
CDDSP	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00004	18		
CDDST	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00001	18		
CDDSX	1995-NILU		W						841	0.00002	5		
	1996-NILU		W						841	0.00002	18		2
CDF2N	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00001	18		1
CDF2T	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00001	18		
CDF4X	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00002	18		1
CDF6P	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00004	18	2	1
CDF6X	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00002	18		1
CDF9P	1995-NILU		W						841	0.00002	6	2	1
	1996-NILU		W						841	0.00008	17	3	1
CDF9X	1995-NILU		W						841	0.00002	6	3	1
	1996-NILU		W						841	0.00002	18		1
CDFDN	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00001	18		1
CDFDX	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00002	18		1
CDFO	1995-NILU		W						841	0.00002	6		1
	1996-NILU		W						841	0.0001	18	3	1
CDFSN	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00001	18		1

JAMP contaminant data for fish 1998-2001 - Norway

Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
CDFSP	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00008	18	6	1
CDFST	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00001	18		
CDFSX	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.00002	18		1
CHR	1992-NIVA		W	309	0.2	8			309	0.2	44		
	1995-NIVA		W						309	0.2	56		
	1996-NIVA		W						309	0.2	65		3
CHRTR	1995-NIVA		W						309	0.2	15		2
	1997-NIVA		W						309	0.5	36		
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
CO	1996-NIVA		W						999 miss		3		
COR	1992-NIVA		W	309	0.2	8			309	0.2	46		
CR	1992-NIVA		W						312	10	6		
	1996-NIVA		W						999 miss		3		
CU	1983-SIIF	1G	W						130	10	12		
	1984-SIIF	1G	W						130	10	27		
	1986-NIVA	1H	D	311	150	56			311	150	20		
	1987-FIER	1G	W	404	50	37							
	1987-NIVA	1H	D	311	150	57			311	150	37		
	1988-NIVA	1H	D	311	150	61			311	150	55		
	1989-NIVA	1H	D	311	150	135							
	1989-NIVA	1H	W						311	150	36		
	1990-NIVA	1H	W	311	150	189			311	150	77		
	1991-NIVA	1H	W	311	50	193	2		311	50	67		
	1992-NIVA	1H	W	311	10	191			311	10	111		
	1993-NIVA	1H	W	311	10	221			311	10	79		
	1994-NIVA	1Z	W	311	10	302			311	10	81		
	1995-NIVA		W	311	10	318			311	10	124		
	1996-NIVA	V1	W						311	10	113		
	1996-NIVA	V2	W	311	10	368							
	1997-NIVA		W	311	5000a	287	1						
	1997-NIVA	AH	W						311	10	96		
	1998-NIVA		W	311	10	285							
	1998-NIVA	CF	W						311	10	51		
1999-NIVA		W	311	10	235								
1999-NIVA	EF	W						311	10	99			
2000-NIVA		W	311	10	227								
2000-NIVA	GS	W						311	10	51			
2001-NIVA		W	311	10	261								
2001-NIVA	IM	W						311	10	51			
DBA3A	1992-NIVA		W	309	0.2	8			309	0.2	46		
	1995-NIVA		W						309	0.2	71		48
	1996-NIVA		W						309	0.2	65		53
	1997-NIVA		W						309	0.5	36		
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
DBP	1992-NIVA		W	309	0.2	8			309	0.2	46		
DBT	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
DBTC1	1995-NIVA		W						309	0.2	57		14
	1996-NIVA		W						309	0.2	65		9
DBTC2	1995-NIVA		W					309	0.2	56		9	

JAMP contaminant data for fish 1998-2001 - Norway

Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
	1996-NIVA		W						309	0.2	62		11
DBTC3	1995-NIVA		W						309	0.2	57		4
	1996-NIVA		W						309	0.2	65		5
DBTIN	1997-NIVA		D						320	5	8		
	1998-NIVA		D						320	5	15		
	1999-NIVA		D						320	5	13		
	1999-NIVA		W						320	5	6	2	
	2000-NIVA		W						320	0.5	23		
	2001-GALG		W						999 miss		11		
	2001-NIVA		W						320	0.5	16		1
DBTIO	1997-NIVA		W						309	0.5	34		
DDEPP	1982-VETN		W		210	50	53						
	1983-VETN	2E	W		210	50	48		211a	50	48		
	1984-VETN	2E	W		210	50	66						
	1985-VETN	2E	W		210	50	45						
	1986-NACE	2Z	W		510	20	56						
	1987-NACE	2Z	W		510	40	53						
	1988-NACE	2Z	W		510	40	61						
	1989-NACE	2Z	W		510	20	93						
	1990-NIVA		W		340	1	169		341	0.05	58		
	1991-NIVA		W		340	1	179		341	0.05	62		
	1992-NIVA		W		340	5	192	2	341	0.1	140		
	1993-NIVA		W		340	4	212	3	341	0.1	133		
	1994-NIVA	2Z	W		340	4	300		341	0.1	165	27	
	1995-NIVA		W		340	4	318	2	341	0.1	225	30	
	1996-NIVA		W		340	4	332	2	341	0.1	237	47	
	1997-NIVA		W		340	4	260	3	341	0.1	221	1	
	1998-NIVA		W		340	4	284	6					
	1998-NIVA	CH	W						341	0.1	203	4	
	1999-NIVA		W		340	4	249						
	1999-NIVA	EG	W						341	0.1	226	2	
	2000-NIVA		W		340	4	230	7					
	2000-NIVA	GU	W						341	0.1	179	6	
	2001-NIVA		W		340	4	250	1					
	2001-NIVA	IO	W						341	0.1	205	1	7
DDTEP	1983-SIIF		W						111	0.5	12		
	1984-SIIF		W						111	0.5	24		1
	1985-SIIF		W						111	0.5	27	1	5
	1986-SIIF		W						111	0.5	21		
	1987-SIIF		W						111	0.5	21	1	
	1988-SIIF		D						111	0.5	6		
	1988-SIIF		W						111	0.5	22	1	
	1989-SIIF		W						111	0.5	36	1	
	1990-SIIF		W						111	0.2	41	1	
	1991-SIIF		W						111	0.3	35		
DDTPP	1986-NACE		W		510	40	56						
	1987-NACE		W		510	40	53						
	1988-NACE		W		510	40	61						
	1989-NACE		W		510	20	93						
	1995-NIVA		W						340	0.05	72		
	1996-NIVA		W		340	0.05	54	4	340	0.05	45		
	1997-NIVA		W		340	2	32						
	1997-NIVA	AJ	W						340	0.05	48		
	1998-NIVA		W		340	2	37	1	340	0.05	68	24	
	1999-NIVA		W		340	2	29	4	340	0.05	93	7	
	2000-NIVA		W		340	2	22		340	0.05	48	6	
	2001-NIVA		W		340	2	46	2	340	0.05	48	11	
DPTIN	1997-NIVA		D						320	5	8		
	1998-NIVA		D						320	5	15	9	
	1999-NIVA		D						320	5	13	12	
	1999-NIVA		W						320	5	6	6	

JAMP contaminant data for fish 1998-2001 - Norway

Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
	2000-NIVA		W						320	0.5	23	1	1
	2001-NIVA		W						320	0.5	16		16
EOCL	1989-SIIF		W						605	170	5		
EPOCL	1986-NACE		W	610	800	56							
	1986-SIIF		W						605	5000	21	21	
	1987-NACE		W	610	800	53							
	1987-SIIF		W						605	40	20		
	1988-NACE		W	610	800	60							
	1988-SIIF		W						605	40	27		
	1989-NACE		W	610	800	89	1						
	1989-SIIF		W						605	40	35		
	1990-NIVA		W	615	40	117		3					
	1990-SIIF		W						605	40	41		
	1991-NIVA		W	615	40	116		12					
	1991-SIIF		W						605	130	35		
	1997-IFEN		W						607	50	6		
	1998-IFEN		W						607	1	6		
	2000-SINT		W						607	1	6		
	2001-SINT		W						607	1	6		
FLE	1992-NIVA		W	309	0.2	8			309	0.2	45		
	1995-NIVA		W						309	0.2	72		22
	1996-NIVA		W						309	0.2	65		6
	1997-NIVA	AL	W						309	0.5	34		
	1998-NIVA	CI	W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
FLU	1992-NIVA		W	309	0.2	8			309	0.2	44		
	1995-NIVA		W						309	0.2	72		
	1996-NIVA		W						309	0.2	65		
	1997-NIVA	AL	W						309	0.2	36		
	1998-NIVA	CI	W						309	0.2	39		
	1999-NIVA	EK	W						309	0.2	34		
	2000-NIVA		W						309	0.2	39		
	2001-NIVA		W						309	0.2	42		
HCB	1983-SIIF		W						111	0.5	12		
	1983-VETN	2Z	W	210	10	48			211a	10	48		
	1984-SIIF		W						111	0.2	24		1
	1984-VETN	2Z	W	210	10	66							
	1985-SIIF		W						111	0.2	30	6	2
	1985-VETN	2Z	W	210	10	45		4					
	1986-NACE	2Z	W	510	10	56							
	1986-SIIF	2Z	W						111	0.2	21	3	
	1987-NACE	2Z	W	510	40	53							
	1987-SIIF	2Z	W						111	0.2	21	4	
	1988-NACE	2Z	W	510	40	61							
	1988-SIIF	2Z	D						111	0.2	6		
	1988-SIIF	2Z	W						111	0.2	22	2	
	1989-NACE	2Z	W	510	20	93							
	1989-SIIF	2Z	W						111	0.05	36		
	1990-NIVA		W	340	1	169	2		341	0.05	58		
	1990-SIIF	2Z	W						111	0.05	41	3	
	1991-NIVA		W	340	1	179	4	13	341	0.05	62	5	
	1991-SIIF	2Z	W						111	0.1	35		
	1992-NIVA		W	340	5	189	3		341	0.1	140		
	1993-NIVA		W	340	4	212	31		341	0.1	133		
	1994-NIVA	2Z	W	340	3	300	24	1	341	0.05	165	33	
	1995-NIVA		W	340	3	317	37		341	0.05	225	30	
	1996-NIVA		W	340	3	332	52		341	0.05	237	37	
	1997-NIVA		W	340	2	260	39						
	1997-NIVA	AJ	W						341	0.05	221	7	

JAMP contaminant data for fish 1998-2001 - Norway

Tissue				Fish liver					Fish fillet, Shrimp tail, Muscel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
	1998-NIVA		W	340	2	284	48	13	341	0.05	203	67	2
	1999-NIVA		W	340	2	249	18						
	1999-NIVA	EG	W						341	0.05	226	18	8
	2000-NIVA		W	340	2	230	40						
	2000-NIVA	GU	W						341	0.05	180	43	1
	2001-NIVA		W	340	2	250	36	1	341	0.05	205	36	2
HCHA	1990-NIVA		W	340	1	168			341	0.05	58		
	1991-NIVA		W	340	1	179	2	111	341	0.05	62	5	10
	1992-NIVA		W	340	5	192	3		341	0.1	140		
	1993-NIVA		W	340	4	212	45	22	341	0.1	133		
	1994-NIVA	2Z	W	340	3	296	32	3	341	0.05	165	85	
	1995-NIVA		W	340	3	318	45		341	0.05	225	98	
	1996-NIVA		W	340	3	332	111		341	0.05	231	100	
	1997-NIVA		W	340	0.5	260	2	10	341	0.05	221	20	11
	1998-NIVA		W	340	0.5	284	8	208	341	0.05	202	25	121
	1999-NIVA		W	340	0.5	249	17	78	341	0.05	226	23	150
	2000-NIVA		W	340	0.5	230	31	62	341	0.05	180	42	78
	2001-NIVA		W	340	0.5	250	25	50	341	0.05	205	20	179
HCHG	1986-NACE		W	510	30	56	1						
	1986-SIIF		W						111	3	21		
	1987-NACE		W	510	40	53							
	1987-SIIF		W						111	5	21		1
	1988-NACE		W	510	40	61							
	1989-NACE		W	510	20	93							
	1989-SIIF		W						111	50	36		
	1990-NIVA		W	340	1	169	1	9	341	0.05	58		
	1990-SIIF		W						111	0.1	41		
	1991-NIVA		W	340	1	179	3	18	341	0.05	62	5	1
	1991-SIIF		W						111	0.3	35		
	1992-NIVA		W	340	5	192	3		341	0.1	140		
	1993-NIVA		W	340	4	212	42	17	341	0.1	133		
	1994-NIVA	2Z	W	340	3	300	24	1	341	0.05	165	46	
	1995-NIVA		W	340	3	313	31		341	0.05	213	29	
	1996-NIVA		W	340	3	330	68		341	0.05	220	8	
	1997-NIVA		W	340	2	260	47						
	1997-NIVA	AJ	W						341	0.05	221	3	9
	1998-NIVA		W	340	2	284	25	63					
	1998-NIVA	AJ	W						341	0.05	203	10	23
	1999-NIVA		W	340	2	249	52	3	341	0.05	226	19	62
	2000-NIVA		W	340	2	230	65	29	341	0.05	180	27	9
	2001-NIVA		W	340	2	250	96	20	341	0.05	205	21	154
HG	1981-SIIF	1E	W	120	10	15		1	120	10	35		
	1982-SIIF	1E	W						120	10	18		
	1982-VETN		W	220	10	51			220	10	54		
	1983-SIIF	1E	W						120	10	17		
	1983-VETN	1Z	W						220	10	48		
	1984-FIER	1G	W						401	10	39		
	1984-SIIF	1G	W						120	10	27	6	
	1984-VETN	1Z	W						220	10	66		
	1985-SIIF	1G	D						120	10	30		
	1985-VETN	1Z	W						220	10	90		
	1986-NIVA	1H	D						310	10	74		
	1987-FIER	1G	W						401	10	38		
	1987-NIVA	1H	D						310	10	93		14
	1988-NIVA	1H	D						310	10	116		
	1989-NIVA	1H	D						310	100	134		
	1989-NIVA	1H	W						310	10	36	5	
	1990-NIVA	1H	W						310	10	266		
	1991-NIVA	1H	W						310	100a	264	126	
	1992-NIVA	1H	W						310	100a	303	122	
	1993-NIVA	1H	W						310	5	300		

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Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
	1994-NIVA		IZ W						310	5	381		
	1995-NIVA		W						310	5	442	1	
	1996-NIVA		V1 W						310	5	481		
	1997-NIVA		AH W						310	5	383		
	1998-NIVA		CF W						310	5	381		
	1999-NIVA		W	310	5	3							
	1999-NIVA		EF W						310	5	386		
	2000-NIVA		GS W						310	5	330		
	2001-NIVA		IM W						310	5	356		
ICDP	1992-NIVA		W	309	0.2	8			309	0.2	46		
	1995-NIVA		W						309	0.2	72		29
	1996-NIVA		W						309	0.2	65		23
	1997-NIVA		W						309	0.5	36		
	1998-NIVA		CI W						309	0.5	37	2	
	1999-NIVA		EK W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
MBTIN	1997-NIVA		D						320	5	8		
	1998-NIVA		D						320	5	15		
	1999-NIVA		D						320	5	13		
	1999-NIVA		W						320	5	6	6	
	2000-NIVA		W						320	0.5	23		
	2001-GALG		W						999 miss		11		
	2001-NIVA		W						320	0.5	16		5
MN	1984-SIIF		W						132	40	27		
	1985-SIIF		D						132	40	35		
MPTIN	1997-NIVA		D						320	5	8		
	1998-NIVA		D						320	5	15	9	
	1999-NIVA		D						320	5	13	13	
	1999-NIVA		W						320	5	6	6	
	2000-NIVA		W						320	0.5	23	3	
	2001-NIVA		W						320	0.5	16		15
NAP	1992-NIVA		W	309	0.2	8			309	0.2	46		
	1995-NIVA		W						309	0.2	70		21
	1996-NIVA		W						309	0.2	61		11
	1997-NIVA		W						309	0.2	34		1
	1998-NIVA		CI W						309	0.2	37		
	1999-NIVA		W						309	0.2	34		1
	2000-NIVA		W						309	0.2	37		7
	2001-NIVA		W						309	0.2	41		4
NAP1M	1992-NIVA		W	309	0.2	8			309	0.2	46		
	1995-NIVA		W						309	0.2	15		13
	1997-NIVA		W						309	0.5	34		
	1998-NIVA		W						309	0.5	37		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	41		
NAP2M	1992-NIVA		W	309	0.2	8			309	0.2	46		
	1995-NIVA		W						309	0.2	15		13
	1997-NIVA		W						309	0.5	34		
	1998-NIVA		W						309	0.5	37		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	41		
NAPC1	1995-NIVA		W						309	0.2	55		6
	1996-NIVA		W						309	0.2	61		
NAPC2	1995-NIVA		W						309	0.2	57		6
	1996-NIVA		W						309	0.2	60		
NAPC3	1995-NIVA		W						309	0.2	57		5
	1996-NIVA		W						309	0.2	60		
NAPD2	1997-NIVA		W						309	0.5	34		

JAMP contaminant data for fish 1998-2001 - Norway

Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (< above d.lim)	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (< above d.lim)
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	41		
NAPD3	1997-NIVA		W						309	0.5	34		
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	41		
NAPDI	1992-NIVA		W	309	0.2	8			309	0.2	46		6
	1995-NIVA		W						309	0.2	15		
	1997-NIVA		W						309	0.5	34		
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	41		
NAPT2	1997-NIVA		W						309	0.5	34		
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
NAPT3	1997-NIVA		W						309	0.5	34		
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
NAPT4	1997-NIVA		W						309	0.5	34		
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
NAPTM	1992-NIVA		W	309	0.2	8			309	0.2	46		11
	1995-NIVA		W						309	0.2	15		
	1997-NIVA		W						309	0.5	34		
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
NI	1983-SIIF	IG	W						130	20	12		
	1992-NIVA		W						312	10	6		
	1996-NIVA		W						999 miss		3		
OCS	1990-NIVA		W	340	2	169	31	24	341	0.05	58		1
	1991-NIVA		W	340	2	179	14	81	341	0.05	62	5	8
	1992-NIVA		W	340	5	192	3		341	0.1	140		
	1993-NIVA		W	340	4	212	51	16	341	0.1	133		
	1994-NIVA		W	340	3	300	39	22	341	0.05	165	96	
	1995-NIVA		W	340	3	318	44		341	0.05	225	102	
	1996-NIVA		W	340	3	332	287		341	0.05	237	114	
	1997-NIVA		W	340	2	260	100		341	0.05	221	30	14
	1998-NIVA		W	340	2	277	132	101	341	0.05	203	182	1
	1999-NIVA		W	340	2	249	148	2	341	0.05	226	80	26
	2000-NIVA		W	340	2	230	140	21	341	0.05	180	103	58
	2001-NIVA		W	340	2	250	189	2	341	0.05	205	94	64
PA	1992-NIVA		W	309	0.2	8			309	0.2	45		
	1995-NIVA		W						309	0.2	72		
	1996-NIVA		W						309	0.2	65		
	1997-NIVA	AL	W						309	0.2	36		
	1998-NIVA	CI	W						309	0.2	39		
	1999-NIVA	EK	W						309	0.2	34		
	2000-NIVA		W						309	0.2	39		
	2001-NIVA		W						309	0.2	42		

JAMP contaminant data for fish 1998-2001 - Norway

Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
PAC1	1995-NIVA		W						309	0.2	57		1
	1996-NIVA		W						309	0.2	65		
PAC2	1995-NIVA		W						309	0.2	56		
	1996-NIVA		W						309	0.2	65		2
PADM1	2001-NIVA		W						309	0.5	42		
PADM2	2001-NIVA		W						309	0.5	42		
PAH	1987-NIVA		W	309	0.02	1							
PAM1	1992-NIVA		W	309	0.2	8			309	0.2	45		
	1995-NIVA		W						309	0.2	15		2
	1997-NIVA		W						309	0.5	36		
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
PAM2	1997-NIVA		W						309	0.5	36		
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		W						309	0.5	34		
	2000-NIVA		W						309	0.5	38		
	2001-NIVA		W						309	0.5	42		
PB	1983-SIIF	1G	W						130	20	12		
	1984-SIIF	1G	W						130	20	27		2
	1985-SIIF	1G	D						130	20	35		
	1986-NIVA	1Z	D	312	150	56	4		312	150	20		
	1987-FIER	1G	W	403	10	37	1						
	1987-NIVA	1Z	D	312	150	57		12	312	150	37		
	1988-NIVA	1Z	D	312	150	61	17	3	312	150	55		
	1989-NIVA	1Z	D	312	150	135	9	9					
	1989-NIVA	1Z	W						312	150	36		
	1990-NIVA	1Z	W	312	50	187	3	1	312	150	77	3	
	1991-NIVA	1Z	W	312	50	193	14		312	50	67		
	1992-NIVA	1Z	W	312	50	191	119		312	50	111	2	
	1993-NIVA	1H	W	312	30	221	40		312	30	79		
	1994-NIVA	1Z	W	312	30	302	3		312	30	81		
	1995-NIVA		W	312	30	318	162	30	312	30	124		
	1996-NIVA	V1	W						312	30	110		
	1996-NIVA	V2	W	312	30	368		109					
	1997-NIVA		W	312	40	287	10	28	312	40	92		
	1998-NIVA		W	312	40	285	126	2					
	1998-NIVA	CF	W						312	40	90		
1999-NIVA		W	312	40	235	118	11						
1999-NIVA	EF	W						312	40	129	10		
2000-NIVA		W	312	40	227	67	4						
2000-NIVA	GS	W						312	40	87			
2001-NIVA		W	312	40	261	156	6						
2001-NIVA	IM	W						312	40	90			
PCB	1981-SIIF	2D	W	110	10	27			110	10	35		
	1982-SIIF	2D	W						111	5	17		
	1982-VETN		W	210	50	53			211	50	54		
	1983-SIIF	2E	W						111	5	14		
	1983-VETN	2E	W						211	50	48		
	1983-VETN	2Z	W	210	50	48							
	1984-SIIF	2E	W						111	5	24		
	1984-VETN	2E	W						211	50	66		
	1984-VETN	2Z	W	210	50	66							
	1985-SIIF	2E	W						111	5	32		6
	1985-VETN	2E	W						211	50	90		1
	1985-VETN	2Z	W	210	50	45							
	1986-NACE	2Z	W	511a	40a	56			511	20	56		
	1986-SIIF	2E	W						111	5	21		
	1987-NACE	2Z	W	510	40	53			511	20	54		
	1987-NIVA		W	340	0.1	2							

JAMP contaminant data for fish 1998-2001 - Norway

Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
	1987-SIIF		2E W						111	5	21		
	1988-NACE		2Z W	510	40	61			511	20	13		
	1988-SIIF		2E D						111	5	6		
	1988-SIIF		2E W						111	5	22	4	
	1989-NACE		2Z W	510	20	93			511	20	17		
	1989-SIIF		2E W						111	5	36	6	
	1990-SIIF		2E W						111	5	41		
	1991-SIIF		2E W						111	5	35		
PCC26	1996-NILU		W						842	0.001	6		
PCC32	1996-NILU		W						842	0.003	6		4
PCC50	1996-NILU		W						842	0.001	6		
PCC62	1996-NILU		W						842	0.025	6		6
PCDD	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.0001	18		
PCDF	1995-NILU		W						841	0.00002	6		
	1996-NILU		W						841	0.0001	18		
PER	1992-NIVA		W	309	0.2	8			309	0.2	46		
	1995-NIVA		W						309	0.2	72		32
	1996-NIVA		W						309	0.2	65		40
	1997-NIVA		W						309	0.5	36		
	1998-NIVA		W						309	0.5	39		
	1999-NIVA		EK W						309	0.5	34		
	2000-NIVA		W						309	0.5	39		
	2001-NIVA		W						309	0.5	42		
PYR	1992-NIVA		W	309	0.2	8			309	0.2	44		
	1995-NIVA		W						309	0.2	72		4
	1996-NIVA		W						309	0.2	65		1
	1997-NIVA		AL W						309	0.2	36		
	1998-NIVA		CI W						309	0.2	39		
	1999-NIVA		EK W						309	0.2	34		
	2000-NIVA		W						309	0.2	39		
	2001-NIVA		W						309	0.2	42		
QCB	1990-NIVA		W	340	2	169	33	39	341	0.05	58		
	1991-NIVA		W	340	2	178	13	97	341	0.05	57	5	7
	1992-NIVA		W	340	5	192	3		341	0.1	125		
	1993-NIVA		W	340	4	212	52	24	341	0.1	133		
	1994-NIVA		W	340	3	299	38	23	341	0.05	165	93	
	1995-NIVA		W	340	3	318	45		341	0.05	225	103	
	1996-NIVA		W	340	3	332	306		341	0.05	237	109	
	1997-NIVA		W	340	2	260	79		341	0.05	221	27	10
	1998-NIVA		W	340	2	284	121	101	341	0.05	203	171	1
	1999-NIVA		W	340	2	242	185	2	341	0.05	226	84	14
	2000-NIVA		W	340	2	230	198	1	341	0.05	180	123	1
	2001-NIVA		W	340	2	232	216	1	341	0.05	205	95	62
SE	1982-VETN		W	240	10	46			240	10	54		
TBTIN	1997-NIVA		D						320	5	8		
	1998-NIVA		D						320	5	15		
	1999-NIVA		D						320	5	13		
	1999-NIVA		W						320	5	6		
	2000-NIVA		W						320	0.5	23		
	2001-GALG		W						999 miss		11		
	2001-NIVA		W						320	0.5	16		
TCDD	1995-NILU		W						841	0.00002	6	1	
	1996-NILU		W						841	0.00001	18		
TDEPP	1991-NIVA		W	340	1	138		1	341	0.05	62		
	1992-NIVA		W	340	5	191	3		341	0.1	140		
	1993-NIVA		W	340	4	212	24	3	341	0.1	133		
	1994-NIVA		2Z W	340	3	300	17	5	341	0.05	165	47	
	1995-NIVA		W	340	3	318	36		341	0.05	222	51	
	1996-NIVA		W	340	3	332	23		341	0.05	237	16	
	1997-NIVA		W	340	3	260	23						

JAMP contaminant data for fish 1998-2001 - Norway

Tissue				Fish liver					Fish fillet, Shrimp tail, Mussel, Other				
Contamin.	Mon. Year	Lab.	Inter-calibr. +basis	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim	Analys method code	Detect limit (ppb)	Total value count	Count below d.lim	N (<) above d.lim
	1997-NIVA		AJ W						341	0.05	221	11	
	1998-NIVA		W	340	3	278	19	26					
	1998-NIVA		CH W						341	0.05	203	1	44
	1999-NIVA		W	340	3	249	6	1					
	1999-NIVA		EG W						341	0.05	226	2	71
	2000-NIVA		W	340	3	230	35	4					
	2000-NIVA		GU W						341	0.05	179	11	67
	2001-NIVA		W	340	3	250	24	3	341	0.05	205	1	101
TPTIN	1997-NIVA		D						320	5	8		
	1998-NIVA		D						320	5	15		5
	1999-NIVA		D						320	5	13		
	1999-NIVA		W						320	5	6	4	
	2000-NIVA		W						320	0.5	23		
	2001-GALG		W						999 miss		11		5
	2001-NIVA		W						320	0.5	16		9
V	1996-NIVA		W						999 miss		3		
ZN	1983-SIIF		1G W						131	400	12		
	1984-SIIF		1G W						132	400	27		
	1985-SIIF		1G D						132	400	35		
	1986-NIVA		1H D	311	3000	56			311	3000	20		
	1987-FIER		1G W	405	20	37							
	1987-NIVA		1H D	311	3000	57			311	3000	37		
	1988-NIVA		1H D	311	3000	61			311	3000	55		
	1989-NIVA		1H D	311	3000	135		1					
	1989-NIVA		1H W						311	3000	36		
	1990-NIVA		1H W	311	3000	189			311	3000	77		
	1991-NIVA		1H W	311	1000	193			311	1000	67		
	1992-NIVA		1H W	311	1000	191			311	1000	111		
	1993-NIVA		1H W	311	1000	221			311	1000	79		
	1994-NIVA		1Z W	311	1000	302			311	1000	81		
	1995-NIVA		W	311	1000	318			311	1000	142		
	1996-NIVA		V1 W						311	1000	131		
	1996-NIVA		V2 W	311	1000	368							
	1997-NIVA		W	311	1000	287							
	1997-NIVA		AH W						311	1000	110		
	1998-NIVA		W	311	1000	285							
	1998-NIVA		CF W						311	1000	51		
	1999-NIVA		W	311	1000	235							
	1999-NIVA		EF W						311	1000	99		
	2000-NIVA		W	311	1000	227							
	2000-NIVA		GS W						311	1000	51		
	2001-NIVA		W	311	1000	261							
	2001-NIVA		IM W						311	1000	51		
Sum of counts						67305	9037	2364			60028	4925	4592

a(7) > ambiguous value (Maximum value displayed)

Appendix C.

Participation in intercalibration exercises

Participation in intercalibration exercises other than QUASIMEME

Sea water:

- 4H ICES/JMG Fifth Round Intercalibration on Trace Metals in Sea Water - Section 4, analysis for Hg - 1983 - (5/TM/SW:4).
- 4I JMG Sixth Intercalibration on Trace Metals in Estuarine Waters - 1986 - (6/TM/SW).
- 4Z Intercalibration exercise for SIIF/SERI (Cd) and NIVA/IAMK (IAMK=Chalmers Inst., Göteborg) - 1985.

Seabed sediment:

- 7E ICES, First Intercalibration Exercise on Trace metals in Marine Sediments - 1984 - (1/TM/MS).
- 8B ICES/OSPAR, First Intercomparison Exercise on Organochlorines (individual chlorobiphenyl congeners) in Marine Sediments - Phase 1, analysis of standard solutions - 1989 - (1/OC/MS:1).
- 8C ICES/OSPAR, First Intercomparison Exercise on Organochlorines (individual chlorobiphenyl congeners) in Marine Sediments - Phase 2, analysis of standard solutions - 1991 - (1/OC/MS:2).
- 8B ICES/IOC/OSPAR Intercomparison Programme on the Analysis of Chlorobiphenyls in Marine Media - Step 1 - (analysis of standard solutions) - 1989 - (1/OC/MS-1).
- 8C ICES/IOC/OSPAR Intercomparison Programme on the Analysis of Chlorobiphenyls in Marine Media - Step 2 - 1990 - (1/OC/MS-2).
- 8D ICES/IOC/OSPAR Intercomparison Programme on the Analysis of Chlorobiphenyls in Marine Media - Step 3a (1/OC/MS-3a) 1991.
- 8E ICES/IOC/OSPAR Intercomparison Programme on the Analysis of Chlorobiphenyls in Marine Media - Step 3b - (1/OC/MS-3b) 1992.
- 8F ICES/IOC/OSPAR Intercomparison Programme on the Analysis of Chlorobiphenyls in Marine Media - Step 4 - (1/OC/MS-4) 1993.

Marine biota:

- 1E ICES, Fifth Intercalibration Exercise on Trace Metals in Biological Tissues - 1978 - (5/TM/BT).
- 1F ICES, Sixth Intercalibration Exercise on Trace Metals (Cadmium and Lead only) in Biological Tissues - 1979 - (6/TM/BT).
- 1G ICES, Seventh Intercalibration Exercise on Trace Metals in Biological Tissues - Part A - 1983 - (7/TM/BT).
- 1H ICES, Seventh Intercalibration Exercise on Trace Metals in Biological Tissues - Part B - 1985 - (7/TM/BT) (preliminary report 1987).
- 1Z VETN Interlabcalibration exercise with VETN and SIIF 1983, mercury and cadmium in cod filet and liver.

- 1Z NIVA Interlabcalibration exercise with VETN, NACE and NIVA 1986 (Hg, Cd, Cu, Pb and Zn in 6 samples).
- 2D ICES Fourth Intercalibration Exercise on Organochlorines (mainly PCBs) in Biological Tissues (Sample No.5) - 1979 - (4/OC/BT).
- 2E ICES Fifth Intercalibration Exercise on Organochlorines (PCBs only) in Biological Tissues - 1982 - (5/OC/BT).
- 2G ICES/IOC/OSPAR Intercomparison Programme on the Analysis of Chlorobiphenyls in Marine Media - Step 1 - (analysis of standard solutions) - 1989 - (7/OC/BT-1).
- 2H ICES/IOC/OSPAR Intercomparison Programme on the Analysis of Chlorobiphenyls in Marine Media - Step 2 - 1990 - (7/OC/BT-2).
- 2I ICES/IOC/OSPAR Intercomparison Programme on the Analysis of Chlorobiphenyls in Marine Media - Step 3a - (7/OC/BT-3a) 1991.
- 2J ICES/IOC/OSPAR Intercomparison Programme on the Analysis of Chlorobiphenyls in Marine Media - Step 3b - (7/OC/BT-3b) 1992.
- 2K ICES/IOC/OSPAR Intercomparison Programme on the Analysis of Chlorobiphenyls in Marine Media - Step 4 - (7/OC/BT-4) 1993.
- 2Z VETN Interlabcalibration exercise with VETN among others, 1983, PCB and HCB in cod liver.
- 2Z NACE Interlabcalibration exercise with NACE, VETN and SIIF 1986 (PCB (all labs), DDE, OCS, HCB and DCB (NACE and VETN)).

Participation in QUASIMEME intercalibration exercises

IC	Code	Year	No.	Group	Matrix
QM	QOR002BT	1993	80	BT-2	CB's in standard solution and biota - Fish oil
V1	QTM028BT	1996	280	BT-1	Trace metals in cod muscle and cod liver
V2	QTM029BT	1996	280	BT-1	Trace metals in cod muscle and cod liver
AJ	QOR054BT	1997	347	BT-2	Chlorobiphenyls and organochlorine pesticides in biota
AL	QPH008BT	1997	348	BT-4	PAH's in biota
AH	QTM036BT	1997	346	BT-1	Metals in biota
CI	QPH010BT	1998	394	BT-4	Polyaromatic hydrocarbons in biota
CH	QOR059BT	1998	393	BT-2	Chlorobiphenyls and organochlorine pesticides in Biota
CF	QTM042BT	1998	392	BT-1	Trace metals in Biota
EF	QTM046BT	1999	433	BT-1	Trace metals in biota
EG	QOR062BT	1999	434	BT-2	Chlorobiphenyls and organochlorine pesticides in biota
EK	QPH012BT	1999	435	BT-4	Polyaromatic hydrocarbons in biota
GU	QOR066BT	2000	473	BT-2	Chlorobiphenyls and organochlorine pesticides in biota
GS	QTM049BT	2000	472	BT-1	Trace metals in biota
IO	QOR070BT	2001	510	BT-2	Chlorobiphenyls and organochlorine pesticides in biota
IM	QTM053BT	2001	509	BT-1	Trace metals in biota

Appendix D.

Overview of localities and sample counts 1981-2001

Station positions are shown on maps in Appendix E. .

jmpco:	JAMP area code (J99 = unclassified)
jmpst:	station code
stnam:	station code
Lon:	Longitude
Lat:	Latitude
icear:	ICES area
speci:	species code (English, Norwegian (Latin))
	MYTI EDU - blue mussel, blåskjell (<i>Mytilus edulis</i>)
	BROS BRO - tusk, brosme (<i>Brosme brosme</i>)
	CHIM MON - rat fish, havmus (<i>Chimaera monstrosa</i>)
	GADU MOR - Atlantic cod, torsk (<i>Gadus morhua</i>)
	LEPI WHI - megrim, glassvar (<i>Lepidorhombus whiff-iaonis</i>)
	LIMA LIM - dab, sandflyndre (<i>Limanda limanda</i>)
	MICR KIT - lemon sole, lomre (<i>Microstomus kitt</i>)
	MOLV MOL - ling, lange (<i>Molva molva</i>)
	PAND BOR - shrimp, reker (<i>Pandalus borealis</i>)
	PLAT FLE - flounder, skrubbe (<i>Platichthys flesus</i>)
	PLEU PLA - plaice, rødspette (<i>Pleuronectes platessa</i>)
tissu:	tissue:
SB -	soft body
LI -	liver
MU -	fillet
TM -	tail muscle

STATIONS AND SAMPLE COUNT FOR BIOTA

jmpco	jmpst	stnam	lat	lon	icear	speci	tissu	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01		
J26	01A	Sponvika	59° 5.10	11° 13.90	47G13	MYTI EDU	SB		3			3					3													
J26	02A	Fugleskjær	59° 6.90	10° 59.0	47G09	MYTI EDU	SB		3			3					3													
J26	03A	Tisler	58° 58.80	10° 57.50	46G07	MYTI EDU	SB		2			3					3													
J26	301	Akershuskaia	59° 54.23	10° 45.47	48G07	MYTI EDU	SB												2											
J26	302	Ormøya	59° 52.69	10° 45.46	48G07	MYTI EDU	SB												2											
J26	303	Malmøya	59° 51.78	10° 45.95	48G07	MYTI EDU	SB												2											
J26	304	Gåsøya	59° 51.11	10° 35.51	48G04	MYTI EDU	SB												3											
J26	305	Lysaker	59° 54.36	10° 38.60	48G04	MYTI EDU	SB												2											
J26	306	Håøya	59° 42.69	10° 33.35	48G05	MYTI EDU	SB												3											
J26	30A	Gressholmen	59° 52.75	10° 43.0	48G07	MYTI EDU	SB					3	3	3	4	3	3	3	3	3	3	3	3	4	3	3	3	3	3	
J26	30B	Oslo City area	59° 49.0	10° 33.0	48G05	GADU MOR	LI					29	25	25	25	25	25	25	24	21	24	25	25	50	50	50	25	25	25	
J26	30B	Oslo City area	59° 49.0	10° 33.0	48G05	GADU MOR	MU					29	25	25	25	26	26	30	30	21	29	30	30	60	60	60	30	30	30	
J26	30F	Oslo City area	59° 47.0	10° 34.0	48G05	PLEU PLA	LI												2		5	5								
J26	30F	Oslo City area	59° 47.0	10° 34.0	48G05	PLEU PLA	MU												2		5	5								
J26	30G	Spro	59° 45.80	10° 34.50	48G05	PAND BOR	TM																1							
J26	30H	Storegrunn	59° 48.50	10° 33.50	48G05	PAND BOR	TM																1							
J26	30X	West of Nesodden	59° 48.50	10° 36.0	48G05	GADU MOR	LI												22											
J26	30X	West of Nesodden	59° 48.50	10° 36.0	48G05	GADU MOR	MU												22											
J26	40C	Steilene	59° 49.0	10° 33.0	48G05	PAND BOR	TM					1							2											
J26	31A	Solbergstrand	59° 36.90	10° 39.40	48G06	MYTI EDU	SB	2		6	3	3	3	3	3	3	3	3	3	3	3	3	2	4	3	3	3	3	3	
J26	31B	Solbergstrand	59° 36.90	10° 39.40	48G06	GADU MOR	LI	10	27																					
J26	31B	Solbergstrand	59° 36.90	10° 39.40	48G06	GADU MOR	MU	10	27																					
J26	31B	Solbergstrand	59° 36.90	10° 39.40	48G06	PLAT FLE	LI	8																						
J26	31B	Solbergstrand	59° 36.90	10° 39.40	48G06	PLAT FLE	MU	8																						
J26	31C	Solbergstrand	59° 36.90	10° 39.40	48G06	PAND BOR	TM					1																		
J26	32A	Rødtangen	59° 31.50	10° 25.60	48G06	MYTI EDU	SB	1	3			3																		
J26	33B	Sande (east side)	59° 31.70	10° 21.0	48G06	PLAT FLE	LI			25		1	23	1	26	1	5	5	5	5	5	5	5	15	15	13	5	5	30	
J26	33B	Sande (east side)	59° 31.70	10° 21.0	48G06	PLAT FLE	MU			25		25	1	1	26	1	5	5	5	5	5	5	5	15	15	13	5	5	30	
J26	33C	Sande	59° 31.70	10° 21.0	48G06	PAND BOR	TM						1																	
J26	33X	Sande (west side)	59° 31.70	10° 20.40	48G06	PLAT FLE	LI										3													
J26	33X	Sande (west side)	59° 31.70	10° 20.40	48G06	PLAT FLE	MU										3													

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jmpco	jmpst	stnam	lat	lon	icear	speci	tissu	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01
J26	35A	Mølen	59° 29.20	10° 30.10	47G04	MYTI EDU	SB	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
J26	35C	Holmestrand-Mølen	59° 29.20	10° 30.10	47G04	PAND BOR	TM		1						1		2											
J26	35C	Holmestrand-Mølen	59° 29.20	10° 30.10	47G04	PAND BOR	XX								1													
J26	36A	Færder	59° 1.60	10° 31.70	47G06	MYTI EDU	SB	1		5	3	3	3	3	3	3	3	3	3	3	3	3	5	3	3	3	3	3
J26	36B	Færder	59° 2.0	10° 32.0	47G06	GADU MOR	LI	10	27	23	24	14	25	25	25	25	24	25	25	25	25	25	25	25	25	25	23	25
J26	36B	Færder	59° 2.0	10° 32.0	47G06	GADU MOR	MU	10	27	23	24	14	25	25	26	26	29	30	30	30	30	30	30	30	30	30	27	30
J26	36F	Færder area	59° 4.0	10° 23.0	47G06	LIMA LIM	LI										5	5	5	5	5	5	5	5	5	5	5	30
J26	36F	Færder area	59° 4.0	10° 23.0	47G06	LIMA LIM	MU										5	5	5	5	5	5	5	5	5	5	5	30
J26	73A	Lyngholmen	59° 2.60	10° 18.10	47G03	MYTI EDU	SB										3											
J26	74A	Oddneskjær	58° 57.30	9° 52.10	46F97	MYTI EDU	SB										3											
J26	71A	Bjørkøya (Risøyodd.)	59° 1.40	9° 45.40	47F99	MYTI EDU	SB	1	3	3	3	2	3	3	3	3	3	3	3	3	3	3	4	3	3	3	3	3
J99	76A	Risøy	58° 43.60	9° 17.0	46F92	MYTI EDU	SB										3	3	3	3			3	3	3	3	3	3
J99	77A	Flostafjord	58° 31.50	8° 56.90	46F89	MYTI EDU	SB										3	3										
J99	77B	Borøy area	58° 33.0	9° 1.0	45F93	GADU MOR	LI										14	25										
J99	77B	Borøy area	58° 33.0	9° 1.0	45F93	GADU MOR	MU										17	30										
J99	77B	Borøy area	58° 33.0	9° 1.0	45F93	LIMA LIM	LI											3										
J99	77C	Borøy area	58° 29.0	9° 10.0	45F91	PAND BOR	TM										2											
J99	79A	Gjerdsvoldsøyen east	58° 24.80	8° 45.30	45F87	MYTI EDU	SB										3	3										
J99	13A	Langøysund	57° 59.80	7° 34.60	45F74	MYTI EDU	SB										1	4										
J99	14A	Aavigen	58° 2.20	7° 13.20	45F73	MYTI EDU	SB										3	4										
J99	15A	Gåsøy	58° 3.7	6° 53.16	45F69	MYTI EDU	SB										4	4		3	3	4	4	3	3	3	3	3
J99	15B	Ullerø area	58° 3.0	6° 43.0	45F69	GADU MOR	LI										25	24	23	30	23	25	25	25	25	25	25	25
J99	15B	Ullerø area	58° 3.0	6° 43.0	45F69	GADU MOR	MU										30	29	27	30	28	29	30	30	30	30	30	30
J99	15F	Ullerø area	58° 3.0	6° 43.0	45F69	LIMA LIM	LI											3		2	4	5	5	5	5	5	5	30
J99	15F	Ullerø area	58° 3.0	6° 43.0	45F69	LIMA LIM	MU											3		2	4	5	5	5	5	5	5	30
J99	15F	Ullerø area	58° 3.0	6° 43.0	45F69	PLEU PLA	LI													3	2							
J99	15F	Ullerø area	58° 3.0	6° 43.0	45F69	PLEU PLA	MU														3	2						
J99	15F	Ullerø area	58° 3.0	6° 43.0	45F69	MICR KIT	LI															1						
J99	15F	Ullerø area	58° 3.0	6° 43.0	45F69	MICR KIT	MU															1						
J63	51A	Byrkjenes	60° 5.10	6° 33.10	49F66	MYTI EDU	SB							3	3							1	3	3	3	6	3	3
J63	52A	Eitrheimsneset	60° 5.80	6° 32.20	49F66	MYTI EDU	SB										3	3	3	3	2	3	3	3	3	6	3	3
J63	53B	Inner Sørfjord	60° 10.0	6° 34.0	49F65	GADU MOR	LI								13	26	12	25	25	22	25	25	50	30	30	25	25	25
J63	53B	Inner Sørfjord	60° 10.0	6° 34.0	49F65	GADU MOR	MU								12	26	15	30	30	26	30	30	30	56	36	36	30	30
J63	53B	Inner Sørfjord	60° 10.0	6° 34.0	49F65	PLAT FLE	LI				22				22	30	5	5	5	5	4	4	11	15	11	5	2	30

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jmpco	jmpst	stnam	lat	lon	icear	speci	tissu	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	
J63	53B	Inner Sørfjord	60° 10.0	6° 34.0	49F65	PLAT FLE	MU				22				22	30	5	5	5	5	4	4	11	15	11	5	2	30	
J63	53B	Inner Sørfjord	60° 10.0	6° 34.0	49F65	GLYP CYN	LI							3															
J63	53B	Inner Sørfjord	60° 10.0	6° 34.0	49F65	GLYP CYN	MU							3															
J63	53B	Inner Sørfjord	60° 10.0	6° 34.0	49F65	SALM TRU	LI										12												
J63	53B	Inner Sørfjord	60° 10.0	6° 34.0	49F65	SALM TRU	MU										12												
J63	53D	Digraneset	60° 11.0	6° 34.5	49F65	BROS BRO	LI																					24	
J63	53D	Digraneset	60° 11.0	6° 34.5	49F65	BROS BRO	MU																					24	
J63	53D	Digraneset	60° 11.0	6° 34.5	49F65	MOLV MOL	LI																					30	
J63	53D	Digraneset	60° 11.0	6° 34.5	49F65	MOLV MOL	MU																					30	
J63	53D	Digraneset	60° 11.0	6° 34.5	49F65	CHIM MON	LI																					12	
J63	53D	Digraneset	60° 11.0	6° 34.5	49F65	CHIM MON	MU																					12	
J63	56A	Kvalnes	60° 13.40	6° 36.10	49F65	MYTI EDU	SB							3	15	3	3	3	3	3	3	3	3	3	3	3	6	3	3
J63	56D	Kvalnes	60° 15.00	6° 36.00	49F65	BROS BRO	LI																				3		
J63	56D	Kvalnes	60° 15.00	6° 36.00	49F65	BROS BRO	MU																				3		
J63	56D	Kvalnes	60° 15.00	6° 36.00	49F65	MOLV MOL	LI																				1		
J63	56D	Kvalnes	60° 15.00	6° 36.00	49F65	MOLV MOL	MU																				1		
J63	56D	Kvalnes	60° 15.00	6° 36.00	49F65	CHIM MON	LI																				1		
J63	56D	Kvalnes	60° 15.00	6° 36.00	49F65	CHIM MON	MU																				1		
J99	227X	Høievarde	59° 19.43	5° 19.11	47F52	MYTI EDU	SB																					3	3
J99	226X	Karmsund bridge (east)	59° 22.68	5° 17.91	47F51	MYTI EDU	SB																		1	3	3		
J99	222A	Kopervik harbour	59° 17.2	5° 18.94	47F52	MYTI EDU	SB																					3	
J63	5610	Kvalnes, north	60° 13.60	6° 36.45	49F65	MYTI EDU	SB																				3		
J63	5620	Kjeken, near Helland	60° 20.58	6° 39.50	49F64	MYTI EDU	SB																				3		
J63	5710	Urdhem, s. of Krossanes	60° 22.17	6° 40.65	49F67	MYTI EDU	SB																				3		
J63	57A	Krossanes	60° 23.20	6° 41.20	49F67	MYTI EDU	SB							3	3	3	3	3	3	3	3	3	3	3	3	3	6	3	3
J62	63A	Ranaskjær	60° 25.10	6° 24.50	49F64	MYTI EDU	SB							3	3	3	3	3	3	3	3	3	3	3	3	3	6	3	3
J62	65A	Vikingneset	60° 14.50	6° 9.60	49F62	MYTI EDU	SB							3	15	3	3	3	3	3	3	3	3	3	3	3	6	3	3
J62	67B	Strandebarm	60° 16.0	6° 2.0	49F62	GADU MOR	LI							22	26	22	16	19	8	12	18	25	35	25	25	25	25	25	25
J62	67B	Strandebarm	60° 16.0	6° 2.0	49F62	GADU MOR	MU							22	26	23	16	24	9	14	22	30	40	30	30	30	30	30	30
J62	67B	Strandebarm	60° 16.0	6° 2.0	49F62	PLAT FLE	LI																3		4	5	5	30	
J62	67B	Strandebarm	60° 16.0	6° 2.0	49F62	PLAT FLE	MU																3		4	5	5	30	
J62	67B	Strandebarm	60° 16.0	6° 2.0	49F62	LIMA LIM	LI																		5				
J62	67B	Strandebarm	60° 16.0	6° 2.0	49F62	LIMA LIM	MU																		5				
J62	67B	Strandebarm	60° 16.0	6° 2.0	49F62	LEPI WHI	LI				19			1	26	30	5	5	3	5	5	5	5	5	5	5	5	5	30

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jmpco	jmpst	stnam	lat	lon	icear	speci	tissu	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	
J62	67B	Strandebarm	60° 16.0	6° 2.0	49F62	LEPI WHI	MU				19			1	26	30	5	5	3	5	5	5	5	5	5	5	5	5	30
J62	69A	Lille Terøy	59° 58.79	5° 45.35	48F57	MYTI EDU	SB												3	1	3	3	3	3	3	6	3	3	
J99	21F	Åkrefjord	59° 45.0	6° 7.0	48F62	PLAT FLE	LI																			3	5	30	
J99	21F	Åkrefjord	59° 45.0	6° 7.0	48F62	PLAT FLE	MU																			3	5	30	
J99	21F	Åkrefjord	59° 45.0	6° 7.0	48F62	LEPI WHI	LI																			5			
J99	21F	Åkrefjord	59° 45.0	6° 7.0	48F62	LEPI WHI	MU																			5			
J99	21D	Åkrafjord	59° 48.0	6° 11.0	48F62	BROS BRO	LI																			1		24	
J99	21D	Åkrafjord	59° 48.0	6° 11.0	48F62	BROS BRO	MU																			1		24	
J99	21D	Åkrafjord	59° 48.0	6° 11.0	48F62	MOLV MOL	LI																			1		24	
J99	21D	Åkrafjord	59° 48.0	6° 11.0	48F62	MOLV MOL	MU																			1		24	
J99	21D	Åkrafjord	59° 48.0	6° 11.0	48F62	CHIM MON	LI																			1		12	
J99	21D	Åkrafjord	59° 48.0	6° 11.0	48F62	CHIM MON	MU																			1		12	
J99	22A	Espevær, west	59° 35.20	5° 8.50	48F53	MYTI EDU	SB										3	3	3	3	3	3	5	3	3	3	3	3	
J99	22C	Bømløfjord	59° 34.0	5° 11.0	48F53	PAND BOR	TM										2												
J99	22F	Borøyfjorden	59° 43.0	5° 21.0	48F55	LIMA LIM	LI										5	5	4		5	2							
J99	22F	Borøyfjorden	59° 43.0	5° 21.0	48F55	LIMA LIM	MU										5	5	4		5	2							
J99	22F	Borøyfjorden	59° 43.0	5° 21.0	48F55	PLEU PLA	LI																5	5	5				
J99	22F	Borøyfjorden	59° 43.0	5° 21.0	48F55	PLEU PLA	MU																5	5	5				
J99	22F	Borøyfjorden	59° 43.0	5° 21.0	48F55	MICR KIT	LI														5								
J99	22F	Borøyfjorden	59° 43.0	5° 21.0	48F55	MICR KIT	MU														5								
J99	23A	Austvik	59° 52.20	5° 6.60	48F51	MYTI EDU	SB										3	3											
J99	23B	Karihavet area	59° 55.0	5° 7.0	48F51	GADU MOR	LI										25	25	25	25	26	25	25	25	25	25	25	25	
J99	23B	Karihavet area	59° 55.0	5° 7.0	48F51	GADU MOR	MU										30	30	30	30	30	30	30	30	30	30	30	30	
J99	23B	Karihavet area	59° 55.0	5° 7.0	48F51	PLAT FLE	LI														1								
J99	23B	Karihavet area	59° 55.0	5° 7.0	48F51	PLAT FLE	MU														1								
J99	23B	Karihavet area	59° 55.0	5° 7.0	48F51	PLEU PLA	LI														3								
J99	23B	Karihavet area	59° 55.0	5° 7.0	48F51	PLEU PLA	MU														3								
J99	23B	Karihavet area	59° 55.0	5° 7.0	48F51	MICR KIT	LI														1	4							
J99	23B	Karihavet area	59° 55.0	5° 7.0	48F51	MICR KIT	MU														1	4							
J99	24A	Vardøy	60° 10.20	5° 0.80	49F52	MYTI EDU	SB										3	3											
J65	80A	Østmarknes	63° 27.50	10° 27.50	55G04	MYTI EDU	SB				1	2																	
J65	81A	Biologisk Stasjon	63° 26.50	10° 21.40	55G04	MYTI EDU	SB				1																		
J65	82A	Flakk	63° 27.10	10° 12.60	55G01	MYTI EDU	SB				1	2	2	3	1	2					3	2	2		3	3			
J65	83A	Frøsetskjær	63° 25.50	10° 7.80	55G01	MYTI EDU	SB				1																		

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jmpco	jmpst	stnam	lat	lon	icear	speci	tissu	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01	
J65	84A	Trossavika	63° 20.80	9° 57.80	55F97	MYTI EDU	SB				2	3	3	3	3	3		3	3	3		3	3						
J65	84B	Trossavika	63° 20.80	9° 57.80	55F97	GADU MOR	LI				13	1	1	1	5														
J65	84B	Trossavika	63° 20.80	9° 57.80	55F97	GADU MOR	MU				13	10	1	1	5														
J65	84B	Trossavika	63° 20.80	9° 57.80	55F97	MICR KIT	LI								3														
J65	84B	Trossavika	63° 20.80	9° 57.80	55F97	MICR KIT	MU								3														
J65	84B	Trossavika	63° 20.80	9° 57.80	55F97	MELA AEG	LI						14	1	4														
J65	84B	Trossavika	63° 20.80	9° 57.80	55F97	MELA AEG	MU						1	1	5														
J65	84B	Trossavika	63° 20.80	9° 57.80	55F97	MERL MNG	LI							1	7														
J65	84B	Trossavika	63° 20.80	9° 57.80	55F97	MERL MNG	MU							1	7														
J65	84B	Trossavika	63° 20.80	9° 57.80	55F97	POLL POL	LI					1	1		8														
J65	84B	Trossavika	63° 20.80	9° 57.80	55F97	POLL POL	MU					16	1		8														
J65	84B	Trossavika	63° 20.80	9° 57.80	55F97	POLL VIR	LI								4														
J65	84B	Trossavika	63° 20.80	9° 57.80	55F97	POLL VIR	MU								4														
J65	85A	Geitstrand	63° 21.90	9° 56.30	55F97	MYTI EDU	SB				1																		
J65	86A	Geitnes	63° 26.60	9° 59.20	55F97	MYTI EDU	SB				1																		
J65	87A	Ingdalsbukta	63° 27.80	9° 54.80	55F97	MYTI EDU	SB				1	1	1	1	1	1	1	1	2	1		2	2						
J65	88A	Rødberg	63° 29.20	10° 0.0	55G01	MYTI EDU	SB				1	1																	
J99	25A	Hinnøy	61° 22.20	4° 52.80	51F47	MYTI EDU	SB												3	3									
J99	26A	Hamnen	61° 52.70	5° 13.60	52F51	MYTI EDU	SB												6	3									
J99	27A	Grinden	62° 12.20	5° 25.40	53F55	MYTI EDU	SB												2										
J99	28A	Eiksundet	62° 15.0	5° 51.60	53F58	MYTI EDU	SB												6	3									
J99	91A	Nerdvika	63° 21.20	8° 9.60	55F81	MYTI EDU	SB												4	3	3								
J99	92A	Stokken	64° 2.21	10° 1.10	57G03	MYTI EDU	SB												7	3	3	3	3	3					
J99	92B	Stokken area	64° 9.85	9° 53.0	57F99	GADU MOR	LI												25	24	25	25							
J99	92B	Stokken area	64° 9.85	9° 53.0	57F99	GADU MOR	MU												30	29	30	30							
J99	92B	Stokken area	64° 9.85	9° 53.0	57F99	LIMA LIM	LI															1							
J99	92B	Stokken area	64° 9.85	9° 53.0	57F99	LIMA LIM	MU															1							
J99	92B	Stokken area	64° 9.85	9° 53.0	57F99	PLEU PLA	LI															1							
J99	92B	Stokken area	64° 9.85	9° 53.0	57F99	PLEU PLA	MU															1							
J99	93A	Sætervik	64° 23.68	10° 29.0	57G04	MYTI EDU	SB												7	3									
J99	94A	Landfast	65° 38.40	12° 0.50	60G23	MYTI EDU	SB												3	3									
J99	95A	Flatskjær	66° 42.60	13° 15.80	62G32	MYTI EDU	SB												3	3									
J99	96A	Breviksen	66° 17.60	12° 50.50	61G28	MYTI EDU	SB												6	3									
J99	97A	Klakholmen	67° 39.90	14° 44.60	64G49	MYTI EDU	SB												4	3									

JAMP contaminant data for fish 1998-2001 - Norway

jmpco	jmpst	stnam	lat	lon	icear	speci	tissu	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01			
J99	98A	Svolvær området	68° 16.90	14° 40.10	65G48	MYTI EDU	SB												4	3				3	3	3	3	3			
J99	98B	Lille Molla	68° 12.0	14° 48.0	65G48	GADU MOR	LI												25	29	25	24	25	25	25	25	25	25			
J99	98B	Lille Molla	68° 12.0	14° 48.0	65G48	GADU MOR	MU												30	29	30	29	30	30	30	30	30	30			
J99	98B	Lille Molla	68° 12.0	14° 48.0	65G48	LIMA LIM	LI													4											
J99	98B	Lille Molla	68° 12.0	14° 48.0	65G48	LIMA LIM	MU													4											
J99	98F	Lille Molla	68° 12.0	14° 48.0	65G48	LIMA LIM	LI														1	1	5								
J99	98F	Lille Molla	68° 12.0	14° 48.0	65G48	LIMA LIM	MU														1	1	5								
J99	98F	Lille Molla	68° 12.0	14° 48.0	65G48	PLEU PLA	LI														3		5		4	5	1	4	30		
J99	98F	Lille Molla	68° 12.0	14° 48.0	65G48	PLEU PLA	MU														3		5		4	5	1	4	30		
J99	98F	Lille Molla	68° 12.0	14° 48.0	65G48	MICR KIT	LI															1	1								
J99	98F	Lille Molla	68° 12.0	14° 48.0	65G48	MICR KIT	MU															1	1								
J99	98F	Lille Molla	68° 12.0	14° 48.0	65G48	GLYP CYN	LI																1								
J99	98F	Lille Molla	68° 12.0	14° 48.0	65G48	GLYP CYN	MU																1								
J99	98X	Skrova	68° 10.50	14° 40.15	65G48	MYTI EDU	SB															3	4	4							
J99	99A	Brunvær	68° 0.30	15° 5.60	65G53	MYTI EDU	SB													7	3										
J99	41A	Fensneset,Grytøya	68° 56.90	16° 38.47	66G64	MYTI EDU	SB															3	3	4	3						
J99	42A	Tennskjær,Malangen	69° 28.60	18° 18.0	67G81	MYTI EDU	SB															3	3								
J99	43A	Lynghuset,Langfjord	70° 6.20	20° 32.79	69H06	MYTI EDU	SB																3	3		3					
J99	43B	Kvænangen	70° 9.0	21° 22.0	69H16	GADU MOR	LI															25	25	25							
J99	43B	Kvænangen	70° 9.0	21° 22.0	69H16	GADU MOR	MU																30	30	30						
J99	43F	Kvænangen,Olderfjord	70° 9.0	21° 22.0	69H16	LIMA LIM	LI																		3						
J99	43F	Kvænangen,Olderfjord	70° 9.0	21° 22.0	69H16	LIMA LIM	MU																		3						
J99	43F	Kvænangen,Olderfjord	70° 9.0	21° 22.0	69H16	MICR KIT	LI																		1						
J99	43F	Kvænangen,Olderfjord	70° 9.0	21° 22.0	69H16	MICR KIT	MU																		1						
J99	44A	Elenheimsundet	70° 30.97	22° 14.80	70H23	MYTI EDU	SB															3	3	4	3						
J99	45A	Yttre Sauhamneset	70° 45.81	24° 19.22	70H42	MYTI EDU	SB																3	3							
J99	46A	Smynes ved Altesula	70° 58.38	25° 48.14	70H57	MYTI EDU	SB																3	3	5						
J99	46B	Hammerfest area	70° 50.0	23° 44.0	70H37	GADU MOR	LI																24	25							
J99	46B	Hammerfest area	70° 50.0	23° 44.0	70H37	GADU MOR	MU																	29	30						
J99	47A	Kifjordneset	70° 52.89	27° 22.17	70H74	MYTI EDU	SB																	3	3						
J99	48A	Trollfjorden i Tanafjord	70° 41.61	28° 33.28	70H85	MYTI EDU	SB																	3	3	3					
J99	49A	Nordfjorden,Syltefj.	70° 33.10	30° 5.17	70J03	MYTI EDU	SB																	3	3						
J99	10A	Skallneset	70° 8.3	30° 21.7	69J06	MYTI EDU	SB																	3	3	4	3	3	3	3	
J99	10B	Varangerfjorden	69° 56.0	29° 40.0	68H97	GADU MOR	LI																	21	25	25	23	25	25	25	25

JAMP contaminant data for fish 1998-2001 - Norway

jmpco	jmpst	stnam	lat	lon	icear	speci	tissu	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01
J99	10B	Varangerfjorden	69° 56.0	29° 40.0	68H97	GADU MOR	MU														25	30	30	27	30	30	30	30
J99	10B	Varangerfjorden	69° 56.0	29° 40.0	68H97	BROS BRO	LI														1							
J99	10B	Varangerfjorden	69° 56.0	29° 40.0	68H97	BROS BRO	MU														1							
J99	10F	Skogerøy	69° 55.0	29° 51.0	68H97	PLEU PLA	LI																	5		4	3	30
J99	10F	Skogerøy	69° 55.0	29° 51.0	68H97	PLEU PLA	MU																	5		4	3	30
J99	11A	Sildkroneset,Bøkfj	69° 47.2	30° 11.10	68J02	MYTI EDU	SB														3	3	4	3				
J99	11X	Brashavn	69° 53.92	29° 44.65	68H97	MYTI EDU	SB																	3	3	3	3	3
J26	I001	Sponvikskansen	59° 5.40	11° 12.50	47G13	MYTI EDU	SB															3	3					
J26	I011	Kråkenebbet	59° 6.10	11° 17.30	47G13	MYTI EDU	SB															3	3					
J26	I021	Kjøkø,south	59° 7.79	10° 57.11	47G09	MYTI EDU	SB															3	3	3	3		3	3
J26	I022	West Damholmen	59° 6.20	10° 57.90	47G09	MYTI EDU	SB															3	3	3	3	3	3	3
J26	I023	Singlekalven, south	59° 5.70	11° 8.20	47G13	MYTI EDU	SB															3	3	3	3	3	3	3
J26	I024	Kirkøy, north west	59° 4.90	10° 59.20	47G09	MYTI EDU	SB															3	3	3	3	3	3	3
J26	I301	Akershuskaia	59° 54.23	10° 45.47	48G07	MYTI EDU	SB															3	3	3	3	3	3	3
J26	I304	Gåsøya	59° 51.11	10° 35.51	48G04	MYTI EDU	SB															3	3	3	3	3	3	3
J26	I306	Håøya	59° 42.69	10° 33.35	48G05	MYTI EDU	SB															3	3	3	3	3	3	3
J26	I307	Ramtonholmen	59° 44.70	10° 31.40	48G05	MYTI EDU	SB															3	3	3	3	3	3	3
J99	I711	Steinholmen	59° 3.15	9° 40.70	47F99	MYTI EDU	SB															3	4	3	3	3	3	
J99	I712	Gjemesholmen	59° 2.75	9° 42.47	47F99	MYTI EDU	SB															3	4	3	3	3	3	3
J99	I131	Lastad	58° 3.30	7° 42.40	45F79	MYTI EDU	SB															3	3	3	3	3	3	3
J99	I132	Fiskåtangen	58° 7.75	7° 58.60	45F79	MYTI EDU	SB															4	4	3	3	3	3	3
J99	I133	Odderø,west	58° 7.90	8° 0.15	45F83	MYTI EDU	SB															4	4	3	3	3	3	3
J99	I201	Ekkjegrunn (G1)	59° 38.65	6° 21.38	48F66	MYTI EDU	SB															3	3	3	3	3	3	3
J99	I205	Bølsnes (G5)	59° 35.50	6° 18.30	48F63	MYTI EDU	SB															3		3	3	3	3	3
J99	I241	Nordnes	60° 24.10	5° 18.20	49F51	MYTI EDU	SB															3	3	3	3	3	3	3
J99	I242	Valheimneset	60° 23.70	5° 16.10	49F51	MYTI EDU	SB															3	3	3	3	3	3	3
J99	I243	Hegreneset	60° 24.90	5° 18.50	49F51	MYTI EDU	SB															3	3	3	3	3	3	3
J99	I911	Horvika	62° 44.10	8° 31.40	54F85	MYTI EDU	SB															3	3					
J99	I913	Fjøseid	62° 48.59	8° 16.48	54F82	MYTI EDU	SB																			3	3	3
J99	I912	Honnhammer	62° 51.20	8° 9.70	54F81	MYTI EDU	SB															3	3	3	3	3	3	3
J65	I080	Østmerknes	63° 27.50	10° 27.50	55G04	MYTI EDU	SB															3	3					
J99	I962	Koksverktomta (B2)	66° 19.57	14° 8.38	61G42	MYTI EDU	SB															3	3	2	3			
J99	I965	Moholmen (B5)	66° 18.72	14° 7.62	61G42	MYTI EDU	SB																					3
J99	I969	Bjørnbærviken (B9)	66° 16.79	14° 2.13	61G42	MYTI EDU	SB															3	3	3	3	3	3	3

JAMP contaminant data for fish 1998-2001 - Norway

jmpco	jmpst	stnam	lat	lon	icear	speci	tissu	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	00	01
J99	R096	Breviken, Tomma	66° 17.60	12° 50.50	61G28	MYTI EDU	SB																3	3				
J26	A3*	Svartskjær	58° 58.90	9° 49.90	46F97	MYTI EDU	SB	1																				

Appendix E. Map of stations

Station positions 1981-2001

(cf. Appendix D.)

Appendix E. (cont.) Map of stations

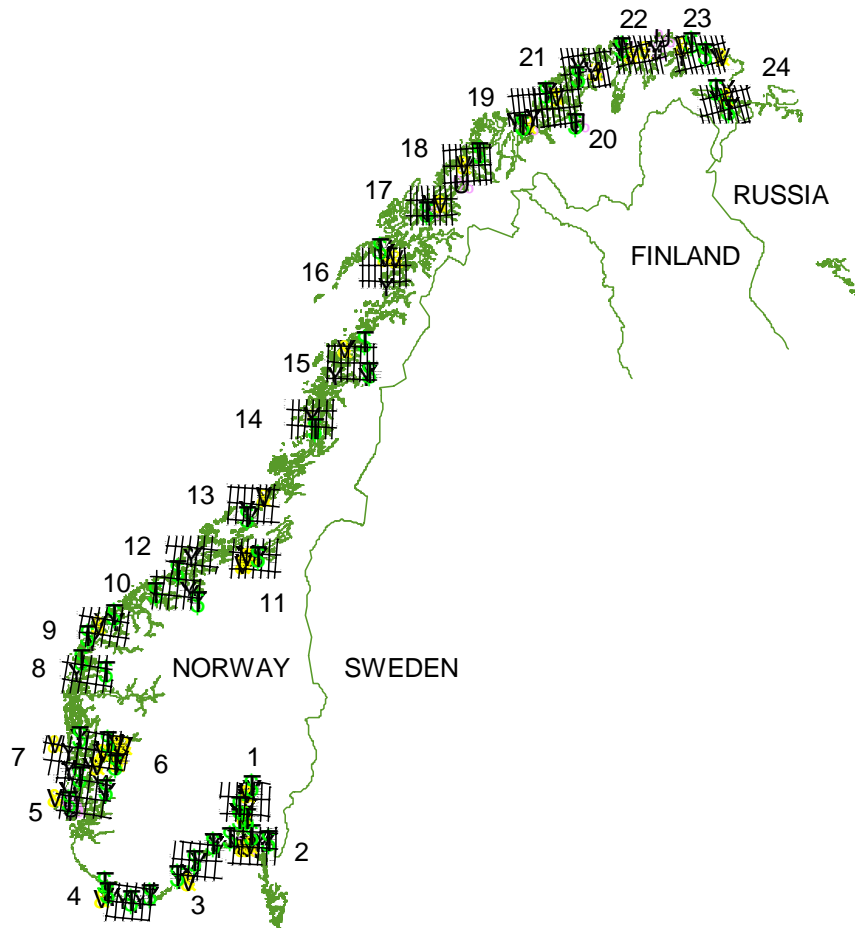
NOTES

For a few stations the geolocation has varied somewhat in order to collect sufficient material (e.g., st. 36B and 98A) or investigate local geographical variations (e.g., in the inner Oslofjord and Sør fjord). Hence, the same station name may appear more than once on a map.

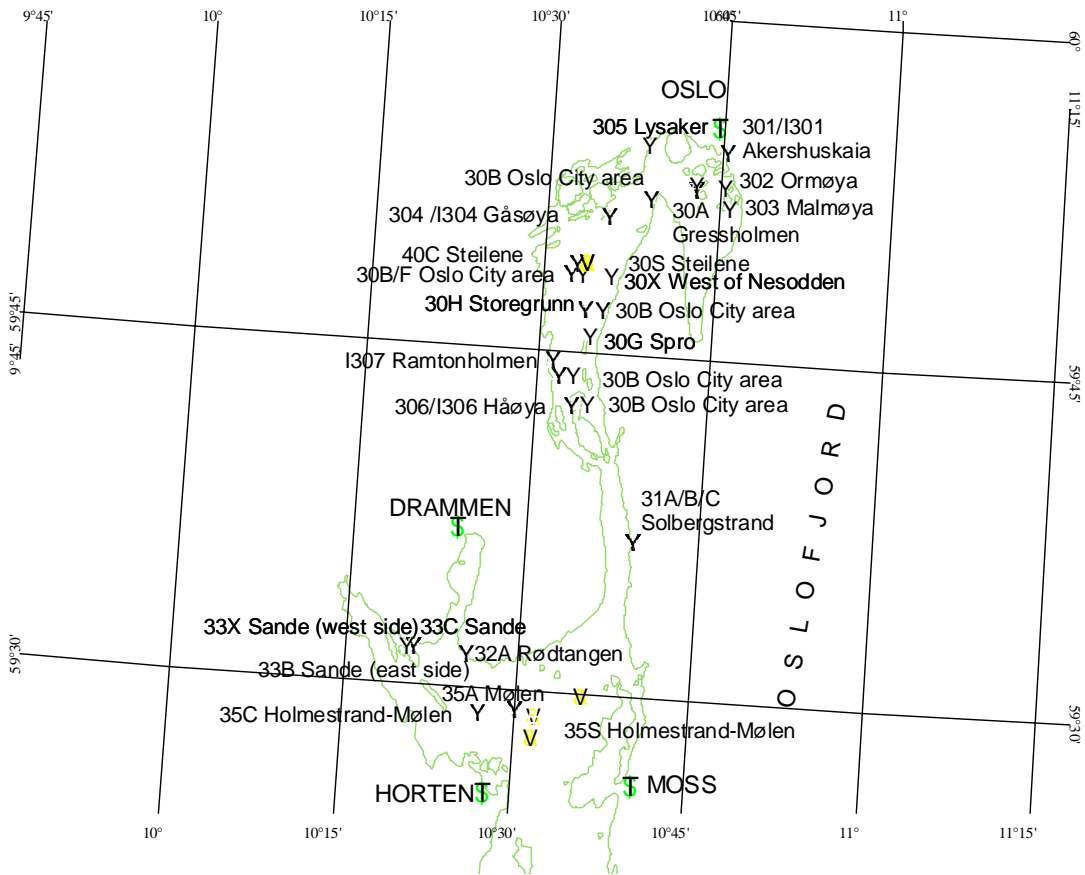
The letter A following the station identification number indicates that blue mussels were sampled. The letter B indicates sampling for cod and the letter F indicates sampling for flatfish. This system for fish is not consistent for some older stations (30, 33, 52 and 67) where only the letter B is used indicating that either cod or flatfish or both were sampled. An encircled dot indicates a mussel, shrimp or fish station. The letter G indicates sampling for dog whelks and S indicates sampling for sediment. A square and pentagon symbol indicates the position for sampling dog whelks or sediment, respectively.

The letter "I" preceding the station identification number indicates an INDEX station for determining a "pollution" index. The letter R indicates a station for evaluating a "reference" index. Only blue mussels are used for these indices. The indices are based on a selection of JAMP and INDEX stations (cf. Green *et al.* 2002).

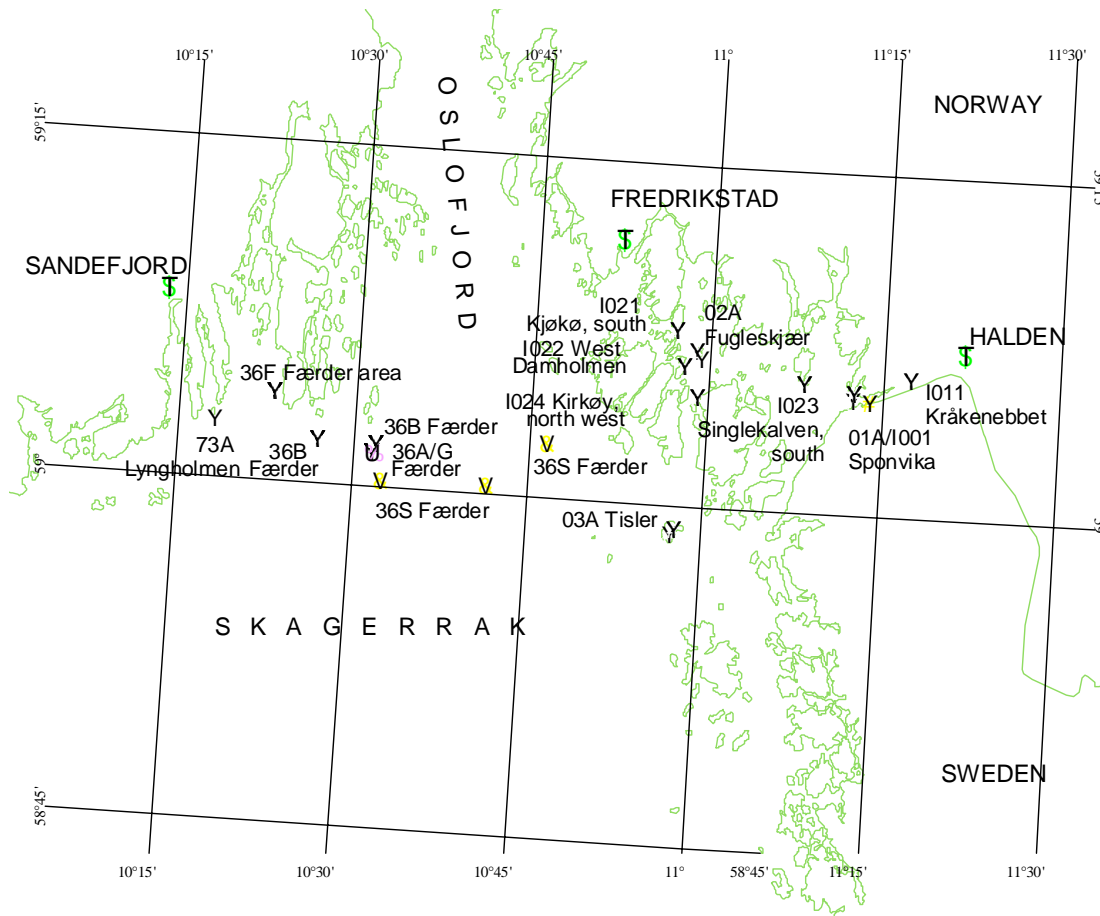
The maps are generated using ArcView GIS version 3.3.



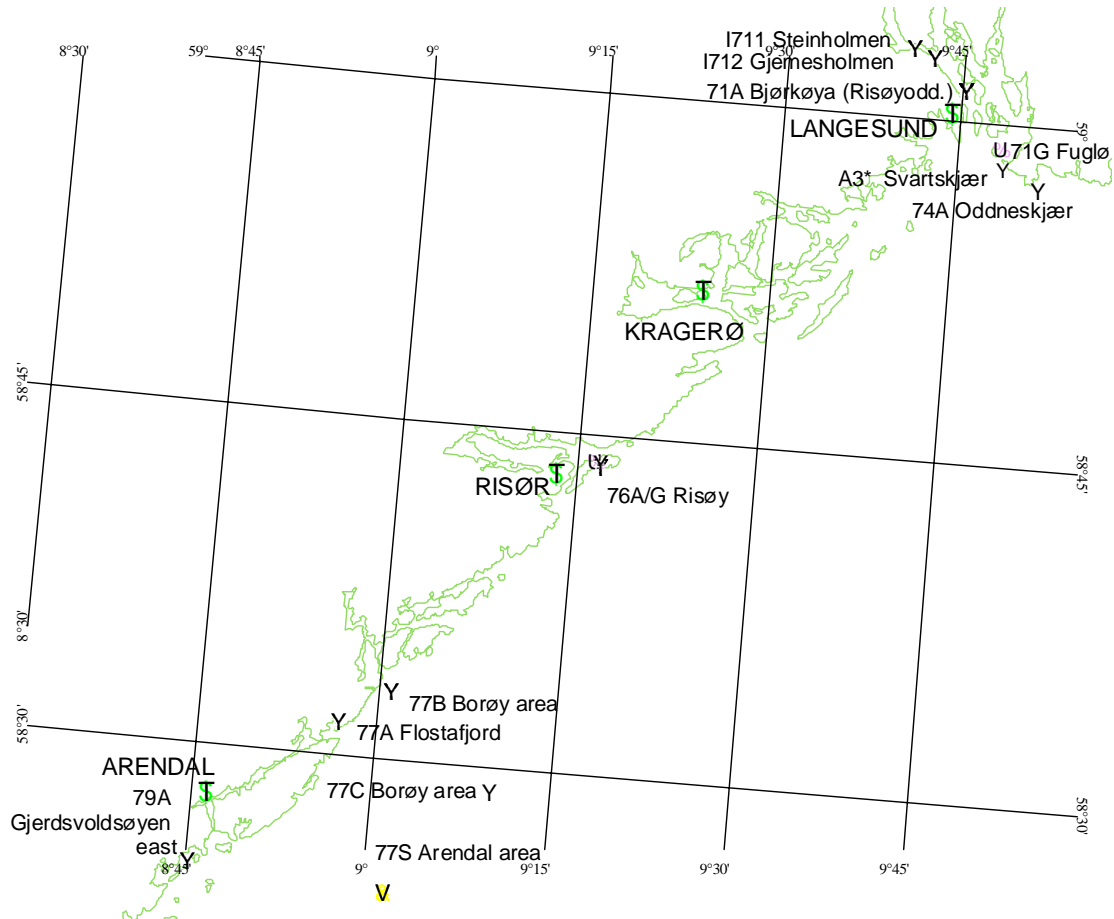
JAMP stations Norway. Numbers indicate map reference.



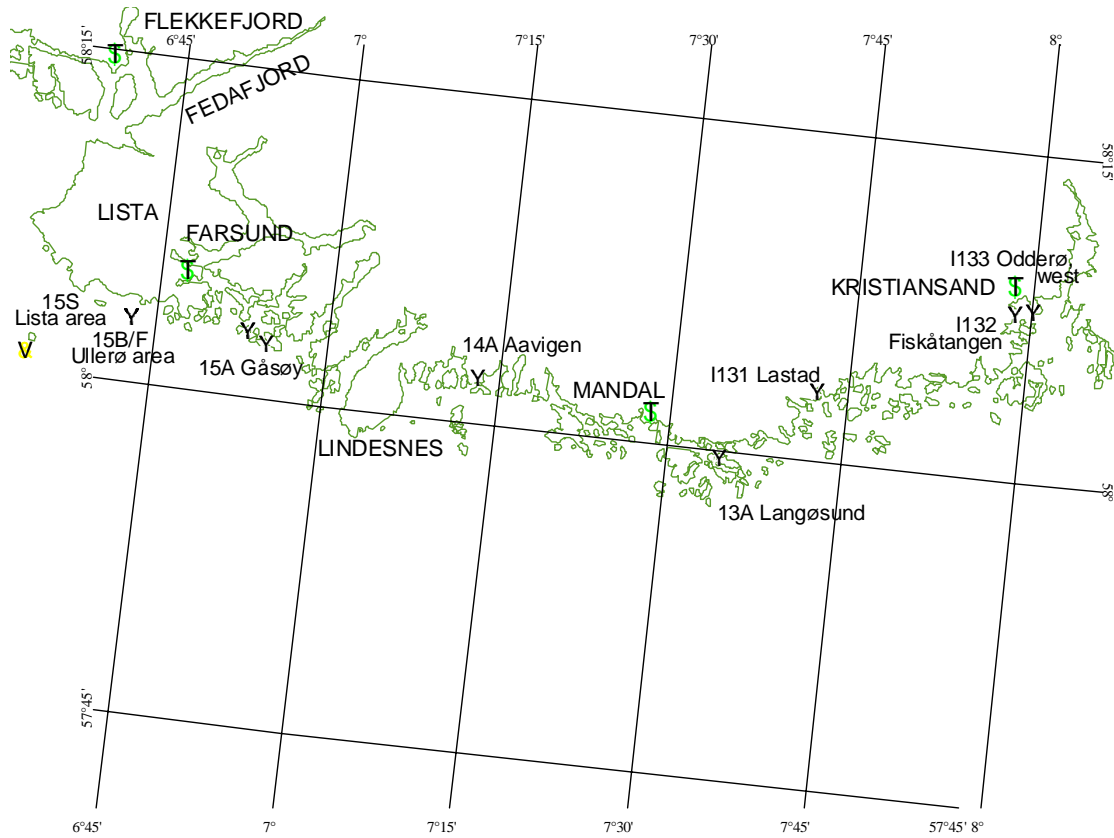
MAP 1



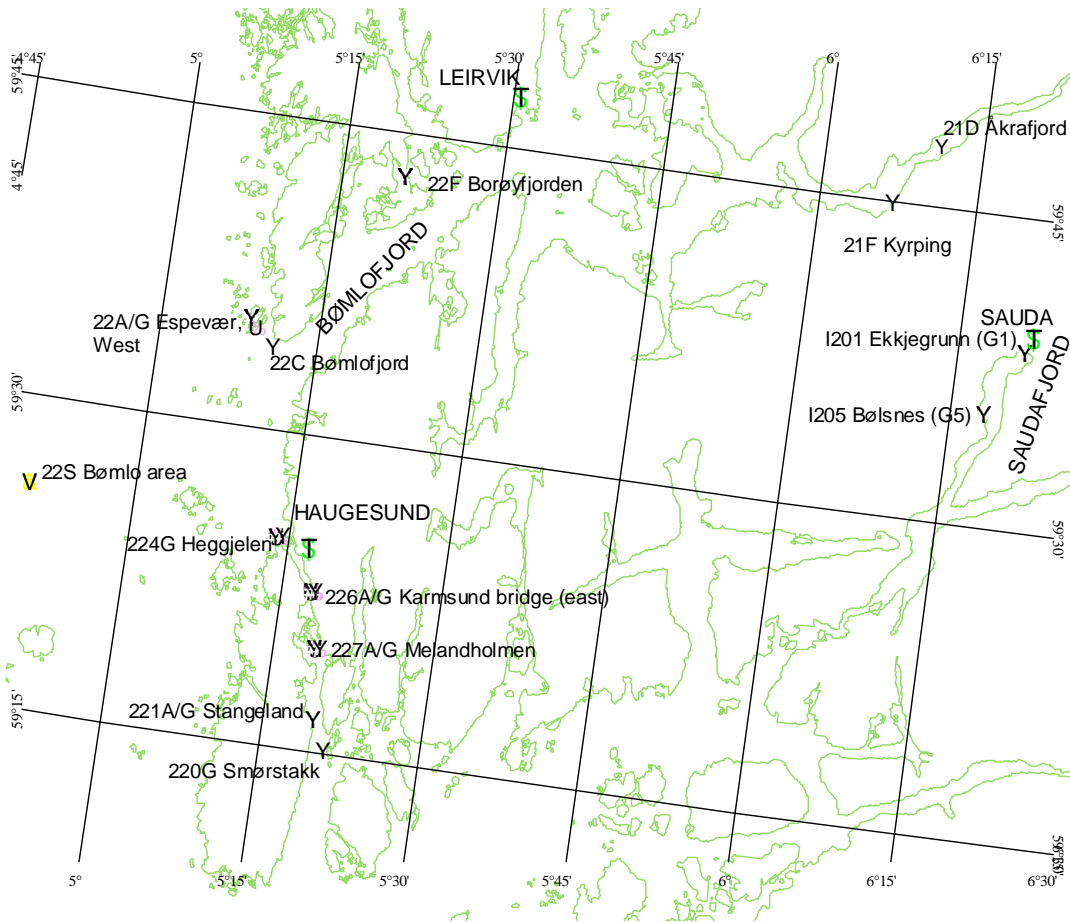
MAP 2



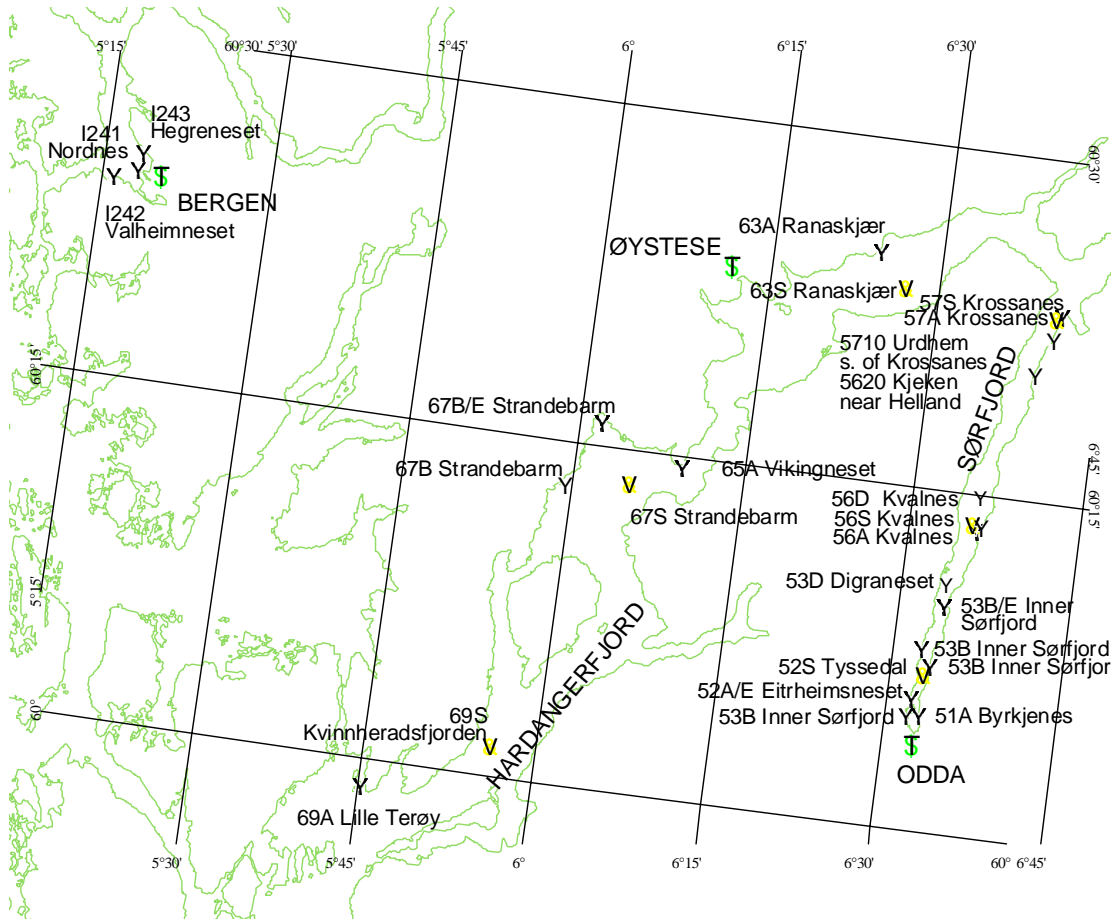
MAP 3



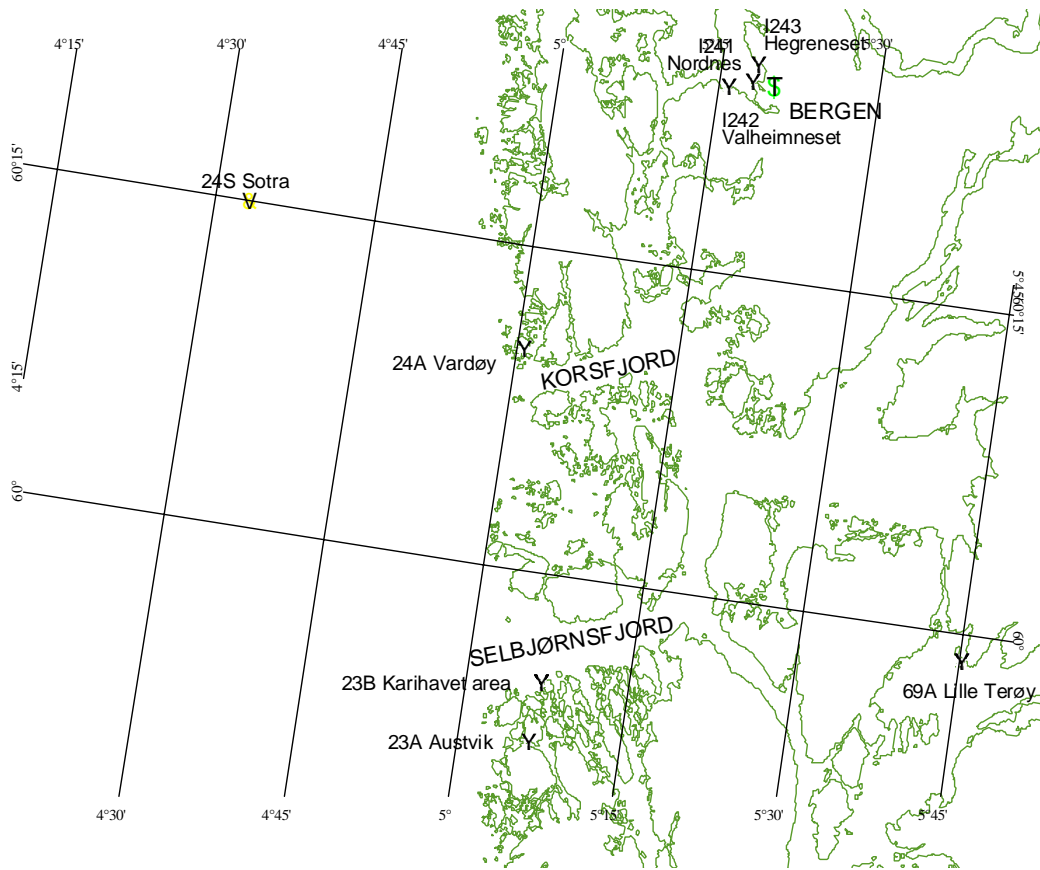
MAP 4



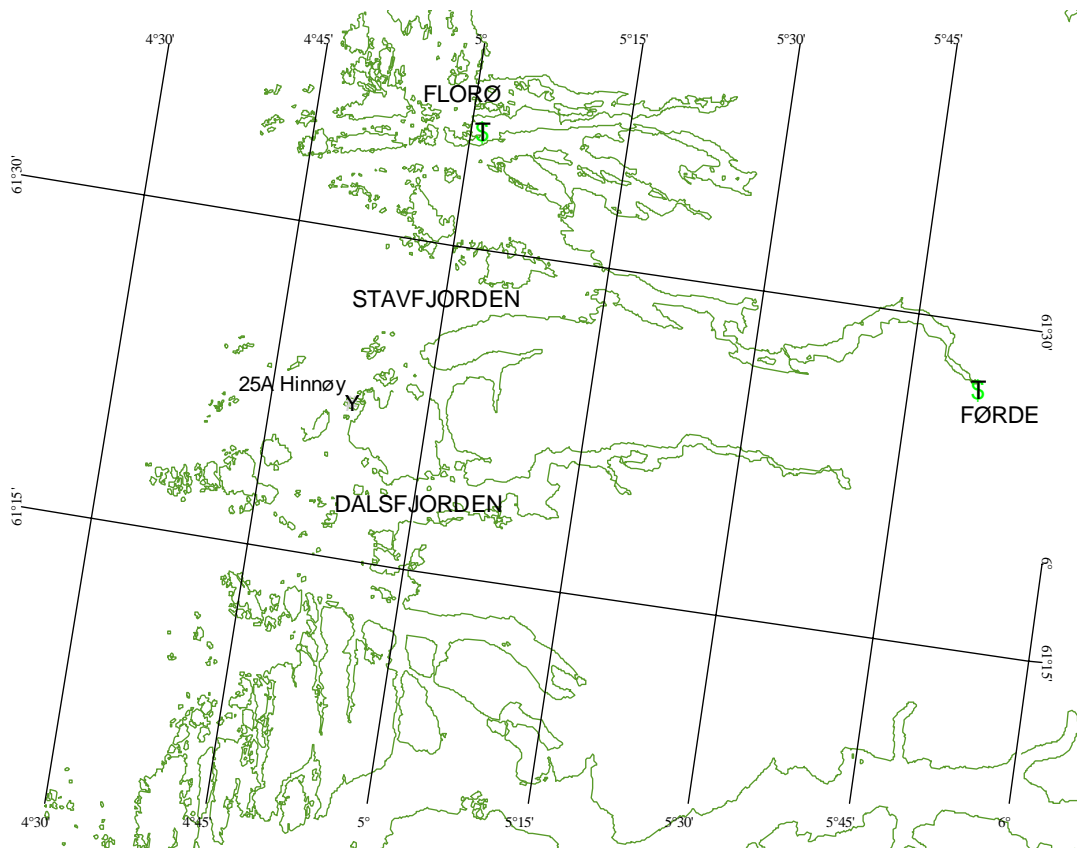
MAP 5



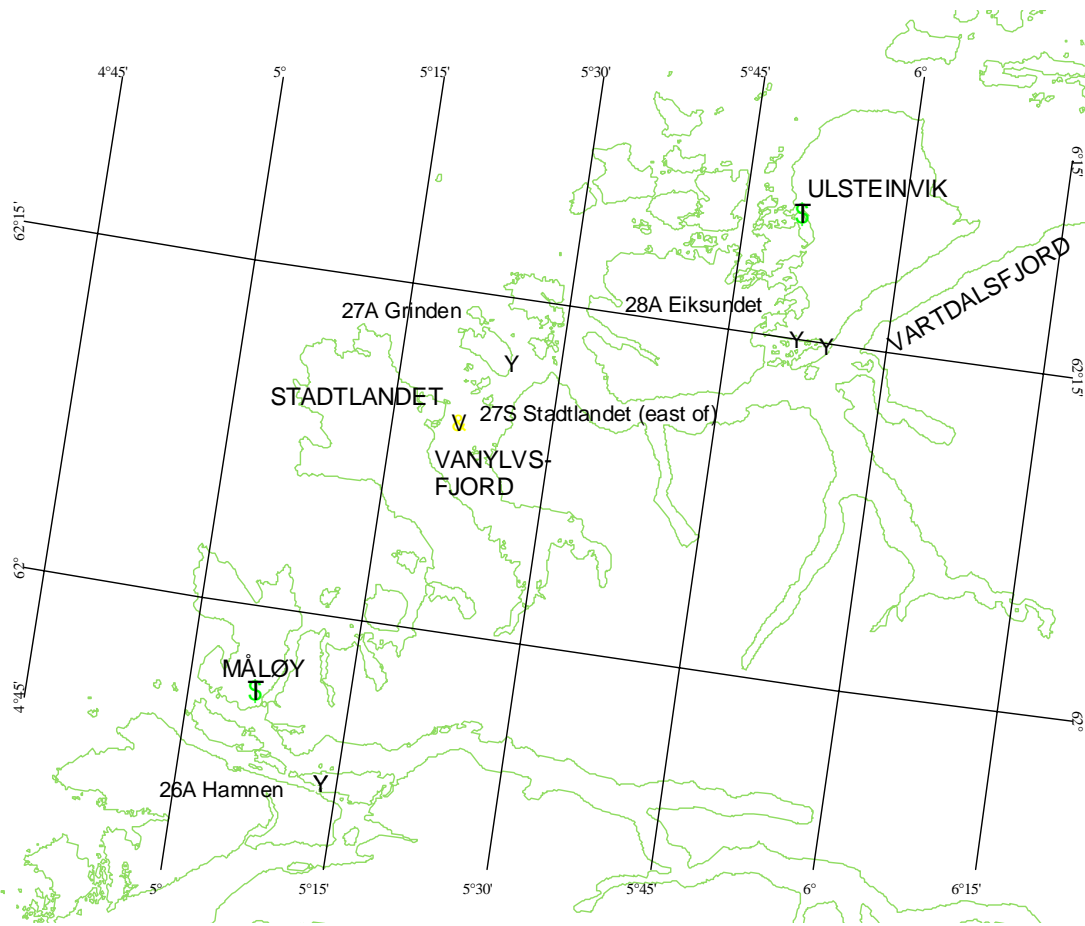
MAP 6



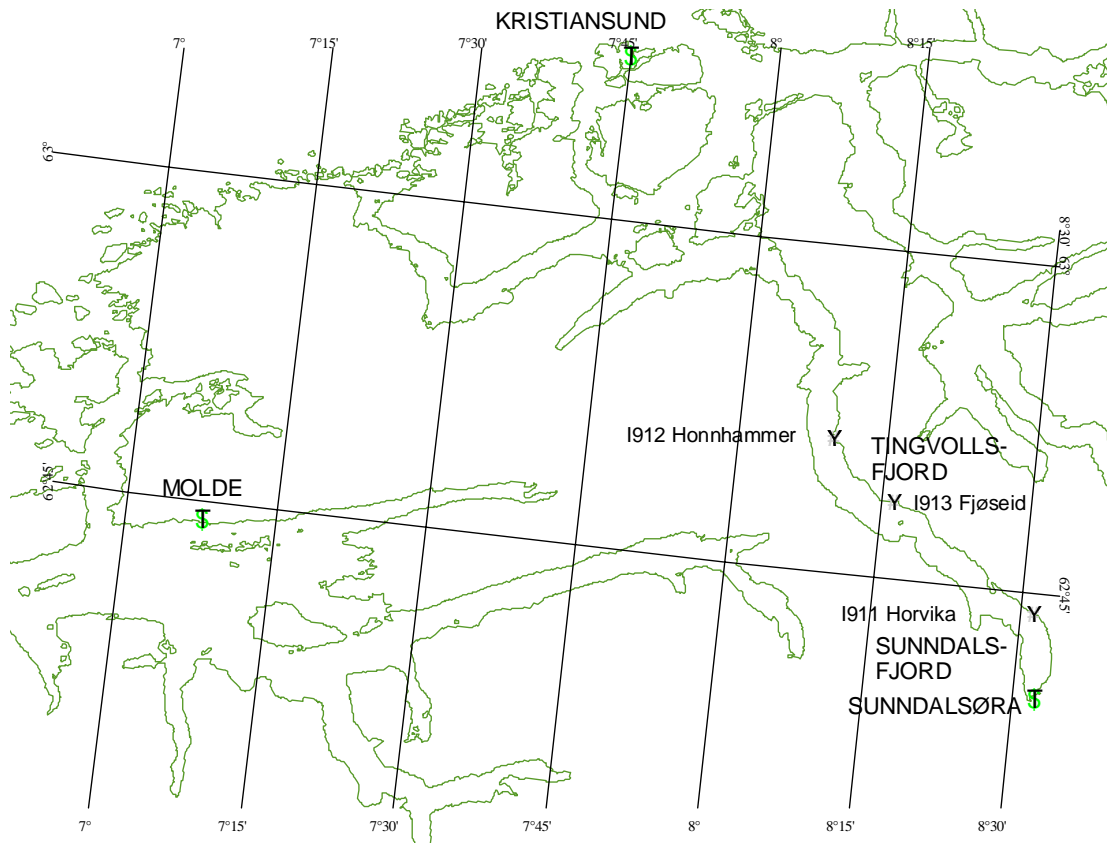
MAP 7



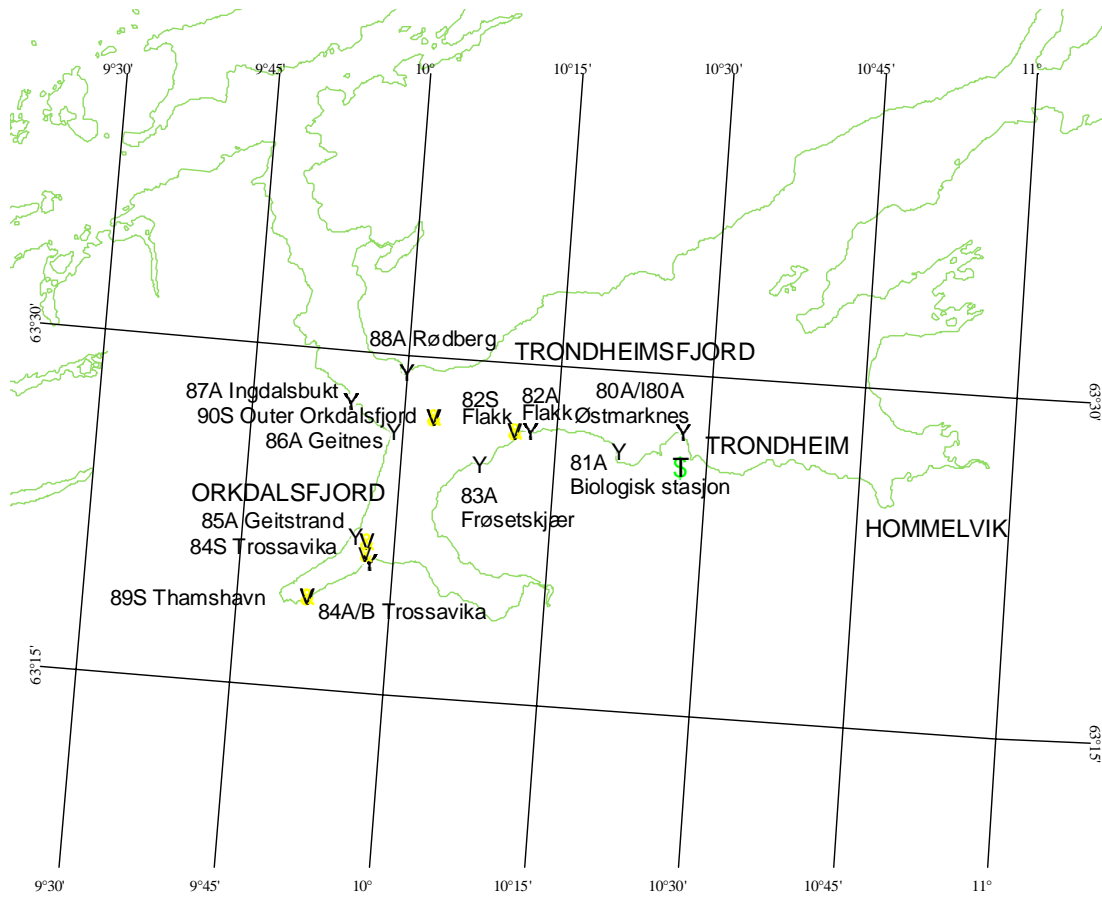
MAP 8



MAP 9



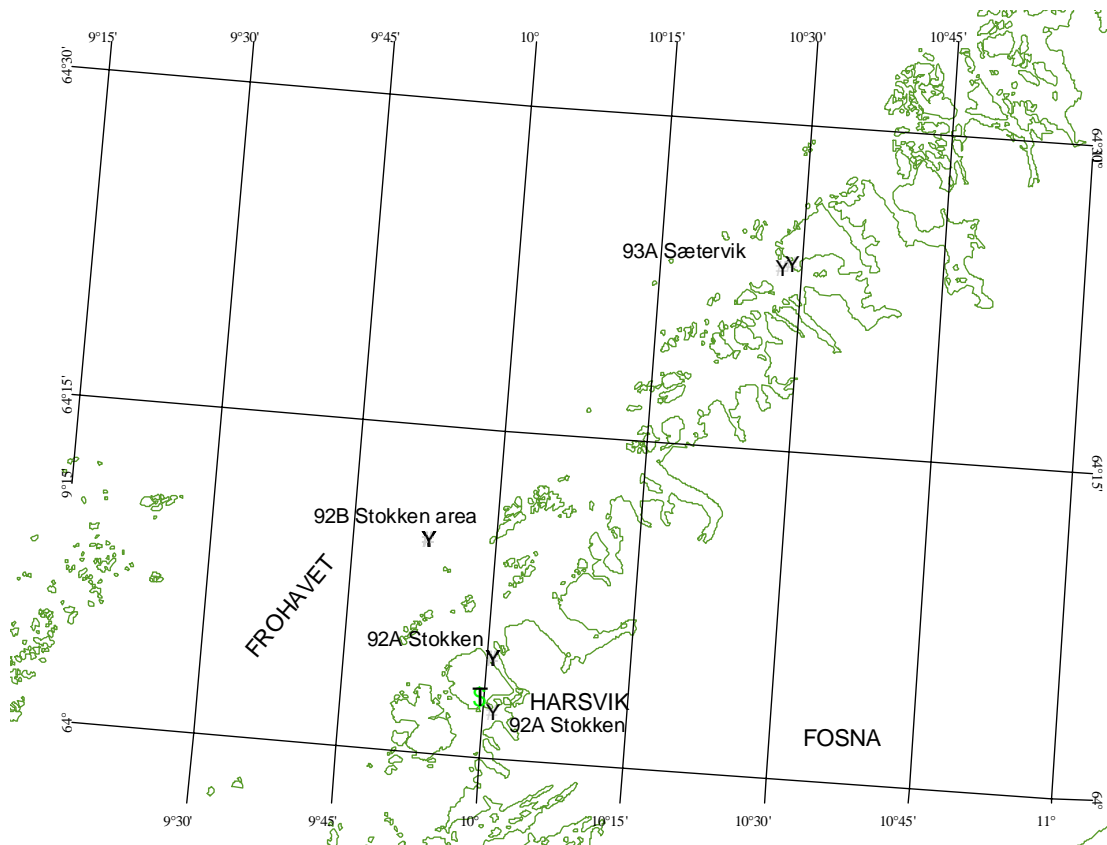
MAP 10



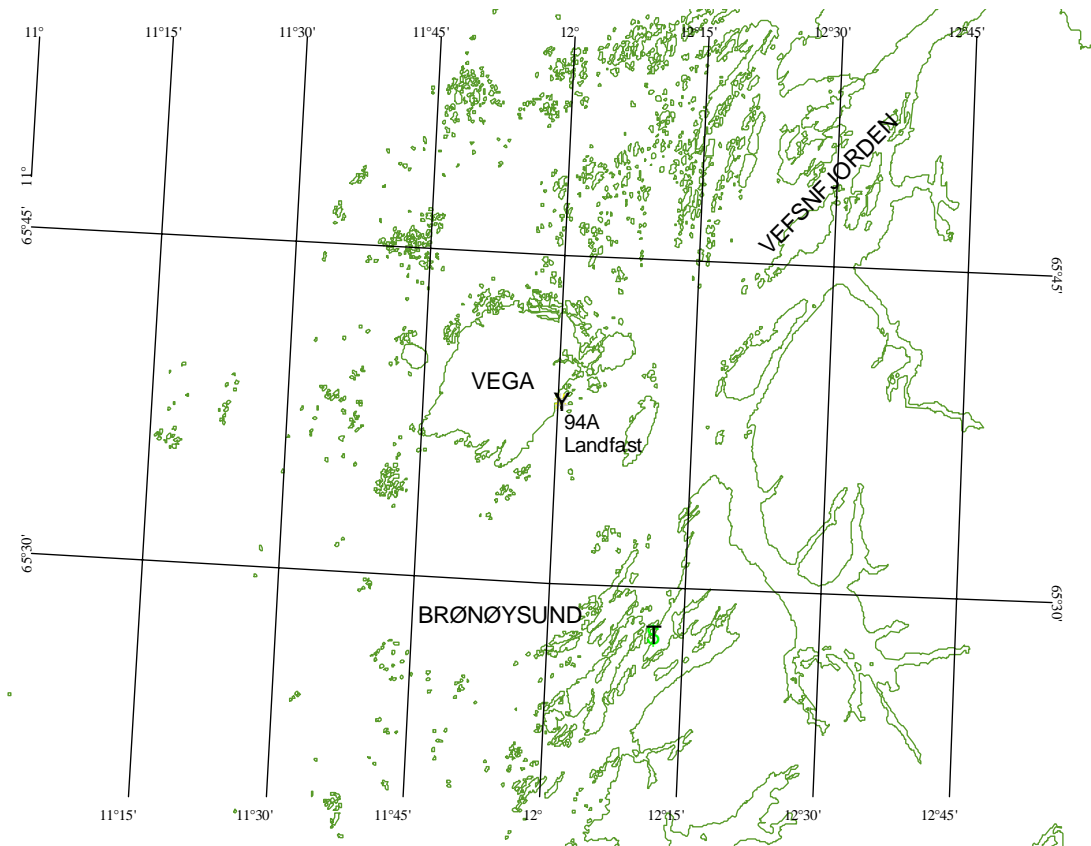
MAP 11



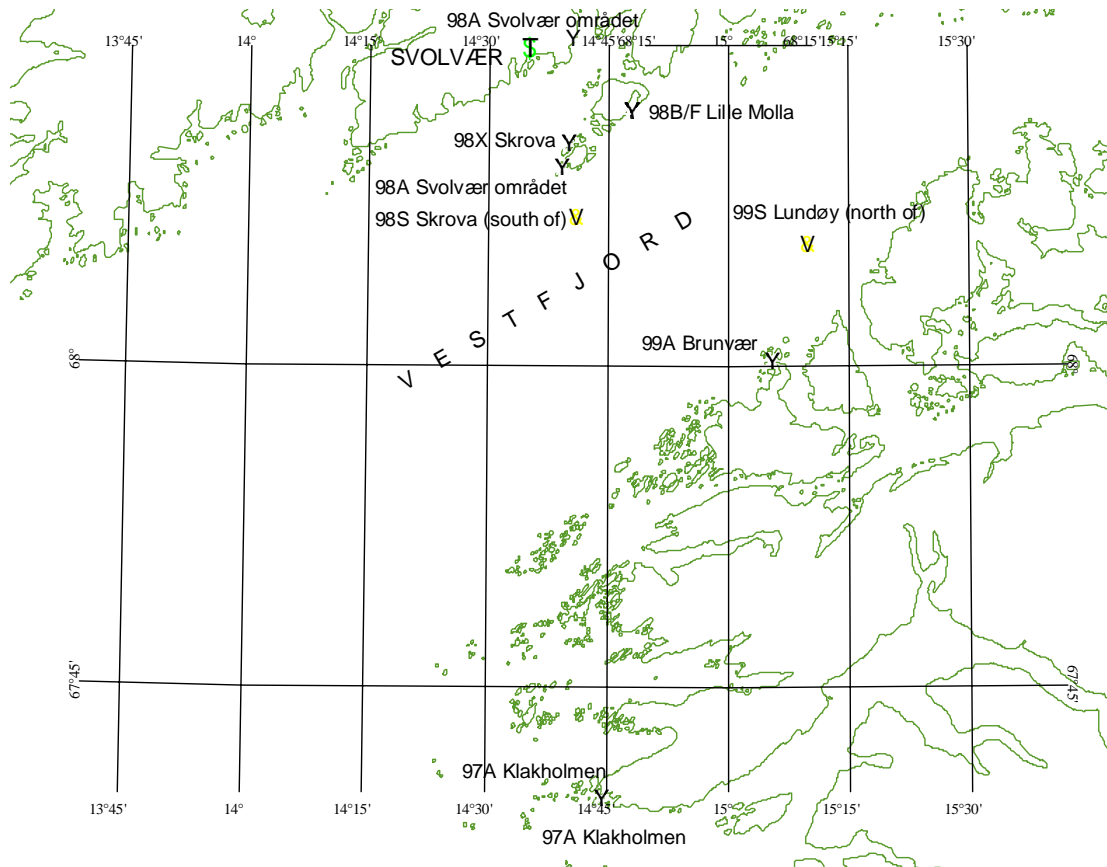
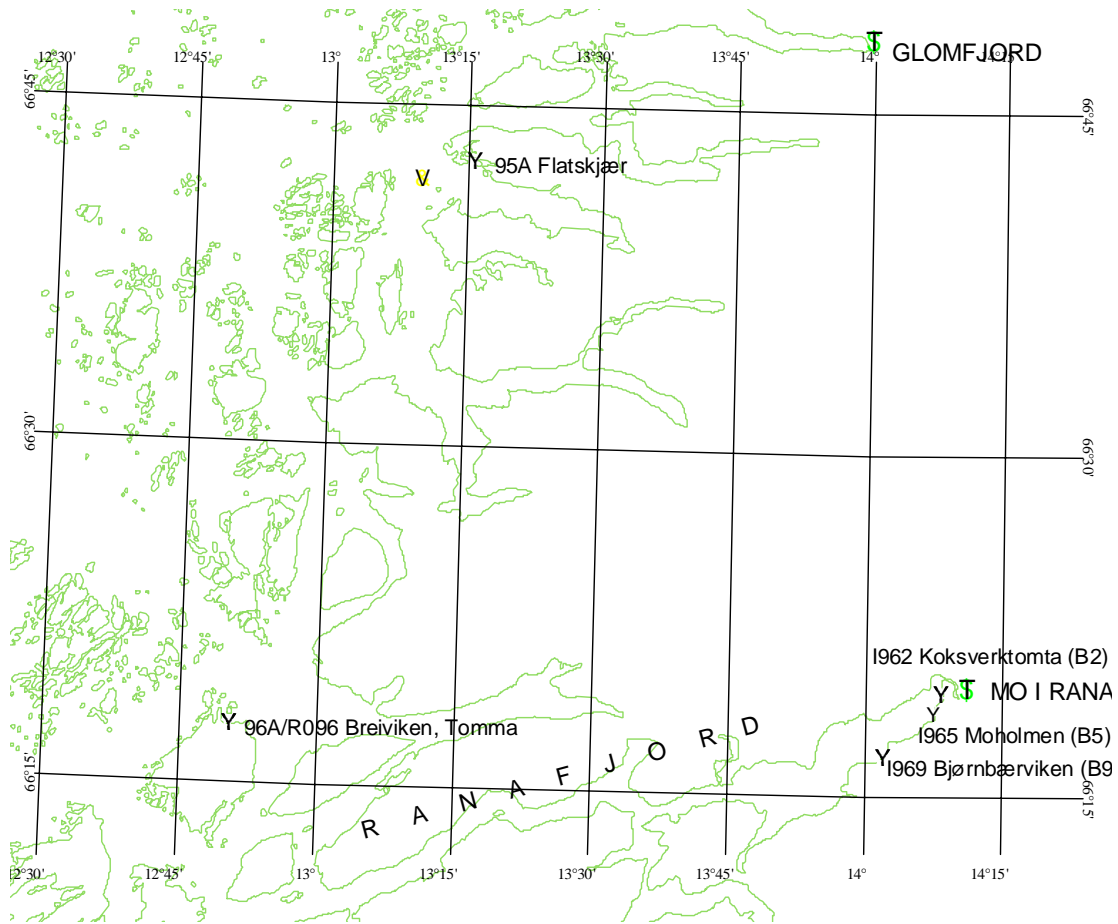
MAP 12

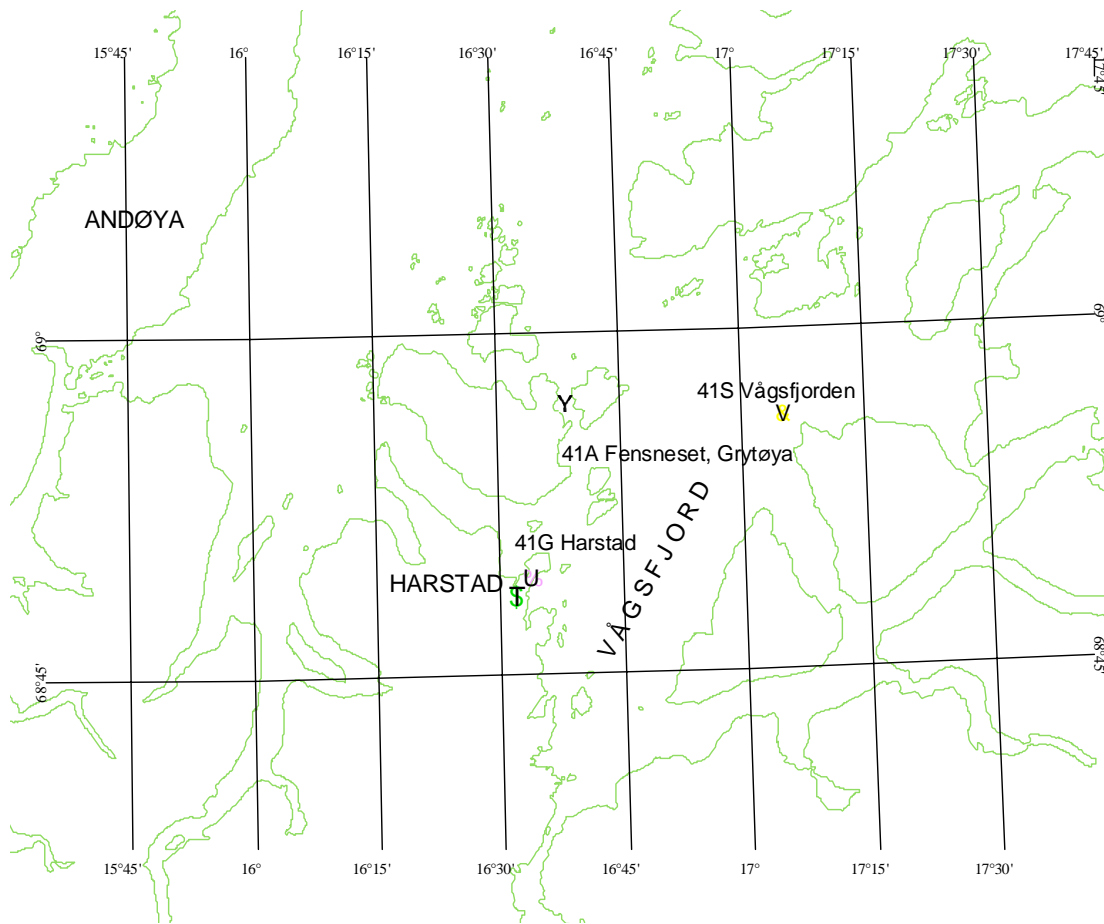


MAP 13

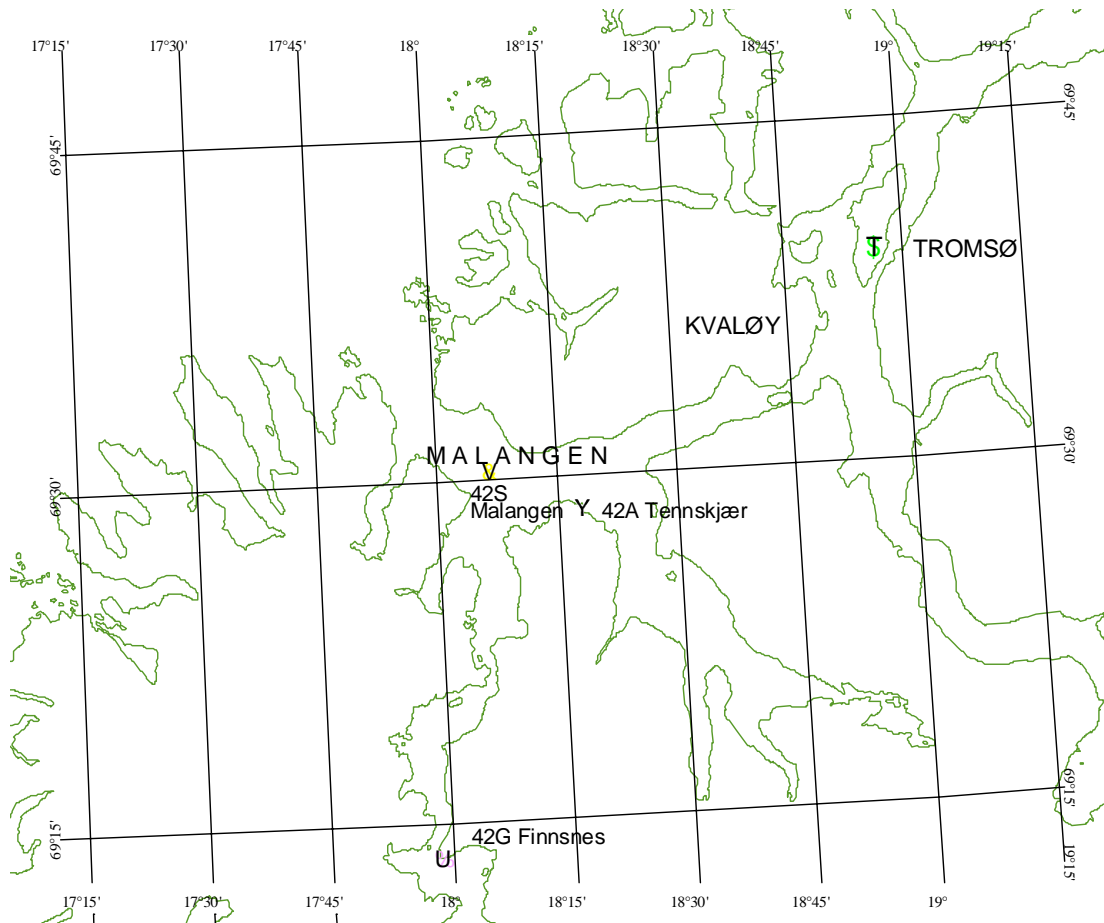


MAP 14

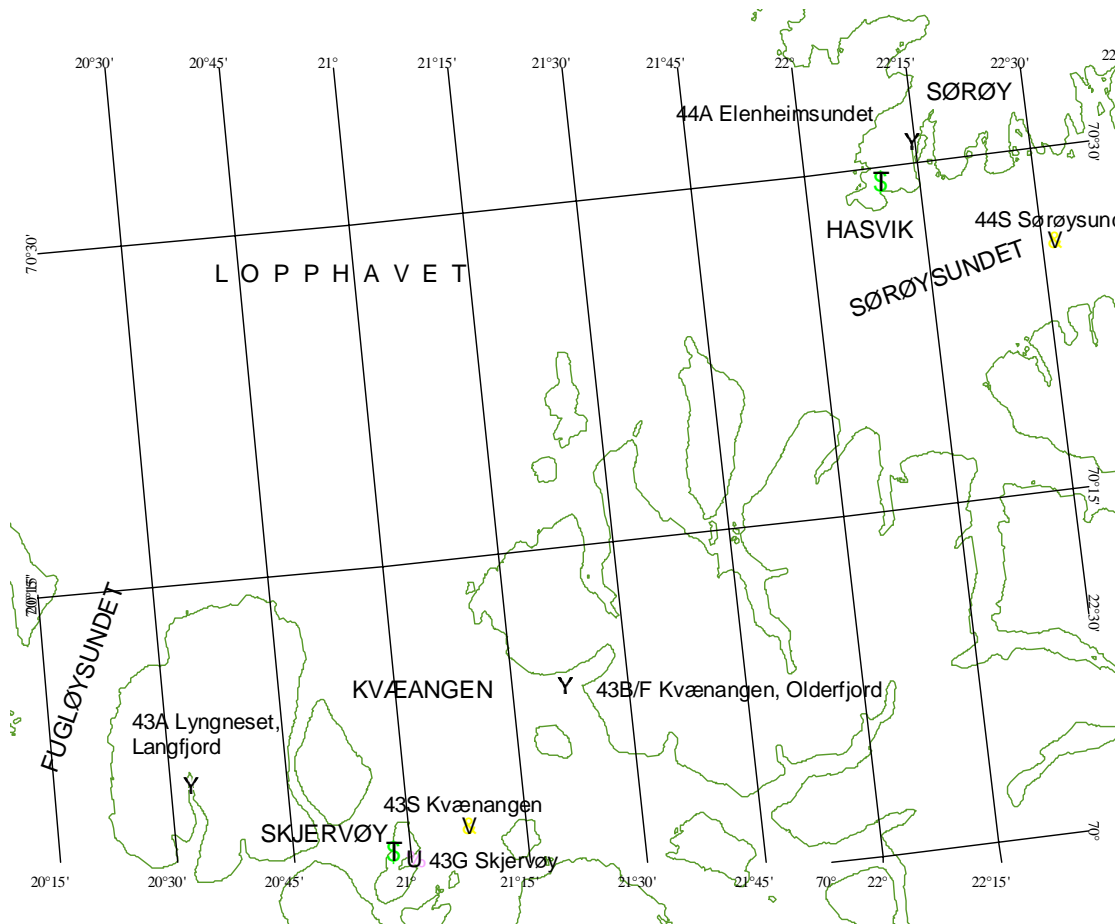




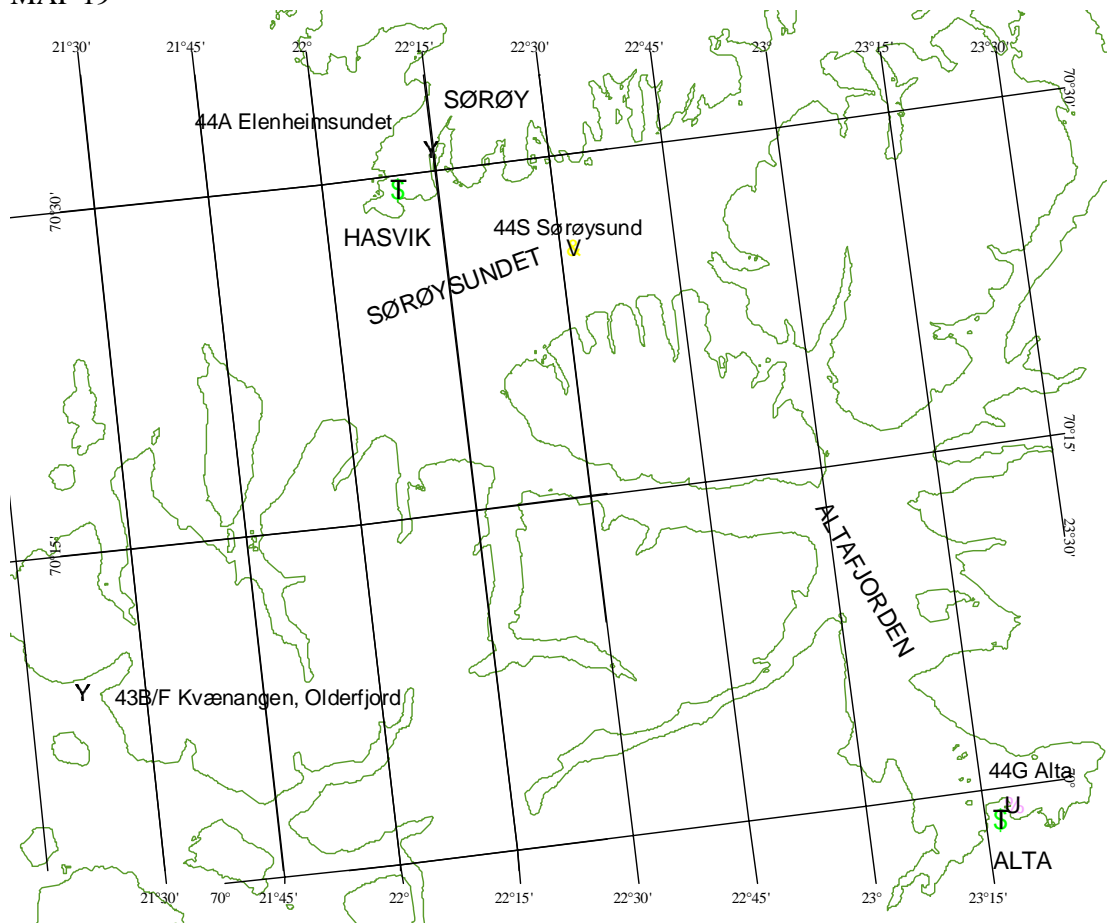
MAP 17



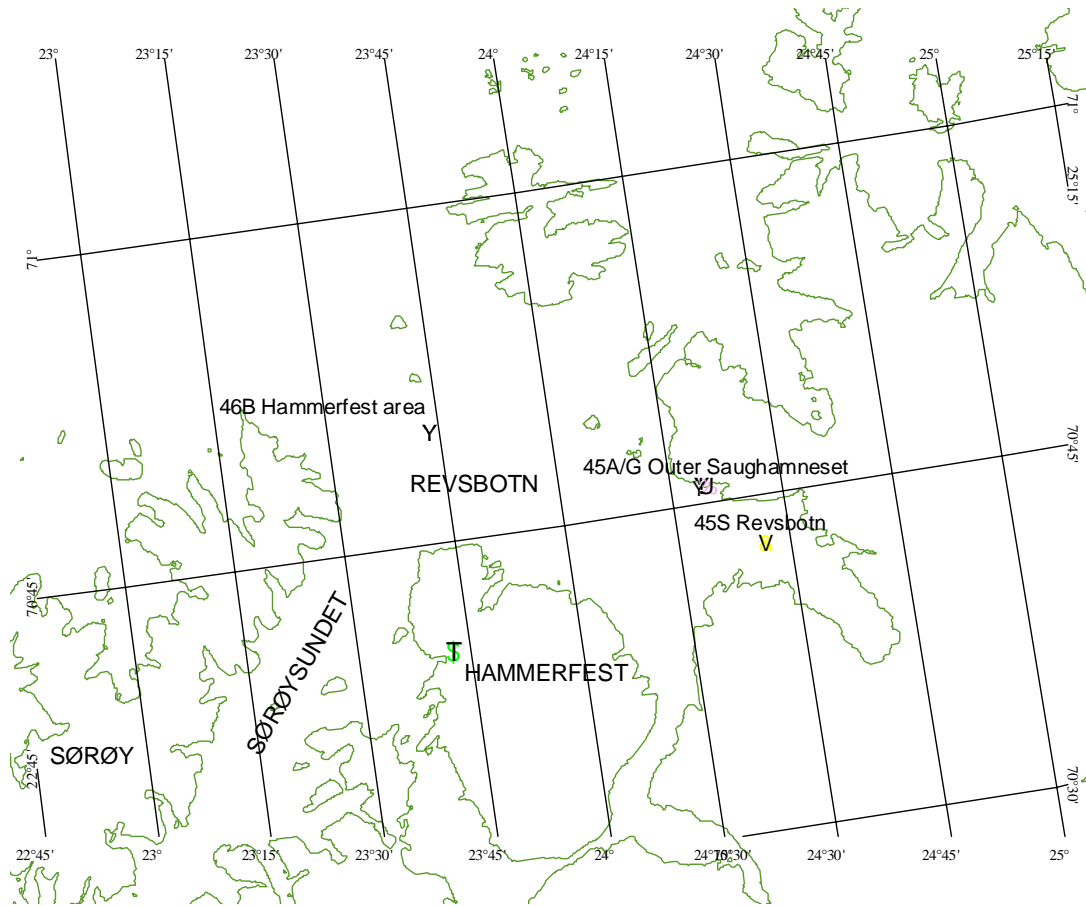
MAP 18



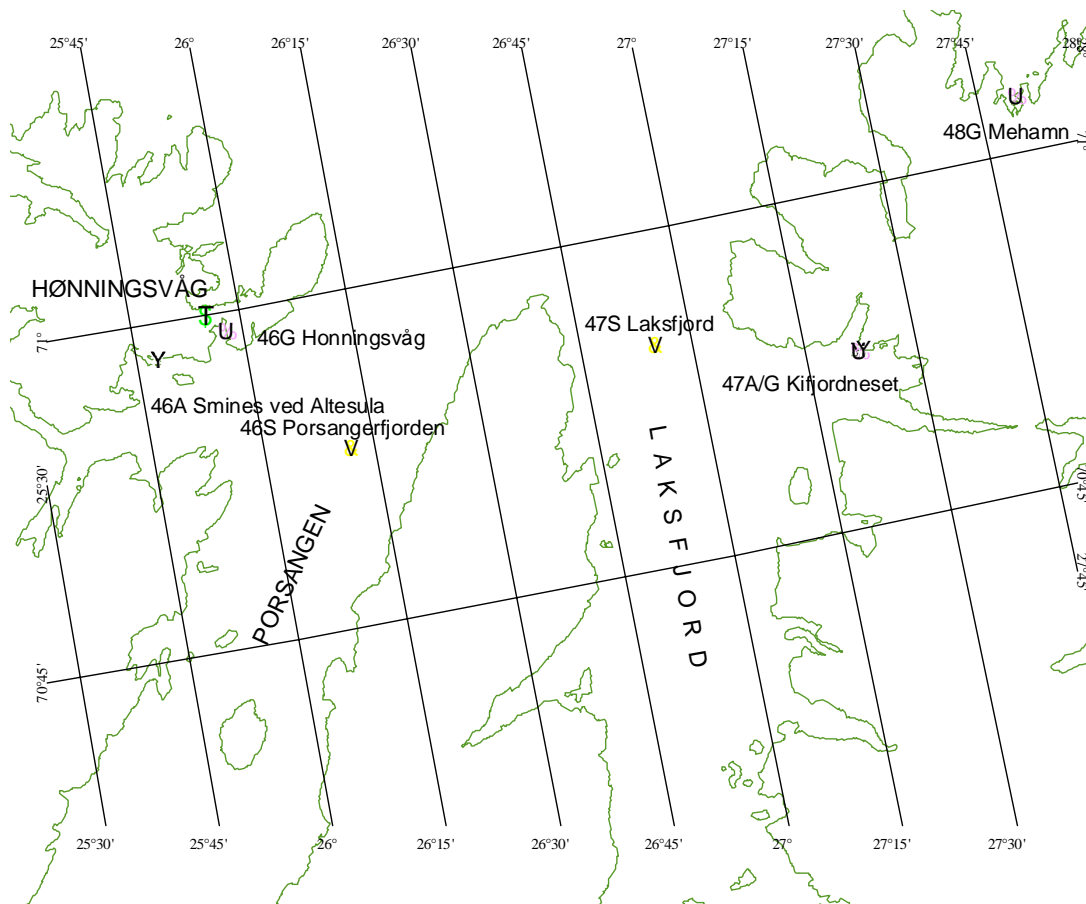
MAP 19



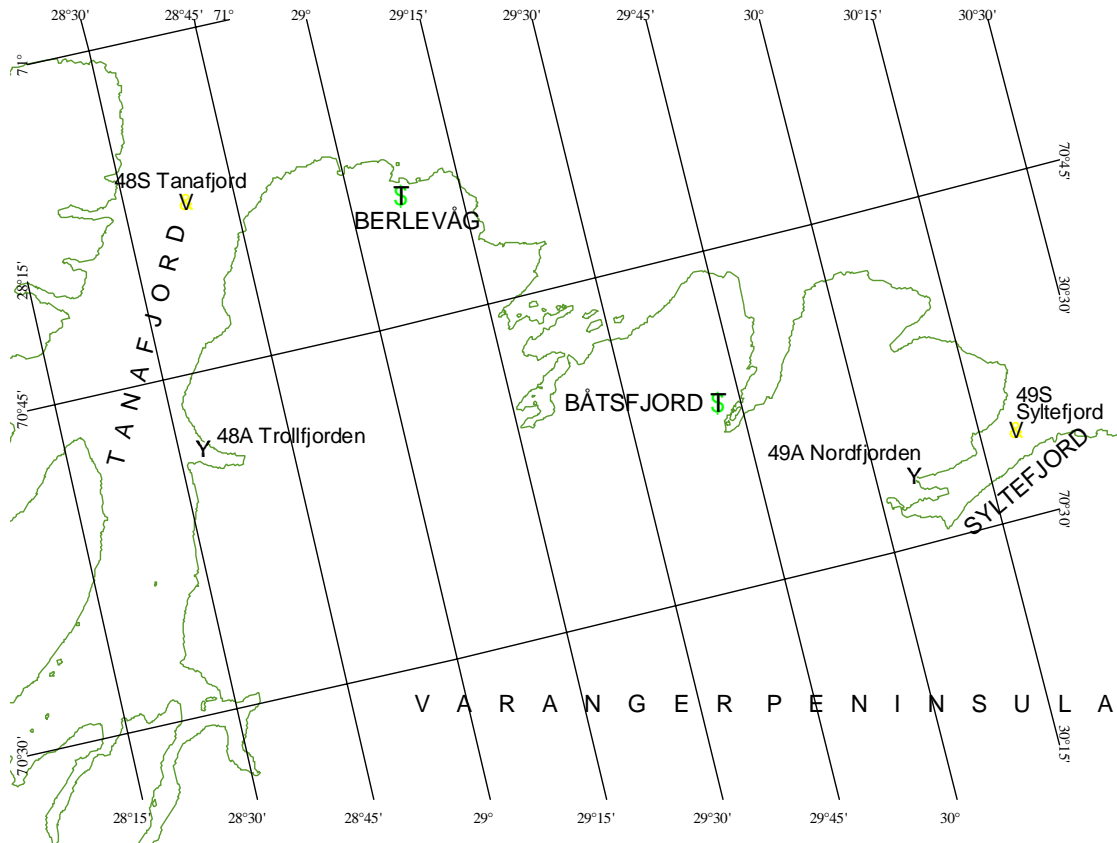
MAP 20



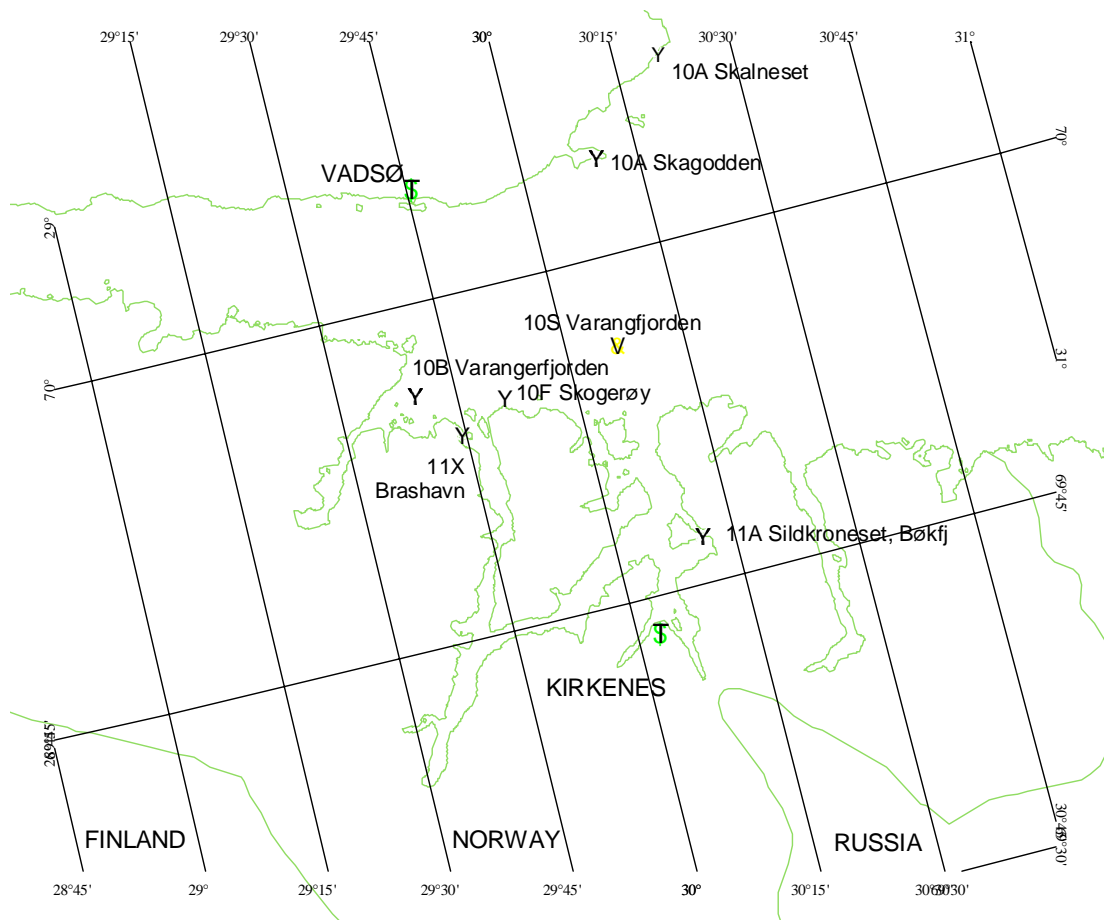
MAP 21



MAP 22



MAP 23



MAP 24

Appendix F. FISH 1998-2001 RAW DATA

NOTES

This appendix presents concentrations of the contaminants found in shellfish. All data are on a original basis; that is, the basis on which the sample was analysed. Three units of measure are used: **ppm** (parts per million, mg/kg), **ppb** (parts per billion, $\mu\text{g}/\text{kg}$) and **ppp** (parts per trillion, ng/kg). The numeric values shown have been printed with a fixed number of digits and do not necessarily indicate analytical precision. Refer also to the comments preceding the table.

The data is sorted in the order of::

Species	Alphabetically by ICES code; Latin, English and Norwegian name follow.
Tissue	Softbody, tail muscle
Sample area	Geographically beginning with those stations near the Swedish border and continuing around the coast to the Russian border (cf., maps, Appendix E). The sample area code refers to the official JAMP designation and for some areas this may be undefined (J99).

Note that the results from bulked samples and individuals are treated separately.

The abbreviations for analytical laboratory and variable name are explained in Appendix C. Analysis codes have been described Green (1993b). An overview of variables, detection limits and data count are given in recent JAMP annual reports (cf., Green *et al.* 2002).

JAMP contaminant data for fish 1998-2001 - Norway

Limit check file: **No limit check**
Weight basis: **"ORIGINAL"**
Table sorted by: **Species, Tissue, Locality (Predefined sequence), Catchment date, Sample type (Individual, Bulk, Homogenate)**

NOTES:

- ☞ The detection limit given here are approximations based on 3 times the standard deviation of the "blank" or near zero concentration of a solution. Day to day variations in the analytical instrument may lead to different detection limits.
- ☞ Method codes are explained in: Green, N.W., 2001. Joint Assessment and Monitoring Programme (JAMP). Overview of Analytical Methods 1981-2000. NIVA report 4353-2001, project 80106.
- ☞ NB! The numeric values shown have been printed with a FIXED number of digits, and do not necessarily indicate analytical precision.
- ☞ If a numeric value is suspect (ie. prefixed with "s"), the value is ignored in parameter statistics unless all observations are suspect. If a value can not be converted to basis for the table, the value is printed in the original basis but not included in any parameter statistics unless all values are in the original basis.
- ☞ For "S" variables (e.g. CB_S7, DD_S4, etc) all the "<"-values (less than the detection limit) are counted only once. If two or more different "<"-values are present, the maximum of the least questionable (suspect) "<"-value is used.
"Σ" variables:
CB_Σ4 = sum of CB77, -81, -126, -169
CB_Σ7 = sum of CB28, -52, -101, -118, -138, -153, -180
CB_ΣΣ = sum of all PCB congeners
DD_Σ4 = sum of ppDDT, ppDDE, ppDDD, ppDDT+ppDDE (the latter does not occur when DDT and DDE are measured individually)
DD_ΣΣ = sum of all DDTs and metabolites
HC_Σ2 = sum of alpha- and gamma-HCH
HC_Σ3 = sum of alpha-, beta- and gamma-HCH
DI_Σ = sum of dicyclic "PAHs"
P_Σ = sum of PAHs
PK_Σ = sum of carcinogen PAHs
- ☞ If replicates are analyzed, the mean value of the replicates is counted in parameter statistics.
- ☞ A value prefixed with "<<" indicates that the number of "<" values is greater or equal to 25% of computed observations. The corresponding standard deviation is prefixed with the character "~" if any "<" value is included.
- F The "No.Fo.Ri." column shows the status defined for NORMAL, FOOD and RISKY limits in the contaminants, respectively. Each of these may be expressed in a w(et), d(ry) and l(ipid) basis indicated by , three characters, respectively, below the limit type. Each character may be qualified three ways:
"+" : Limit is defined
"?" : Limit is uncertain
"." : Limit is undefined
- F Comparison to NORMAL and FOOD limits (values suffixed with (N, F and NF). Where limits are given in more than one basis, the displayed value is compared first to limit with the same basis (wet or dry). If this is undefined, the value compared to the limit in the other basis (wet or dry). If neither is defined, the value is compared to the limit in a lipid basis (assuming conversion is possible).
- F NC indicates that value is in another basis which can not be converted to basis used in this table

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **30B Oslo City area** Latitude: 59°48.50N Longitude: 10°32.50E
 Catch,date : **19990114** Count: 10 Sample type: **Individual**
 Comment : **Oslo City area Slemmestad-Måsane, 100m, trawl**

Analytical lab. =>				NIVA																					
Analysis code =>				312																					
Detection limit =>				0.05																					
Samp/ repl. no.	Sex	Age	Wght	Lngt	Mean weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
F/M		year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	900	450	13,8	50,6	37,8	0.073	11.5	0.77	29.1	11	92	340	290	640	1200	1500	100	480	9	4263	4662	360	
2/1	F	5	814	460	10,7	40,4	22,3	0.099	7.28	0.11	29.6	10	39	130	130	280	440	560	41	150	4	1609	1784	170	
3/1	F	6	1386	510	20,9	57,0	32,5	0.177	9.88	0.42	27.4	7	50	280	260	630	1300	1600	110	600	10	4467	4847	350	
4/1	M	7	1425	510	22,6	53,0	42,0	0.102	11.8	0.53	32.0	13	96	550	470	1050	1800	2600	160	870	11	6979	7620	390	
5/1	M	7	1450	525	36,0	60,3	50,8	0.050	5.04	0.51	24.4	24	180	860	600	1300	1950	2500	170	660	9	7474	8253	820	
6/1	F	6	1539	550	23,4	36,9	20,0	0.120	11.4	1.41	39.5	8	36	180	270	760	1000	1300	120	380	10	3664	4064	320	
7/1	F	7	1600	575	13,7	30,2	13,9	0.332	22.6	0.56	44.5	3	17	180	190	520	860	1200	110	430	10	3210	3520	240	
8/1	F	8	1628	575	19,5	33,9	18,4	0.257	36.1	1.57	52.6	10	95	520	320	770	1400	1900	170	670	25	5365	5880	410	
9/1	F	7	2090	630	18,6	29,7	12,9	0.083	15.4	0.20	45.4	3	34	280	200	580	930	1200	110	430	11	3457	3778	260	
10/1		9	2487	665	39,0	33,9	12,0	0.041	9.55	0.14	29.4	2	21	160	160	380	660	910	70	310	7	2443	2680	170	
Mean		7	1532	545	21,8	42,6	26,3	0.13	14,06	0,62	35,4	9,1	66,0	348,0	289,0	691,0	1154	1527	116,1	498,0	10,6	4293	4709	349,0	
Minimum		5	814	450	10,7	29,7	12,0	0,04	5,04	0,11	24,4	2,0	17,0	130,0	130,0	280,0	440,0	560,0	41,0	150,0	4,0	1609	1784	170,0	
Maximum		9	2487	665	39,0	60,3	50,8	0,33	36,10	1,57	52,6	24,0	180,0	860,0	600,0	1300	1950	2600	170,0	870,0	25,0	7474	8253	820,0	
St.Dev		1	493	69	9,2	11,6	13,6	0,09	9,09	0,50	9,4	6,4	50,3	231,2	145,8	302,6	477,1	651,9	42,0	206,7	5,5	1868	2049	186,2	
Count		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	

Tab.width cont'd GADU MOR,LI,J26 30B Oslo city area, 19990114

Analytical lab. =>				NIVA										
Analysis code =>				340										
Detection limit =>				3										
Samp/ repl. no.	Sex	Age	Wght	Lngt	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
F/M		year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	900	450	92	452.0	452.0	3	8	11.0	11.0	8	<1	<1
2/1	F	5	814	460	71	241.0	241.0	2	5	7.0	7.0	8	<1	<1
3/1	F	6	1386	510	190	540.0	540.0	2	8	10.0	10.0	7	1	<1
4/1	M	7	1425	510	110	500.0	500.0	4	10	14.0	14.0	10	1	<1
5/1	M	7	1450	525	170	990.0	990.0	4	11	15.0	15.0	10	2	<1
6/1	F	6	1539	550	110	430.0	430.0	2	4	6.0	6.0	4	<1	<1
7/1	F	7	1600	575	54	294.0	294.0	<2	3	<5.0	<5.0	3	<1	<1
8/1	F	8	1628	575	200	610.0	610.0	2	4	6.0	6.0	6	<1	<1
9/1	F	7	2090	630	89	349.0	349.0	<2	3	<5.0	<5.0	3	<1	<1
10/1		9	2487	665	40	210.0	210.0	<2	2	<4.0	<4.0	2	<1	<1
Mean		7	1532	545	112,6	461,6	461,6	<<2.5	5,8	<<8.3	<<8.3	6,1	<<1.1	<<1.0
Minimum		5	814	450	40,0	210,0	210,0	<2,0	2,0	<4,0	<4,0	2,0	<1,0	<1,0
Maximum		9	2487	665	200,0	990,0	990,0	4,0	11,0	15,0	15,0	10,0	2,0	<1,0
St.Dev		1	493	69	56,1	226,7	226,7	~0.8	3,2	~3.9	~3.9	3,0	~0.3	~0.0
Count		10	10	10	10	10	10	10	10	10	10	10	10	10

Sample no 1 fish no. 8 sample no 6 fish no. 5
 Sample no 2 fish no. 2 Skin with metacercariae of cf. Cryptocotyle lingua sample no 7 fish no. 9 Skin with metacercariae of cf. Cryptocotyle lingua
 Sample no 3 fish no. 3 sample no 8 fish no. 1
 Sample no 4 fish no. 10 sample no 9 fish no. 6 Skin with metacercariae of cf. Cryptocotyle lingua
 Sample no 5 fish no. 7 Skin with metacercariae of cf. Cryptocotyle lingua sample no 10 fish no. 4 Skin with metacercariae of cf. Cryptocotyle lingua

JAMP contaminant data for fish 1998-2001 - Norway

Species : GADU MOR Gadus morhua GB: Cod, N: Torsk
 Sample area: J26 Oslofjorden Tissue: LIVER
 Locality : 30B Oslo City area Latitude: 59°44.0N Longitude: 10°33.20E
 Catch,date : 19990118 Count: 10 Sample type: Individual
 Coment : Oslo City area Håøya-Ramton, 100m, trawl

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340			
Detection limit =>				Mean																				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
F/M		year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	6	819	450	11,6	33,6	18,4	0.137	4.75	1.06	34.0	3.5	34	230	230	620	1010	1400	68	400	5.5	3698	4001	220
2/1	M	7	1107	475	20,5	48,8	35,5	0.421	7.44	0.39	27.3	6.7	26	100	110	310	510	680	28	140	<4	1773	<1915	110
3/1	M	6	1315	500	28,6	59,8	49,8	0.099	7.33	0.77	26.1	16	110	540	440	1300	1800	2500	110	710	13	6976	7539	470
4/1	F	8	1723	530	71,9	58,7	50,6	0.075	4.57	<0.04	21.3	15	91	350	410	1100	1600	2100	96	560	9.4	5816	6331	400
5/1	F	7	1536	530	32,9	47,0	31,3	0.070	6.86	0.05	27.5	6.1	34	240	210	580	900	1200	58	370	14	3330	3612	180
6/1	M	7	1742	570	41,2	46,9	33,7	0.065	8.98	0.07	28.6	8.6	71	400	310	820	1400	1800	86	630	9.8	5130	5535	290
7/1	M	7	1678	570	24,4	42,8	27,9	0.143	16.0	0.06	43.3	11	130	870	620	1600	2400	3200	170	920	8.3	9131	9929	760
8/1	F	8	2247	620	38,0	55,1	43,4	0.058	17.2	0.05	30.5	15	110	390	210	610	1100	1400	64	400	<4	4025	<4303	280
9/1	M	10	3147	720	27,3	39,6	24,0	0.185	11.1	0.10	37.2	8.2	56	530	390	1100	2100	3000	190	1200	15	7994	8589	550
10/1	F	12	5673	830	156,9	53,8	42,9	0.115	8.89	0.14	32.6	29	230	840	470	1200	2000	2300	130	730	9.5	7329	7939	860
Mean		8	2099	580	45,3	48,6	35,8	0,14	9,31	<0.27	30,8	11,9	89,2	449,0	340,0	924,0	1482	1958	100,0	606,0	<9.3	5520	<5969	412,0
Minimum		6	819	450	11,6	33,6	18,4	0,06	4,57	<0.04	21,3	3,5	26,0	100,0	110,0	310,0	510,0	680,0	28,0	140,0	<4,0	1773	<1915	110,0
Maximum		12	5673	830	156,9	59,8	50,6	0,42	17,20	1,06	43,3	29,0	230,0	870,0	620,0	1600	2400	3200	190,0	1200	15,0	9131	9929	860,0
St.Dev		2	1410	117	42,4	8,4	10,8	0,11	4,31	-0.36	6,2	7,3	61,4	252,6	153,6	399,1	602,5	810,7	51,1	305,1	~3.9	2338	~2535	249,1
Count		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

Tab.width cont'd GADU MOR,LI,J26 30B Oslo city area, 19990118

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>				340	Calc	Calc	340	Calc	Calc	340	340	340		
Detection limit =>				3			0.5			2	2	2		
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP	DD Σ4	DD Σ5	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	6	819	450	27	247.0	247.0	<2	3.0	<5.0	<5.0	2.8	<1	<1
2/1	M	7	1107	475	26	136.0	136.0	<4	5.9	<9.9	<9.9	4.3	<2	<2
3/1	M	6	1315	500	130	600.0	600.0	<4	8.7	<12.7	<12.7	11	<2	<2
4/1	F	8	1723	530	79	479.0	479.0	<4	8.5	<12.5	<12.5	10	<2	<2
5/1	F	7	1536	530	39	219.0	219.0	<4	5.7	<9.7	<9.7	5.3	<2	<2
6/1	M	7	1742	570	59	349.0	349.0	<4	5.7	<9.7	<9.7	6.3	<2	<2
7/1	M	7	1678	570	95	855.0	855.0	<4	4.4	<8.4	<8.4	6.4	<2	<2
8/1	F	8	2247	620	94	374.0	374.0	<4	7.6	<11.6	<11.6	10	<2	<2
9/1	M	10	3147	720	73	623.0	623.0	<4	<4	<4.0	<4.0	4.2	<2	<2
10/1	F	12	5673	830	200	1060	1060	4	7.5	11.5	11.5	15	2.2	<2
Mean		8	2099	580	82,2	494,2	494,2	<<3.8	<6.1	<<9.5	<<9.5	7,5	<<1.9	<<1.9
Minimum		6	819	450	26,0	136,0	136,0	<2,0	3,0	<4,0	<4,0	2,8	<1,0	<1,0
Maximum		12	5673	830	200,0	1060	1060	4,0	8,7	<12,7	<12,7	15,0	2,2	<2,0
St.Dev		2	1410	117	52,9	294,2	294,2	~0.6	~1.9	~3,0	~3,0	3,8	~0.3	~0.3
Count		10	10	10	10	10	10	10	10	10	10	10	10	10

Sample no 1 fish no. 21 Muscle with signs of inner bleeding
 Sample no 2 fish no. 22 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
 Sample no 3 fish no. 23 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
 Sample no 4 fish no. 24 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
 Sample no 5 fish no. 25 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
 Sample no 6 fish no. 26 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
 Sample no 7 fish no. 27 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding NIVA no.27
 Sample no 8 fish no. 28 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
 Sample no 10 fish no. 30 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : GADU MOR Gadus morhua GB: Cod, N: Torsk
 Sample area: J26 Oslofjorden Tissue: LIVER
 Locality : 30B Oslo City area Latitude: 59°48.50N Longitude: 10°32.50E
 Catch,date : 19990121 Count: 10 Sample type: Individual
 Comment : Oslo City area Slemmestad-Måsane, 100m, trawl

Analytical lab. =>				NIVA																					
Analysis code =>				312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340																					
Detection limit =>				Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3																					
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1/1	M	5	503	390	6,1	29,8	10,7					s1	s6	s29	s31	s83	s140	s210	s11	s67	s1	s536	s579	s32	
2/1	F	5	574	400	7,5	41,8	23,8					3	16	76	86	230	400	550	26	140	3	1415	1530	99	
3/1	M	5	789	455	11,5	44,1	26,2	0.165	11.0	0.14	28.3	2	10	36	58	170	340	520	24	140	<2	1218	<1302	54	
4/1	F	6	970	480	23,5	46,8	32,7	0.033	5.58	0.09	27.9	5	43	200	140	340	540	650	34	170	<2	1948	<2124	170	
5/1	M	6	1144	495	16,5	50,8	39,0	0.134	11.7	0.37	33.4	6	41	290	250	650	940	1300	73	360	<2	3587	<3912	300	
6/1	M	6	1386	545	20,6	48,9	35,6	0.070	8.78	0.10	30.7	8	94	510	260	630	970	1200	68	340	4	3752	4084	350	
7/1	M	8	1766	590	23,6	45,2	32,4	0.095	10.5	0.25	38.2	10	120	590	300	720	1100	1300	83	410	6	4250	4639	440	
8/1	M	8	2030	590	39,9	58,4	48,7	0.026	7.31	1.31	27.0	12	130	790	460	1200	2000	2400	140	730	9	7262	7871	690	
9/1	F	8	1660	655	58,7	65,0	51,1	0.022	6.43	<0.04	27.1	7	43	150	100	250	360	470	25	110	<2	1390	<1517	140	
10/1	M	8	3148	680	90,8	69,0	61,2	0.017	5.19	0.05	21.5	4	26	160	110	320	720	940	50	320	7	2490	2657	180	
Mean		7	1397	528	29,9	50,0	36,1	0,07	8,31	<0.29	29,3	6,3	58,1	311,3	196,0	501,1	818,9	1037	58,1	302,2	<<4.1	3035	<<3293	269,2	
Minimum		5	503	390	6,1	29,8	10,7	0,02	5,19	<0.04	21,5	2,0	10,0	36,0	58,0	170,0	340,0	470,0	24,0	110,0	<2.0	1218	<1302	54,0	
Maximum		8	3148	680	90,8	69,0	61,2	0,17	11,70	1,31	38,2	12,0	130,0	790,0	460,0	1200	2000	2400	140,0	730,0	9,0	7262	7871	690,0	
St.Dev		1	800	101	26,6	11,6	14,7	0,06	2,55	~0.43	5,0	3,3	44,9	259,6	131,5	331,7	526,1	613,2	38,1	195,8	~2.6	1945	~2115	201,1	
Count		10	10	10	10	10	10	8	8	8	8	9	9	9	9	9	9	9	9	9	9	9	9	9	

Tab.width cont'd GADU MOR,LI,J26 30B Oslo city area, 199901221

Analytical lab. =>				NIVA										
Analysis code =>				340 Calc Calc 340 340 Calc Calc 340 340 340										
Detection limit =>				3 0.5 2 2 2 2 2 2 2 2 2 2										
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP	DD Σ4	DD Σ5	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
no.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
1/1	M	5	503	390	s10	s42.0	s42.0	<2	<2	<2.0	<2.0	s1	<1	<1
2/1	F	5	574	400	21	120.0	120.0	<2	<2	<2.0	<2.0	2	<1	<1
3/1	M	5	789	455	9	63.0	63.0	<2	<2	<2.0	<2.0	2	<1	<1
4/1	F	6	970	480	54	224.0	224.0	<2	<2	<2.0	<2.0	3	<1	<1
5/1	M	6	1144	495	68	368.0	368.0	<2	<2	<2.0	<2.0	4	<1	<2
6/1	M	6	1386	545	75	425.0	425.0	<2	<2	<2.0	<2.0	6	<1	<1
7/1	M	8	1766	590	110	550.0	550.0	<2	<2	<2.0	<2.0	4	<1	<1
8/1	M	8	2030	590	180	870.0	870.0	<2	7	<9.0	<9.0	10	<1	<1
9/1	F	8	1660	655	41	181.0	181.0	<2	<2	<2.0	<2.0	5	1	<1
10/1	M	8	3148	680	31	211.0	211.0	<2	<2	<2.0	<2.0	3	<1	<1
Mean		7	1397	528	65,4	334,7	334,7	<<2.0	<<2.5	<<2.7	<<2.7	4,3	<<1.0	<<1.1
Minimum		5	503	390	9,0	63,0	63,0	<2.0	<2.0	<2.0	<2.0	2,0	<1.0	<1.0
Maximum		8	3148	680	180,0	870,0	870,0	<2.0	7,0	<9.0	<9.0	10,0	1,0	<2.0
St.Dev		1	800	101	52,8	253,3	253,3	~0.0	~1.6	~2.2	~2.2	2,5	~0.0	~0.3
Count		10	10	10	9	9	9	10	10	10	10	9	10	10

s/q(17) ! Suspect value

sample no. 1	fish no. 15	sample no. 6	fish no. 14
sample no. 2	fish no. 12	sample no. 7	fish no. 11
sample no. 3	fish no. 19	sample no. 8	fish no. 16
sample no. 4	fish no. 17	sample no. 9	fish no. 18
sample no. 5	fish no. 20	sample no. 10	fish no. 13

Sample 4: Skin with metacercariae of cf. Cryptocotyle lingua

Sample 6: Skin with metacercariae of cf. Cryptocotyle lingua

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **30B Oslo City area** Latitude: 59°47.0N Longitude: 10°35.50E
 Catch,date : **19990122** Count: 10 Sample type: **Individual**
 Comment : Oslo City area Svestad, 60-90m, seine
 Correct sampling date 990121. Changed due to IT problem; collision with same date at another "30B" site (ng-991202).

Analytical lab. =>			NIVA																						
Analysis code =>			312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 Calc Calc 340																						
Detection limit =>			Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 4																						
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	M	6	756	430	12,0	44,5	25,4	0.459	11,4	0.04	39,3	15	160	530	250	710	980	1200	64	340	9,3	3935	4258	400	
2/1	M	6	978	460	28,6	71,2	63,9	0.080	2,98	0.11	15,6	24	240	720	310	830	960	1100	53	190	<8	4064	<4435	330	
3/1	M	5	981	470	29,1	64,5	55,8	0.131	6,91	0.07	23,8	16	110	440	370	1000	1300	1700	75	360	<8	4926	<5379	420	
4/1	M	6	1117	470	36,0	74,4	67,9	0.113	6,11	0.05	14,5	30	280	660	200	550	820	920	46	180	<8	3440	<3694	290	
5/1	M	5	992	475	21,1	59,1	49,5	0.189	10,5	0.07	22,4	11	74	260	160	440	710	1100	42	230	<8	2825	<3035	240	
6/1	M	6	1176	480	42,6	75,0	69,9	0.132	8,20	0.19	18,6	16	140	360	200	580	970	1300	55	320	<8	3686	<3949	200	
7/1	M	6	1248	500	46,7	70,3	63,7	0.125	9,47	<0.04	19,7	24	170	420	150	460	680	860	41	200	<8	2814	<3013	210	
8/1	M	6	1370	530	28,5	64,6	51,4	0.124	8,89	0.06	25,9	43	340	1100	500	1400	1500	1900	91	390	<8	6673	<7272	660	
9/1	M	7	1715	560	58,9	76,2	69,6	0.064	5,98	<0.04	14,9	12	96	520	200	650	1500	2000	96	510	<8	5288	<5592	170	
10/1	M	8	1888	570	59,4	71,8	66,0	0.057	10,8	<0.04	21,6	33	280	830	330	910	1200	1400	61	250	<8	4903	<5302	420	
Mean		6	1222	495	36,3	67,2	58,3	0,15	8,12	<<0.07	21,6	22,4	189,0	584,0	267,0	753,0	1062	1348	62,4	297,0	<<8.1	4255	<<4593	334,0	
Minimum		5	756	430	12,0	44,5	25,4	0,06	2,98	<0.04	14,5	11,0	74,0	260,0	150,0	440,0	680,0	860,0	41,0	180,0	<8,0	2814	<3013	170,0	
Maximum		8	1888	570	59,4	76,2	69,9	0,46	11,40	0,19	39,3	43,0	340,0	1100	500,0	1400	1500	2000	96,0	510,0	9,3	6673	<7272	660,0	
St.Dev		1	351	45	15,6	9,6	13,7	0,12	2,64	~0.05	7,3	10,4	90,5	249,6	110,4	293,9	300,6	397,9	19,4	106,3	~0.4	1203	~1316	147,7	
Count		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR,LI,J26 30B Oslo city area, 199901222

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit		=>		3			0.5	2			2	2	2	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	6	756	430	88	488.0	488.0	<4	5.5	<9.5	<9.5	7.4	<2	<2
2/1	M	6	978	460	94	424.0	424.0	<8	12	<20.0	<20.0	16	<4	<4
3/1	M	5	981	470	79	499.0	499.0	<8	<8	<8.0	<8.0	9.7	<4	<4
4/1	M	6	1117	470	94	384.0	384.0	<8	14	<22.0	<22.0	18	<4	<4
5/1	M	5	992	475	47	287.0	287.0	<8	<8	<8.0	<8.0	13	<4	<4
6/1	M	6	1176	480	60	260.0	260.0	<8	11	<19.0	<19.0	15	<4	<4
7/1	M	6	1248	500	59	269.0	269.0	<8	12	<20.0	<20.0	14	<4	<4
8/1	M	6	1370	530	160	820.0	820.0	<8	<8	<8.0	<8.0	14	<4	<4
9/1	M	7	1715	560	55	225.0	225.0	<8	11	<19.0	<19.0	12	<4	<4
10/1	M	8	1888	570	130	550.0	550.0	<8	11	<19.0	<19.0	17	<4	<4
Mean		6	1222	495	86,6	420,6	420,6	<<7.6	<<10.1	<<15.3	<<15.3	13,6	<<3.8	<<3.8
Minimum		5	756	430	47,0	225,0	225,0	<4.0	5,5	<8.0	<8.0	7,4	<2.0	<2.0
Maximum		8	1888	570	160,0	820,0	820,0	<8.0	14,0	<22.0	<22.0	18,0	<4.0	<4.0
St.Dev		1	351	45	35,7	180,5	180,5	~1.3	~2.6	~6.0	~6.0	3,3	~0.6	~0.6
Count		10	10	10	10	10	10	10	10	10	10	10	10	10

sample no. 1 fish no. 41 Skin with metacercariae of cf. Cryptocotyle lingu Muscle with signs of inner bleeding

sample no. 2 fish no. 42 Skin with metacercariae of cf. Cryptocotyle lingu Muscle with signs of inner bleeding Bacterial fin rot

sample no. 3 fish no. 43 Skin with metacercariae of cf. Cryptocotyle lingu Muscle with signs of inner bleeding Bacterial fin rot

sample no. 4 fish no. 44 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 5 fish no. 45 Skin with metacercariae of cf. Cryptocotyle lingu Muscle with signs of inner bleeding

sample no. 6 fish no. 46 Skin with metacercariae of cf. Cryptocotyle lingu Muscle with signs of inner bleeding

sample no. 7 fish no. 47 Muscle with signs of inner bleeding

sample no. 8 fish no. 48 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 9 fish no. 49 Muscle with signs of inner bleeding Bacterial fin rot

sample no.10 fish no. 50 Skin with metacercariae of cf. Cryptocotyle lingu Muscle with signs of inner bleeding

JAMP contaminant data for fish 1998-2001 - Norway

Species : GADU MOR Gadus morhua GB: Cod, N: Torsk
 Sample area: J26 Oslofjorden Tissue: LIVER
 Locality : 30B Oslo City area Latitude: 59°48.50N Longitude: 10°32.50E
 Catch,date : 19990128 Count: 10 Sample type: Individual
 comment : Oslo City area Slemmestad-Måsane, 100m, trawl

Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	NIVA																			
					Mean weight g	Dry %	Fat %	CD ppm w.wt	CU ppm w.wt	PB ppm w.wt	ZN ppm w.wt	CB28 ppb w.wt	CB52 ppb w.wt	CB101 ppb w.wt	CB105 ppb w.wt	CB118 ppb w.wt	CB138 ppb w.wt	CB153 ppb w.wt	CB156 ppb w.wt	CB180 ppb w.wt	CB209 ppb w.wt	CB Σ7 ppb w.wt	CB ΣΣ ppb w.wt	DDEPP ppb w.wt
1/1	F	5	700	420	7,8	30,8	66,8	0.253	15.1	0.92	47.4	<2	22	120	100	300	610	800	47	320	13	<2174	<2334	130
2/1	F	6	840	445	14,9	41,7	19,2	0.163	8.98	0.86	31.8	<2	4	16	20	54	94	140	6	40	<2	<350	<376	19
3/1	M	5	966	450	17,0	59,6	51,4	0.051	24.5	1.31	29.2	<2	33	160	92	240	470	570	28	150	<2	<1625	<1745	110
4/1	F	6	880	450	12,3	28,1	51,0	0.162	9.19	0.34	34.5	<2	17	130	100	280	510	670	37	240	3	<1849	<1989	130
5/1	F	6	912	450	8,9	31,1	27,4	0.260	14.5	0.66	41.3	<2	7	49	56	180	320	460	20	140	<2	<1158	<1234	52
6/1	F	6	1096	480	21,1	41,9	58,6	0.229	17.5	1.01	36.6	<2	23	110	88	260	450	600	29	170	<2	<1615	<1732	100
7/1	M	7	1332	535	19,1	30,3	63,7	0.280	14.2	1.51	36.5	<2	11	60	120	350	760	1000	61	380	8	<2563	<2752	150
8/1	M	8	1566	535	39,4	65,1	61,9	0.071	5.04	0.14	20.2	<2	16	54	34	88	140	210	12	46	<2	<556	<602	31
9/1	F	8	2117	615	44,4	66,6	57,4	0.041	5.56	0.37	19.9	3	26	130	68	190	300	400	18	90	<2	1139	<1227	80
10/1	F	9	3691	750	55,9	51,4	75,5	0.024	13.1	0.19	43.0	7	49	300	200	540	1100	1400	75	470	8	3866	4149	340
Mean		7	1410	513	24,1	44,7	53,3	0,15	12,77	0,73	34,0	<<2.6	20,8	112,9	87,8	248,2	475,4	625,0	33,3	204,6	<<4.4	<<1690	<<1814	114,2
Minimum		5	700	420	7,8	28,1	19,2	0,02	5,04	0,14	19,9	<2.0	4,0	16,0	20,0	54,0	94,0	140,0	6,0	40,0	<2.0	<350	<376	19,0
Maximum		9	3691	750	55,9	66,6	75,5	0,28	24,50	1,51	47,4	7,0	49,0	300,0	200,0	540,0	1100	1400	75,0	470,0	13,0	3866	4149	340,0
St.Dev		1	906	102	16,6	15,1	17,5	0,10	5,86	0,47	9,1	~1.6	13,3	80,0	50,4	137,8	298,9	374,6	22,0	145,1	~3.9	~1024	~1099	90,7
Count		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

Tab.width cont'd GADU MOR,LI,J26 30B Oslo city area, 19990128

Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	NIVA																		
					TDEPP ppb w.wt	DD Σ4 ppb w.wt	DD ΣS ppb w.wt	HCHA ppb w.wt	HCHG ppb w.wt	HC Σ2 ppb w.wt	HC Σ3 ppb w.wt	HCB ppb w.wt	QCB ppb w.wt	OCS ppb w.wt									
1/1	F	5	700	420	31	161.0	161.0	<2	<2	<2.0	<2.0	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
2/1	F	6	840	445	5	24.0	24.0	<2	<2	<2.0	<2.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
3/1	M	5	966	450	21	131.0	131.0	<2	<2	<2.0	<2.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
4/1	F	6	880	450	13	143.0	143.0	<2	<2	<2.0	<2.0	1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
5/1	F	6	912	450	<5	<57.0	<57.0	<2	<2	<2.0	<2.0	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
6/1	F	6	1096	480	13	113.0	113.0	<2	<2	<2.0	<2.0	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
7/1	M	7	1332	535	22	172.0	172.0	<2	<2	<2.0	<2.0	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
8/1	M	8	1566	535	<5	<36.0	<36.0	<2	<2	<2.0	<2.0	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
9/1	F	8	2117	615	19	99.0	99.0	<2	<2	<2.0	<2.0	2	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
10/1	F	9	3691	750	45	385.0	385.0	<2	<2	<2.0	<2.0	4	<1	<1	<1	<1	<1	<1	<1	<1	<1	<1	
Mean		7	1410	513	<17.9	<132.1	<132.1	<<2.0	<<2.0	<<2.0	<<2.0	<<1.8	<<1.0	<<1.2	<<1.0	<<1.0	<<1.0	<<1.0	<<1.0	<<1.0	<<1.0	<<1.0	<<1.0
Minimum		5	700	420	<5.0	24.0	24.0	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
Maximum		9	3691	750	45.0	385.0	385.0	<2.0	<2.0	<2.0	<2.0	4.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
St.Dev		1	906	102	~12.8	~102.5	~102.5	~0.0	~0.0	~0.0	~0.0	~0.9	~0.0	~0.4	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0
Count		10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10

sample no. 1	fish no. 40	Skin with metacercariae of cf. Cryptocotyle lingua	sample no. 6	fish no. 37	Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 2	fish no. 34		sample no. 7	fish no. 31	Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 3	fish no. 32	Skin with metacercariae of cf. Cryptocotyle lingua	sample no. 8	fish no. 36	
sample no. 4	fish no. 38		sample no. 9	fish no. 35	Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 5	fish no. 39		sample no.10	fish no. 33	

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **30B Oslo City area** Latitude: 59°49.0N Longitude: 10°33.0E
 Catch,date : **19991106** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA															NIVA				NIVA	
Analysis code =>					312															311				312	
Detection limit =>					Mean															0.05				0.01	
Samp/	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	
repl.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	5	1969	560	55,0	47,8	33,4	0.053	9.57	<0.03	32.6	5.0	19	150	150	470	1200	1500	85	570	12	3914	4161	240	
2/1	F	4	2269	650	23,0	36,9	18,8	0.165	10.9	<0.03	37.9	4.8	45	360	210	620	s2200	s2600	130	1100	29	s6930	s7299	530	
3/1	F	2	980	470	7,0	35,2	12,2	0.283	12.4	0.67	44.1	4.3	21	130	130	330	930	s1100	16	450	13	s2965	s3124	170	
4/1	M	4	1601	565	24,0	54,0	41,0	0.076	14.5	0.13	37.2	9.4	53	s230	s280	s840	s1800	s2500	s150	s950	s14	s6382	s6826	s450	
5/1	F	5	1970	595	52,0	48,8	33,2	0.069	9.68	0.15	31.8	15	80	380	250	630	1500	1500	110	590	14	4695	5069	470	
6/1	F	3	1000	410	5,0	30,2	6,5	0.459	16.9	0.93	53.3	2.3	6.8	55	45	120	290	380	20	130	3.4	984	1053	37	
7/1	M	4	1346	545	14,0	24,8	5,1	0.277	17.0	0.33	48.5	1.0	4.5	49	47	120	330	370	24	190	3.7	1065	1139	55	
8/1	F	5	812	470	15,0	43,6	28,3	0.110	5.27	1.73	30.5	8.4	34	160	150	380	1000	1100	79	490	21	3172	3422	200	
9/1	F	5	2657	650	55,0	63,7	55,6	0.036	8.68	0.08	22.3	20	98	380	220	630	1700	1900	120	710	14	5438	5792	510	
10/1	F	5	1155	510	18,0	40,3	21,8	0.589	13.8	1.47	45.7	10	11	55	390	s1100	s1800	s2700	140	s720	16	s6396	s6942	260	
11/1	F	4	1009	475	17,0	40,6	24,0	0.243	21.6	0.69	38.2	12	15	73	200	620	s810	s1200	55	280	miss	s3010	s3265	190	
12/1	M	3	577	385	6,0	25,3	9,3	0.171	10.9	0.07	38.0	2.7	14	110	81	220	s390	s580	27	170	2.0	s1487	s1597	94	
13/1	F	3	1003	465	29,0	57,7	44,5	0.107	12.8	0.74	33.6	14	53	156	170	430	s860	s1000	53	300	12	s2813	s3048	240	
14/1	M	3	486	375	8,0	54,7	41,8	0.132	22.9	0.63	38.0	14	72	290	240	660	s1100	s1500	66	360	6.8	s3996	s4309	340	
15/1	M	6	373	380	13,0	44,1	26,8	0.325	27.8	3.64	45.7	18	23	82	400	s1100	s1800	s2600	120	680	19	s6303	s6842	330	
16/1	M	2	602	415	7,0	48,0	30,5	0.091	13.3	1.35	36.7	8.2	34	170	230	590	s1400	s1900	92	660	11	s4762	s5095	230	
17/1	M	2	584	405	8,0	31,0	11,7	0.307	17.0	1.60	40.6	4.7	13	70	140	400	s660	s1000	54	360	4.1	s2508	s2706	99	
18/1	F	2	450	370	4,0	31,4	9,0	0.171	9.14	1.12	46.2	4.2	8.1	44	95	s250	s400	s600	29	s190	3.0	s1496	s1623	110	
19/1	F	2	931	475	12,0	28,2	8,5	0.167	18.5	1.26	56.3	3.9	9.6	43	98	s290	s490	s750	41	s270	6.4	s1857	s2002	120	
20/1	F	4	1297	525	29,0	45,9	24,2	0.070	3.51	0.56	40.4	11	37	140	270	s660	s1000	s1300	78	430	6.7	s3578	s3933	320	
21/1	F	6	668	415	11,0	42,7	21,8	0.160	6.46	1.33	33.9	5.5	22	130	130	350	s780	s1100	55	380	7.3	s2768	s2960	130	
22/1	M	2	463	370	6,0	43,0	28,4	0.095	11.6	1.13	36.9	6.7	36	210	220	590	s1100	s1600	73	500	7.3	s4043	s4343	230	
23/1	M	6	1236	510	14,0	45,5	27,3	0.144	11.7	0.85	42.8	15	43	160	390	s1100	s1800	s2700	160	910	12	s6728	s7290	390	
24/1	F	4	849	455	8,0	22,5	2,8	0.591	33.2	0.85	56.5	2.0	1.0	5.3	29	87	s130	s190	11	s61	2.4	s476	s519	32	
25/1	F	6	893	465	8,0	37,4	15,5	0.191	10.8	2.46	52.7	14	47	230	s490	s1300	s2100	s3100	s180	s950	20	s7741	s8431	s650	
Mean		4	1087	476	17,9	40,9	23,3	0,20	14,00	<0.95	40,8	8,6	32,0	151,3	186,3	426,3	992,9	1125	71,2	487,4	10,7	3211	3439	231,6	
Minimum		2	373	370	4,0	22,5	2,8	0,04	3,51	<0.03	22,3	1,0	1,0	5,3	29,0	87,0	290,0	370,0	11,0	130,0	2,0	984	1053	32,0	
Maximum		6	2657	650	55,0	63,7	55,6	0,59	33,20	3,64	56,5	20,0	98,0	380,0	400,0	660,0	1700	1900	160,0	1100	29,0	5438	5792	530,0	
St.Dev		1	600	83	15,3	10,7	13,7	0,15	6,84	~0.83	8,4	5,4	25,0	108,6	106,7	198,7	538,1	633,6	42,9	250,7	7,0	1856	1985	145,9	
Count		25	25	25	25	25	25	25	25	25	25	25	25	24	23	17	7	6	23	19	23	6	6	23	

miss(2) ! Missing value s/q(113) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR,LI,J26 30B Oslo city area, 19991106

Analytical lab.		=>	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>	340	340	Calc	Calc	340	340	Calc	Calc	340	340	340			
Detection limit		=>	2	3			0.5	2			2	2	2			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	F	5	1969	560	s39	52	s331.0	s331.0	2.7	3.8	6.5	6.5	4.6	<1	7.2	
2/1	F	4	2269	650	miss	84	614.0	614.0	3.0	2.1	5.1	5.1	4.0	<0.5	14	
3/1	F	2	980	470		53	223.0	223.0	1.9	1.4	3.3	3.3	3.2	<0.5	4.6	
4/1	M	4	1601	565	s70	s65	s585.0	s585.0	<4	s4.4	s<8.4	s<8.4	s6.8	<2	16	
5/1	F	5	1970	595	s110	140	s720.0	s720.0	5.0	4.2	9.2	9.2	11	1.0	16	
6/1	F	3	1000	410		11	48.0	48.0	<1	<1	<1.0	<1.0	1.4	<0.5	1.3	
7/1	M	4	1346	545		8.2	63.2	63.2	0.47	0.33	0.8	0.8	0.86	<0.1	1.7	
8/1	F	5	812	470		140	340.0	340.0	4.0	<3	<7.0	<7.0	6.9	<1	6.8	
9/1	F	5	2657	650	64	140	714.0	714.0	5.7	6.9	12.6	12.6	19	1.9	16	
10/1	F	5	1155	510		42	302.0	302.0	<2	2.4	<4.4	<4.4	8.8	<1	6.9	
11/1	F	4	1009	475		37	227.0	227.0	<2	2.7	<4.7	<4.7	7.5	<1	3.8	
12/1	M	3	577	385		21	115.0	115.0	<1	1.0	<2.0	<2.0	2.0	<0.5	2.4	
13/1	F	3	1003	465		140	380.0	380.0	2.4	5.7	8.1	8.1	12	1.5	5.9	
14/1	M	3	486	375		97	437.0	437.0	2.0	4.9	6.9	6.9	12	1.0	7.0	
15/1	M	6	373	380		64	394.0	394.0	<2	3.1	<5.1	<5.1	9.4	<1	5.4	
16/1	M	2	602	415		32	262.0	262.0	1.5	3.7	5.2	5.2	9.5	0.79	5.0	
17/1	M	2	584	405		24	123.0	123.0	<1	1.3	<2.3	<2.3	2.3	<0.5	2.4	
18/1	F	2	450	370		17	127.0	127.0	<0.4	1.0	<1.4	<1.4	2.4	<0.2	2.1	
19/1	F	2	931	475		30	150.0	150.0	<1	0.79	<1.8	<1.8	2.4	<0.5	2.4	
20/1	F	4	1297	525		56	376.0	376.0	<2	2.7	<4.7	<4.7	5.0	<1	6.2	
21/1	F	6	668	415		22	152.0	152.0	<2	2.3	<4.3	<4.3	4.0	<1	4.2	
22/1	M	2	463	370		37	267.0	267.0	<2	3.0	<5.0	<5.0	5.8	<1	5.5	
23/1	M	6	1236	510		90	480.0	480.0	<2	3.2	<5.2	<5.2	7.8	<1	11	
24/1	F	4	849	455		21	53.0	53.0	<0.2	0.24	<0.4	<0.4	0.53	<0.1	0.43	
25/1	F	6	893	465		130	s780.0	s780.0	<0.1	1.7	<1.8	<1.8	5.2	<0.5	11	
Mean		4	1087	476		64,0	62,0	278,4	278,4	<<2.1	<2.6	<<4.5	<<4.5	6,1	<<0.8	6,6
Minimum		2	373	370		64,0	8,2	48,0	48,0	<0.1	0,2	<0.4	<0.4	0,5	<0.1	0,4
Maximum		6	2657	650		64,0	140,0	714,0	714,0	5,7	6,9	12,6	12,6	19,0	<2.0	16,0
St.Dev		1	600	83			46,2	182,8	182,8	~1.4	~1.7	~2.9	~2.9	4,5	~0.5	4,8
Count		25	25	25		1	24	21	21	25	24	24	24	25	25	25

miss(2) ! Missing value s/q(l13) ! Suspect value

sample no. 1 Skin with metacercariae of cf. Cryptocotyle lingua
sample no.10 Skin with metacercariae of cf. Cryptocotyle lingua
sample no.12 Gills with Lernaecocera copepods
sample no.20 4 Skin with metacercariae of cf. Cryptocotyle lingua

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **30B Oslo City area** Latitude: 59°49.0N Longitude: 10°33.0E
 Catch,date : **20001106** Count: 25 Sample type: **Individual**

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		
Analysis code		=>		312		311		312		311		340		340		340		340		340		340		
Detection limit		=>		Mean		0.05		0.01		0.04		1		3		3		3		3		3		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	4	765	450	17,0	50,5	36,0	0.162	5.84	0.36	28.7	11	57	220	160	430	990	1300	64	440	<5	3448	<3677	210
2/1	X	5	845	460	32,0	72,4	62,0	0.040	4.17	0.13	17.1	14	63	140	100	260	390	590	29	160	<5.0	1617	<1751	150
3/1	X	4	856	470	9,0		21,0	0.150	9.93	0.87	44.9	5.5	35	140	110	280	530	810	39	250	<3.0	2051	<2203	140
4/1	X	3	805	440	23,0	60,5	47,0	0.131	3.35	0.06	20.9	15	70	200	140	320	650	910	43	290	<8.0	2455	<2646	200
5/1	X	3	800	430	31,0	71,0	62,0	0.077	8.53	0.06	20.3	11	45	140	130	310	500	740	34	190	<3.0	1936	<2103	180
6/1	X	6	1295	560	14,0	33,7	15,0	0.308	9.31	0.86	38.2	3.3	18	63	73	190	430	610	32	240	<3.0	1554	<1662	88
7/1	X	4	670	420	23,0	72,3	64,0	0.011	4.72	0.11	16.3	18	71	160	100	260	340	480	23	110	<5.0	1439	<1567	160
8/1	X	5	908	460	9,0	55,4	43,0	0.048	4.63	0.12	27.1	10	38	140	130	330	620	960	46	294	<3.0	2392	<2571	140
9/1	X	5	945	480	29,0	63,6	53,0	0.094	5.80	0.14	21.6	14	62	170	130	300	590	750	38	190	<3.0	2076	<2247	170
10/1	X	3	500	400	9,0	63,6	54,0	0.162	8.17	0.24	20.1	10	44	120	94	220	490	650	31	200	<4.0	1734	<1863	120
11/1	X	4	885	470	39,0	61,7	50,0	0.0855	8.29	0.14	23.1	9.6	48	240	220	580	1100	1600	74	430	<7.0	4008	<4309	280
12/1	X	5	1450	540	52,0		40,0	0.046	6.23	0.85	29.3	15	58	170	140	370	530	750	36	180	<3.0	2073	<2252	230
13/1	X	3	742	430	15,0	57,4	46,0	0.065	3.26	0.28	22.9	12	52	160	140	360	610	920	44	260	<3.0	2374	<2561	170
14/1	X	4	640	430	13,0	57,5	42,0	0.151	8.80	2.02	40.1	12	32	76	140	430	970	1600	85	540	9.8	3660	3895	160
15/1	X	2	860	470	15,0	51,0	38,0	0.064	5.50	0.36	24.9	9.4	41	130	140	370	660	1000	48	320	<4.0	2530	<2722	160
16/1	X	4	1140	505	29,0	59,4	49,0	0.106	3.37	0.18	19.1	8.9	38	140	140	370	740	1200	57	360	<5.0	2857	<3059	170
17/1	X	5	1625	570	17,0	40,4	24,0	0.075	20.8	0.24	46.8	5.4	29	190	140	440	1200	1800	68	530	9.2	4194	4412	300
18/1	X	5	845	450	27,0	62,7	54,0	0.070	7.17	0.21	20.0	14	56	130	110	280	510	710	35	190	<4.0	1890	<2039	130
19/1	X	6	1235	540	29,0	54,2	43,0	0.090	14.6	0.31	27.6	8.3	41	180	240	660	1300	1900	92	550	7.6	4639	4979	310
20/1	X	5	835	490	42,0	74,2	66,0	0.029	3.07	0.08	17.9	13	60	130	94	210	360	430	25	120	<3.0	1323	<1445	160
21/1	X	4	1160	490	37,0	58,9	49,0	0.137	9.46	0.74	25.0	10	36	79	80	190	330	420	24	140	<3.0	1205	<1312	100
22/1	X	3	900	485	33,0	64,6	55,0	0.052	4.59	0.07	20.5	12	44	130	110	280	530	750	35	230	<3.0	1976	<2124	120
23/1	X	4	815	460	36,0	64,9	57,0	0.078	5.46	0.54	20.1	11	37	83	110	300	590	860	42	260	<6.0	2141	<2299	130
24/1	X	3	775	435	18,0	59,6	48,0	0.071	7.78	0.25	25.1	9.5	37	120	120	330	620	930	41	270	<3.0	2317	<2481	130
25/1	X	2	575	390	9,0	42,1	28,0	0.167	4.57	0.25	33.9	6.5	29	100	100	270	490	810	35	260	<3.0	1966	<2104	110
Mean		4	915	469	24,3	58,8	45,8	0.10	7.10	0.38	26,1	10,7	45,6	142,0	127,6	333,6	642,8	939,2	44,8	280,2	<<4.6	2394	<<2571	168,7
Minimum		2	500	390	9,0	33,7	15,0	0.01	3,07	0,06	16,3	3,3	18,0	63,0	73,0	190,0	330,0	420,0	23,0	110,0	<3.0	1205	<1312	88,0
Maximum		6	1625	570	52,0	74,2	66,0	0.31	20,80	2,02	46,8	18,0	71,0	240,0	240,0	660,0	1300	1900	92,0	550,0	9,8	4639	4979	310,0
St.Dev		1	266	47	11,8	10,2	13,4	0,06	3,94	0,43	8,5	3,4	13,7	44,0	37,9	111,4	266,0	410,0	18,5	128,3	~2.1	919	~972	58,6
Count		25	25	25	25	23	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

s/q(10) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR,LI,J26 30B Oslo city area, 20001106

Analytical lab. =>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>		340	Calc	Calc	340	340	Calc	Calc	340	340	340	340		
Detection limit =>		3			0.5	2			2	2	2	2		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	4	765	450	55	265.0	265.0	<2.0	3.9	<5.9	<5.9	8.4	s1.0	7.7
2/1	X	5	845	460	62	212.0	212.0	3.1	7.2	10.3	10.3	12	<2.0	5.5
3/1	X	4	856	470	34	174.0	174.0	1.0	2.1	3.1	3.1	3.8	s0.51	4.9
4/1	X	3	805	440	70	270.0	270.0	2.1	5.2	7.3	7.3	9.6	s1.6	6.4
5/1	X	3	800	430	49	229.0	229.0	<3.0	6.8	<9.8	<9.8	14	<2.0	7.1
6/1	X	6	1295	560	21	109.0	109.0	<1.0	1.5	<2.5	<2.5	2.7	<0.50	3.0
7/1	X	4	670	420	71	231.0	231.0	<5.0	6.7	<11.7	<11.7	12	<3.0	6.1
8/1	X	5	908	460	42	182.0	182.0	2.0	4.7	6.7	6.7	8.4	s1.3	5.4
9/1	X	5	945	480	59	229.0	229.0	2.6	6.0	8.6	8.6	11	s1.6	6.1
10/1	X	3	500	400	38	158.0	158.0	<3.0	6.1	<9.1	<9.1	10	<2.0	5.7
11/1	X	4	885	470	48	328.0	328.0	<3.0	5.4	<8.4	<8.4	9.1	<2.0	10
12/1	X	5	1450	540	72	302.0	302.0	<3.0	4.3	<7.3	<7.3	9.4	<2.0	6.5
13/1	X	3	742	430	57	227.0	227.0	2.1	<3.0	<5.1	<5.1	9.1	s1.6	5.6
14/1	X	4	640	430	85	245.0	245.0	<2.0	<3.0	<3.0	<3.0	8.2	<1.0	8.4
15/1	X	2	860	470	46	206.0	206.0	<2.0	<3.0	<3.0	<3.0	6.6	<1.0	6.3
16/1	X	4	1140	505	42	212.0	212.0	<3.0	<4.0	<4.0	<4.0	7.9	<2.0	6.4
17/1	X	5	1625	570	48	348.0	348.0	<2.0	<3.0	<3.0	<3.0	4.5	<1.0	7.1
18/1	X	5	845	450	50	180.0	180.0	<3.0	<4.0	<4.0	<4.0	12	<2.0	6.6
19/1	X	6	1235	540	52	362.0	362.0	2.0	<3.0	<5.0	<5.0	8.4	s1.3	9.7
20/1	X	5	835	490	53	213.0	213.0	3.1	<4.0	<7.1	<7.1	11	s1.6	4.8
21/1	X	4	1160	490	39	139.0	139.0	2.2	<3.0	<5.2	<5.2	8.5	s1.3	4.3
22/1	X	3	900	485	47	167.0	167.0	2.5	<3.0	<5.5	<5.5	12	s1.4	4.9
23/1	X	4	815	460	44	174.0	174.0	<4.0	<4.0	<4.0	<4.0	9.5	<2.0	5.2
24/1	X	3	775	435	41	171.0	171.0	<3.0	<4.0	<4.0	<4.0	8.6	<2.0	5.3
25/1	X	2	575	390	41	151.0	151.0	<2.0	<3.0	<3.0	<3.0	5.1	<1.0	3.8
Mean		4	915	469	50,6	219,4	219,4	<<2.5	<<4.2	<<5.9	<<5.9	8,9	<<1.7	6,1
Minimum		2	500	390	21,0	109,0	109,0	<1.0	1,5	<2.5	<2.5	2,7	<0.5	3,0
Maximum		6	1625	570	85,0	362,0	362,0	<5.0	7,2	<11.7	<11.7	14,0	<3.0	10,0
St.Dev		1	266	47	13,8	64,8	64,8	~0.9	~1.5	~2.6	~2.6	2,8	~0.6	1,6
Count		25	25	25	25	25	25	25	25	25	25	25	15	25

s/q(10) ! Suspect value

sample no. 1 Age uncertain
sample no. 2 Age uncertain
sample no. 4 Age uncertain
sample no. 5 Age uncertain
sample no. 6 Age uncertain
sample no.10 age uncertain
sample no.12 Age uncertain
sample no.13 Age uncertain
sample no.14 Age uncertain
sample no.15 Age uncertain
sample no.16 Age uncertain
sample no. 17 Age uncertain
sample no. 19 Age uncertain
sample no. 20 Age uncertain
sample no. 21 Age uncertain

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **30B Oslo City area** Latitude: 59°49.0N Longitude: 10°33.0E
 Catch,date : **20011002** Count: 25 Sample type: **Individual**

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		
Analysis code		=>		312		311		312		311		340		340		340		340		340		340		
Detection limit		=>		Mean		0.05		0.01		0.04		1		3		3		3		3		4		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	1531	540	57,7	60,4	49,0	0.111	8.74	0.25	23.3	10	35	96	91	210	360	420	27	140	3.7	1271	1393	130
2/1	F	6	778	456	17,9	42,8	28,0	0.347	22.1	0.12	33.9	7.7	22	67	100	270	520	730	42	270	5.2	1887	2034	140
3/1	M	5	1086	485	16,9	45,7	29,0	0.532	14.3	0.13	33.6	9.3	34	170	200	530	900	1400	64	440	6.3	3483	3754	190
4/1	F	4	1452	501	36,2	58,9	48,0	0.092	12.7	0.22	30.3	11	37	100	96	230	470	560	36	200	5.6	1608	1746	150
5/1	M	5	1192	535	19,5	48,1	31,0	0.134	9.64	0.28	32.9	53	200	450	540	1400	1300	1700	100	470	5.7	5573	6219	520
6/1	M	4	1237	430	41,5	65,7	54,0	0.048	5.30	0.20	19.6	8.5	48	150	130	350	650	900	50	300	5.8	2407	2592	180
7/1	F	3	460	375	6,5	39,7	23,0	0.107	8.92	0.50	35.0	6.2	23	87	150	420	730	1100	50	290	4.9	2656	2861	170
8/1	F	3	822	460	9,4	39,5	20,0	0.108	6.80	0.16	40.7	8.6	48	220	180	510	800	1100	53	320	6.5	3007	3246	320
9/1	M	3	779	428	32,4	66,5	57,0	0.086	3.30	0.22	17.5	9.3	49	140	110	270	520	650	36	210	4.7	1848	1999	150
10/1	M	5	865	445	23,7	63,7	53,0	0.126	6.03	0.38	25.5	13	50	160	160	420	720	1100	57	310	5.7	2773	2996	190
11/1	M	4	911	432	23,4	63,5	47,0	0.112	5.86	0.10	24.2	10	29	89	120	320	520	790	44	260	4.8	2018	2187	150
12/1	F	4	1076	500	12,6	38,6	21,0	0.097	11.4	0.37	39.2	5.3	26	120	150	390	740	1100	57	400	4.3	2781	2993	180
13/1	M	4	813	440	24,0	64,8	54,0	0.077	3.89	0.24	23.2	8.4	64	170	130	370	670	920	51	300	4.2	2502	2688	180
14/1	M	2	433	355	16,0	61,9	51,0	0.082	10.7	0.09	23.1	9.8	60	170	130	340	680	800	40	240	7.1	2300	2477	190
15/1	F	4	1509	545	12,2	23,8	3,7	0.174	14.5	0.44	47.2	1.8	4.5	33	32	100	200	330	14	120	2.1	789	837	35
16/1	M	4	1046	485	20,5	52,2	35,0	0.204	10.4	0.44	33.7	12	39	130	140	370	770	1100	54	360	11	2781	2986	200
17/1	F	5	3233	690	72,6	58,1	46,0	0.172	16.0	<0.03	34.3	8.0	30	170	140	450	1000	1500	69	560	15	3718	3942	250
18/1	M	4	709	410	10,8	43,6	27,0	0.094	5.72	0.20	31.4	15	100	470	340	920	1800	2600	110	770	12	6675	7137	480
19/1	F	4	2137	500	100,8	76,8	70,0	0.061	2.90	0.06	12.0	20	66	140	110	270	480	580	36	180	4.6	1736	1887	210
20/1	M	3	731	405	13,3	49,9	35,0	0.235	8.84	0.61	34.3	6.6	48	170	130	340	700	910	45	270	6.8	2445	2626	220
21/1	M	3	681	420	9,5	39,8	21,0	0.110	7.99	0.07	34.8	7.8	34	120	130	320	620	820	39	260	5.5	2182	2356	140
22/1	M	3	698	415	17,2	57,9	44,0	0.042	5.44	0.11	24.7	20	98	270	170	420	670	810	43	180	4.0	2468	2685	290
23/1	F	5	1197	500	11,8	28,0	9,1	0.293	19.1	0.66	49.4	2.6	11	62	83	240	460	640	32	220	5.0	1636	1756	140
24/1	F	5	888	440	25,2	57,8	45,0	0.300	11.3	0.06	29.4	11	63	180	140	350	520	630	37	180	3.1	1934	2114	180
25/1	F	4	956	455	17,4	46,9	31,0	0.122	5.51	0.34	29.1	8.2	34	170	140	380	720	1100	52	320	5.6	2732	2930	170
Mean		4	1089	466	26,0	51,8	37,3	0.15	9,50	<0.25	30,5	11,3	50,1	164,2	153,7	407,6	700,8	971,6	49,5	302,8	6,0	2608	2818	206,2
Minimum		2	433	355	6,5	23,8	3,7	0.04	2,90	<0.03	12,0	1,8	4,5	33,0	32,0	100,0	200,0	330,0	14,0	120,0	2,1	789	837	35,0
Maximum		6	3233	690	100,9	76,8	70,0	0.53	22,10	0,66	49,4	53,0	200,0	470,0	540,0	1400	1800	2600	110,0	770,0	15,0	6675	7137	520,0
St.Dev		1	582	68	21,9	12,9	16,2	0,11	4,89	~0.18	8,7	9,7	38,6	102,9	96,9	255,0	315,1	469,7	20,5	142,3	2,8	1253	1360	104,0
Count		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR,LI,J26 30B Oslo city area, 20011002

Analytical lab.		=>	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>	340	Calc	Calc	340	340	Calc	Calc	340	340	340	340	
Detection limit		=>	3			0.5	2			2	2	2	2	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	1531	540	34	164.0	164.0	1.7	3.6	5.3	5.3	9.8	1.1	5.4
2/1	F	6	778	456	32	172.0	172.0	0.96	2.0	3.0	3.0	6.76	1.4	4.8
3/1	M	5	1086	485	35	225.0	225.0	1.1	2.1	3.2	3.2	6.3	0.82	6.4
4/1	F	4	1452	501	34	184.0	184.0	1.7	3.4	5.1	5.1	13	1.3	6.6
5/1	M	5	1192	535	170	690.0	690.0	1.4	2.4	3.8	3.8	13	0.93	21
6/1	M	4	1237	430	34	214.0	214.0	1.8	3.9	5.7	5.7	11	1.3	6.5
7/1	F	3	460	375	29	199.0	199.0	0.89	1.6	2.5	2.5	5.3	0.67	5.9
8/1	F	3	822	460	67	387.0	387.0	0.74	1.5	2.2	2.2	6.6	0.73	8.7
9/1	M	3	779	428	41	191.0	191.0	2.0	4.2	6.2	6.2	12	1.6	5.8
10/1	M	5	865	445	45	235.0	235.0	1.8	3.8	5.6	5.6	13	1.4	8.3
11/1	M	4	911	432	31	181.0	181.0	1.6	3.3	4.9	4.9	12	1.3	5.8
12/1	F	4	1076	500	27	207.0	207.0	0.77	1.5	2.3	2.3	4.1	0.49	6.0
13/1	M	4	813	440	34	214.0	214.0	1.7	3.3	5.0	5.0	12	1.3	6.6
14/1	M	2	433	355	49	239.0	239.0	1.8	3.4	5.2	5.2	13	1.4	7.4
15/1	F	4	1509	545	6.2	41.2	41.2	<0.20	0.21	<0.4	<0.4	0.64	<0.10	0.90
16/1	M	4	1046	485	40	240.0	240.0	1.3	2.4	3.7	3.7	11	1.3	6.1
17/1	F	5	3233	690	38	288.0	288.0	1.6	2.8	4.4	4.4	7.5	1.1	8.0
18/1	M	4	709	410	87	567.0	567.0	2.5	4.6	7.1	7.1	14	1.8	12
19/1	F	4	2137	500	48	258.0	258.0	2.5	5.2	7.7	7.7	12	1.6	6.1
20/1	M	3	731	405	42	262.0	262.0	1.3	2.2	3.5	3.5	5.9	0.83	5.2
21/1	M	3	681	420	25	165.0	165.0	0.81	1.5	2.3	2.3	4.9	0.54	3.2
22/1	M	3	698	415	120	410.0	410.0	1.6	3.1	4.7	4.7	8.7	1.2	6.1
23/1	F	5	1197	500	22	162.0	162.0	0.33	0.57	0.9	0.9	2.1	0.22	2.9
24/1	F	5	888	440	49	229.0	229.0	1.6	3.1	4.7	4.7	8.9	1.1	4.7
25/1	F	4	956	455	36	206.0	206.0	1.1	2.3	3.4	3.4	5.9	0.72	6.0
Mean		4	1089	466	47,0	253,2	253,2	<1.4	2,7	<4.1	<4.1	8,8	<1.1	6,7
Minimum		2	433	355	6,2	41,2	41,2	<0.2	0,2	<0.4	<0.4	0,6	<0.1	0,9
Maximum		6	3233	690	170,0	690,0	690,0	2,5	5,2	7,7	7,7	14,0	1,8	21,0
St.Dev		1	582	68	33,9	134,6	134,6	~0.6	1,2	~1.8	~1.8	3,8	~0.4	3,6
Count		25	25	25	25	25	25	25	25	25	25	25	25	25

sample no. 1	liver colour is white red	sample no.13	Age uncertain liver colour is red yellow
sample no. 2	Skin with metacercariae of cf. Cryptocotyle lingua Age uncertain liver colour is red	sample no.14	Age uncertain liver colour is red yellow
sample no. 3	live colour is Yellow white	sample no.15	Skin with ulceration, lymphocytic areas and/or lesions liver colour is very bown red.Age uncertain
sample no. 4	Age uncertain livecolour is white red	sample no.16	Age uncertain live colour is red yellow
sample no. 5	Skin with metacercariae of cf. Cryptocotyle lingua Age uncertain livecolour is white red	sample no.17	liver colour is red yellow
sample no. 6	Age uncertain live colour is yellow white	sample no.18	Age uncertain liver colour is red yellow
sample no. 7	liver colour is red	sample no.19	Age uncertain liver colour is red yellow
sample no. 8	Age uncertain liver colour red yellow	sample no.20	liver colour is red yellow
sample no. 9	Age uncertain liver colour is red yellow	sample no.21	liver colour is red yellow
sample no.10	liver colour is red yellow	sample no.22	Age uncertain liver colour is red yellow
sample no.11	liver colour is red yellow	sample no.23	Age uncertain liver colour is brown red
sample no.12	Skin and/or oral cavity with caligiform and/or Lernaepodiform copep. Age uncertain liver colour is red	sample no.24	Age uncertain liver colour is red yellow
		sample no.25	Age uncertain liver colour is red yellow

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **36B Fårder** Latitude: 59°2.0N Longitude: 10°32.0E
 Catch,date : **19981020** Count: 25 Sample type: **Individual**

Analytical lab. =>				NIVA																	NIVA				
Analysis code =>				312																	311				
Detection limit =>				Mean																	0.05				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1		4	462	390	9,3	44,6	26,3	0.132	7.31	0.03	30.4	<3	8.2	15	25	54	63	110	6.4	21	<3	<274	<306	25	
2/1	M	4	587	395	10,1	45,1	30,9	0.098	11.9	<0.03	29.9	4.9	13	22	50	120	120	190	10	30	<3	500	<563	34	
3/1	F	4	835	415	57,8	65,8	54,0	0.005	9.42	<0.03	19.7	13	16	23	60	120	70	96	6.9	20	<6	358	<431	23	
4/1	F	4	623	430	14,5	18,0	9,7	0.054	5.84	<0.03	34.0	6.9	13	37	57	130	84	120	6.7	24	<3	415	<482	23	
5/1	F	4	841	450	22,0	51,3	40,2	0.031	7.39	<0.03	26.6	<6	14	25	49	110	110	190	12	40	<6	<495	<556	48	
6/1	F	4	504	460	28,0	59,3	48,0	0.043	13.3	<0.03	30.9	23	82	240	140	340	370	460	29	89	<6	1604	<1779	190	
7/1	F	4	691	460	14,0	31,3	12,4	0.102	16.8	<0.03	44.8	5.5	13	63	66	170	170	260	16	54	<3	736	<821	32	
8/1	F	4	713	460	12,8	43,9	27,0	0.110	8.18	<0.03	29.0	4.9	12	18	38	83	110	180	9.4	32	<3	440	<490	36	
9/1		6	541	485	35,2	50,6	33,0	0.032	11.9	<0.03	27.0	66	260	1200	680	1700	1400	1800	120	360	<3	6786	<7589	89	
10/1	F	5	1206	485	46,6	70,2	63,0	0.038	9.98	<0.03	30.2	12	39	140	77	180	230	270	16	52	<6	923	<1022	130	
11/1	F	5	1009	495	19,2	55,9	43,4	0.038	9.33	<0.03	29.3	31	98	380	250	570	490	630	35	130	<6	2329	<2620	170	
12/1	F	5	1249	495	38,4	63,9	52,9	0.014	6.64	<0.03	20.5	<6	15	33	53	96	87	180	12	40	<6	<457	<522	33	
13/1	F	5	1133	495	30,0	60,3	49,6	0.034	17.0	<0.03	32.8	<6	17	34	52	93	110	260	15	56	<6	<576	<643	42	
14/1	M	5	1253	500	30,0	50,4	38,8	0.037	8.97	<0.03	24.6	<6	13	28	44	73	79	140	9.1	29	<6	<368	<421	39	
15/1	M	5	1174	500	37,0	58,3	45,0	0.020	11.8	<0.03	25.1	16	17	42	110	260	190	280	16	49	<6	854	<986	67	
16/1	M	5	1230	510	33,1	41,2	22,4	0.030	10.3	<0.03	27.6	4.5	9.6	33	41	100	120	190	8.6	29	<3	486	<539	40	
17/1	F	5	1053	515	46,9	58,7	45,0	0.016	11.7	<0.03	25.8	7.2	8.7	16	36	72	63	96	<6	17	<6	280	<322	28	
18/1	F	6	1182	515	19,4	44,0	28,9	0.036	11.9	<0.03	33.9	12	28	140	160	360	310	440	25	91	<6	1381	<1572	77	
19/1	F	5	1271	520	27,4	55,0	43,4	0.023	15.0	<0.03	35.9	3.7	14	30	95	200	190	370	26	99	<3	907	<1031	45	
20/1	F	6	813	530	14,4	28,2	11,1	0.123	6.87	<0.03	37.1	<3	7.4	42	47	130	250	350	17	72	<3	<854	<918	72	
21/1	M	6	1270	530	32,6	57,3	44,4	0.027	5.72	<0.03	22.9	17	23	46	110	250	190	300	15	50	<6	876	<1007	48	
22/1	M	7	1655	575	59,7	65,0	53,7	0.111	17.9	<0.03	36.3	19	38	100	74	170	170	230	13	35	<6	762	<855	130	
23/1	F	7	1221	590	15,3	45,8	29,6	0.020	10.3	<0.03	29.6	16	24	130	260	530	320	490	28	100	<3	1610	<1901	84	
24/1	F	7	1611	600	33,9	45,7	27,8	0.025	25.4	<0.03	45.5	14	28	170	230	480	360	520	28	100	<3	1672	<1933	80	
25/1	F	7	1816	605	29,0	21,0	4,1	0.060	17.3	<0.03	45.3	<3	<3	15	15	34	56	88	18	18	<3	<214	<247	30	
Mean		5	1038	496	28,7	49,2	35,4	0,05	11,53	<<0.03	31,0	<<12.4	<32.6	120,9	112,8	257,0	228,5	329,6	<20.2	65,5	<<4.6	<<1046	<<1182	64,6	
Minimum		4	462	390	9,3	18,0	4,1	0,01	5,72	<0.03	19,7	<3.0	<3.0	15,0	15,0	34,0	56,0	88,0	<6.0	17,0	<3.0	<214	<247	23,0	
Maximum		7	1816	605	59,7	70,2	63,0	0,13	25,40	0,03	45,5	66,0	260,0	1200	680,0	1700	1400	1800	120,0	360,0	<6.0	6786	<7589	190,0	
St.Dev		1	368	58	14,0	13,6	15,5	0,04	4,65	~0.00	7,0	~13.2	~52.3	240,7	136,7	335,7	269,5	339,8	~22.3	69,0	~1.5	~1309	~1465	46,1	
Count		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR,LI,J26 36B Færder, 19981020

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>				3			0.5	2			2	2	2	
Samp/ repl.	Sex	Age	Wght	Lngr	TDEPP	DD Σ4	DD Σ5	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
				w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt
1/1		4	462	390	<6	<31.0	<31.0	<4	7.0	<11.0	<11.0	3.6	<2	<2
2/1	M	4	587	395	8.3	42.3	42.3	<4	8.1	<12.1	<12.1	5.3	<2	<2
3/1	F	4	835	415	<10	<33.0	<33.0	<8	12	<20.0	<20.0	3.7	<4	<4
4/1	F	4	623	430	<6	<29.0	<29.0	<4	<4	<4.0	<4.0	<2	<2	<2
5/1	F	4	841	450	<10	<58.0	<58.0	<8	9.4	<17.4	<17.4	4.3	<4	<4
6/1	F	4	504	460	48	238.0	238.0	<8	11	<19.0	<19.0	9.0	<4	<4
7/1	F	4	691	460	<6	<38.0	<38.0	<4	<4	<4.0	<4.0	2.2	<2	<2
8/1	F	4	713	460	7.6	43.6	43.6	<4	6.7	<10.7	<10.7	4.4	<2	<2
9/1		6	541	485	<6	<95.0	<95.0	<4	4.7	<8.7	<8.7	<2	<2	<2
10/1	F	5	1206	485	23	153.0	153.0	<8	16	<24.0	<24.0	9.2	<4	<4
11/1	F	5	1009	495	33	203.0	203.0	<8	11	<19.0	<19.0	8.1	<4	<4
12/1	F	5	1249	495	<10	<43.0	<43.0	<8	14	<22.0	<22.0	6.5	<4	<4
13/1	F	5	1133	495	11	53.0	53.0	<8	13	<21.0	<21.0	8.1	<4	<4
14/1	M	5	1253	500	<10	<49.0	<49.0	<8	9.9	<17.9	<17.9	5.8	<4	<4
15/1	M	5	1174	500	10	77.0	77.0	<8	11	<19.0	<19.0	7.2	<4	<4
16/1	M	5	1230	510	7.2	47.2	47.2	<4	5.3	<9.3	<9.3	3.3	<2	<2
17/1	F	5	1053	515	<10	<38.0	<38.0	<8	<8	<8.0	<8.0	<4	<4	<4
18/1	F	6	1182	515	11	88.0	88.0	<4	7.6	<11.6	<11.6	4.4	<2	<2
19/1	F	5	1271	520	8.2	53.2	53.2	<4	11	<15.0	<15.0	5.9	<2	<2
20/1	F	6	813	530	9.0	81.0	81.0	<4	<4	<4.0	<4.0	<2	<2	<2
21/1	M	6	1270	530	<8	<56.0	<56.0	<8	11	<19.0	<19.0	5.2	<4	<4
22/1	M	7	1655	575	30	160.0	160.0	<8	13	<21.0	<21.0	11	<4	<4
23/1	F	7	1221	590	9.4	93.4	93.4	<4	7.2	<11.2	<11.2	3.5	<2	<2
24/1	F	7	1611	600	14	94.0	94.0	<4	6.6	<10.6	<10.6	3.7	<2	<2
25/1	F	7	1816	605	<6	<36.0	<36.0	<4	<4	<4.0	<4.0	<2	<2	<2
Mean		5	1038	496	<<12.7	<<77.3	<<77.3	<<5.9	<8.8	<<13.7	<<13.7	<5.1	<<3.0	<<3.0
Minimum		4	462	390	<6.0	<29.0	<29.0	<4.0	<4.0	<4.0	<4.0	<2.0	<2.0	<2.0
Maximum		7	1816	605	48.0	238.0	238.0	<8.0	16.0	<24.0	<24.0	11.0	<4.0	<4.0
St.Dev		1	368	58	~10.2	~55.4	~55.4	~2.0	~3.5	~6.3	~6.3	~2.5	~1.0	~1.0
Count		25	25	25	25	25	25	25	25	25	25	25	25	25

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR,LI,J26 36B Færder, 19981020

sample no. 1	fish no. 10	caught	20.10.98	Skin with metacercariae of cf. Gills with Lernaeocera copepods
sample no. 2	fish no. 26	caught	30.11.98	Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 3	fish no. 17	caught	30.11.98	Skin with metacercariae of cf. C Signs of mechanical damage (e.g., net wounds)
sample no. 4	fish no. 14	caught	30.11.98	Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 5	fish no. 27	caught	30.11.98	Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 6	fish no. 3	caught	20.10.98	Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 7	fish no. 6	caught	20.10.98	Skin with metacercariae of cf. C Liver and/or intestinal guts with larvae of Anisakis simplex
sample no. 8	fish no. 8	caught	20.10.98	Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 9	fish no. 11	caught	20.10.98	Skin with metacercariae of cf. C Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.10	fish no. 19	caught	30.11.98	
sample no.11	fish no. 16	caught	30.11.98	Bacterial Skin with ulceration, lymphocytic areas and/or lesions
sample no.12	fish no. 18	caught	30.11.98	Skin with metacercariae of cf. Cryptocotyle lingua
sample no.13	fish no. 20	caught	30.11.98	
sample no.14	fish no. 21	caught	30.11.98	Bacterial fin rot
				Skin with ulceration, lymphocytic areas and/or lesions Skin with metacercariae of cf. Cryptocotyle lingua
sample no.15	fish no. 24	caught	30.11.98	Skin with metacercariae of cf. Cryptocotyle lingua
				Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions
sample no.16	fish no. 25	caught	30.11.98	Skin with metacercariae of cf. Cryptocotyle lingua
sample no.17	fish no. 9	caught	20.10.98	Skin with metacercariae of cf. Cryptocotyle lingua
sample no.18	fish no. 22	caught	30.11.98	Skin with metacercariae of cf. C Bacterial fin rot
sample no.19	fish no. 5	caught	20.10.98	Skin with metacercariae of cf. Cryptocotyle lingua
sample no.20	fish no. 4	caught	20.10.98	Skin with metacercariae of cf. Cryptocotyle lingua
				Liver with necrotic areas and/or discolouration
sample no.21	fish no. 23	caught	30.11.98	Skin with metacercariae of cf. C Bacterial fin rot
sample no.22	fish no. 12	caught	30.11.98	Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.23	fish no. 7	caught	20.10.98	Skin with metacercariae of cf. Cryptocotyle lingua
sample no.24	fish no. 13	caught	30.11.98	Signs of mechanical damage (e.g. Bacterial fin rot
sample no.25	fish no. 15	caught	30.11.98	Signs of mechanical damage (e.g., net wounds)
				Liver with necrotic areas and/or discolouration Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **36B Fårder** Latitude: 59°2.0N Longitude: 10°32.0E
 Catch,date : **19991028** Count: 25 Sample type: **Individual**

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		
Analysis code		=>		312		311		312		311		340		340		340		340		340		340		
Detection limit		=>		Mean		0.05		0.01		0.04		1		3		3		3		3		4		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	2	925	480	9,3	25,3	5,6	0.246	56.3	<0.04	63.4	1.1	2.4	8.7	10	23	50	101	7.0	25	0.80	211	229	32
2/1	M	3	1028	490	22,8	65,0	53,9	0.052	12.8	<0.04	32.3	17	50	150	93	240	360	490	29	75	7.0	1382	1511	280
3/1	F	4	1027	470	14,6	45,6	31,8	0.085	25.0	<0.03	38.3	4.2	16	44	50	130	190	440	34	99	4.1	923	1011	140
4/1	F	5	2145	630	31,1	52,5	42,3	0.097	18.6	<0.04	51.1	3.8	20	30	53	130	260	460	30	100	4.6	1004	1091	190
5/1	F	2	842	440	24,0	57,2	48,7	0.030	6.92	<0.04	23.3	2.4	8.4	11	9.7	26	48	86	2.9	17	1.5	199	213	24
6/1	F	2	994	470	24,6	65,4	57,5	0.025	10.3	<0.04	22.0	6.3	25	45	48	100	120	200	13	50	<4	546	<611	63
7/1	M	3	1196	540	19,2	49,8	37,1	0.119	17.1	<0.04	46.3	14	24	46	130	280	250	370	24	74	2.5	1058	1215	110
8/1	F	1	327	330	11,8	70,2	62,0	0.072	6.77	<0.05	19.7	14	40	46	66	150	140	190	16	46	<4	626	<712	30
9/1	M	1	495	360	9,8	50,4	34,0	0.050	36.3	<0.05	28.2	18	35	77	200	470	500	670	60	180	<2	1950	<2212	62
10/1	F	1	411	360	14,1	62,9	54,4	0.010	2.67	<0.05	20.1	45	62	100	160	350	270	360	31	83	<2	1270	<1463	38
11/1	X	1	403	340	14,8	63,0	52,7	0.057	8.41	<0.04	16.3	12	17	31	78	140	110	140	7.6	43	<4	493	<583	34
12/1	F	1	332	320	13,4	68,6	63,5	0.015	4.38	<0.05	13.9	19	29	61	110	180	150	190	13	61	<4	690	<817	42
13/1	F	3	1815	580	27,1	54,8	40,0	0.084	19.6	<0.04	37.9	6.1	18	55	85	170	190	410	22	110	<2	959	<1068	120
14/1	F	2	2552	630	44,9	34,8	18,1	0.106	29.2	<0.04	49.7	4.3	6.9	32	84	160	200	380	17	75	<1	858	<960	91
15/1	F	2	1331	530	19,0	35,2	17,7	0.111	52.0	<0.04	48.4	5.2	11	31	45	93	120	240	12	49	<1	549	<607	88
16/1	M	4	1388	520	29,9	39,0	24,0	0.039	16.5	<0.04	42.9	4.1	10	34	77	140	140	340	22	98	<2	766	<867	86
17/1	F	2	1064	470	28,1	65,7	57,3	0.034	17.0	<0.04	27.6	3.9	11	41	41	86	110	230	11	59	<2	541	<595	98
18/1	M	2	449	380	6,2	42,7	28,0	0.091	17.4	<0.06	34.4	<2	5.6	21	20	44	56	120	5.9	29	<2	<278	<304	48
19/1	F	5	2988	690	37,5	48,1	34,1	0.089	14.3	<0.04	51.4	15	37	190	150	370	590	930	48	180	<2	2312	<2512	620
20/1	X	1	343	320	10,8	62,1	47,1	0.104	3.14	<0.05	19.7	22	17	38	110	200	130	190	20	59	<1	656	<787	21
21/1	F	3	1775	570	33,3	49,1	35,2	0.065	4.81	<0.04	24.2	4.6	5.5	40	49	120	190	370	19	85	<4	815	<887	170
22/1	F	5	3423	680	48,4	53,0	39,9	0.063	12.4	<0.05	43.4	8.0	12	80	130	300	420	820	46	190	<2	1830	<2008	280
23/1	F	3	2392	580	88,4	67,0	59,0	0.021	13.8	<0.04	30.8	6.6	16	35	67	120	110	200	17	55	<4	543	<631	79
24/1	M	3	653	420	7,5	27,8	9,4	0.218	7.87	0.07	55.3	3.2	5.3	23	32	88	130	290	18	70	<0.5	610	<660	90
25/1	M	1	526	380	19,3	68,8	58,9	0.026	5.43	0.07	20.3	26	39	74	170	330	270	390	43	110	<4	1239	<1456	33
Mean		2	1233	479	24,4	53,0	40,5	0.08	16,76	<<0.05	34,4	<10.7	20,9	53,7	82,7	177,6	204,2	344,3	22,7	80,9	<<2.7	<892	<<1000	114,8
Minimum		1	327	320	6,2	25,3	5,6	0,01	2,67	<0.03	13,9	1,1	2,4	8,7	9,7	23,0	48,0	86,0	2,9	17,0	<0.5	199	213	21,0
Maximum		5	3423	690	88,4	70,2	63,5	0,25	56,30	0,07	63,4	45,0	62,0	190,0	200,0	470,0	590,0	930,0	60,0	190,0	7,0	2312	<2512	620,0
St.Dev		1	882	114	17,5	13,2	16,7	0,06	13,94	~0.01	13,9	~10.0	15,4	41,5	51,3	114,5	137,7	212,8	14,5	46,1	~1.6	~532	~588	127,3
Count		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

miss(7) ! Missing value s/q(5) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR,LI,J26 36B Færder, 19991028

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code		=>		340	Calc	Calc	340	340	Calc	Calc	340	340	340	340
Detection limit		=>		3			0.5	2			2	2	2	2
Samp/ repl.	Sex	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.	F/M				w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	2	925	480	11	43.0	43.0	0.32	0.83	1.1	1.1	1.2	<0.07	0.54
2/1	M	3	1028	490	64	344.0	344.0	3.4	9.8	13.2	13.2	16	<1	5.3
3/1	F	4	1027	470	15	155.0	155.0	2.2	5.7	7.9	7.9	6.6	<1	2.5
4/1	F	5	2145	630	28	218.0	218.0	2.8	7.7	10.5	10.5	11	<1	3.5
5/1	F	2	842	440	5.8	29.8	29.8	2.5	6.9	9.4	9.4	5.5	<1	<1
6/1	F	2	994	470	11	74.0	74.0	<4	10	<14.0	<14.0	8.8	<2	<2
7/1	M	3	1196	540	12	122.0	122.0	2.3	6.6	8.9	8.9	5.7	<1	2.9
8/1	F	1	327	330	5.9	35.9	35.9	3.9	10	13.9	13.9	6.5	<2	1.9
9/1	M	1	495	360	6.9	68.9	68.9	2.2	5.6	7.8	7.8	3.9	<1	3.3
10/1	F	1	411	360	5.8	43.8	43.8	3.1	8.5	11.6	11.6	6.2	<1	5.6
11/1	X	1	403	340	7.3	41.3	41.3	<4	8.7	<12.7	<12.7	4.9	miss	<2
12/1	F	1	332	320	8.6	50.6	50.6	<4	11	<15.0	<15.0	s7.9	miss	2.9
13/1	F	3	1815	580	23	143.0	143.0	2.4	6.9	9.3	9.3	7.9	2.6	2.1
14/1	F	2	2552	630	11	102.0	102.0	<1	2.6	<3.6	<3.6	s2.4	miss	1.2
15/1	F	2	1331	530	27	115.0	115.0	<1	2.7	<3.7	<3.7	s3.5	s0.55	1.3
16/1	M	4	1388	520	24	110.0	110.0	<2	3.0	<5.0	<5.0	s4.7	<1	2.0
17/1	F	2	1064	470	23	121.0	121.0	<4	10	<14.0	<14.0	12	miss	<2
18/1	M	2	449	380	11	59.0	59.0	<2	4.7	<6.7	<6.7	5.0	miss	<1
19/1	F	5	2988	690	170	790.0	790.0	2.1	5.4	7.5	7.5	27	miss	17
20/1	X	1	343	320	6.2	27.2	27.2	3.5	8.0	11.5	11.5	6.3	miss	1.9
21/1	F	3	1775	570	16	186.0	186.0	<4	4.4	<8.4	<8.4	7.5	<2	2.0
22/1	F	5	3423	680	64	344.0	344.0	2.2	6.3	8.5	8.5	14	<1	5.4
23/1	F	3	2392	580	13	92.0	92.0	<4	9.3	<13.3	<13.3	9.8	<2	2.2
24/1	M	3	653	420	14	104.0	104.0	0.51	1.3	1.8	1.8	3.5	<0.3	1.0
25/1	M	1	526	380	7.8	40.8	40.8	<4	9.4	<13.4	<13.4	6.2	<2	3.3
Mean		2	1233	479	23,7	138,4	138,4	<<2.7	6,6	<<9.3	<<9.3	8,4	<<1.3	<3.0
Minimum		1	327	320	5,8	27,2	27,2	0,3	0,8	1,1	1,1	1,2	<0.1	0,5
Maximum		5	3423	690	170,0	790,0	790,0	<4.0	11,0	<15.0	<15.0	27,0	2,6	17,0
St.Dev		1	882	114	34,2	160,6	160,6	~1.2	2,9	~4.0	~4.0	5,5	~0.7	~3.2
Count		25	25	25	25	25	25	25	25	25	25	21	17	25

miss(7) ! Missing value s/q(5) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR,LI,J26 36B Færder, 19991028

sample no. 1 Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larv colour:red
sample no. 2 Signs of mechanical damage (e.g., net wounds) colour:red,white
sample no. 3 Bacterial fin rot Signs of mechanical damage (Muscle with signs of inner bleeding colour:red,white
sample no. 4 Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larv colour:yellow,red
sample no. 5 colour:red white
sample no. 6 Signs of mechanical damage (e.g., net wounds) Skin with metacercariae of cf. Bacterial fin rot colour:red,white,(green)
sample no. 7 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions
Bacterial fin rot Skin and/or oral cavity with Lernaeopodiform copepods colour: red white
sample no. 8 Skin with metacercariae of cf. Cryptocotyle lingua colour:red white
sample no. 9 Skin with metacercariae of cf. Cryptocotyle lingua colour:red white
sample no. 10 Skin with metacercariae of cf. Cryptocotyle lingua colour:red white
sample no. 11 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs colour: red white
sample no. 12 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Skin with metacercariae of cf. Cryptocotyle lingua colour:yellow white
sample no. 13 Skin with metacercariae of cf. Cryptocotyle lingua colour:white
sample no. 14 Signs of mechanical damage (e.g., net wounds) Skin with metacercariae of cf. Cryptocotyle lingua
Liver and/or intestinal guts with larvae of Anisakis simplex colour:yellow brown
sample no. 15 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
Signs of mechanical damage (e.g., net wounds) colour:red brown
sample no. 16 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex
Signs of mechanical damage (e.g., net wounds) Fish ma colour:red brown
sample no. 17 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damag colour: white
sample no. 18 Skin and/or oral cavity with caligiform and/or Lernaeopodifor colour:white
sample no. 19 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
Signs of mechanical damage (e.g., net wounds) colour:yellow white
sample no. 20 Bacterial fin rot green white
sample no. 21 Skin with ulceration, lymphocytic areas and/or lesions Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods colour:red
sample no. 22 Bacterial fin rot Liver and/or intestinal guts with larvae of colour:green red
sample no. 23 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions
Bacterial fin rot Liver and/or intestinal guts with larvae of colour:green white
sample no. 24 Skin with ulceration, lymphocytic areas and/or lesions colour:green brown
sample no. 25 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic colour: green white

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **36B Fårder** Latitude: 59°2.0N Longitude: 10°32.0E
 Catch,date : **20001027** Count: 23 Sample type: **Individual**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	340	340		
Detection limit		=>		Mean		0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3	3		
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	2136	640	17,4	21,8	3,1	0.287	36.2	<0.04	54.0	2.0	2.4	6.4	17	36	50	75	5.0	16	1.1	188	211	23
2/1	F	3	1452	560	16,2	26,1	9,5	0.153	31.3	<0.03	53.5	4.5	9.5	23	42	96	40	250	14	59	0.97	482	539	62
3/1	F	3	2188	620	44,2	53,0	40,4	0.071	21.8	<0.04	38.2	5.4	13	18	47	97	130	200	11	41	<1.5	504	<564	73
4/1	M	2	1062	490	26,8	55,2	43,2	0.021	9.35	<0.04	28.6	1.1	1.9	3.9	7.0	14	11	16	1.0	3.1	<0.20	51	<59	3.9
5/1	M	2	882	460	21,2	56,0	45,1	0.018	3.42	<0.04	20.0	15	15	15	55	110	93	130	8.0	25	<1.5	403	<468	30
6/1	F	2	694	420	14,6	54,8	37,9	0.041	6.26	<0.04	29.3	3.9	18	15	20	48	76	120	6.4	26	<1.5	307	<335	45
7/1	F	2	624	405	5,8		10,8	0.095	16.7	<0.04	54.2	3.1	10	21	30	78	110	170	9.5	37	1.8	429	470	80
8/1	M	2	664	410	12,6	49,1	32,2	0.079	9.25	<0.04	29.3	3.8	13	14	22	51	68	110	6.4	23	<1.5	283	<313	45
9/1	F	2	1528	540	64,6	64,4	56,5	0.020	9.58	<0.04	25.3	7.7	21	31	28	69	84	140	6.5	25	<2.0	378	<414	50
10/1	F	2	840	460	16,2	54,4	43,2	0.048	13.6	<0.04	29.8	9.0	22	22	53	110	120	180	14	46	<1.5	509	<578	44
11/1	F	2	1579	570	54,8	63,2	55,7	0.011	7.43	<0.04	20.8	9.3	31	39	80	140	120	180	12	37	<1.5	556	<650	55
12/1	M	2	1468	550	37,8	64,0	53,9	0.068	31.3	<0.03	38.9	7.6	18	25	27	68	110	180	7.8	27	<2.0	436	<472	62
13/1	M	2	868	450	25,4	64,1	55,9	0.017	5.96	<0.03	22.9	21	75	65	150	310	260	470	33	130	<2.0	1331	<1516	45
14/1	F	2	816	455	20,8	55,8	44,5	0.023	14.1	<0.04	27.7	9.8	25	29	45	94	99	170	11	38	<1.5	465	<522	44
15/1	F	2	739	430	20,6	64,7	55,3	0.019	3.98	<0.04	23.3	83	140	140	260	540	360	500	44	130	<2.0	1893	<2199	30
16/1	M	2	934	450	22,2	65,7	58,5	0.049	12.6	<0.03	24.8	5.0	23	21	29	67	86	140	7.8	30	<2.0	372	<411	47
17/1	M	2	901	460	15,2	50,6	37,9	0.065	13.5	<0.04	32.7	8.3	18	16	83	220	240	390	27	89	<1.5	981	<1093	63
18/1	F	2	702	420	20,2	61,3	47,5	0.007	6.31	<0.03	19.9	23	49	46	70	150	100	130	8.9	33	<1.5	531	<611	49
19/1	M	2	843	470	9,6	30,3	14,0	0.034	15.2	<0.03	41.5	15	40	75	100	250	180	280	18	71	0.95	911	1030	130
20/1	F	2	591	390	14,2	57,4	43,5	0.012	9.19	<0.04	27.4	8.4	24	22	57	120	89	120	8.2	22	<1.5	405	<472	37
21/1	M	2	627	415	11,4	44,1	26,8	0.092	5.34	<0.03	27.8	7.7	38	35	53	120	120	150	14	47	<1.0	518	<586	28
22/1	F	2	1293	510	48,6	67,6	60,5	0.009	12.7	<0.04	18.3	20	31	35	59	130	110	150	8.2	30	<2.0	506	<575	63
23/1	F	2	910	490	9,2	25,3	8,1	0.054	8.33	<0.04	56.2	13	23	56	68	160	140	210	12	46	1.2	648	729	140
Mean		2	1058	481	23,9	52,2	38,4	0.06	13,19	<<0.04	32,4	12,5	28,7	33,6	61,0	133,8	121,6	194,0	12,8	44,8	<<1.5	569	<<644	54,3
Minimum		2	591	390	5,8	21,8	3,1	0.01	3,42	<0.03	18,3	1,1	1,9	3,9	7,0	14,0	11,0	16,0	1,0	3,1	<0.2	51	<59	3,9
Maximum		6	2188	640	64,6	67,6	60,5	0,29	36,20	<0.04	56,2	83,0	140,0	140,0	260,0	540,0	360,0	500,0	44,0	130,0	<2.0	1893	<2199	140,0
St.Dev		1	462	69	15,6	14,1	18,0	0,06	9,00	~0.00	12,0	16,5	29,0	29,2	53,6	112,4	76,5	117,3	9,7	32,4	~0.4	393	~454	30,6
Count		23	23	23	23	22	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23	23

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR,LI,J26 36B Færder, 20001027

Analytical lab. =>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>		340	Calc	Calc	340	340	Calc	Calc	340	340	340			
Detection limit =>		3			0.5	2			2	2				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	2136	640	1.7	24.7	24.7	<0.20	0.22	<0.4	<0.4	0.39	<0.10	0.49
2/1	F	3	1452	560	7.1	69.1	69.1	0.52	0.97	1.5	1.5	2.5	<0.10	1.2
3/1	F	3	2188	620	4.7	77.7	77.7	2.8	5.3	8.1	8.1	6.1	<0.70	1.7
4/1	M	2	1062	490	0.32	4.2	4.2	0.22	0.39	0.6	0.6	0.35	<0.1	0.22
5/1	M	2	882	460	3.8	33.8	33.8	3.1	5.9	9.0	9.0	3.8	<0.70	1.9
6/1	F	2	694	420	3.1	48.1	48.1	3.2	6.4	9.6	9.6	6.3	<0.70	1.0
7/1	F	2	624	405	8.9	88.9	88.9	0.71	1.4	2.1	2.1	1.7	<0.20	0.82
8/1	M	2	664	410	3.0	48.0	48.0	2.5	5.1	7.6	7.6	4.7	<0.70	<1.0
9/1	F	2	1528	540	4.7	54.7	54.7	4.3	8.6	12.9	12.9	8.6	<1.0	<1.5
10/1	F	2	840	460	3.7	47.7	47.7	3.4	6.7	10.1	10.1	6.5	<0.70	<1.5
11/1	F	2	1579	570	4.2	59.2	59.2	4.2	8.3	12.5	12.5	5.7	<0.70	3.2
12/1	M	2	1468	550	5.6	67.6	67.6	3.9	7.9	11.8	11.8	9.5	<1.0	<1.5
13/1	M	2	868	450	3.8	48.8	48.8	4.3	8.1	12.4	12.4	12	<1.0	5.6
14/1	F	2	816	455	5.1	49.1	49.1	3.3	6.5	9.8	9.8	5.8	<0.70	1.8
15/1	F	2	739	430	2.9	32.9	32.9	4.3	8.4	12.7	12.7	6.4	<1.0	9.2
16/1	M	2	934	450	4.4	51.4	51.4	4.4	9.1	13.5	13.5	7.0	<1.0	<1.5
17/1	M	2	901	460	4.9	67.9	67.9	2.8	5.5	8.3	8.3	7.2	<0.70	<1.0
18/1	F	2	702	420	7.0	56.0	56.0	3.5	6.8	10.3	10.3	4.3	<0.70	3.7
19/1	M	2	843	470	9.3	139.3	139.3	0.99	2.0	3.0	3.0	2.1	0.14	3.1
20/1	F	2	591	390	3.8	40.8	40.8	3.3	6.8	10.1	10.1	4.8	<0.70	1.7
21/1	M	2	627	415	3.4	31.4	31.4	2.0	4.2	6.2	6.2	4.1	<0.50	1.7
22/1	F	2	1293	510	4.9	67.9	67.9	4.5	9.3	13.8	13.8	5.4	<1.0	3.0
23/1	F	2	910	490	21	161.0	161.0	0.46	0.88	1.3	1.3	1.6	<0.10	2.9
Mean		2	1058	481	5,3	59,6	59,6	<2.7	5,4	<8.2	<8.2	5,1	<<0.6	<<2.2
Minimum		2	591	390	0,3	4,2	4,2	<0.2	0,2	<0.4	<0.4	0,4	<0.1	0,2
Maximum		6	2188	640	21,0	161,0	161,0	4,5	9,3	13,8	13,8	12,0	<1.0	9,2
St.Dev		1	462	69	4,0	34,2	34,2	~1.5	3,0	~4.5	~4.5	2,9	~0.3	~1.9
Count		23	23	23	23	23	23	23	23	23	23	23	23	23

sample no. 1	Skin with metacercariae of cf. Cryptocotyle lingua	sample no. 14	Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage
sample no. 2	Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage	sample no. 15	Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 3	Skin with metacercariae of cf. Cryptocotyle lingua Liver a/or intestinal gut	sample no. 16	Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage
sample no. 4	Skin with metacercariae of cf. Cryptocotyle lingua	sample no. 17	Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage
sample no. 5	Skin with metacercariae of cf. Cryptocotyle lingua	sample no. 18	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity
sample no. 6	Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)	sample no. 19	Lernaeopodiform copepods Signs of mechanical damage (e.g., net wounds)
sample no. 7	Skin with metacercariae of cf. Cryptocotyle lingua	sample no. 20	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity
sample no. 8	Skin with metacercariae of cf. Cryptocotyle lingua	sample no. 21	Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisak
sample no. 9	Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage	sample no. 22	Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 10	Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera ccs	sample no. 23	Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 11	Skin with metacercariae of cf. Cryptocotyle lingua		
sample no. 12	Skin with metacercariae of cf. Cryptocotyle lingua Liver a/o intestinal guts		
sample no. 13	Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage		

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **36B Fårder** Latitude: 59°2.0N Longitude: 10°32.0E
 Catch,date : **20011025** Count: 25 Sample type: **Individual**

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		
Analysis code		=>		312		311		312		311		340		340		340		340		340		340		
Detection limit		=>		Mean		0.05		0.01		0.04		1		3		3		3		3		4		
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	3100	650	69,3	36,1	21,0	0.079	17.8	<0.03	40.8	2.8	3.5	12	29	56	75	120	7.7	28	<0.80	297	<335	50
2/1	F	3	2003	570	65,1	62,2	55,0	0.038	12.5	<0.03	25.2	3.0	7.4	19	18	39	63	100	6.5	25	<2.0	256	<283	52
3/1	M	2	964	480	21,5	50,4	40,0	0.015	5.74	<0.03	35.9	33	57	92	130	270	170	220	19	62	1.3	904	1054	79
4/1	F	2	1196	500	32,0	46,6	31,0	0.036	11.1	<0.03	34.2	4.5	10	21	20	42	58	97	6.1	24	<1.0	257	<284	43
5/1	F	3	1790	570	44,5	36,0	26,0	0.039	9.99	<0.03	28.0	1.6	5.0	15	14	31	51	100	6.7	30	<1.0	234	<255	38
6/1	M	3	1072	510	35,4	28,4	15,0	0.020	11.1	<0.03	29.8	7.6	18	40	75	150	100	180	16	52	<0.80	548	<639	50
7/1	F	1	523	380	14,0	49,3	36,0	0.044	4.90	<0.03	26.6	2.7	4.2	9.7	9.4	21	30	43	2.3	8.8	<1.0	119	<132	19
8/1	F	3	1937	600	25,6	46,8	33,0	0.062	12.4	<0.03	41.3	4.6	7.8	31	53	120	140	230	15	55	2.2	588	659	89
9/1	M	3	1504	580	57,9	29,4	13,0	0.016	4.24	<0.03	27.1	5.4	12	29	48	120	130	220	17	54	<0.80	570	<636	31
10/1	M	2	1094	470	37,1	51,8	43,0	0.014	5.18	<0.03	22.9	2.3	4.3	10	40	78	66	93	6.8	24	<1.0	278	<325	30
11/1	M	2	753	450	15,4	59,6	49,0	0.029	6.06	<0.03	23.5	5.7	18	82	40	110	210	280	13	50	4.6	756	813	150
12/1	F	2	1249	510	37,6	19,7	3,3	0.024	21.1	<0.03	34.8	1.3	2.8	6.5	9.7	19	16	25	1.6	5.4	<0.20	76	<88	9.7
13/1	F	1	402	350	12,4	69,1	56,0	0.043	8.39	<0.03	18.4	17	27	39	55	110	100	120	11	35	<2.6	448	<517	28
14/1	M	2	455	370	10,5	49,1	41,0	0.027	10.7	<0.03	23.0	3.3	6.7	12	17	38	43	76	4.8	19	<2.6	198	<222	21
15/1	F	2	903	460	23,8	24,6	8,2	0.030	10.1	<0.03	37.8	1.1	2.5	8.3	9.3	23	43	79	4.2	17	<0.80	174	<188	25
16/1	M	2	879	460	13,0	31,5	16,0	0.051	3.92	<0.03	34.9	2.9	3.5	12	8.0	23	48	73	3.7	15	2.2	177	191	57
17/1	M	1	647	380	28,8	64,2	54,0	0.026	4.65	<0.03	16.2	2.3	4.6	9.2	8.5	19	30	44	2.6	11	<2.0	120	<133	18
18/1	M	4	2291	600	67,0	58,4	47,0	0.058	12.7	<0.03	29.6	3.7	7.9	29	37	88	140	240	14	55	<3.0	564	<618	74
19/1	M	3	1202	510	24,5	61,3	51,0	0.017	12.0	<0.03	34.4	12	34	90	110	240	190	330	24	85	<3.0	981	<1118	79
20/1	M	2	698	440	7,6	37,6	21,0	0.026	20.0	<0.03	48.3	15	31	83	150	370	240	360	22	87	<1.5	1186	<1360	100
21/1	F	1	393	355	13,2	70,7	61,0	0.063	15.8	<0.03	23.6	3.3	8.3	14	10	24	34	44	2.4	9.3	<2.0	137	<151	27
22/1	M	1	517	380	7,5	29,4	12,0	0.012	1.51	<0.03	26.4	10	26	50	90	190	130	180	15	69	0.98	655	761	54
23/1	F	3	715	420	20,5	43,9	29,0	0.034	1.39	<0.03	20.3	<2.0	6.5	23	14	37	69	120	7.2	31	<2.0	<289	<310	56
24/1	F	1	588	410	13,1	48,4	34,0	0.022	3.43	<0.03	25.0	8.5	29	66	65	150	130	180	10	37	<2.0	601	<678	46
25/1	M	1	498	370	25,3	68,9	60,0	0.026	7.62	<0.03	19.8	2.9	7.3	15	9.5	23	29	40	<4.0	7.9	<4.0	125	<139	20
Mean		2	1095	471	28,9	46,9	34,2	0,03	9,37	<<0.03	29,1	<6.3	13,8	32,7	42,8	95,6	93,4	143,8	<9.7	35,9	<<1.8	<422	<<476	49,8
Minimum		1	393	350	7,5	19,7	3,3	0,01	1,39	<0.03	16,2	1,1	2,5	6,5	8,0	19,0	16,0	25,0	1,6	5,4	<0.2	76	<88	9,7
Maximum		6	3100	650	69,3	70,7	61,0	0,08	21,10	<0.03	48,3	33,0	57,0	92,0	150,0	370,0	240,0	360,0	24,0	87,0	4,6	1186	<1360	150,0
St.Dev		1	679	87	18,9	15,0	17,4	0,02	5,45	~0.00	8,0	~7.0	13,3	28,0	40,4	91,3	62,3	93,8	~6.5	23,9	~1.1	~303	~348	31,8
Count		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR,LI,J26 36B Færder, 20011025

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>				3			0.5	2			2	2	2	
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP	DD Σ4	DD Σ5	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	3100	650	4.7	54.7	54.7	1.1	1.8	2.9	2.9	3.9	<0.40	0.80
2/1	F	3	2003	570	7.9	59.9	59.9	2.8	4.8	7.6	7.6	9.0	<1.0	1.1
3/1	M	2	964	480	14	93.0	93.0	2.3	3.7	6.0	6.0	5.7	<0.50	5.8
4/1	F	2	1196	500	8.2	51.2	51.2	1.6	2.7	4.3	4.3	4.6	<0.50	0.92
5/1	F	3	1790	570	3.8	41.8	41.8	1.3	2.1	3.4	3.4	3.4	<0.50	0.70
6/1	M	3	1072	510	5.5	55.5	55.5	0.81	1.3	2.1	2.1	2.3	<0.40	2.4
7/1	F	1	523	380	4.0	23.0	23.0	2.0	3.5	5.5	5.5	4.6	<0.5	<0.50
8/1	F	3	1937	600	8.5	97.5	97.5	1.5	2.3	3.8	3.8	6.0	<0.70	1.9
9/1	M	3	1504	580	3.4	34.4	34.4	<0.80	1.0	<1.8	<1.8	2.0	<0.40	1.3
10/1	M	2	1094	470	3.7	33.7	33.7	2.2	3.7	5.9	5.9	4.6	<0.50	<0.50
11/1	M	2	753	450	23	173.0	173.0	2.2	4.1	6.3	6.3	7.1	<1.0	2.3
12/1	F	2	1249	510	1.4	11.1	11.1	<0.20	<0.20	<0.2	<0.2	0.31	<0.10	0.29
13/1	F	1	402	350	5.7	33.7	33.7	2.9	4.8	7.7	7.7	5.4	<1.5	2.4
14/1	M	2	455	370	5.2	26.2	26.2	<2.6	3.6	<6.2	<6.2	4.2	<1.3	<1.3
15/1	F	2	903	460	5.3	30.3	30.3	<0.80	0.80	<1.6	<1.6	1.5	<0.40	0.42
16/1	M	2	879	460	9.2	66.2	66.2	0.84	1.5	2.3	2.3	3.7	<0.30	0.68
17/1	M	1	647	380	4.5	22.5	22.5	3.0	5.4	8.4	8.4	5.6	<1.0	<1.0
18/1	M	4	2291	600	9.2	83.2	83.2	<3.0	5.7	<8.7	<8.7	6.9	<1.5	<1.5
19/1	M	3	1202	510	10	89.0	89.0	<3.0	4.6	<7.6	<7.6	5.5	<1.5	4.1
20/1	M	2	698	440	26	126.0	126.0	<1.5	1.8	<3.3	<3.3	4.4	<0.80	3.5
21/1	F	1	393	355	6.1	33.1	33.1	3.2	6.1	9.3	9.3	6.5	<1.0	<1.0
22/1	M	1	517	380	9.8	63.8	63.8	0.63	0.95	1.6	1.6	1.7	<0.20	2.7
23/1	F	3	715	420	8.0	64.0	64.0	<2.0	2.7	<4.7	<4.7	3.4	<1.0	1.3
24/1	F	1	588	410	8.9	54.9	54.9	<2.0	2.8	<4.8	<4.8	4.1	<1.0	2.7
25/1	M	1	498	370	<6.0	<26.0	<26.0	<4.0	4.9	<8.9	<8.9	5.3	<2.0	<2.0
Mean		2	1095	471	<8.1	<57.9	<57.9	<<1.9	<3.1	<<5.0	<<5.0	4,5	<<0.8	<<1.7
Minimum		1	393	350	1,4	11,1	11,1	<0.2	<0.2	<0.2	<0.2	0,3	<0.1	0,3
Maximum		6	3100	650	26,0	173,0	173,0	<4.0	6,1	9,3	9,3	9,0	<2.0	5,8
St.Dev		1	679	87	~5.7	~36.8	~36.8	~1.0	~1.7	~2.7	~2.7	2,0	~0.5	~1.3
Count		25	25	25	25	25	25	25	25	25	25	25	25	25

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR,LI,J26 36B Færder, 20011025

sample no. 1 Skin with metacercariae of cf. Cryptocotyle lingua Liver with necrotic areas liver colour is yellow
sample no. 2 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with liver colour is yellow red
sample no. 3 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
Skin with ulceration, lymphocytic areas and/or lesions liver colour is yellow red
sample no. 4 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
Skin with ulceration, lymphocytic areas and/or lesions liver colour is yellow red
sample no. 5 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
Liver and/or intestinal guts with larvae of Anisakis simplex Liver with necrotic areas liver colour is yellow red
sample no. 6 Skin with metacercariae of cf. Cryptocotyle lingua Ba Liver with necrotic areas and/or discolouration liver colour is yellow red
sample no. 7 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic Gills with Lernaeocera copepods liver colour is yellow red
sample no. 8 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage liver colour is yellow red
sample no. 9 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic Bacterial fin rot Liver with necrotic areas and/or c liver colour is yellow red
sample no. 10 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic liver colour is red
sample no. 11 Skin with ulceration, lymphocytic areas and/or lesions Gills with Le: Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is yellow red
sample no. 12 Skin with ulceration, lymphocytic areas and/or lesions liver colour is red brown
sample no. 13 Skin with metacercariae of cf. Cryptocotyle lingua Ba liver colour is yellow red
sample no. 14 Skin and/or oral cavity with caligiform and/or Lernaeopodifor liver colour is yellow red
sample no. 15 Skin with metacercariae of cf. Cryptocotyle lingua Liver with necrotic areas liver colour is red brown
sample no. 16 Skin with metacercariae of cf. Cryptocotyle lingua Liver with necrotic areas liver colour is red brown
sample no. 17 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is yellow
sample no. 18 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is yellow red
sample no. 19 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is yellow red
sample no. 20 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage liver colour is yellow red
sample no. 21 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is yellow red
sample no. 22 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is yellow red
sample no. 23 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is yellow red
sample no. 24 Skin with metacercariae of cf. Cryptocotyle lingua Ag liver colour is yellow red
sample no. 25 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is yellow red

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **15B Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **19981007** Count: 25 Sample type: **Individual**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	340			
Detection limit		=>		Mean		0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3	4		
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	3	329	330	3,4	38,3		0.075	2.88	0.03	35.9													
2/1	F	4	733	430	12,7	53,7	38,5	0.185	1.19	0.08	21.7	<8	<8	27	12	38	85	120	<8	17	<8	<295	<307	88
3/1	F	4	902	450	25,5	70,4	62,5	0.037	1.65	<0.03	15.3	<8	14	48	16	47	97	140	<8	21	<8	<375	<391	120
4/1	F	5	845	452	9,0	26,0	5,2	0.068	5.01	0.04	43.1	<2	<2	1.0	3.0	10	19	40	<2	7.3	<2	<79	<82	15
5/1	M	5	834	455	18,0	58,5	48,2	0.034	2.92	<0.03	22.8	<8	16	58	17	56	110	150	<8	23	<8	<421	<438	130
6/1	M	4	848	464	14,0	40,0	23,2	0.021	5.50	<0.03	35.0	<4	<4	19	10	38	68	100	4.7	15	<4	<244	<259	58
7/1		5	977	480	17,1	61,5	47,9	0.029	2.46	<0.03	20.2	<6	15	52	23	55	110	150	<6	23	<6	<411	<434	140
8/1	M	5	1251	496	25,0	54,3	40,1	0.016	14.5	<0.03	38.5	<4	<4	20	12	33	87	130	5.9	28	<4	<302	<320	66
9/1	F	5	1239	500	16,0	39,2	20,7	0.049	19.5	<0.03	50.0	<4	<4	6.2	7.9	19	37	94	6.3	26	<4	<186	<200	23
10/1	F	5	1423	526	30,0	52,0	40,8	0.024	10.3	<0.03	38.0	<8	<8	10	27	27	62	110	<8	25	<8	<242	<269	45
11/1	M	5	1373	529	26,0	46,7	31,3	0.018	16.3	<0.03	45.8	<4	<4	11	9.1	29	45	85	4.7	17	<4	<191	<205	39
12/1	F	5	1582	530	41,0	57,9	42,8	0.015	9.49	<0.03	48.7	<6	<6	9.3	8.5	15	33	59	<6	11	<6	<133	<142	24
13/1	F	5	1381	550	38,0	65,6	51,0	0.031	4.75	<0.03	23.8	<6	8.2	34	8.3	29	65	97	<6	15	<6	<254	<263	60
14/1	M	5	1581	559	18,0	30,1	10,6	0.030	12.6	<0.03	43.0	<2	<2	12	10	43	90	140	6.2	33	<2	<320	<336	45
15/1	M	5	1691	563	13,0	34,3	14,1	0.056	17.4	<0.03	47.1	<2	<2	6.5	9.0	29	50	99	4.4	17	<2	<204	<217	41
16/1	F	6	1651	566	23,0	37,5	18,0	0.023	41.0	<0.03	44.2	6.4	11	68	45	150	240	470	15	76	<2	1021	<1083	97
17/1	M	5	1574	570	13,0	24,6	6,3	0.061	12.9	<0.03	49.0	<2	<2	16	9.9	33	81	110	4.5	21	<2	<263	<277	74
18/1	M	6	1967	581	43,0	58,9	47,1	0.015	15.4	<0.03	31.6	<8	<8	19	12	30	56	110	<8	31	<8	<254	<266	45
19/1	M	5	1895	583	36,0	55,1	43,0	0.043	9.81	<0.03	33.3	<8	11	42	16	52	110	170	<8	31	<8	<424	<440	150
20/1	M	6	1872	585	13,0	60,2	51,3	0.042	8.59	<0.03	29.8	<8	<8	21	13	26	46	74	<8	14	<8	<189	<202	71
21/1	F	6	2866	670	116,0	66,5	57,9	0.015	4.28	<0.03	25.5	<8	8.7	31	14	48	110	170	<8	36	<8	<412	<426	110
22/1	M	7	3217	690	175,7	74,3	67,7	0.007	1.44	<0.03	13.1	<8	<8	30	8.6	28	56	71	<8	13	<8	<206	<215	83
23/1	F	7	3393	725	245,0	83,2	77,5	0.020	2.01	<0.03	12.4	<8	13	45	14	43	82	100	<8	20	<8	<311	<325	130
24/1	F	7	3921	775	328,0	66,4	60,9	0.004	1.31	<0.03	14.2	<8	15	52	13	44	98	120	<8	18	<8	<355	<368	120
25/1	F	4	772	945	12,4	56,6	42,8	0.044	5.18	<0.03	26.1	<8	11	39	13	44	92	130	<8	20	<8	<344	<357	100
Mean		5	1605	560	52,5	52,5	39,6	0,04	9,13	<<0.03	32,3	<<6.0	<<8.0	28,2	13,8	40,3	80,4	126,6	<<7.0	23,3	<<5.8	<<310	<<326	78,1
Minimum		3	329	330	3,4	24,6	5,2	0,00	1,19	<0.03	12,4	<2.0	<2.0	1,0	3,0	10,0	19,0	40,0	<2.0	7,3	<2.0	<79	<82	15,0
Maximum		7	3921	945	328,0	83,2	77,5	0,19	41,00	0,08	50,0	<8.0	16,0	68,0	45,0	150,0	240,0	470,0	15,0	76,0	<8.0	1021	<1083	150,0
St.Dev		1	894	126	80,4	15,4	19,8	0,04	8,76	~0.01	12,3	~2.4	~4.5	18,7	8,3	26,3	43,3	80,2	~2.4	13,4	~2.5	~178	~188	40,1
Count		25	25	25	25	25	24	25	25	25	25	24	24	24	24	24	24	24	24	24	24	24	24	24

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99 15B Ullerø, 19981007

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>				3			0.5	2			2	2	2	
Samp/ repl.	Sex	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	3	329	330										
2/1	F	4	733	430	12	100.0	100.0	<8	8.1	<16.1	<16.1	9.4	<4	<4
3/1	F	4	902	450	28	148.0	148.0	<8	14	<22.0	<22.0	20	<4	<4
4/1	F	5	845	452	2.3	17.3	17.3	<2	<2	<2.0	<2.0	1.7	<1	<1
5/1	M	5	834	455	29	159.0	159.0	<8	<8	<8.0	<8.0	18	<4	<4
6/1	M	4	848	464	10	68.0	68.0	<4	5.2	<9.2	<9.2	7.1	<2	<2
7/1		5	977	480	24	164.0	164.0	<6	9.6	<15.6	<15.6	17	<3	<3
8/1	M	5	1251	496	9.5	75.5	75.5	<4	10	<14.0	<14.0	11	<2	<2
9/1	F	5	1239	500	4.8	27.8	27.8	<4	4.5	<8.5	<8.5	6.8	<2	<2
10/1	F	5	1423	526	<10	<55.0	<55.0	<8	8.2	<16.2	<16.2	11	<4	<4
11/1	M	5	1373	529	7.1	46.1	46.1	<4	5.9	<9.9	<9.9	6.6	<2	<2
12/1	F	5	1582	530	<8	<32.0	<32.0	<6	8.7	<14.7	<14.7	7.6	<3	<3
13/1	F	5	1381	550	16	76.0	76.0	<6	7.8	<13.8	<13.8	12	<3	<3
14/1	M	5	1581	559	6.2	51.2	51.2	<2	<2	<2.0	<2.0	4.5	<1	<1
15/1	M	5	1691	563	5.6	46.6	46.6	<2	2.4	<4.4	<4.4	4.9	<1	<1
16/1	F	6	1651	566	13	110.0	110.0	<4	4.1	<8.1	<8.1	5.3	<2	<2
17/1	M	5	1574	570	6.8	80.8	80.8	<2	<2	<2.0	<2.0	2.1	<1	<1
18/1	M	6	1967	581	12	57.0	57.0	<8	<8	<8.0	<8.0	12	<4	<4
19/1	M	5	1895	583	35	185.0	185.0	<8	8.7	<16.7	<16.7	14	<4	<4
20/1	M	6	1872	585	18	89.0	89.0	<8	9.1	<17.1	<17.1	15	<4	<4
21/1	F	6	2866	670	25	135.0	135.0	<8	12	<20.0	<20.0	16	<4	<4
22/1	M	7	3217	690	19	102.0	102.0	<8	15	<23.0	<23.0	13	<4	<4
23/1	F	7	3393	725	35	165.0	165.0	<8	16	<24.0	<24.0	15	<4	<4
24/1	F	7	3921	775	31	151.0	151.0	<8	13	<21.0	<21.0	15	<4	<4
25/1	F	4	772	945	22	122.0	122.0	<8	8.6	<16.6	<16.6	15	<4	<4
Mean		5	1605	560	<16.2	<94.3	<94.3	<<5.9	<8.0	<<13.0	<<13.0	10,8	<<3.0	<<3.0
Minimum		3	329	330	2,3	17,3	17,3	<2.0	<2.0	<2.0	<2.0	1,7	<1.0	<1.0
Maximum		7	3921	945	35,0	185,0	185,0	<8.0	16,0	<24.0	<24.0	20,0	<4.0	<4.0
St.Dev		1	894	126	~10.1	~49.5	~49.5	~2.4	~4.1	~6.7	~6.7	5,2	~1.2	~1.2
Count		25	25	25	24	24	24	24	24	24	24	24	24	24

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99 15B Ullerø, 19981007

sample no.	1	fish no.	4	caught	7.10.98	Gills with Lernaeoc	Not enough material for CB analysis
sample no.	2	fish no.	3	caught	7.10.98	Gills with Lernaeoc	Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	3	fish no.	5	caught	7.10.98	Liver and/or intestinal guts with larvae of Anisakis simplex	
sample no.	4	fish no.	9	caught	14.10.98	Skin and/or oral cavity w Lernaeopodiform copepods	Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	5	fish no.	7	caught	14.10.98	Skin with metacercariae of cf. Cr	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	6	fish no.	17	caught	5.12.98	Skin with metacercariae of cf. Cr	Skin and/or oral cavity with caligiform and/or Lernaeopodif Gills with Lernaeocera copepods
sample no.	7	fish no.	6	caught	7.10.98	Liver and/or intestinal guts with larva	Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae o
sample no.	8	fish no.	22	caught	5.12.98	Gills with Lernaeocera copepods	
sample no.	9	fish no.	24	caught	5.12.98		
sample no.	10	fish no.	20	caught	5.12.98	Skin and/or oral cavity with cal Lernaeopodiform copepods	Gills with Lernaeocera cope Liver and/or intestinal guts with larvae of Anisakis
sample no.	11	fish no.	15	caught	5.12.98	Signs of mechanical damage Skin with metacercariae of c	Skin/oral cavity with caligiform a/orLernaeopodi. Copepods Liver with necrotic are Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	12	fish no.	21	caught	5.12.98	Signs of mechanical damage Skin with metacercariae of c	Gills with Lernaeocera copepods Liver with necrotic areas and/or discolouration Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	13	fish no.	12	caught	14.10.98	Liver and/or intestinal guts with larva	Skin /oral cavity with caligiform and/orLernaeopod. Copepods Gills with Lernaeocera copepods
sample no.	14	fish no.	19	caught	5.12.98	Skin with metacercariae of cf. C	Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	15	fish no.	23	caught	5.12.98	Skin with metacercariae of cf. C	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	16	fish no.	14	caught	5.12.98	Skin with metacercariae of cf. C	Skin/oral cavity with caligiform and/orLernaeopod. Copepods Gills with Lernaeocera copepods Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	17	fish no.	18	caught	5.12.98	Skin and/or oral cavity with cal Lernaeopodiform copepods	Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	18	fish no.	25	caught	5.12.98	Liver and/or intestinal guts with larvae of Anisakis simplex	
sample no.	19	fish no.	16	caught	5.12.98	Skin with metacercariae of cf. C	Skin/oral cavity with caligiform and/orLernaeopod. Copepods Gills with Lernaeocera copepods Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	20	fish no.	13	caught	5.12.98	Gills with Lernaeocera copepods	Skin /oral cavity with caligiform and/orLernaeopod. Copepods Liver and/or intestinal gut: Signs of mechanical damage (e.g., net wounds)
sample no.	21	fish no.	11	caught	14.10.98	Skin and/or oral cavity with ca	Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	22	fish no.	2	caught	7.10.98	Skin and/or oral cavity w Lernaeopodiform copepods	Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	23	fish no.	8	caught	14.10.98	Skin and/or oral cavity ' Lernaeopodiform copepods	Gills with Lernaeocera cope Liver and/or intestinal guts with larvae of Anisakis simple
sample no.	24	fish no.	10	caught	14.10.98	Skin with metacercariae of cf. Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods	Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	25	fish no.	1	caught	7.10.98	Liver and/or intestinal guts with larvae of Anisakis simplex	

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **15B Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **19991021** Count: 25 Sample type: **Individual**

Analytical lab. =>				NIVA																					
Analysis code =>				312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340																					
Detection limit =>				Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3																					
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	2	1628	560	55,0	73,4	64,0	0.019	2.12	<0.03	26.5	5.0	11	42	8.5	30	65	88	5.0	16	<5.0	257	<276	69	
2/1	F	2	1735	570	56,8	61,5	54,1	0.013	0.56	<0.03	16.2	4.7	8.6	41	7.9	31	65	83	3.8	15	1.6	248	262	60	
3/1	M	2	974	470	19,7	51,7	42,0	0.023	0.81	<0.03	17.5	5.2	11	54	12	47	91	120	5.0	25	1.6	353	372	110	
4/1	M	1	399	350	3,4		13,6	0.094	4.69	<0.10	56.5	1.4	2.5	20	8.3	35	67	98	4.1	21	2.0	245	259	70	
5/1	F	3	2850	690	115,2	70,4	62,8	0.056	9.20	<0.03	27.0	8.7	19	72	17	52	91	110	5.2	24	1.8	377	401	190	
6/1	M	2	855	450	50,6	76,1	69,0	0.007	2.76	<0.03	12.2	5.2	11	43	9.6	32	58	71	3.2	12	1.3	232	246	63	
7/1	F	1	432	370	5,4		13,2	0.066	6.06	<0.03	42.8	2.1	4.2	27	7.5	30	63	83	3.5	18	1.2	227	240	76	
8/1	F	1	434	360	5,5		13,2	0.046	7.88	<0.03	50.5	2.0	3.9	24	7.9	34	65	90	3.8	17	1.8	236	249	71	
9/1	M	2	1310	500	48,6	68,7	62,0	0.009	2.99	<0.03	17.7	5.2	6.3	39	8.0	28	56	68	3.0	11	1.6	214	226	64	
10/1	F	2	2722	640	122,5	72,6	55,0	0.017	3.83	<0.03	20.9	6.2	15	58	18	31	71	100	4.8	17	<2.0	298	<323	130	
11/1	F	2	1187	510	27,0	61,6	49,6	0.024	4.14	<0.03	33.7	4.1	12	59	19	38	74	120	5.0	24	1.6	331	357	99	
12/1	F	2	1003	450	24,6	64,4	52,4	0.020	2.90	<0.03	27.1	4.8	7.3	43	18	39	76	120	5.4	25	3.7	315	342	130	
13/1	M	3	2548	600	158,1	75,3	65,3	0.010	2.66	<0.03	13.8	3.0	9.3	45	11	18	50	75	3.8	12	<2.0	212	<229	64	
14/1	M	2	1303	520	31,1	62,4	46,3	0.026	6.66	<0.03	24.5	3.1	6.1	32	11	24	57	92	4.2	17	<2.0	231	<248	65	
15/1	F	1	470	370	8,1	60,9	48,7	0.038	2.56	<0.03	32.8	3.5	7.8	41	17	40	86	150	5.5	25	<2.0	353	<378	110	
16/1	M	1	357	320	3,3		10,7	0.201	7.97	<0.37	74.5	0.9	2.3	17	8.5	21	43	76	3.1	14	1.0	174	187	55	
17/1	M	1	299	320	3,5		20,8	0.131	2.20	<0.03	37.0	<1.0	1.1	5.7	5.1	13	26	50	2.1	9.3	1.3	<106	<115	30	
18/1	F	1	358	350	3,6		20,0	0.065	4.34	<0.04	50.2	2.5	4.8	32	9.3	31	74	100	4.2	17	1.3	261	276	86	
19/1	F	2	1500	540	34,4	65,1	49,0	0.027	6.45	<0.03	35.9	<7.0	15	73	19	58	130	180	7.7	31	<5.0	<494	<521	150	
20/1	F	2	1102	500	35,7	66,5	55,0	0.019	2.03	<0.03	28.1	<5.0	7.9	35	8.8	25	65	85	4.1	14	<3.0	<237	<250	70	
21/1	F	2	873	460	17,7	56,5	35,0	0.052	7.99	<0.03	35.3	<4.0	8.1	38	9.2	29	77	100	4.1	17	<2.0	<273	<286	94	
22/1	F	2	765	450	7,6	37,9	18,0	0.047	9.98	<0.03	58.5	<3.0	4.4	23	8.0	26	58	80	3.4	14	1.5	<208	<221	68	
23/1	F	1	792	440	23,1	69,6	55,0	0.025	3.70	<0.03	27.2	4.6	10	48	9.6	29	82	100	4.8	19	1.9	293	309	94	
24/1	M	1	712	420	16,2	62,8	48,0	0.078	1.84	<0.03	29.5	4.7	10	43	9.7	30	83	98	4.6	17	<2.0	286	<302	99	
25/1	M	3	637	420	14,3	54,5	39,0	0.019	4.81	<0.03	31.1	3.7	5.9	32	9.6	30	75	100	4.3	17	1.7	264	279	87	
Mean		2	1090	465	35,6	63,8	42,5	0,05	4,45	<<0,05	33,1	<4,0	8,2	39,5	11,1	32,0	69,9	97,5	4,3	17,9	<<2,1	<269	<<286	88,2	
Minimum		1	299	320	3,3	37,9	10,7	0,01	0,56	<0,03	12,2	0,9	1,1	5,7	5,1	13,0	26,0	50,0	2,1	9,3	1,0	<106	<115	30,0	
Maximum		3	2850	690	158,1	76,1	69,0	0,20	9,98	<0,37	74,5	8,7	19,0	73,0	19,0	58,0	130,0	180,0	7,7	31,0	<5,0	<494	<521	190,0	
St.Dev		1	735	99	40,5	9,3	18,9	0,04	2,65	~0,07	15,3	~1,9	4,3	16,0	4,2	9,9	19,4	26,7	1,1	5,3	~1,0	~76	~80	34,4	
Count		25	25	25	25	19	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	

Station: Ullerø area Caught 20-21okt. 1999

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99 15B Ullerø, 19991021

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit		=>		3			0.5	2			2	2	2	
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	2	1628	560	21	90.0	90.0	<2.0	6.9	<8.9	<8.9	16	<2.0	<2.0
2/1	F	2	1735	570	21	81.0	81.0	2.3	6.5	8.8	8.8	15	1.2	1.2
3/1	M	2	974	470	28	138.0	138.0	2.0	5.8	7.8	7.8	15	0.9	1.6
4/1	M	1	399	350	8.1	78.1	78.1	<0.3	1.1	<1.4	<1.4	4.1	<0.3	0.9
5/1	F	3	2850	690	59	249.0	249.0	3.1	8.2	11.3	11.3	24	1.7	2.2
6/1	M	2	855	450	22	85.0	85.0	3.1	8.4	11.5	11.5	13	1.3	0.9
7/1	F	1	432	370	12	88.0	88.0	0.7	2.1	2.8	2.8	3.3	<0.3	0.8
8/1	F	1	434	360	12	83.0	83.0	0.6	1.8	2.4	2.4	4.1	<0.3	0.8
9/1	M	2	1310	500	19	83.0	83.0	2.9	9.2	12.1	12.1	15	1.3	1.1
10/1	F	2	2722	640	35	165.0	165.0	2.7	7.9	10.6	10.6	21	1.4	1.8
11/1	F	2	1187	510	20	119.0	119.0	2.3	6.5	8.8	8.8	15	<1.0	1.5
12/1	F	2	1003	450	24	154.0	154.0	2.4	8.9	11.3	11.3	10	0.8	1.9
13/1	M	3	2548	600	18	82.0	82.0	2.8	8.8	11.6	11.6	13	1.4	<1.0
14/1	M	2	1303	520	14	79.0	79.0	2.1	6.4	8.5	8.5	11	<1.0	1.1
15/1	F	1	470	370	16	126.0	126.0	2.0	6.7	8.7	8.7	11	<1.0	3.2
16/1	M	1	357	320	6.7	61.7	61.7	<0.5	1.0	<1.5	<1.5	2.1	<0.5	0.6
17/1	M	1	299	320	2.9	32.9	32.9	<0.5	1.2	<1.7	<1.7	2.2	<0.5	<0.5
18/1	F	1	358	350	12	98.0	98.0	0.75	2.3	3.0	3.0	4.5	<0.5	1.1
19/1	F	2	1500	540	37	187.0	187.0	1.8	5.9	7.7	7.7	16	<1.0	2.1
20/1	F	2	1102	500	20	90.0	90.0	2.1	6.9	9.0	9.0	8.9	<1.0	<1.0
21/1	F	2	873	460	16	110.0	110.0	1.5	4.1	5.6	5.6	11	<1.0	1.8
22/1	F	2	765	450	16	84.0	84.0	<0.5	1.4	<1.9	<1.9	5.4	<0.5	0.90
23/1	F	1	792	440	18	112.0	112.0	2.3	6.7	9.0	9.0	15	1.1	1.4
24/1	M	1	712	420	19	118.0	118.0	2.1	6.5	8.6	8.6	12	<1.0	1.4
25/1	M	3	637	420	15	102.0	102.0	1.7	5.0	6.7	6.7	10	<1.0	1.2
Mean		2	1090	465	19,7	107,8	107,8	<1.8	5,4	<7.2	<7.2	11,1	<<1.0	<1.4
Minimum		1	299	320	2,9	32,9	32,9	<0.3	1,0	<1.4	<1.4	2,1	<0.3	<0.5
Maximum		3	2850	690	59,0	249,0	249,0	3,1	9,2	12,1	12,1	24,0	<2.0	3,2
St.Dev		1	735	99	11,3	44,4	44,4	~0.9	2,7	~3.6	~3.6	5,8	~0.4	~0.6
Count		25	25	25	25	25	25	25	25	25	25	25	25	25

sample no. 1	Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods	sample no. 13	Liver and/or intestinal guts with larvae of Anisakis simplex
	Liver and/or intestinal guts with larvae of Anisakis simplex	sample no. 14	Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods
sample no. 2	Bacterial fin rot	sample no. 15	Bacterial fin rot Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Gills with Lernaecocera copepods
sample no. 3	Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex	sample no. 19	Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal
	Contamin. of Kristiansandwater	sample no. 20	Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods
sample no. 4	Liver and/or intestinal guts with larvae of Anisakis simplex	sample no. 22	Liver and/or intestinal guts with larvae of Anisakis simplex Muscle with si
sample no. 5	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform	sample no. 21	Muscle with signs of inner bleeding
	Lernaepodiform copepods Liver and/or intestinal guts with larvae of Anisakis	sample no. 23	Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods
sample no. 6	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity w	sample no. 24	Liver and/or intestinal guts with larvae of Anisakis simplex
	Lernaepodiform copepods Liver and/or intestinal guts with larvae of Anisakis	sample no. 25	Gills with Lernaecocera copepods Skin and/or oral cavity with caligiform and
sample no. 8	Liver and/or intestinal guts with larvae of Anisakis simplex		Lernaepodiform copepods
sample no. 9	weight of specimen was written in the journal to 131g a 0was forgotten?		Signs of mechanical damage (e.g., net wounds) Bacterial fin rot
sample no. 10	Liver and/or intestinal guts with larvae of Anisakis simplex		Liver and/or intestinal guts with larvae of Anisakis simplex
sample no. 11	Liver a/o intestinal guts with larvae of Anisakis simp. Skin w.metacercar.of		

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **15B Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **20010105** Count: 25 Sample type: **Individual**

Analytical lab. =>				NIVA																	NIVA		NIVA			
Analysis code =>				312																	311		312			
Detection limit =>				Mean																	0.05		0.01		0.04	
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP		
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
				w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	X	1	488	335	5,1	26,6	7,7	0.067	5.74	0.05	37.9	0.63	0.41	1.8	4.4	11	28	58	3.9	22	0.83	122	131	18		
2/1	F	1	478	360	4,6	22,2	4,3	0.051	9.72	<0.07	40.3	0.70	0.25	1.1	2.6	6.7	13	21	1.1	4.2	0.50	47	51	14		
3/1	X	2	843	440	9,0	30,4	12,0	0.078	7.11	0.07	45.2	0.23	0.25	1.1	1.9	6.1	13	20	0.96	4.2	0.43	45	48	11		
4/1	M	2	1352	460	71,1	69,6	65,0	0.007	4.50	<0.04	14.8	<3.0	<3.0	7.0	6.1	18	35	60	3.3	15	<3.0	<138	<147	37		
5/1	M	2	1180	475	21,7	44,6	31,0	0.021	4.77	<0.03	26.7	2.1	1.6	5.4	8.5	25	49	95	5.3	22	2.7	200	217	56		
6/1	F	2	1079	480	16,4	42,5	29,0	0.025	10.4	<0.03	39.6	<1.5	3.5	14	11	30	72	140	8.9	42	4.7	<303	<328	66		
7/1	M	2	1384	480	34,7	60,7	49,0	0.044	2.57	0.05	19.4	2.9	3.7	11	9.4	28	54	92	5.3	24	2.9	216	233	59		
8/1	F	2	1119	480	10,5	24,2	4,4	0.069	11.0	<0.03	39.7	0.55	0.67	3.1	3.0	8.6	20	34	2.0	9.4	1.2	76	83	24		
9/1	F	2	1156	485	15,0	35,6	18,0	0.038	3.68	<0.03	26.6	1.9	5.3	18	8.3	25	54	73	3.7	14	0.96	191	204	67		
10/1	M	2	1278	485	24,4	47,4	33,0	0.029	5.77	<0.03	34.5	1.4	1.9	5.9	7.2	18	39	69	4.7	18	1.5	153	167	25		
11/1	F	2	1215	490	18,8	43,3	27,0	0.039	6.09	<0.03	28.4	4.7	11	44	18	53	130	190	10	37	1.5	470	499	220		
12/1	M	1	1333	500	39,1	69,9	52,0	0.017	6.15	<0.03	22.8	2.5	6.4	13	4.6	12	27	33	2.0	6.1	<1.0	100	<108	38		
13/1	M	2	1451	515	41,0	62,7	48,0	0.053	10.6	<0.03	28.3	3.0	3.2	10	11	34	74	120	6.3	29	3.7	273	294	64		
14/1	X	1	620	385	15,5	55,6	41,0	0.012	3.50	<0.03	23.3	2.1	3.1	9.7	8.3	21	40	56	3.3	13	<2.0	145	<159	35		
15/1	F	1	855	405	32,5	66,4	50,0	0.011	5.81	<0.03	21.1	<3.0	<3.0	6.5	3.7	9.6	25	32	<3.0	6.9	<3.0	<83	<87	26		
16/1	M	2	962	435	11,6	32,3	12,0	0.048	10.3	<0.04	37.8	1.3	0.74	2.8	5.6	18	37	75	3.6	16	2.1	151	162	36		
17/1	F	2	992	440	13,3	46,0	24,0	0.051	8.16	<0.04	35.9	2.8	7.1	21	13	38	79	120	5.5	21	1.5	289	309	100		
18/1	M	2	893	450	17,2	57,3	47,0	0.033	2.04	<0.04	22.1	3.2	6.7	24	19	55	120	170	9.0	34	3.0	413	444	160		
19/1	M	1	1114	450	76,0	81,2	78,0	0.005	0.80	<0.04	8.82	4.7	11	22	7.0	17	34	42	<4.0	6.9	<4.0	138	<149	55		
20/1	F	2	961	460	10,0	20,2	5,4	0.065	6.86	<0.04	38.6	0.93	0.74	3.4	3.9	12	25	47	2.5	13	3.1	102	112	25		
21/1	M	2	1055	460	26,1	50,7	41,0	0.018	2.63	<0.03	20.7	2.5	7.7	21	6.9	19	43	57	3.0	11	<2.0	161	<173	46		
22/1	M	2	1116	485	26,0	60,0	53,0	0.022	4.59	<0.04	21.3	6.7	18	46	16	49	110	140	7.6	23	<3.0	393	<419	140		
23/1	F	2	1257	490	23,9	44,4	32,0	0.026	2.80	<0.04	26.3	<4.0	9.6	20	7.9	23	46	66	<4.0	12	<4.0	<181	<189	54		
24/1	F	1	1390	500	46,9	59,3	52,0	0.008	4.15	<0.04	20.4	5.2	11	30	12	31	66	94	5.4	18	<3.0	255	<276	90		
25/1	M	2	1315	515	7,1	17,9	2,9	0.060	4.63	<0.04	33.5	0.70	<0.60	1.8	2.6	7.3	16	26	1.3	5.6	1.0	<58	<63	13		
Mean		2	1075	458	24,7	46,8	32,7	0.04	5,77	<<0.04	28,6	<2.5	<4.8	13,7	8,1	23,0	50,0	77,2	<4.4	17,1	<<2.3	<188	<<202	59,2		
Minimum		1	478	335	4,6	17,9	2,9	0,01	0,80	<0.03	8,8	0,2	0,3	1,1	1,9	6,1	13,0	20,0	1,0	4,2	0,4	45	48	11,0		
Maximum		2	1451	515	76,0	81,2	78,0	0,08	11,00	0,07	45,2	6,7	18,0	46,0	19,0	55,0	130,0	190,0	10,0	42,0	4,7	470	499	220,0		
St.Dev		0	268	46	18,6	17,5	20,9	0,02	2,90	~0.01	9,3	~1.6	~4.5	12,5	4,7	14,1	32,3	46,8	~2.5	10,3	~1.2	~115	~123	50,2		
Count		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25		

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99 15B Ullerø, 20010105

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code =>				340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>				3			0.5	2			2	2	2	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	1	488	335	2.2	20.2	20.2	0.35	0.74	1.1	1.1	1.3	<0.20	<0.30
2/1	F	1	478	360	1.3	15.3	15.3	<0.30	0.39	<0.7	<0.7	0.74	<0.20	<0.30
3/1	X	2	843	440	1.1	12.1	12.1	0.12	0.24	0.4	0.4	0.66	<0.05	0.15
4/1	M	2	1352	460	4.7	41.7	41.7	3.0	6.9	9.9	9.9	12	<1.5	<3.0
5/1	M	2	1180	475	6.8	62.8	62.8	1.6	3.4	5.0	5.0	9.1	<0.70	<1.5
6/1	F	2	1079	480	10	76.0	76.0	<1.5	3.2	<4.7	<4.7	6.2	<0.70	<1.5
7/1	M	2	1384	480	5.5	64.5	64.5	2.3	5.4	7.7	7.7	12	<1.0	<2.0
8/1	F	2	1119	480	2.9	26.9	26.9	<0.40	<0.40	<0.4	<0.4	0.90	<0.20	<0.40
9/1	F	2	1156	485	15	82.0	82.0	0.62	1.5	2.1	2.1	4.1	<0.3	0.90
10/1	M	2	1278	485	6.6	31.6	31.6	1.6	4.4	6.0	6.0	6.6	<0.70	<1.5
11/1	F	2	1215	490	47	267.0	267.0	1.2	3.3	4.5	4.5	9.3	<0.50	2.3
12/1	M	1	1333	500	9.7	47.7	47.7	1.6	4.7	6.3	6.3	9.6	<1.0	<1.0
13/1	M	2	1451	515	6.7	70.7	70.7	<2.0	4.7	<6.7	<6.7	9.2	<1.0	<2.0
14/1	X	1	620	385	7.8	42.8	42.8	<2.0	3.9	<5.9	<5.9	4.8	<1.0	<2.0
15/1	F	1	855	405	4.7	30.7	30.7	<3.0	5.3	<8.3	<8.3	5.8	<1.5	<3.0
16/1	M	2	962	435	4.9	40.9	40.9	<0.50	1.1	<1.6	<1.6	3.0	<0.30	0.57
17/1	F	2	992	440	18	118.0	118.0	<1.0	2.3	<3.3	<3.3	5.7	<0.50	1.6
18/1	M	2	893	450	23	183.0	183.0	2.1	5.1	7.2	7.2	8.7	<1.0	2.1
19/1	M	1	1114	450	14	69.0	69.0	<4.0	7.1	<11.1	<11.1	16	<2.0	<4.0
20/1	F	2	961	460	4.5	29.5	29.5	<0.30	0.45	<0.8	<0.8	1.8	<0.20	<0.30
21/1	M	2	1055	460	13	59.0	59.0	<2.0	3.0	<5.0	<5.0	11	<1.0	<2.0
22/1	M	2	1116	485	32	172.0	172.0	<3.0	4.6	<7.6	<7.6	18	<1.5	<3.0
23/1	F	2	1257	490	17	71.0	71.0	<4.0	<4.0	<4.0	<4.0	5.7	<2.0	<4.0
24/1	F	1	1390	500	23	113.0	113.0	<3.0	5.6	<8.6	<8.6	12	<1.5	<3.0
25/1	M	2	1315	515	1.6	14.6	14.6	<0.60	<0.60	<0.6	<0.6	0.93	<0.30	<0.60
Mean		2	1075	458	11,3	70,5	70,5	<<1.7	<3.3	<<4.8	<<4.8	7,0	<<0.8	<<1.7
Minimum		1	478	335	1,1	12,1	12,1	0,1	0,2	<0.4	<0.4	0,7	<0.1	0,1
Maximum		2	1451	515	47,0	267,0	267,0	<4.0	7,1	<11.1	<11.1	18,0	<2.0	<4.0
St.Dev		0	268	46	10,8	60,5	60,5	~1.2	~2.1	~3.2	~3.2	4,9	~0.6	~1.2
Count		25	25	25	25	25	25	25	25	25	25	25	25	25

Comments: Station: Ullerø area Sample date des.2000 or early jan 2001

sample no. 1 1 sex code m ?
sample no. 3 3 sex code m?
sample no. 14 14 sex code m? Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 20 20 missed a bit of the liver
sample no. 21 21 missed a bit of liver
sample no.24 24 Skin with metacercariae of cf. Cryptocotyle lingua
sample no.25 25 missed a bit of liver

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **15B Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **20011016** Count: 25 Sample type: **Individual**

Analytical lab. =>				NIVA																					
Analysis code =>				312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340 340																					
Detection limit =>				Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3																					
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	3	1698	569	41,2	53,4	42,0	0.011	6.14	<0.03	25.6	3.5	5.7	20	23	55	86	160	10	65	3.6	395	432	70	
2/1	F	3	1846	590	37,4	35,5	24,0	0.027	20.3	<0.03	39.5	2.5	4.1	15	15	35	62	130	7.5	37	2.1	286	310	56	
3/1	M	3	1065	489	25,4	57,0	47,0	0.020	10.9	<0.03	31.8	4.1	7.0	25	19	46	86	150	8.0	37	2.6	355	385	63	
4/1	F	2	801	442	18,1	46,5	31,0	0.048	11.7	<0.03	30.5	7.2	9.8	27	28	64	84	150	9.4	38	1.3	380	419	110	
5/1	F	3	1193	494	41,1	63,4	56,0	0.022	11.8	<0.03	28.3	2.5	7.0	25	16	36	80	120	9.1	51	3.4	322	350	43	
6/1	M	3	1466	560	48,4	54,7	42,0	0.017	4.84	<0.03	29.3	2.2	3.6	13	15	32	60	110	7.1	34	<1.8	255	<279	44	
7/1	M	3	1174	500	28,9	48,7	34,0	0.036	9.30	<0.03	31.6	7.1	6.8	22	23	57	110	210	12	54	2.2	467	504	67	
8/1	M	3	1333	523	29,7	46,5	33,0	0.027	14.8	<0.03	36.0	1.6	2.2	10	11	26	50	110	6.7	34	2.3	234	254	43	
9/1	F	2	1391	537	33,8	60,0	44,0	0.017	15.1	<0.03	37.1	2.7	6.4	18	15	36	59	120	7.9	40	2.2	282	307	52	
10/1	F	2	1021	475	11,4	37,8	20,0	0.031	5.29	<0.03	41.1	4.0	14	35	40	88	120	250	18	82	2.5	593	654	60	
11/1	F	2	1071	480	21,3	53,8	41,0	0.031	5.73	<0.03	28.4	4.5	13	37	31	69	120	220	15	63	2.2	527	575	66	
12/1	M	3	1880	590	38,7	54,7	41,0	0.026	17.4	<0.03	50.0	3.1	6.1	23	22	54	100	220	13	64	3.1	470	508	79	
13/1	M	2	1208	521	27,8	53,4	39,0	0.028	5.80	<0.03	32.1	31	27	50	120	240	230	360	31	94	1.4	1032	1184	110	
14/1	F	2	1035	481	21,6	60,2	48,0	0.019	5.78	<0.03	34.6	8.7	26	56	80	120	150	320	33	130	20	811	944	83	
15/1	M	2	844	440	15,2	48,0	33,0	0.045	6.22	<0.03	31.9	9.8	22	69	68	140	250	370	29	120	1.8	981	1080	120	
16/1	M	2	723	434	11,8	44,7	29,0	0.039	8.38	<0.03	36.2	2.3	3.1	14	26	52	82	130	9.9	39	4.1	322	362	72	
17/1	M	2	784	422	25,2	63,3	50,0	0.012	4.85	<0.03	20.8	2.1	6.9	17	15	30	57	97	8.3	38	1.8	248	273	33	
18/1	M	2	781	447	14,8	40,3	27,0	0.027	11.6	<0.03	37.1	2.0	5.3	24	18	40	80	120	11	53	3.0	324	356	50	
19/1	M	2	817	445	20,8	59,6	43,0	0.014	6.25	<0.03	28.0	7.9	18	49	57	100	130	180	16	55	1.8	540	615	72	
20/1	M	2	960	459	40,0	72,5	67,0	0.009	6.75	<0.03	24.1	2.3	7.2	16	20	36	59	110	8.2	40	6.4	271	305	33	
21/1	M	3	1562	558	52,6	60,6	49,0	0.021	17.5	<0.03	40.5	2.8	4.9	14	13	28	53	110	7.0	34	1.3	247	268	44	
22/1	M	2	1183	496	15,8	36,4	20,0	0.036	21.2	<0.03	55.1	3.1	7.5	21	18	41	69	170	9.8	65	5.4	377	410	47	
23/1	M	3	1129	500	40,4	62,7	52,0	0.023	6.19	<0.03	28.1	6.3	13	27	33	59	85	170	13	67	6.0	427	479	54	
24/1	M	2	810	456	18,9	38,5	20,0	0.029	17.8	<0.03	48.1	15	25	49	86	140	190	330	26	120	11	869	992	80	
25/1	M	3	1450	539	55,4	66,4	54,0	0.014	6.09	<0.03	30.4	1.9	7.6	16	14	27	50	110	9.9	54	4.5	267	295	38	
Mean		2	1169	498	29,4	52,7	39,4	0,03	10,31	<<0.03	34,2	5,6	10,4	27,7	33,0	66,0	100,1	181,1	13,4	60,3	<3.9	451	<502	63,6	
Minimum		2	723	422	11,4	35,5	20,0	0,01	4,84	<0.03	20,8	1,6	2,2	10,0	11,0	26,0	50,0	97,0	6,7	34,0	1,3	234	254	33,0	
Maximum		3	1880	590	55,4	72,5	67,0	0,05	21,20	<0.03	55,1	31,0	27,0	69,0	120,0	240,0	250,0	370,0	33,0	130,0	20,0	1032	1184	120,0	
St.Dev		1	338	50	12,8	10,2	12,3	0,01	5,30	~0.00	8,1	6,2	7,5	15,5	27,7	49,5	54,1	84,0	7,9	28,4	~4.0	235	~270	23,7	
Count		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

Comment: Station: Ullerø area Fished between 13.-16.oct.2001

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99 15B Ullerø, 20011016

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit		=>		3			0.5	2			2	2	2	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	3	1698	569	6.7	76.7	76.7	1.5	2.6	4.1	4.1	6.0	1.0	1.2
2/1	F	3	1846	590	6.7	62.7	62.7	0.85	1.4	2.3	2.3	4.7	0.46	0.80
3/1	M	3	1065	489	13	76.0	76.0	1.7	2.9	4.6	4.6	8.0	1.1	1.1
4/1	F	2	801	442	8.3	118.3	118.3	1.3	2.1	3.4	3.4	4.6	0.75	1.1
5/1	F	3	1193	494	6.7	49.7	49.7	2.1	3.9	6.0	6.0	6.6	1.3	<0.70
6/1	M	3	1466	560	6.2	50.2	50.2	1.6	2.8	4.4	4.4	6.1	1.1	<0.9
7/1	M	3	1174	500	6.9	73.9	73.9	1.3	2.3	3.6	3.6	5.2	0.77	1.1
8/1	M	3	1333	523	6.0	49.0	49.0	1.2	2.2	3.4	3.4	5.5	0.68	0.75
9/1	F	2	1391	537	8.9	60.9	60.9	1.9	3.4	5.3	5.3	8.6	1.0	1.1
10/1	F	2	1021	475	11	71.0	71.0	0.82	1.4	2.2	2.2	4.6	0.48	1.8
11/1	F	2	1071	480	13	79.0	79.0	1.6	2.7	4.3	4.3	6.9	0.84	1.5
12/1	M	3	1880	590	9.4	88.4	88.4	1.5	2.6	4.1	4.1	8.8	0.81	1.3
13/1	M	2	1208	521	11	121.0	121.0	1.8	3.3	5.1	5.1	6.2	0.90	2.1
14/1	F	2	1035	481	12	95.0	95.0	2.3	4.2	6.5	6.5	8.7	1.2	4.2
15/1	M	2	844	440	63	183.0	183.0	1.5	2.7	4.2	4.2	6.9	0.92	2.3
16/1	M	2	723	434	7.4	79.4	79.4	1.4	2.6	4.0	4.0	6.0	0.71	0.98
17/1	M	2	784	422	5.4	38.4	38.4	2.0	3.8	5.8	5.8	6.8	1.3	0.92
18/1	M	2	781	447	13	63.0	63.0	1.1	2.0	3.1	3.1	5.4	0.60	0.82
19/1	M	2	817	445	13	85.0	85.0	1.9	3.3	5.2	5.2	7.3	1.1	2.9
20/1	M	2	960	459	14	47.0	47.0	2.4	4.5	6.9	6.9	7.9	1.3	1.0
21/1	M	3	1562	558	5.1	49.1	49.1	2.0	3.5	5.5	5.5	7.9	0.96	0.83
22/1	M	2	1183	496	11	58.0	58.0	0.68	1.3	2.0	2.0	4.1	0.41	1.1
23/1	M	3	1129	500	10	64.0	64.0	2.2	3.8	6.0	6.0	7.3	1.6	1.7
24/1	M	2	810	456	19	99.0	99.0	0.91	1.5	2.4	2.4	4.9	0.45	4.0
25/1	M	3	1450	539	6.3	44.3	44.3	2.2	4.0	6.2	6.2	8.2	1.4	1.4
Mean		2	1169	498	11,7	75,3	75,3	1,6	2,8	4,4	4,4	6,5	0,9	<1.5
Minimum		2	723	422	5,1	38,4	38,4	0,7	1,3	2,0	2,0	4,1	0,4	<0.7
Maximum		3	1880	590	63,0	183,0	183,0	2,4	4,5	6,9	6,9	8,8	1,6	4,2
St.Dev		1	338	50	11,2	31,3	31,3	0,5	0,9	1,4	1,4	1,4	0,3	~0.9
Count		25	25	25	25	25	25	25	25	25	25	25	25	25

sample no. 1 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestine: sample no. 13 liver colour is white
of Aniakis simplex. Liver colour is white sample no. 14 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lerna: liver colour is white
sample no. 2 Skin with metacercariae of cf. Cryptocotyle lingua Liver colour is white sample no. 15 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
sample no. 3 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white sample no. 16 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
sample no. 4 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white sample no. 17 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
sample no. 5 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white sample no. 18 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
sample no. 6 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white sample no. 19 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
sample no. 7 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white sample no. 20 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lerna: copepods
sample no. 8 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lerna: copepods
sample no. 9 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white sample no. 21 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
sample no. 10 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white sample no. 22 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lerna: liver colour is white
sample no. 11 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white sample no. 23 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lerna: liver colour is white
sample no. 12 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white sample no. 24 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
sample no. 13 liver colour is white sample no. 25 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sør fjorden** Tissue: LIVER
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19981024** Count: 15 Sample type: **Individual**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	340			
Detection limit		=>		Mean		0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
						w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	482	360	8,6	54,0	39,2	0.226	11.7	0.15	31.9	3	656	4690	3146	1195	8923	7195	1025	1300	<1	23962	<28134	98
2/1	F	4	437	370	7,4	54,0	38,3	0.282	10.7	0.15	31.2	2	304	1819	2279	813	5776	6030	999	997	<1	15741	<19020	193
3/1	M	4	555	390	12,0	42,5	27,7	0.323	7.00	0.25	35.0	2	16	138	107	86	368	493	44	122	<1	1225	<1377	430
4/1	M	4	580	410	5,7	29,2	10,6	0.489	16.1	0.79	41.2	1	<1	36	60	40	294	460	46	192	2	<1024	<1132	593
5/1	M	5	649	410	15,1	57,4	47,8	0.221	11.1	0.03	26.3	4	870	4443	2511	919	5933	5807	990	957	<1	18933	<22435	294
6/1	F	5	855	450	22,0	61,6	62,5	0.127	13.9	0.04	30.5	14	303	3993	2644	1039	5778	5880	909	1048	<1	18055	<21609	1179
7/1	M	4	927	460	12,0	49,2	59,6	0.231	13.4	0.03	40.3	6	49	466	286	219	1076	1568	117	390	3	3774	4180	3278
8/1	F	5	1215	500	41,3	66,7	59,5	0.098	16.2	0.04	27.0	4	7	185	82	120	332	439	26	72	<1	1159	<1268	1696
9/1	M	5	1172	510	25,1	60,3	18,5	0.161	17.1	0.12	30.2	2	301	1558	993	391	2776	2628	404	417	<1	8073	<9471	83
10/1	M	6	1100	520	16,3	36,8	52,4	0.602	20.5	0.09	39.0	5	270	4797	3346	1191	7553	5884	1095	969	<1	20669	<25111	55
11/1	F	6	1328	520	29,2	51,2	37,0	0.275	46.3	0.12	36.3	3	407	2979	1916	746	4862	4482	770	737	<1	14216	<16903	27
12/1	F	5	1436	540	40,8	64,1	55,5	0.113	18.8	0.06	32.7	3	34	225	98	130	413	569	40	110	<1	1484	<1623	1483
13/1	F	6	1954	550	61,6	62,3	53,6	0.157	17.0	0.07	32.6	4	279	3798	2626	902	5570	4797	890	795	<1	16145	<19662	43
14/1	F	6	1115	590	42,8	66,0	46,2	0.121	12.6	0.20	24.5	9	214	1998	1133	460	2937	2834	410	506	<1	8958	<10502	690
15/1	M	6	1182	590	41,7	73,3	61,4	0.116	15.1	0.12	24.7	4	922	4108	2645	872	5736	4605	883	748	<1	16995	<20524	37
Mean		5	999	478	25,4	55,2	44,7	0,24	16,50	0,15	32,2	4,4	<308.9	2349	1591	608,2	3888	3578	576,5	624,0	<<1.2	<11361	<<13530	678,6
Minimum		4	437	360	5,7	29,2	10,6	0,10	7,00	0,03	24,5	1,0	<1.0	36,0	60,0	40,0	294,0	439,0	26,0	72,0	<1.0	<1024	<1132	27,0
Maximum		6	1954	590	61,6	73,3	62,5	0,60	46,30	0,79	41,2	14,0	922,0	4797	3346	1195	8923	7195	1095	1300	3,0	23962	<28134	3278
St.Dev		1	418	77	16,8	12,0	16,0	0,15	8,94	0,19	5,4	3,3	~298.5	1855	1240	419,7	2895	2415	429,6	394,8	~0.6	~8084	~9734	904,9
Count		15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15	15

miss(9) ! Missing value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J63, 53B Inner Sørfjord 19981024

Analytical lab.		=>	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>	340	340	Calc	Calc	340	340	Calc	Calc	340	340	340		
Detection limit		=>	2	3			0.5	2			2	2	2		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	482	360		miss	98.0	98.0	9	4	13.0	13.0	3	1	<1
2/1	F	4	437	370		45	238.0	238.0	9	9	18.0	18.0	4	<1	<1
3/1	M	4	555	390		111	541.0	541.0	3	9	12.0	12.0	5	<1	<1
4/1	M	4	580	410		122	715.0	715.0	1	3	4.0	4.0	3	<1	<1
5/1	M	5	649	410		47	341.0	341.0	15	10	25.0	25.0	6	2	<1
6/1	F	5	855	450		158	1337	1337	18	16	34.0	34.0	13	6	<1
7/1	M	4	927	460		699	3977	3977	7	20	27.0	27.0	15	<1	<1
8/1	F	5	1215	500		235	1931	1931	7	24	31.0	31.0	9	<1	<1
9/1	M	5	1172	510		miss	83.0	83.0	5	1	6.0	6.0	1	<1	<1
10/1	M	6	1100	520		miss	55.0	55.0	14	3	17.0	17.0	3	1	<1
11/1	F	6	1328	520		miss	miss	27.0	9	2	11.0	11.0	1	<1	<1
12/1	F	5	1436	540		669	227	2379	6	17	23.0	23.0	10	4	<1
13/1	F	6	1954	550		miss	miss	43.0	12	5	17.0	17.0	2	1	<1
14/1	F	6	1115	590		359	122	1171	15	10	25.0	25.0	8	6	<1
15/1	M	6	1182	590		miss	miss	37.0	22	4	26.0	26.0	3	2	<1
Mean		5	999	478		514,0	196,2	864,9	10,1	9,1	19,3	19,3	5,7	<<2.0	<<1.0
Minimum		4	437	360		359,0	45,0	27,0	1,0	1,0	4,0	4,0	1,0	<1.0	<1.0
Maximum		6	1954	590		669,0	699,0	3977	22,0	24,0	34,0	34,0	15,0	6,0	<1.0
St.Dev		1	418	77		219,2	200,0	1138	5,8	7,1	8,9	8,9	4,4	~1.8	~0.0
Count		15	15	15		2	9	15	15	15	15	15	15	15	15

miss(9) ! Missing value

sample no. 1 fish no.27 Signs of mechanical damage (e.g., r Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 2 fish no. 28 Signs of mechanical damage (e.g., net wounds)
sample no. 3 fish no. 18 Skin with metacercariae of cf. Cry Skin with ulceration, lymphocytic areas and/or lesions Muscle with signs of inner bleeding
sample no. 4 fish no. 25 Signs of mechanical damage (e.g., Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
sample no. 5 fish no. 29 Signs of mechanical damage (e.g., Skin with ulceration, lymphocytic areas and/or lesions
sample no. 6 fish no. 23 Signs of mechanical damage (e.g., Liver and/or intestinal guts with larvae of Anisakis simplex
sample no. 7 fish no. 17 Signs of mechanical damage (e.g., net wounds)
sample no. 8 fish no. 26 Signs of mechanical damage (e.g., Liver and/or intestinal guts with larvae of Anisakis simplex
sample no. 9 fish no. 24 Signs of mechanical damage (e.g., Liver and/or intestinal guts with larvae of Anisakis simplex
sample no. 1 fish no. 20 Signs of mechanical damage (e.g., Bacterial fin rot Skin with metacercariae of cf. Cry Muscle with signs of inner bleeding
sample no. 1 fish no. 30 Skin with metacercariae of cf. Cry Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot
sample no. 1 fish no.22 Bacterial fi Signs of mechanical damage (e.g., net wounds) Skin with ulceration, lymphocytic ar Liver with signs of bleeding
sample no. 1 fish no. 16 Skin with ulceration, lymphocytic areas a: Bacterial fin rot Skin with metacercariae of cf. Cryptocotyle lingua
sample no. 1 fish no. 19 Signs of mechanical damage (e.g., net wounds)
sample no. 1 fish no. 21 Signs of mechanical damage (e.g., Liver with signs of bleeding Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sør fjorden** Tissue: LIVER
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19981025** Count: 15 Sample type: **Individual**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit		=>		Mean		0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3	4		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
no.								w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	313	310	2,3			0.178	28.7	0.09	42.8													
2/1	F	4	427	350	7,7	57,1	43,5	0.206	15.0	0.05	28.8	<10	<10	32	27	73	140	200	13	36	<10	<491	<531	470
3/1	M	4	406	360	3,0			0.190	8.66	0.10	46.9													
4/1	M	4	442	360	6,8	50,4	32,3	0.091	11.1	0.08	32.2	<10	14	63	21	69	91	130	<10	19	<10	<396	<417	950
5/1	F	4	459	360	7,6	48,0	30,5	0.093	6.00	0.05	22.7	<10	<10	24	24	72	140	210	14	47	<10	<503	<541	590
6/1	M	4	476	370	5,1	36,5	17,4	0.451	11.8	<0.05	40.9	<10	<10	32	17	54	120	180	10	28	<10	<424	<451	370
7/1	M	4	821	420	12,4	36,2	20,2	0.264	14.2	0.11	30.2	<10	<10	39	19	61	100	151	<10	26	<10	<387	<406	510
8/1	M	5	1206	510	32,2	67,2	59,6	0.124	14.9	0.04	27.6	<10	220	1700	1070	2300	2800	2700	400	430	<10	<10160	<11630	590
9/1	M	5	1300	510	17,4	36,6	19,5	0.878	14.6	0.20	47.7	<10	79	670	520	3900	5800	6200	260	270	<10	<16929	<17709	80
10/1	F	6	1414	520	41,4	57,9	44,5	0.302	16.9	0.14	29.8	<10	1200	6900	4500	2400	10300	9100	1500	1300	<10	<31210	<37210	130
11/1	F	5	1395	530	31,7	66,7	58,0	0.244	23.2	0.13	30.1	<10	20	100	42	120	210	280	17	53	<10	<793	<852	1010
12/1	F	7	2460	600	86,4	63,3	52,1	0.358	47.9	<0.04	32.7	<10	<10	40	27	67	150	240	12	40	<10	<547	<586	950
13/1	M	7	2528	620	77,0	60,0	48,7	0.352	27.2	0.14	39.6	<10	11	91	43	150	310	550	26	130	<10	<1252	<1321	850
14/1	F	6	2337	630	29,4	33,3	17,3	0.463	23.5	0.22	44.9	<10	<10	90	44	160	320	570	26	310	<10	<1460	<1530	680
15/1	M	9	2199	650	19,8	23,1	4,4	0.718	33.5	0.11	62.4	<10	<10	81	56	180	400	620	40	120	<10	<1411	<1507	290
Mean		5	1212	473	25,3	49,0	34,5	0,33	19,81	<0.10	37,3	<<10.0	<<124.2	758,6	493,1	738,9	1606	1625	<179.8	216,1	<<10.0	<<5074	<<5745	574,6
Minimum		4	313	310	2,3	23,2	4,4	0,09	6,00	<0.04	22,7	<10.0	<10.0	24,0	17,0	54,0	91,0	130,0	<10.0	19,0	<10.0	<387	<406	80,0
Maximum		9	2528	650	86,4	67,2	59,6	0,88	47,90	0,22	62,4	<10.0	1200	6900	4500	3900	10300	9100	1500	1300	<10.0	<31210	<37210	1010
St.Dev		2	825	118	26,0	14,5	17,8	0,23	11,03	~0.06	10,4	~0.0	~328.6	1904	1242	1268	3089	2821	~414.4	350,9	~0.0	~9295	~10851	308,1
Count		15	15	15	15	13	13	15	15	15	15	13	13	13	13	13	13	13	13	13	13	13	13	13

Comment: Station: Inner Sør fjord Edna
 Correct sampling date 981024. Changed due to IT problem; collision with same date at another "53B" site (ng-991202).

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J63, 53B Inner Sørfjord 19981025

Analytical lab.		=>	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>	340	340	Calc	Calc	340	340	Calc	Calc	340	340	340		
Detection limit		=>	2	3			0.5	2			2	2	2		
Samp/ repl.	Sex	Age	Wght	Lngt	DDTPP	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	313	310											
2/1	F	4	427	350		60	530.0	530.0	<10	<10	<10.0	<10.0	<5	<5	<5
3/1	M	4	406	360											
4/1	M	4	442	360		150	1100	1100	<10	<10	<10.0	<10.0	<5	<5	<5
5/1	F	4	459	360		90	680.0	680.0	<10	<10	<10.0	<10.0	<5	<5	<5
6/1	M	4	476	370		75	445.0	445.0	<10	<10	<10.0	<10.0	<5	<5	<5
7/1	M	4	821	420		80	590.0	590.0	<10	<10	<10.0	<10.0	<5	<5	<5
8/1	M	5	1206	510		88	678.0	678.0	<10	<10	<10.0	<10.0	5	<5	<5
9/1	M	5	1300	510		11	91.0	91.0	<10	<10	<10.0	<10.0	<5	<5	<5
10/1	F	6	1414	520		91	221.0	221.0	11	<10	<21.0	<21.0	<10	<10	<5
11/1	F	5	1395	530	410	140	1560	1560	<10	<10	<10.0	<10.0	6	<5	<5
12/1	F	7	2460	600	220	130	1300	1300	<10	<10	<10.0	<10.0	<5	<5	<5
13/1	M	7	2528	620	270	87	1207	1207	<10	<10	<10.0	<10.0	<5	<5	<5
14/1	F	6	2337	630	<100	110	<890.0	<890.0	<10	<10	<10.0	<10.0	<5	<5	<5
15/1	M	9	2199	650	<100	21	<411.0	<411.0	<10	<10	<10.0	<10.0	<5	<5	<5
Mean		5	1212	473	<<220.0	87,2	<746.4	<746.4	<<10.1	<<10.0	<<10.8	<<10.8	<<5.5	<<5.4	<<5.0
Minimum		4	313	310	<100.0	11,0	91,0	91,0	<10.0	<10.0	<10.0	<10.0	<5.0	<5.0	<5.0
Maximum		9	2528	650	410.0	150,0	1560	1560	11,0	<10.0	<21.0	<21.0	<10.0	<10.0	<5.0
St.Dev		2	825	118	~129.8	41,1	~439.3	~439.3	~0.3	~0.0	~3.1	~3.1	~1.4	~1.4	~0.0
Count		15	15	15	5	13	13	13	13	13	13	13	13	13	13

sample no.

- 1 fish no.15 Signs of mechanical damage (e.g., n Liver and/or intestinal guts with larvae of Anisakis simplex Liver with signs of bleeding
- 2 fish no.13 Signs of mechanical damage (e.g., n Skin with metacercariae of cf. Cryptocotyle lingua
- 3 fish no.14 Signs of mechanical damage (e.g., n Skin with metacercariae of cf. Cryptocotyle lingua
- 4 fish no.4 Signs of mechanical damage (e.g., ne Skin with ulceration, lymphocytic areas and/or lesions
- 5 fish no.3
- 6 fish no.12 Signs of mechanical damage (e.g., n Skin with metacercariae of cf. Cryptocotyle lingua
- 7 fish no.9 Signs of mechanical damage (e.g., net wounds)
- 8 fish no.7 Skin with ulceration, lymphocytic areas and. Signs of mechanical damage (e.g., net wounds)
- 9 fish no.8 Skin with ulceration, lymphocytic areas and. Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
- 10 fish no.2 Skin with ulceration, lymphocytic areas and. Signs of mechanical damage (e.g., net wounds)
- 11 fish no.5 Signs of mechanical damage (e.g., net wound: Skin with metacercariae of cf. Cryptocotyle lingua
- 12 fish no.1 Signs of mechanical damage (e.g., ne Skin with metacercariae of cf. Cryptocotyle lingua
- 13 fish no. 6 Skin with metacercariae of cf. Cryp Signs of mechanical damage (e.g., net wounds)
- 14 fish no. 10 Skin with ulceration, lymphocytic areas at Bacterial fin rot Liver with signs of bleeding
- 15 fish no. 11 Skin with ulceration, lymphocytic areas at Signs of mechanical damage (e.g., net wounds)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sør fjorden** Tissue: LIVER
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19991002** Count: 25 Sample type: **Individual**

Analytical lab. =>		NIVA																						
Analysis code =>		312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 Calc Calc 340																						
Detection limit =>		Mean																						
Samp/ repl.	Sex	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CD ppm w.wt	CU ppm w.wt	PB ppm w.wt	ZN ppm w.wt	CB28 ppb w.wt	CB52 ppb w.wt	CB101 ppb w.wt	CB105 ppb w.wt	CB118 ppb w.wt	CB138 ppb w.wt	CB153 ppb w.wt	CB156 ppb w.wt	CB180 ppb w.wt	CB209 ppb w.wt	CB Σ7 ppb w.wt	CB ΣΣ ppb w.wt	DDEPP ppb w.wt
1/1	F	5	1408	520	43,7	62,2	49,1	0.379	13.8	<0.03	30.1	7.6	48	680	94	380	s3300	s4800	270	s1400	<2	s10616	s<10982	390
2/1	F	5	943	480	9,2	30,8	12,1	1.05	46.9	0.21	54.2	3.5	5.3	50	59	150	s410	s660	40	210	2.7	s1489	s1591	s760
3/1	F	5	1155	520	22,6	49,6	36,0	0.835	21.0	0.12	43.2	52	120	440	300	780	s1100	s1400	130	310	1.2	s4202	s4633	s990
4/1	M	4	465	380	5,0	24,1	2,2	miss	miss	miss	miss	0.40	0.59	4.7	3.2	7.8	25	40	2.7	10	<0.2	88	<95	27
5/1	F	4	405	390	8,3	55,4	43,2	1.18	8.1	0.11	27.3	2.8	7.2	24	12	31	74	110	6.8	23	<2	272	<293	190
6/1	M	5	744	460	6,2	30,2	5,3	miss	miss	miss	miss	1.2	3.4	25	17	50	99	150	11	49	1.3	378	407	s780
7/1	F	5	1145	500	25,4	64,2	49,0	0.316	14.2	0.15	27.8	3.7	13	67	33	83	180	230	19	74	1.6	651	704	s1100
8/1	F	3	299	330	3,7	28,0	42,1	miss	miss	miss	miss	2.1	15	67	27	75	130	190	15	37	0.36	516	558	58
9/1	M	4	415	350	12,2	54,9	42,1	0.418	2.4	0.17	20.3	1.5	5.1	19	7.2	19	43	71	3.9	15	<1	174	<186	110
10/1	M	5	615	420	5,3	25,5	6,5	miss	miss	miss	miss	1.5	3.6	24	19	54	110	170	12	46	0.78	409	441	s650
11/1	M	4	468	370	9,6	58,7	43,8	1.08	5.3	0.12	24.3	4.6	10	32	19	46	140	230	15	74	<2	537	<573	170
12/1	M	5	1044	480	26,7	65,5	55,8	0.269	17.1	<0.03	35.4	6.9	22	95	42	110	170	220	15	52	<2	676	<735	s1100
13/1	M	4	462	370	12,9	66,7	52,3	0.631	10.9	0.04	21.2	6.4	26	33	19	39	57	91	5.8	25	<2	277	<304	150
14/1	M	4	378	350	4,6	42,9	26,1	miss	miss	miss	miss	3.7	12	54	22	64	180	290	18	100	1.4	704	745	400
15/1	M	4	739	460	4,8	25,4	3,3	miss	miss	miss	miss	0.32	0.95	10	9.2	27	60	83	7.1	33	0.97	214	232	s660
16/1	F	5	682	430	7,3	37,0	16,6	miss	miss	miss	miss	3.6	45	430	290	s770	s1500	s1400	150	250	2.6	s4399	s4841	s1600
17/1	M	4	411	370	4,0	30,4	7,0	miss	miss	miss	miss	0.76	2.6	25	12	40	120	190	15	81	0.61	459	487	s300
18/1	M	4	342	340	4,3	29,6	10,1	miss	miss	miss	miss	1.5	8.3	33	13	34	85	120	7.9	33	<0.6	315	<336	100
19/1	M	4	415	350	6,1	41,7	27,5	0.878	7.3	0.05	34.1	28	47	210	160	390	540	730	65	160	<1	2105	<2331	350
20/1	M	4	432	360	10,6	50,0	33,8	1.03	8.4	0.06	28.6	2.9	7.6	54	15	48	200	300	20	83	<1	696	<732	220
21/1	M	4	461	350	16,5	64,6	50,2	0.516	4.6	0.14	21.1	<2	3.2	12	6.7	18	43	70	4.2	18	<2	<166	<177	120
22/1	M	4	636	400	5,4	35,2	17,1	miss	miss	miss	miss	1.4	4.1	47	42	110	260	390	30	140	<1	953	<1026	s1000
23/1	M	4	437	380	5,6	39,1	41,9	miss	miss	miss	miss	14	52	320	120	350	1100	1500	110	550	3.7	3886	4120	s4200
24/1	M	5	709	430	5,4	25,5	5,7	miss	miss	miss	miss	4.4	5.6	57	110	s280	s380	s450	46	s150	2.2	s1327	s1485	s590
25/1	F	5	617	410	8,3	40,7	20,8	miss	miss	miss	miss	3.2	10	64	27	81	280	530	31	210	1.4	1178	1238	s430
Mean		4	633	408	10,9	43,1	28,0	0,72	13,33	<0.10	30,6	<6.4	19,1	115,1	59,1	129,9	194,8	285,3	42,0	112,3	<<1.5	<733	<<786	190,4
Minimum		3	299	330	3,7	24,1	2,2	0,27	2,40	<0.03	20,3	0,3	0,6	4,7	3,2	7,8	25,0	40,0	2,7	10,0	<0.2	88	<95	27,0
Maximum		5	1408	520	43,7	66,7	55,8	1,18	46,90	0,21	54,2	52,0	120,0	680,0	300,0	780,0	1100	1500	270,0	550,0	3,7	3886	4120	400,0
St.Dev		1	295	59	9,5	14,8	18,2	0,33	11,89	-0.06	10,0	~11.1	26,4	170,6	81,6	181,7	242,7	332,0	62,1	126,4	~0.8	~870	~930	126,5
Count		25	25	25	25	25	25	12	12	12	12	25	25	25	25	23	20	20	25	23	25	20	20	12

miss(52) ! Missing value s/q(65) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J63, 53B Inner Sørfjord 19991002

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>				340	340	Calc	Calc	340	340	Calc	Calc	340	340	340		
Detection limit =>				2	3			0.5	2			2	2	2		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	DDTPP ppb	TDEPP ppb	DD Σ4 w.wt	DD Σ5 w.wt	HCHA ppb	HCHG ppb	HC Σ2 w.wt	HC Σ3 w.wt	HCB ppb	QCB ppb	OCS ppb	
no.					w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	
1/1	F	5	1408	520	180	48	618.0	618.0	3.2	6.6	9.8	9.8	8.0	2.2	<1	
2/1	F	5	943	480	130	120	s1010	s1010	0.75	1.7	2.5	2.5	2.8	0.56	0.55	
3/1	F	5	1155	520	220	100	s1310	s1310	2.5	4.8	7.3	7.3	7.3	1.7	3.9	
4/1	M	4	465	380		7.8	34.8	34.8	<0.2	0.21	<0.4	<0.4	0.29	<0.1	<0.1	
5/1	F	4	405	390		53	243.0	243.0	2.8	6.0	8.8	8.8	5.1	2.3	<1	
6/1	M	5	744	460		s290	s1070	s1070	0.27	0.59	0.9	0.9	2.0	0.16	0.54	
7/1	F	5	1145	500	880	210	s2190	s2190	3.4	7.6	11.0	11.0	13	2.7	1.2	
8/1	F	3	299	330		22	80.0	80.0	0.35	0.75	1.1	1.1	0.80	0.19	0.26	
9/1	M	4	415	350		24	134.0	134.0	2.6	5.9	8.5	8.5	4.7	1.9	<0.5	
10/1	M	5	615	420		120	s770.0	s770.0	0.38	0.77	1.1	1.1	2.4	0.23	0.38	
11/1	M	4	468	370		28	198.0	198.0	2.9	6.2	9.1	9.1	13	2.2	<1	
12/1	M	5	1044	480	610	140	s1850	s1850	4.0	8.6	12.6	12.6	9.6	3.9	1.2	
13/1	M	4	462	370		26	176.0	176.0	3.4	7.1	10.5	10.5	6.3	2.1	<1	
14/1	M	4	378	350		89	489.0	489.0	1.7	3.5	5.2	5.2	5.9	1.6	0.83	
15/1	M	4	739	460		93	s753.0	s753.0	<0.2	0.33	<0.5	<0.5	0.70	<0.1	0.22	
16/1	F	5	682	430		s620	s2220	s2220	1.1	2.3	3.4	3.4	8.6	0.73	2.4	
17/1	M	4	411	370		52	s352.0	s352.0	0.26	0.53	0.8	0.8	1.3	0.18	0.70	
18/1	M	4	342	340		41	141.0	141.0	<0.6	1.2	<1.8	<1.8	2.5	0.54	<0.3	
19/1	M	4	415	350		39	389.0	389.0	2.0	4.0	6.0	6.0	5.0	1.9	1.5	
20/1	M	4	432	360		38	258.0	258.0	2.3	4.7	7.0	7.0	4.2	1.4	<0.5	
21/1	M	4	461	350		16	136.0	136.0	3.1	6.5	9.6	9.6	4.5	1.6	<1	
22/1	M	4	636	400		180	s1180	s1180	1.2	2.5	3.7	3.7	3.0	0.68	0.73	
23/1	M	4	437	380		670	s4870	s4870	2.6	5.6	8.2	8.2	25	2.4	11	
24/1	M	5	709	430		110	s700.0	s700.0	0.28	0.59	0.9	0.9	2.1	0.18	0.62	
25/1	F	5	617	410		81	s511.0	s511.0	1.3	3.0	4.3	4.3	6.7	0.95	0.64	
Mean		4	633	408		404,0	100,3	241,4	241,4	<1.7	3,7	<5.4	<5.4	5,8	<1.3	<<1.3
Minimum		3	299	330		130,0	7,8	34,8	34,8	<0.2	0,2	<0.4	<0.4	0,3	<0.1	<0.1
Maximum		5	1408	520		880,0	670,0	618,0	618,0	4,0	8,6	12,6	12,6	25,0	3,9	11,0
St.Dev		1	295	59		327,2	135,3	173,9	173,9	~1.3	2,7	~3.9	~3.9	5,3	~1.0	~2.2
Count		25	25	25		5	23	12	12	25	25	25	25	25	25	25

miss(52) ! Missing value s/q(65) ! Suspect value

sample no. 2	Skin with ulceration, lymphocytic areas and/or lesions	sample no.15	Skin w. met.car.iae of cf. Cryptoc.ling. Skin w. ulcerat., l
sample no. 3	Skin with ulceration, lymphocytic areas and/or lesions	sample no.16	Skin with ulceration, lymphocytic areas and/or lesions
sample no. 5	Skin with ulceration, lymphocytic areas and/or lesions	sample no.17	Liver and/or intestinal guts with larvae of Anisakis simplex
sample no. 6	Skin with ulceration, lymphocytic areas and/or lesions Liver with necrotic areas and/or dis	sample no.18	Skin with ulceration, lymphocytic areas and/or lesions
	Liver and/or intestinal guts with larvae of Anisakis simplex	sample no.19	Skin with ulceration, lymphocytic areas and/or lesions
sample no. 7	Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with la	sample no.20	Bacterial fin rot Skin with ulceration, lymphocytic areas ar
sample no. 8	Skin with ulceration, lymphocytic areas and/or lesions	sample no.21	Skin with ulceration, lymphocytic areas and/or lesions Bacte
sample no.10	Liver and/or intestinal guts with larvae of Anisakis simplex	sample no.22	Bacterial fin rot Liver and/or intestinal guts with larvae c
sample no.11	Skin with ulceration, lymphocytic areas and/or lesions	sample no.23	Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.12	Skin with ulceration, lymphocytic areas and/or lesions	sample no.24	Skin with ulceration, lymphocytic areas and/or lesions Liver
sample no.13	Skin with ulceration, lymphocytic areas and/or lesions		guts with larvae of Anisakis simplex . Bacterial fin rot
sample no.14	Skin with ulceration, lymphocytic areas and/or lesions	sample no.25	Skin with ulceration, lymphocytic areas and/or lesions Bacte

JAMP contaminant data for fish 1998-2001 - Norway

Species : GADU MOR Gadus morhua GB: Cod, N: Torsk
 Sample area: J63 Sør fjorden Tissue: LIVER
 Locality : 53B Inner Sør fjord Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : 20001010 Count: 25 Sample type: Individual

Analytical lab. =>					NIVA														NIVA		NIVA				
Analysis code =>					312														311		312				
Detection limit =>					0.05														0.01		0.04				
Samp/ repl.	Sex	Age	Wght	Lngr	Mean weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	4	1375	580	12,4	22,7	5,4	0.790	16.8	0.96	53.1	0.92	26	250	280	630	850	1100	120	180	0.91	3037	3438	410	
2/1	F	3	1047	510	10,4	21,9	3,8	0.662	7.67	0.10	54.6	1.0	6.8	68	81	200	330	410	42	120	0.73	1136	1260	380	
3/1	M	3	1107	490	22,4	58,5	48,6	0.560	17.9	0.14	33.7	8.2	830	6900	6000	14000	20000	21000	2800	3000	3.5	65738	74542	780	
4/1	M	1	237	310	2,6			3.71	15.0	0.80	72.7	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss			miss	
5/1	F	2	255	320	2,4			2.24	14.2	0.28	53.2	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss			miss	
6/1	F	2	696	450	7,2		9,3	0.829	2.76	0.13	48.4	1.9	130	1600	1500	4000	6100	6400	810	1100	1.7	19332	21644	370	
7/1	M	2	554	390	6,8		17,6	0.291	11.9	0.14	48.8	11	110	990	630	1600	2300	2400	280	470	2.3	7881	8793	720	
8/1	M	2	335	350	2,8			2.16	24.6	0.24	76.8	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss			miss	
9/1	M	2	431	380	4,0			1.18	14.2	<0.04	65.5	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss			miss	
10/1	M	2	578	400	17,0	55,6	47,6	0.477	5.82	0.25	36.5	7.1	300	1500	1600	3600	5500	5700	710	790	4.0	17397	19711	310	
11/1	F	1	245	310	4,2			1.59	12.0	0.33	73.0	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss			miss	
12/1	M	2	757	430	17,2	53,5	44,1	0.452	8.68	0.07	43.4	5.7	100	730	710	1700	2500	3000	320	500	3.0	8536	9569	450	
13/1	M	3	885	470	19,4	43,6	32,6	1.06	3.62	0.08	37.9	5.0	22	48	20	52	140	230	13	76	<1.0	573	<607	320	
14/1	F	4	930	460	28,0	69,4	62,8	0.078	4.44	<0.04	11.7	7.1	57	130	74	180	250	320	26	79	<1.0	1023	<1124	340	
15/1	F	3	1286	550	22,6	42,7	28,4	3.47	29.9	0.19	66.8	12	52	400	300	860	1400	1800	160	340	1.1	4864	5325	540	
16/1	M	2	865	460	37,2	63,1	53,6	0.332	4.71	0.05	15.1	29	46	83	35	87	170	260	16	55	<3.0	730	<784	170	
17/1	M	2	847	490	7,4		4,0	3.81	19.4	0.18	126	5.1	14	76	50	120	140	190	16	37	<0.20	582	<648	130	
18/1	F	2	838	450	24,6	61,9	54,4	0.431	9.36	0.05	30.4	29	95	230	150	330	420	530	42	120	<3.0	1754	<1949	270	
19/1	M	2	459	380	7,6		11,9	2.35	6.17	0.34	71.7	2.5	21	140	73	270	370	600	48	120	<0.50	1524	<1645	83	
20/1	M	1	294	310	7,4			0.402	2.55	0.11	25.0	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss			miss	
21/1	M	4	1593	570	67,2	63,4	60,6	0.435	3.33	0.07	17.3	4.7	13	53	19	45	120	190	9.3	57	<3.0	483	<514	390	
22/1	F	4	1535	550	37,6	59,7	54,0	2.06	5.50	0.13	30.3	6.9	26	70	32	75	220	360	21	98	<3.0	856	<912	420	
23/1	F	2	705	440	14,2	44,2	36,4	1.14	15.0	0.08	41.2	49	210	570	380	670	990	1400	89	370	<2.0	4259	<4730	470	
24/1	M	2	716	440	39,2	71,6	68,5	0.382	1.84	0.07	13.2	5.4	5.5	29	7.0	28	61	93	5.7	26	<3.0	248	<264	460	
25/1	F	3	707	420	13,4	42,0	31,0	1.19	3.76	0.20	29.1	4.4	13	34	15	38	98	170	9.9	48	<2.0	405	<432	150	
Mean		2	771	436	17,4	51,6	35,5	1.28	10,44	<0.20	47,0	10,3	109,3	731,6	629,3	1499	2208	2429	291,5	399,3	<<2.0	7387	<<8310	377,0	
Minimum		1	237	310	2,4	21,9	3,8	0.08	1,84	<0.04	11,7	0,9	5,5	29,0	7,0	28,0	61,0	93,0	5,7	26,0	<0.2	248	<264	83,0	
Maximum		4	1593	580	67,2	71,6	68,5	3,81	29,90	0,96	126,0	49,0	830,0	6900	6000	14000	20000	21000	2800	3000	4,0	65738	74542	780,0	
St.Dev		1	392	81	15,3	15,2	21,6	1,11	7,39	-0.22	25,8	12,3	190,7	1571	1385	3245	4659	4858	650,8	692,7	~1.1	15197	~17232	181,5	
Count		25	25	25	25	15	19	25	25	25	25	19	19	19	19	19	19	19	19	19	19	19	19	19	

miss(102) ! Missing value

Station: Inner Sør fjord Niva no fish 1-5 and 9-25 had been upto 10 days in a fish"not".(net.trawl?)

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J63, 53B Inner Sørfjord 20001010

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>					340	340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>					2	3			0.5	2			2	2	2	
Samp/	Sex	Age	Wght	Lngt	DDTPP	TDEPP	DD Σ4	DD Σ5	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS	
repl.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	M	4	1375	580	62	25	497.0	497.0	<0.30	<0.30	<0.3	<0.3	1.5	<0.20	0.75	
2/1	F	3	1047	510	150	62	592.0	592.0	<0.30	<0.30	<0.3	<0.3	0.59	<0.20	0.68	
3/1	M	3	1107	490		62	842.0	842.0	3.6	4.3	7.9	7.9	25	4.8	12	
4/1	M	1	237	310		miss			miss	miss			miss	miss	miss	
5/1	F	2	255	320		miss			miss	miss			miss	miss	miss	
6/1	F	2	696	450		27	397.0	397.0	2.7	<1.0	<3.7	<3.7	2.4	<0.60	2.8	
7/1	M	2	554	390		64	784.0	784.0	<2.0	<2.0	<2.0	<2.0	5.1	2.7	3.1	
8/1	M	2	335	350		miss			miss	miss			miss	miss	miss	
9/1	M	2	431	380		miss			miss	miss			miss	miss	miss	
10/1	M	2	578	400		52	362.0	362.0	2.7	4.4	7.1	7.1	14	3.1	3.5	
11/1	F	1	245	310		miss			miss	miss			miss	miss	miss	
12/1	M	2	757	430		62	512.0	512.0	<3.0	3.9	<6.9	<6.9	12	3.5	2.6	
13/1	M	3	885	470		80	400.0	400.0	1.7	<1.0	<2.7	<2.7	12	2.0	0.90	
14/1	F	4	930	460		54	394.0	394.0	3.1	<1.0	<4.1	<4.1	15	3.3	<1.5	
15/1	F	3	1286	550	97	110	747.0	747.0	2.6	2.4	5.0	5.0	8.8	1.5	1.8	
16/1	M	2	865	460		48	218.0	218.0	<3.0	4.7	<7.7	<7.7	9.6	3.1	<2.5	
17/1	M	2	847	490		17	147.0	147.0	0.22	0.25	0.5	0.5	0.82	<0.10	0.37	
18/1	F	2	838	450		77	347.0	347.0	3.3	4.7	8.0	8.0	18	3.1	1.7	
19/1	M	2	459	380		29	112.0	112.0	0.67	0.87	1.5	1.5	3.4	0.60	0.40	
20/1	M	1	294	310		miss			miss	miss			miss	miss	miss	
21/1	M	4	1593	570	220	82	692.0	692.0	3.2	5.6	8.8	8.8	15	3.3	<2.0	
22/1	F	4	1535	550	160	100	680.0	680.0	<3.0	5.4	<8.4	<8.4	12	3.7	<2.0	
23/1	F	2	705	440		130	600.0	600.0	2.5	3.1	5.6	5.6	18	2.0	6.4	
24/1	M	2	716	440		69	529.0	529.0	3.7	6.3	10.0	10.0	18	5.0	2.5	
25/1	F	3	707	420		49	199.0	199.0	<2.0	3.1	<5.1	<5.1	8.3	1.7	<1.0	
Mean		2	771	436		137,8	63,1	476,4	476,4	<<2.3	<<2.9	<<5.0	<<5.0	10,5	<2.3	<<2.6
Minimum		1	237	310		62,0	17,0	112,0	112,0	0,2	0,3	<0.3	<0.3	0,6	<0.1	0,4
Maximum		4	1593	580		220,0	130,0	842,0	842,0	3,7	6,3	10,0	10,0	25,0	5,0	12,0
St.Dev		1	392	81		60,8	29,4	218,1	218,1	~1.1	~2.0	~3.1	~3.1	6,9	~1.5	~2.7
Count		25	25	25		5	19	19	19	19	19	19	19	19	19	19

miss(102) ! Missing value sample no. 17 Signs of mechanical damage (e.g., net wounds) Liver and/or intestin
sample no. 1 Signs of mechanical damage (e.g., net wounds) Bacterial fin rot of Anisakis simplex. Bacterial fin rot ?
sample no. 2 Signs of mechanical damage (e.g., net wounds) Bacterial fin rot sample no. 18 Signs of mechanical damage (e.g., net wounds)
sample no. 3 Bacterial fin rot sample no. 19 Skin with ulceration, lymphocytic areas and/or lesions Bacterial fi
sample no. 5 Signs of mechanical damage (e.g., net wounds) Bacteri nearly dead sample no. 20 Skin with ulceration, lymphocytic areas and/or lesions
sample no. 8 Liver and/or intestinal guts with larvae of Anisakis simplex Signs of mechanical damage sample no. 21 Bacterial fin rot Skin with ulceration, lymphocytic areas and/or le
sample no. 9 Skin with ulceration, lymphocytic areas and/or lesions sample no. 22 Skin with ulceration, lymphocytic areas and/or lesions Skin with me
sample no. 10 Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds) Cryptocotyle lingua. Bacterial fin rot
sample no. 11 Signs of mechanical damage (e.g., net wounds) Skin with ulceration, lymphocytic areas sample no. 23 Bacterial fin rot
sample no. 12 Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds) sample no. 24 Bacterial fin rot Liver and/or intestinal guts with larvae of Anisa
sample no. 15 Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions sample no. 25 Bacterial fin rot
Signs of mechanical damage (e.g., net wounds) Age uncertain
sample no. 16 Signs of mechanical damage (e.g., net wounds)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sørffjorden** Tissue: LIVER
 Locality : **53B Inner Sørffjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **20011009** Count: 25 Sample type: **Individual**
 Coment: Inner Sørffjord fished 1.-9.oct 2001 from Tyssedal and south

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	340	340		
Detection limit		=>				0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3	3		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
F/M		year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	11	2466	680	21,5	19,3	2,0	8.97	37,2	0.11	64.5	<0.20	1.1	8.9	7.9	16	37	45	4.4	12	<0.20	<120	<133	260
2/1	F	5	3791	790	68,4	32,9	17,0	2.20	35.1	0.14	53.1	1.8	11	73	53	120	230	340	25	66	<1.0	842	<921	1300
3/1	M	3	202	280	2,8		4,5	0.316	2.28	0.21	29.6	<0.40	3.7	30	41	100	140	160	21	37	0.44	<471	<534	54
4/1	F	2	159	260	6,7	67,0	58,0	0.074	2.70	0.04	12.9	4.4	87	390	190	490	450	410	52	48	<2.0	1879	<2123	180
5/1	F	2	183	280	2,5		20,0	0.477	10.5	0.34	21.4	2.1	27	200	110	290	490	530	45	150	1.3	1689	1845	270
6/1	F	4	972	470	21,2	44,5	28,0	0.590	11.5	0.17	30.4	3.4	19	75	42	86	150	190	17	51	<1.0	574	<634	200
7/1	M	3	598	390	19,4	71,5	63,0	0.128	8.97	0.04	18.9	<2.0	17	96	57	120	180	180	21	53	2.3	<648	<728	320
8/1	F	3	1397	540	11,7	21,3	2,3	2.39	21.0	0.13	54.9	0.57	1.6	10	6.9	13	27	40	2.7	9.0	<0.20	101	<111	44
9/1	M	3	1170	520	10,0	20,3	3,2	3.02	48.8	0.80	46.7	0.65	1.3	14	25	63	130	210	14	46	0.36	465	504	89
10/1	F	2	439	360	9,4	49,6	37,0	0.202	6.10	0.05	27.9	<1.0	13	72	41	88	130	140	17	32	<1.0	<476	<534	87
11/1	F	2	199	280	20,3		9,9	0.327	7.36	<0.17	30.7	0.77	17	140	79	210	280	280	31	45	0.43	973	1083	110
12/1	M	3	525	400	4,5	25,9	4,2	3.40	27.5	0.64	70.7	0.30	2.4	19	20	52	80	100	10	29	0.30	283	313	37
13/1	F	1	227	290	3,2	31,5	13,0	0.397	5.09	0.23	25.3	0.92	8.38	41	31	82	110	120	13	21	<0.40	383	<428	44
14/1	F	1	193	280	3,0	42,3	22,0	0.428	3.05	<0.06	21.4	1.9	40	250	100	270	420	420	42	100	<1.0	1502	<1645	350
15/1	M	3	789	450	7,0	29,7	11,0	1.12	25.3	0.35	50.5	1.0	15	110	75	190	320	390	35	110	1.3	1136	1247	280
16/1	M	3	1812	570	44,2	60,2	51,0	0.301	6.86	<0.04	23.6	11	120	740	590	1500	1800	1800	220	390	2.9	6361	7174	380
17/1	F	2	1172	490	30,6	57,8	47,0	0.565	13.8	0.09	33.2	7.7	35	78	40	87	130	180	14	45	<2.0	563	<619	330
18/1	F	3	982	520	15,1	21,3	3,1	1.17	3.56	0.06	31.4	0.78	6.4	29	23	59	88	120	9.8	20	<0.20	323	<356	16
19/1	M	3	668	410	9,5	33,3	17,0	0.672	3.27	0.24	38.8	1.6	7.7	36	40	120	190	250	25	56	0.86	661	727	390
20/1	M	2	639	390	25,2	57,8	47,0	0.296	2.62	0.10	21.5	1.6	26	140	95	240	340	370	39	81	<2.0	1199	<1335	190
21/1	M	3	1539	570	16,2	29,8	13,0	1.42	31.7	0.58	59.1	4.4	21	170	93	250	510	850	40	200	1.5	2005	2140	420
22/1	M	3	820	450	21,5	62,2	53,0	0.334	10.5	0.09	24.7	2.2	30	160	87	190	300	310	32	76	<2.0	1068	<1189	430
23/1	M	5	1653	580	26,1	35,0	19,0	0.647	16.3	0.12	31.7	3.4	28	250	260	750	1100	1500	110	240	1.1	3871	4243	340
24/1	M	5	1811	560	62,2	55,5	41,0	0.174	5.37	<0.03	26.0	1.6	13	85	70	150	240	270	31	85	<2.0	845	<948	330
25/1	M	3	963	480		34,0	16,0	1.25	18.2	0.25	40.9	2.6	25	190	130	380	910	1700	71	570	2.5	3778	3981	250
Mean		3	1015	452	19,3	41,0	24,1	1,23	14,59	<0.20	35,6	<2.3	23,1	136,3	92,3	236,6	351,3	436,2	37,7	102,9	<<1.2	<1289	<<1420	268,0
Minimum		1	159	260	2,5	19,3	2,0	0,07	2,28	<0.03	12,9	<0.2	1,1	8,9	6,9	13,0	27,0	40,0	2,7	9,0	<0.2	101	<111	16,0
Maximum		11	3791	790	68,4	71,5	63,0	8,97	48,80	0,80	70,7	11,0	120,0	740,0	590,0	1500	1800	1800	220,0	570,0	2,9	6361	7174	1300
St.Dev		2	844	136	17,5	16,5	19,6	1,85	12,89	~0.20	15,4	~2.5	27,0	156,3	118,5	310,0	395,7	496,6	44,4	129,1	~0.8	~1438	~1593	253,0
Count		25	25	25	24	22	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J63, 53B Inner Sørfjord 20011009

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>				340	340	Calc	Calc	340	340	Calc	Calc	340	340	340		
Detection limit =>				2	3			0.5	2			2	2	2		
Samp/ repl.	Sex	Age year	Wght g	Lngt mm	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	F	11	2466	680	8.4	3.4	271.8	271.8	<0.20	<0.20	<0.2	<0.2	0.20	0.10	<0.10	
2/1	F	5	3791	790	89	27	1416	1416	<1.0	<1.0	<1.0	<1.0	1.9	1.9	0.59	
3/1	M	3	202	280		8.7	62.7	62.7	<0.40	<0.40	<0.4	<0.4	0.51	0.28	<0.20	
4/1	F	2	159	260		24	204.0	204.0	2.3	3.4	5.7	5.7	3.1	5.8	1.4	
5/1	F	2	183	280		35	305.0	305.0	0.86	1.3	2.2	2.2	2.0	2.1	0.85	
6/1	F	4	972	470		35	235.0	235.0	1.1	1.6	2.7	2.7	4.8	6.0	0.81	
7/1	M	3	598	390		41	361.0	361.0	2.7	4.0	6.7	6.7	8.0	5.5	<1.0	
8/1	F	3	1397	540		4.0	48.0	48.0	<0.20	<0.20	<0.2	<0.2	0.32	0.12	0.11	
9/1	M	3	1170	520		6.8	95.8	95.8	<0.20	<0.20	<0.2	<0.2	0.37	0.15	0.15	
10/1	F	2	439	360		15	102.0	102.0	1.5	2.2	3.7	3.7	3.1	2.4	<0.50	
11/1	F	2	199	280		32	142.0	142.0	<0.40	0.59	<1.0	<1.0	1.6	0.64	0.41	
12/1	M	3	525	400		5.5	42.5	42.5	<0.20	<0.20	<0.2	<0.2	0.52	0.20	<0.10	
13/1	F	1	227	290		9.7	53.7	53.7	0.49	0.73	1.2	1.2	1.2	0.96	<0.20	
14/1	F	1	193	280		68	418.0	418.0	1.0	1.5	2.5	2.5	3.6	2.5	0.88	
15/1	M	3	789	450		37	317.0	317.0	0.47	0.66	1.1	1.1	1.9	1.0	0.62	
16/1	M	3	1812	570	140	48	568.0	568.0	2.1	2.8	4.9	4.9	6.3	5.2	3.4	
17/1	F	2	1172	490		41	371.0	371.0	2.1	3.0	5.1	5.1	7.5	5.3	1.2	
18/1	F	3	982	520		2.6	18.6	18.6	<0.20	<0.20	<0.2	<0.2	0.30	0.12	0.11	
19/1	M	3	668	410		69	459.0	459.0	0.72	1.1	1.8	1.8	3.6	1.9	0.55	
20/1	M	2	639	390		27	217.0	217.0	2.0	2.9	4.9	4.9	4.6	4.4	<1.0	
21/1	M	3	1539	570	150	52	622.0	622.0	0.55	0.84	1.4	1.4	2.3	1.7	1.1	
22/1	M	3	820	450		64	494.0	494.0	2.3	3.6	5.9	5.9	6.8	7.3	<1.0	
23/1	M	5	1653	580	36	14	390.0	390.0	0.85	1.1	2.0	2.0	2.1	2.1	0.93	
24/1	M	5	1811	560		40	370.0	370.0	<2.0	2.5	<4.5	<4.5	4.8	6.8	<1.0	
25/1	M	3	963	480		18	268.0	268.0	0.67	0.98	1.6	1.6	2.0	1.7	0.78	
Mean		3	1015	452		84,7	29,1	314,1	314,1	<<1.1	<<1.5	<<2.5	<<2.5	2,9	2,6	<<0.8
Minimum		1	159	260		8,4	2,6	18,6	18,6	<0.2	<0.2	<0.2	<0.2	0,2	0,1	<0.1
Maximum		11	3791	790		150,0	69,0	1416	1416	2,7	4,0	6,7	6,7	8,0	7,3	3,4
St.Dev		2	844	136		62,3	20,6	286,4	286,4	~0.8	~1.2	~2.1	~2.1	2,4	2,4	~0.7
Count		25	25	25		5	25	25	25	25	25	25	25	25	25	25

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J63, 53B Inner Sørfjord 20011009

Sample no 1 Gills with *Lernaecocera* copepods Skin with metacercariae of cf. *Cryptocotyle lingua*
 Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds)
 Skin a/o oral cavity with caligif a/o *Lenaeopodif*. Copepods liver colour is brown

Sample no 2 Bacterial fin rot Skin with metacercariae of cf. *Cryptocotyle lingua*
 Skin with ulceration, lymphocytic areas and/or lesions liver colour is yellow

Sample no 3 liver colour is red brown

Sample no 4 Signs of mechanical damage (e.g., net wounds) liver colour is white

Sample no 5 liver colour is white red

Sample no 6 liver colour is white

Sample no 7 liver colour is white

Sample no 8 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of *Anisakis simplex*
 liver colour is brown red

Sample no 9 Liver and/or intestinal guts with larvae of *Anisakis simplex* liver colour is brown

Sample no 10 liver colour is white

Sample no 11 liver colour is white

Sample no 12 liver colour is brown

Sample no 13 liver colour is white

Sample no 14 Skin with metacercariae of cf. *Cryptocotyle lingua* Age uncertain

Sample no 15 liver colour is white red

Sample no 16 liver colour is white

Sample no 17 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of *Anisakis simplex*
 liver colour is white

Sample no 18 Skin with metacercariae of cf. *Cryptocotyle lingua* Skin with ulceration, lymphocytic areas and/or lesions
 Liver and/or intestinal guts with larvae of *Anisakis simplex* liver colour is red

Sample no 19 liver colour is red

Sample no 20 Skin with metacercariae of cf. *Cryptocotyle lingua* Liver and/or intestinal guts with larvae of *Anisakis simplex*
 liver colour is white

Sample no 21 Liver and/or intestinal guts with larvae of *Anisakis simplex* liver colour is white red

Sample no 22 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of *Anisakis simplex*
 liver colour is white

Sample no 23 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of *Anisakis simplex*
 liver colour is white

Sample no 24 Liver with necrotic areas and/or discolouration Liver and/or intestinal guts with larvae of *Anisakis simplex*
 liver colour is white

Sample no 25 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of *Anisakis simplex*
 liver colour is red

JAMP contaminant data for fish 1998-2001 - Norway

Species : GADU MOR Gadus morhua GB: Cod, N: Torsk
 Sample area: J62 Hardangerfjorden Tissue: LIVER
 Locality : 67B Strandebarbm Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : 19981028 Count: 25 Sample type: Individual
 Comment : Strandebarbm Caught 28.10.98 - 5.11.98

Analytical lab. =>				NIVA																					
Analysis code =>				312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 Calc Calc 340																					
Detection limit =>				Mean																					
Samp/ repl.	Sex	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB103 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	4	565	390	14,0	64,3	49,7	0.014	5.05	<0.03	20.2	2.7	s5.8	36	22	62	160	220	18	63	<2	s550	s<592	390	
2/1	M	5	578	405		57,1	49,1	0.015	15.0	<0.03	28.7	<2	s3.7	10	6.1	17	36	53	3.9	15	<2	s<137	s<147	150	
3/1	F	4	658	430	7,2	31,5	12,1					<2	miss	3.3	7	19	45	76	4.8	20	<2	<165	<177	180	
4/1	F	4	796	430	10,1	50,7	32,2	0.058	11.0	<0.03	41.1	2.4	miss	11	12	33	81	140	9.4	38	<2	305	<329	380	
5/1	F	5	811	440	20,1	59,8	49,8	0.064	4.93	<0.03	23.2	2.2	s3.6	21	13	35	80	130	12	50	<2	s322	s<349	220	
6/1	M	5	859	450	19,9	57,5	48,2	0.067	8.82	<0.03	23.7	<2	s4.7	12	7.3	21	41	64	5.2	16	<2	s<161	s<173	170	
7/1	M	4	926	470	11,3	48,6	35,6	0.073	22.3	0.04	39.3	2.3	s3.2	14	17	43	92	150	11	42	<2	s347	s<377	510	
8/1	F	5	1095	470	34,0	63,6	52,7	0.021	10.9	0.04	24.3	<2	s3.3	10	6.6	19	45	66	5.9	22	<2	s<167	s<180	190	
9/1	F	4	921	470	24,8	66,4	56,6	0.046	9.74	<0.03	25.9	3.5	6.7	18	11	28	52	80	5.9	21	<1	209	<227	370	
10/1	M	5	1076	470	66,7	79,1	71,4	0.008	3.96	<0.03	15.6	3.4	8.9	29	15	45	95	120	11	40	<2	341	<369	270	
11/1	F	5	1150	490	39,5	63,6	56,1	0.014	10.4	0.03	26.9	5.1	s7.1	21	9.1	19	40	64	5.6	21	<2	s177	s<194	250	
12/1	M	5	1161	490	30,9	61,2	49,9	0.016	9.43	<0.03	26.2	<2	5.4	14	10	29	51	82	7.3	21	<2	<204	<222	220	
13/1	F	4	1213	500	44,5	72,2	62,6	0.013	9.17	<0.03	20.8	2.6	s8.7	25	15	38	76	100	9.0	26	<2	s276	s<302	310	
14/1	M	5	1143	500	31,3	57,1	46,1	0.020	7.71	<0.03	25.7	2.6	s5.3	15	11	29	50	83	7.0	25	<2	s210	s<230	300	
15/1	F	4	1219	510	39,5	72,2	62,5	0.016	8.58	<0.03	19.5	<2	s7.6	16	7.4	20	46	78	6.5	25	<2	s<195	s<209	260	
16/1	M	5	1231	510	40,0	65,3	53,2	0.029	10.1	<0.03	22.3	<2	4.6	10	8.2	20	40	63	4.6	16	<2	<156	<168	210	
17/1	F	5	1507	520	42,1	55,3	41,1	0.052	8.49	<0.05	25.8	2.1	s6.6	30	14	40	85	130	9.4	38	<2	s332	s<357	600	
18/1	M	5	1143	500	50,3	68,9	58,1	0.016	12.2	<0.03	21.6	2.8	s8.1	17	11	28	56	95	8.1	31	<2	s238	s<259	300	
19/1	M	6	1249	560	12,6	28,8	10,3	0.316	6.58	<0.03	41.7	<2	s2.8	9.4	21	68	160	390	25	180	2.3	s<812	s<861	380	
20/1	F	6	1653	570	56,4	72,5	63,2	0.014	15.3	<0.03	28.1	<2	s7.0	15	8.4	21	42	61	6.4	20	<2	s<168	s<183	250	
21/1	M	6	1707	570	63,2	77,0	60,9	0.012	14.3	<0.03	21.5	<2	s6.4	13	6.4	17	35	52	4.8	17	<2	s<142	s<154	190	
22/1	M	5	1991	580	73,7	72,4	56,5	0.009	15.6	<0.03	23.2	2.7	s6.9	16	7.7	21	43	68	6.6	25	<2	s183	s<199	280	
23/1	M	6	1885	590	55,3	67,2	56,3	0.018	15.3	<0.03	27.2	<2	s6.5	15	9.8	25	52	76	7.2	20	<2	s<197	s<214	240	
24/1	F	7	2516	620	71,3	55,4	43,0	0.072	13.5	0.03	32.5	3.7	s8.4	32	21	52	140	200	18	66	<2	s502	s<543	850	
25/1	F	7	3446	680	169,4	63,4	52,7	0.019	20.8	<0.03	25.4	2.5	s6.1	18	14	35	58	74	9.1	21	<2	s215	s<240	270	
Mean		5	1300	505	42,8	61,2	49,2	0,04	11,22	<<0.03	26,3	<<2.5	6,4	17,2	11,6	31,4	68,0	108,6	8,9	35,2	<<2.0	<<230	<<249	309,6	
Minimum		4	565	390	7,2	28,8	10,3	0,01	3,96	<0.03	15,6	<2.0	4,6	3,3	6,1	17,0	35,0	52,0	3,9	15,0	<1.0	<156	<168	150,0	
Maximum		7	3446	680	169,4	79,1	71,4	0,32	22,30	<0.05	41,7	5,1	8,9	36,0	22,0	68,0	160,0	390,0	25,0	180,0	2,3	341	<369	850,0	
St.Dev		1	642	69	33,6	12,2	14,4	0,06	4,63	~0.00	6,6	~0.7	1,9	7,9	4,7	14,0	36,9	73,2	5,0	33,3	~0.2	~76	~82	154,3	
Count		25	25	25	24	25	25	24	24	24	24	25	4	25	25	25	25	25	25	25	25	6	6	25	

miss(9) ! Missing value s/q(57) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J62, 67B Inner Sørfjord 19981028

Analytical lab. =>			NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code =>			340	340	Calc	Calc	340	340	Calc	Calc	340	340	340			
Detection limit =>			2	3			0.5	2			2	2	2			
Samp/ repl.	Sex	Age	Wght	Lngt	DDTPP	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS	
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	M	4	565	390		77	467.0	467.0	8.2	26	34.2	34.2	11	<1	miss	
2/1	M	5	578	405		28	178.0	178.0	5.8	20	25.8	25.8	7.2	<1	<1	
3/1	F	4	658	430		42	222.0	222.0	<2	5.1	<7.1	<7.1	2.2	<1	miss	
4/1	F	4	796	430		43	423.0	423.0	5.1	16	21.1	21.1	8.3	<1	miss	
5/1	F	5	811	440		40	260.0	260.0	7.2	21	28.2	28.2	9.5	<1	miss	
6/1	M	5	859	450		38	208.0	208.0	6.9	21	27.9	27.9	10	<1	miss	
7/1	M	4	926	470		65	575.0	575.0	5.6	17	22.6	22.6	8.5	<1	miss	
8/1	F	5	1095	470		36	226.0	226.0	7.8	23	30.8	30.8	8.9	<1	miss	
9/1	F	4	921	470		70	440.0	440.0	8.1	22	30.1	30.1	12	5.6	<1	
10/1	M	5	1076	470		66	336.0	336.0	8.4	26	34.4	34.4	10	5.8	<1	
11/1	F	5	1150	490		45	295.0	295.0	6.7	22	28.7	28.7	10	2.9	<1	
12/1	M	5	1161	490		42	262.0	262.0	6.0	19	25.0	25.0	9.6	4.5	<1	
13/1	F	4	1213	500		51	361.0	361.0	7.1	21	28.1	28.1	9.9	8.5	<1	
14/1	M	5	1143	500		68	368.0	368.0	6.0	17	23.0	23.0	11	7.1	<1	
15/1	F	4	1219	510		43	303.0	303.0	7.2	24	31.2	31.2	11	2.6	<1	
16/1	M	5	1231	510		44	254.0	254.0	5.9	18	23.9	23.9	8.5	2.3	<0.1	
17/1	F	5	1507	520		94	694.0	694.0	4.4	14	18.4	18.4	7.8	3.2	<1	
18/1	M	5	1143	500		62	362.0	362.0	6.8	22	28.8	28.8	12	2.2	<1	
19/1	M	6	1249	560		79	459.0	459.0	<2	5.8	<7.8	<7.8	5.0	1.7	<1	
20/1	F	6	1653	570		42	292.0	292.0	7.3	23	30.3	30.3	12	5.3	<1	
21/1	M	6	1707	570	180	34	404.0	404.0	7.0	23	30.0	30.0	9.9	3.1	<1	
22/1	M	5	1991	580	200	56	536.0	536.0	7.1	22	29.1	29.1	13	3.1	<1	
23/1	M	6	1885	590	150	41	431.0	431.0	6.3	20	26.3	26.3	9.2	2.0	<1	
24/1	F	7	2516	620	400	170	1420	1420	4.8	16	20.8	20.8	12	3.0	<1	
25/1	F	7	3446	680	150	48	468.0	468.0	5.8	18	23.8	23.8	9.9	1.9	<1	
Mean		5	1300	505		216,0	57,0	409,8	409,8	<6.2	19,3	<25.5	<25.5	9,5	<<2.9	<<0.9
Minimum		4	565	390		150,0	28,0	178,0	178,0	<2.0	5,1	<7.1	<7.1	2,2	<1.0	<0.1
Maximum		7	3446	680		400,0	170,0	1420	1420	8,4	26,0	34,4	34,4	13,0	8,5	<1.0
St.Dev		1	642	69		105,0	28,6	244,7	244,7	~1.6	5,2	~6.8	~6.8	2,3	~2.1	~0.2
Count		25	25	25		5	25	25	25	25	25	25	25	25	25	18

miss(9) ! Missing value s/q(57) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J62, 67B Inner Serfjord 19981028

Sample no. 1 fish no. 2 caught 24.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or lern. Copepod
Liver with signs of bleeding

Sample no.2 fish no. 14 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua

Sample no. 3 fish no.4 caught 28.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
Bacterial fin rot Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods

Sample no. 4 fish no. 7 caught 28.10.98 Bacterial fin rot .Skin / oral cavity with caligiform and/or
Lernaeopodiform copepods. Liver with signs of bleeding Skin with metacercariae of cf. Cryptocotyle lingua
Liver and/or intestinal guts with larvae of Anisakis simplex

Sample no. 5 fish no. 13 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua

Sample no. 6 fish no. 21 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Bacterial fin rot Signs of mechanical damage (e.g., net wounds)

Sample no. 7 fish no. 10 caught 28.10.98 Skin with met.of cf.C.lingua Signs of mechanical damage. Skin/oral cavity wifh caligif.
and/or Lernaeopodi. Copepods. Bacterial fin rot Gills with Lernaeocera copepods .
Liver and/or intestinal guts with larvae of Anisakis simplex

Sample no. 8 fish no. 11 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua

Sample no. 9 fish no. 28 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua

Sample no. 10 fish no. 30 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Signs of mechanical damage (e.g., net wounds)

Sample no. 11 fish no. 18 caught 5.11.98 Skin with metacercariae of cf. Cr Bacterial fin rot

Sample no. 12 fish no. 26 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Bacterial fin rot Signs of mechanical damage (e.g., net wounds)

Sample no. 13 fish no. 1 caught 28.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
Signs of mechanical damage (e.g., net wounds)

Sample no. 14 fish no. 17 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua

Sample no. 15 fish no. 8 caught 28.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
Signs of mechanical damage (e.g., net wounds) Bacterial fin rot
Liver and/or intestinal guts with larvae of Anisakis simplex

Sample no. 1 fish no.29 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua

Sample no. 17 fish no.9 caught 28.10.98 Skin with met. of cf. Crypt.lingua Signs of mechanic. damage(e.g, net wounds)Bacterial fin rot
Skin /oral cavity with caligiform and/or Lernaeopodi.copepod Liver and/or intestinal guts with larvae of Anisakis simplex
Liver with signs of bleeding

Sample no. 18 fish no. 16 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Bacterial fin rot

Sample no. 19 fish no. 27 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Bacterial fin rot

Sample no. 20 fish no. 12 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Signs of mechanical damage (e.g., net wounds)

Sample no. 21 fish no. 20 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Bacterial fin rot Signs of mechanical damage (e.g., net wounds)

Sample no. 22 fish no. 24 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua

Sample no. 23 fish no. 23 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Bacterial fin rot Signs of mechanical damage (e.g., net wounds)
Liver with necrotic areas and/or discolouration

Sample no. 24 fish no. 6 caught 28.10.98 Signs of mechanical damage Skin with met. of cf. Cryptocotyle lingua Bacterial fin rot
Skin /oral cavity with caligiform and/orLernaeopodifor.copep Liver and/or intestinal guts with larvae of Anisakis simplex
Liver with signs of bleeding

Sample no. 25 fish no. 15 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Signs of mechanical damage (e.g., net wounds) Bacterial fin rot

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J62 Hardangerfjorden** Tissue: LIVER
 Locality : **67B Strandebar** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **19990927** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>					312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit =>					Mean																			
Samp/ repl.	Sex	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
no.								w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	2849	660	58,4	65,2	54,9	0.036	20.4	<0.03	30.0	3.6	8.7	30	14	31	70	96	7.1	29	<2	268	<291	480
2/1	F	4	567	400	7,9	44,9	31,8	0.074	9.1	<0.03	30.4	2.4	7.0	32	23	65	150	210	18	57	<2	523	<566	480
3/1	M	4	395	340	10,4	52,7	41,2	0.032	3.4	<0.03	15.6	<2	<2	7.2	12	36	87	140	10	40	<2	<312	<334	140
4/1	F	4	381	360	4,8		36,3	0.122	17.8	<0.04	34.2	<2	3.3	20	14	39	94	180	9.5	43	<2	<381	<405	440
5/1	M	4	354	350	3,3		4,4	0.101	7.3	<0.07	32.4	<0.6	<0.6	2.1	3.1	8.0	14	30	2.6	8.9	<0.6	<64	<69	51
6/1	M	6	1755	580	23,2	40,7	24,4	0.053	9.5	<0.03	47.9	3.8	5.4	20	20	52	92	150	8.9	38	<2	361	<392	450
7/1	F	5	1118	500	15,5	39,7	22,2	0.070	19.1	<0.04	38.2	<1	1.4	9.0	11	30	66	130	9.5	39	<1	<276	<297	250
8/1	M	4	343	330	3,1			0.108	22.7	<0.06	46.6	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss			miss
9/1	F	4	325	330	3,1			0.130	22.4	<0.04	36.8	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss			miss
10/1	M	4	654	420	14,3	60,9	47,6	0.052	6.1	<0.03	24.3	<2	3.4	16	9.1	33	77	160	12	51	<2	<342	<364	200
11/1	F	4	279	320	8,4	65,9	57,0	0.025	5.3	<0.03	19.6	<2	2.0	5.9	7.1	18	40	91	8.5	31	<2	<190	<206	96
12/1	M	4	475	370	5,7		16,1	0.161	12.0	<0.03	30.1	<1	2.0	18	18	67	130	250	17	75	<1	<543	<578	260
13/1	M	4	307	330	2,5		4,5	miss	miss	miss	miss	<0.6	<0.6	3.0	4.3	16	41	67	5.2	27	<0.6	<155	<164	81
14/1	M	7	2983	710	42,1	31,5	11,7	0.102	7.1	<0.04	38.3	<1	1.6	18	22	86	170	280	15	67	<1	<624	<661	740
15/1	M	5	1440	530	25,7	54,1	42,9	0.078	19.2	<0.04	33.7	<2	4.6	18	9.0	21	49	94	5.8	29	<2	<218	<232	280
16/1	F	5	1141	510	20,1	46,8	30,5	0.073	10.7	<0.04	33.2	<2	2.4	19	28	74	110	190	14	52	<2	<449	<491	270
17/1	F	4	497	370	20,7	69,4	59,1	0.013	1.9	<0.04	12.0	<4	<4	6.2	5.1	13	36	71	5.5	27	<4	<157	<168	60
18/1	F	5	1528	560	21,3	49,4	39,0	0.073	16.2	<0.03	30.1	<4	4.9	18	12	32	68	140	8.0	41	<4	<308	<328	480
19/1	F	4	488	370	13,7	51,6	35,1	0.039	9.3	<0.03	18.5	<2	<2	4.5	4.1	9.6	25	50	3.9	18	<2	<109	<117	92
20/1	F	4	559	390	8,6	49,0	34,0	0.038	9.8	<0.04	25.1	<2	<2	5.0	18	38	54	100	6.6	32	<2	<231	<256	160
21/1	F	4	412	350	9,6	49,0	35,5	0.032	6.4	<0.04	21.0	<2	2.3	11	8.3	23	54	89	6.2	27	<2	<208	<223	190
22/1	F	4	668	410	15,5	51,5	39,3	0.051	7.8	<0.03	22.1	<2	2.3	15	9.3	30	82	120	5.6	23	<2	<274	<289	200
23/1	F	4	492	370	4,8		7,0	0.167	18.0	0.09	39.1	<0.6	<0.6	5.5	7.6	27	76	126	7.6	46	<0.6	<281	<296	150
24/1	M	4	521	370	18,6	70,2	61,4	0.049	4.8	<0.04	16.5	<4	<4	11	6.3	18	52	79	5.7	32	<4	<196	<208	100
25/1	M	4	457	360	4,7		13,2	0.174	16.0	<0.04	50.1	<1	1.4	6.3	7.8	23	63	110	6.2	32	1.0	<237	<252	190
Mean		4	840	424	14,6	52,5	32,6	0,08	11,76	<<0.04	30,2	<<2.1	<<3.0	13,1	11,9	34,3	73,9	128,4	8,6	37,6	<<1.9	<<292	<<312	253,9
Minimum		4	279	320	2,5	31,5	4,5	0,01	1,90	<0.03	12,0	<0.6	<0.6	2,1	3,1	8,0	14,0	30,0	2,6	8,9	<0.6	<64	<69	51,0
Maximum		7	2983	710	58,4	70,2	61,4	0,17	22,70	0,09	50,1	<4.0	8,7	32,0	28,0	86,0	170,0	280,0	18,0	75,0	<4.0	<624	<661	740,0
St.Dev		1	746	109	13,0	10,8	17,4	0,05	6,35	-0.01	10,4	~1.1	~2.1	8,3	6,7	21,1	38,3	61,9	4,1	15,4	~1.0	~140	~150	177,6
Count		25	25	25	25	17	23	24	24	24	24	23	23	23	23	23	23	23	23	23	23	23	23	23

miss(38) ! Missing value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J62, 67B Inner Sørfjord 19990927

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>					340	340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>					2	3			0.5	2			2	2	2	
Samp/ repl.	Sex	Age	Wght	Lngt	DDTPP	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS	
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	F	6	2849	660	300	81	861.0	861.0	4.1	9.6	13.7	13.7	18	1.8	<1	
2/1	F	4	567	400		85	565.0	565.0	2.4	5.1	7.5	7.5	8.2	<1	<1	
3/1	M	4	395	340		18	158.0	158.0	3.0	6.3	9.3	9.3	4.5	<1	<1	
4/1	F	4	381	360		59	499.0	499.0	2.6	5.3	7.9	7.9	5.1	<1	<1	
5/1	M	4	354	350		8.9	59.9	59.9	<0.6	<0.6	<0.6	<0.6	0.74	<0.3	<0.3	
6/1	M	6	1755	580	150	74	674.0	674.0	<2	3.6	<5.6	<5.6	8.4	<1	<1	
7/1	F	5	1118	500		37	287.0	287.0	1.6	3.5	5.1	5.1	4.4	<0.5	<0.5	
8/1	M	4	343	330		miss			miss	miss			miss	miss	miss	
9/1	F	4	325	330		miss			miss	miss			miss	miss	miss	
10/1	M	4	654	420		33	233.0	233.0	3.0	5.9	8.9	8.9	4.8	<1	<1	
11/1	F	4	279	320		14	110.0	110.0	3.5	7.0	10.5	10.5	5.1	<1	<1	
12/1	M	4	475	370		65	325.0	325.0	<0.1	2.2	<2.3	<2.3	2.6	<0.5	<0.5	
13/1	M	4	307	330		14	95.0	95.0	<0.6	<0.6	<0.6	<0.6	0.39	<0.3	<0.3	
14/1	M	7	2983	710	79	85	904.0	904.0	<1	1.3	<2.3	<2.3	1.8	<0.5	0.95	
15/1	M	5	1440	530	73	25	378.0	378.0	<2	5.3	<7.3	<7.3	8.5	<1	<1	
16/1	F	5	1141	510		24	294.0	294.0	2.1	4.2	6.3	6.3	4.2	<1	<1	
17/1	F	4	497	370		<6	<66.0	<66.0	<4	7.1	<11.1	<11.1	4.2	<2	<2	
18/1	F	5	1528	560	180	60	720.0	720.0	<4	5.0	<9.0	<9.0	9.9	<2	<2	
19/1	F	4	488	370		14	106.0	106.0	2.0	4.4	6.4	6.4	3.4	<1	<1	
20/1	F	4	559	390		15	175.0	175.0	<2	4.4	<6.4	<6.4	6.2	<1	<1	
21/1	F	4	412	350		30	220.0	220.0	2.3	4.8	7.1	7.1	4.6	<1	<1	
22/1	F	4	668	410		22	222.0	222.0	2.3	4.9	7.2	7.2	4.7	<1	<1	
23/1	F	4	492	370		28	178.0	178.0	<0.6	0.75	<1.4	<1.4	0.95	<0.3	<0.3	
24/1	M	4	521	370		12	112.0	112.0	4.0	8.6	12.6	12.6	7.1	<2	<2	
25/1	M	4	457	360		28	218.0	218.0	<1	1.7	<2.7	<2.7	3.4	<0.5	<0.5	
Mean		4	840	424		156,4	<36.4	<324.3	<324.3	<<2.2	<4.4	<<6.6	<<6.6	5,3	<<1.0	<<1.0
Minimum		4	279	320		73,0	<6.0	59,9	59,9	<0.1	<0.6	<0.6	<0.6	0,4	<0.3	<0.3
Maximum		7	2983	710		300,0	85,0	904,0	904,0	4,1	9,6	13,7	13,7	18,0	<2.0	<2.0
St.Dev		1	746	109		92,4	~26.4	~255.6	~255.6	~1.2	~2.5	~3.7	~3.7	3,8	~0.5	~0.5
Count		25	25	25		5	23	23	23	23	23	23	23	23	23	23

miss(38) ! Missing value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J62, 67B Inner Sørfjord 19990927

Samle no. 1	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
Samle no. 2	Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex
Samle no. 3	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions
Samle no.4	Skin with metacercariae of cf. Cryptocotyle lingua
Samle no. 5	Skin with metacercariae of cf. Cryptocotyle lingua
Samle no.6	Bacterial fin rot Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or lernaeop.cope
Samle no. 7	Skin with metacercariae of cf. Cryptocotyle lingua
Samle no. 8	Skin with metacercariae of cf. Cryptocotyle lingua
Samle no. 9	Skin with metacercariae of cf. Cryptocotyle lingua
Samle no. 10	Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
Samle no. 11	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Samle no. 12	Skin with metacercariae of cf. Cryptocotyle lingua
Samle no. 13	Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
Samle no. 14	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex
Samle no. 15	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisakis simplex
Samle no. 16	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or lernaeo.copep
Samle no. 17	Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
Samle no. 18	Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Samle no. 19	Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds) Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex
Samle no. 20	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Samle no. 21	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions
Samle no. 22	Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions
Samle no. 23	Bacterial fin rot Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions
Samle no. 24	Signs of mechanical damage (e.g., net wounds) Skin with metacercariae of cf. Cryptocotyle lingua
Samle no. 25	Skin with metacercariae of cf. Cryptocotyle lingua

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J62 Hardangerfjorden** Tissue: LIVER
 Locality : **67B Strandebar** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **20001014** Count: 25 Sample type: **Individual**
 Comment : Station: Strandebar Fish 1-15 fished from 4-14 oct.2000
 Fisk 16-25 fished in nov.2000 fish 1,2,3 and 4 had been in a "not"(trawl) for 10 days

Analytical lab. =>					NIVA															NIVA		NIVA			
Analysis code =>					312															311		312			
Detection limit =>					0.05															0.01		0.04			
Samp/ repl.	Sex	Age	Wght	Lngr	Mean weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	6	3517	770	57,4	39,6	24,3	0.397	3.71	0.04	28.2	<1.0	1.5	5.4	2.7	6.5	17	27	1.8	8.9	<1.0	<67	<72	57	
2/1	F	2	1207	510	46,0	76,4	66,5	0.029	15.7	<0.04	31.8	<4.0	<4.0	6.3	5.3	11	25	53	<4.0	17	<4.0	<116	<122	110	
3/1	F	2	1056	490	38,6	68,8	61,7	0.034	12.4	<0.04	23.4	<3.0	3.6	7.5	4.4	6.8	19	30	3.1	12	<3.0	<82	<89	120	
4/1	F	2	539	400	9,8			46,0	0.069	10.2	<0.03	32.4	<2.0	2.5	8.3	6.9	17	42	64	3.9	17	<2.0	<153	<164	210
5/1	F	4	6400	860	183,8	57,8	51,6	0.077	21.7	<0.03	28.0	3.6	6.5	24	18	44	100	160	9.0	39	<2.0	377	<406	370	
6/1	F	7	4285	760	91,2	49,1	36,6	0.089	35.9	<0.03	36.3	3.3	6.0	22	19	42	110	150	13	57	<2.0	390	<424	560	
7/1	M	2	1923	580	90,4	76,6	70,2	0.023	10.5	<0.04	22.7	<4.0	<4.0	6.4	4.3	8.3	19	38	<4.0	14	<4.0	<90	<94	96	
8/1	M	2	950	470	14,8	51,8	40,2	0.140	24.9	<0.03	36.9	<2.0	5.8	41	23	67	190	270	21	96	<2.0	<672	<716	410	
9/1	M	2	1813	560	66,2	67,9	59,1	0.040	8.50	<0.03	21.4	<4.0	4.2	22	14	39	98	140	13	64	<4.0	<371	<398	210	
10/1	F	2	1564	530	54,2	72,2	60,2	0.020	8.45	<0.04	21.6	<3.0	3.3	8.8	6.8	15	41	74	6.4	32	<3.0	<177	<190	140	
11/1	M	2	1388	520	38,0	68,6	60,2	0.031	17.4	<0.04	30.3	<4.0	<4.0	8.2	5.6	10	25	48	4.1	19	<4.0	<114	<124	150	
12/1	F	2	839	460	17,4	56,0	44,3	0.038	17.2	<0.03	32.1	<3.0	4.2	11	7.0	15	37	56	4.0	18	<3.0	<144	<155	210	
13/1	F	2	449	370	5,6			0.142	10.4	<0.04	51.4	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss	
14/1	M	2	934	470	13,0	39,9	26,3	0.080	17.4	<0.04	41.2	<1.5	2.0	7.1	6.0	16	40	73	4.4	22	<1.5	<162	<172	160	
15/1	F	2	593	390	9,8	43,2	29,9	0.081	7.26	<0.04	40.7	<1.5	2.1	9.0	6.3	19	41	59	3.4	14	<1.5	<146	<155	150	
16/1	M	2	779	430	27,2	54,2	44,0	0.038	2.75	0.05	19.1	<2.0	<2.0	4.1	3.1	7.9	17	29	<2.0	8.3	<2.0	<68	<71	240	
17/1	M	2	699	430	10,0	21,4	6,1	0.029	2.52	0.04	26.3	0.39	0.96	6.4	3.9	15	39	61	s3.3	16	<0.3	139	s<146	130	
18/1	M	2	725	430	11,1	44,5	29,0	0.087	4.97	0.21	32.2	<2.0	2.0	8.0	5.4	17	37	63	3.4	16	<2.0	<145	<154	172	
19/1	M	2	779	430	12,5	44,0	30,0	0.064	10.7	0.05	31.3	<2.0	2.5	5.9	6.8	18	35	73	4.2	23	<2.0	<159	<170	183	
20/1	F	3	1136	470	33,1	60,8	49,0	0.059	2.84	0.03	22.6	<4.0	<4.0	6.6	4.2	13	26	40	<4.0	9.1	<4.0	<99	<103	134	
21/1	F	3	1062	490	11,4	30,6	14,0	0.052	5.24	<0.04	31.4	2.2	7.0	35	17	56	130	190	<2.0	55	2.1	475	<496	570	
22/1	F	3	1292	520	40,0	49,6	32,0	0.049	6.39	0.04	19.9	<2.0	<2.0	8.6	7.1	21	54	90	<2.0	30	<2.0	<206	<213	120	
23/1	M	4	1667	570	36,4	49,7	37,0	0.100	3.96	0.04	29.2	<2.0	<2.0	11	17	59	110	200	11	57	<2.0	<439	<467	370	
24/1	M	2	1742	580	58,2	60,4	48,0	0.040	14.3	0.18	22.4	<3.0	<3.0	6.6	4.3	9.4	31	46	<3.0	14	miss	<110	<114	260	
25/1	F	3	1765	600	12,4	24,2	7,6	0.091	20.6	0.10	61.5	<0.5	0.52	8.2	20	56	120	190	14	65	1.2	<440	<475	450	
Mean		3	1564	524	39,5	52,5	40,6	0,08	11,84	<<0.05	31,0	<<2.5	<<3.3	12,0	9,1	24,5	58,5	92,7	<<6.1	30,1	<<2.4	<<223	<<241	232,6	
Minimum		2	449	370	5,6	21,4	6,1	0,02	2,52	<0.03	19,1	0,4	0,5	4,1	2,7	6,5	17,0	27,0	1,8	8,3	<0.3	<67	<71	57,0	
Maximum		7	6400	860	183,8	76,6	70,2	0,40	35,90	0,21	61,5	<4.0	7,0	41,0	23,0	67,0	190,0	270,0	21,0	96,0	<4.0	<672	<716	570,0	
St.Dev		1	1339	121	39,0	15,5	17,8	0,07	8,13	-0.05	9,9	-1.1	-1.7	9,7	6,3	19,0	45,9	66,6	-5.0	23,3	-1.1	-163	-177	145,0	
Count		25	25	25	25	23	24	25	25	25	25	24	24	24	24	24	24	24	24	23	24	23	24	23	24

miss(18) ! Missing value s/q(2) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J62, 67B Inner Sørfjord 20001014

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>				340	340	Calc	Calc	340	340	Calc	Calc	340	340	340		
Detection limit =>				2	3			0.5	2			2	2	2		
Samp/	Sex	Age	Wght	Lngt	DDTPP	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS	
repl.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	M	6	3517	770	11	8.4	76.4	76.4	1.4	2.6	4.0	4.0	3.2	<0.60	<0.60	
2/1	F	2	1207	510		20	130.0	130.0	<4.0	7.1	<11.1	<11.1	8.1	<2.0	<2.0	
3/1	F	2	1056	490		27	147.0	147.0	3.5	6.6	10.1	10.1	7.4	<1.5	<1.5	
4/1	F	2	539	400		35	245.0	245.0	2.8	5.3	8.1	8.1	6.1	<1.0	<1.0	
5/1	F	4	6400	860	87	39	496.0	496.0	3.1	5.5	8.6	8.6	10	<1.0	<1.0	
6/1	F	7	4285	760	170	79	809.0	809.0	2.3	4.0	6.3	6.3	14	<1.0	1.4	
7/1	M	2	1923	580	59	19	174.0	174.0	<4.0	7.5	<11.5	<11.5	8.7	<2.0	2.1	
8/1	M	2	950	470		49	459.0	459.0	2.6	4.7	7.3	7.3	6.2	<1.0	<1.0	
9/1	M	2	1813	560	89	25	324.0	324.0	<4.0	6.7	<10.7	<10.7	8.1	<2.0	<2.0	
10/1	F	2	1564	530		21	161.0	161.0	3.9	7.2	11.1	11.1	7.6	<1.5	<1.5	
11/1	M	2	1388	520		26	176.0	176.0	<4.0	6.2	<10.2	<10.2	12	<2.0	<2.0	
12/1	F	2	839	460		40	250.0	250.0	2.6	5.0	7.6	7.6	8.6	<1.5	<1.5	
13/1	F	2	449	370		miss			miss	miss			miss	miss	miss	
14/1	M	2	934	470		34	194.0	194.0	1.5	2.8	4.3	4.3	4.1	<1.0	<1.0	
15/1	F	2	593	390		33	183.0	183.0	1.7	3.6	5.3	5.3	4.0	<0.80	<0.8	
16/1	M	2	779	430		24	264.0	264.0	2.0	3.8	5.8	5.8	4.2	<1.0	<1.0	
17/1	M	2	699	430		24	154.0	154.0	<0.3	0.32	<0.6	<0.6	0.96	<0.2	<0.2	
18/1	M	2	725	430		35	207.0	207.0	<2.0	2.2	<4.2	<4.2	3.3	<1.0	<1.0	
19/1	M	2	779	430		38	221.0	221.0	<2.0	2.8	<4.8	<4.8	4.2	<1.0	<1.0	
20/1	F	3	1136	470		22	156.0	156.0	<4.0	4.0	<8.0	<8.0	5.2	<2.0	<4.0	
21/1	F	3	1062	490		132	702.0	702.0	<1.0	1.1	<2.1	<2.1	3.4	<1.0	<1.0	
22/1	F	3	1292	520		22	142.0	142.0	1.4	2.7	4.1	4.1	2.5	<1.0	<1.0	
23/1	M	4	1667	570		69	439.0	439.0	<1.0	3.2	<4.2	<4.2	4.1	<1.0	<1.0	
24/1	M	2	1742	580		23	283.0	283.0	<2.0	5.1	<7.1	<7.1	6.7	<2.0	<2.0	
25/1	F	3	1765	600		55	505.0	505.0	<0.3	0.36	<0.7	<0.7	1.1	<0.3	0.53	
Mean		3	1564	524		83,2	37,5	287,4	287,4	<<2.4	4,2	<<6.6	<<6.6	6,0	<<1.2	<<1.3
Minimum		2	449	370		11,0	8,4	76,4	76,4	<0.3	0,3	<0.6	<0.6	1,0	<0.2	<0.2
Maximum		7	6400	860		170,0	132,0	809,0	809,0	<4.0	7,5	<11.5	<11.5	14,0	<2.0	<4.0
St.Dev		1	1339	121		57,8	25,8	187,6	187,6	~1.2	2,1	~3.3	~3.3	3,3	~0.5	~0.8
Count		25	25	25		5	24	24	24	24	24	24	24	24	24	24

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J62, 67B Inner Sørfjord 20001014

Sample no. 1 Skin with metacercariae of cf. *Cryptocotyle lingua* Skin with ulceration, lymphocytic areas and/or lesions
Bacterial fin rot Liver and/or intestinal guts with larvae of *Anisakis simplex*

Sample no. 2 Skin with metacercariae of cf. *Cryptocotyle lingua* Skin with ulceration, lymphocytic areas and/or lesions
Skin and/or oral cavity with caligiform and/or *Lernaeopodiform* copepods

Sample no. 3 Skin with metacercariae of cf. *Cryptocotyle lingua* Skin with ulceration, lymphocytic areas and/or lesions
Liver and/or intestinal guts with larvae of *Anisakis simplex*

Sample no. 4 Skin with metacercariae of cf. *Cryptocotyle lingua*

Sample no. 5 Skin with metacercariae of cf. *Cryptocotyle lingua* Bacterial fin rot
Liver and/or intestinal guts with larvae of *Anisakis simplex*

Sample no. 6 Liver and/or intestinal guts with larvae of *Anisakis simplex* Skin with metacercariae of cf. *Cryptocotyle lingua*
Bacterial fin rot

Sample no. 7 Skin with metacercariae of cf. *Cryptocotyle lingua*

Sample no. 8 Skin with metacercariae of cf. *Cryptocotyle lingua* Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods

Sample no. 9 Skin with metacercariae of cf. *Cryptocotyle lingua* Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Liver and/or intestinal guts with larvae of *Anisakis simplex*

Sample no. 10 Skin with ulceration, lymphocytic areas and/or lesions

Sample no. 11 Bacterial fin rot Skin with metacercariae of cf. *Cryp* Age uncertain

Sample no. 12 Skin with metacercariae of cf. *Cryptocotyle lingua* Bacterial fin rot
Signs of mechanical damage (e.g., net wounds)

Sample no. 13 Skin with metacercariae of cf. *Cryptocotyle lingua* Bacterial fin rot

Sample no. 14 Skin with metacercariae of cf. *Cryptocotyle lingua*

Sample no. 15 Skin and/or oral cavity with caligiform and/or *Lernaeopodiform* copepods
Skin with metacercariae of cf. *Cryptocotyle lingua*

Sample no. 16 Skin with metacercariae of cf. *Cryptocotyle lingua*

Sample no. 17 Skin with metacercariae of cf. *Cryptocotyle lingua*

Sample no. 18 Skin with metacercariae of cf. *Cryptocotyle lingua*

Sample no. 20 Skin with metacercariae of cf. *Cryptocotyle lingua*

Sample no. 22 Skin with metacercariae of cf. *Cryptocotyle lingua*

Sample no. 23 Skin with metacercariae of cf. *Cryptocotyle lingua*

Sample no. 24 Skin with metacercariae of cf. *Cryptocotyle lingua*

Sample no. 25 Skin with metacercariae of cf. *Cryptocotyle lingua*

JAMP contaminant data for fish 1998-2001 - Norway

Species : GADU MOR Gadus morhua GB: Cod, N: Torsk
 Sample area: J62 Hardangerfjorden Tissue: LIVER
 Locality : 67B Strandebarne Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : 20011212 Count: 25 Sample type: Individual

Analytical lab. =>				NIVA																					
Analysis code =>				312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340																					
Detection limit =>				Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3																					
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry %	Fat %	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	3	1378	530	26,1	49,6	35,8	0.070	27.2	0.03	26.0	2.8	4.2	22	20	50	110	170	11	47	<1.0	406	<438	330	
2/1	F	3	961	480	20,2	57,5	43,8	0.050	6.38	<0.03	28.7	<1.6	<1.6	5.4	7.0	17	28	54	3.6	16	<1.6	<122	<133	95	
3/1	M	3	1237	500	23,1	52,4	40,7	0.028	8.53	0.04	32.9	2.3	3.6	18	18	47	72	100	5.4	25	<1.6	268	<293	250	
4/1	F	3	1516	540	63,1	60,5	53,3	0.024	55.1	<0.03	35.9	6.8	18	37	60	87	70	89	7.6	29	<1.6	337	<406	130	
5/1	F	1	628	410	14,5	52,9	37,4	0.020	7.75	<0.03	30.4	<1.6	2.4	10	8.0	20	40	60	4.0	18	<1.6	<152	<164	130	
6/1	F	3	1354	520	38,0	60,7	49,1	0.029	5.76	<0.03	23.6	2.7	3.5	16	18	44	72	110	6.4	31	<1.6	279	<305	210	
7/1	M	3	1556	550	33,7	48,4	34,4	0.056	5.74	<0.03	29.9	1.4	3.4	16	9.2	25	50	70	4.4	19	<1.0	185	<199	230	
8/1	F	3	1780	580	35,2	58,7	46,9	0.042	21.8	<0.03	49.6	<2.0	<2.0	9.3	8.9	21	39	67	4.3	21	<2.0	<159	<173	180	
9/1	F	3	2056	620	29,6	35,9	19,0	0.121	10.5	<0.03	38.1	<1.0	1.2	11	16	46	120	180	12	62	<1.0	<421	<449	500	
10/1	F	2	1455	540	14,3	33,0	15,9	0.169	53.1	0.09	56.8	2.6	3.8	17	30	66	79	130	8.4	36	<1.0	334	<374	220	
11/1	F	1	612	410	10,1	54,0	36,9	0.025	7.09	0.03	32.0	<1.6	2.2	9.5	25	51	54	80	6.2	27	<1.6	<225	<257	100	
12/1	F	1	421	350	11,7	68,2	62,6	0.016	3.53	<0.03	18.7	<2.0	2.9	12	7.4	16	26	36	2.6	8.9	<2.0	<104	<114	69	
13/1	F	1	637	400	7,5	27,3	4,0	0.069	6.36	0.03	35.7	0.62	0.36	2.8	5.1	13	26	37	2.5	9.6	0.21	89	97	35	
14/1	F	3	1302	520	32,4	55,1	42,0	0.083	11.8	<0.03	32.6	2.6	2.3	7.4	9.5	23	39	56	4.6	19	1.3	149	165	180	
15/1	F	1	648	400	9,8	39,6	23,0	0.044	7.47	<0.03	34.1	3.2	2.7	18	28	88	160	220	14	49	<1.0	541	<584	200	
16/1	F	1	552	380	18,4	70,3	62,0	0.010	7.09	<0.03	19.6	<2.0	3.8	15	10	25	45	56	4.2	14	<2.0	<161	<175	66	
17/1	F	1	428	360	4,9	41,5	16,0	0.046	9.41	0.09	36.2	1.1	1.5	11	17	56	120	180	12	47	<1.0	417	<447	86	
18/1	F	3	1928	580	52,8	59,3	48,0	0.040	7.19	<0.03	28.1	3.0	4.3	23	9.5	30	67	97	4.2	20	<1.5	244	<260	290	
19/1	F	3	1959	600	44,4	57,1	42,0	0.032	14.6	<0.03	35.2	14	49	93	98	160	120	170	15	55	<1.5	661	<776	170	
20/1	M	1	583	390	15,0	51,3	36,0	0.020	1.13	<0.03	19.6	<1.5	1.5	6.5	7.7	19	34	45	3.2	9.9	<1.5	<117	<128	62	
21/1	M	1	682	410	18,3	57,0	47,0	0.024	2.83	<0.03	21.3	<2.0	2.5	8.4	7.9	17	25	33	2.5	8.4	<2.0	<96	<107	60	
22/1	F	1	589	380	22,6	70,3	61,0	0.012	6.02	<0.03	17.2	<2.0	2.4	9.5	5.7	12	19	23	<2.0	5.4	<2.0	<73	<79	43	
23/1	M	1	544	380	18,7	69,9	60,0	0.013	9.32	<0.03	19.0	<2.0	10	110	63	210	380	530	40	160	<2.0	<1402	<1505	140	
24/1	M	1	636	400	13,4	48,6	34,0	0.026	4.21	<0.03	27.9	<1.5	1.8	6.8	6.4	15	25	36	2.4	10	<1.5	<96	<105	69	
25/1	F	3	1255	520	30,6	58,0	45,0	0.040	9.37	<0.03	37.1	2.1	5.0	35	26	73	120	180	12	44	<1.5	459	<499	180	
Mean		2	1068	470	24,3	53,5	39,8	0,04	12,37	<<0.04	30,6	<<2.6	<5.4	21,2	20,9	49,2	77,6	112,4	<7.8	31,6	<<1.5	<<300	<<329	161,0	
Minimum		1	421	350	4,9	27,3	4,0	0,01	1,13	<0.03	17,2	0,6	0,4	2,8	5,1	12,0	19,0	23,0	<2.0	5,4	0,2	<73	<79	35,0	
Maximum		3	2056	620	63,1	70,3	62,6	0,17	55,10	0,09	56,8	14,0	49,0	110,0	98,0	210,0	380,0	530,0	40,0	160,0	<2.0	<1402	<1505	500,0	
St.Dev		1	534	85	14,4	11,4	15,3	0,04	13,75	~0.02	9,5	~2.6	~9.7	25,7	22,1	47,4	74,2	104,3	~7.8	31,3	~0.4	~278	~303	106,7	
Count		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J62, 67B Standebarm 20011212

Analytical lab.		=>	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>	340	340	Calc	Calc	340	340	Calc	Calc	340	340	340	340		
Detection limit		=>	2	3			0.5	2			2	2	2	2		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	M	3	1378	530		45	375.0	375.0	1.4	2.1	3.5	3.5	7.3	<0.50	<1.0	
2/1	F	3	961	480		12	107.0	107.0	1.7	2.8	4.5	4.5	4.7	<0.80	<1.6	
3/1	M	3	1237	500		35	285.0	285.0	1.6	2.6	4.2	4.2	5.9	<0.80	<1.6	
4/1	F	3	1516	540		21	151.0	151.0	2.0	3.2	5.2	5.2	6.5	<0.80	1.9	
5/1	F	1	628	410		22	152.0	152.0	<1.6	2.3	<3.9	<3.9	4.8	<0.80	<1.6	
6/1	F	3	1354	520		46	256.0	256.0	1.9	3.0	4.9	4.9	5.6	<0.80	<1.6	
7/1	M	3	1556	550	72	26	328.0	328.0	1.3	2.1	3.4	3.4	4.2	<0.50	<1.0	
8/1	F	3	1780	580	75	29	284.0	284.0	<2.0	2.8	<4.8	<4.8	8.4	<1.0	<2.0	
9/1	F	3	2056	620	73	50	623.0	623.0	<1.0	1.3	<2.3	<2.3	2.1	<0.50	<1.0	
10/1	F	2	1455	540		46	266.0	266.0	<1.0	<1.0	<1.0	<1.0	3.3	<0.50	<1.0	
11/1	F	1	612	410		14	114.0	114.0	<1.6	2.4	<4.0	<4.0	3.8	<0.80	<1.6	
12/1	F	1	421	350		11	80.0	80.0	2.4	3.9	6.3	6.3	5.4	<1.0	<2.0	
13/1	F	1	637	400		4.2	39.2	39.2	<0.20	<0.20	<0.2	<0.2	0.38	<0.10	<0.10	
14/1	F	3	1302	520		20	200.0	200.0	2.1	3.2	5.3	5.3	5.1	0.68	<0.50	
15/1	F	1	648	400		30	230.0	230.0	<1.0	1.4	<2.4	<2.4	2.3	<0.50	<0.5	
16/1	F	1	552	380		11	77.0	77.0	2.7	3.8	6.5	6.5	5.2	<1.0	<1.0	
17/1	F	1	428	360		13	99.0	99.0	<1.0	1.0	<2.0	<2.0	1.8	<0.50	<0.50	
18/1	F	3	1928	580	38	24	352.0	352.0	1.8	2.6	4.4	4.4	7.9	0.79	<0.70	
19/1	F	3	1959	600	60	25	255.0	255.0	1.8	2.6	4.4	4.4	6.2	<0.70	4.0	
20/1	M	1	583	390		9.0	71.0	71.0	1.4	2.1	3.5	3.5	3.6	<0.70	<0.70	
21/1	M	1	682	410		8.6	68.6	68.6	1.9	2.9	4.8	4.8	4.3	<1.0	<1.0	
22/1	F	1	589	380		8.2	51.2	51.2	2.4	3.8	6.2	6.2	4.9	<1.0	<1.0	
23/1	M	1	544	380		17	157.0	157.0	2.5	3.7	6.2	6.2	5.1	<1.0	<1.0	
24/1	M	1	636	400		8.7	77.7	77.7	1.3	2.0	3.3	3.3	3.3	<0.70	<0.7	
25/1	F	3	1255	520		24	204.0	204.0	1.8	2.7	4.5	4.5	5.2	<0.7	<0.7	
Mean		2	1068	470		63,6	22,4	196,1	196,1	<<1.7	<2.5	<<4.1	<<4.1	4,7	<<0.7	<<1.2
Minimum		1	421	350		38,0	4,2	39,2	39,2	<0.2	<0.2	<0.2	<0.2	0,4	<0.1	<0.1
Maximum		3	2056	620		75,0	50,0	623,0	623,0	2,7	3,9	6,5	6,5	8,4	<1.0	4,0
St.Dev		1	534	85		15,5	13,4	134,4	134,4	~0.6	~0.9	~1.6	~1.6	1,9	~0.2	~0.8
Count		25	25	25		5	25	25	25	25	25	25	25	25	25	25

Comments

Station: Strandebarm fished between 6.-12dec.2001
fished at 0-20m depth

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J62, 67B Standebarm 20011212

Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex Skin with ulceration, lymphocytic areas and/or lesion liver colour is white
Sample no.	Liver and/or intestinal guts with larvae of Anisakis simplex Skin with ulceration, lymphocytic areas and/or lesions Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
Sample no. 3	Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
Sample no. 4	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex Skin with ulceration, lymphocytic areas and/or lesions liver colour is white
Sample no. 5	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions Fish malodorous liver colour is white
Sample no. 6	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic liver colour is white
Sample no. 7	Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions Skin a/or oral cavity with caligif. a/or Lernaeopodif.copep Lernaeopodiform copepods Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Skin and/or oral cavity with caligiform and/or Lernaeopodifor liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is red white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Bacterial fin liver colour id red white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Ba liver colour is brown
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot Liver and/or intestinal guts with larvae of liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic live colour is red
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions liver colour is white
Sample no.	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Liver with necrotic areas and/or discolouration liver colour is white
Sample no.	Skin with ulceration, lymphocytic areas and/or lesions Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is white

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **23B Karihavet area** Latitude: 59°55.0N Longitude: 5°7.0E
 Catch,date : **19981021** Count: 25 Sample type: **Individual**

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		
Analysis code		=>		312		311		312		311		340		340		340		340		340		340		
Detection limit		=>		Mean		0.05		0.01		0.04		1		3		3		3		3		4		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	386	360	3,8	21,7	2,2	0.101	9.89	<0.03	42.5	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss	miss
2/1	F	4	661	400	12,8	54,5	38,3	0.032	12.3	<0.03	27.5	<4	<4	9.9	7.1	14	38	66	<4	16	<4	<148	<155	35
3/1	M	4	732	440	6,2	28,5	10,9	0.060	11.3	<0.03	51.8	1.1	1.2	5.7	6.1	17	27	55	3.4	12	<1	119	<130	37
4/1		4	798	440	7,1	25,0	3,8	0.135	27.1	<0.03	56.7	<1	<1	1.4	1.8	4.5	9.3	20	1.4	6.1	<1	<42	<46	6.7
5/1	M	5	758	450	11,0	39,2	19,8	0.025	6.60	<0.03	34.0	<2	<2	9.2	13	36	60	110	11	32	<2	<249	<273	130
6/1	F	5	915	450	13,6	43,7	24,7	0.033	7.72	<0.03	33.7	5.5	2.5	19	23	54	94	210	11	58	<2	443	<479	110
7/1	M	4	856	460	18,4	58,8	46,0	0.112	6.53	<0.03	26.6	<4	6.1	20	26	62	83	120	12	33	<4	<328	<366	110
8/1	M	5	1076	480	15,6	38,6	21,8	0.057	6.95	<0.03	36.9	<2	2.2	8.3	9.8	27	51	110	6.9	29	<2	<230	<246	47
9/1	M	5	1050	500	13,5	44,1	25,5	0.043	28.2	<0.03	49.0	<4	<4	12	9.9	28	44	89	5.0	18	<4	<195	<210	50
10/1	M	5	1028	510	12,2	37,9	17,7	0.122	7.39	<0.03	31.0	<2	<2	7.5	6.0	19	37	55	2.6	8.6	<2	<129	<138	36
11/1	M	4	1298	520	36,2	64,1	50,8	0.009	3.11	<0.03	23.8	<4	<4	17	15	46	72	130	8.2	26	<4	<295	<318	76
12/1	F	5	1284	520	27,1	56,2	41,2	0.013	10.0	<0.03	31.2	<4	<4	11	11	29	52	120	6.2	33	<4	<249	<266	65
13/1	F	5	1370	530	34,8	57,6	44,8	0.026	6.51	<0.03	24.5	<4	<4	12	12	30	54	97	6.4	21	<4	<218	<236	48
14/1	M	6	1265	540	21,9	70,4	62,1	0.013	8.84	<0.03	21.1	<6	<6	9.9	10	26	45	99	6.2	29	<6	<215	<231	44
15/1	F	5	2081	540	57,0	45,3	29,5	0.033	20.9	<0.03	46.0	<4	<4	9.8	12	35	66	120	6.6	28	<4	<263	<281	62
16/1	F	5	1422	550	27,0	63,3	50,4	0.014	5.86	<0.03	31.3	<4	11	30	31	89	140	320	18	96	<4	<690	<739	84
17/1	F	6	1494	550	45,7	71,0	62,0	0.020	6.51	<0.03	22.1	<8	<8	13	<8	17	29	60	<8	16	<8	<143	<143	35
18/1	M	6	1567	570	34,3	57,7	40,4	0.016	8.76	<0.03	26.6	<4	<4	9.6	9.0	21	35	72	4.0	23	<4	<165	<178	48
19/1	M	5	1873	580	23,1	33,5	16,7	0.030	4.90	<0.03	49.3	<2	2.1	7.3	5.4	17	36	68	3.3	13	<2	<145	<154	33
20/1	F	6	2378	580	168,0	78,2	72,6	0.005	3.46	<0.03	15.3	<8	<8	18	<8	18	36	50	<8	13	<8	<143	<143	49
21/1	M	6	2191	590	79,8	70,3	60,8	0.014	15.0	<0.03	27.0	<8	30	750	570	1600	1900	1900	310	290	<8	<6478	<7358	49
22/1	M	6	2965	640	348,0	82,0	78,7	<0.003	1.24	<0.03	8.80	<8	<8	24	<8	21	39	52	<8	12	<8	<156	<156	65
23/1	F	6	3664	680	331,0	83,1	77,1	0.004	1.43	<0.03	10.9	<8	<8	16	<8	14	29	39	<8	<8	<8	<106	<106	37
24/1	M	6	3579	710	177,7	74,2	67,4	0.010	12.5	<0.03	25.3	<8	<8	11	<8	20	38	59	<8	15	<8	<151	<151	51
25/1	M	7	5551	770	567,0	86,4	79,8	0.003	2.40	<0.03	10.4	<8	<8	24	<8	22	39	51	<8	10	<8	<154	<154	51
Mean		5	1690	534	83,7	55,4	41,8	<0.04	9,42	<<0.03	30,5	<<4.7	<<5.9	44,0	<34.4	94,4	127,2	169,7	<<19.8	<35.2	<<4.6	<<477	<<527	56,6
Minimum		4	386	360	3,8	21,7	2,2	<0.00	1,24	<0.03	8,8	<1.0	<1.0	1,4	1,8	4,5	9,3	20,0	1,4	6,1	<1.0	<42	<46	6,7
Maximum		7	5551	770	567,0	86,4	79,8	0,14	28,20	<0.03	56,7	<8.0	30,0	750,0	570,0	1600	1900	1900	310,0	290,0	<8.0	<6478	<7358	130,0
St.Dev		1	1181	96	137,9	19,0	24,0	~0.04	7,03	~0.00	13,1	~2.5	~5.8	150,5	~114.3	321,2	378,5	373,8	~61.9	~57.5	~2.5	~1285	~1462	28,1
Count		25	25	25	25	25	25	25	25	25	25	24	24	24	24	24	24	24	24	24	24	24	24	24

miss(17) ! Missing value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 23B Karihavet 19981021

Analytical lab.		=>	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>	340	Calc	Calc	340	340	Calc	Calc	340	340	340	340	
Detection limit		=>	3			0.5	2			2	2	2	2	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	386	360	miss			miss	miss			miss	miss	miss
2/1	F	4	661	400	7.3	42.3	42.3	<4	9.2	<13.2	<13.2	5.1	<2	<2
3/1	M	4	732	440	7.6	44.6	44.6	<1	2.3	<3.3	<3.3	2.9	<0.5	<0.5
4/1		4	798	440	<2	<8.7	<8.7	<1	<1	<1.0	<1.0	<0.5	<0.5	<0.5
5/1	M	5	758	450	14	144.0	144.0	<2	4.5	<6.5	<6.5	3.1	<1	<1
6/1	F	5	915	450	23	133.0	133.0	<2	5.6	<7.6	<7.6	4.4	<1	<1
7/1	M	4	856	460	19	129.0	129.0	<4	10	<14.0	<14.0	11	<2	<2
8/1	M	5	1076	480	8.5	55.5	55.5	<2	5.0	<7.0	<7.0	4.7	<1	<1
9/1	M	5	1050	500	12	62.0	62.0	<4	5.5	<9.5	<9.5	6.1	<2	<2
10/1	M	5	1028	510	6.6	42.6	42.6	<2	4.1	<6.1	<6.1	4.8	<1	<1
11/1	M	4	1298	520	14	90.0	90.0	<4	11	<15.0	<15.0	7.2	<2	<2
12/1	F	5	1284	520	17	82.0	82.0	<4	9.0	<13.0	<13.0	8.3	<2	<2
13/1	F	5	1370	530	8.7	56.7	56.7	<4	9.6	<13.6	<13.6	9.1	<2	<2
14/1	M	6	1265	540	7.9	51.9	51.9	<6	14	<20.0	<20.0	11	<3	<3
15/1	F	5	2081	540	21	83.0	83.0	<4	6.8	<10.8	<10.8	5.9	<2	<2
16/1	F	5	1422	550	14	98.0	98.0	<4	11	<15.0	<15.0	12	<2	<2
17/1	F	6	1494	550	<10	<45.0	<45.0	<8	14	<22.0	<22.0	12	<4	<4
18/1	M	6	1567	570	15	63.0	63.0	<4	8.9	<12.9	<12.9	9.1	<2	<2
19/1	M	5	1873	580	8.2	41.2	41.2	<2	3.6	<5.6	<5.6	4.8	<1	<1
20/1	F	6	2378	580	16	65.0	65.0	<8	16	<24.0	<24.0	11	<4	<4
21/1	M	6	2191	590	10	59.0	59.0	8.7	13	21.7	21.7	8.9	<4	<4
22/1	M	6	2965	640	21	86.0	86.0	<8	18	<26.0	<26.0	12	<4	<4
23/1	F	6	3664	680	11	48.0	48.0	<8	17	<25.0	<25.0	9.4	<4	<4
24/1	M	6	3579	710	<10	<61.0	<61.0	<8	12	<20.0	<20.0	8.5	<4	<4
25/1	M	7	5551	770	16	67.0	67.0	<8	18	<26.0	<26.0	12	<4	<4
Mean		5	1690	534	<12.5	<69.1	<69.1	<<4.6	<9.5	<<14.1	<<14.1	<7.7	<<2.3	<<2.3
Minimum		4	386	360	<2.0	<8.7	<8.7	<1.0	<1.0	<1.0	<1.0	<0.5	<0.5	<0.5
Maximum		7	5551	770	23.0	144.0	144.0	8.7	18.0	<26.0	<26.0	12.0	<4.0	<4.0
St.Dev		1	1181	96	~5.3	~32.0	~32.0	~2.6	~5.0	~7.5	~7.5	~3.4	~1.3	~1.3
Count		25	25	25	24	24	24	24	24	24	24	24	24	24

miss(17) ! Missing value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 23B Karihavet 19981021

Sample no.	fish no.7	Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisakis simplex
Sample no.	fish no. 21	Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Sample no.	fish no. 2	Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex
Sample no.	fish no. 25	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Gills with Lernaeocera copepods
Sample no.	fish no. 9	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Signs of mechanical damage (e.g., net wounds)
Sample no.	fish no. 20	Liver with signs of bleeding Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
Sample no.	fish no. 17	Skin with met. of cf. Cryptocotyle lingua Skin/oral cavity with caligiform and/orLernaeopodi. Copepods Liver and/or intestinal guts with larvae of Anisakis simplex Liver with signs of bleeding Signs of mechanical damage (e.g., net wounds)
Sample no.	fish no. 19	Signs of mechanical damage (e.g., net wounds) Gills with Lernaeocera copepods Liver and/or intestinal guts with l Liver with signs of bleeding
Sample no.	fish no. 4	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
Sample no.	fish no. 3	Gills with Lernaeocera copepods Bacterial fin rot Signs of mechanical damage (e.g., net wounds) Skin and/or oral cav Lernaeopodiform copepods
Sample no.	fish no. 5	Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal Liver with signs of bleeding
Sample no.	fish no.24	Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavi Lernaeopodiform copepods
Sample no.	fish no.11	Liver and/or intestinal guts with larvae o Signs of mechanical damage (e.g., net wounds)
Sample no.	fish no. 22	Skin with metacercariae of cf. Cry Signs of mechanical damage (e.g., net wounds) Liver with signs of bleeding
Sample no.	fish no.15	Signs of mechanical damage (e.g., r Liver with signs of bleeding
Sample no.	fish no. 1	Signs of mechanical damage (e.g., r Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex Skin with ulceration, lymphocytic areas and/or lesions
Sample no.	fish no. 13	Signs of mechanical damage (e.g., Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex Liver with signs of bleeding
Sample no.	fish no. 23	Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds) Skin and/or or Lernaeopodiform copepods
Sample no.	fish no.8	Bacterial fin Liver with signs of bleeding
Sample no.	fish no.16	Signs of mechanical damage (e.g., r Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex Liver with signs of bleeding
Sample no.	fish no. 10	Liver and/or intestinal guts with larvae Muscle with signs of inner bleeding
Sample no.	fish no. 18	Signs of mechanical damage(e.g.,net wounds) Skin with metacercariae of cf. Cryptocotyle lingua Gills with LernaeoceraLiver/intestinal guts with lar. of A.s Skin/oral cavity with caligiform and/orLernaeopodi.copepods Skin with ulceration, lymphocytic areas and/or lesions
Sample no.	fish no. 12	Lernaeopodiform copepods Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or
Sample no.	fish no. 14	Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal gut: Liver with signs of bleeding
Sample no.	fish no.6	Skin with metacercariae of cf. Crypt Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **23B Karihavet area** Latitude: 59°55.0N Longitude: 5°7.0E
 Catch,date : **19990922** Count: 25 Sample type: **Individual**

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		
Analysis code		=>		312		311		312		311		340		340		340		340		340		340		
Detection limit		=>		Mean		0.05		0.01		0.04		1		3		3		3		3		4		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	5	1493	540	26,3	47,0	31,0	0.045	12.6	<0.04	39.7	<4.0	<3.0	14	17	51	100	167	12	42	<2.0	<378	<407	76
2/1	M	5	1208	490	48,1	68,5	61,0	0.015	14.2	<0.04	23.1	6.0	8.6	14	32	54	49	130	13	63	<2.0	325	<372	40
3/1	M	4	697	400	13,8	60,6	47,0	0.029	3.85	<0.04	27.8	<4.0	<4.0	16	12	31	65	120	7.7	34	<2.0	<270	<290	50
4/1	F	6	2318	600	94,5	71,7	65,0	0.012	14.7	<0.03	24.1	<5.0	<5.0	31	28	83	145	225	17	73	<4.0	<562	<607	98
5/1	F	5	1135	500	20,4	53,5	37,0	0.020	21.4	<0.04	38.9	<4.0	<3.0	5.6	10	26	39	120	8.1	41	<2.0	<236	<254	41
6/1	M	5	1125	490	19,5	51,6	33,0	0.039	4.40	<0.03	27.3	<4.0	<4.0	5.0	8.9	25	39	83	5.6	25	<2.0	<181	<196	37
7/1	M	5	698	410	10,1	55,6	45,0	0.061	14.1	<0.03	28.8	<4.0	<4.0	10	16	43	68	149	11	44	<2.0	<318	<345	85
8/1	F	6	1262	490	36,9	64,0	52,0	0.018	11.1	<0.04	23.6	<4.0	<4.0	9.6	9.5	26	56	80	5.0	16	<2.0	<192	<206	48
9/1	M	6	2649	650	82,1	68,7	62,0	0.016	11.9	<0.03	30.8	<6.0	<6.0	10	9.9	25	49	86	5.2	18	<3.0	<194	<209	46
10/1	F	7	4938	720	61,6	37,7	22,7	0.086	29.4	<0.04	52.2	4.4	9.1	46	42	120	200	320	22	74	<2.0	774	<840	280
11/1	M	5	991	480	29,5	62,3	52,1	0.020	13.0	<0.04	26.7	2.2	3.2	12	7.5	21	55	72	4.2	14	<2.0	179	<193	35
12/1	F	6	1852	590	80,4	75,8	67,7	0.007	6.74	<0.04	22.2	<2.0	8.4	23	26	64	100	260	20	110	3.5	<567	<617	71
13/1	F	5	804	450	17,0	60,2	42,4	0.028	20.8	<0.04	35.1	4.0	2.4	6.7	22	41	33	92	8.9	31	2.0	210	243	30
14/1	M	4	641	410	6,5	7,6	0.052	16.6	<0.04	56.6	1.2	1.1	4.6	6.1	17	26	54	3.4	14	0.8	118	128	31	
15/1	F	6	1602	550	45,3	62,9	51,3	0.033	6.00	<0.03	22.6	<2.0	<2.0	10	9.1	25	53	100	6.6	25	2.4	<215	<233	48
16/1	F	5	657	410	10,9	52,1	33,4	0.023	8.63	0.27	35.2	2.1	<2.0	6.6	10	26	34	76	6.0	18	<2.0	<165	<181	49
17/1	M	6	1463	540	21,7	52,4	36,2	0.052	12.2	<0.04	38.4	<3.0	<3.0	13	16	50	100	170	10	38	<3.0	<374	<400	87
18/1	M	5	994	460	18,2	51,7	35,2	0.035	14.7	<0.03	34.0	2.2	<2.0	13	7.2	21	39	73	3.6	14	<2.0	<164	<175	46
19/1	M	5	1639	570	72,5	74,7	65,6	0.015	13.3	<0.04	29.2	2.3	5.0	23	8.9	25	46	76	5.3	19	<2.0	196	<213	53
20/1	F	7	4408	730	255,3	78,7	72,7	0.008	4.37	<0.04	23.3	4.2	8.9	49	12	35	75	100	5.9	22	<2.0	294	<314	96
21/1	F	4	679	410	11,3	52,2	28,9	0.104	18.9	<0.03	38.3	<2.0	<2.0	9.0	7.9	23	66	110	4.6	19	<1.0	<229	<242	48
22/1	M	4	1081	480	16,4	48,1	26,9	0.034	25.5	<0.03	42.3	<1.0	<1.0	5.7	6.6	19	47	87	4.0	18	1.2	<178	<190	30
23/1	F	5	968	470	20,0	53,6	38,6	0.039	17.1	<0.04	32.9	1.6	2.0	12	5.9	17	39	60	2.8	7.9	<1.0	140	<149	38
24/1	M	4	531	390	8,3	38,0	0.050	6.51	<0.04	29.9	1.9	4.1	33	120	240	220	460	100	81	1.4	1040	1261	42	
25/1	X	5	971	470	11,0	48,5	30,9	0.041	35.9	<0.03	51.9	1.9	3.7	21	11	30	82	130	7.5	36	2.4	305	326	68
Mean		5	1472	508	41,5	58,8	43,3	0.04	14,32	<<0.05	33,4	<<3.2	<<4.1	16,1	18,5	45,5	73,0	136,0	12,0	35,9	<<2.1	<<312	<<344	62,9
Minimum		4	531	390	6,5	37,7	7,6	0.01	3,85	<0.03	22,2	<1.0	<1.0	4,6	5,9	17,0	26,0	54,0	2,8	7,9	0,8	118	128	30,0
Maximum		7	4938	730	255,3	78,7	72,7	0,10	35,90	0,27	56,6	6,0	9,1	49,0	120,0	240,0	220,0	460,0	100,0	110,0	<4.0	1040	1261	280,0
St.Dev		1	1097	94	51,6	10,6	16,1	0,02	7,90	~0.05	9,7	~1.4	~2.4	12,1	23,0	46,9	49,5	93,3	19,0	25,7	~0.7	~216	~254	49,7
Count		25	25	25	25	23	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 23B Karihavet 19990922

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>				3			0.5	2			2	2	2	
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
				w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	5	1493	540	18	94.0	94.0	<2.0	3.5	<5.5	<5.5	5.6	<2.0	<2.0
2/1	M	5	1208	490	17	57.0	57.0	<3.0	8.0	<11.0	<11.0	9.5	<2.0	<2.0
3/1	M	4	697	400	14	64.0	64.0	<3.0	5.7	<8.7	<8.7	7.0	<2.0	<2.0
4/1	F	6	2318	600	22	120.0	120.0	<3.0	7.9	<10.9	<10.9	12	<3.0	<3.0
5/1	F	5	1135	500	10	51.0	51.0	<2.0	4.1	<6.1	<6.1	4.8	<2.0	<2.0
6/1	M	5	1125	490	6.3	43.3	43.3	<2.0	4.2	<6.2	<6.2	6.6	<2.0	<1.0
7/1	M	5	698	410	11	96.0	96.0	<3.0	5.8	<8.8	<8.8	8.8	<2.0	<2.0
8/1	F	6	1262	490	7.5	55.5	55.5	<3.0	6.3	<9.3	<9.3	8.5	<2.0	<2.0
9/1	M	6	2649	650	11	57.0	57.0	<3.0	8.3	<11.3	<11.3	14	<2.0	<2.0
10/1	F	7	4938	720	67	347.0	347.0	<1.0	2.8	<3.8	<3.8	11	<1.0	<1.0
11/1	M	5	991	480	6.7	41.7	41.7	2.5	6.6	9.1	9.1	7.8	1.6	<1.0
12/1	F	6	1852	590	16	87.0	87.0	3.5	8.1	11.6	11.6	13	2.1	<1.0
13/1	F	5	804	450	6.5	36.5	36.5	2.3	5.7	8.0	8.0	9.6	1.4	<1.0
14/1	M	4	641	410	7.3	38.3	38.3	<0.5	0.9	<1.4	<1.4	3.2	<0.5	<0.5
15/1	F	6	1602	550	8.3	56.3	56.3	2.5	6.0	8.5	8.5	13	1.7	<1.0
16/1	F	5	657	410	7.0	56.0	56.0	1.8	4.6	6.4	6.4	7.8	1.0	<0.5
17/1	M	6	1463	540	13	100.0	100.0	1.4	4.2	5.6	5.6	5.2	<1.0	<1.0
18/1	M	5	994	460	11	57.0	57.0	<2.0	4.0	<6.0	<6.0	6.9	1.0	<1.0
19/1	M	5	1639	570	16	69.0	69.0	3.4	8.7	12.1	12.1	13	2.4	<1.0
20/1	F	7	4408	730	29	125.0	125.0	4.0	9.7	13.7	13.7	13	3.0	<1.0
21/1	F	4	679	410	5.1	53.1	53.1	<2.0	3.3	<5.3	<5.3	4.6	<1.0	<1.0
22/1	M	4	1081	480	6.4	36.4	36.4	1.3	3.0	4.3	4.3	4.3	0.86	<0.5
23/1	F	5	968	470	7.0	45.0	45.0	2.0	4.7	6.7	6.7	6.9	1.2	<0.5
24/1	M	4	531	390	4.6	46.6	46.6	2.3	5.5	7.8	7.8	7.3	1.4	<0.5
25/1	X	5	971	470	15	83.0	83.0	1.8	4.4	6.2	6.2	6.7	1.1	0.91
Mean		5	1472	508	13,7	76,6	76,6	<<2.3	5,4	<<7.8	<<7.8	8,4	<<1.7	<<1.3
Minimum		4	531	390	4,6	36,4	36,4	<0.5	0,9	<1.4	<1.4	3,2	<0.5	<0.5
Maximum		7	4938	730	67,0	347,0	347,0	4,0	9,7	13,7	13,7	14,0	3,0	<3.0
St.Dev		1	1097	94	12,6	61,7	61,7	~0.8	2,1	~2.9	~2.9	3,2	~0.6	~0.7
Count		25	25	25	25	25	25	25	25	25	25	25	25	25

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 23B Karihavet 19990922

sample no. 1 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds)
Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 2 Bacterial fin rot

sample no. 3 Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 4 Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 5 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Signs of mechanical damage (e.g., net wounds)
Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 6 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
Skin and/or oral cavity with caligiform and/or Skin with ulceration, lymphocytic areas and/or lesions
Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 7 Signs of mechanical damage (e.g., net wounds) Gills with Lernaeocera copepods

sample no. 8 Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 9 Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds)
Liver and/or intestinal guts with larvae of Anisakis simplex Liver with necrotic areas and/or discolouration

sample no. 1 Bacterial fin rot Signs of mechanical damage (e.g., net wounds)
Skin with ulceration, lymphocytic areas and/or lesions Liver with necrotic areas and/or discolouration
Skin and/or oral cavity with caligiform and/or

sample no. 1 Signs of mechanical damage (e.g., net wounds) Skin with ulceration, lymphocytic areas and/or lesions
Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 1 Bacterial fin rot Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Signs of mechanical damage (e.g., net wounds)
Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 1 Bacterial fin rot Signs of mechanical damage (e.g., net wounds)
Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 1 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions
Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 1 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Gills with Lernaeocera copepods Signs of mechanical damage (e.g., net wounds)

sample no. 1 Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 1 Signs of mechanical damage (e.g., net wounds) Gills with Lernaeocera copepods
Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 1 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Signs of mechanical damage (e.g., net wounds) Bacteri Gills with Lernaeocera copepods

sample no. 1 Liver and/or intestinal guts with larvae of Anisakis simplex Signs of mechanical damage (e.g., net wounds)
Gills with Lernaeocera copepods Bacterial fin rot
Skin with ulceration, lymphocytic areas and/or lesions

sample no. 2 Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 2 Liver and/or intestinal guts with larvae of Anisakis simplex Signs of mechanical damage (e.g., net wounds)

sample no. 2 Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 2 (Bacterial fin rot) Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 2 Liver and/or intestinal guts with larvae of Anisakis simplex

sample no. 2 Skin with ulceration, lymphocytic areas and/or lesions Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **23B Karihavet area** Latitude: 59°55.0N Longitude: 5°7.0E
 Catch,date : **20001020** Count: 25 Sample type: **Individual**

Analytical lab. =>				NIVA																				
Analysis code =>				312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 Calc Calc 340																				
Detection limit =>				Mean Dry Fat CD CU PB ZN CB28 CB52 CB101 CB105 CB118 CB138 CB153 CB156 CB180 CB209 CB Σ7 CB ΣΣ DDEPP																				
Samp/ repl.	Sex	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CD ppm w.wt	CU ppm w.wt	PB ppm w.wt	ZN ppm w.wt	CB28 ppb w.wt	CB52 ppb w.wt	CB101 ppb w.wt	CB105 ppb w.wt	CB118 ppb w.wt	CB138 ppb w.wt	CB153 ppb w.wt	CB156 ppb w.wt	CB180 ppb w.wt	CB209 ppb w.wt	CB Σ7 ppb w.wt	CB ΣΣ ppb w.wt	DDEPP ppb w.wt
1/1	F	4	3960	730	141,4	63,1	53,1	0.015	18.5	<0.04	29.9	<3.0	6.8	17	10	26	64	110	6.5	29	<3.0	<256	<272	93
2/1	M	4	2943	670	63,6	52,0	38,9	0.028	4.8	<0.04	24.8	2.8	9.0	20	9.9	27	54	78	4.5	16	<2.0	207	<223	95
3/1	F	4	3749	750	150,0	72,7	65,6	0.022	5.45	<0.03	20.9	4.3	8.9	19	38	45	67	120	19	32	miss	296	353	69
4/1	F	4	3276	690	75,8	53,8	40,5	0.045	16.6	<0.04	35.1	<3.0	2.7	7.3	15	44	74	120	9.7	32	<3.0	<283	<308	50
5/1	F	3	4241	740	149,8	69,0	59,3	0.013	11.1	<0.03	21.7	2.8	8.0	19	10	27	61	100	6.1	25	<2.0	243	<261	83
6/1	M	4	1805	570	45,8	60,7	51,6	0.022	7.24	<0.03	34.6	<2.0	4.4	16	22	80	90	160	14	42	<2.0	<394	<430	85
7/1	M	3	1483	630	61,4	68,3	60,0	0.030	3.28	<0.03	18.1	2.9	6.2	15	17	43	58	93	7.9	32	<2.0	250	<277	86
8/1	F	3	2089	570	104,8	68,4	62,1	0.009	4.22	<0.03	17.3	<2.0	5.9	13	19	43	62	140	31	37	<2.0	<303	<353	24
9/1	F	3	2054	550	98,6	74,1	66,3	0.005	5.42	<0.03	16.3	<3.0	3.7	4.6	<3.0	5.0	14	34	<3.0	12	<3.0	<76	<76	11
10/1	M	3	1697	580	34,8	54,6	39,8	0.029	9.39	<0.04	27.2	<2.0	2.2	6.0	12	32	40	100	7.5	25	<2.0	<207	<227	35
11/1	M	4	2443	580	96,0	66,2	59,4	0.011	8.62	<0.03	21.0	<2.0	2.2	4.3	3.8	10	20	36	<2.0	7.7	<2.0	<82	<86	24
12/1	M	5	2596	650	98,4	66,4	59,9	0.012	12.1	<0.04	30.7	<2.0	3.5	5.6	4.7	12	26	56	2.7	12	<2.0	<117	<125	32
13/1	M	3	1760	600	30,0	27,9	12,3	0.022	18.0	<0.04	46.2	1.2	3.6	13	9.0	26	58	120	4.4	25	0.90	247	261	66
14/1	F	2	1897	550	104,0	73,2	66,0	0.003	5.56	<0.04	17.7	<3.0	<3.0	4.7	3.6	8.1	21	35	<3.0	9.0	<3.0	<81	<84	14
15/1	F	2	1278	530	43,2	69,4	61,5	0.013	9.87	<0.03	23.3	<3.0	3.7	8.3	6.4	14	25	59	4.1	17.4	<3.0	<130	<141	39
16/1	F	2	2922	590	34,0	58,8	51,5	0.019	10.5	<0.03	30.0	2.3	6.0	16	13	33	51	100	6.2	30	<2.0	238	<260	78
17/1	M	4	1985	580	85,6	70,6	62,9	0.007	4.27	<0.03	23.3	<3.0	5.5	11	6.8	17	32	63	3.8	16	<3.0	<148	<158	47
18/1	F	2	887	450	20,4	61,7	51,6	0.014	18.7	<0.03	25.9	<3.0	3.1	7.1	6.3	18	35	66	4.2	21	<3.0	<153	<164	47
19/1	F	3	1199	510	17,8	55,4	44,0	0.034	5.94	<0.04	31.0	4.7	12	27	13	32	53	85	s4.9	18	<2.0	232	s<252	120
20/1	M	2	1196	500	29,2	54,9	41,5	0.021	12.5	<0.04	23.2	<2.5	2.7	6.1	5.4	13	27	57	3.1	14	1.2	<122	<132	36
21/1	M	1	838	440	13,0	45,3	25,8	0.026	10.3	<0.03	31.1	<2.0	<2.0	1.7	2.0	4.7	8.5	15	<1.0	3.1	<1.0	<35	<37	9.4
22/1	M	1	425	350	9,4	59,3	44,9	0.017	3.83	<0.04	21.6	<3.5	3.9	10	9.8	25	48	91	5.1	21	1.3	<202	<219	69
23/1	F	2	1197	520	23,4	59,5	51,0	0.010	6.28	<0.03	30.3	<3.0	4.7	14	11	32	59	110	5.7	27	1.9	<250	<268	80
24/1	F	2	692	420	14,6	55,7	39,0	0.020	4.20	<0.03	24.7	<2.0	2.3	5.6	15	39	50	96	7.2	27	1.4	<222	<246	61
25/1	F	2	993	470	13,8	40,6	16,8	0.040	8.28	0.03	39.4	1.2	1.7	5.6	8.2	24	38	87	5.0	28	1.1	186	200	59
Mean		3	1984	569	62,4	60,1	49,0	0,02	9,00	<<0.03	26,6	<<2.6	<4.7	11,1	<11.0	27,2	45,4	85,2	<6.9	22,3	<<2.1	<<198	<<215	56,5
Minimum		1	425	350	9,4	27,9	12,3	0,00	3,28	<0.03	16,3	1,2	1,7	1,7	2,0	4,7	8,5	15,0	<1.0	3,1	0,9	<35	<37	9,4
Maximum		5	4241	750	150,0	74,1	66,3	0,05	18,70	<0.04	46,2	4,7	12,0	27,0	38,0	80,0	90,0	160,0	31,0	42,0	<3.0	<394	<430	120,0
St.Dev		1	1052	102	45,2	10,9	14,8	0,01	4,82	~0.00	7,3	~0.8	~2.6	6,4	~7.6	16,6	20,3	35,4	~6.4	9,7	~0.7	~85	~98	29,5
Count		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	24	25	24	25	24	25

miss(1) ! Missing value s/q(2) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 23B Karihavet 20001020

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>				3			0.5	2			2	2	2	
Samp/ repl. no.	Sex	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	F	4	3960	730	13	106.0	106.0	4.0	<6.0	<10.0	<10.0	10	<1.5	<1.5
2/1	M	4	2943	670	16	111.0	111.0	2.4	<5	<7.4	<7.4	10	<0.80	1.5
3/1	F	4	3749	750	14	83.0	83.0	3.7	<7.0	<10.7	<10.7	13	<1.5	1.6
4/1	F	4	3276	690	4.7	54.7	54.7	2.5	<5.0	<7.5	<7.5	7.6	<1.0	1.2
5/1	F	3	4241	740	11	94.0	94.0	3.6	<5.0	<8.6	<8.6	12	<1.0	<1.0
6/1	M	4	1805	570	7.1	92.1	92.1	3.3	<5.0	<8.3	<8.3	9.1	<1.0	0.98
7/1	M	3	1483	630	8.5	94.5	94.5	4.4	9.2	13.6	13.6	8.2	2.2	<1.0
8/1	F	3	2089	570	<3.0	<27.0	<27.0	3.3	<5.0	<8.3	<8.3	6.7	<1.0	<1.0
9/1	F	3	2054	550	<3.0	<14.0	<14.0	3.7	<5.0	<8.7	<8.7	6.9	<1.0	<1.0
10/1	M	3	1697	580	<3.0	<38.0	<38.0	2.1	<5.0	<7.1	<7.1	7.6	<1.0	<1.0
11/1	M	4	2443	580	<4.0	<28.0	<28.0	2.9	<5.0	<7.9	<7.9	5.9	<1.0	<1.0
12/1	M	5	2596	650	<4.0	<36.0	<36.0	3.4	<5.0	<8.4	<8.4	11	<1.0	<1.0
13/1	M	3	1760	600	6.6	72.6	72.6	0.62	<1.0	<1.6	<1.6	4.1	<0.2	0.47
14/1	F	2	1897	550	<4.0	<18.0	<18.0	3.8	7.3	11.1	11.1	7.0	<1.5	<1.5
15/1	F	2	1278	530	6.0	45.0	45.0	3.7	6.9	10.6	10.6	8.8	<1.5	<1.5
16/1	F	2	2922	590	9.3	87.3	87.3	3.2	6.0	9.2	9.2	9.6	<1.0	<1.0
17/1	M	4	1985	580	6.6	53.6	53.6	3.7	7.0	10.7	10.7	9.1	<1.5	<1.5
18/1	F	2	887	450	5.2	52.2	52.2	3.5	6.7	10.2	10.2	7.5	<1.5	<1.5
19/1	F	3	1199	510	26	146.0	146.0	2.6	5.1	7.7	7.7	19	<1.0	1.5
20/1	M	2	1196	500	3.1	39.1	39.1	2.4	4.5	6.9	6.9	7.2	<1.0	<1.5
21/1	M	1	838	440	<2.0	<11.4	<11.4	1.3	2.6	3.9	3.9	3.6	<1.0	<1.0
22/1	M	1	425	350	8.7	77.7	77.7	2.5	4.8	7.3	7.3	7.1	<1.5	<2.0
23/1	F	2	1197	520	9.2	89.2	89.2	2.9	5.6	8.5	8.5	8.0	<1.5	<2.0
24/1	F	2	692	420	3.7	64.7	64.7	2.4	4.5	6.9	6.9	7.6	<1.0	<1.0
25/1	F	2	993	470	4.2	63.2	63.2	1.0	1.9	2.9	2.9	4.1	<0.50	<0.50
Mean		3	1984	569	<<7.4	<<63.9	<<63.9	2,9	<<5.2	<<8.2	<<8.2	8,4	<<1.1	<<1.2
Minimum		1	425	350	<2.0	<11.4	<11.4	0,6	<1.0	<1.6	<1.6	3,6	<0.2	0,5
Maximum		5	4241	750	26,0	146,0	146,0	4,4	9,2	13,6	13,6	19,0	2,2	<2.0
St.Dev		1	1052	102	~5.4	~34.1	~34.1	0,9	~1.7	~2.6	~2.6	3,2	~0.4	~0.4
Count		25	25	25	25	25	25	25	25	25	25	25	25	25

miss(1) ! Missing value s/q(2) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 23B Karihavet 20001020

sample no.	1	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	2	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	3	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot Skin and/or oral cavity with Lernaeopodiform copepods
sample no.	4	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Gills with Lernaeocera copepods Skin with ulceration, lymphocytic areas and/or lesions
sample no.	5	Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	6	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	7	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions
sample no.	8	Gills with Lernaeocera copepods Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex Skin and/or oral cavity with caligiform and/or 2 2
sample no.	9	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical d Age uncertain
sample no.	10	Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with Gonad weight <5 Age uncertain
sample no.	11	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	12	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions
sample no.	13	Gills with Lernaeocera copepods Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	14	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	15	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions
sample no.	16	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	17	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	18	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	19	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with metacercariae of cf. Cryptocotyle lingua
sample no.	20	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions
sample no.	21	Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Skin and/or oral cavity with caligiform and/or Lernaeopodiform Age uncertain
sample no.	22	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions Gonad Age uncertain
sample no.	23	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
sample no.	24	Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions
sample no.	25	Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with Lernaeopodiform copepods

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **23B Karihavet area** Latitude: 59°55.0N Longitude: 5°7.0E
 Catch,date : **20011015** Count: 25 Sample type: **Individual**
 Comment : Station: Karihavet area fished between 10.-15. Oct 2001
 fished 5-10m depht

Analytical lab. =>					NIVA															NIVA		NIVA			
Analysis code =>					312															311		312			
Detection limit =>					0.05															0.01		0.04			
Samp/ repl.	Sex	Age	Wght	Lngr	Mean weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	3	2261	600	137,1	72,1	63,0	0.013	2.29	<0.03	17.6	4.5	7.6	21	7.0	15	30	38	2.7	12	<2.5	128	<140	50	
2/1	M	2	1782	560	57,4	66,0	54,0	0.025	11.8	<0.03	26.0	<2.0	<2.0	8.6	7.5	16	34	62	3.8	17	<2.0	<140	<151	44	
3/1	F	2	2111	600	52,3	61,1	51,0	0.020	9.46	<0.03	28.0	2.4	6.4	24	12	25	56	93	7.1	33	<2.0	240	<261	65	
4/1	F	4	2473	650	58,8	57,4	37,0	0.028	18.8	<0.03	42.0	1.5	2.0	7.8	6.6	16	34	53	3.0	14	<1.4	128	<139	47	
5/1	F	4	3136	620	199,3	74,7	68,0	0.008	1.90	<0.03	15.9	2.5	4.9	16	8.5	20	40	57	3.7	21	<2.5	161	<176	64	
6/1	M	2	1269	510	28,5	65,4	54,0	0.021	7.54	<0.03	26.6	<2.0	2.5	6.9	5.9	13	31	60	3.2	15	<2.0	<130	<140	42	
7/1	M	3	3127	670	177,7	74,1	67,0	0.009	3.49	<0.03	21.1	4.6	8.1	20	12	24	39	55	3.8	17	<1.5	168	<185	56	
8/1	F	3	2548	590	160,9	73,2	67,0	0.005	0.85	<0.03	15.9	<3.0	6.8	15	9.1	19	31	42	3.3	16	<3.0	<133	<145	95	
9/1	M	3	3189	640	327,0	82,8	76,0	0.003	1.06	<0.03	11.9	2.8	6.0	15	5.8	13	24	33	<2.5	11	<2.5	105	<113	42	
10/1	F	3	2490	610	147,5	74,2	66,0	0.013	2.49	<0.03	20.0	<2.5	3.1	9.6	4.7	7.9	20	33	2.9	20	<1.5	<96	<104	28	
11/1	F	3	2442	620	73,8	57,0	43,0	0.027	12.9	<0.03	30.4	1.9	3.5	11	8.7	20	43	70	4.8	28	<1.5	177	<192	69	
12/1	F	2	1772	520	26,7	67,2	55,0	0.015	14.6	<0.03	63.2	2.0	2.6	12	8.7	22	40	77	4.8	26	<2.0	182	<197	65	
13/1	M	2	875	430	15,9	43,4	25,0	0.030	20.1	<0.03	34.7	<1.0	<1.0	3.2	3.7	9.8	20	32	1.8	5.9	<1.0	<72	<77	21	
14/1	F	3	2877	640	103,9	68,7	59,0	0.011	6.46	<0.03	24.9	2.4	5.7	20	11	28	51	81	5.6	24	<2.0	212	<231	70	
15/1	F	2	1455	540	19,6	37,2	22,0	0.048	29.5	<0.03	49.8	2.0	1.2	6.2	12	29	53	95	6.6	30	1.8	216	237	43	
16/1	F	2	2682	550	51,5	66,8	59,0	0.012	4.57	<0.03	20.4	1.5	2.9	8.7	6.2	15	28	52	3.3	15	<2.0	123	<135	36	
17/1	F	3	1692	560	46,2	52,0	36,0	0.028	2.81	<0.03	22.4	1.6	3.1	14	11	28	49	82	5.6	27	1.4	205	223	71	
18/1	F	2	893	460	22,1	60,2	44,0	0.026	8.53	<0.03	26.3	2.3	3.8	8.2	18	30	33	68	6.4	28	<1.4	173	<199	28	
19/1	M	3	1931	570	46,9	68,0	56,0	0.036	13.9	<0.03	32.7	<2.0	2.9	9.3	8.2	21	37	73	6.2	22	<2.0	<167	<182	45	
20/1	M	2	391	350	4,7	48,9		0.064	5.30	<0.03	29.0														
21/1	F	2	1335	530	22,5	53,5	34,0	0.026	10.4	<0.03	36.4	1.8	2.1	8.9	10	27	40	84	5.7	26	1.3	190	207	57	
22/1	M	2	936	460	9,2	25,0		0.100	17.0	<0.03	55.4														
23/1	M	3	2444	610	28,3	31,5	11,0	0.081	12.7	<0.03	51.8	1.1	2.9	16	12	33	49	90	4.6	21	0.73	213	230	82	
24/1	M	3	3358	700	86,7	63,2	50,0	0.019	11.1	<0.03	29.7	3.9	11	30	14	36	55	80	5.1	22	<1.0	238	<258	130	
25/1	F	2	616	390	6,6	33,6		0.062	7.89	<0.03	34.8														
Mean		3	2003	559	76,4	59,1	49,9	0,03	9,50	<<0.03	30,7	<<2.3	<4.2	13,2	9,2	21,3	38,0	64,1	<4.4	20,5	<<1.8	<<164	<<178	56,8	
Minimum		2	391	350	4,7	25,0	11,0	0,00	0,85	<0.03	11,9	<1.0	<1.0	3,2	3,7	7,9	20,0	32,0	1,8	5,9	0,7	<72	<77	21,0	
Maximum		4	3358	700	327,0	82,8	76,0	0,10	29,50	<0.03	63,2	4,6	11,0	30,0	18,0	36,0	56,0	95,0	7,1	33,0	<3.0	240	<261	130,0	
St.Dev		1	863	88	77,2	15,2	16,8	0,02	7,00	-0.00	13,1	-1.0	-2.6	6,6	3,4	7,6	10,8	20,2	-1.5	6,9	-0.6	-46	-51	24,5	
Count		25	25	25	25	25	25	25	25	25	25	22	22	22	22	22	22	22	22	22	22	22	22	22	

s/q(36) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 23B Karihavet 20011015

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>				3			0.5	2			2	2	2	
Samp/ repl.	Sex	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	3	2261	600	13	63.0	63.0	2.5	s4.7	s7.2	s7.2	11	<1.3	<1.3
2/1	M	2	1782	560	4.0	48.0	48.0	2.2	s3.7	s5.9	s5.9	11	<1.0	<1.0
3/1	F	2	2111	600	10	75.0	75.0	2.0	s3.6	s5.6	s5.6	12	<1.0	<1.0
4/1	F	4	2473	650	6.2	53.2	53.2	1.5	s2.7	s4.2	s4.2	6.8	<0.70	<0.70
5/1	F	4	3136	620	12	76.0	76.0	2.6	s4.5	s7.1	s7.1	9.4	<1.3	<1.3
6/1	M	2	1269	510	3.8	45.8	45.8	2.2	s3.9	s6.1	s6.1	12	<1.0	<1.0
7/1	M	3	3127	670	12	68.0	68.0	2.7	s5.0	s7.7	s7.7	11	<1.3	<1.3
8/1	F	3	2548	590	37	132.0	132.0	<3.0	s5.1	s<8.1	s<8.1	9.1	<1.5	<1.5
9/1	M	3	3189	640	11	53.0	53.0	3.1	s5.9	s9.0	s9.0	10	<1.3	<1.3
10/1	F	3	2490	610	3.9	31.9	31.9	2.8	s4.8	s7.6	s7.6	7.0	<1.3	<1.3
11/1	F	3	2442	620	6.7	75.7	75.7	1.8	s3.4	s5.2	s5.2	6.4	<0.70	<0.70
12/1	F	2	1772	520	6.8	71.8	71.8	2.2	s3.9	s6.1	s6.1	9.4	<1.0	<1.0
13/1	M	2	875	430	2.3	23.3	23.3	<1.0	1.6	<2.6	<2.6	2.7	<0.50	<0.50
14/1	F	3	2877	640	10	80.0	80.0	2.3	3.9	6.2	6.2	11	<1.0	1.1
15/1	F	2	1455	540	7.8	50.8	50.8	1.0	1.7	2.7	2.7	7.6	0.31	0.73
16/1	F	2	2682	550	4.6	40.6	40.6	2.5	4.1	6.6	6.6	9.9	<1.0	<1.0
17/1	F	3	1692	560	9.0	80.0	80.0	1.5	2.6	4.1	4.1	6.2	<0.50	0.79
18/1	F	2	893	460	3.8	31.8	31.8	2.0	3.2	5.2	5.2	6.5	<0.7	<0.7
19/1	M	3	1931	570	4.4	49.4	49.4	2.3	3.6	5.9	5.9	7.0	<1.0	<1.0
20/1	M	2	391	350										
21/1	F	2	1335	530	7.6	64.6	64.6	1.5	2.5	4.0	4.0	7.9	<0.50	0.93
22/1	M	2	936	460										
23/1	M	3	2444	610	11	93.0	93.0	0.42	0.67	1.1	1.1	2.6	<0.15	0.85
24/1	M	3	3358	700	23	153.0	153.0	2.2	3.5	5.7	5.7	11	0.77	1.7
25/1	F	2	616	390										
Mean		3	2003	559	9,5	66,4	66,4	<2.1	2,7	<4.4	<4.4	8,5	<<0.9	<<1.0
Minimum		2	391	350	2,3	23,3	23,3	0,4	0,7	1,1	1,1	2,6	<0.1	<0.5
Maximum		4	3358	700	37,0	153,0	153,0	3,1	4,1	6,6	6,6	12,0	<1.5	1,7
St.Dev		1	863	88	7,7	30,7	30,7	~0.7	1,1	~1.8	~1.8	2,7	~0.4	~0.3
Count		25	25	25	22	22	22	22	10	10	10	22	22	22

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 23B Karihavet 20011015

sample no.

- 1 Gills with *Lernaeocera* copepods Liver and/or intestinal guts with larvae of *Anisakis simplex*
(Skin with metacercariae of cf. *Cryptocotyle lingua*) (Skin with ulceration, lymphocytic areas and/or lesions liver colour is white)
- 2 Gills with *Lernaeocera* copepods Skin with ulceration, lymphocytic areas and/or lesions liver colour is white
- 3 Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds)
Liver and/or intestinal guts with larvae of *Anisakis simplex* liver colour is white
- 4 Gills with *Lernaeocera* copepods Skin with ulceration, lymphocytic areas and/or lesions
Skin and/or oral cavity with caligiform and/or *Lernaeopodiform* copepods
Liver and/or intestinal guts with larvae of *Anisakis simplex* liver colour is white
- 5 Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 6 Gills with *Lernaeocera* copepods Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Liver and/or intestinal guts with larvae of liver colour is white
- 7 Skin with ulceration, lymphocytic areas and/or lesions Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Liver and/or intestinal guts with larvae of *Anisakis simplex*
liver colour is white
- 8 Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of *Anisakis simplex*
Skin with metacercariae of cf. *Cryptocotyle lingua* liver colour is white
- 9 Liver and/or intestinal guts with larvae of *Anisakis simplex* liver colour is white
- 10 Liver and/or intestinal guts with larvae of *Anisakis simplex* Gills with *Lernaeocera* copepods
Signs of mechanical damage (e.g., net wounds) liver colour is white
- 11 Skin with metacercariae of cf. *Cryptocotyle lingua* Skin with ulceration, lymphocytic areas and/or lesions
Skin and/or oral cavity with caligiform and/or *Lernaeopodiform* copepods
liver colour is white
- 12 Skin with metacercariae of cf. *Cryptocotyle lingua* Gills with *Lernaeocera* copepods
Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of *Anisakis simplex*
liver colour is white
- 13 Skin and/or oral cavity with caligiform and/or *Lernaeopodiform* copepods
liver colour is white
- 14 Bacterial fin rot Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Liver and/or intestinal guts with larvae of *Anisakis simplex*
liver colour is white
- 15 Gills with *Lernaeocera* copepods
- 16 Skin with ulceration, lymphocytic areas and/or lesions ! Liver and/or intestinal guts with larvae of *Anisakis simplex*
liver colour is white
- 17 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of *Anisakis simplex*
liver colour is white
- 18 Signs of mechanical damage (e.g., net wounds) liver colour is white
- 19 Skin and/or oral cavity with caligiform and/or *Lernaeopodiform* copepods
Liver and/or intestinal guts with larvae of *Anisakis simplex* liver colour is white
- 20 Signs of mechanical damage (e.g., net wounds) liver colour is white red
- 21 Liver and/or intestinal guts with larvae of *Anisakis simplex* liver colour is white
- 22 Skin and/or oral cavity with caligiform and/or *Lernaeopodiform* copepods
Gills with *Lernaeocera* copepods liver colour is red
- 23 Gills with *Lernaeocera* copepods Liver and/or intestinal guts with larvae of *Anisakis simplex*
liver colour is red
- 24 Liver and/or intestinal guts with larvae of *Anisakis simplex* liver colour is white
- 25 Gills with *Lernaeocera* copepods Age uncertain Skin with ulceration, lymphocytic areas and/or lesions
Skin and/or oral cavity with caligiform and/or *Lernaeopodiform* copepods
Liver and/or intestinal guts with larvae of *Anisakis simplex* liver colour is white red

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **98B Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **19981015** Count: 25 Sample type: **Individual**

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		
Analysis code		=>		312		311		312		311		340		340		340		340		340		340		
Detection limit		=>		Mean		0.05		0.01		0.04		1		3		3		3		3		4		
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	760	435	13,8	48,4	31,9	0.051	8.09	<0.03	28.3	<6	<6	7.7	7.3	27	34	63	<6	11	<6	<149	<156	45
2/1	F	4	719	445	14,9	55,5	42,2	0.109	8.81	0.14	24.1	<6	9.3	30	10	37	56	88	<6	15	<6	<241	<251	55
3/1	M	5	1333	500	40,3	52,9	41,5	0.073	14.5	<0.03	22.8	<6	<6	9.5	<6	12	21	32	<6	6.9	<6	<87	<87	29
4/1	M	6	1292	530	56,4	67,1	58,1	0.049	6.52	<0.03	17.4	<8	9.5	25	14	56	92	160	<8	32	<8	<383	<397	96
5/1	M	6	1683	550	30,3	55,7	44,2	0.102	14.4	<0.03	29.5	<6	<6	12	6.0	21	31	54	<6	12	<6	<136	<142	44
6/1	M	6	1928	575	59,4	66,5	58,6	0.062	9.23	<0.03	24.0	<6	<6	18	6.8	20	28	48	<6	10	<6	<130	<137	27
7/1	M	7	2356	580	59,6	67,5	57,4	0.149	10.8	<0.03	22.8	<8	10	28	11	35	61	90	<8	23	<8	<255	<266	99
8/1	F	6	2152	590	81,9	67,1	59,9	0.049	10.0	<0.03	19.5	<8	<8	12	<8	14	22	36	<8	8.4	<8	<100	<100	35
9/1	M	7	2491	590	175,3	85,0	79,5	0.019	5.94	<0.03	8.64	<8	<8	8.5	<8	<8	8.4	11	<8	<8	<8	<36	<36	14
10/1	F	6	2673	600	236,4	71,4	64,2	0.012	1.09	<0.03	9.91	<8	8.6	20	<8	18	21	23	<8	<8	<8	<99	<99	55
11/1	M	6	2750	600	259,0	83,7	78,0	0.009	2.63	<0.03	6.25	<8	11	20	<8	19	21	22	<8	<8	<8	<101	<101	58
12/1	F	7	2379	600	183,3	73,3	65,3	0.052	8.82	<0.03	14.1	<8	12	30	8.5	31	37	42	<8	9.3	<8	<169	<178	95
13/1	M	6	3219	610	317,5	79,0	43,5	0.007	1.80	<0.03	4.91	<6	6.8	17	<6	20	29	40	<6	11	<6	<130	<130	52
14/1	F	8	3009	620	151,7	70,2	61,2	0.047	1.48	<0.03	8.36	<8	8.5	21	<8	21	27	30	<8	<8	<8	<116	<116	51
15/1	F	7	2949	620	249,5	78,8	73,6	0.013	3.00	<0.03	9.65	<8	12	27	12	40	47	69	<8	18	<8	<221	<233	110
16/1	F	6	3367	640	254,8	66,3	56,1	0.012	1.10	<0.03	8.25	<8	8.3	21	14	41	56	80	<8	20	<8	<234	<248	130
17/1	F	6	3490	640	362,6	72,1	63,3	0.005	0.95	<0.03	6.71	<8	9.1	19	<8	18	22	26	<8	<8	<8	<102	<102	54
18/1	F	8	3552	670	455,1	63,0	58,4	0.011	0.89	<0.03	7.82	<8	16	49	18	65	99	130	<8	33	<8	<400	<418	210
19/1	M	8	2959	670	120,0	71,0	65,0	0.029	2.18	<0.03	11.7	<8	10	39	18	55	72	130	<8	26	<8	<340	<358	78
20/1	M	8	3511	670	263,3	84,0	79,1	0.013	2.21	<0.03	7.89	<8	14	31	9.1	30	34	36	<8	<8	<8	<153	<162	80
21/1	F	7	2817	670	176,7	66,7	58,1	0.008	2.00	<0.03	12.2	17	28	79	49	190	250	380	18	75	<8	1019	<1094	490
22/1	M	8	3282	680	111,8	68,5	60,3	0.074	6.23	<0.03	19.9	<8	11	31	19	61	96	140	<8	35	<8	<382	<401	150
23/1	M	7	3584	700	147,1	73,4	67,1	0.020	9.28	<0.03	16.1	<8	11	33	11	34	51	62	<8	14	<8	<213	<224	83
24/1	M	9	3373	710	76,2	63,4	59,5	0.300	5.40	<0.03	18.9	<8	17	53	19	65	76	110	<8	27	<8	<356	<375	120
25/1	M	10	3277	710	77,3	66,0	57,0	0.439	6.55	<0.03	18.5	<6	15	46	20	63	81	110	6.4	24	<6	<345	<371	130
Mean		7	2596	608	159,0	68,7	59,3	0,07	5,76	<<0.03	15,1	<<7.8	<10.7	27,5	<<12.5	<40.0	54,9	80,5	<<7.9	<18.3	<<7.4	<<236	<<247	95,6
Minimum		4	719	435	13,8	48,4	31,9	0,01	0,89	<0.03	4,9	<6.0	<6.0	7,7	<6.0	<8.0	8,4	11,0	<6.0	6,9	<6.0	<36	<36	14,0
Maximum		10	3584	710	455,1	85,0	79,5	0,44	14,50	0,14	29,5	17,0	28,0	79,0	49,0	190,0	250,0	380,0	18,0	75,0	<8.0	1019	<1094	490,0
St.Dev		1	874	74	116,5	9,3	11,9	0,10	4,21	~0.02	7,4	~2.1	~4.7	16,3	~8.9	~36.0	48,4	75,1	~2.3	~14.8	~0.9	~196	~211	93,7
Count		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 98B Lille Molla 19981015

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>				3			0.5	2			2	2	2	
Samp/ repl.	Sex	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	760	435	8.1	53.1	53.1	<6	<6	<6.0	<6.0	6.6	<3	<3
2/1	F	4	719	445	17	72.0	72.0	<6	<6	<6.0	<6.0	11	<3	<3
3/1	M	5	1333	500	<10	<39.0	<39.0	<6	<6	<6.0	<6.0	8.5	<3	<3
4/1	M	6	1292	530	20	116.0	116.0	<8	<8	<8.0	<8.0	13	<4	<4
5/1	M	6	1683	550	<10	<54.0	<54.0	<6	<6	<6.0	<6.0	12	<3	<3
6/1	M	6	1928	575	<10	<37.0	<37.0	<6	6.0	<12.0	<12.0	10	<3	<3
7/1	M	7	2356	580	20	119.0	119.0	<8	<8	<8.0	<8.0	18	<4	<4
8/1	F	6	2152	590	<10	<45.0	<45.0	<8	<8	<8.0	<8.0	14	<4	<4
9/1	M	7	2491	590	<10	<24.0	<24.0	<8	9.7	<17.7	<17.7	8.6	<4	<4
10/1	F	6	2673	600	17	72.0	72.0	<8	8.4	<16.4	<16.4	13	<4	<4
11/1	M	6	2750	600	21	79.0	79.0	<8	<8	<8.0	<8.0	17	<4	<4
12/1	F	7	2379	600	28	123.0	123.0	<8	8.1	<16.1	<16.1	16	<4	<4
13/1	M	6	3219	610	14	66.0	66.0	<6	<6	<6.0	<6.0	9.2	<3	<3
14/1	F	8	3009	620	18	69.0	69.0	<8	8.9	<16.9	<16.9	20	<4	<4
15/1	F	7	2949	620	26	136.0	136.0	<8	<8	<8.0	<8.0	18	<4	<4
16/1	F	6	3367	640	22	152.0	152.0	<8	<8	<8.0	<8.0	14	<4	<4
17/1	F	6	3490	640	18	72.0	72.0	<8	8.1	<16.1	<16.1	13	<4	<4
18/1	F	8	3552	670	38	248.0	248.0	<8	<8	<8.0	<8.0	17	<4	<4
19/1	M	8	2959	670	20	98.0	98.0	<8	<8	<8.0	<8.0	18	<4	<4
20/1	M	8	3511	670	27	107.0	107.0	<8	<8	<8.0	<8.0	18	<4	<4
21/1	F	7	2817	670	66	556.0	556.0	<8	8.0	<16.0	<16.0	26	<4	<4
22/1	M	8	3282	680	28	178.0	178.0	<8	<8	<8.0	<8.0	23	<4	<4
23/1	M	7	3584	700	26	109.0	109.0	<8	8.2	<16.2	<16.2	20	<4	<4
24/1	M	9	3373	710	34	154.0	154.0	<8	<8	<8.0	<8.0	31	<4	<4
25/1	M	10	3277	710	32	162.0	162.0	<6	7.2	<13.2	<13.2	22	<3	<3
Mean		7	2596	608	<22.0	<117.6	<117.6	<<7.4	<<7.6	<<10.3	<<10.3	15,9	<<3.7	<<3.7
Minimum		4	719	435	8,1	<24.0	<24.0	<6.0	<6.0	<6.0	<6.0	6,6	<3.0	<3.0
Maximum		10	3584	710	66,0	556,0	556,0	<8.0	9,7	<17.7	<17.7	31,0	<4.0	<4.0
St.Dev		1	874	74	~12.3	~105.3	~105.3	~0.9	~1.0	~4.2	~4.2	5,8	~0.5	~0.5
Count		25	25	25	25	25	25	25	25	25	25	25	25	25

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 98B Lille Molla 19981015

sample no.

- 1 Skin with metacercariae of cf. *Cryptocotyle lingua* Muscle with signs of inner bleeding
- 2 Skin with metacercariae of cf. *Cryptocotyle lingua* Muscle with signs of inner bleeding
Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 3 Skin and/or oral cavity with caligiform and/or *Lernaeopodiform* copepods
Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 4 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 5 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 6 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 7 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 8 Skin with metacercariae of cf. *Cryptocotyle lingua* Muscle with signs of inner bleeding
Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 9 Skin with metacercariae of cf. *Cryptocotyle lingua* Muscle with signs of inner bleeding
Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 10 Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 12 Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 13 Skin with metacercariae of cf. *Cryptocotyle lingua* Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 14 Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 15 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 16 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 17 Skin with metacercariae of cf. *Cryptocotyle lingua* Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 18 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 19 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 20 Skin with metacercariae of cf. *Cryptocotyle lingua* Muscle with signs of inner bleeding
Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 21 Skin with metacercariae of cf. *Cryptocotyle lingua* Liver and/or intestinal guts with larvae of *Anisakis simplex*
Liver with signs of bleeding
- 22 Skin with metacercariae of cf. *Cryptocotyle lingua* Muscle with signs of inner bleeding
Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 23 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 24 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of *Anisakis simplex*
- 25 Liver and/or intestinal guts with larvae of *Anisakis simplex*

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **98B Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **19990916** Count: 25 Sample type: **Individual**

Analytical lab. =>		NIVA																							
Analysis code =>		312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 Calc Calc 340																							
Detection limit =>		Mean																							
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	554	400	6,8	48,0	37,0	1.13	4.45	<0.03	23.2	<5.0	<5.0	31	19	69	200	330	12	68	<5.0	<703	<734	95	
2/1	M	4	1203	470	52,0	72,8	66,0	0.051	2.47	<0.03	13.8	<4.0	8.8	25	11	25	34	49	<3.0	11	<4.0	<157	<168	55	
3/1	X	2	1138	480	58,9	67,1	60,0	0.013	4.52	<0.03	14.7	<4.0	<4.0	19	4.3	9.0	13	18	<4.0	<4.0	<4.0	<63	<67	17	
4/1	M	4	1268	490	48,9	68,0	62,0	0.044	6.05	<0.03	19.4	<3.0	<3.0	9.0	5.1	12	18	37	<3.0	9.5	<3.0	<89	<94	24	
5/1	F	4	1119	485	55,6	75,0	67,0	0.014	3.55	<0.03	13.4	<3.0	5.0	23	6.2	13	19	26	<3.0	5.1	<3.0	<94	<100	25	
6/1	M	3	1521	510	37,4	58,9	48,0	0.228	16.2	<0.03	28.2	<3.0	3.6	36	7.7	18	28	47	<3.0	11	<3.0	<147	<154	37	
7/1	M	4	1534	510	57,0	72,3	67,0	0.039	12.7	<0.03	17.5	<3.0	4.1	28	5.2	9.6	13	19	<3.0	4.1	<3.0	<81	<86	23	
8/1	M	5	1435	510	66,6	68,8	62,0	0.027	6.81	<0.03	15.2	<3.0	5.8	25	9.6	25	35	54	3.7	11	<3.0	<159	<172	43	
9/1	M	5	1467	510	51,0	63,1	55,0	0.036	8.85	<0.03	22.8	<3.0	5.2	24	6.6	14	23	33	<3.0	7.3	<3.0	<110	<116	41	
10/1	M	5	1372	515	22,7	51,9	34,0	0.095	5.09	<0.03	29.1	2.4	3.3	28	53	110	230	430	20	110	2.9	914	990	170	
11/1	M	4	1504	520	63,8	69,5	62,0	0.184	7.32	<0.03	17.6	<3.0	5.7	34	8.8	17	34	52	<3.0	9.3	<3.0	<155	<164	41	
12/1	M	6	1615	530	26,8	59,1	42,0	0.055	14.3	<0.03	35.7	<3.0	6.3	44	9.1	18	38	54	<3.0	9.9	<3.0	<173	<182	57	
13/1	M	4	1525	530	56,7	69,9	62,0	0.028	9.45	<0.03	15.6	<3.0	5.9	49	7.5	12	20	26	<3.0	5.4	<3.0	<121	<129	37	
14/1	F	3	1644	540	57,4	58,4	45,0	0.039	10.9	<0.03	29.4	<3.0	3.2	24	6.3	10	23	32	<3.0	7.2	<3.0	<102	<109	32	
15/1	M	4	1969	550	86,2	72,1	65,0	0.013	3.59	<0.03	13.8	<4.0	6.2	37	8.1	11	22	30	<4.0	6.0	<4.0	<116	<124	29	
16/1	M	4	1560	550	27,7	57,6	49,0	0.079	14.5	<0.03	25.2	3.1	9.5	67	13	27	51	71	3.2	13	<2.0	242	<260	87	
17/1	M	5	1802	550	52,8	63,6	53,0	0.038	5.89	<0.03	21.6	<3.0	6.1	32	12	23	50	86	4.3	20	<3.0	<220	<236	61	
18/1	M	3	1718	560	99,6	64,9	56,0	0.016	3.01	<0.03	16.4	<3.0	5.1	27	6.4	16	25	31	<3.0	7.4	<3.0	<115	<121	34	
19/1	F	4	1889	570	84,6	65,9	57,0	0.042	3.40	<0.03	17.5	<3.0	5.8	32	6.9	18	27	35	<3.0	7.8	<3.0	<129	<136	42	
20/1	F	4	1742	575	78,2	65,2	58,0	0.020	3.02	<0.03	13.3	<3.0	5.8	33	7.1	18	26	32	<3.0	6.0	<3.0	<124	<131	39	
21/1	M	3	1830	575	85,8	66,4	54,0	0.019	8.62	<0.03	21.7	<3.0	4.7	25	14	39	60	96	5.2	23	<3.0	<251	<270	96	
22/1	F	6	2377	580	277,1	74,6	68,0	0.008	1.07	<0.03	10.2	3.8	12	49	11	29	28	34	<3.0	7.4	<3.0	163	<177	68	
23/1	F	4	1926	585	56,2	56,0	46,0	0.035	9.18	<0.03	22.2	2.1	5.3	31	7.5	20	31	49	2.8	12	<2.0	150	<163	42	
24/1	M	6	2519	630	100,6	70,9	62,0	0.043	10.9	<0.03	17.5	14	26	190	46	120	120	120	10	26	<2.0	616	<674	140	
25/1	F	6	2967	640	129,9	65,6	58,0	0.069	7.35	<0.03	25.2	<3.0	5.6	35	7.4	19	31	43	<3.0	12	<3.0	<149	<156	38	
Mean		4	1648	535	69,6	65,0	55,8	0,09	7,33	<<0.03	20,0	<<3.6	<6.4	38,3	12,0	28,1	48,0	73,4	<<4.6	<16.5	<<3.1	<<214	<<229	54,9	
Minimum		2	554	400	6,8	48,0	34,0	0,01	1,07	<0.03	10,2	2,1	<3.0	9,0	4,3	9,0	13,0	18,0	2,8	<4.0	<2.0	<63	<67	17,0	
Maximum		6	2967	640	277,1	75,0	68,0	1,13	16,20	<0.03	35,7	14,0	26,0	190,0	53,0	120,0	230,0	430,0	20,0	110,0	<5.0	914	990	170,0	
St.Dev		1	485	51	51,0	7,0	9,5	0,22	4,15	~0.00	6,2	~2.2	~4.5	33,6	11,8	28,9	54,8	96,5	~3.9	~23.3	~0.6	~210	~226	37,1	
Count		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 98B Lille Molla 19990916

Analytical lab. =>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>		340	Calc	Calc	340	340	Calc	Calc	340	340	340	340	340	
Detection limit =>		3			0.5	2			2	2	2	2	2	
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	TDEPP ppb w.wt	DD Σ4 ppb w.wt	DD Σ5 ppb w.wt	HCHA ppb w.wt	HCHG ppb w.wt	HC Σ2 ppb w.wt	HC Σ3 ppb w.wt	HCB ppb w.wt	QCB ppb w.wt	OCS ppb w.wt
1/1	F	4	554	400	15	110.0	110.0	<3.0	<3.0	<3.0	<3.0	5.0	<3.0	<3.0
2/1	M	4	1203	470	18	73.0	73.0	3.8	4.7	8.5	8.5	13	1.6	<1.0
3/1	X	2	1138	480	5.1	22.1	22.1	3.7	5.7	9.4	9.4	9.3	<2.0	<2.0
4/1	M	4	1268	490	<3.0	<27.0	<27.0	3.2	3.4	6.6	6.6	10	<2.0	<2.0
5/1	F	4	1119	485	6.4	31.4	31.4	3.9	5.9	9.8	9.8	13	<2.0	<2.0
6/1	M	3	1521	510	7.7	44.7	44.7	3.2	4.3	7.5	7.5	14	<2.0	<2.0
7/1	M	4	1534	510	7.8	30.8	30.8	4.5	6.4	10.9	10.9	13	<1.5	<1.5
8/1	M	5	1435	510	11	54.0	54.0	3.5	5.4	8.9	8.9	13	<2.0	<2.0
9/1	M	5	1467	510	8.6	49.6	49.6	3.4	5.1	8.5	8.5	12	<1.5	<1.5
10/1	M	5	1372	515	7.6	177.6	177.6	2.4	3.5	5.9	5.9	8.6	1.7	1.2
11/1	M	4	1504	520	8.9	49.9	49.9	4.2	6.2	10.4	10.4	13	<2.0	<2.0
12/1	M	6	1615	530	12	69.0	69.0	2.4	3.5	5.9	5.9	14	<1.0	<1.0
13/1	M	4	1525	530	11	48.0	48.0	3.6	4.4	8.0	8.0	13	2.0	<1.0
14/1	F	3	1644	540	6.7	38.7	38.7	2.8	3.3	6.1	6.1	9.9	<1.0	<1.0
15/1	M	4	1969	550	8.8	37.8	37.8	4.4	6.8	11.2	11.2	13	<2.0	<2.0
16/1	M	4	1560	550	22	109.0	109.0	2.7	3.8	6.5	6.5	19	<1.0	<1.0
17/1	M	5	1802	550	11	72.0	72.0	3.3	5.1	8.4	8.4	15	<1.0	<1.0
18/1	M	3	1718	560	9.2	43.2	43.2	3.7	5.9	9.6	9.6	11	<2.0	<2.0
19/1	F	4	1889	570	12	54.0	54.0	3.7	5.8	9.5	9.5	11	<2.0	<2.0
20/1	F	4	1742	575	13	52.0	52.0	3.9	6.2	10.1	10.1	9.3	<2.0	<2.0
21/1	M	3	1830	575	13	109.0	109.0	3.2	5.0	8.2	8.2	10	<2.0	<2.0
22/1	F	6	2377	580	28	96.0	96.0	4.0	4.6	8.6	8.6	13	<2.0	<2.0
23/1	F	4	1926	585	11	53.0	53.0	2.8	4.6	7.4	7.4	11	<1.0	<1.0
24/1	M	6	2519	630	84	224.0	224.0	3.7	4.1	7.8	7.8	48	2.2	4.2
25/1	F	6	2967	640	11	49.0	49.0	3.9	6.2	10.1	10.1	10	<2.0	<2.0
Mean		4	1648	535	<14.1	<69.0	<69.0	<3.5	<4.9	<8.3	<8.3	13,2	<<1.8	<<1.8
Minimum		2	554	400	<3.0	22,1	22,1	2,4	<3.0	<3.0	<3.0	5,0	<1.0	<1.0
Maximum		6	2967	640	84,0	224,0	224,0	4,5	6,8	11,2	11,2	48,0	<3.0	4,2
St.Dev		1	485	51	~15.5	~47.4	~47.4	~0.6	~1.1	~1.9	~1.9	7,7	~0.5	~0.7
Count		25	25	25	25	25	25	25	25	25	25	25	25	25

sample no. 4 Liver and/or intestinal guts with larvae of Anisakis simplex sample no. 2 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity
sample no. 4 Signs of mechanical damage (e.g., net wounds) sample no. 2 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity
sample no. 4 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods sample no. 2 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity
sample no. Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with signs of inner bleeding
sample no. Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
sample no. Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
sample no. Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
sample no. Liver and/or intestinal guts with larvae of Anisakis simplex sample no. 2 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
sample no. Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera ccs sample no. 2 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera c
sample no. Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Muscle with signs of inner bleeding
sample no. Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera copepods
sample no. Liver and/or intestinal guts with larvae of Anisakis simplex
sample no. Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **98B Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **20000921** Count: 25 Sample type: **Individual**
 Comment : Station: Lille Molla Date of samling date 21.9.2000 is for fish 1-15
 Fish from 16-25 is fished in des.2000

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340	
Detection limit		=>				0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3	3	4	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	Mean weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
no.								w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	295	330	2,5	23,3	5,0					<0.30	0.39	2.3	2.2	7.3	15	28	1.5	7.8	<0.30	<61	<65	12
2/1	M	4	758	445	6,7	24,1	4,0	0.176	7.65	<0.05	43.2	<0.40	0.44	2.7	4.2	13	23	38	1.8	7.9	<0.40	<85	<91	18
3/1	M	3	143	310	2,3	27,5	3,7					<0.40	<0.40	1.1	1.6	5.5	11	18	0.84	4.8	<0.40	<41	<43	9.0
4/1	F	4	312	330	3,1	22,0	5,5					<0.40	<0.40	0.43	1.6	5.3	12	20	0.97	4.6	<0.40	<43	<45	5.2
5/1	F	5	671	430	4,7	22,2	2,4	0.193	33.0	0.04	50.7	<0.40	<0.40	0.40	1.7	4.6	8.0	14	0.59	2.6	<0.40	<30	<32	5.5
6/1	F	5	865	460	7,8	21,6	2,4	0.260	2.97	0.04	36.1	0.58	0.85	2.8	3.3	8.9	15	22	1.1	4.5	<0.40	55	<59	15
7/1	M	5	549	390	3,8	24,6	2,4	0.623	8.04	0.08	45.2	<0.40	<0.40	<0.40	1.2	3.5	6.3	12	0.58	2.9	<0.40	<25	<27	3.0
8/1	F	5	458	370	4,4	29,3	8,2	0.605	5.97	0.15	34.5	<0.40	0.59	3.3	5.4	17	30	49	1.8	7.4	<0.40	<108	<115	35
9/1	M	4	305	310	2,3	27,3	2,4					<0.40	<0.40	0.84	1.0	2.9	5.5	8.7	0.41	1.8	<0.40	<20	<22	3.2
10/1	F	4	1840	575	19,7	35,7	20,0	0.078	5.79	<0.04	30.7	5.2	15	38	34	92	150	230	12	44	<1.0	574	<621	200
11/1	F	4	2346	590	78,1	66,9	60,0	0.024	3.91	<0.04	15.3	2.6	6.2	20	19	51	70	99	5.2	19	<1.0	268	<293	69
12/1	M	4	510	390	4,1	24,8	2,1					<0.30	<0.30	<0.30	1.6	4.8	8.2	14	0.74	3.2	<0.30	<31	<33	2.6
13/1	F	5	1309	470	17,2	35,9	22,0	0.392	5.10	0.10	28.1	2.4	5.3	25	12	42	67	100	4.3	22	<1.0	264	<281	58
14/1	M	3	463	370	4,4	28,0	9,9	0.333	9.69	<0.04	34.7	0.59	<0.50	2.4	7.7	20	35	58	3.3	15	0.84	<131	<143	25
15/1	M	3	238	300	1,9	28,6	5,2					<0.40	<0.40	2.1	2.5	8.6	15	29	1.3	6.8	<0.40	<62	<66	11
16/1	M		276	325	3,3	29,5	6,7					1.4	3.6	11	21	56	88	170	9.8	44	0.56	374	405	81
17/1	M	4	554	410	14,6	49,2	35,0	0.114	1.62	<0.04	16.6	4.5	20	53	49	160	220	390	20	100	1.1	948	1018	260
18/1	M	5	629	415	14,6	50,0	37,0	0.660	2.66	<0.04	23.5	1.8	7.6	35	31	92	180	300	13	63	<1.0	679	<724	250
19/1	M	4	645	415	11,4	47,5	30,0	0.070	3.29	<0.03	27.2	3.5	17	41	37	100	130	250	13	59	<1.0	601	<652	150
20/1	F	3	847	430	20,3	50,0	36,0	0.056	2.67	<0.03	21.9	3.5	22	51	44	140	210	400	20	96	2.2	923	989	160
21/1	F	5	1089	470	42,0	63,8	58,0	0.042	1.64	<0.03	18.0	<2.0	3.5	12	7.1	22	41	67	3.6	15	<2.0	<163	<173	89
22/1	F	5	1030	485	18,7	40,8	23,0	0.171	6.94	<0.04	24.4	0.99	1.1	5.1	5.6	16	35	53	2.9	14	<0.60	125	<134	59
23/1	M	3	1216	505	52,6	63,4	52,0	0.040	3.39	<0.04	16.2	2.2	4.6	14	8.7	25	47	69	4.1	15	<2.0	177	<192	75
24/1	M	6	1706	540	96,7	66,1	57,0	0.056	2.91	<0.04	14.3	5.5	9.2	19	36	110	130	240	14	64	<4.0	578	<632	350
25/1	M	6	2783	625	125,9	72,0	65,0	0.029	1.96	<0.03	11.8	3.4	8.9	25	8.9	27	54	73	4.8	20	<3.0	211	<228	140
Mean		4	873	428	22,5	39,0	22,2	0,22	6,07	<<0.05	27,4	<<1.8	<<5.2	<14.7	13,9	41,4	64,2	110,1	5,7	25,8	<<1.0	<<263	<<283	83,4
Minimum		3	143	300	1,9	21,6	2,1	0,02	1,62	<0.03	11,8	<0.3	<0.3	<0.3	1,0	2,9	5,5	8,7	0,4	1,8	<0.3	<20	<22	2,6
Maximum		6	2783	625	125,9	72,0	65,0	0,66	33,00	0,15	50,7	5,5	22,0	53,0	49,0	160,0	220,0	400,0	20,0	100,0	<4.0	948	1018	350,0
St.Dev		1	675	91	32,5	16,7	21,8	0,22	7,13	~0.03	11,5	~1.7	~6.7	~16.9	15,3	46,6	66,8	120,6	6,1	29,2	~0.9	~286	~307	95,9
Count		24	25	25	25	25	25	18	18	18	18	25	25	25	25	25	25	25	25	25	25	25	25	25

s/q(1) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 98B Lille Molla 20000921

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>				3			0.5	2			2	2	2	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	295	330	0.75	12.8	12.8	<0.30	<0.30	<0.3	<0.3	0.60	<0.15	<0.30
2/1	M	4	758	445	1.6	19.6	19.6	<0.40	<0.40	<0.4	<0.4	0.75	<0.20	<0.40
3/1	M	3	143	310	<0.60	<9.6	<9.6	<0.40	<0.40	<0.4	<0.4	0.38	<0.20	<0.40
4/1	F	4	312	330	<0.60	<5.8	<5.8	<0.40	<0.40	<0.4	<0.4	0.78	<0.20	<0.40
5/1	F	5	671	430	<0.60	<6.1	<6.1	<0.40	<0.40	<0.4	<0.4	0.39	<0.20	<0.40
6/1	F	5	865	460	1.8	16.8	16.8	<0.40	<0.40	<0.4	<0.4	0.45	<0.20	<0.40
7/1	M	5	549	390	<0.60	<3.6	<3.6	<0.40	<0.40	<0.4	<0.4	0.29	<0.20	<0.40
8/1	F	5	458	370	1.7	36.7	36.7	0.40	0.51	0.9	0.9	1.7	<0.20	<0.40
9/1	M	4	305	310	<0.60	<3.8	<3.8	<0.40	<0.40	<0.4	<0.4	0.32	<0.20	<0.40
10/1	F	4	1840	575	27	227.0	227.0	1.0	1.4	2.4	2.4	11	<0.50	1.9
11/1	F	4	2346	590	8.0	77.0	77.0	3.2	4.1	7.3	7.3	12	0.78	<1.0
12/1	M	4	510	390	<0.40	<3.0	<3.0	<0.30	<0.30	<0.3	<0.3	0.34	<0.15	<0.30
13/1	F	5	1309	470	4.3	62.3	62.3	<1.0	5.3	<6.3	<6.3	6.8	<0.50	<1.0
14/1	M	3	463	370	1.5	26.5	26.5	0.42	0.71	1.1	1.1	2.6	<0.20	<0.50
15/1	M	3	238	300	0.53	11.5	11.5	<0.40	0.41	<0.8	<0.8	1.1	<0.20	<0.40
16/1	M		276	325	13	94.0	94.0	0.33	0.35	0.7	0.7	3.1	0.13	0.96
17/1	M	4	554	410	39	299.0	299.0	1.5	2.2	3.7	3.7	12	0.63	3.4
18/1	M	5	629	415	13	263.0	263.0	1.6	2.4	4.0	4.0	13	0.75	1.8
19/1	M	4	645	415	24	174.0	174.0	1.6	2.1	3.7	3.7	11	1.6	2.0
20/1	F	3	847	430	29	189.0	189.0	1.6	2.4	4.0	4.0	15	0.73	2.7
21/1	F	5	1089	470	8.1	97.1	97.1	2.5	4.0	6.5	6.5	13	1.0	<2.0
22/1	F	5	1030	485	9.5	68.5	68.5	0.99	1.4	2.4	2.4	6.4	0.44	0.63
23/1	M	3	1216	505	9.1	84.1	84.1	2.8	3.3	6.1	6.1	9.9	0.96	<1.0
24/1	M	6	1706	540	33	383.0	383.0	<4.0	4.3	<8.3	<8.3	22	<2.0	5.0
25/1	M	6	2783	625	27	167.0	167.0	3.3	4.5	7.8	7.8	19	<1.5	2.0
Mean		4	873	428	<10.2	<93.6	<93.6	<<1.2	<<1.7	<<2.8	<<2.8	6,6	<<0.5	<<1.2
Minimum		3	143	300	<0.4	<3.0	<3.0	<0.3	<0.3	<0.3	<0.3	0,3	0,1	<0.3
Maximum		6	2783	625	39,0	383,0	383,0	<4.0	5,3	<8.3	<8.3	22,0	<2.0	5,0
St.Dev		1	675	91	~12.2	~107.0	~107.0	~1.1	~1.6	~2.8	~2.8	6,7	~0.5	~1.2
Count		24	25	25	25	25	25	25	25	25	25	25	24	25

- | | | |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------|
| sample no. | 1 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae | 11 Skin with metacercariae of cf. Cryptocotyle lingua |
| | 2 Skin with metacercariae of cf. Cryptocotyle lingua | 12 Skin with metacercariae of cf. Cryptocotyle lingua |
| | 3 Gills with Lernaecocera copepods | 13 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| | 4 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae | 14 Liver and/or intestinal guts with larvae of Anisakis simplex |
| | 5 Skin with metacercariae of cf. Cryptocotyle lingua | 15 Skin with metacercariae of cf. Cryptocotyle lingua |
| | 6 Skin with metacercariae of cf. Cryptocotyle lingua | 16 sex code M? Skin with metacercariae of cf. Cryptocotyle lingua |
| | 7 Liver and/or intestinal guts with larvae of Anisakis simplex | Age impossible to analyz. |
| | 8 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform Lernaepodiform copepods | 18 Skin with metacercariae of cf. Cryptocotyle lingua |
| | 9 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform Lernaepodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex | 19 Skin with metacercariae of cf. Cryptocotyle lingua |
| | 10 Gills with Lernaecocera copepods Skin with metacercariae of cf. Cryptocotyle lingua | 22 Fish malodoros |
| | | 23 Skin with metacercariae of cf. Cryptocotyle lingua Fish malodoros |

JAMP contaminant data for fish 1998-2001 - Norway

Species : GADU MOR Gadus morhua GB: Cod, N: Torsk
 Sample area: J99 Undefined Tissue: LIVER
 Locality : 98B Lille Molla Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : 20010918 Count: 25 Sample type: Individual

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>				312	312	311	311	312	312	311	311	340	340	340	340	340	340	340	340			
Detection limit		=>		Mean		0.05	50.00	0.01	10.00	0.04	40.00	1	1000.0	3	3	3	3	3	3	3	3			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CD	CU	CU	PB	PB	ZN	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180
no.	F/M	year	g	mm	g	%	%	ppm	ppb	ppm	ppb	ppm	ppb	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	5	491	377	5,8	25,5	5,0	0.705		19.4		<0.04		50.3		0.43	0.70	2.4	1.9	5.4	8.3	12	0.62	2.8
2/1	M	6	898	500	6,9	35,2		1.69		8.16		0.06		39.0										
3/1	F	6	1388	555	33,9	46,8	32,0	0.233		7.82		<0.03		30.0		4.0	7.2	27	20	54	91	120	6.6	31
4/1	M	5	640	427	8,8	21,2	8,4	0.293		9.71		0.06		37.0		0.72	0.80	6.4	5.5	19	36	59	2.7	13
5/1	M	4	1182	540	13,5	19,8	3,5	0.258		5.28		<0.03		30.4		<0.20	0.30	1.9	3.3	9.8	18	34	1.9	11
6/1	X	5	1652	572	23,9	49,8	28,0	0.079		8.61		<0.03		34.4		3.3	6.7	19	12	29	42	59	3.5	16
7/1	F	5	449	360	4,6	23,9		0.270		10.9		<0.03		41.4										
8/1	F	4	205	291	1,9	27,9		3.49		9.86		0.10		56.6										
9/1	F	5	332	316	4,5	35,6		0.308		11.2		<0.03		39.9										
10/1	M	5	691	404	9,1	35,1	19,0	0.214		14.9		0.03		36.7		1.8	2.5	11	9.1	31	51	75	3.3	15
11/1	M	4	447	367	4,5	31,9	8,0									0.50	0.30	1.1	2.6	8.7	16	30	1.4	8.0
12/1	F	4	518	399	5,1	25,9	5,4									0.22	0.30	0.39	1.4	3.9	9.4	15	1.1	8.1
13/1	M	4	420	348	11,3	51,6	32,0	0.121		8.78		<0.03		26.6		<1.0	<1.0	<1.0	2.5	11	19	31	1.3	5.3
14/1	F	5	698	436	8,8	32,6	16,0	0.643		5.62		0.05		30.3		1.7	4.0	19	14	40	87	110	6.3	28
15/1	M	2	137	260	1,4	36,3		0.289		6.53		<0.16		55.3										
16/1	M	3	155	255	2,4	29,6		0.616		5.12		0.07		30.3										
17/1	F	2	113	235	1,0				miss		miss		miss		miss									
18/1	F	4	975	519	5,7	23,5	3,4	0.587		22.7		0.04		34.4		0.22	0.27	1.2	1.3	3.4	5.4	9.6	0.68	3.3
19/1	M	6	2003	630	47,7	58,5	49,0	0.131		6.66		<0.03		21.4		5.3	11	33	17	44	68	87	4.7	19
20/1	F	5	2148	595	35,3	49,3	35,0	0.066		8.02		<0.03		35.2		2.1	4.0	17	11	33	56	87	3.7	17
21/1	F	4	1012	468	23,1	56,9	46,0	0.046		7.17		<0.03		27.2		2.3	5.1	14	8.2	23	36	57	2.5	12
22/1	F	3	291	285	3,4	31,6	4,2									0.40	0.32	1.8	1.7	5.6	9.6	13	0.65	2.7
23/1	M	4	532	378	8,8	45,0	27,0	0.147		8.33		<0.03		33.9		0.87	1.6	5.4	5.0	15	30	46	2.4	15
24/1	M	3	197	290	2,7	19,7		0.643		1.33		0.05		27.5		miss	miss	miss	miss	miss	miss	miss	miss	miss
25/1	F	4	476	381	4,9	25,5	3,4									0.39	0.59	2.5	2.5	6.9	13	17	1.2	5.2
Mean		4	722	408	11,2	34,9	19,1	0.54		9,31		<<0.05		35,9		<1.5	<2.7	<9.7	7,0	20,2	35,0	50,7	2,6	12,5
Minimum		2	113	235	1,0	19,7	3,4	0.05		1,33		<0.03		21,4		<0.2	0,3	0,4	1,3	3,4	5,4	9,6	0,6	2,7
Maximum		6	2148	630	47,7	58,5	49,0	3,49		22,70		<0.16		56,6		5,3	11,0	33,0	20,0	54,0	91,0	120,0	6,6	31,0
St.Dev		1	568	114	12,2	11,9	15,7	0,79		4,90		~0.03		9,3		~1.5	~3.2	~10.2	5,9	15,8	27,4	35,2	1,9	8,3
Count		25	25	25	25	24	17	20		20		20		20		17	17	17	17	17	17	17	17	17

miss(21) ! Missing value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 98B Lille Molla 20010918

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>					340	Calc	Calc	340	340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>					3			4	3			0.5	2			2	2	2	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	F	5	491	377	<0.20	32	<35	11	1.5	12.5	12.5	<0.20	<0.20	<0.2	<0.2	1.2	<0.10	0.18	
2/1	M	6	898	500															
3/1	F	6	1388	555	1.3	334	362	130	19	149.0	149.0	1.6	2.0	3.6	3.6	9.2	<0.50	1.6	
4/1	M	5	640	427	0.72	135	144	43	3.3	46.3	46.3	0.35	0.40	0.8	0.8	0.87	0.11	0.26	
5/1	M	4	1182	540	0.39	<75	<81	21	2.0	23.0	23.0	<0.20	0.21	<0.4	<0.4	0.77	<0.10	0.40	
6/1	X	5	1652	572	<1.0	175	<192	59	12	71.0	71.0	1.4	1.7	3.1	3.1	10	<0.50	0.88	
7/1	F	5	449	360															
8/1	F	4	205	291															
9/1	F	5	332	316															
10/1	M	5	691	404	1.8	187	202	80	6.3	86.3	86.3	0.95	1.1	2.0	2.0	3.4	0.28	0.49	
11/1	M	4	447	367	0.81	65	69	18	1.1	19.1	19.1	0.27	0.37	0.6	0.6	1.1	<0.10	0.13	
12/1	F	4	518	399	0.85	37	41	7.3	0.76	8.1	8.1	<0.20	0.23	<0.4	<0.4	0.47	<0.10	0.12	
13/1	M	4	420	348	<1.0	<67	<71	26	1.2	27.2	27.2	1.6	1.8	3.4	3.4	3.6	<0.50	<0.50	
14/1	F	5	698	436	1.0	290	311	120	10	130.0	130.0	0.73	0.92	1.6	1.6	2.6	<0.30	0.79	
15/1	M	2	137	260															
16/1	M	3	155	255															
17/1	F	2	113	235															
18/1	F	4	975	519	0.21	23	26	7.4	0.47	7.9	7.9	<0.20	<0.20	<0.2	<0.2	0.58	<0.10	0.16	
19/1	M	6	2003	630	1.3	267	290	110	23	133.0	133.0	2.4	3.0	5.4	5.4	14	0.88	1.6	
20/1	F	5	2148	595	0.84	216	232	70	4.9	74.9	74.9	1.7	2.1	3.8	3.8	6.6	0.39	0.87	
21/1	F	4	1012	468	1.1	149	161	47	7.8	54.8	54.8	2.1	2.5	4.6	4.6	7.8	0.80	0.73	
22/1	F	3	291	285	0.26	33	36	15	0.63	15.6	15.6	<0.20	0.29	<0.5	<0.5	0.53	<0.10	<0.10	
23/1	M	4	532	378	2.0	114	123	28	2.2	30.2	30.2	1.3	1.6	2.9	2.9	3.2	<0.60	<0.60	
24/1	M	3	197	290	miss			miss	miss			miss	miss			miss	miss	miss	
25/1	F	4	476	381	0.42	46	50	19	1.5	20.5	20.5	<0.20	0.24	<0.4	<0.4	0.74	<0.10	0.15	
Mean		4	722	408	<0.9	<132	<143	47,7	5,7	53,5	53,5	<<0.9	<1.1	<<2.0	<<2.0	3,9	<<0.3	<0.6	
Minimum		2	113	235	<0.2	23	26	7,3	0,5	7,9	7,9	<0.2	<0.2	<0.2	<0.2	0,5	<0.1	<0.1	
Maximum		6	2148	630	2,0	334	362	130,0	23,0	149,0	149,0	2,4	3,0	5,4	5,4	14,0	0,9	1,6	
St.Dev		1	568	114	~0.5	~99	~107	40,7	6,7	46,7	46,7	~0.8	~0.9	~1.7	~1.7	4,1	~0.3	~0.5	
Count		25	25	25	17	17	17	17	17	17	17	17	17	17	17	17	17	17	17

miss(21) ! Missing value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 98B Lille Molla 20010918

sample no.

- 1 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is brown
- 2 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is brown
- 3 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white red
- 4 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is brown
- 5 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is red brown
- 6 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white yellow
- 7 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Age uncertain
Liver with necrotic areas and/or discolouration Signs of mechanical damage (e.g., net wounds)
Skin with metacercariae of cf. Cryptocotyle lingua liver colour is red
- 8 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is red
- 9 Skin with metacercariae of cf. Cryptocotyle lingua Liver with necrotic areas and/or discolouration
Liver with necrotic cysts or tumors liver colour is white yellow
- 10 Skin with metacercariae of cf. Cryptocotyle lingua Liver with necrotic areas and/or discolouration
Liver with necrotic cysts or tumors liver colour is red
- 11 Liver with necrotic areas and/or discolouration Liver with necrotic cysts or tumors
liver colour is red brown
- 12 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is red
- 13 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex
liver colour is white
- 14 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Gills with Lernaeocera copepods Liver and/or intestinal guts with larvae of Anisakis simplex
Skin with metacercariae of cf. Cryptocotyle lingua liver colour is yellow red
- 15 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is red
- 16 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex
Liver with necrotic areas and/or discolouration Liver with necrotic cysts or tumors
liver colour is red
- 17 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is red
- 18 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is red brown
- 19 Liver with necrotic areas and/or discolouration Liver with signs of bleeding
Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white red
- 20 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white yellow
- 21 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white
- 22 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is brown
- 23 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is white yellow
- 24 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods liver colour is red
- 25 Skin with metacercariae of cf. Cryptocotyle lingua liver colour is brown

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **10B Varangerfjorden** Latitude: 69°56.0N Longitude: 29°40.0E
 Catch,date : **19981203** Count: 25 Sample type: **Individual**

Analytical lab. =>				NIVA																				
Analysis code =>				312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 Calc Calc 340																				
Detection limit =>				Mean																				
Samp/ repl.	Sex	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CD ppm w.wt	CU ppm w.wt	PB ppm w.wt	ZN ppm w.wt	CB28 ppb w.wt	CB52 ppb w.wt	CB101 ppb w.wt	CB105 ppb w.wt	CB118 ppb w.wt	CB138 ppb w.wt	CB153 ppb w.wt	CB156 ppb w.wt	CB180 ppb w.wt	CB209 ppb w.wt	CB Σ7 ppb w.wt	CB ΣΣ ppb w.wt	DDEPP ppb w.wt
1/1	M	5	498	390	9,1	39,8	23,9	0.268	3.43	<0.04	26.9	2.4	7.5	20	7.9	28	38	46	2.6	8.9	<2	151	<163	57
2/1	F	5	602	390	29,1	26,8	9,6	0.389	2.11	<0.04	29.3	1.6	5.0	15	6.6	25	35	47	2.3	8.7	<1	137	<147	46
3/1	F	6	508	400	11,6	67,1	58,1	0.119	2.42	<0.04	15.6	<8	<8	19	<8	23	28	36	<8	<8	<8	<114	<114	47
4/1	M	5	598	400	24,9	54,4	60,0	0.041	5.55	<0.04	16.3	<8	<8	12	<8	16	19	24	<8	<8	<8	<79	<79	31
5/1	M	6	761	415	33,4	70,2	63,1	0.087	2.28	<0.04	17.2	<8	8.7	28	11	34	41	56	<8	12	<8	<188	<199	60
6/1	F	6	861	430	45,8	67,1	58,1	0.396	3.42	<0.04	17.6	<8	<8	12	<8	16	19	24	<8	<8	<8	<79	<79	34
7/1	M	6	726	430	39,9	74,9	70,8	0.112	3.23	<0.04	11.3	<8	<8	19	<8	18	19	24	<8	<8	<8	<88	<88	32
8/1	M	6	736	440	21,2	56,1	43,7	0.096	2.83	<0.04	17.9	<4	9.7	30	9.3	31	35	45	<4	9.9	<4	<165	<174	68
9/1	M	6	770	445	17,9	47,8	28,5	0.130	4.48	<0.04	21.6	<4	9.3	24	9.0	32	40	51	<4	10	<4	<170	<179	67
10/1	F	6	1042	450	60,8	62,9	53,4	0.146	4.39	<0.04	19.5	<8	<8	15	<8	17	23	29	<8	<8	<8	<92	<92	37
11/1	F	7	993	455	48,6	63,9	61,7	0.140	2.97	<0.04	20.0	<8	9.2	25	9.7	31	39	45	<8	10	<8	<167	<177	70
12/1	M	5	952	455	20,2	43,1	29,4	0.179	2.25	<0.04	20.9	<4	13	49	28	91	103	110	7.6	17	<4	<387	<423	95
13/1	M	7	1081	470	33,5	62,9	57,8	0.120	5.84	<0.04	23.7	<8	8.3	28	11	33	41	54	<8	11	<8	<183	<194	71
14/1	F	7	1040	485	55,1	65,2	63,1	0.051	3.79	<0.04	15.7	<8	<8	22	10	33	42	59	<8	12	<8	<176	<186	55
15/1	M	7	1057	500	35,9	67,3	62,4	0.057	4.31	<0.04	15.6	<8	15	39	15	44	47	58	<8	11	<8	<222	<237	85
16/1	M	6	1068	500	32,9	63,0	53,5	0.060	9.44	<0.04	23.1	<8	12	34	13	40	48	57	<8	12	<8	<211	<224	93
17/1	F	7	1057	500	44,6	66,0	55,0	0.099	7.07	<0.04	17.1	<8	9.6	26	9.1	28	29	34	<8	<8	<8	<135	<144	54
18/1	F	7	1351	510	42,8	61,1	53,0	0.126	6.36	<0.04	18.8	<8	10	23	12	36	42	53	<8	11	<8	<183	<195	75
19/1	M	7	1653	520	109,8	69,0	64,3	0.069	4.14	<0.04	14.8	<8	9.2	21	9.2	27	31	35	<8	<8	<8	<131	<140	51
20/1	M	7	1693	520	110,9	74,8	78,8	0.099	3.13	<0.04	12.2	<8	13	32	11	38	40	45	<8	9.8	<8	<186	<197	69
21/1	M	6	1233	530	40,8	64,5	52,4	0.194	8.93	<0.04	19.6	<8	14	40	21	64	74	74	<8	13	<8	<287	<308	84
22/1	F	6	1242	530	27,0	52,0	31,8	0.222	14.7	<0.04	30.9	4.2	13	35	10	35	39	40	<4	7.9	<4	174	<188	65
23/1	M	6	1723	550	91,1	61,0	51,8	0.137	5.75	<0.04	15.7	<8	<8	25	17	51	59	60	<8	10	<8	<213	<230	36
24/1	M	8	1895	600	72,5	67,0	56,6	0.076	6.18	<0.04	19.6	<8	13	31	12	41	55	65	<8	13	<8	<226	<238	85
25/1	F	8	2374	640	114,5	65,3	57,1	0.043	18.0	<0.04	22.3	<8	11	30	9.9	34	37	42	<8	8.7	<8	<171	<181	68
Mean		6	1100	478	47,0	60,5	51,9	0.14	5,48	<<0.04	19,3	<<6.9	<<9.9	26,2	<11.3	34,6	40,9	48,5	<<7.1	<<10.1	<<6.8	<<173	<<183	61,4
Minimum		5	498	390	9,1	26,8	9,6	0,04	2,11	<0.04	11,3	1,6	5,0	12,0	6,6	16,0	19,0	24,0	2,3	7,9	<1.0	<79	<79	31,0
Maximum		8	2374	640	114,5	74,9	78,8	0,40	18,00	<0.04	30,9	<8.0	15,0	49,0	28,0	91,0	103,0	110,0	<8.0	17,0	<8.0	<387	<423	95,0
St.Dev		1	466	64	30,5	11,2	15,9	0,09	3,85	~0.00	4,8	~2.1	~2.5	9,0	~4.7	16,0	18,1	18,4	~1.9	~2.2	~2.2	~67	~74	19,1
Count		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 10B Varangerfjorden 19981203

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>				3			0.5	2			2	2	2	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	5	498	390	17	74.0	74.0	<2	<2	<2.0	<2.0	7.4	<1	<1
2/1	F	5	602	390	14	60.0	60.0	<1	<1	<1.0	<1.0	3.9	<0.5	<0.5
3/1	F	6	508	400	15	62.0	62.0	<8	<8	<8.0	<8.0	19	<4	<4
4/1	M	5	598	400	<10	<41.0	<41.0	<8	<8	<8.0	<8.0	10	<4	<4
5/1	M	6	761	415	18	78.0	78.0	20	<8	<28.0	<28.0	<8	<4	<4
6/1	F	6	861	430	12	46.0	46.0	<8	<8	<8.0	<8.0	14	<4	<4
7/1	M	6	726	430	11	43.0	43.0	<8	<8	<8.0	<8.0	15	<4	<4
8/1	M	6	736	440	21	89.0	89.0	4	<4	<8.0	<8.0	17	<2	<2
9/1	M	6	770	445	22	89.0	89.0	<4	<4	<4.0	<4.0	14	<2	<2
10/1	F	6	1042	450	17	54.0	54.0	<8	<8	<8.0	<8.0	11	<4	<4
11/1	F	7	993	455	23	93.0	93.0	<8	<8	<8.0	<8.0	17	<4	<4
12/1	M	5	952	455	29	124.0	124.0	<4	<4	<4.0	<4.0	14	<2	<2
13/1	M	7	1081	470	19	90.0	90.0	<8	<8	<8.0	<8.0	17	<4	<4
14/1	F	7	1040	485	17	72.0	72.0	<8	<8	<8.0	<8.0	20	<4	<4
15/1	M	7	1057	500	30	115.0	115.0	<8	<8	<8.0	<8.0	27	<4	<4
16/1	M	6	1068	500	29	122.0	122.0	<8	<8	<8.0	<8.0	24	<4	<4
17/1	F	7	1057	500	20	74.0	74.0	<8	<8	<8.0	<8.0	18	<4	<4
18/1	F	7	1351	510	21	96.0	96.0	<8	<8	<8.0	<8.0	20	<4	<4
19/1	M	7	1653	520	15	66.0	66.0	<8	<8	<8.0	<8.0	13	<4	<4
20/1	M	7	1693	520	26	95.0	95.0	<8	<8	<8.0	<8.0	26	<4	<4
21/1	M	6	1233	530	29	113.0	113.0	<8	<8	<8.0	<8.0	23	<4	<4
22/1	F	6	1242	530	29	94.0	94.0	<4	<4	<4.0	<4.0	19	<2	<2
23/1	M	6	1723	550	10	46.0	46.0	<8	<8	<8.0	<8.0	14	<4	<4
24/1	M	8	1895	600	23	108.0	108.0	<8	<8	<8.0	<8.0	21	<4	<4
25/1	F	8	2374	640	23	91.0	91.0	<8	<8	<8.0	<8.0	23	<4	<4
Mean		6	1100	478	<20.0	<81.4	<81.4	<<7.3	<<6.8	<<7.8	<<7.8	<16.6	<<3.4	<<3.4
Minimum		5	498	390	<10.0	<41.0	<41.0	<1.0	<1.0	<1.0	<1.0	3,9	<0.5	<0.5
Maximum		8	2374	640	30,0	124,0	124,0	20,0	<8.0	<28.0	<28.0	27,0	<4.0	<4.0
St.Dev		1	466	64	~6.3	~24.9	~24.9	~3.4	~2.2	~4.7	~4.7	~5.9	~1.1	~1.1
Count		25	25	25	25	25	25	25	25	25	25	25	25	25

sample no 1	Muscle with signs of inner bleeding Gills with Lernaecocera copepods	Sample no.	13	Muscle with signs of inner bleeding Liver and/or intestinal guts with larva
	Liver and/or intestinal guts with larvae of Anisakis simplex	Sample no.	14	Muscle with signs of inner bleeding Liver and/or intestinal guts with larva
sample no 2	Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex	Sample no.	15	Muscle with signs of inner bleeding Liver and/or intestinal guts with larva
sample no 3	Liver and/or intestinal guts with larvae of Anisakis simplex	Sample no.	16	Liver with necrotic areas and/or discolouration
sample no 4	Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex	Sample no.	17	Muscle with signs of inner bleeding Liver and/or intestinal guts with larva
sample no 5	Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex	Sample no.	18	Muscle with signs of inner bleeding Liver and/or intestinal guts with larva
sample no 6	Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex	Sample no.	19	Fish malodorous
sample no 7	Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex	Sample no.	20	Muscle with signs of inner bleeding Liver and/or intestinal guts with larva
sample no 8	Liver and/or intestinal guts with larvae of Anisakis simplex Gills with Lernaecocera copepods	Sample no.	21	Muscle with signs of inner bleeding Liver and/or intestinal guts with larva
sample no 9	Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex	Sample no.	22	Liver and/or intestinal guts with larvae of Anisakis simplex
	Liver with signs of bleeding Fish malodorous	Sample no.	23	Muscle with signs of inner bleeding Liver and/or intestinal guts with larva
sample no 10	Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex	Sample no.	24	Muscle with signs of inner bleeding Liver and/or intestinal guts with larva
sample no 11	Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex	Sample no.	25	Muscle with signs of inner bleeding Liver and/or intestinal guts with larva
sample no 12	Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex	Sample no.		

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **10B Varangerfjorden** Latitude: 69°56.0N Longitude: 29°40.0E
 Catch,date : **19990929** Count: 25 Sample type: **Individual**

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		
Analysis code		=>		312		311		312		311		340		340		340		340		340		340		
Detection limit		=>		Mean		0.05		0.01		0.04		1		3		3		3		3		4		
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	3	569	415	14,6	56,1	42,3	0.131	5.58	<0.03	20.5	4.6	12	51	16	37	46	55	4.0	13	<2.0	219	<241	78
2/1	M	3	626	415	25,5	68,9	60,4	0.057	2.70	<0.03	13.3	4.0	9.7	48	12	28	33	37	<3.0	9.2	<3.0	169	<184	55
3/1	M	3	667	420	24,1	70,1	62,0	0.051	2.20	<0.03	12.4	4.4	9.7	51	15	36	19	53	3.9	13	<2.0	186	<207	72
4/1	M	3	649	420	22,1	61,9	50,1	0.108	3.33	<0.03	16.3	4.4	12	51	16	40	45	54	3.7	11	<3.0	217	<240	70
5/1	M	4	738	445	21,6	49,7	38,2	0.116	3.70	<0.03	22.4	4.1	12	46	18	46	59	75	5.1	17	<3.0	259	<285	91
6/1	M	3	806	450	42,2	64,6	45,4	0.045	2.66	<0.03	16.2	3.1	7.5	44	9.9	23	29	34	2.6	8.0	<2.0	149	<163	46
7/1	M	4	793	450	25,1	61,4	51,9	0.155	2.46	<0.03	21.4	5.1	17	75	19	44	54	68	4.8	17	<2.0	280	<306	100
8/1	M	4	790	455	29,7	63,2	53,1	0.043	2.51	<0.03	14.2	5.0	14	78	20	46	53	55	4.4	13	<2.0	264	<290	96
9/1	M	3	954	460	43,1	64,0	56,6	0.079	1.95	<0.03	12.8	5.0	11	58	16	42	49	57	4.4	15	<2.0	237	<259	83
10/1	F	4	727	465	14,6	40,4	24,0	0.182	5.31	<0.03	25.0	5.2	20	77	41	110	160	160	13	31	1.1	563	618	140
11/1	M	4	873	485	17,0	44,1	29,8	0.240	3.44	<0.03	24.7	4.8	13	57	19	53	65	84	5.0	19	<1.0	296	<321	120
12/1	F	4	936	500	34,4	61,6	50,7	0.318	2.65	<0.03	15.6	3.8	9.2	52	11	26	29	35	2.7	8.9	<2.0	164	<180	69
13/1	F	4	1040	500	40,3	61,8	50,7	1.07	2.41	<0.03	15.2	5.5	14	76	18	43	50	61	4.1	14	<2.0	264	<288	90
14/1	F	4	910	510	11,3	43,0	26,7	0.137	4.89	<0.03	28.6	6.5	22	94	25	81	94	110	6.4	20	<1.0	428	<460	150
15/1	F	4	941	510	23,3	48,4	35,6	0.179	3.00	<0.03	17.8	3.9	11	60	17	41	51	72	4.4	16	<2.0	255	<278	83
16/1	M	4	1091	515	33,1	61,9	54,1	0.141	4.49	<0.03	16.4	4.7	12	70	17	43	50	59	4.2	14	<2.0	253	<276	94
17/1	F	4	1165	545	41,4	64,6	55,2	0.117	5.64	<0.03	14.4	4.4	11	66	15	36	38	43	3.3	10	<2.0	208	<229	74
18/1	M	4	1085	545	27,3	53,6	45,2	0.530	7.12	<0.03	16.9	4.7	15	70	18	47	65	94	5.0	20	<3.0	316	<342	90
19/1	F	4	1199	545	44,7	64,6	53,0	0.097	3.83	<0.03	15.8	4.2	9.6	57	13	32	38	47	3.0	11	<2.0	199	<217	68
20/1	F	4	1299	545	56,9	69,5	60,0	0.136	3.05	<0.03	11.6	4.1	10	63	13	32	38	45	3.2	10	<2.0	202	<220	64
21/1	F	4	1094	540	32,8	55,8	45,3	0.402	3.45	<0.03	18.1	4.4	14	77	19	44	51	67	4.1	16	<2.0	273	<299	110
22/1	F	4	1176	545	26,6	46,6	32,3	0.372	3.86	<0.03	24.9	4.8	15	68	20	58	77	100	6.2	23	<2.0	346	<374	140
23/1	F	3	1049	550	10,4	55,3	6,1	0.388	7.38	<0.03	39.2	2.0	5.3	28	13	42	50	66	3.8	15	0.48	208	226	52
24/1	F	4	1232	560	40,0	64,3	51,1	0.213	6.59	<0.03	20.4	4.7	17	87	29	73	83	82	7.9	16	<2.0	363	<402	100
25/1	F	8	4137	775	75,6	64,9	54,9	0.097	4.09	<0.03	19.0	6.6	23	100	24	60	79	94	5.8	20	<3.0	383	<415	150
Mean		4	1062	503	31,1	58,4	45,4	0,22	3,93	<<0.03	18,9	4,6	13,0	64,2	18,2	46,5	56,2	68,3	<4.7	15,2	<<2.0	268	<<293	91,4
Minimum		3	569	415	10,4	40,4	6,1	0,04	1,95	<0.03	11,6	2,0	5,3	28,0	9,9	23,0	19,0	34,0	2,6	8,0	0,5	149	<163	46,0
Maximum		8	4137	775	75,6	70,1	62,0	1,07	7,38	<0.03	39,2	6,6	23,0	100,0	41,0	110,0	160,0	160,0	13,0	31,0	<3.0	563	618	150,0
St.Dev		1	673	75	14,9	8,7	13,4	0,22	1,56	~0.00	6,1	0,9	4,3	16,7	6,5	18,8	28,1	28,1	~2.1	5,2	~0.6	93	~101	29,7
Count		25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25

s/q(21) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 10B Varangerfjorden 19990929

Analytical lab.		=>	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>	340	Calc	Calc	340	340	Calc	Calc	340	340	340	340	
Detection limit		=>	3			0.5	2			2	2	2	2	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	3	569	415	31	109.0	109.0	2.8	3.7	6.5	6.5	18	s1.3	2.3
2/1	M	3	626	415	23	78.0	78.0	4.2	4.9	9.1	9.1	21	s1.8	1.7
3/1	M	3	667	420	25	97.0	97.0	4.0	5.3	9.3	9.3	16	<1.0	2.4
4/1	M	3	649	420	27	97.0	97.0	3.4	4.1	7.5	7.5	22	<2.0	2.4
5/1	M	4	738	445	36	127.0	127.0	2.5	3.3	5.8	5.8	17	<2.0	2.5
6/1	M	3	806	450	23	69.0	69.0	3.2	4.0	7.2	7.2	17	s1.4	1.3
7/1	M	4	793	450	37	137.0	137.0	3.4	4.3	7.7	7.7	29	s1.4	3.0
8/1	M	4	790	455	39	135.0	135.0	4.2	5.4	9.6	9.6	23	s1.4	2.4
9/1	M	3	954	460	39	122.0	122.0	3.7	5.1	8.8	8.8	28	s1.4	2.5
10/1	F	4	727	465	55	195.0	195.0	1.5	2.0	3.5	3.5	25	s0.73	3.4
11/1	M	4	873	485	53	173.0	173.0	2.2	2.7	4.9	4.9	18	s0.73	3.4
12/1	F	4	936	500	26	95.0	95.0	4.2	5.0	9.2	9.2	22	s1.4	2.7
13/1	F	4	1040	500	41	131.0	131.0	3.5	4.6	8.1	8.1	30	s1.7	3.0
14/1	F	4	910	510	66	216.0	216.0	1.6	2.5	4.1	4.1	26	s0.86	3.7
15/1	F	4	941	510	33	116.0	116.0	2.6	3.3	5.9	5.9	22	s1.1	2.1
16/1	M	4	1091	515	34	128.0	128.0	3.8	4.7	8.5	8.5	27	s2.0	2.9
17/1	F	4	1165	545	31	105.0	105.0	3.2	4.2	7.4	7.4	26	s1.6	2.4
18/1	M	4	1085	545	35	125.0	125.0	<3.0	3.5	<6.5	<6.5	29	<2.0	3.1
19/1	F	4	1199	545	31	99.0	99.0	4.0	5.0	9.0	9.0	24	s1.4	2.1
20/1	F	4	1299	545	28	92.0	92.0	4.5	5.7	10.2	10.2	26	s1.9	2.3
21/1	F	4	1094	540	43	153.0	153.0	3.4	4.2	7.6	7.6	26	s1.3	2.3
22/1	F	4	1176	545	49	189.0	189.0	2.5	3.3	5.8	5.8	26	s1.0	3.7
23/1	F	3	1049	550	19	71.0	71.0	0.34	0.50	0.8	0.8	5.5	s0.15	1.0
24/1	F	4	1232	560	38	138.0	138.0	4.3	5.2	9.5	9.5	28	s1.6	3.1
25/1	F	8	4137	775	67	217.0	217.0	3.4	4.3	7.7	7.7	43	s1.4	4.8
Mean		4	1062	503	37,2	128,6	128,6	<3.2	4,0	<7.2	<7.2	23,8	<<1.8	2,7
Minimum		3	569	415	19,0	69,0	69,0	0,3	0,5	0,8	0,8	5,5	<1.0	1,0
Maximum		8	4137	775	67,0	217,0	217,0	4,5	5,7	10,2	10,2	43,0	2,0	4,8
St.Dev		1	673	75	12,6	41,9	41,9	~1.0	1,2	~2.2	~2.2	6,8	~0.5	0,8
Count		25	25	25	25	25	25	25	25	25	25	25	4	25

- | | | |
|------------|----|------------------------------------------------------------------------------------|
| sample no. | 13 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 1 | 14 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 2 | 15 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 3 | 16 | Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with la |
| 4 | 17 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 5 | 18 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 6 | 19 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 7 | 20 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 8 | 21 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 9 | 22 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 10 | 23 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 11 | 24 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 12 | 25 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| | | Liver and/or intestinal guts with larvae of Anisakis simplex |

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **10B Varangerfjorden** Latitude: 69°56.0N Longitude: 29°40.0E
 Catch,date : **20000918** Count: 25 Sample type: **Individual**

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		
Analysis code		=>		312		311		312		311		340		340		340		340		340		340		
Detection limit		=>		Mean		0.05		0.01		0.04		1		3		3		3		3		4		
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	2	270	320	8,9	68,7	58,0	0.083	1.21	0.04	14.2	<3.0	4.5	10	5.6	16	20	28	<3.0	6.3	<3.0	<88	<93	35
2/1	M	3	427	375	14,3	66,1	57,0	0.094	2.76	<0.03	14.5	<3.0	5.5	13	8.0	20	28	36	<3.0	8.1	<3.0	<114	<122	35
3/1	F	3	382	370	15,8	61,6	53,0	0.059	3.00	<0.03	14.5	<3.0	4.4	13	7.1	19	23	39	<3.0	8.9	<3.0	<110	<117	24
4/1	F	3	237	310	5,0	44,4	31,0	0.236	4.13	<0.05	21.1	2.6	8.9	24	11	27	40	56	3.1	12	<1.0	171	<186	81
5/1	F	2	275	335	4,2		19,0	0.358	3.47	<0.03	30.7	1.9	5.3	13	8.1	23	35	46	2.7	10	<0.80	134	<146	61
6/1	M	4	806	440	41,6	73,6	69,0	0.029	1.28	<0.03	12.0	<3.0	6.2	16	6.3	16	20	26	<3.0	5.0	<3.0	<92	<99	36
7/1	M	3	265	320	9,0		53,0	0.099	1.60	<0.04	19.5	<2.0	4.3	11	5.0	13	18	22	<2.0	4.1	<2.0	<74	<79	23
8/1	M	2	251	315	8,3		54,0	0.212	3.30	<0.03	19.4	2.2	5.2	12	6.1	15	24	33	2.0	8.0	<2.0	99	<110	28
9/1	F	3	207	310	2,4		4,3	miss	miss	miss	miss	<0.40	0.62	1.9	0.99	3.0	4.8	6.7	<0.40	1.4	<0.40	<19	<20	6.6
10/1	F	3	301	325	3,7		17,0	0.133	1.29	0.06	29.1	1.1	3.3	9.4	5.1	15	22	34	1.6	7.3	<1.0	92	<100	42
11/1	F	2	228	310	4,8		24,0	0.217	2.65	<0.04	21.8	<1.5	1.7	5.0	3.0	8.2	12	20	<1.5	5.0	<1.5	<53	<56	18
12/1	F	2	358	350	5,7		31,0	0.470	7.25	0.04	30.7	<1.5	3.4	10	4.8	13	21	32	<1.5	5.6	<1.5	<87	<91	27
13/1	M	3	416	360	13,3	68,4	57,0	0.082	1.84	<0.03	16.8	<3.0	4.8	13	6.2	16	23	36	<3.0	7.4	<3.0	<103	<109	32
14/1	F	3	425	370	10,1	57,3	42,0	0.266	5.02	<0.04	24.5	<2.0	4.0	10	4.4	11	17	22	<2.0	3.8	<2.0	<70	<74	25
15/1	F	3	346	340	11,1	68,5	56,0	0.065	3.04	<0.03	11.9	<3.0	4.0	10	4.5	11	16	23	<3.0	4.7	<3.0	<72	<76	27
16/1	F	3	322	340	4,5		26,0	0.575	3.44	0.08	24.8	1.7	4.8	14	7.2	19	27	40	2.1	8.4	<1.0	115	<125	53
17/1	M	2	239	300	14,3	74,2	66,0	0.041	1.70	<0.03	8.74	<3.0	3.8	12	3.7	7.9	10	15	<3.0	<3.0	<3.0	<52	<55	21
18/1	F	3	376	350	10,1		56,0	0.096	4.40	<0.04	17.3	<3.0	5.9	16	7.5	19	28	38	<3.0	6.7	<3.0	<117	<124	39
19/1	M	2	207	300	5,9		42,0	0.184	4.28	<0.04	22.0	<3.0	4.8	12	4.8	12	18	25	<3.0	5.2	<3.0	<80	<85	29
20/1	M	2	138	260	2,2		24,0					1.7	6.0	14	7.3	20	31	44	1.8	8.2	<1.5	125	<136	54
21/1	M	3	533	310	13,0	60,3	50,0	0.125	3.09	<0.04	19.2	<3.0	6.9	15	10	23	35	48	<3.0	9.9	<3.0	<141	<151	51
22/1	F	3	346	350	6,6		37,0	0.099	2.18	<0.03	19.9	2.2	6.1	18	9.0	21	27	43	2.5	9.2	<2.0	127	<140	42
23/1	M	3	407	375	12,5	51,6	39,0	0.098	7.12	<0.03	23.5	<3.0	3.5	15	8.4	23	31	56	<3.0	12	<3.0	<144	<152	29
24/1	M	3	281	330	6,5		54,0	0.135	2.29	<0.03	17.9	<3.0	6.8	17	7.3	19	29	38	<3.0	7.8	<3.0	<121	<128	48
25/1	M	2	247	320	4,8		37,0	0.300	4.11	<0.04	23.1	<1.0	2.3	5.7	2.9	6.5	10	13	<1.0	2.8	<1.0	<41	<44	17
Mean		3	332	335	9,5	63,2	42,3	0,18	3,24	<<0.04	19,9	<<2.3	4,7	12,4	6,2	15,9	22,8	32,8	<<2.4	<6.8	<<2.1	<<98	<<105	35,3
Minimum		2	138	260	2,2	44,4	4,3	0,03	1,21	<0.03	8,7	<0.4	0,6	1,9	1,0	3,0	4,8	6,7	<0.4	1,4	<0.4	<19	<20	6,6
Maximum		4	806	440	41,6	74,2	69,0	0,58	7,25	0,08	30,7	<3.0	8,9	24,0	11,0	27,0	40,0	56,0	3,1	12,0	<3.0	171	<186	81,0
St.Dev		1	133	35	7,8	9,3	16,8	0,14	1,65	~0.01	5,9	~0.8	1,8	4,5	2,3	5,9	8,6	12,7	~0.8	~2.8	~0.9	~35	~39	16,1
Count		25	25	25	25	11	25	23	23	23	23	25	25	25	25	25	25	25	25	25	25	25	25	25

miss(4) ! Missing value

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 10B Varangerfjorden 20000918

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>				3			0.5	2			2	2	2	
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP	DD Σ4	DD Σ5	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	2	270	320	5.5	40.5	40.5	3.2	3.6	6.8	6.8	9.4	<1.5	<3.0
2/1	M	3	427	375	6.5	41.5	41.5	2.9	3.4	6.3	6.3	9.4	<1.5	<3.0
3/1	F	3	382	370	4.9	28.9	28.9	<3.0	3.5	<6.5	<6.5	11	<1.5	<3.0
4/1	F	3	237	310	15	96.0	96.0	1.7	1.9	3.6	3.6	13	1.7	2.4
5/1	F	2	275	335	13	74.0	74.0	0.92	1.2	2.1	2.1	5.4	<0.4	0.93
6/1	M	4	806	440	8.2	44.2	44.2	3.8	3.9	7.7	7.7	16	<1.5	<3.0
7/1	M	3	265	320	4.7	27.7	27.7	2.8	3.2	6.0	6.0	8.7	<1.0	<2.0
8/1	M	2	251	315	6.0	34.0	34.0	2.7	3.0	5.7	5.7	8.2	<1.0	<2.0
9/1	F	3	207	310	1.5	8.1	8.1	<0.40	<0.40	<0.4	<0.4	0.58	<0.20	<0.40
10/1	F	3	301	325	7.0	49.0	49.0	1.0	1.0	2.0	2.0	4.1	<0.50	<1.0
11/1	F	2	228	310	2.3	20.3	20.3	<1.5	1.5	<3.0	<3.0	3.9	<0.80	<1.5
12/1	F	2	358	350	4.0	31.0	31.0	1.7	1.9	3.6	3.6	6.8	<0.80	<1.5
13/1	M	3	416	360	4.8	36.8	36.8	3.1	3.2	6.3	6.3	9.9	<1.5	<3.0
14/1	F	3	425	370	4.5	29.5	29.5	2.4	2.4	4.8	4.8	6.6	<1.0	<2.0
15/1	F	3	346	340	5.1	32.1	32.1	3.1	3.1	6.2	6.2	9.3	<1.5	<3.0
16/1	F	3	322	340	8.7	61.7	61.7	1.4	1.6	3.0	3.0	7.3	<0.50	1.2
17/1	M	2	239	300	5.0	26.0	26.0	3.4	3.7	7.1	7.1	9.9	<1.5	<3.0
18/1	F	3	376	350	9.3	48.3	48.3	3.1	3.3	6.4	6.4	11	<1.5	<3.0
19/1	M	2	207	300	7.3	36.3	36.3	<3.0	<3.0	<3.0	<3.0	9.0	<1.5	<3.0
20/1	M	2	138	260	11	65.0	65.0	<1.5	<1.5	<1.5	<1.5	6.1	<0.80	<1.5
21/1	M	3	533	310	11	62.0	62.0	<3.0	<3.0	<3.0	<3.0	11	<1.5	<3.0
22/1	F	3	346	350	11	53.0	53.0	2.0	2.0	4.0	4.0	12	<1.0	<2.0
23/1	M	3	407	375	4.2	33.2	33.2	<3.0	<3.0	<3.0	<3.0	7.2	<1.5	<3.0
24/1	M	3	281	330	9.0	57.0	57.0	3.1	3.2	6.3	6.3	10	<1.5	<3.0
25/1	M	2	247	320	3.4	20.4	20.4	1.3	1.2	2.5	2.5	4.4	<0.50	<1.0
Mean		3	332	335	6.9	42,3	42,3	<<2.4	<2.5	<<4.4	<<4.4	8,4	<<1.1	<<2.2
Minimum		2	138	260	1,5	8,1	8,1	<0.4	<0.4	<0.4	<0.4	0,6	<0.2	<0.4
Maximum		4	806	440	15,0	96,0	96,0	3,8	3,9	7,7	7,7	16,0	1,7	<3.0
St.Dev		1	133	35	3,4	19,4	19,4	~0.9	~1.0	~2.1	~2.1	3,3	~0.5	~0.9
Count		25	25	25	25	25	25	25	25	25	25	25	25	25

sample no.
 2 Gills with Lernaeocera copepods
 3 Gills with Lernaeocera copepods
 4 Liver and/or intestinal guts with larvae of Anisakis simplex
 5 Gills with Lernaeocera copepods
 6 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with la
 9 Gills with Lernaeocera copepods
 11 Gills with Lernaeocera copepods Liver and/or intestinal guts with larvae of Anisakis simple
 14 Gills with Lernaeocera copepods
 15 Gills with Lernaeocera copepods
 17 Liver and/or intestinal guts with larvae of Anisakis simplex
 18 Liver and/or intestinal guts with larvae of Anisakis simplex Age uncertain

sample no.
 19 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 20 Liver and/or intestinal guts with larvae of Anisakis simplex
 22 Liver and/or intestinal guts with larvae of Anisakis simplex
 23 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 Gills with Lernaeocera copepods Age uncertain
 24 Liver and/or intestinal guts with larvae of Anisakis simplex
 25 Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **10B Varangerfjorden** Latitude: 69°56.0N Longitude: 29°40.0E
 Catch,date : **20010915** Count: 25 Sample type: **Individual**

Analytical lab. =>				NIVA																	NIVA		NIVA			
Analysis code =>				312																	311		312			
Detection limit =>				Mean																	0.05		0.01		0.04	
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP		
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
				w.wt																	w.wt		w.wt		w.wt	
1/1	F	3	318	338	6,1	60,7	40,0	0.177	5.65	<0.03	23.6	1.9	4.5	16	8.6	23	31	35	2.2	9.3	<1.0	121	<133	44		
2/1	F	2	251	313	6,4	65,4	49,0	0.091	3.71	<0.03	20.7	2.1	4.5	13	6.1	15	21	25	<2.0	5.9	<2.0	87	<95	32		
3/1	F	2	423	368	6,6	36,7	21,0	0.215	9.26	<0.03	29.1	2.4	5.3	15	8.1	21	29	33	2.3	8.8	<1.0	115	<126	51		
4/1	F	2	308	335	6,5	55,9	39,0	0.178	4.49	<0.03	25.1	2.3	5.7	16	8.3	22	32	39	2.1	9.3	<1.5	126	<138	48		
5/1	F	3	459	374	20,0	75,3	66,0	0.074	3.32	<0.03	16.1	2.2	4.2	12	5.2	13	19	24	<1.5	5.9	<1.5	80	<87	31		
6/1	M	4	1056	486	49,8	58,4	43,0	0.030	5.78	<0.03	23.3	3.3	8.1	14	8.9	23	34	46	2.5	11	<1.5	139	<152	45		
7/1	F	2	181	279	7,3	67,0	56,0	0.040	3.18	<0.03	18.9	2.1	4.5	14	8.9	20	20	22	<2.0	4.8	<2.0	87	<98	27		
8/1	F	2	253	320	5,7	50,8	34,0	0.244	6.85	<0.03	32.4	2.0	3.8	12	6.5	17	24	29	1.7	7.1	<1.5	95	<105	36		
9/1	M	2	214	300	3,7			0.163	3.44	<0.03	28.4															
10/1	F	2	212	300	5,6	64,8	50,0	0.129	1.61	<0.05	19.9	2.3	6.1	18	9.7	25	33	38	2.3	8.5	<1.5	131	<144	44		
11/1	F	2	309	329	9,2	62,1	50,0	0.062	4.42	<0.03	21.6	2.2	3.8	10	5.1	14	19	25	<1.5	5.6	<1.5	80	<86	28		
12/1	F	2	256	316	3,4			0.516	5.83	<0.03	39.3															
13/1	F	2	263	330	4,5			0.140	1.23	<0.03	23.7															
14/1	F	3	311	344	8,5	66,3	55,0	0.081	2.54	<0.03	17.9	3.0	6.7	16	7.7	16	25	28	2.0	6.3	<2.0	101	<113	36		
15/1	M	3	457	372	16,6	69,0	59,0	0.061	1.41	<0.03	15.2	3.1	7.2	19	9.3	23	31	37	2.8	8.2	<2.0	129	<143	42		
16/1	M	2	309	330	3,4			0.396	3.92	<0.03	38.7															
17/1	F	3	390	376	14,9	65,6	59,0	0.080	3.62	<0.03	18.4	2.1	5.1	15	6.3	15	21	28	1.6	6.1	<1.5	92	<102	36		
18/1	M	2	221	303	6,4	65,3	59,0	0.144	1.84	<0.03	17.8	2.6	5.2	16	8.2	20	25	30	2.0	6.3	<1.5	105	<117	34		
19/1	M	2	366	359	7,2	51,2	30,0	0.080	6.48	<0.03	28.7	1.8	4.5	15	8.9	27	35	45	2.8	10	<1.0	138	<151	45		
20/1	M	2	266	321	10,8	65,0	60,0	0.048	5.36	<0.03	15.5	2.6	7.0	19	7.3	17	25	32	1.9	6.9	<1.5	110	<120	39		
21/1	M	4	342	356	3,7	57,3		0.308	8.12	0.05	48.9															
22/1	M	2	293	331	8,2		52,0	0.069	2.06	<0.05	17.9	2.7	6.5	17	6.8	18	24	30	1.8	6.4	<1.5	105	<115	39		
23/1	F	2	320	308	5,3	64,2	55,0	0.163	2.52	<0.08	19.3	3.5	8.5	22	12	30	39	46	2.1	9.5	<1.5	159	<174	49		
24/1	F	2	238	311	5,9	54,4	44,0	0.099	4.36	<0.03	26.1	2.8	5.4	15	7.5	20	27	32	2.0	6.8	<1.5	109	<120	36		
25/1	M	3	288	324	7,1	55,0	43,0	0.228	2.39	0.06	20.9	2.6	5.6	15	7.7	21	28	37	2.2	7.6	<1.0	117	<128	38		
Mean		2	332	337	9,3	60,5	48,2	0.15	4,14	<<0.04	24,3	2,5	5,6	15,5	7,9	20,0	27,1	33,1	<2.1	7,5	<<1.5	111	<<122	39,0		
Minimum		2	181	279	3,4	36,7	21,0	0,03	1,23	<0.03	15,2	1,8	3,8	10,0	5,1	13,0	19,0	22,0	<1.5	4,8	<1.0	80	<86	27,0		
Maximum		4	1056	486	49,8	75,3	66,0	0,52	9,26	<0.08	48,9	3,5	8,5	22,0	12,0	30,0	39,0	46,0	2,8	11,0	<2.0	159	<174	51,0		
St.Dev		1	168	40	9,4	8,4	11,4	0,12	2,11	~0.01	8,3	0,5	1,4	2,7	1,6	4,5	5,8	7,2	~0.4	1,7	~0.3	22	~23	6,9		
Count		25	25	25	25	20	20	25	25	25	25	20	20	20	20	20	20	20	20	20	20	20	20	20		

JAMP contaminant data for fish 1998-2001 - Norway

Tab.width cont'd GADU MOR, LI, J99, 10B Varangerfjorden 20010915

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit		=>		3			0.5	2			2	2	2	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	3	318	338	7.7	51.7	51.7	2.2	2.3	4.5	4.5	8.2	0.62	0.94
2/1	F	2	251	313	7.1	39.1	39.1	2.7	2.9	5.6	5.6	9.2	<1.0	<1.0
3/1	F	2	423	368	16	67.0	67.0	1.1	1.2	2.3	2.3	7.2	<0.50	1.3
4/1	F	2	308	335	9.5	57.5	57.5	1.9	2.2	4.1	4.1	9.1	<0.70	1.1
5/1	F	3	459	374	6.1	37.1	37.1	3.4	3.3	6.7	6.7	13	0.98	<0.80
6/1	M	4	1056	486	8.1	53.1	53.1	2.2	2.4	4.6	4.6	9.1	0.82	1.1
7/1	F	2	181	279	5.2	32.2	32.2	2.8	2.8	5.6	5.6	9.3	<1.0	<1.0
8/1	F	2	253	320	8.0	44.0	44.0	1.8	2.0	3.8	3.8	7.3	<0.70	0.78
9/1	M	2	214	300										
10/1	F	2	212	300	7.5	51.5	51.5	2.5	2.6	5.1	5.1	10	<0.70	0.96
11/1	F	2	309	329	5.2	33.2	33.2	2.3	2.3	4.6	4.6	10	0.72	<0.70
12/1	F	2	256	316										
13/1	F	2	263	330										
14/1	F	3	311	344	11	47.0	47.0	3.1	3.3	6.4	6.4	12	<1.0	<1.0
15/1	M	3	457	372	10	52.0	52.0	3.7	4.2	7.9	7.9	12	<1.0	1.3
16/1	M	2	309	330										
17/1	F	3	390	376	8.1	44.1	44.1	3.2	3.4	6.6	6.6	12	0.90	1.0
18/1	M	2	221	303	8.0	42.0	42.0	3.3	3.4	6.7	6.7	12	0.79	0.73
19/1	M	2	366	359	8.2	53.2	53.2	1.9	1.9	3.8	3.8	6.2	<0.50	0.95
20/1	M	2	266	321	10	49.0	49.0	3.2	3.5	6.7	6.7	13	0.94	1.1
21/1	M	4	342	356										
22/1	M	2	293	331	8.9	47.9	47.9	2.9	3.1	6.0	6.0	11	0.82	0.96
23/1	F	2	320	308	11	60.0	60.0	3.0	3.3	6.3	6.3	14	0.86	1.3
24/1	F	2	238	311	9.4	45.4	45.4	2.8	3.2	6.0	6.0	9.1	<0.70	0.94
25/1	M	3	288	324	8.3	46.3	46.3	2.2	2.4	4.6	4.6	9.8	0.66	0.88
Mean		2	332	337	8,7	47,7	47,7	2,6	2,8	5,4	5,4	10,2	<<0.8	<1.0
Minimum		2	181	279	5,2	32,2	32,2	1,1	1,2	2,3	2,3	6,2	<0.5	<0.7
Maximum		4	1056	486	16,0	67,0	67,0	3,7	4,2	7,9	7,9	14,0	<1.0	1,3
St.Dev		1	168	40	2,4	8,7	8,7	0,7	0,7	1,3	1,3	2,1	~0.2	~0.2
Count		25	25	25	20	20	20	20	20	20	20	20	20	20

sample no.	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is yellow	14	Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods
2	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is yellow		Liver and/or intestinal guts with larvae of Anisakis simplex liver colour :
3	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is red brown	15	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour :
4	liver colour is white yellow	16	liver colour is red brown
5	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is white	17	Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods
6	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is white		Liver and/or intestinal guts with larvae of Anisakis simplex liver colour :
7	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is white	18	sex uncertain liver colour is white
8	Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods	19	Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods. Li
	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is red yellow	20	Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods
9	sex uncertain Liver and/or intestinal guts with larvae of Ani liver colour is white red		Liver and/or intestinal guts with larvae of Anisakis simplex liver colour i
10	sex uncertain liver colour is white red	21	liver colour is red brown
11	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is white	22	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour i
12	Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods	23	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour i
	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour is yellow	24	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour i
13	Skin and/or oral cavity with caligiform and/or Lernaepodiform liver colour is white	25	Liver and/or intestinal guts with larvae of Anisakis simplex liver colour i

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°48.50N Longitude: 10°32.50E
 Catch,date : **19990114** Count: 10 Sample type: **Individual**

					=>			NIVA
Analytical lab.					=>			310
Analysis code					=>			0.005
Detection limit					=>			Mean
Samp/	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG
repl.	F/M	year	g	mm	g	%	%	ppm
no.								w.wt
1/1	F	6	900	450	50,0	20,2		0.110
2/1	F	5	814	460	50,4	20,1		0.063
3/1	F	6	1386	510	50,3	19,3		0.195
4/1	M	7	1425	510	49,9	19,3		0.253
5/1	M	7	1450	525	49,9	19,4		0.197
6/1	F	6	1539	550	49,5	20,1		0.197
7/1	F	7	1600	575	50,4	18,2		0.271
8/1	F	8	1628	575	50,2	18,2		0.327
9/1	F	7	2090	630	52,3	18,4		0.247
10/1		9	2487	665	49,9	17,8		0.204
Mean		7	1532	545	50,3	19,1		0,206
Minimum		5	814	450	49,5	17,8		0,063
Maximum		9	2487	665	52,3	20,2		0,327
St.Dev		1	493	69	0,8	0,9		0,077
Count		10	10	10	10	10		10

Comments

Station: Oslo City area Slemmestad-Måsane, 100m, trawl

sample no.

- 1 fish no. 8
- 2 fish no. 2 Skin with metacercariae of cf. Cryptocotyle lingua
- 3 fish no. 3
- 4 fish no. 10
- 5 fish no. 7 Skin with metacercariae of cf. Cryptocotyle lingua
- 6 fish no. 5
- 7 fish no. 9 Skin with metacercariae of cf. Cryptocotyle lingua
- 8 fish no. 1
- 9 fish no. 6 Skin with metacercariae of cf. Cryptocotyle lingua
- 10 fish no. 4 Skin with metacercariae of cf. Cryptocotyle lingua

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°48.50N Longitude: 10°32.50E
 Catch,date : **19990114** Count: 10 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341			
Detection limit =>				Mean												0.1	0.05							
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA
F/M		year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
11/1	F	6	1195	491	50,1		0,4	0.07	0.41	1.6	1.6	3.7	6.2	7.5	0.44	1.8	<0.05	21	<23	1.5	0.32	1.8	1.8	<0.06
12/1	F	7	1869	599	50,5		0,3	0.05	0.40	2.5	3.1	7.1	13	17	0.97	5.1	0.1	45	49	3.0	0.33	3.3	3.3	<0.06
Mean		7	1532	545	50,3		0,4	0,1	0,4	2,1	2,4	5,4	9,6	12,3	0,7	3,5	<<0.1	33	<<36	2,3	0,3	2,6	2,6	<<0.1
Minimum		6	1195	491	50,1		0,3	0,1	0,4	1,6	1,6	3,7	6,2	7,5	0,4	1,8	<0.1	21	<23	1,5	0,3	1,8	1,8	<0.1
Maximum		7	1869	599	50,5		0,5	0,1	0,4	2,5	3,1	7,1	13,0	17,0	1,0	5,1	0,1	45	49	3,0	0,3	3,3	3,3	<0.1
St.Dev		1	476	76	0,3		0,1	0,0	0,0	0,6	1,1	2,4	4,8	6,7	0,4	2,3	~0.0	17	~18	1,1	0,0	1,1	1,1	~0.0
Count		2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
11/1	F	6	1195	491	0.07	<0.1	<0.1	0.07	<0.03	<0.03
12/1	F	7	1869	599	0.06	<0.1	<0.1	0.05	<0.03	<0.03
Mean		7	1532	545	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		6	1195	491	0,1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		7	1869	599	0,1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	476	76	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		2	2	2	2	2	2	2	2	2

Comments

Station: Oslo City area Slemmestad-Måsane, 100m, trawl

sample no.

- 11 Bulk of 1-5 (original no. resp. 8,2,3,10,7)
- 12 Bulk of 6-10 (original no. 5,9,1,6,4)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°44.0N Longitude: 10°33.20E
 Catch,date : **19990118** Count: 10 Sample type: **Individual**

Analytical lab.		=>				NIVA		
Analysis code		=>				310		
Detection limit		=>		Mean		0.005		
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm w.wt
1/1	M	6	819	450	66,2			0.117
2/1	M	7	1107	475	66,1	18,5		0.133
3/1	M	6	1315	500	81,4	19,2		0.195
4/1	F	8	1723	530	76,6	18,9		0.223
5/1	F	7	1536	530	85,9	19,4		0.182
6/1	M	7	1742	570	84,0	18,9		0.276
7/1	M	7	1678	570	83,2	18,2		0.279
8/1	F	8	2247	620	86,0	19,0		0.115
9/1	M	10	3147	720	84,0	17,9		0.270
10/1	F	12	5673	830	94,9	18,5		0.366
Mean		8	2099	580	80,8	18,7		0,216
Minimum		6	819	450	66,1	17,9		0,115
Maximum		12	5673	830	94,9	19,4		0,366
St.Dev		2	1410	117	9,0	0,5		0,083
Count		10	10	10	10	9		10

Comments

Station: Oslo City area Håøya-Ramton, 100m, trawl

sample no.

- 1 fish no. 21 Muscle with signs of inner bleeding
- 2 fish no.22 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding
- 3 fish no. 23 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding
- 4 fish no 24 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding
- 5 fish no. 25 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding
- 6 fish no. 26 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding
- 7 fish no. 27 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding NIVA no.27
- 8 fish no. 28 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding
- 9 fish no. 29 Muscle with signs of inner bleeding
- 10 fish no. 30 Muscle with signs of inner bleeding
Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°44.0N Longitude: 10°33.20E
 Catch,date : **19990118** Count: 10 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341			
Detection limit =>				Mean												0.1	0.05			0.05				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA
no.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
11/1	M	7	1300	497	75,2		0,4	0.05	0.28	1.2	1.5	3.6	5.5	7.2	0.42	1.7	<0.05	20	<22	1.3	0.21	1.5	1.5	<0.06
12/1	M	9	2897	662	86,4		0,3	0.07	0.51	2.3	2.2	4.9	8.6	11	0.60	2.7	<0.05	30	<33	2.3	0.36	2.7	2.7	<0.06
Mean		8	2099	580	80,8		0,4	0,1	0,4	1,8	1,9	4,3	7,1	9,1	0,5	2,2	<<0.1	25	<<28	1,8	0,3	2,1	2,1	<<0.1
Minimum		7	1300	497	75,2		0,3	0,1	0,3	1,2	1,5	3,6	5,5	7,2	0,4	1,7	<0.1	20	<22	1,3	0,2	1,5	1,5	<0.1
Maximum		9	2897	662	86,4		0,4	0,1	0,5	2,3	2,2	4,9	8,6	11,0	0,6	2,7	<0.1	30	<33	2,3	0,4	2,7	2,7	<0.1
St.Dev		1	1130	117	7,9		0,1	0,0	0,2	0,8	0,5	0,9	2,2	2,7	0,1	0,7	~0.0	7	~8	0,7	0,1	0,8	0,8	~0.0
Count		2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
no.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
11/1	M	7	1300	497	0.07	<0.1	<0.1	0.05	<0.03	<0.03
12/1	M	9	2897	662	0.07	<0.1	<0.1	0.07	<0.03	<0.03
Mean		8	2099	580	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		7	1300	497	0,1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		9	2897	662	0,1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	1130	117	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		2	2	2	2	2	2	2	2	2

Comments

Station: Oslo City area Håøya-Ramton, 100m, trawl

sample no.

- 11 Bulk of NIVA nos.:21,22,23,24,25
- 12 Bulk of NIVA nos.:26,27,28,29,30

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°48.50N Longitude: 10°32.50E
 Catch,date : **19990121** Count: 10 Sample type: **Individual**

Analytical lab.		=>				NIVA		
Analysis code		=>				310		
Detection limit		=>		Mean		0.005		
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm w.wt
1/1	M	5	503	390	49,5	18,9		0.101
2/1	F	5	574	400	48,9	19,0		0.104
3/1	M	5	789	455	48,1	18,4		0.100
4/1	F	6	970	480	49,5	18,9		0.223
5/1	M	6	1144	495	49,1	18,5		0.208
6/1	M	6	1386	545	49,1	18,9		0.200
7/1	M	8	1766	590	52,7	17,6		0.267
8/1	M	8	2030	590	49,6	19,1		0.242
9/1	F	8	1660	655	50,3	19,5		0.158
10/1	M	8	3148	680	52,5	19,9		0.327
Mean		7	1397	528	49,9	18,9		0,193
Minimum		5	503	390	48,1	17,6		0,100
Maximum		8	3148	680	52,7	19,9		0,327
St.Dev		1	800	101	1,5	0,6		0,077
Count		10	10	10	10	10		10

Comments

Station: Oslo City area Slemmestad-Måsane, 100m, trawl

sample no.

- 1 fish no. 15
- 2 fish no. 12
- 3 fish no. 19
- 4 fish no. 17 Skin with metacercariae of cf. Cryptocotyle lingua
- 5 fish no. 20
- 6 fish no. 14 Skin with metacercariae of cf. Cryptocotyle lingua
- 7 fish no. 11
- 8 fish no. 16
- 9 fish no. 18
- 10 fish no. 13

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°48.50N Longitude: 10°32.50E
 Catch,date : **19990121** Count: 10 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341		
Detection limit =>				Mean													0.1	0.05			0.05			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA
F/M		year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
11/1	M	5	796	444	49,0		0,2	0.05	0.29	1.5	1.4	3.3	5.1	6.2	0.38	1.3	<0.05	18	<20	1.4	0.28	1.7	1.7	<0.06
12/1	M	8	1998	612	50,8		0,3	0.06	0.49	2.3	2.0	4.4	7.5	8.6	0.50	2.1	<0.05	25	<28	2.1	0.43	2.5	2.5	<0.06
Mean		6	1397	528	49,9		0,2	0,1	0,4	1,9	1,7	3,9	6,3	7,4	0,4	1,7	<<0.1	22	<<24	1,8	0,4	2,1	2,1	<<0.1
Minimum		5	796	444	49,0		0,2	0,1	0,3	1,5	1,4	3,3	5,1	6,2	0,4	1,3	<0.1	18	<20	1,4	0,3	1,7	1,7	<0.1
Maximum		8	1998	612	50,8		0,3	0,1	0,5	2,3	2,0	4,4	7,5	8,6	0,5	2,1	<0.1	25	<28	2,1	0,4	2,5	2,5	<0.1
St.Dev		2	850	119	1,3		0,0	0,0	0,1	0,6	0,4	0,8	1,7	1,7	0,1	0,6	~0.0	5	~6	0,5	0,1	0,6	0,6	~0.0
Count		2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
11/1	M	5	796	444	0.06	<0.1	<0.1	0.05	0.03	<0.03
12/1	M	8	1998	612	0.06	<0.1	<0.1	0.06	<0.03	<0.03
Mean		6	1397	528	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		5	796	444	0,1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		8	1998	612	0,1	<0.1	<0.1	0,1	0,0	<0.0
St.Dev		2	850	119	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		2	2	2	2	2	2	2	2	2

Comments

Station: Oslo City area Slemmestad-Måsane, 100m, trawl

sample no.

- 11 Bulk of 1-5 (original no. resp. 15,12,19,17,20)
- 12 Bulk of 6-10 (original no. resp. 14,11,16,18,13)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°47.0N Longitude: 10°35.50E
 Catch,date : **19990122** Count: 10 Sample type: **Individual**

Analytical lab.		=>				NIVA		
Analysis code		=>				310		
Detection limit		=>		Mean		0.005		
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm w.wt
1/1	M	6	756	430	53,8	19,3		0.077
2/1	M	6	978	460	54,1	21,0		0.089
3/1	M	5	981	470	58,5	20,1		0.128
4/1	M	6	1117	470	57,0	18,9		0.083
5/1	M	5	992	475	57,6	19,0		0.059
6/1	M	6	1176	480	60,4	20,4		0.094
7/1	M	6	1248	500	64,7	19,8		0.077
8/1	M	6	1370	530	58,7	18,5		0.113
9/1	M	7	1715	560	58,1	19,4		0.079
10/1	M	8	1888	570	56,4	19,7		0.093
Mean		6	1222	495	57,9	19,6		0,089
Minimum		5	756	430	53,8	18,5		0,059
Maximum		8	1888	570	64,7	21,0		0,128
St.Dev		1	351	45	3,1	0,8		0,020
Count		10	10	10	10	10		10

Comments

Station: Oslo City area Svestad, 60-90m, seine
 Correct sampling date 990121. Changed due to IT problem; collision with same date at another "30B" site (ng-991202).

sample no.

- 1 fish no. 41 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding
- 2 fish no. 42 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding Bacterial fin rot
- 3 fish no. 43 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding Bacterial fin rot
- 4 fish no. 44 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 5 fish no. 45 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding
- 6 fish no. 46 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding
- 7 fish no. 47 Muscle with signs of inner bleeding
- 8 fish no. 48 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 9 fish no. 49 Muscle with signs of inner bleeding
Bacterial fin rot
- 10 fish no. 50 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°47.0N Longitude: 10°35.50E
 Catch,date : **19990122** Count: 10 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341			
Detection limit =>				Mean												0.1	0.05			0.05				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA
no.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
11/1	M	6	965	461	56,2		0,3	0.09	0.59	1.4	1.1	2.6	3.2	3.6	0.23	0.79	<0.05	12	<14	1.3	0.29	1.6	1.6	<0.06
12/1	M	7	1479	528	59,7		0,4	0.09	0.51	1.3	0.79	1.8	2.4	2.8	0.18	0.65	<0.05	10	<11	0.81	0.23	1.0	1.0	<0.06
Mean		7	1222	495	57,9		0,4	0,1	0,6	1,4	0,9	2,2	2,8	3,2	0,2	0,7	<<0.1	11	<<13	1,1	0,3	1,3	1,3	<<0.1
Minimum		6	965	461	56,2		0,4	0,1	0,5	1,3	0,8	1,8	2,4	2,8	0,2	0,7	<0.1	10	<11	0,8	0,2	1,0	1,0	<0.1
Maximum		7	1479	528	59,7		0,4	0,1	0,6	1,4	1,1	2,6	3,2	3,6	0,2	0,8	<0.1	12	<14	1,3	0,3	1,6	1,6	<0.1
St.Dev		1	364	47	2,4		0,0	0,0	0,1	0,1	0,2	0,6	0,6	0,6	0,0	0,1	~0.0	1	~2	0,3	0,0	0,4	0,4	~0.0
Count		2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
no.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
11/1	M	6	965	461	0.09	<0.1	<0.1	0.09	<0.03	<0.03
12/1	M	7	1479	528	0.08	<0.1	<0.1	0.08	<0.03	<0.03
Mean		7	1222	495	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		6	965	461	0,1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		7	1479	528	0,1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	364	47	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		2	2	2	2	2	2	2	2	2

Comments

Station: Oslo City area Svestad, 60-90m, seine
 Correct sampling date 990121. Changed due to IT problem; collision with same date at another "30B" site (ng-991202).

sample no.

- 11 Bulk of 1-5 (original no. resp. :41,42,43,44,45)
- 12 Bulk of 6-10 (original no. resp. 46,47,48,49,50)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°48.50N Longitude: 10°32.50E
 Catch,date : **19990128** Count: 10 Sample type: **Individual**

Analytical lab.		=>				NIVA		
Analysis code		=>				310		
Detection limit		=>		Mean		0.005		
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm w.wt
1/1	F	5	700	420	49,5	19,0		0.101
2/1	F	6	840	445	50,5	19,0		0.197
3/1	M	5	966	450	51,0	18,7		0.228
4/1	F	6	880	450	49,8	18,7		0.268
5/1	F	6	912	450	49,7	18,8		0.165
6/1	F	6	1096	480	48,8	18,1		0.193
7/1	M	7	1332	535	50,1	18,9		0.318
8/1	M	8	1566	535	49,0	20,6		0.174
9/1	F	8	2117	615	49,0	19,2		0.232
10/1	F	9	3691	750	49,2	18,1		0.279
Mean		7	1410	513	49,7	18,9		0,216
Minimum		5	700	420	48,8	18,1		0,101
Maximum		9	3691	750	51,0	20,6		0,318
St.Dev		1	906	102	0,7	0,7		0,063
Count		10	10	10	10	10		10

Comments

Station: Oslo City area Slemmestad-Måsane, 100m, trawl

sample no.

- 1 fish no. 40 Skin with metacercariae of cf. Cryptocotyle lingua
- 2 fish no. 34
- 3 fish no. 32 Skin with metacercariae of cf. Cryptocotyle lingua
- 4 fish no. 38
- 5 fish no. 39
- 6 fish no. 37 Skin with metacercariae of cf. Cryptocotyle lingua
- 7 fish no. 31 Skin with metacercariae of cf. Cryptocotyle lingua
- 8 fish no. 36
- 9 fish no. 35 Skin with metacercariae of cf. Cryptocotyle lingua
- 10 fish no. 33

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°48.50N Longitude: 10°32.50E
 Catch,date : **19990128** Count: 10 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341			
Detection limit =>				Mean												0.1	0.05			0.05				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA
no.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
11/1	F	6	860	443	50,1		0,3	0.06	0.31	1.3	1.5	3.6	6.6	8.1	0.47	2.1	<0.05	22	<24	1.5	0.28	1.8	1.8	<0.06
12/1	F	8	1960	583	49,2		0,3	0.05	0.31	1.4	1.7	3.7	7.3	8.8	0.50	2.4	<0.06	24	<26	1.8	0.28	2.1	2.1	<0.06
Mean		7	1410	513	49,7		0,3	0,1	0,3	1,4	1,6	3,7	7,0	8,5	0,5	2,3	<<0.1	23	<<25	1,7	0,3	2,0	2,0	<<0.1
Minimum		6	860	443	49,2		0,3	0,1	0,3	1,3	1,5	3,6	6,6	8,1	0,5	2,1	<0.1	22	<24	1,5	0,3	1,8	1,8	<0.1
Maximum		8	1960	583	50,1		0,3	0,1	0,3	1,4	1,7	3,7	7,3	8,8	0,5	2,4	<0.1	24	<26	1,8	0,3	2,1	2,1	<0.1
St.Dev		1	778	99	0,6		0,0	0,0	0,0	0,1	0,1	0,1	0,5	0,5	0,0	0,2	~0.0	1	~1	0,2	0,0	0,2	0,2	~0.0
Count		2	2	2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
no.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
11/1	F	6	860	443	0.06	<0.1	<0.1	0.05	<0.03	<0.03
12/1	F	8	1960	583	0.07	<0.1	<0.1	0.06	<0.03	<0.03
Mean		7	1410	513	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		6	860	443	0,1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		8	1960	583	0,1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	778	99	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		2	2	2	2	2	2	2	2	2

Comments

Station: Oslo City area Slemmestad-Måsane, 100m, trawl

sample no.

- 11 Bulk of 1-5 (original no. resp. 40,34,32,38,39)
- 12 Bulk of 6-10 (original no. resp. 37,31,36,35,33)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°49.0N Longitude: 10°33.0E
 Catch,date : **19991106** Count: 25 Sample type: **Individual**

Analytical lab.		=>				NIVA		
Analysis code		=>				310		
Detection limit		=>		Mean		0.005		
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm w.wt
1/1	F	5	1969	560	50,6	19,3		0.388
2/1	F	4	2269	650	50,9	17,5		0.424
3/1	F	2	980	470	50,7	19,1		0.146
4/1	M	4	1601	565	51,2	18,6		0.348
5/1	F	5	1970	595	50,7	17,5		0.433
6/1	F	3	1000	410	50,9	18,7		0.131
7/1	M	4	1346	545	49,0	16,2		0.529
8/1	F	5	812	470	49,3	17,7		0.266
9/1	F	5	2657	650	50,7	18,3		0.427
10/1	F	5	1155	510	49,1	17,8		0.201
11/1	F	4	1009	475	50,3	18,9		0.080
12/1	M	3	577	385	50,2	18,0		0.087
13/1	F	3	1003	465	49,5	19,7		0.274
14/1	M	3	486	375	51,2	18,4		0.130
15/1	M	6	373	380	52,1	18,1		0.194
16/1	M	2	602	415	49,6	20,6		0.137
17/1	M	2	584	405	50,5	18,7		0.170
18/1	F	2	450	370	49,2	19,8		0.074
19/1	F	2	931	475	49,4	18,3		0.165
20/1	F	4	1297	525	49,6	17,3		0.354
21/1	F	6	668	415	49,4	18,7		0.270
22/1	M	2	463	370	49,3	19,4		0.179
23/1	M	6	1236	510	49,3	17,1		0.283
24/1	F	4	849	455	49,5	17,8		0.119
25/1	F	6	893	465	49,6	18,2		0.264
Mean		4	1087	476	50,1	18,4		0,243
Minimum		2	373	370	49,0	16,2		0,074
Maximum		6	2657	650	52,1	20,6		0,529
St.Dev		1	600	83	0,8	1,0		0,128
Count		25	25	25	25	25		25

sample no.

- 1 Skin with metacercariae of cf. Cryptocotyle lingua
- 10 Skin with metacercariae of cf. Cryptocotyle lingua
- 12 Gills with Lernaecocera copepods
- 20 Skin with metacercariae of cf. Cryptocotyle lingua

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°49.0N Longitude: 10°33.0E
 Catch,date : **19991106** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341			
Detection limit =>				Mean	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05			0.05			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA
F/M		year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt		w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	3	470	376		0,4	0,06	0,23	1,1	1,7	3,7	6,6	8,8	0,50	2,4	0,07	23	25	1,5	0,24	1,7	1,7	<0,06	
27/1	X	3	741	420		0,4	0,07	0,19	0,75	1,4	3,8	6,6	9,5	0,51	3,0	0,09	24	26	1,3	0,33	1,6	1,6	<0,06	
28/1	F	4	939	469		0,4	0,06	0,22	0,70	1,3	3,0	5,1	6,7	0,39	1,8	0,06	18	19	1,5	0,25	1,8	1,8	<0,06	
29/1	X	4	1193	513		0,3	<0,06	0,17	0,68	1,5	3,5	6,2	8,4	0,47	2,4	0,06	<21	<23	1,2	0,14	1,3	1,3	<0,06	
30/1	X	5	2093	604		0,3	<0,06	0,24	0,99	0,96	2,5	5,2	6,7	0,40	2,1	0,07	<18	<19	1,5	0,18	1,7	1,7	<0,06	
Mean		4	1087	476		0,4	<<0,1	0,2	0,8	1,4	3,3	5,9	8,0	0,5	2,3	0,1	<<21	<<22	1,4	0,2	1,6	1,6	<<0,1	
Minimum		3	470	376		0,3	<0,1	0,2	0,7	1,0	2,5	5,1	6,7	0,4	1,8	0,1	<18	<19	1,2	0,1	1,3	1,3	<0,1	
Maximum		5	2093	604		0,4	0,1	0,2	1,1	1,7	3,8	6,6	9,5	0,5	3,0	0,1	24	26	1,5	0,3	1,8	1,8	<0,1	
St.Dev		1	622	88		0,0	~0,0	0,0	0,2	0,3	0,5	0,7	1,3	0,1	0,4	0,0	~3	~3	0,1	0,1	0,2	0,2	~0,0	
Count		5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	3	470	376	<0.06	<0.1	<0.1	0.07	<0.03	<0.03
27/1	X	3	741	420	<0.06	<0.1	<0.1	0.07	<0.03	<0.03
28/1	F	4	939	469	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
29/1	X	4	1193	513	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
30/1	X	5	2093	604	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
Mean		4	1087	476	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		3	470	376	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		5	2093	604	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	622	88	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

sample no.
 26 Bulk of NIVA no.s.18,22,14,15,12
 27 Bulk of NIVA no.s.17,6,16,21,24
 28 Bulk of NIVA no.s.13,25,3,8,11
 29 Bulk of NIVA no.s.19,10,23,20,7
 30 Bulk of NIVA no.s.1,4,5,2,9

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°49.0N Longitude: 10°33.0E
 Catch,date : **20001106** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA				
Analysis code =>					310				
Detection limit =>					Mean				
Samp/	Sex	Age	Wght	Lngr	weight	Dry	Fat	HG	
repl.	F/M	year	g	mm	g	%	%	ppm	
no.								w.wt	
1/1	X	4	765	450	50,6	18,8		0.334	
2/1	X	5	845	460	50,3	19,6		0.150	
3/1	X	4	856	470	50,4	19,7		0.170	
4/1	X	3	805	440	51,0	19,3		0.166	
5/1	X	3	800	430	50,2	19,7		0.180	
6/1	X	6	1295	560	50,9	18,0		0.409	
7/1	X	4	670	420	50,7	18,9		0.116	
8/1	X	5	908	460	50,5	19,5		0.198	
9/1	X	5	945	480	50,5	18,9		0.220	
10/1	X	3	500	400	50,3	19,5		0.110	
11/1	X	4	885	470	50,5	18,5		0.323	
12/1	X	5	1450	540	50,6	19,3		0.319	
13/1	X	3	742	430	50,5	19,1		0.162	
14/1	X	4	640	430	51,0	18,7		0.372	
15/1	X	2	860	470	50,7	18,7		0.178	
16/1	X	4	1140	505	50,2	18,6		0.310	
17/1	X	5	1625	570	50,6	18,5		0.202	
18/1	X	5	845	450	50,2	19,1		0.211	
19/1	X	6	1235	540	50,5	18,8		0.257	
20/1	X	5	835	490	50,8	19,4		0.247	
21/1	X	4	1160	490	50,6	18,8		0.261	
22/1	X	3	900	485	50,2	18,9		0.217	
23/1	X	4	815	460	51,1	19,3		0.281	
24/1	X	3	775	435	50,9	19,9		0.232	
25/1	X	2	575	390	50,0	19,0		0.165	
Mean		4	915	469	50,6	19,1		0,232	
Minimum		2	500	390	50,1	18,0		0,110	
Maximum		6	1625	570	51,1	19,9		0,409	
St.Dev		1	266	47	0,3	0,5		0,079	
Count		25	25	25	25	25		25	

sample no.

1	Age uncertain	14	Age uncertain
2	Age uncertain	15	Age uncertain
4	Age uncertain	16	Age uncertain
5	Age uncertain	17	Age uncertain
6	Age uncertain	19	Age uncertain
10	age uncertain	20	Age uncertain
12	Age uncertain	21	Age uncertain
13	Age uncertain		

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°49.0N Longitude: 10°33.0E
 Catch,date : **20001106** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA																					
Analysis code =>				341																					
Detection limit =>				0.05																					
Samp/	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA	
repl.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	
26/1	X	3	657	414	50,3	0,4	0,05	0,23	0,46	0,42	0,86	1,4	1,8	0,10	0,51	miss	5	6	0,44	0,11	0,6	0,6	<0,05		
27/1	X	4	766	441	50,7	0,4	0,05	0,24	0,46	0,50	1,0	2,3	2,9	0,18	0,99	miss	8	9	0,47	0,12	0,6	0,6	<0,04		
28/1	X	4	862	464	50,6	0,4	<0,05	0,21	0,40	0,41	0,85	1,7	2,2	0,13	0,67	miss	<6	<7	0,39	0,09	0,5	0,5	<0,05		
29/1	X	4	940	483	50,6	0,4	<0,05	0,19	0,29	0,31	0,63	1,1	1,4	0,08	0,43	<0,05	<4	<4	0,29	0,09	0,4	0,4	<0,05		
30/1	X	5	1349	543	50,6	0,3	<0,05	0,19	0,56	0,63	1,4	3,1	4,2	0,23	1,3	<0,05	<11	<12	0,75	0,09	0,8	0,8	<0,05		
Mean		4	915	469	50,6	0,4	<<0,1	0,2	0,4	0,5	0,9	1,9	2,5	0,1	0,8	<<0,1	<<7	<<8	0,5	0,1	0,6	0,6	<<0,0		
Minimum		3	657	414	50,3	0,3	<0,1	0,2	0,3	0,3	0,6	1,1	1,4	0,1	0,4	<0,1	<4	<4	0,3	0,1	0,4	0,4	<0,0		
Maximum		5	1349	543	50,7	0,4	0,1	0,2	0,6	0,6	1,4	3,1	4,2	0,2	1,3	<0,1	<11	<12	0,8	0,1	0,8	0,8	<0,1		
St.Dev		1	265	49	0,1	0,0	~0,0	0,0	0,1	0,1	0,3	0,8	1,1	0,1	0,4	~0,0	~3	~3	0,2	0,0	0,1	0,1	~0,0		
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	2	5	5	5	5	5	5	5		

miss(3) ! Missing value

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
repl.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w. wt	w. wt	w. wt	w. wt	w. wt	w. wt
26/1	X	3	657	414	<0,05	<0,1	<0,1	0,06	<0,03	<0,03
27/1	X	4	766	441	0,04	<0,1	<0,1	0,06	<0,02	0,03
28/1	X	4	862	464	<0,05	<0,1	<0,1	0,05	<0,03	<0,03
29/1	X	4	940	483	0,05	<0,1	<0,1	0,06	<0,03	<0,03
30/1	X	5	1349	543	<0,05	<0,1	<0,1	0,05	<0,03	0,03
Mean		4	915	469	<<0,0	<<0,1	<<0,1	0,1	<<0,0	<<0,0
Minimum		3	657	414	0,0	<0,1	<0,1	0,1	<0,0	<0,0
Maximum		5	1349	543	0,1	<0,1	<0,1	0,1	<0,0	0,0
St.Dev		1	265	49	~0,0	~0,0	~0,0	0,0	~0,0	~0,0
Count		5	5	5	5	5	5	5	5	5

miss(3) ! Missing value

sample no.

- 26 Bulk of NIVA no. 25,10,7,5,13 Age uncertain no10,5,13
- 27 Bulk of NIVA no.14,24,4,1,18 Age uncertain no 14,4,1,18
- 28 Bulk of NIVA no 2,8,23,3,11 Age uncertain no 2
- 29 Bulk of NIVA no 15,9,22,20,21 Age uncertain no 15,20,21
- 30 Bulk of NIVA no16,12,19,6,17 All age uncertain

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°49.0N Longitude: 10°33.0E
 Catch,date : **20011002** Count: 25 Sample type: **Individual**

					=>			NIVA
Analytical lab.					=>			310
Analysis code					=>			0.005
Detection limit					=>			HG
Samp/	Sex	Age	Wght	Lngr	weight	Dry	Fat	HG
repl.	F/M	year	g	mm	g	%	%	ppm
no.								w.wt
1/1	F	6	1531	540	51,4	19,2		0.39
2/1	F	6	778	456	49,6	17,7		0.43
3/1	M	5	1086	485	50,2	18,5		0.29
4/1	F	4	1452	501	54,6	18,8		0.25
5/1	M	5	1192	535	54,6	17,7		0.33
6/1	M	4	1237	430	53,2	19,3		0.25
7/1	F	3	460	375	49,5	18,6		0.098
8/1	F	3	822	460	54,4	19,5		0.17
9/1	M	3	779	428	57,8	19,1		0.30
10/1	M	5	865	445	60,6	19,2		0.27
11/1	M	4	911	432	50,8	18,3		0.20
12/1	F	4	1076	500	63,0	17,3		0.43
13/1	M	4	813	440	64,3	19,2		0.28
14/1	M	2	433	355	51,2	19,0		0.26
15/1	F	4	1509	545	66,3	17,9		0.26
16/1	M	4	1046	485	75,5	18,6		0.22
17/1	F	5	3233	690	77,9	18,6		0.40
18/1	M	4	709	410	49,3	19,0		0.18
19/1	F	4	2137	500	62,4	18,3		0.35
20/1	M	3	731	405	60,8	18,6		0.26
21/1	M	3	681	420	58,2	18,6		0.087
22/1	M	3	698	415	53,3	18,5		0.12
23/1	F	5	1197	500	63,8	17,8		0.43
24/1	F	5	888	440	57,7	18,8		0.20
25/1	F	4	956	455	60,0	18,4		0.21
Mean		4	1089	466	58,0	18,6		0,267
Minimum		2	433	355	49,3	17,3		0,087
Maximum		6	3233	690	77,9	19,5		0,430
St.Dev		1	582	68	7,7	0,6		0,100
Count		25	25	25	25	25		25

sample no.

- 14 Age uncertain
- 15 Skin with ulceration, lymphocytic areas and/or lesions Age uncertain
- 16 Age uncertain
- 18 Age uncertain
- 19 Age uncertain
- 22 Age uncertain
- 23 Age uncertain
- 24 Age uncertain
- 25 Age uncertain
- 22 Age uncertain
- 23 Age uncertain
- 24 Age uncertain
- 25 Age uncertain

sample no.

- 2 Skin with metacercariae of cf. Cryptocotyle lingua Age uncert
- 4 Age uncertain
- 5 Skin with metacercariae of cf. Cryptocotyle lingua Age uncert
- 6 Age uncertain
- 8 Age uncertain
- 9 Age uncertain
- 12 Skin and/or oral cavity with caligiform and/or Lernaeopodifor Age uncertain
- 13 Age uncertain

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **30B Oslo City area** Latitude: 59°49.0N Longitude: 10°33.0E
 Catch,date : **20011002** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA																					
Analysis code =>				341																					
Detection limit =>				Mean																					
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA	
no.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
26/1	X	3	606	392	52,8	0,3	0,05	0,23	0,75	0,71	1,6	2,6	3,3	0,17	0,87	<0,04	9	<10	0,67	0,10	0,8	0,8	<0,04	<0,04	
27/1	M	4	884	430	56,9	0,3	<0,04	0,13	0,42	0,42	0,97	1,7	2,1	0,11	0,63	<0,04	<6	<7	0,36	0,04	0,4	0,4	<0,04	<0,04	
28/1	X	5	862	451	56,5	0,3	0,05	0,20	0,76	0,75	1,6	2,4	3,2	0,19	0,91	<0,04	9	<10	0,81	0,12	0,9	0,9	<0,04	<0,04	
29/1	X	4	1308	494	63,0	0,3	0,04	0,16	0,52	0,69	1,6	2,8	3,7	0,21	1,2	<0,04	10	<11	0,64	0,05	0,7	0,7	<0,04	<0,04	
30/1	X	5	1783	562	61,0	0,3	0,07	0,27	0,85	0,94	2,1	3,4	4,7	0,27	1,5	<0,04	13	<14	0,76	0,08	0,8	0,8	<0,04	<0,04	
Mean		4	1089	466	58,0	0,3	<0,1	0,2	0,7	0,7	1,6	2,6	3,4	0,2	1,0	<<0,0	<9	<<10	0,6	0,1	0,7	0,7	<<0,0	<<0,0	
Minimum		3	606	392	52,8	0,3	<0,0	0,1	0,4	0,4	1,0	1,7	2,1	0,1	0,6	<0,0	<6	<7	0,4	0,0	0,4	0,4	<0,0	<0,0	
Maximum		5	1783	562	63,0	0,3	0,1	0,3	0,9	0,9	2,1	3,4	4,7	0,3	1,5	<0,0	13	<14	0,8	0,1	0,9	0,9	<0,0	<0,0	
St.Dev		1	463	65	4,0	0,0	~0,0	0,1	0,2	0,2	0,4	0,6	0,9	0,1	0,3	~0,0	~3	~3	0,2	0,0	0,2	0,2	~0,0	~0,0	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0,05			0,05	0,05	0,05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
no.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	3	606	392	<0,04	<0,0	<0,0	0,05	<0,02	0,03
27/1	M	4	884	430	<0,04	<0,0	<0,0	0,05	<0,02	0,02
28/1	X	5	862	451	<0,04	<0,0	<0,0	0,06	<0,02	0,04
29/1	X	4	1308	494	<0,04	<0,0	<0,0	0,04	<0,02	0,03
30/1	X	5	1783	562	<0,04	<0,0	<0,0	0,05	<0,02	0,04
Mean		4	1089	466	<<0,0	<<0,0	<<0,0	0,1	<<0,0	0,0
Minimum		3	606	392	<0,0	<0,0	<0,0	0,0	<0,0	0,0
Maximum		5	1783	562	<0,0	<0,0	<0,0	0,1	<0,0	0,0
St.Dev		1	463	65	~0,0	~0,0	~0,0	0,0	~0,0	0,0
Count		5	5	5	5	5	5	5	5	5

sample no.
 26 Bulk of fish no 14,7,20,18,22
 27 Bulk of fish no 21,9,6,11,13
 28 Bulk of fish no 24,10,25,2,8
 29 bulk of fish no 3,16,12,19,23
 30 Bulk of fish no 4,5,1,15,17

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26** **Oslofjorden** Tissue: MUSCLE
 Locality : **36B** **Færder** Latitude: 59°2.0N Longitude: 10°32.0E
 Catch,date : **19981020** Count: 25 Sample type: **Individual**

Analytical lab.		=>				NIVA		
Analysis code		=>				310		
Detection limit		=>		Mean		0.005		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm w.wt
1/1		4	462	390	17,6	19,6		0.056
2/1	M	4	587	395	24,1	19,2		0.043
3/1	F	4	835	415	35,0	22,6		0.059
4/1	F	4	623	430	21,7	18,9		0.055
5/1	F	4	841	450	28,3	17,6		0.098
6/1	F	4	504	460	15,8	20,2		0.089
7/1	F	4	691	460	13,1	19,3		0.068
8/1	F	4	713	460	17,2	19,6		0.051
9/1		6	541	485	18,6	19,6		0.142
10/1	F	5	1206	485	65,4	20,8		0.090
11/1	F	5	1009	495	47,5	21,4		0.118
12/1	F	5	1249	495	62,9	19,5		0.108
13/1	F	5	1133	495	62,8	20,5		0.125
14/1	M	5	1253	500	56,4	19,0		0.077
15/1	M	5	1174	500	61,0	19,4		0.077
16/1	M	5	1230	510	86,5	19,3		0.089
17/1	F	5	1053	515	26,3	19,4		0.072
18/1	F	6	1182	515	72,2	19,2		0.087
19/1	F	5	1271	520	13,1	21,3		0.114
20/1	F	6	813	530	13,2	17,6		0.133
21/1	M	6	1270	530	33,5	18,4		0.066
22/1	M	7	1655	575	49,2	19,3		0.066
23/1	F	7	1221	590	15,8	19,2		0.140
24/1	F	7	1611	600	34,5	19,0		0.126
25/1	F	7	1816	605	75,2	17,8		0.218
Mean		5	1038	496	38,7	19,5		0,095
Minimum		4	462	390	13,1	17,6		0,043
Maximum		7	1816	605	86,5	22,6		0,218
St.Dev		1	368	58	23,1	1,2		0,039
Count		25	25	25	25	25		25

Comments

Station: Færder Caught 20.10.98 , 30.11.98

sample no.

- 1 fish no. 10 caught 20.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
Gills with Lernaecocera copepods
- 2 fish no.26 caught 30.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
- 3 fish no.17 caught 30.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Signs of mechanical damage (e.g., net wounds)
- 4 fish no.14 caught 30.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
- 5 fish no.27 caught 30.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
- 6 fish no.3 caught 20.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
- 7 fish no. 6 caught 20.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
Liver and/or intestinal guts with larvae of Anisakis simplex
- 8 fish no. 8 caught 20.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
- 9 fish no. 11 caught 20.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
Liver and/or intestinal guts with larvae of Anisakis simplex
- 10 fish no. 19 caught 30.11.98
- 11 fish no.16 caught 30.11.98 Bacterial fin rot
Skin with ulceration, lymphocytic areas and/or lesions
- 12 fish no. 18 caught 30.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
- 13 fish no. 20 caught 30.11.98
- 14 fish no. 21 caught 30.11.98 Bacterial fin rot
Skin with ulceration, lymphocytic areas and/or lesions Skin with metacercariae of cf. Cryptocotyle lingua
- 15 fish no. 24 caught 30.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions
- 16 fish no. 25 caught 30.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
- 17 fish no. 9 caught 20.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
- 18 fish no. 22 caught 30.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Bacterial fin rot
- 19 fish no. 5 caught 20.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
- 20 fish no.4 caught 20.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
Liver with necrotic areas and/or discolouration
- 21 fish no. 23 caught 30.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
Bacterial fin rot
- 22 fish no. 12 caught 30.11.98 Liver and/or intestinal guts with larvae of Anisakis simplex
- 23 fish no. 7 caught 20.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
- 24 fish no. 13 caught 30.11.98 Signs of mechanical damage (e.g., net wounds)
Bacterial fin rot
- 25 fish no. 15 caught 30.11.98 Signs of mechanical damage (e.g., net wounds)
Liver with necrotic areas and/or discolouration Liver and/or intestinal guts with larvae of i

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **36B Færder** Latitude: 59°2.0N Longitude: 10°32.0E
 Catch,date : **19981020** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>					341	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341	
Detection limit =>					Mean	Dry	Fat	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	weight	%	%	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA
F/M		year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	F	4	670	416	25,3	0,4	0,06	0,09	0,25	0,46	0,84	0,60	0,86	0,06	0,19	<0,05	3	<3	0,18	<0,05	<0,2	<0,2	<0,06	
27/1	F	5	731	470	26,0	0,4	0,18	0,52	2,0	1,7	3,9	3,4	4,2	0,34	0,82	<0,05	15	<17	0,43	0,06	0,5	0,5	<0,06	
28/1	F	5	1164	497	58,1	0,4	0,05	0,12	0,30	0,36	0,66	0,57	0,78	0,06	0,19	<0,05	3	<3	0,20	<0,05	<0,3	<0,3	<0,06	
29/1	F	5	1110	518	42,4	0,3	<0,05	0,09	0,26	0,42	0,83	0,97	1,3	0,11	0,30	<0,05	<4	<4	0,31	<0,05	<0,4	<0,4	<0,06	
30/1	F	7	1515	580	41,6	0,4	0,06	0,12	0,46	0,74	1,3	1,2	1,7	0,12	0,38	<0,05	5	<6	0,56	<0,05	<0,6	<0,6	<0,06	
Mean		5	1038	496	38,7	0,4	<0,1	0,2	0,7	0,7	1,5	1,3	1,8	0,1	0,4	<<0,1	<6	<<7	0,3	<<0,1	<<0,4	<<0,4	<<0,1	
Minimum		4	670	416	25,3	0,3	<0,1	0,1	0,3	0,4	0,7	0,6	0,8	0,1	0,2	<0,1	3	<3	0,2	<0,1	<0,2	<0,2	<0,1	
Maximum		7	1515	580	58,1	0,4	0,2	0,5	2,0	1,7	3,9	3,4	4,2	0,3	0,8	<0,1	15	<17	0,6	0,1	<0,6	<0,6	<0,1	
St.Dev		1	346	60	13,6	0,0	~0,1	0,2	0,8	0,6	1,4	1,2	1,4	0,1	0,3	~0,0	~5	~6	0,2	~0,0	~0,2	~0,2	~0,0	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code =>					341	Calc	Calc	341	341	341
Detection limit =>					0.05	0.05	0.05	0.05	0.05	0.05
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	F	4	670	416	0.10	<0.2	<0.2	0.04	<0.03	<0.03
27/1	F	5	731	470	0.10	<0.2	<0.2	0.06	<0.03	<0.03
28/1	F	5	1164	497	0.10	<0.2	<0.2	0.05	<0.03	<0.03
29/1	F	5	1110	518	0.09	<0.1	<0.1	0.05	<0.03	<0.03
30/1	F	7	1515	580	0.08	<0.1	<0.1	0.04	<0.03	<0.03
Mean		5	1038	496	0,1	<<0,2	<<0,2	0,0	<<0,0	<<0,0
Minimum		4	670	416	0,1	<0,1	<0,1	0,0	<0,0	<0,0
Maximum		7	1515	580	0,1	<0,2	<0,2	0,1	<0,0	<0,0
St.Dev		1	346	60	0,0	~0,1	~0,1	0,0	~0,0	~0,0
Count		5	5	5	5	5	5	5	5	5

Comments

Station: Færder Caught 20.10.98 , 30.11.98

sample no.

- 26 Bulk of 1-5 (original no. resp. 10,26,17,14,27) Caught 20.11.98 30.11.98
- 27 Bulk of 6-10 (original no. resp. :3,6,8,11,19) Caught 20.10.98 30.11.98
- 28 Bulk of 11-15 (original no. resp. 16,18,20,21,24) Caught 30.11.98
- 29 Bulk of 16-20 (original no. resp. 25,9,22,5,4) Caught 20.10.98 30.11.98
- 30 Bulk of 21-25 (original no. resp. 23,12,7,13,15) Caught 20.10.98 30.11.98

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **36B Fårder** Latitude: 59°2.0N Longitude: 10°32.0E
 Catch,date : **19991028** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA				
Analysis code =>					310				
Detection limit =>					Mean				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	
no.	F/M	year	g	mm	g	%	%	ppm	w.wt
1/1	F	2	925	480	23,4	19,4		0.094	
2/1	M	3	1028	490	24,2	22,3		0.089	
3/1	F	4	1027	470	24,6	19,3		0.141	
4/1	F	5	2145	630	9,0	19,7		0.243	
5/1	F	2	842	440	27,2	19,0		0.052	
6/1	F	2	994	470	20,9	20,1		0.099	
7/1	M	3	1196	540	24,2	19,6		0.060	
8/1	F	1	327	330	29,4	18,6		0.037	
9/1	M	1	495	360	21,8	19,6		0.081	
10/1	F	1	411	360	23,6	19,2		0.046	
11/1	X	1	403	340	30,4	17,3		0.036	
12/1	F	1	332	320	20,9	20,5		0.061	
13/1	F	3	1815	580	66,4	18,4		0.180	
14/1	F	2	2552	630	57,9	17,4		0.205	
15/1	F	2	1331	530	55,5	18,5		0.090	
16/1	M	4	1388	520	38,7	17,1		0.241	
17/1	F	2	1064	470	51,1	18,5		0.094	
18/1	M	2	449	380	23,3	21,0		0.059	
19/1	F	5	2988	690	87,2	19,3		0.187	
20/1	X	1	343	320	21,9	19,3		0.050	
21/1	F	3	1775	570	53,2	18,7		0.186	
22/1	F	5	3423	680	79,3	19,3		0.320	
23/1	F	3	2392	580	62,6	20,1		0.241	
24/1	M	3	653	420	23,6	18,5		0.163	
25/1	M	1	526	380	23,8	19,9		0.088	
Mean		2	1233	479	37,0	19,2		0,126	
Minimum		1	327	320	9,0	17,1		0,036	
Maximum		5	3423	690	87,2	22,3		0,320	
St.Dev		1	882	114	20,8	1,1		0,079	
Count		25	25	25	25	25		25	

- sample no.
- 1 Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of
 - 2 Signs of mechanical damage (e.g., net wounds)
 - 3 Bacterial fin rot Signs of mechanical damage (e.g., net wounds)
Muscle with signs of inner bleeding
 - 4 Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of
 - 6 Signs of mechanical damage (e.g., net wounds) Skin with metacercariae of cf. Cryptocotyle
Bacterial fin rot
 - 7 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas
Bacterial fin rot Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods
 - 8 Skin with metacercariae of cf. Cryptocotyle lingua
 - 9 Skin with metacercariae of cf. Cryptocotyle lingua
 - 10 Skin with metacercariae of cf. Cryptocotyle lingua
 - 11 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
 - 12 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Skin with metacercariae of cf. Cryptocotyle lingua
 - 13 Skin with metacercariae of cf. Cryptocotyle lingua
 - 14 Signs of mechanical damage (e.g., net wounds) Skin with metacercariae of cf. Cryptocotyle
Liver and/or intestinal guts with larvae of Anisakis simplex
 - 15 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
Signs of mechanical damage (e.g., net wounds)
 - 16 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larva
Signs of mechanical damage (e.g., net wounds) Fish malodorous
 - 17 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net w
 - 18 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 - 19 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
Signs of mechanical damage (e.g., net wounds)
 - 20 Bacterial fin rot
 - 21 Skin with ulceration, lymphocytic areas and/or lesions Skin and/or oral cavity with caligi
Lernaeopodiform copepods
 - 22 Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
 - 23 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas
Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
 - 24 Skin with ulceration, lymphocytic areas and/or lesions
 - 25 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **36B Færder** Latitude: 59°2.0N Longitude: 10°32.0E
 Catch,date : **19991028** Count: 25 Sample type: **Bulked**

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA					
Analysis code		=>		341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341				
Detection limit		=>		Mean	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05			0.05				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb	HCHA ppb	
no.								w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	1	363	334			0,4	0.08	0.11	0.16	0.29	0.53	0.45	0.55	0.05	0.13	<0.04	2	<2	0.07	<0.1	<0.2	<0.2	<0.06	
27/1	X	2	593	396			0,4	0.05	0.09	0.18	0.35	0.7	0.95	1.5	0.10	0.33	<0.04	4	<4	0.31	<0.1	<0.4	<0.4	<0.06	
28/1	X	3	1008	476			0,4	<0.04	0.09	0.21	0.18	0.40	0.68	1.2	0.08	0.26	<0.04	<3	<3	0.39	<0.1	<0.5	<0.5	<0.06	
29/1	X	3	1501	548			0,3	<0.04	0.08	0.16	0.27	0.51	0.64	1.2	0.07	0.23	<0.04	<3	<3	0.32	<0.1	<0.4	<0.4	<0.06	
30/1	F	4	2700	642			0,3	<0.04	0.08	0.26	0.29	0.62	0.98	1.5	0.08	0.27	<0.04	4	<4	0.65	<0.1	<0.8	<0.8	<0.06	
Mean		2	1233	479			0,4	<<0.1	0,1	0,2	0,3	0,6	0,7	1,2	0,1	0,2	<<0.0	<<3	<<3	0,3	<<0.1	<<0.5	<<0.5	<<0.1	
Minimum		1	363	334			0,3	<0.0	0,1	0,2	0,2	0,4	0,5	0,6	0,1	0,1	<0.0	2	<2	0,1	<0.1	<0.2	<0.2	<0.1	
Maximum		4	2700	642			0,5	0,1	0,1	0,3	0,4	0,7	1,0	1,5	0,1	0,3	<0.0	4	<4	0,7	<0.1	<0.8	<0.8	<0.1	
St.Dev		1	927	122			0,1	~0.0	0,0	0,0	0,1	0,1	0,2	0,4	0,0	0,1	~0.0	~1	~1	0,2	~0.0	~0.2	~0.2	~0.0	
Count		5	5	5			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		341	Calc	Calc	341	341	341	
Detection limit		=>		0.05			0.05	0.05	0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	1	363	334	0.06	<0.1	<0.1	0.04	<0.02	<0.03
27/1	X	2	593	396	0.06	<0.1	<0.1	0.06	<0.02	<0.03
28/1	X	3	1008	476	0.06	<0.1	<0.1	0.07	<0.02	<0.03
29/1	X	3	1501	548	<0.06	<0.1	<0.1	0.05	<0.02	<0.03
30/1	F	4	2700	642	<0.06	<0.1	<0.1	0.10	<0.02	<0.03
Mean		2	1233	479	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		1	363	334	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		4	2700	642	0,1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	927	122	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

Comments
 Station: Færder

sample no.
 26 Bulk of NIVA no.s.12,20,8,11,10
 27 Bulk of NIVA no.s.9,18,25,24,5
 28 Bulk of NIVA no.s.3,6,17,1,2
 29 Bulk of NIVA no.s.16,15,7,21,13
 30 Bulk of NIVA no.s.23,4,14,22,19

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **36B Færder** Latitude: 59°2.0N Longitude: 10°32.0E
 Catch,date : **20001027** Count: 23 Sample type: **Individual**

Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	Mean weight g	Dry %	Fat %	HG ppm w.wt
								Analytical lab. => NIVA
								Analysis code => 310
								Detection limit => 0.005
1/1	F	6	2136	640	56,8	16,5	0.243	
2/1	F	3	1452	560	51,8	17,3	0.165	
3/1	F	3	2188	620	58,0	19,5	0.145	
4/1	M	2	1062	490	53,0	20,2	0.065	
5/1	M	2	882	460	53,6	19,7	0.048	
6/1	F	2	694	420	51,6	19,5	0.072	
7/1	F	2	624	405	51,4	18,3	0.061	
8/1	M	2	664	410	52,0	19,2	0.065	
9/1	F	2	1528	540	52,2	20,1	0.084	
10/1	F	2	840	460	53,8	18,5	0.065	
11/1	F	2	1579	570	52,0	19,9	0.074	
12/1	M	2	1468	550	53,6	20,0	0.080	
13/1	M	2	868	450	51,6	19,9	0.117	
14/1	F	2	816	455	50,8	19,4	0.085	
15/1	F	2	739	430	51,6	19,8	0.109	
16/1	M	2	934	450	50,4	19,9	0.072	
17/1	M	2	901	460	51,2	20,1	0.075	
18/1	F	2	702	420	50,2	20,0	0.068	
19/1	M	2	843	470	50,2	18,8	0.063	
20/1	F	2	591	390	50,0	18,9	0.036	
21/1	M	2	627	415	50,8	18,8	0.079	
22/1	F	2	1293	510	51,6	19,7	0.066	
23/1	F	2	910	490	52,4	18,9	0.054	
Mean		2	1058	481	52,2	19,3	0,087	
Minimum		2	591	390	50,0	16,5	0,036	
Maximum		6	2188	640	58,0	20,2	0,243	
St.Dev		1	462	69	2,0	0,9	0,045	
Count		23	23	23	23	23	23	

sample no.

- 1 Skin with metacercariae of cf. Cryptocotyle lingua
- 2 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net w
- 3 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larva
- 4 Skin with metacercariae of cf. Cryptocotyle lingua
- 5 Skin with metacercariae of cf. Cryptocotyle lingua
- 6 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net w
- 7 Skin with metacercariae of cf. Cryptocotyle lingua
- 8 Skin with metacercariae of cf. Cryptocotyle lingua
- 9 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net w
- 10 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera copepods
- 11 Skin with metacercariae of cf. Cryptocotyle lingua
- 12 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larva
- 13 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net w
- 14 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net w
- 15 Skin with metacercariae of cf. Cryptocotyle lingua
- 16 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net w
- 17 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net w
- 18 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform Lernaeopodiform copepods Signs of mechanical damage (e.g., net wounds)
- 19 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform Lernaeopodiform copepods
- 20 Skin with metacercariae of cf. Cryptocotyle lingua
- 21 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 22 Skin with metacercariae of cf. Cryptocotyle lingua
- 23 Skin with metacercariae of cf. Cryptocotyle lingua

Comments

Station: Færder Fish caught 26.and 27.10.00

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **36B Færder** Latitude: 59°2.0N Longitude: 10°32.0E
 Catch,date : **20001027** Count: 23 Sample type: **Bulked**

Analytical lab.				=>																					
Analysis code				=>																					
Detection limit				=>																					
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA	
F/M		year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt		w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
24/1	X	2	726	446	51,1	0,2	0,08	0,15	0,14	0,28	0,48	0,36	0,48	0,04	0,10	<0.03	2	<2	0,07	<0.04	<0.1	<0.1	<0.03		
25/1	X	2	875	457	52,0	0,3	0,03	0,05	0,05	0,15	0,29	0,27	0,40	<0.03	0,07	<0.03	1	<1	0,07	<0.04	<0.1	<0.1	<0.03		
26/1	X	2	1127	500	51,9	0,2	0,09	0,20	0,38	0,46	0,90	0,72	1,0	0,06	0,16	<0.03	3	<4	0,42	0,04	0,5	0,5	<0.03		
27/1	X	3	1765	588	54,4	0,2	0,04	0,08	0,16	0,32	0,39	0,79	1,2	0,06	0,19	<0.03	3	<3	0,45	<0.04	<0.5	<0.5	<0.03		
Mean		2	1123	498	52,3	0,2	0,1	0,1	0,2	0,3	0,5	0,5	0,8	<0.0	0,1	<<0.0	2	<<3	0,3	<<0.0	<<0.3	<<0.3	<<0.0		
Minimum		2	726	446	51,1	0,2	0,0	0,1	0,1	0,2	0,3	0,3	0,4	<0.0	0,1	<0.0	1	<1	0,1	<0.0	<0.1	<0.1	<0.0		
Maximum		3	1765	588	54,4	0,3	0,1	0,2	0,4	0,5	0,9	0,8	1,2	0,1	0,2	<0.0	3	<4	0,5	0,0	0,5	0,5	<0.0		
St.Dev		1	459	65	1,4	0,0	0,0	0,1	0,1	0,1	0,3	0,3	0,4	~0.0	0,1	~0.0	1	~1	0,2	~0.0	~0.2	~0.2	~0.0		
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	

Analytical lab.				=>						
Analysis code				=>						
Detection limit				=>						
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
24/1	X	2	726	446	0.03	<0.1	<0.1	0.04	<0.02	<0.02
25/1	X	2	875	457	0.03	<0.1	<0.1	0.04	<0.02	<0.02
26/1	X	2	1127	500	0.03	<0.1	<0.1	0.04	<0.02	<0.02
27/1	X	3	1765	588	0.03	<0.1	<0.1	0.04	<0.02	<0.02
Mean		2	1123	498	0,0	<<0.1	<<0.1	0,0	<<0.0	<<0.0
Minimum		2	726	446	0,0	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		3	1765	588	0,0	<0.1	<0.1	0,0	<0.0	<0.0
St.Dev		1	459	65	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		4	4	4	4	4	4	4	4	4

Comments

Station: Færder Fish caught 26.and 27.10.00

sample no.

- 24 Bulk of NIVA no 21,6,18,6,15,13 Skin with metacercariae of cf. Cryptocotyle lingua
 Skin and/or oral cavity with caligiform and/or Lernaeo 18,21 Liver and/or intestinal guts with larvae of Anisakis simpl 2
 Signs of mechanical damage (e.g., net wounds)13,18,6
- 25 Bulk of NIVA no 16,14,5,10,17 Skin with metacercariae of cf. Cryptocotyle lingua
 Signs of mechanical damage (e.g., net wounds)14,16,17 Gills with Lernaeocera copepods 10
- 26 Bulk of NIVA no19,4,23,22,9 Skin with metacercariae of cf. Cryptocotyle lingua
 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods 19
- 27 Bulk of NIVA no 12,2,11,3,1 Skin with metacercariae of cf. Cryptocotyle lingua
 Signs of mechanical damage (e.g., net wounds),2, Liver and/or intestinal guts with larvae of Anisakis simplex 3,12

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **36B Færder** Latitude: 59°2.0N Longitude: 10°32.0E
 Catch,date : **20011025** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA				
Analysis code =>					310				
Detection limit =>					Mean				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	
F/M		year	g	mm	g	%	%	ppm	
no.								w.wt	
1/1	F	6	3100	650	58,3	17,6		0.366	
2/1	F	3	2003	570	89,5	18,7		0.130	
3/1	M	2	964	480	50,6	19,1		0.091	
4/1	F	2	1196	500	60,2	19,2		0.092	
5/1	F	3	1790	570	55,1	19,1		0.124	
6/1	M	3	1072	510	42,2	18,0		0.122	
7/1	F	1	523	380	48,0	19,0		0.032	
8/1	F	3	1937	600	64,0	18,7		0.142	
9/1	M	3	1504	580	50,8	17,0		0.153	
10/1	M	2	1094	470	58,3	18,7		0.056	
11/1	M	2	753	450	49,8	18,9		0.069	
12/1	F	2	1249	510	50,4	17,5		0.088	
13/1	F	1	402	350	48,2	20,4		0.055	
14/1	M	2	455	370	63,4	18,7		0.050	
15/1	F	2	903	460	50,5	18,1		0.083	
16/1	M	2	879	460	60,7	19,3		0.059	
17/1	M	1	647	380	48,2	19,7		0.046	
18/1	M	4	2291	600	71,8	19,7		0.184	
19/1	M	3	1202	510	56,4	19,3		0.113	
20/1	M	2	698	440	68,5	18,7		0.067	
21/1	F	1	393	355	52,2	19,3		0.030	
22/1	M	1	517	380	59,6	18,1		0.053	
23/1	F	3	715	420	50,5	18,6		0.134	
24/1	F	1	588	410	55,4	19,8		0.046	
25/1	M	1	498	370	56,2	19,9		0.037	
Mean		2	1095	471	56,8	18,8		0,097	
Minimum		1	393	350	42,2	17,0		0,030	
Maximum		6	3100	650	89,5	20,4		0,366	
St.Dev		1	679	87	9,7	0,8		0,070	
Count		25	25	25	25	25		25	

sample no.

- 1 Skin with metacercariae of cf. Cryptocotyle lingua Liver with necrotic areas and/or discolouration
- 2 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of An.
- 3 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
Skin with ulceration, lymphocytic areas and/or lesions
- 4 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
Skin with ulceration, lymphocytic areas and/or lesions
- 5 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
Liver and/or intestinal guts with larvae of Anisakis simplex Liver with necrotic areas and/or dis
- 6 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
Liver with necrotic areas and/or discolouration
- 7 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or
Gills with Lernaeocera copepods
- 8 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
- 9 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or
Bacterial fin rot Liver with necrotic areas and/or discolouration
- 10 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or
- 11 Skin with ulceration, lymphocytic areas and/or lesions Gills with Lernaeocera copepods
Liver and/or intestinal guts with larvae of Anisakis simplex
- 12 Skin with ulceration, lymphocytic areas and/or lesions
- 13 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
- 14 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 15 Skin with metacercariae of cf. Cryptocotyle lingua Liver with necrotic areas and/or discolouration
- 16 Skin with metacercariae of cf. Cryptocotyle lingua Liver with necrotic areas and/or discolouration
- 17 Skin with metacercariae of cf. Cryptocotyle lingua
- 18 Skin with metacercariae of cf. Cryptocotyle lingua
- 19 Skin with metacercariae of cf. Cryptocotyle lingua
- 20 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
- 21 Skin with metacercariae of cf. Cryptocotyle lingua
- 22 Skin with metacercariae of cf. Cryptocotyle lingua
- 23 Skin with metacercariae of cf. Cryptocotyle lingua
- 24 Skin with metacercariae of cf. Cryptocotyle lingua Age uncertain
- 25 Skin with metacercariae of cf. Cryptocotyle lingua

Comments

Station: Færder some fish caught 24.okt.2001

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **36B Færder** Latitude: 59°2.0N Longitude: 10°32.0E
 Catch,date : **20011025** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341			
Detection limit =>				Mean	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05						
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA
F/M		year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	1	454	365	53,6	0,4	<0.06	0.06	0.07	0.07	0.13	0.14	0.18	<0.06	<0.06	<0.06	<1	<1	0.06	<0.06	<0.1	<0.1	<0.06	
27/1	X	2	633	406	56,4	0,4	0.08	0.18	0.30	0.50	0.98	0.70	0.92	0.07	0.21	<0.06	3	<4	0.31	<0.06	<0.4	<0.4	<0.06	
28/1	X	2	919	464	54,0	0,4	<0.06	0.11	0.18	0.19	0.41	0.45	0.65	<0.06	0.12	<0.06	<2	<2	0.28	<0.06	<0.3	<0.3	<0.06	
29/1	X	3	1344	520	59,7	0,3	<0.06	0.14	0.21	0.32	0.57	0.48	0.73	<0.06	0.16	<0.06	<2	<3	0.24	<0.06	<0.3	<0.3	<0.06	
30/1	X	4	2124	600	60,0	0,3	<0.06	0.08	0.13	0.21	0.44	0.51	0.82	0.06	0.18	<0.06	<2	<2	0.22	<0.06	<0.3	<0.3	<0.06	
Mean		2	1095	471	56,8	0,4	<<0.1	0,1	0,2	0,3	0,5	0,5	0,7	<<0.1	<0.1	<<0.1	<<2	<<2	0,2	<<0.1	<<0.3	<<0.3	<<0.1	
Minimum		1	454	365	53,6	0,3	<0.1	0,1	0,1	0,1	0,1	0,1	0,2	<0.1	<0.1	<0.1	<1	<1	0,1	<0.1	<0.1	<0.1	<0.1	
Maximum		4	2124	600	60,0	0,4	0,1	0,2	0,3	0,5	1,0	0,7	0,9	0,1	0,2	<0.1	3	<4	0,3	<0.1	<0.4	<0.4	<0.1	
St.Dev		1	667	93	3,1	0,0	~0.0	0,0	0,1	0,2	0,3	0,2	0,3	~0.0	~0.1	~0.0	~1	~1	0,1	~0.0	~0.1	~0.1	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	1	454	365	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
27/1	X	2	633	406	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
28/1	X	2	919	464	<0.06	<0.1	<0.1	0.05	<0.03	<0.03
29/1	X	3	1344	520	<0.06	<0.1	<0.1	0.05	<0.03	<0.03
30/1	X	4	2124	600	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
Mean		2	1095	471	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		1	454	365	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		4	2124	600	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	667	93	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

Comments

Station: Færder some fish caught 24.okt.2001

sample no.

- 26 bulk of NIVA fish no 13,21,14,25,7
- 27 bulk of fish NIVA no 17,22,24,23,20
- 28 bulk of fish NIVA no 11,15,16,10,3,
- 29 Bulk of fish NIVA no 4,6,12,19,2
- 30 Bulk of fish NIVA no 5,9,8,18,1

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **15B Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **19981007** Count: 25 Sample type: **Individual**

sample no

Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm w.wt
1/1	F	3	329	330	20,9	19,5		0.031
2/1	F	4	733	430	25,1	18,7		0.033
3/1	F	4	902	450	50,3	19,1		0.035
4/1	F	5	845	452	54,0	20,0		0.062
5/1	M	5	834	455	39,0	20,7		0.033
6/1	M	4	848	464	44,0	19,5		0.022
7/1		5	977	480	52,2	19,1		0.027
8/1	M	5	1251	496	63,0	20,3		0.073
9/1	F	5	1239	500	50,0	19,0		0.084
10/1	F	5	1423	526	65,0	19,9		0.110
11/1	M	5	1373	529	58,0	19,6		0.054
12/1	F	5	1582	530	68,0	19,5		0.066
13/1	F	5	1381	550	63,0	21,3		0.047
14/1	M	5	1581	559	65,0	18,5		0.118
15/1	M	5	1691	563	57,0	19,0		0.066
16/1	F	6	1651	566	61,0	19,7		0.088
17/1	M	5	1574	570	68,0	19,6		0.112
18/1	M	6	1967	581	62,0	20,0		0.100
19/1	M	5	1895	583	40,0	19,2		0.078
20/1	M	6	1872	585	55,0	21,2		0.147
21/1	F	6	2866	670	62,0	19,7		0.085
22/1	M	7	3217	690	81,4	20,4		0.081
23/1	F	7	3393	725	59,0	20,6		0.160
24/1	F	7	3921	775	92,5	21,1		0.092
25/1	F	4	772	945	45,3	20,8		0.036
Mean		5	1605	560	56,0	19,8		0,074
Minimum		3	329	330	20,9	18,5		0,022
Maximum		7	3921	945	92,5	21,3		0,160
St.Dev		1	894	126	15,4	0,8		0,037
Count		25	25	25	25	25		25

Comments

Station: Ullerø area Caught 7.10.98 14.10.98 5.12.98

sample no.

1 fish no. 4 caught 7.10.98 Gills with Lernaeocera copepods
 2 fish no. 3 caught 7.10.98 Gills with Lernaeocera copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 3 fish no. 5 caught 7.10.98 Liver and/or intestinal guts with larvae of Anisa
 4 fish no. 9 caught 14.10.98 Skin and/or oral cavity with caligiform and/or
 Lernaeopodiform copepods Liver and/or intestinal guts with larvae of

5 fish no. 7 caught 14.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 6 fish no. 17 caught 5.12.98 Skin with metacercariae of cf. Cryptocotyle lingua
 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 Gills with Lernaeocera copepods
 7 fish no. 6 caught 7.10.98 Liver and/or intestinal guts with larvae of Anisakis simplex
 8 fish no. 22 caught 5.12.98 Gills with Lernaeocera copepods
 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of
 9 fish no. 24 caught 5.12.98
 10 fish no. 20 caught 5.12.98 Skin and/or oral cavity with caligiform and/or
 Lernaeopodiform copepods Gills with Lernaeocera copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 11 fish no. 15 caught 5.12.98 Signs of mechanical damage Skin with metacercariae of cf. Cryptocoty.
 Skin/oral cavity with caligiform and/orLernaeopodi. Copepods Liver with necrotic areas and/or dis
 Liver and/or intestinal guts with larvae of Anisakis simplex
 12 fish no. 21 caught 5.12.98 Signs of mechanical damage Skin with metacercariae of cf. Cryptocoty.
 Gills with Lernaeocera copepods Liver with necrotic areas and/or discolouration
 Liver and/or intestinal guts with larvae of Anisakis simplex
 13 fish no. 12 caught 14.10.98 Liver and/or intestinal guts with larvae of Anisakis simplex
 14 fish no. 19 caught 5.12.98 Skin with metacercariae of cf. Cryptocotyle lingua
 Skin /oral cavity with caligiform and/orLernaeopod. Copepods Gills with Lernaeocera copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 15 fish no. 23 caught 5.12.98 Skin with metacercariae of cf. Cryptocotyle lingua
 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 16 fish no. 14 caught 5.12.98 Skin with metacercariae of cf. Cryptocotyle lingua
 Skin/oral cavity with caligiform and/orLernaeopod. Copepods Gills with Lernaeocera copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 17 fish no. 18 caught 5.12.98 Skin and/or oral cavity with caligiform and/or
 Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
 18 fish no. 25 caught 5.12.98 Liver and/or intestinal guts with larvae of Anisakis simplex
 19 fish no. 16 caught 5.12.98 Skin with metacercariae of cf. Cryptocotyle lingua
 Skin/oral cavity with caligiform and/orLernaeopod. Copepods Gills with Lernaeocera copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 20 fish no. 13 caught 5.12.98 Gills with Lernaeocera copepods Skin /oral cavity with caligiform and
 Liver and/or intestinal guts with larvae of Anisakis simplex Liver with necrotic areas and/or dis
 Signs of mechanical damage (e.g., net wounds)
 21 fish no. 11 caught 14.10.98 Skin and/or oral cavity with caligiform and/or
 Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
 22 fish no. 2 caught 7.10.98 Skin and/or oral cavity with caligiform and/or
 Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
 23 fish no. 8 caught 14.10.98 Skin and/or oral cavity with caligiform and/or
 Lernaeopodiform copepods Gills with Lernaeocera copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 24 fish no. 10 caught 14.10.98 Skin with metacercariae of cf. Cryptocotyle lingua
 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 25 fish no. 1 caught 7.10.98 Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **15B Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **19981007** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341			
Detection limit =>				Mean												0.1	0.05							
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA
F/M		year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt		w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	F	4	728	423	37,8		0,3	<0.04	<0.04	0.10	0.12	0.23	0.41	0.64	<0.04	0.09	<0.04	<2	<2	0.46	<0.08	<0.5	<0.5	0.04
27/1	F	5	1148	493	54,8		0,2	<0.04	<0.04	0.07	0.05	0.10	0.20	0.28	<0.04	0.05	<0.04	<1	<1	0.18	<0.08	<0.3	<0.3	<0.04
28/1	M	5	1522	546	62,8		0,3	<0.04	<0.04	0.09	0.10	0.21	0.38	0.58	0.04	0.11	<0.04	<1	<2	0.34	<0.08	<0.4	<0.4	<0.04
29/1	M	6	1792	577	57,2		0,3	<0.04	0.06	0.38	0.25	0.64	1.31	1.93	0.10	0.35	<0.04	<5	<5	<0.04	0.12	<0.2	<0.2	<0.04
30/1	F	6	2834	761	68,0		0,2	<0.04	<0.04	0.07	0.07	0.08	0.17	0.20	<0.04	<0.04	<0.04	<1	<1	0.23	0.06	0.3	0.3	<0.04
Mean		5	1605	560	56,1		0,3	<<0.0	<<0.0	0,1	0,1	0,3	0,5	<<0.1	<0.1	<<0.0	<<2	<<2	<0.3	<<0.1	<<0.3	<<0.3	<<0.0	
Minimum		4	728	423	37,8		0,2	<0.0	<0.0	0,1	0,1	0,1	0,2	0,2	<0.0	<0.0	<0.0	<1	<1	<0.0	0,1	<0.2	<0.2	<0.0
Maximum		6	2834	761	68,0		0,3	<0.0	0,1	0,4	0,3	0,6	1,3	1,9	0,1	0,3	<0.0	<5	<5	0,5	0,1	<0.5	<0.5	0,0
St.Dev		1	795	127	11,4		0,0	~0.0	~0.0	0,1	0,1	0,2	0,5	0,7	~0.0	~0.1	~0.0	~2	~2	~0.2	~0.0	~0.1	~0.1	~0.0
Count		5	5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	F	4	728	423	0.10	0.1	0.1	0.10	0.02	<0.02
27/1	F	5	1148	493	0.07	<0.1	<0.1	0.07	<0.02	<0.02
28/1	M	5	1522	546	0.09	<0.1	<0.1	0.10	0.02	<0.02
29/1	M	6	1792	577	0.09	<0.1	<0.1	0.11	0.02	<0.02
30/1	F	6	2834	761	0.08	<0.1	<0.1	0.08	<0.02	<0.02
Mean		5	1605	560	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		4	728	423	0,1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		6	2834	761	0,1	0,1	0,1	0,1	0,0	<0.0
St.Dev		1	795	127	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

Comments

Station: Ullerø area Caught 7.10.98 14.10.98 5.12.98

sample no.

- 26 Bulk of 1-5 (original no. resp. 4,3,5,9,7) Caught 7.10.98 14.10.98
- 27 Bulk of 6-10 (original no. resp. 17,6,22,24,20) Caught 7.10.98 5.12.98
- 28 Bulk of 11-15 (original no. resp. 15,21,12,19,23) Caught 14.10.98 5.12.98
- 29 Bulk of 16-20 (original no. resp. 14,18,25,16,13) Caught 5.12.98
- 30 Bulk of 21-25 (original no. resp. 11,2,8,10,1) Caught 7.10.98 14.10.98

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **15B Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **19991021** Count: 25 Sample type: **Individual**

Analytical lab.		=>				NIVA		
Analysis code		=>				310		
Detection limit		=>		Mean		0.005		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm w.wt
1/1	M	2	1628	560	37,6	20,6		0.027
2/1	F	2	1735	570	49,7	15,9		0.018
3/1	M	2	974	470	34,1	14,9		0.017
4/1	M	1	399	350	19,0	17,2		0.020
5/1	F	3	2850	690	50,2	19,1		0.111
6/1	M	2	855	450	19,2	20,0		0.024
7/1	F	1	432	370	13,0	19,4		0.022
8/1	F	1	434	360	27,1	19,0		0.024
9/1	M	2	1310	500	57,4	19,4		0.019
10/1	F	2	2722	640	97,3	19,2		0.111
11/1	F	2	1187	510	39,9	18,0		0.023
12/1	F	2	1003	450	37,1	19,3		0.028
13/1	M	3	2548	600	89,6	19,3		0.039
14/1	M	2	1303	520	55,4	18,4		0.026
15/1	F	1	470	370	22,1	14,9		0.015
16/1	M	1	357	320	20,9	18,2		0.019
17/1	M	1	299	320	24,9	18,5		0.030
18/1	F	1	358	350	21,1	18,8		0.017
19/1	F	2	1500	540	72,3	20,5		0.033
20/1	F	2	1102	500	55,8	21,1		0.026
21/1	F	2	873	460	26,4	21,5		0.031
22/1	F	2	765	450	31,0	20,5		0.022
23/1	F	1	792	440	33,1	19,4		0.026
24/1	M	1	712	420	22,7	15,7		0.019
25/1	M	3	637	420	20,8	19,9		0.028
Mean		2	1090	465	39,1	18,7		0,031
Minimum		1	299	320	13,0	14,9		0,015
Maximum		3	2850	690	97,3	21,5		0,111
St.Dev		1	735	99	22,2	1,8		0,025
Count		25	25	25	25	25		25

sample no.

- 1 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Liver and/or intestinal guts with larvae of Anisakis simplex
- 2 Bacterial fin rot
- 3 Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
contamin. Of Kristiansandwater
- 4 Liver and/or intestinal guts with larvae of Anisakis simplex
- 5 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 6 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 8 Liver and/or intestinal guts with larvae of Anisakis simplex
- 9 weight of specimen was written in the journal to 131g a 0was forgotten?
- 10 Liver and/or intestinal guts with larvae of Anisakis simplex
- 11 Liver and/or intestinal guts with larvae of Anisakis simplex Skin with metacercariae of cf. Cryptocotyle lingua
- 13 Liver and/or intestinal guts with larvae of Anisakis simplex
- 14 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 15 Bacterial fin rot Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Gills with Lernaeocera copepods
- 19 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex
- 20 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Liver and/or intestinal guts with larvae of Anisakis simplex Muscle with signs of inner bleeding
- 22 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Muscle with signs of inner bleeding
- 23 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Liver and/or intestinal guts with larvae of Anisakis simplex
- 24 Gills with Lernaeocera copepods Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods contamin.of Kristiansandwater
- 25 Signs of mechanical damage (e.g., net wounds) Bacterial fin rot
Liver and/or intestinal guts with larvae of Anisakis simplex

Comments

Station: Ullerø area Caught 20-21okt. 1999

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **15B Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **19991021** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code =>					341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341		
Detection limit =>					Mean												0.1	0.05				0.05		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA
F/M		year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	1	369	340		0,3	<0.06	<0.06	0.23	0.09	0.26	0.55	0.77	<0.06	0.12	<0.06	<2	<2	0.79	<0.06	<0.8	<0.8	<0.06	
27/1	X	1	609	404		0,3	<0.06	<0.06	0.17	<0.06	0.14	0.25	0.33	<0.06	<0.06	<0.06	<1	<1	0.34	<0.06	<0.4	<0.4	<0.06	
28/1	X	2	894	456		0,3	<0.06	<0.06	0.15	<0.06	0.12	0.20	0.25	<0.06	<0.06	<0.06	<1	<1	0.32	<0.06	<0.4	<0.4	<0.06	
29/1	X	2	1280	514		0,3	<0.06	<0.06	0.13	<0.06	0.08	0.13	0.16	<0.06	<0.06	<0.06	<1	<1	0.18	<0.06	<0.2	<0.2	<0.06	
30/1	X	2	2297	612		0,3	<0.06	<0.06	0.13	<0.06	0.06	0.07	0.13	<0.06	<0.06	<0.06	<0	<0	0.18	<0.06	<0.2	<0.2	<0.06	
Mean		2	1090	465		0,3	<<0.1	<<0.1	0,2	<<0.1	0,1	0,2	0,3	<<0.1	<<0.1	<<0.1	<<1	<<1	0,4	<<0.1	<<0.4	<<0.4	<<0.1	
Minimum		1	369	340		0,3	<0.1	<0.1	0,1	<0.1	0,1	0,1	0,1	<0.1	<0.1	<0.1	<0	<0	0,2	<0.1	<0.2	<0.2	<0.1	
Maximum		2	2297	612		0,3	<0.1	<0.1	0,2	0,1	0,3	0,6	0,8	<0.1	0,1	<0.1	<2	<2	0,8	<0.1	<0.8	<0.8	<0.1	
St.Dev		1	755	104		0,0	~0.0	~0.0	0,0	~0.0	0,1	0,2	0,3	~0.0	~0.0	~0.0	~1	~1	0,3	~0.0	~0.2	~0.2	~0.0	
Count		5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code =>					341	Calc	Calc	341	341	341
Detection limit =>					0.05			0.05	0.05	0.05
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	1	369	340	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
27/1	X	1	609	404	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
28/1	X	2	894	456	<0.06	<0.1	<0.1	0.07	<0.03	<0.03
29/1	X	2	1280	514	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
30/1	X	2	2297	612	<0.06	<0.1	<0.1	0.07	<0.03	<0.03
Mean		2	1090	465	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		1	369	340	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		2	2297	612	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	755	104	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

Comments

Station: Ullerø area Caught 20-21okt. 1999

sample no.

- 26 Bulk of NIVA no.s.17,16,18,4,8
- 27 Bulk of Niva no.s.7,15,25,24,23
- 28 Bulk of NIVA no.s.22,6,12,21,3
- 29 Bulk of NIVA no.s.9,20,11,14,19
- 30 Bulk of NIVA no.s.1,2,13,10,5

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **15B Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **20010105** Count: 25 Sample type: **Individual**

					=>			NIVA
Analytical lab.					=>			310
Analysis code					=>			0.005
Detection limit					=>			Mean
Samp/	Sex	Age	Wght	Lngr	weight	Dry	Fat	HG
repl.	F/M	year	g	mm	g	%	%	ppm
no.								w.wt
1/1	X	1	488	335	51,3	19,5		0.043
2/1	F	1	478	360	51,5	19,4		0.046
3/1	X	2	843	440	50,8	18,1		0.033
4/1	M	2	1352	460	52,4	20,4		0.088
5/1	M	2	1180	475	52,4	19,1		0.071
6/1	F	2	1079	480	53,0	19,3		0.078
7/1	M	2	1384	480	53,9	19,6		0.087
8/1	F	2	1119	480	52,3	18,5		0.076
9/1	F	2	1156	485	51,8	19,9		0.031
10/1	M	2	1278	485	52,8	19,0		0.047
11/1	F	2	1215	490	53,8	19,1		0.034
12/1	M	1	1333	500	53,5	19,7		0.022
13/1	M	2	1451	515	53,2	19,4		0.125
14/1	X	1	620	385	54,0	19,9		0.020
15/1	F	1	855	405	55,5	20,4		0.022
16/1	M	2	962	435	52,3	19,3		0.062
17/1	F	2	992	440	53,9	19,3		0.029
18/1	M	2	893	450	52,1	18,5		0.067
19/1	M	1	1114	450	53,6	20,9		0.024
20/1	F	2	961	460	53,6	18,1		0.072
21/1	M	2	1055	460	55,1	19,0		0.029
22/1	M	2	1116	485	55,4	19,8		0.039
23/1	F	2	1257	490	53,8	18,3		0.023
24/1	F	1	1390	500	53,7	19,0		0.046
25/1	M	2	1315	515	55,1	18,5		0.105
Mean		2	1075	458	53,2	19,3		0,053
Minimum		1	478	335	50,8	18,1		0,020
Maximum		2	1451	515	55,5	20,9		0,125
St.Dev		0	268	46	1,3	0,7		0,029
Count		25	25	25	25	25		25

Comments

Station: Ullerø area Sample date des.2000 or early jan 2001

sample no.

- 1 sex code m ?
- 3 sex code m?
- 14 sex code m? Skin with metacercariae of cf. Cryptocotyle lingua
- 24 Skin with metacercariae of cf. Cryptocotyle lingua

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **15B Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **20010105** Count: 25 Sample type: **Bulked**

Analytical lab.				=>																					
Analysis code				=>																					
Detection limit				=>																					
Samp/	Sex	Age	Wght	Lngt	weight	Dry	Fat	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
repl.	F/M	year	g	mm	g	%	%	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA	
no.					w.wt	%	ppb	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	1	681	384	52,9	0,3	<0.05	<0.05	0.06	0.07	0.16	0.37	0.62	<0.05	0.16	<0.05	<1	<1	0.31	<0.08	<0.4	<0.4	<0.05		
27/1	X	2	1039	448	52,6	0,3	<0.05	<0.05	0.08	0.05	0.13	0.27	0.39	<0.05	0.07	<0.05	<1	<1	0.28	<0.08	<0.4	<0.4	<0.05		
28/1	X	2	1132	471	53,6	0,3	<0.05	<0.05	0.09	0.05	0.13	0.28	0.47	<0.05	0.11	<0.05	<1	<1	0.26	<0.08	<0.3	<0.3	<0.05		
29/1	X	2	1176	485	53,2	0,3	<0.05	0.05	0.17	0.08	0.21	0.47	0.70	<0.05	0.14	<0.05	<2	<2	0.58	0.09	0.7	0.7	<0.05		
30/1	X	2	1349	504	53,8	0,3	<0.05	<0.05	0.12	0.08	0.22	0.48	0.70	<0.05	0.16	<0.05	<2	<2	0.53	<0.08	<0.6	<0.6	<0.05		
Mean		2	1075	458	53,2	0,3	<<0.1	<<0.1	0,1	0,1	0,2	0,4	0,6	<<0.1	0,1	<<0.1	<<1	<<1	0,4	<<0.1	<<0.5	<<0.5	<<0.1		
Minimum		1	681	384	52,6	0,3	<0.1	<0.1	0,1	0,1	0,1	0,3	0,4	<0.1	0,1	<0.1	<1	<1	0,3	<0.1	<0.3	<0.3	<0.1		
Maximum		2	1349	504	53,8	0,4	<0.1	0,1	0,2	0,1	0,2	0,5	0,7	<0.1	0,2	<0.1	<2	<2	0,6	0,1	0,7	0,7	<0.1		
St.Dev		0	248	46	0,5	0,0	~0.0	~0.0	0,0	0,0	0,0	0,1	0,1	~0.0	0,0	~0.0	~1	~1	0,2	~0.0	~0.2	~0.2	~0.0		
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.				=>						
Analysis code				=>						
Detection limit				=>						
Samp/	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
repl.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	1	681	384	<0.05	<0.1	<0.1	0.07	<0.03	<0.05
27/1	X	2	1039	448	<0.05	<0.1	<0.1	0.09	<0.03	<0.05
28/1	X	2	1132	471	<0.05	<0.1	<0.1	0.11	<0.03	<0.05
29/1	X	2	1176	485	<0.05	<0.1	<0.1	0.10	<0.03	<0.05
30/1	X	2	1349	504	0.05	<0.1	<0.1	0.11	<0.03	<0.05
Mean		2	1075	458	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.1
Minimum		1	681	384	<0.1	<0.1	<0.1	0,1	<0.0	<0.1
Maximum		2	1349	504	0,1	<0.1	<0.1	0,1	<0.0	<0.1
St.Dev		0	248	46	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

Comments

Station: Ullerø area Sample date des.2000 or early jan 2001

sample no.

- 26 Bulk of NIVA no 1,2,14,15,16
- 27 Bulk of NIVA no 3,17,18,19,4
- 28 Bulk of NIVA no 20,21,5,6,7
- 29 Bulk of NIVA no 8,9,10,22,11
- 30 Bulk of NIVA no 23,12,24,13,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **15B Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **20011016** Count: 25 Sample type: **Individual**

Analytical lab.		=>				NIVA		
Analysis code		=>				310		
Detection limit		=>		Mean		0.005		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm
no.								w.wt
1/1	F	3	1698	569	50,2	18,9		0.103
2/1	F	3	1846	590	52,4	18,5		0.088
3/1	M	3	1065	489	52,3	20,0		0.065
4/1	F	2	801	442	48,3	19,5		0.064
5/1	F	3	1193	494	49,6	19,0		0.092
6/1	M	3	1466	560	43,5	19,1		0.090
7/1	M	3	1174	500	51,2	20,2		0.054
8/1	M	3	1333	523	48,2	18,4		0.083
9/1	F	2	1391	537	57,9	19,8		0.054
10/1	F	2	1021	475	40,3	18,8		0.065
11/1	F	2	1071	480	54,1	19,9		0.056
12/1	M	3	1880	590	52,4	19,2		0.093
13/1	M	2	1208	521	57,9	19,8		0.125
14/1	F	2	1035	481	54,3	18,6		0.098
15/1	M	2	844	440	48,9	19,7		0.042
16/1	M	2	723	434	45,7	18,8		0.057
17/1	M	2	784	422	44,1	20,2		0.038
18/1	M	2	781	447	46,9	19,5		0.044
19/1	M	2	817	445	50,2	19,9		0.064
20/1	M	2	960	459	49,6	20,5		0.071
21/1	M	3	1562	558	51,8	20,1		0.072
22/1	M	2	1183	496	48,5	19,1		0.068
23/1	M	3	1129	500	51,0	20,5		0.085
24/1	M	2	810	456	45,4	19,3		0.080
25/1	M	3	1450	539	68,7	20,3		0.110
Mean		2	1169	498	50,5	19,5		0,074
Minimum		2	723	422	40,3	18,4		0,038
Maximum		3	1880	590	68,7	20,5		0,125
St.Dev		1	338	50	5,6	0,6		0,022
Count		25	25	25	25	25		25

sample no.

- 1 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of An.
- 2 Skin with metacercariae of cf. Cryptocotyle lingua
- 3 Skin with metacercariae of cf. Cryptocotyle lingua
- 4 Skin with metacercariae of cf. Cryptocotyle lingua
- 5 Skin with metacercariae of cf. Cryptocotyle lingua
- 6 Skin with metacercariae of cf. Cryptocotyle lingua
- 7 Skin with metacercariae of cf. Cryptocotyle lingua
- 8 Skin with metacercariae of cf. Cryptocotyle lingua Gonad weight is 2,?g
- 9 Skin with metacercariae of cf. Cryptocotyle lingua
- 10 Skin with metacercariae of cf. Cryptocotyle lingua
- 11 Skin with metacercariae of cf. Cryptocotyle lingua
- 12 Skin with metacercariae of cf. Cryptocotyle lingua
- 13 liver colour is white
- 14 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera copepods
- 15 Skin with metacercariae of cf. Cryptocotyle lingua
- 16 Skin with metacercariae of cf. Cryptocotyle lingua
- 17 Skin with metacercariae of cf. Cryptocotyle lingua
- 18 Skin with metacercariae of cf. Cryptocotyle lingua
- 19 Skin with metacercariae of cf. Cryptocotyle lingua
- 20 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 21 Skin with metacercariae of cf. Cryptocotyle lingua
- 22 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera copepods
- 23 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera copepods
- 24 Skin with metacercariae of cf. Cryptocotyle lingua
- 25 Skin with metacercariae of cf. Cryptocotyle lingua

Comments

Station: Ullerø area Fished between 13.-16.oct.2001

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **15B Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **20011016** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341			
Detection limit =>				Mean												0.1	0.05							
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb
no.					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	2	794	437	47,4		0,3	<0.05	0.05	0.16	0.16	0.32	0.48	0.72	0.05	0.19	<0.05	<2	<2	0.26	<0.06	<0.3	<0.3	<0.05
27/1	X	2	974	468	49,0		0,3	<0.06	0.06	0.15	0.15	0.27	0.40	0.73	0.06	0.24	<0.06	<2	<2	0.19	<0.08	<0.3	<0.3	<0.06
28/1	X	3	1149	496	50,5		0,3	<0.05	<0.05	0.09	0.08	0.16	0.30	0.51	<0.05	0.17	<0.05	<1	<1	0.18	<0.06	<0.2	<0.2	<0.05
29/1	X	3	1388	536	56,9		0,3	<0.05	<0.05	0.08	0.12	0.24	0.27	0.47	<0.05	0.14	<0.05	<1	<1	0.15	<0.06	<0.2	<0.2	<0.05
30/1	X	3	1540	553	48,8		0,3	<0.05	0.05	0.14	0.18	0.30	0.45	0.78	0.05	0.24	<0.05	<2	<2	0.25	<0.06	<0.3	<0.3	<0.05
Mean		2	1169	498	50,5		0,3	<<0.1	<<0.1	0,1	0,1	0,3	0,4	0,6	<<0.1	0,2	<<0.1	<<2	<<2	0,2	<<0.1	<<0.3	<<0.3	<<0.1
Minimum		2	794	437	47,4		0,3	<0.1	<0.1	0,1	0,1	0,2	0,3	0,5	<0.1	0,1	<0.1	<1	<1	0,2	<0.1	<0.2	<0.2	<0.1
Maximum		3	1540	553	56,9		0,3	<0.1	0,1	0,2	0,2	0,3	0,5	0,8	0,1	0,2	<0.1	<2	<2	0,3	<0.1	<0.3	<0.3	<0.1
St.Dev		0	302	48	3,7		0,0	~0.0	~0.0	0,0	0,0	0,1	0,1	0,1	~0.0	0,0	~0.0	~1	~1	0,0	~0.0	~0.1	~0.1	~0.0
Count		5	5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	2	794	437	<0.05	<0.1	<0.1	0.04	<0.02	<0.02
27/1	X	2	974	468	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
28/1	X	3	1149	496	<0.05	<0.1	<0.1	0.04	<0.02	<0.02
29/1	X	3	1388	536	<0.05	<0.1	<0.1	0.03	<0.02	<0.02
30/1	X	3	1540	553	<0.05	<0.1	<0.1	0.04	<0.02	<0.02
Mean		2	1169	498	<<0.1	<<0.1	<<0.1	0,0	<<0.0	<<0.0
Minimum		2	794	437	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		3	1540	553	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
St.Dev		0	302	48	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

Comments
 Station: Ullerø area Fished between 13.-16.oct.2001

- sample no.
 26 Bulk of NIVA no17,16,15,4,19
 27 Bulk of NIVA no 18,20,10,11,14
 28 Bulk of NIVA no 3,5,22,7,23
 29 Bulk of NIVA no 13,8,9,25,21
 30 Bulk of NIVA no 6,1,2,12,24

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sør fjorden** Tissue: MUSCLE
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19981024** Count: 15 Sample type: **Individual**

Analytical lab.		=>				NIVA		
Analysis code		=>				310		
Detection limit		=>		Mean		0.005		
Samp/	Sex	Age	Wght	Lngr	weight	Dry	Fat	HG
repl.	F/M	year	g	mm	g	%	%	ppm
no.								w.wt
1/1	F	4	482	360	22,6	19,2		0.148
2/1	F	4	437	370	26,3	19,0		0.103
3/1	M	4	555	390	25,1	18,6		0.237
4/1	M	4	580	410	26,8	18,6		0.452
5/1	M	5	649	410	25,2	20,4		0.146
6/1	F	5	855	450	31,7	18,4		0.249
7/1	M	4	927	460	29,0	20,1		0.196
8/1	F	5	1215	500	37,9	19,8		0.193
9/1	M	5	1172	510	36,0	20,1		0.298
10/1	M	6	1100	520	33,6	19,1		0.307
11/1	F	6	1328	520	35,6	18,8		0.299
12/1	F	5	1436	540	37,4	19,8		0.211
13/1	F	6	1954	550	40,7	19,8		0.335
14/1	F	6	1115	590	26,5	20,4		0.296
15/1	M	6	1182	590	46,4	21,3		0.231
Mean		5	999	478	32,1	19,6		0,247
Minimum		4	437	360	22,6	18,4		0,103
Maximum		6	1954	590	46,4	21,3		0,452
St.Dev		1	418	77	6,9	0,8		0,088
Count		15	15	15	15	15		15

sample no.

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|
| 1 fish no.27 Signs of mechanical damage (e.g., net wounds)
Skin with metacercariae of cf. Cryptocotyle lingua | 9 fish no. 24 Signs of mechanical damage (e.g., net wounds)
Liver and/or intestinal guts with larvae of Anisakis simplex |
| 2 fish no. 28 Signs of mechanical damage (e.g., net wounds) | 10 fish no. 20 Signs of mechanical damage (e.g., net wounds) |
| 3 fish no. 18 Skin with metacercariae of cf. Cryptocotyle lingua
Skin with ulceration, lymphocytic areas and/or lesions | Bacterial fin rot Skin with metacercariae of cf. Cryptocotyle lingua |
| 4 fish no. 25 Signs of mechanical damage (e.g., net wounds)
Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods | Muscle with signs of inner bleeding |
| 5 fish no. 29 Signs of mechanical damage (e.g., net wounds)
Skin with ulceration, lymphocytic areas and/or lesions | 11 fish no. 30 Skin with metacercariae of cf. Cryptocotyle lingua
Skin with ulceration, lymphocytic areas and/or lesions |
| 6 fish no. 23 Signs of mechanical damage (e.g., net wounds)
Liver and/or intestinal guts with larvae of Anisakis simplex | Bacterial fin rot |
| 7 fish no. 17 Signs of mechanical damage (e.g., net wounds) | 12 fish no.22 Bacterial fin rot
Signs of mechanical damage (e.g., net wounds) |
| 8 fish no. 26 Signs of mechanical damage (e.g., net wounds)
Liver and/or intestinal guts with larvae of Anisakis simplex | Liver with signs of bleeding |
| | 13 fish no. 16 Skin with ulceration, lymphocytic areas and/or lesions
Bacterial fin rot |
| | Skin with metacercariae of cf. Cryptocotyle lingua |
| | 14 fish no. 19 Signs of mechanical damage (e.g., net wounds) |
| | 15 fish no. 21 Signs of mechanical damage (e.g., net wounds)
Liver with signs of bleeding |
| | Liver and/or intestinal guts with larvae of Anisakis simplex |

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sør fjorden** Tissue: MUSCLE
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19981024** Count: 15 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341			
Detection limit =>				Mean													0.1	0.05			0.05			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA
no.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
16/1	M	4	541	388	25,2	0,4	<0.05	5.7	49	35	62	77	62	9.6	9.9	<0.05	<266	<310	5.0	0.31	5.3	5.3	miss	
17/1	M	5	1054	488	34,0	0,3	0.08	6.9	45	27	47	53	40	6.4	4.7	<0.05	197	<230	4.3	0.29	4.6	4.6	<0.06	
18/1	F	6	1403	558	37,3	0,4	<0.05	7.4	42	30	52	59	47	8.3	6.2	<0.05	<214	<252	3.0	0.23	3.2	3.2	<0.06	
Mean		5	999	478	32,2	0,4	<<0.1	6,7	45,3	30,7	53,7	63,0	49,7	8,1	6,9	<<0.1	<<226	<<264	4,1	0,3	4,4	4,4	<<0.1	
Minimum		4	541	388	25,2	0,4	<0.1	5,7	42,0	27,0	47,0	53,0	40,0	6,4	4,7	<0.1	197	<230	3,0	0,2	3,2	3,2	<0.1	
Maximum		6	1403	558	37,3	0,4	0,1	7,4	49,0	35,0	62,0	77,0	62,0	9,6	9,9	<0.1	<266	<310	5,0	0,3	5,3	5,3	<0.1	
St.Dev		1	434	85	6,3	0,0	~0.0	0,9	3,5	4,0	7,6	12,5	11,2	1,6	2,7	~0.0	~36	~41	1,0	0,0	1,1	1,1	~0.0	
Count		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	2

miss(1) ! Missing value

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
no.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
16/1	M	4	541	388	0.09	0.1	0.1	0.05	<0.03	<0.03
17/1	M	5	1054	488	0.07	<0.1	<0.1	0.07	0.03	<0.03
18/1	F	6	1403	558	0.07	<0.1	<0.1	0.05	0.03	<0.03
Mean		5	999	478	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		4	541	388	0,1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		6	1403	558	0,1	0,1	0,1	0,1	0,0	<0.0
St.Dev		1	434	85	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		3	3	3	3	3	3	3	3	3

miss(1) ! Missing value

sample no.

- 16 Bulk of 1-5 (original no. resp. 27,28,18,25,29)
- 17 Bulk of 6-10 (original no. resp. 23,17,26,24,20)
- 18 Bulk of 11-15 (original no. resp. 30,22,16,19,21)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sør fjorden** Tissue: MUSCLE
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19981025** Count: 15 Sample type: **Individual**

Analytical lab.		=>				NIVA		
Analysis code		=>				310		
Detection limit		=>		Mean		0.005		
Samp/	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG
repl.	F/M	year	g	mm	g	%	%	ppm
no.								w.wt
1/1	F	4	313	310	21,6	18,4		0.085
2/1	F	4	427	350	21,9	19,5		0.183
3/1	M	4	406	360	20,9	19,8		0.114
4/1	M	4	442	360	29,1	19,6		0.076
5/1	F	4	459	360	21,8	18,8		0.169
6/1	M	4	476	370	21,0	19,7		0.151
7/1	M	4	821	420	33,2	18,3		0.114
8/1	M	5	1206	510	32,5	20,4		0.224
9/1	M	5	1300	510	28,0	17,9		0.256
10/1	F	6	1414	520	30,4	19,3		0.274
11/1	F	5	1395	530	26,9	19,1		0.206
12/1	F	7	2460	600	43,2	19,6		0.604
13/1	M	7	2528	620	41,3	18,6		0.490
14/1	F	6	2337	630	50,9	17,9		0.308
15/1	M	9	2199	650	31,0	15,6		0.528
Mean		5	1212	473	30,2	18,8		0,252
Minimum		4	313	310	20,9	15,6		0,076
Maximum		9	2528	650	50,9	20,4		0,604
St.Dev		2	825	118	9,0	1,2		0,165
Count		15	15	15	15	15		15

Comments

Station: Inner Sør fjord Edna
 Correct sampling date 981024. Changed due to IT problem; collision with same date at another "53B" site (ng-991202).

sample no.	sample no.
1 fish no.15 Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisakis simplex	9 fish no.8 Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
2 fish no.13 Signs of mechanical damage (e.g., net wounds) Skin with metacercariae of cf. Cryptocotyle lingua	10 fish no.2 Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds)
3 fish no.14 Signs of mechanical damage (e.g., net wounds) Skin with metacercariae of cf. Cryptocotyle lingua	11 fish no.5 Signs of mechanical damage (e.g., net wounds) Skin with metacercariae of cf. Cryptocotyle lingua
4 fish no.4 Signs of mechanical damage (e.g., net wounds) Skin with ulceration, lymphocytic areas and/or lesions	12 fish no.1 Signs of mechanical damage (e.g., net wounds) Skin with metacercariae of cf. Cryptocotyle lingua
5 fish no.3	13 fish no. 6 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
6 fish no.12 Signs of mechanical damage (e.g., net wounds) Skin with metacercariae of cf. Cryptocotyle lingua	14 fish no. 10 Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot Liver with signs of bleeding
7 fish no.9 Signs of mechanical damage (e.g., net wounds)	15 fish no. 11 Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds)
8 fish no.7 Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds)	

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sør fjorden** Tissue: MUSCLE
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19981025** Count: 15 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341			
Detection limit =>				Mean												0.1	0.05			0.05				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA
no.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
16/1	M	4	409	348	23,1	0,4	<0.05	0.06	0.34	0.26	0.65	0.99	1.3	0.11	0.25	<0.05	<4	<4	6.9	0.37	7.3	7.3	<0.06	
17/1	M	5	1043	466	29,0	0,4	<0.05	1.8	16	12	22	28	26	3.8	3.2	<0.05	<97	<113	3.5	0.20	3.7	3.7	<0.06	
18/1	F	7	2184	606	38,7	0,4	<0.05	0.07	1.2	0.94	2.7	6.6	10	0.61	2.1	<0.05	<23	<24	8.2	0.28	8.5	8.5	<0.06	
Mean		5	1212	473	30,2	0,4	<<0.1	0,6	5,8	4,4	8,5	11,9	12,4	1,5	1,9	<<0.1	<<41	<<47	6,2	0,3	6,5	6,5	<<0.1	
Minimum		4	409	348	23,1	0,4	<0.1	0,1	0,3	0,3	0,7	1,0	1,3	0,1	0,3	<0.1	<4	<4	3,5	0,2	3,7	3,7	<0.1	
Maximum		7	2184	606	38,7	0,4	<0.1	1,8	16,0	12,0	22,0	28,0	26,0	3,8	3,2	<0.1	<97	<113	8,2	0,4	8,5	8,5	<0.1	
St.Dev		1	899	129	7,9	0,0	~0.0	1,0	8,8	6,6	11,8	14,3	12,5	2,0	1,5	~0.0	~49	~58	2,4	0,1	2,5	2,5	~0.0	
Count		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
no.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
16/1	M	4	409	348	0.08	<0.1	<0.1	0.05	<0.03	<0.03
17/1	M	5	1043	466	0.07	<0.1	<0.1	0.05	<0.03	<0.03
18/1	F	7	2184	606	0.06	<0.1	<0.1	0.04	0.03	<0.03
Mean		5	1212	473	0,1	<<0.1	<<0.1	0,0	<<0.0	<<0.0
Minimum		4	409	348	0,1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		7	2184	606	0,1	<0.1	<0.1	0,1	0,0	<0.0
St.Dev		1	899	129	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		3	3	3	3	3	3	3	3	3

Comments

Station: Inner Sør fjord Edna
 Correct sampling date 981024. Changed due to IT problem; collision with same date at another "53B" site (ng-991202).

sample no.

- 16 Bulk of 1-5 (original no. resp. 15,13,14,4,3)
- 17 Bulk of 6-10 (original no. resp. 12,9,7,8,2)
- 18 Bulk of 11-15 (original no. resp. 5,1,6,10,11)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sørffjorden** Tissue: MUSCLE
 Locality : **53B Inner Sørffjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19991002** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA				
Analysis code =>					310				
Detection limit =>					0.005				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	
F/M		year	g	mm	g	%	%	ppm	
no.								w.wt	
1/1	F	5	1408	520	21,6	19,2		0.433	
2/1	F	5	943	480	21,6	18,6		0.387	
3/1	F	5	1155	520	21,9	18,9		0.718	
4/1	M	4	465	380	24,8	17,2		0.276	
5/1	F	4	405	390	23,0	21,0		0.037	
6/1	M	5	744	460	22,5	18,4		0.227	
7/1	F	5	1145	500	27,0	19,2		0.260	
8/1	F	3	299	330	21,4	20,3		0.164	
9/1	M	4	415	350	24,9	20,5		0.162	
10/1	M	5	615	420	24,1	19,4		0.270	
11/1	M	4	468	370	22,8	19,7		0.216	
12/1	M	5	1044	480	30,3	19,7		0.116	
13/1	M	4	462	370	22,4	20,1		0.166	
14/1	M	4	378	350	22,2	19,7		0.183	
15/1	M	4	739	460	31,7	17,9		0.301	
16/1	F	5	682	430	27,5	17,6		0.136	
17/1	M	4	411	370	21,3	19,6		0.449	
18/1	M	4	342	340	21,8	18,6		0.168	
19/1	M	4	415	350	20,1	20,0		0.123	
20/1	M	4	432	360	28,8	20,0		0.156	
21/1	M	4	461	350	22,0	19,5		0.227	
22/1	M	4	636	400	26,8	18,0		0.458	
23/1	M	4	437	380	22,8	19,8		0.370	
24/1	M	5	709	430	32,0	18,4		0.245	
25/1	F	5	617	410	30,7	19,6		0.507	
Mean		4	633	408	24,6	19,2		0,270	
Minimum		3	299	330	20,1	17,2		0,037	
Maximum		5	1408	520	32,0	21,0		0,718	
St.Dev		1	295	59	3,6	0,9		0,153	
Count		25	25	25	25	25		25	

sample no.

- 2 Skin with ulceration, lymphocytic areas and/or lesions
- 3 Skin with ulceration, lymphocytic areas and/or lesions
- 5 Skin with ulceration, lymphocytic areas and/or lesions
- 6 Skin with ulceration, lymphocytic areas and/or lesions Liver with necrotic areas and/or discolour: Liver and/or intestinal guts with larvae of Anisakis simplex
- 7 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of
- 8 Skin with ulceration, lymphocytic areas and/or lesions
- 10 Liver and/or intestinal guts with larvae of Anisakis simplex
- 11 Skin with ulceration, lymphocytic areas and/or lesions
- 12 Skin with ulceration, lymphocytic areas and/or lesions
- 13 Skin with ulceration, lymphocytic areas and/or lesions
- 14 Skin with ulceration, lymphocytic areas and/or lesions
- 15 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or
- 16 Skin with ulceration, lymphocytic areas and/or lesions
- 17 Liver and/or intestinal guts with larvae of Anisakis simplex
- 18 Skin with ulceration, lymphocytic areas and/or lesions
- 19 Skin with ulceration, lymphocytic areas and/or lesions
- 20 Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions
- 21 Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot
- 22 Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
- 23 Liver and/or intestinal guts with larvae of Anisakis simplex
- 24 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of: Bacterial fin rot
- 25 Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sør fjorden** Tissue: MUSCLE
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19991002** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA																					
Analysis code =>				341																					
Detection limit =>				0.05																					
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA	
F/M		year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt		w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	4	370	344		0,4	<0.06	0.17	0.74	0.36	1.0	1.6	2.3	0.14	0.38	<0.06	<6	<7	1.2	0.12	1.3	1.3	<0.06		
27/1	M	4	447	364		0,4	<0.06	<0.06	0.23	0.09	0.29	0.89	1.5	0.08	0.45	<0.06	<3	<4	2.1	0.10	2.2	2.2	<0.06		
28/1	X	4	512	392		0,4	<0.06	0.07	0.46	0.18	0.56	1.8	2.9	0.15	0.79	<0.06	<7	<7	4.7	0.18	4.9	4.9	<0.06		
29/1	X	5	698	440		0,4	<0.06	0.15	1.4	1.5	3.5	5.4	6.4	0.53	1.6	<0.06	<19	<21	20	1.1	21.1	21.1	<0.06		
30/1	X	5	1139	500		0,4	<0.07	0.14	1.0	0.38	1.1	3.5	4.9	0.28	1.2	<0.06	12	<13	3.2	0.13	3.3	3.3	<0.06		
Mean		4	633	408		0,4	<<0.1	<0.1	0,8	0,5	1,3	2,6	3,6	0,2	0,9	<<0.1	<<9	<<10	6,2	0,3	6,6	6,6	<<0.1		
Minimum		4	370	344		0,4	<0.1	<0.1	0,2	0,1	0,3	0,9	1,5	0,1	0,4	<0.1	<3	<4	1,2	0,1	1,3	1,3	<0.1		
Maximum		5	1139	500		0,4	0,1	0,2	1,4	1,5	3,5	5,4	6,4	0,5	1,6	<0.1	<19	<21	20,0	1,1	21,1	21,1	<0.1		
St.Dev		1	308	63		0,0	~0.0	~0.0	0,5	0,6	1,3	1,8	2,0	0,2	0,5	~0.0	~6	~7	7,8	0,4	8,2	8,2	~0.0		
Count		5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	4	370	344	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
27/1	M	4	447	364	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
28/1	X	4	512	392	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
29/1	X	5	698	440	<0.06	<0.1	<0.1	0.09	<0.03	<0.03
30/1	X	5	1139	500	<0.06	<0.1	<0.1	0.05	<0.03	<0.03
Mean		4	633	408	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		4	370	344	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		5	1139	500	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	308	63	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

sample no.
 26 Bulk of NIVA no.s.8,18,9,14,19
 27 Bulk of NIVA no.s.21,20,11,13,17
 28 Bulk of NIVA no.s.4,23,5,22,25
 29 Bulk of NIVA no.s.10,16,24,6,15
 30 Bulk of NIVA no.s.2,12,7,1,3

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sør fjorden** Tissue: MUSCLE
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **20001010** Count: 25 Sample type: **Individual**

Analytical lab.		=>				NIVA		
Analysis code		=>				310		
Detection limit		=>		Mean		0.005		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm w.wt
1/1	M	4	1375	580	44,2	15,4		0.712
2/1	F	3	1047	510	33,8	17,5		0.439
3/1	M	3	1107	490	57,6	19,2		0.224
4/1	M	1	237	310	26,8	18,8		0.149
5/1	F	2	255	320	24,6	18,2		0.212
6/1	F	2	696	450	34,0	17,3		0.264
7/1	M	2	554	390	33,6	19,4		0.147
8/1	M	2	335	350	26,0	19,0		0.152
9/1	M	2	431	380	31,8	19,3		0.236
10/1	M	2	578	400	38,8	19,2		0.188
11/1	F	1	245	310	21,6	19,7		0.206
12/1	M	2	757	430	63,6	19,8		0.178
13/1	M	3	885	470	50,6	18,1		0.423
14/1	F	4	930	460	53,8	19,7		0.369
15/1	F	3	1286	550	51,8	17,1		0.903
16/1	M	2	865	460	42,6	20,4		0.342
17/1	M	2	847	490	41,6	17,6		0.328
18/1	F	2	838	450	41,4	19,3		0.293
19/1	M	2	459	380	39,6	18,3		0.345
20/1	M	1	294	310	33,4	19,6		0.336
21/1	M	4	1593	570	66,2	19,4		0.565
22/1	F	4	1535	550	129,4	17,9		0.819
23/1	F	2	705	440	51,8	19,1		0.236
24/1	M	2	716	440	59,2	19,2		0.820
25/1	F	3	707	420	52,4	19,6		0.366
Mean		2	771	436	46,0	18,7		0,370
Minimum		1	237	310	21,6	15,4		0,147
Maximum		4	1593	580	129,4	20,4		0,903
St.Dev		1	392	81	21,4	1,1		0,223
Count		25	25	25	25	25		25

sample no.

- 1 Signs of mechanical damage (e.g., net wounds) Bacterial fin rot
- 2 Signs of mechanical damage (e.g., net wounds) Bacterial fin rot
- 3 Bacterial fin rot
- 5 Signs of mechanical damage (e.g., net wounds) Bacterial fin rot nearly dead
- 8 Liver and/or intestinal guts with larvae of Anisakis simplex Signs of mechanical damage (e.g., net wounds)
- 9 Skin with ulceration, lymphocytic areas and/or lesions
- 10 Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds)
- 11 Signs of mechanical damage (e.g., net wounds) Skin with ulceration, lymphocytic areas and/or lesions
- 13 Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds)
- 15 Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds) Age uncertain
- 16 Signs of mechanical damage (e.g., net wounds)
- 17 Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisakis simplex Bacterial fin rot ?
- 18 Signs of mechanical damage (e.g., net wounds)
- 19 Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot
- 20 Skin with ulceration, lymphocytic areas and/or lesions
- 21 Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions
- 22 Skin with ulceration, lymphocytic areas and/or lesions Skin with metacercariae of cf. Cryptocotyle Bacterial fin rot
- 23 Bacterial fin rot
- 24 Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
- 25 Bacterial fin rot

Comments

Station: Inner Sør fjord Niva no fish 1-5 and 9-25 had been upto 10 days in a fish"not".(net.trawl?)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sørffjorden** Tissue: MUSCLE
 Locality : **53B Inner Sørffjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **20001010** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>					341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341		
Detection limit =>				Mean	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05			0.05		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb	HCHA ppb
no.								w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	1	273	320	26,5		0,3	<0.05	2.3	14	13	24	40	38	8.0	8.6	<0.05	<127	<148	2.9	0.26	3.2	3.2	<0.05
27/1	X	2	546	394	39,2		0,3	<0.05	0.57	3.8	4.0	8.1	11	11	1.5	1.8	<0.05	<36	<42	2.5	0.25	2.8	2.8	<0.05
28/1	X	2	742	442	50,0		0,3	0.07	0.78	7.0	7.5	13	18	17	3.0	3.4	<0.05	59	<70	1.8	0.19	2.0	2.0	<0.05
29/1	X	3	927	474	49,2		0,3	0.05	0.64	4.3	3.4	7.1	9.0	8.9	1.1	1.1	<0.05	31	<36	1.5	0.12	1.6	1.6	<0.05
30/1	X	4	1367	552	65,1		0,2	<0.05	0.32	2.4	2.3	5.0	8.0	9.0	0.81	1.5	<0.05	<26	<29	5.3	0.41	5.7	5.7	<0.05
Mean		2	771	436	46,0		0,3	<<0.1	0,9	6,3	6,0	11,4	17,2	16,8	2,9	3,3	<<0.1	<<56	<<65	2,8	0,2	3,1	3,1	<<0.1
Minimum		1	273	320	26,5		0,2	<0.1	0,3	2,4	2,3	5,0	8,0	8,9	0,8	1,1	<0.1	<26	<29	1,5	0,1	1,6	1,6	<0.1
Maximum		4	1367	552	65,1		0,3	0,1	2,3	14,0	13,0	24,0	40,0	38,0	8,0	8,6	<0.1	<127	<148	5,3	0,4	5,7	5,7	<0.1
St.Dev		1	412	87	14,3		0,0	~0.0	0,8	4,6	4,4	7,6	13,3	12,3	3,0	3,1	~0.0	~42	~49	1,5	0,1	1,6	1,6	~0.0
Count		5	5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	1	273	320	<0.05	<0.1	<0.1	0.11	0.02	0.04
27/1	X	2	546	394	<0.05	<0.1	<0.1	0.09	0.02	0.02
28/1	X	2	742	442	<0.05	<0.1	<0.1	0.11	0.02	0.02
29/1	X	3	927	474	<0.05	<0.1	<0.1	0.08	<0.02	<0.02
30/1	X	4	1367	552	<0.05	<0.1	<0.1	0.07	<0.02	<0.02
Mean		2	771	436	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		1	273	320	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		4	1367	552	<0.1	<0.1	<0.1	0,1	0,0	0,0
St.Dev		1	412	87	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

Comments

Station: Inner Sørffjord Niva no fish 1-5 and 9-25 had been upto 10 days in sample no. a fish"not".(net.trawl?)

sample no.

- 26 Bulk of NIVA no 4,11,20,5,8 Skin with ulceration, lymphocytic areas and/or 1 Signs of mechanical damage (e.g., net wounds)no 5,8 Bacterial fin rot no 6 Liver and/or intestinal guts with larvae of Anisakis simpl.8
- 27 Bulk of niva no 9,19,7,10,25 Skin with ulceration, lymphocytic areas a/o les Bacterial fin rot no19,25 Signs of mechanical damage (e.g., net wounds) no 10
- 28 Bulk of NIVA no 12,23,24,6,18 Skin with ulceration, lymphocytic areas and/or lesions Skin with metacercariae of cf. Cryptocotyle lingua no 22
- 28 Bulk of NIVA no 12,23,24,6,18 Skin with ulceration, lymphocytic areas and/or lesions 6 Bacterial fin rot no 23,24 Signs of mechanical damage (e.g., net wounds)no 6,18 Liver a/or intestinal guts with larvae of Anisakis simpl.n24
- 29 Bulk of NIVA no 14,16,13,3,17 Skin with ulceration, lymphocytic areas and/or lesions 13 Bacterial fin rot. No3 and 17? Signs of mechanical damage (e.g., net wounds)no13,16,17 Liver a/o intestinal guts with larvae of Anisakis simpl.no17
- 30 Bulk of NIVA no 2,15,21,22,1 Age uncertain no 15 Skin wi. ulceration, lymphocytic are Bacterial fin rot no 1,2,15,21 Signs of mechanical damage (e.g., net wounds)no 1,2,15,22

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sør fjorden** Tissue: MUSCLE
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **20011009** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA				
Analysis code =>					310				
Detection limit =>					0.005				
Samp/	Sex	Age	Wght	Lngr	Mean	Dry	Fat	HG	
repl.	F/M	year	g	mm	weight	%	%	ppm	
no.					g			w.wt	
1/1	F	11	2466	680	59,4	12,6		1.46	
2/1	F	5	3791	790	38,4	12,6		1.20	
3/1	M	3	202	280	20,1	18,8		0.16	
4/1	F	2	159	260	20,4	20,8		0.11	
5/1	F	2	183	280	20,3	20,1		0.22	
6/1	F	4	972	470	51,4	19,6		0.47	
7/1	M	3	598	390	44,6	20,3		0.51	
8/1	F	3	1397	540	53,9	17,8		0.73	
9/1	M	3	1170	520	47,8	18,8		1.03	
10/1	F	2	439	360	33,7	20,6		0.30	
11/1	F	2	199	280	23,0	19,0		0.11	
12/1	M	3	525	400	42,3	20,1		0.53	
13/1	F	1	227	290	26,1	20,5		0.20	
14/1	F	1	193	280	20,1	18,9		0.12	
15/1	M	3	789	450	66,0	19,0		0.45	
16/1	M	3	1812	570	106,6	20,9		0.47	
17/1	F	2	1172	490	66,3	20,1		0.67	
18/1	F	3	982	520	50,4	16,5		0.75	
19/1	M	3	668	410	51,5	19,2		0.34	
20/1	M	2	639	390	52,5	19,9		0.43	
21/1	M	3	1539	570	57,9	19,2		0.55	
22/1	M	3	820	450	43,8	19,4		0.52	
23/1	M	5	1653	580	94,5	17,4		0.96	
24/1	M	5	1811	560	97,6	20,3		0.52	
25/1	M	3	963	480	46,7	19,0		0.70	
Mean		3	1015	452	49,4	18,9		0,540	
Minimum		1	159	260	20,1	12,6		0,110	
Maximum		11	3791	790	106,6	20,9		1,460	
St.Dev		2	844	136	23,7	2,2		0,345	
Count		25	25	25	25	25		25	

sample no.

- 1 Gills with Lernaeocera copepods Skin with metacercariae of cf. Cryptocotyle lingua
Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wound)
- 2 Bacterial fin rot Skin with metacercariae of cf. Cryptocotyle lingua
Skin a/o oral cavity with caligif a/o Lenaeopodif. Copepods
- 4 Signs of mechanical damage (e.g., net wounds)
- 8 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae o:
Liver and/or intestinal guts with larvae of Anisakis simplex
- 14 Skin with metacercariae of cf. Cryptocotyle lingua Age uncertain
- 17 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae o:
Liver and/or intestinal guts with larvae of Anisakis simplex
- 18 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or
Liver and/or intestinal guts with larvae of Anisakis simplex
- 20 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of An:
Liver and/or intestinal guts with larvae of Anisakis simplex
- 22 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae o:
Liver and/or intestinal guts with larvae of Anisakis simplex
- 23 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae o:
Liver and/or intestinal guts with larvae of Anisakis simplex
- 24 Liver with necrotic areas and/or discolouration Liver and/or intestinal guts with larvae of Anis:
Liver and/or intestinal guts with larvae of Anisakis simplex
- 25 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae o:
Liver and/or intestinal guts with larvae of Anisakis simplex

Comments

Station: Inner Sør fjord fished 1.-9.oct 2001 from Tyssedal and south

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J63 Sør fjorden** Tissue: MUSCLE
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **20011009** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>					341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341		
Detection limit =>				Mean	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05			0.05		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA
F/M		year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	2	187	276	20,8		0,4	<0.04	<0.04	0.14	0.10	0.29	0.59	0.75	0.06	0.24	<0.04	<2	<2	0.33	<0.06	<0.4	<0.4	<0.04
27/1	X	2	486	366	39,8		0,4	<0.04	<0.04	0.08	0.09	0.23	0.42	0.54	0.04	0.13	<0.04	<1	<2	0.60	<0.06	<0.7	<0.7	<0.04
28/1	X	3	842	452	51,9		0,3	<0.04	miss	0.05	0.05	0.10	0.14	0.19	<0.04	0.05	<0.04	<1	<1	0.36	<0.06	<0.4	<0.4	<0.04
29/1	X	3	1307	526	63,2		0,3	<0.04	<0.04	0.08	0.10	0.18	0.22	0.30	<0.04	0.07	<0.04	<1	<1	0.60	<0.06	<0.7	<0.7	<0.04
30/1	X	5	2252	638	71,4		0,3	<0.04	0.05	0.12	0.11	0.19	0.25	0.35	<0.04	0.10	<0.04	<1	<1	0.89	<0.06	<0.9	<0.9	<0.04
Mean		3	1015	452	49,4		0,4	<<0.0	<<0.0	0,1	0,1	0,2	0,3	0,4	<<0.0	0,1	<<0.0	<<1	<<1	0,6	<<0.1	<<0.6	<<0.6	<<0.0
Minimum		2	187	276	20,8		0,3	<0.0	<0.0	0,1	0,1	0,1	0,1	0,2	<0.0	0,1	<0.0	<1	<1	0,3	<0.1	<0.4	<0.4	<0.0
Maximum		5	2252	638	71,4		0,5	<0.0	0,1	0,1	0,1	0,3	0,6	0,8	0,1	0,2	<0.0	<2	<2	0,9	<0.1	<0.9	<0.9	<0.0
St.Dev		1	808	140	19,9		0,1	~0.0	~0.0	0,0	0,0	0,1	0,2	0,2	~0.0	0,1	~0.0	~0	~1	0,2	~0.0	~0.2	~0.2	~0.0
Count		5	5	5	5		5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

miss(1) ! Missing value

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>					341	Calc	Calc	341	341	341
Detection limit =>				0.05				0.05	0.05	0.05
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	2	187	276	<0.04	<0.0	<0.0	0.04	<0.02	<0.02
27/1	X	2	486	366	<0.04	<0.0	<0.0	0.03	<0.02	<0.02
28/1	X	3	842	452	<0.04	<0.0	<0.0	0.03	<0.02	<0.02
29/1	X	3	1307	526	<0.04	<0.0	<0.0	0.04	<0.02	<0.02
30/1	X	5	2252	638	<0.04	<0.0	<0.0	0.04	<0.02	<0.02
Mean		3	1015	452	<<0.0	<<0.0	<<0.0	0,0	<<0.0	<<0.0
Minimum		2	187	276	<0.0	<0.0	<0.0	0,0	<0.0	<0.0
Maximum		5	2252	638	<0.0	<0.0	<0.0	0,0	<0.0	<0.0
St.Dev		1	808	140	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

miss(1) ! Missing value

Comments

Station: Inner Sør fjord fished 1.-9.oct 2001 from Tyssedal and south

sample no.

- 26 Bulk of NIVA no 4,3,5,11,14
- 27 Bulk of NIVA no 13,10,7,20,12
- 28 Bulk of NIVA no 19,15,22,6,25
- 29 Bulk of NIVA no 17,9,18,8,24
- 30 Bulk of NIVA no 16,21,23,1,2,

JAMP contaminant data for fish 1998-2001 - Norway

Species : GADU MOR Gadus morhua GB: Cod, N: Torsk
 Sample area: J62 Hardangerfjorden Tissue: MUSCLE
 Locality : 67B Strandeabarm Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : 19981028 Count: 25 Sample type: Individual

sample no

Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm w.wt
1/1	M	4	565	390	29,6	20,1		0.045
2/1	M	5	578	405	26,3	19,3		0.047
3/1	F	4	658	430	36,9	20,0		0.047
4/1	F	4	796	430	42,3	20,2		0.054
5/1	F	5	811	440	23,8	20,7		0.050
6/1	M	5	859	450	26,1	19,1		0.038
7/1	M	4	926	470		20,7		0.051
8/1	F	5	1095	470	23,9	19,2		0.053
9/1	F	4	921	470	28,8	19,9		0.042
10/1	M	5	1076	470	23,5	20,2		0.080
11/1	F	5	1150	490	27,8	21,1		0.067
12/1	M	5	1161	490	30,5	19,6		0.058
13/1	F	4	1213	500	37,8	18,7		0.051
14/1	M	5	1143	500	28,1	20,2		0.053
15/1	F	4	1219	510	58,3	19,7		0.050
16/1	M	5	1231	510	32,2	19,4		0.016
17/1	F	5	1507	520	60,1	20,2		0.053
18/1	M	5	1143	500	21,3	20,8		0.053
19/1	M	6	1249	560	23,6	16,2		0.282
20/1	F	6	1653	570	25,5	19,2		0.069
21/1	M	6	1707	570	34,0	19,3		0.067
22/1	M	5	1991	580	32,3	20,1		0.101
23/1	M	6	1885	590	25,7	21,0		0.077
24/1	F	7	2516	620	41,5	18,3		0.125
25/1	F	7	3446	680	38,1	19,8		0.128
Mean		5	1300	505	32,4	19,7		0,070
Minimum		4	565	390	21,3	16,2		0,016
Maximum		7	3446	680	60,1	21,1		0,282
St.Dev		1	642	69	10,1	1,0		0,051
Count		25	25	25	24	25		25

Comments

Station: Strandeabarm Caught 28.10.98 5.11.98

sample no.

1 fish no. 2 caught 24.10.98 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or lern. Copepod Liver with signs of bleeding
 2 fish no. 14 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
 3 fish no.4 caught 28.10.98 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods

4 fish no. 7 caught 28.10.98 Bacterial fin rot .Skin / oral cavity with caligiform and/or Lernaeopodiform copepods. Liver with signs of bleeding Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex
 5 fish no. 13 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
 6 fish no. 21 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot Signs of mechanical damage (e.g., net wounds)
 7 fish no. 10 caught 28.10.98 Skin with met. of cf. C. lingua Signs of mechanical damage. Skin/oral and/or Lernaeopodi. Copepods. Bacterial fin rot Gills with Lernaeocera copepods . Liver and/or intestinal guts with larvae of Anisakis simplex
 8 fish no. 11 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
 9 fish no. 28 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
 10 fish no. 30 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
 11 fish no. 18 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
 12 fish no. 26 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot Signs of mechanical damage (e.g., net wounds)
 13 fish no. 1 caught 28.10.98 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
 14 fish no. 17 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
 15 fish no. 8 caught 28.10.98 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds) Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
 16 fish no.29 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
 17 fish no.9 caught 28.10.98 Skin with met. of cf. Crypt. lingua Signs of mechanic. damage(e.g, net wounds) Skin /oral cavity with caligiform and/or Lernaeopodi.copepod Liver and/or intestinal guts with larvae of Anisakis simplex
 18 fish no. 16 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
 19 fish no. 27 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
 20 fish no. 12 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
 21 fish no. 20 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot Signs of mechanical damage (e.g., net wounds)
 22 fish no. 24 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua
 23 fish no. 23 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot Signs of mechanical damage (e.g., net wounds) Liver with necrotic areas and/or discolouration
 24 fish no. 6 caught 28.10.98 Signs of mechanical damage Skin with met. of cf. Cryptocotyle lingua Skin /oral cavity with caligiform and/orLernaeopodiform.copep Liver and/or intestinal guts with larvae of Anisakis simplex
 25 fish no. 15 caught 5.11.98 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds) Bacterial fin rot

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandebar** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **19981028** Count: 25 Sample type: **Bulked**

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA					
Analysis code		=>		341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341				
Detection limit		=>		Mean													0.1	0.05			0.05				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb	HCHA ppb	
no.								w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	F	4	682	419	31,8	0,4	<0.05	<0.05	0.09	0.07	0.17	0.38	0.60	<0.05	0.14	<0.05	<1	<2	1.1	0.11	1.2	1.2	<0.06		
27/1	M	5	975	466	20,5	0,4	<0.05	<0.05	0.07	<0.05	0.09	0.18	0.25	<0.05	0.06	<0.05	<1	<1	0.77	0.11	0.9	0.9	<0.06		
28/1	F	5	1177	498	36,5	0,4	<0.05	<0.05	0.07	<0.05	0.07	0.13	0.20	<0.05	0.05	<0.05	<1	<1	0.60	0.09	0.7	0.7	<0.06		
29/1	M	5	1450	540	32,5	0,4	<0.05	<0.05	0.06	0.05	0.12	0.27	0.58	<0.05	0.19	<0.05	<1	<1	1.0	0.11	1.1	1.1	<0.06		
30/1	M	6	2309	608	34,3	0,4	<0.05	<0.05	0.07	<0.05	0.09	0.19	0.26	<0.05	0.07	<0.05	<1	<1	1.0	0.14	1.1	1.1	<0.06		
Mean		5	1319	506	31,1	0,4	<<0.1	<<0.1	0,1	<<0.1	0,1	0,2	0,4	<<0.1	0,1	<<0.1	<<1	<<1	0,9	0,1	1,0	1,0	<<0.1		
Minimum		4	682	419	20,5	0,4	<0.1	<0.1	0,1	<0.1	0,1	0,1	0,2	<0.1	0,1	<0.1	<1	<1	0,6	0,1	0,7	0,7	<0.1		
Maximum		6	2309	608	36,5	0,5	<0.1	<0.1	0,1	0,1	0,2	0,4	0,6	<0.1	0,2	<0.1	<1	<2	1,1	0,1	1,2	1,2	<0.1		
St.Dev		1	621	72	6,2	0,0	~0.0	~0.0	0,0	~0.0	0,0	0,1	0,2	~0.0	0,1	~0.0	~0	~0	0,2	0,0	0,2	0,2	~0.0		
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		341	Calc	Calc	341	341	341	
Detection limit		=>		0.05			0.05	0.05	0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	F	4	682	419	0.09	<0.1	<0.1	0.07	<0.03	<0.03
27/1	M	5	975	466	0.09	<0.1	<0.1	0.06	<0.03	<0.03
28/1	F	5	1177	498	0.08	<0.1	<0.1	0.05	<0.03	<0.03
29/1	M	5	1450	540	0.08	<0.1	<0.1	0.06	<0.03	<0.03
30/1	M	6	2309	608	0.09	<0.1	<0.1	0.06	<0.03	<0.03
Mean		5	1319	506	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		4	682	419	0,1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		6	2309	608	0,1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	621	72	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

Comments

Station: Strandebar Caught 28.10.98 5.11.98

sample no.

- 26 Bulk of 1-5 (original no. resp. 2,14,4,7,13) Caught 28.10.98 5.11.98
- 27 Bulk of 6-10 (original no. resp. 21,10,11,28,30) Caught 28.10.98 5.11.98
- 28 Bulk of 11-15 (original no. resp. 18,26,1,17,8) Caught 28.10.98 5.11.98
- 29 Bulk of 16-20 (original no. resp. 29,9,16,27,12) Caught 28.10.98 5.11.98
- 30 Bulk of 21-25 (original no. resp. 20,24,23,6,15) Caught 28.10.98 5.11.98

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandebrarm** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **19990927** Count: 25 Sample type: **Individual**

Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	Mean weight g	Dry %	Fat %	HG ppm w.wt
1/1	F	6	2849	660	35,3	18,0		0.055
2/1	F	4	567	400	19,7	19,0		0.081
3/1	M	4	395	340	21,2	18,8		0.050
4/1	F	4	381	360	20,1	18,3		0.068
5/1	M	4	354	350	20,4	19,3		0.062
6/1	M	6	1755	580	30,6	20,7		0.058
7/1	F	5	1118	500	24,0	21,0		0.095
8/1	M	4	343	330	20,1	18,3		0.072
9/1	F	4	325	330	20,4	18,5		0.050
10/1	M	4	654	420	24,8	19,0		0.058
11/1	F	4	279	320	21,9	18,4		0.054
12/1	M	4	475	370	22,7	18,5		0.062
13/1	M	4	307	330	21,1	19,1		0.053
14/1	M	7	2983	710	37,2	18,1		0.152
15/1	M	5	1440	530	28,5	20,5		0.057
16/1	F	5	1141	510	22,3	19,3		0.107
17/1	F	4	497	370	25,6	19,5		0.056
18/1	F	5	1528	560	24,7	19,1		0.093
19/1	F	4	488	370	23,9	19,8		0.055
20/1	F	4	559	390	22,9	19,0		0.056
21/1	F	4	412	350	20,6	19,7		0.059
22/1	F	4	668	410	24,2	20,3		0.061
23/1	F	4	492	370	20,0	18,4		0.072
24/1	M	4	521	370	20,4	20,0		0.050
25/1	M	4	457	360	22,1	19,5		0.068
Mean		4	840	424	23,8	19,2		0,068
Minimum		4	279	320	19,7	18,0		0,050
Maximum		7	2983	710	37,2	21,0		0,152
St.Dev		1	746	109	4,6	0,8		0,023
Count		25	25	25	25	25		25

sample no

- 6 Bacterial fin rot Skin with metacercariae of cf. Cryptocotyle lingua
Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wound)
- 7 Skin with metacercariae of cf. Cryptocotyle lingua
Skin and/or oral cavity with caligiform and/or lernaeop.cope
- 8 Skin with metacercariae of cf. Cryptocotyle lingua
- 9 Skin with metacercariae of cf. Cryptocotyle lingua
- 10 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
- 11 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods
- 12 Skin with metacercariae of cf. Cryptocotyle lingua
- 13 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
- 14 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of An:
- 15 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or
Bacterial fin rot Signs of mechanical damage (e.g., net wounds)
- 16 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or
Liver and/or intestinal guts with larvae of Anisakis simplex Signs of mechanical damage (e.g., net
- 17 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
- 18 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 19 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions
- 20 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods
- 21 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or
- 22 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
Skin with ulceration, lymphocytic areas and/or lesions
- 23 Bacterial fin rot Skin with metacercariae of cf. Cryptocotyle lingua
Skin with ulceration, lymphocytic areas and/or lesions
- 24 Signs of mechanical damage (e.g., net wounds) Skin with metacercariae of cf. Cryptocotyle lingua
- 25 Skin with metacercariae of cf. Cryptocotyle lingua

sample no.

- 1 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions
Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
- 2 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex
- 3 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions
- 4 Skin with metacercariae of cf. Cryptocotyle lingua
- 5 Skin with metacercariae of cf. Cryptocotyle lingua

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandebar** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **19990927** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341			
Detection limit =>				Mean	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05			0.05			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA
F/M		year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt		w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	4	330	330			0,4	<0.06	<0.06	0.07	0.09	0.26	0.71	1.2	0.09	0.44	<0.06	<3	<3	1.3	<0.2	<1.5	<1.5	<0.06
27/1	X	4	416	358			0,4	<0.06	<0.06	<0.06	0.09	0.21	0.44	0.78	<0.06	0.20	<0.06	<2	<2	1.1	<0.2	<1.3	<1.3	<0.06
28/1	X	4	511	374			0,4	<0.06	<0.06	<0.06	0.06	0.15	0.38	0.59	<0.06	0.17	<0.06	<1	<1	0.81	<0.2	<1.0	<1.0	<0.06
29/1	X	4	830	448			0,4	<0.2	<0.2	<0.2	<0.2	<0.2	0.34	0.62	<0.2	<0.2	<0.2	<1	<1	0.59	<0.4	<1.0	<1.0	<0.2
30/1	X	6	2111	608			0,3	<0.06	<0.06	<0.06	0.11	0.28	0.57	0.86	0.06	0.22	<0.06	<2	<2	2.6	<0.2	<2.8	<2.8	<0.06
Mean		4	840	424			0,4	<<0.1	<<0.1	<<0.1	<0.1	<0.2	0,5	0,8	<<0.1	<0.2	<<0.1	<<2	<<2	1,3	<<0.2	<<1.5	<<1.5	<<0.1
Minimum		4	330	330			0,3	<0.1	<0.1	<0.1	0,1	0,1	0,3	0,6	<0.1	0,2	<0.1	<1	<1	0,6	<0.2	<1.0	<1.0	<0.1
Maximum		6	2111	608			0,4	<0.2	<0.2	<0.2	<0.2	0,3	0,7	1,2	<0.2	0,4	<0.2	<3	<3	2,6	<0.4	<2.8	<2.8	<0.2
St.Dev		1	735	112			0,0	~0.1	~0.1	~0.1	~0.1	~0.1	0,2	0,2	~0.1	~0.1	~0.1	~1	~1	0,8	~0.1	~0.7	~0.7	~0.1
Count		5	5	5			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05	0.05	0.05	0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	4	330	330	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
27/1	X	4	416	358	<0.06	<0.1	<0.1	0.05	<0.03	<0.03
28/1	X	4	511	374	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
29/1	X	4	830	448	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1
30/1	X	6	2111	608	<0.06	<0.1	<0.1	0.08	<0.03	<0.03
Mean		4	840	424	<<0.1	<<0.1	<<0.1	<0.1	<<0.0	<<0.0
Minimum		4	330	330	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		6	2111	608	<0.2	<0.2	<0.2	<0.1	<0.1	<0.1
St.Dev		1	735	112	~0.1	~0.0	~0.0	~0.0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

sample no.
 26 Bulk of NIVA no.s.11,13,8,9,3
 27 Bulk of NIVA no.s.5,21,4,25,12
 28 Bulk of NIVA no.s.17,19,23,24,20
 29 Bulk of NIVA no.s.2,22,10,7,16,
 30 Bulk of NIVA no.s.15,18,6,1,14

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandebar**m Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **20001014** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA				
Analysis code =>					310				
Detection limit =>					Mean				
Samp/ repl.	Sex	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm	
no.	F/M	year	g	mm	g	%	%	ppm	w.wt
1/1	M	6	3517	770	53,2	8,9		0.295	
2/1	F	2	1207	510	47,6	21,2		0.099	
3/1	F	2	1056	490	41,4	20,2		0.072	
4/1	F	2	539	400	32,6	20,0		0.075	
5/1	F	4	6400	860	35,4	17,8		0.176	
6/1	F	7	4285	760	57,4	18,4		0.285	
7/1	M	2	1923	580	49,0	21,9		0.099	
8/1	M	2	950	470	38,8	19,9		0.084	
9/1	M	2	1813	560	37,0	20,7		0.112	
10/1	F	2	1564	530	54,4	20,8		0.088	
11/1	M	2	1388	520	35,2	20,0		0.085	
12/1	F	2	839	460	37,8	19,8		0.075	
13/1	F	2	449	370	31,0	18,4		0.047	
14/1	M	2	934	470	45,8	20,0		0.082	
15/1	F	2	593	390	32,6	19,5		0.036	
16/1	M	2	779	430	50,8	20,2		0.052	
17/1	M	2	699	430	51,0	20,3		0.104	
18/1	M	2	725	430	50,8	19,9		0.055	
19/1	M	2	779	430	50,5	20,7		0.083	
20/1	F	3	1136	470	51,5	19,6		0.053	
21/1	F	3	1062	490	51,0	20,3		0.115	
22/1	F	3	1292	520	51,3	20,1		0.077	
23/1	M	4	1667	570	51,5	19,8		0.129	
24/1	M	2	1742	580	51,5	20,3		0.103	
25/1	F	3	1765	600	51,7	18,6		0.175	
Mean		3	1564	524	45,6	19,5		0,106	
Minimum		2	449	370	31,0	8,9		0,036	
Maximum		7	6400	860	57,4	21,9		0,295	
St.Dev		1	1339	121	8,1	2,4		0,065	
Count		25	25	25	25	25		25	

sample no.

- 1 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
- 2 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 3 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or Liver and/or intestinal guts with larvae of Anisakis simplex
- 4 Skin with metacercariae of cf. Cryptocotyle lingua
- 5 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
- 6 Liver and/or intestinal guts with larvae of Anisakis simplex Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
- 7 Skin with metacercariae of cf. Cryptocotyle lingua
- 8 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 9 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 10 Skin with ulceration, lymphocytic areas and/or lesions
- 11 Bacterial fin rot Skin with metacercariae of cf. Cryptocotyle lingua Age uncertain
- 12 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot Signs of mechanical damage (e.g., net wounds)
- 13 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
- 14 Skin with metacercariae of cf. Cryptocotyle lingua
- 15 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with metacercariae of cf. Cryptocotyle lingua
- 16 Skin with metacercariae of cf. Cryptocotyle lingua
- 17 Skin with metacercariae of cf. Cryptocotyle lingua
- 18 Skin with metacercariae of cf. Cryptocotyle lingua
- 20 Skin with metacercariae of cf. Cryptocotyle lingua
- 22 Skin with metacercariae of cf. Cryptocotyle lingua
- 23 Skin with metacercariae of cf. Cryptocotyle lingua
- 24 Skin with metacercariae of cf. Cryptocotyle lingua
- 25 Skin with metacercariae of cf. Cryptocotyle lingua

Comments

Station: Strandebar Fish 1-15 fished from 4-14 oct.2000
 Fisk 16-25 fished in nov.2000 fish 1,2,3 and 4 had been in a "not"(trawl) for 10 days

JAMP contaminant data for fish 1998-2001 - Norway

Species : GADU MOR Gadus morhua GB: Cod, N: Torsk
 Sample area: J62 Hardangerfjorden Tissue: MUSCLE
 Locality : 67B Strandebarb Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : 20001014 Count: 25 Sample type: Bulked

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code		=>				341	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341				
Detection limit		=>		Mean		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	2	612	404	39,6		0,3	<0.06	<0.06	0.08	<0.06	0.15	0.43	0.60	<0.06	0.11	<0.06	<1	<1	1.1	0.10	1.2	1.2	<0.06	
27/1	X	2	845	452	44,8		0,3	<0.02	<0.02	0.05	0.04	0.09	0.26	0.37	0.03	0.09	<0.02	<1	<1	1.0	0.06	1.1	1.1	<0.02	
28/1	X	2	1169	496	45,4		0,3	<0.02	<0.02	0.09	0.05	0.13	0.36	0.49	0.03	0.09	<0.02	<1	<1	1.8	0.13	1.9	1.9	<0.02	
29/1	X	3	1652	552	48,6		0,3	<0.02	<0.02	0.04	0.04	0.10	0.21	0.34	0.03	0.09	<0.02	<1	<1	0.53	0.05	0.6	0.6	<0.02	
30/1	X	4	3542	714	49,8		0,2	<0.02	<0.02	0.06	0.11	0.30	0.69	1.1	0.05	0.28	<0.02	<2	<3	3.2	0.12	3.3	3.3	<0.02	
Mean		3	1564	524	45,6		0,3	<<0.0	<<0.0	0,1	<0.1	0,2	0,4	0,6	<0.0	0,1	<<0.0	<<1	<<1	1,5	0,1	1,6	1,6	<<0.0	
Minimum		2	612	404	39,6		0,2	<0.0	<0.0	0,0	0,0	0,1	0,2	0,3	0,0	0,1	<0.0	<1	<1	0,5	0,1	0,6	0,6	<0.0	
Maximum		4	3542	714	49,8		0,3	<0.1	<0.1	0,1	0,1	0,3	0,7	1,1	<0.1	0,3	<0.1	<2	<3	3,2	0,1	3,3	3,3	<0.1	
St.Dev		1	1172	120	4,0		0,0	~0.0	~0.0	0,0	~0.0	0,1	0,2	0,3	~0.0	0,1	~0.0	~0	~1	1,0	0,0	1,0	1,0	~0.0	
Count		5	5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code		=>				341	Calc	Calc	341	341	341
Detection limit		=>				0.05			0.05	0.05	0.05
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
26/1	X	2	612	404	<0.06	<0.1	<0.1	0.03	<0.03	<0.03	
27/1	X	2	845	452	0.03	<0.1	<0.1	0.05	<0.01	<0.01	
28/1	X	2	1169	496	0.03	<0.1	<0.1	0.06	<0.01	<0.01	
29/1	X	3	1652	552	0.04	<0.1	<0.1	0.05	<0.01	<0.01	
30/1	X	4	3542	714	0.04	<0.1	<0.1	0.05	<0.01	<0.01	
Mean		3	1564	524	<0.0	<<0.1	<<0.1	0,0	<<0.0	<<0.0	
Minimum		2	612	404	0,0	<0.1	<0.1	0,0	<0.0	<0.0	
Maximum		4	3542	714	<0.1	<0.1	<0.1	0,1	<0.0	<0.0	
St.Dev		1	1172	120	~0.0	~0.0	~0.0	0,0	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	

Comments

Station: Strandebarb Fish 1-15 fished from 4-14 oct.2000
 Fisk 16-25 fished in nov.2000 fish 1,2,3 and 4 had been in a "not"(trawl) for 10 days

sample no.	26	Bulk of NIVA no 13,15,4,16,17 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods 15 Bacterial fin rot 13	sample no	29	Bulk of NIVA no 22,10,9,23,7 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods no Liver and/or intestinal guts with larvae of Anisakis simp. 9
	27	Bulk of NIVA no 18,19,12,8,14. Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds) 12 Bacterial fin rot 12 Skin, oral cavity with caligif.,Lernaeopodif. Cop. 8		30	Bulk of NIVA no 24,25,6,1,5 Skin with metacercariae of cf. Cryptocotyle lingua Liver, intestinal guts with larvae of Anisakis simplex 1,5,6 Bacterial fin Skin with ulceration, lymphocytic areas and/or lesions 1
	28	Bulk of NIVA no 20,3,21,2,11 Bakt. rot,age uncert.11 Skin with metacercariae of cf. Cryptocotyle lingua 2,3,11,20 Skin with ulceration, lymphocytic areas and/or lesions 3,2 Liver and/or intestinal guts with larvae of Anisakis simp. 3 Skin,oral cavity with caligi.,lernaeopodif.copepods 2			

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandebar** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **20011212** Count: 25 Sample type: **Individual**

Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	Mean weight g	Dry %	Fat %	HG ppm w.wt
1/1	M	3	1378	530	86,1	20,8		0.16
2/1	F	3	961	480	62,5	19,5		0.069
3/1	M	3	1237	500	66,3	19,3		0.078
4/1	F	3	1516	540	79,4	20,1		0.061
5/1	F	1	628	410	50,9	19,6		0.078
6/1	F	3	1354	520	74,0	19,3		0.097
7/1	M	3	1556	550	76,8	20,0		0.096
8/1	F	3	1780	580	95,0	20,2		0.090
9/1	F	3	2056	620	59,2	17,7		0.41
10/1	F	2	1455	540	102,1	19,7		0.070
11/1	F	1	612	410	50,4	19,9		0.062
12/1	F	1	421	350	38,8	19,8		0.039
13/1	F	1	637	400	49,9	19,0		0.080
14/1	F	3	1302	520	94,3	20,1		0.060
15/1	F	1	648	400	47,7	19,2		0.069
16/1	F	1	552	380	56,1	19,6		0.032
17/1	F	1	428	360	43,3	20,1		0.046
18/1	F	3	1928	580	99,3	19,7		0.10
19/1	F	3	1959	600	119,1	19,2		0.094
20/1	M	1	583	390	46,8	18,9		0.044
21/1	M	1	682	410	50,8	19,3		0.043
22/1	F	1	589	380	49,0	19,8		0.028
23/1	M	1	544	380	48,2	20,6		0.035
24/1	M	1	636	400	49,7	19,8		0.052
25/1	F	3	1255	520	93,1	19,6		0.061
Mean		2	1068	470	67,5	19,6		0,082
Minimum		1	421	350	38,8	17,7		0,028
Maximum		3	2056	620	119,1	20,8		0,410
St.Dev		1	534	85	22,6	0,6		0,074
Count		25	25	25	25	25		25

Comments

Station: Strandebarm fished between 6.-12dec.2001
 fished at 0-20m depth

sample no.

- 1 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot
- 2 Liver and/or intestinal guts with larvae of Anisakis simplex Skin with ulceration, lymphocytic areas and/or lesions Skin with metacercariae of cf. Cryptocotyle lingua
- 3 Skin with metacercariae of cf. Cryptocotyle lingua
- 4 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex
- 5 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions Fish malodorous
- 6 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions
- 7 Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions Skin a/or oral cavity with caligif. a/or Lernaeopodif.copep Lernaeopodiform copepods
- 8 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 9 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex Half blind and thin
- 10 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Bacterial fin rot
- 11 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 12 Skin with metacercariae of cf. Cryptocotyle lingua
- 13 Skin with metacercariae of cf. Cryptocotyle lingua Bacterial fin rot
- 14 Skin with metacercariae of cf. Cryptocotyle lingua
- 15 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
- 16 Skin with metacercariae of cf. Cryptocotyle lingua
- 17 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions
- 18 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Skin with ulceration, lymphocytic areas and/or lesions
- 19 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot
- 20 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot
- 21 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex
- 22 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisakis simplex
- 23 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions
- 24 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or lesions Liver with necrotic areas and/or discoloration
- 25 Skin with ulceration, lymphocytic areas and/or lesions Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandebar**m Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **20011212** Count: 25 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>				341	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341			
Detection limit		=>		Mean		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05			
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA
no.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	1	507	370	47,1	0,4	<0.04	0.26	1.4	1.1	2.2	2.5	2.9	0.39	0.70	<0.04	<10	<11	1.6	0.17	1.8	1.8	<0.04	
27/1	X	1	626	400	49,0	0,3	<0.04	0.12	0.68	0.54	1.2	1.8	2.0	0.21	0.52	<0.04	<6	<7	1.0	0.07	1.1	1.1	<0.04	
28/1	X	2	969	464	60,8	0,3	<0.04	0.16	0.90	0.62	1.4	2.6	3.6	0.26	1.1	<0.04	<10	<11	1.8	0.12	1.9	1.9	<0.04	
29/1	X	3	1381	530	91,0	0,2	<0.04	0.19	0.94	0.79	1.8	3.1	4.6	0.35	0.93	<0.04	<12	<13	2.6	0.10	2.7	2.7	<0.04	
30/1	X	3	1856	586	89,9	0,3	<0.04	0.23	1.4	1.2	2.5	4.0	5.0	0.44	1.1	<0.04	<14	<16	8.6	0.13	8.7	8.7	<0.04	
Mean		2	1068	470	67,5	0,3	<<0.0	0,2	1,1	0,9	1,8	2,8	3,6	0,3	0,9	<<0.0	<<10	<<12	3,1	0,1	3,2	3,2	<<0.0	
Minimum		1	507	370	47,1	0,2	<0.0	0,1	0,7	0,5	1,2	1,8	2,0	0,2	0,5	<0.0	<6	<7	1,0	0,1	1,1	1,1	<0.0	
Maximum		3	1856	586	91,0	0,4	<0.0	0,3	1,4	1,2	2,5	4,0	5,0	0,4	1,1	<0.0	<14	<16	8,6	0,2	8,7	8,7	<0.0	
St.Dev		1	556	89	21,5	0,1	~0.0	0,1	0,3	0,3	0,5	0,8	1,2	0,1	0,3	~0.0	~3	~3	3,1	0,0	3,1	3,1	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		341	Calc	Calc	341	341	341	
Detection limit		=>		0.05	0.05	0.05	0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngr	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
no.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	1	507	370	<0.04	<0.0	<0.0	0.03	0.02	<0.02
27/1	X	1	626	400	<0.04	<0.0	<0.0	0.04	0.02	<0.02
28/1	X	2	969	464	<0.04	<0.0	<0.0	0.04	0.03	<0.02
29/1	X	3	1381	530	<0.04	<0.0	<0.0	0.04	0.02	<0.02
30/1	X	3	1856	586	<0.04	<0.0	<0.0	0.03	0.02	<0.02
Mean		2	1068	470	<<0.0	<<0.0	<<0.0	0,0	0,0	<<0.0
Minimum		1	507	370	<0.0	<0.0	<0.0	0,0	0,0	<0.0
Maximum		3	1856	586	<0.0	<0.0	<0.0	0,0	0,0	<0.0
St.Dev		1	556	89	~0.0	~0.0	~0.0	0,0	0,0	~0.0
Count		5	5	5	5	5	5	5	5	5

Comments
 Station: Strandebar m fished between 6.-12dec.2001
 fished at 0-20m deph

sample no.
 26 Bulk of NIVA no 12,17,22,23,16
 27 Bulk of NIVA no 20,13,15,24,5
 28 Bulk of NIVA no 11,21,2,3,6
 29 Bulk of NIVA no 14,25,1,4,10
 30 Bulk of NIVA no 7,8,18,19,9

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **23B Karihavet area** Latitude: 59°55.0N Longitude: 5°7.0E
 Catch,date : **19981021** Count: 25 Sample type: **Individual**

Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	HG
no.	F/M	year	g	mm	g	%	%	ppm w.wt
1/1	F	4	386	360	20,0	19,2		0.044
2/1	F	4	661	400	22,2	18,4		0.073
3/1	M	4	732	440	23,3	17,8		0.041
4/1		4	798	440	27,0	20,1		0.135
5/1	M	5	758	450	24,9	17,7		0.037
6/1	F	5	915	450	24,2	18,0		0.094
7/1	M	4	856	460	34,8	19,7		0.090
8/1	M	5	1076	480	24,0	17,9		0.095
9/1	M	5	1050	500	39,2	20,5		0.054
10/1	M	5	1028	510	38,5	19,2		0.072
11/1	M	4	1298	520	49,7	19,2		0.077
12/1	F	5	1284	520	26,0	20,0		0.077
13/1	F	5	1370	530	47,7	20,5		0.075
14/1	M	6	1265	540	34,9	19,3		0.115
15/1	F	5	2081	540	30,4	18,6		0.068
16/1	F	5	1422	550	23,5	19,3		0.110
17/1	F	6	1494	550	42,2	19,6		0.080
18/1	M	6	1567	570		21,7		0.079
19/1	M	5	1873	580	50,6	17,9		0.088
20/1	F	6	2378	580	48,2	19,0		0.141
21/1	M	6	2191	590	62,3	21,0		0.204
22/1	M	6	2965	640	40,0	20,4		0.146
23/1	F	6	3664	680	48,3	20,8		0.117
24/1	M	6	3579	710	53,0	20,9		0.190
25/1	M	7	5551	770	56,9	21,6		0.131
Mean		5	1690	534	37,2	19,5		0,097
Minimum		4	386	360	20,0	17,7		0,037
Maximum		7	5551	770	62,3	21,7		0,204
St.Dev		1	1181	96	12,6	1,2		0,043
Count		25	25	25	24	25		25

sample no.

- | | |
|---------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 fish no.7 Signs of mechanical damage (e.g., net wounds)
Liver and/or intestinal guts with larvae of Anisakis simplex | 23 fish no. 12
Lernaeopodiform copepods Skin with metacercariae of cf. Cryptocotyle lingua |
| 2 fish no. 21 Signs of mechanical damage (e.g., net wounds)
Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepod | 24 fish no. 14 Skin with metacercariae of cf. Cryptocotyle lin Liver with signs of bleeding
Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of An |
| 3 fish no. 2 Skin with metacercariae of cf. Cryptocotyle lingua
Liver and/or intestinal guts with larvae of Anisakis simplex | 25 fish no.6 Skin with metacercariae of cf. Cryptocotyle lingua
Liver and/or intestinal guts with larvae of Anisakis simplex |
| 4 fish no. 25 Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods Gills with Lernaeocera copepods | |

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 fish no. 9 Skin with metacercariae of cf. Cryptocotyle lingua
Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Signs of mechanical damage (e.g., net wounds) | 6 fish no. 20
Liver with signs of bleeding Skin with metacercariae of cf. Cryptocoty
Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Liver and/or intestinal guts with larvae of Anisakis simplex |
| 7 fish no. 17
Skin with met. of cf. Cryptocotyle lingua Skin/oral cavity with caligiform and/or
Liver and/or intestinal guts with larvae of Anisakis simplex Liver with signs of bleeding
Signs of mechanical damage (e.g., net wounds) | 8 fish no. 19 Signs of mechanical damage (e.g., net w
Liver with signs of bleeding
Gills with Lernaeocera copepods Liver and/or intestinal guts with larvae of Anisakis simple |
| 9 fish no. 4 Skin with metacercariae of cf. Cryptocotyle lingua
Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods | 10 fish no. 3
Gills with Lernaeocera copepods Bacterial fin rot
Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods |
| 11 fish no. 5
Bacterial fin rot Skin with ulceration, lymphocytic areas and/or lesions
Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of An
Liver with signs of bleeding | 12 fish no.24 Skin with metacercariae of cf. Cryptocotyle lingua
Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods |
| 13 fish no.11 Liver and/or intestinal guts with larvae of Anisakis simplex
Signs of mechanical damage (e.g., net wounds) | 14 fish no. 22 Skin with metacercariae of cf. Cryptocotyle lingua
Signs of mechanical damage (e.g., net wounds) Liver with signs of bleeding |
| 15 fish no.15 Signs of mechanical damage (e.g., net w
Liver with signs of bleeding | 16 fish no. 1 Signs of mechanical damage (e.g., net wounds)
Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
Skin with ulceration, lymphocytic areas and/or lesions |
| 17 fish no. 13 Signs of mechanical damage (e.g., net wounds)
Bacterial fin rot Liver and/or intestinal guts with larvae of Liver with signs of bleeding | 18 fish no. 23 Skin with metacercariae of cf. Cryptocotyle lingua
Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods |
| 19 fish no.8 Bacterial fin rot Liver with signs of bleeding | 20 fish no.16 Signs of mechanical damage (e.g., net wounds)
Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae
Liver with signs of bleeding |
| 21 fish no. 10 Liver and/or intestinal guts with larvae of Ani Muscle with signs of inner bleeding | 22 fish no. 18 Signs of mechanical damage(e.g.,net wounds) Skin with metacercariae of cf. Cryptocoty
Gills with LernaeoceraLiver/intestinal guts with lar. of A.s Skin/oral cavity with caligifor |

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **23B Karihavet area** Latitude: 59°55.0N Longitude: 5°7.0E
 Catch,date : **19981021** Count: 25 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA					
Analysis code		=>				341	341	341	341	341	341	341	341	341	341	341	341	341	341	341					
Detection limit		=>		Mean		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05					
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	
no.					w.wt	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	F	4	667	418	23,5	0,4	<0.06	<0.06	0.10	0.12	0.29	0.61	1.0	0.06	0.21	<0.06	<2	<2	0.56	<0.06	<0.6	<0.6	<0.6	<0.06	
27/1	M	5	985	480	32,1	0,3	<0.08	<0.08	<0.08	0.11	0.22	0.35	0.66	<0.08	0.14	<0.08	<1	<2	<0.08	<0.08	<0.1	<0.1	<0.1	<0.08	
28/1	F	5	1460	530	37,7	0,3	<0.06	<0.06	<0.06	<0.06	0.08	0.14	0.24	<0.06	<0.06	<0.06	<1	<1	0.14	<0.06	<0.2	<0.2	<0.2	<0.06	
29/1	F	6	1747	566	32,9	0,3	<0.04	<0.04	0.17	0.07	0.13	0.24	0.44	<0.04	0.11	<0.04	<1	<1	0.24	0.38	0.6	0.6	0.6	<0.04	
30/1	M	6	3590	678	52,1	0,3	<0.06	<0.06	0.34	0.29	0.67	0.79	0.76	0.12	0.10	<0.06	<3	<3	0.11	<0.06	<0.2	<0.2	<0.2	<0.06	
Mean		5	1690	534	35,7	0,3	<<0.1	<<0.1	<<0.1	<0.1	0,3	0,4	0,6	<<0.1	<0.1	<<0.1	<<2	<<2	<0.2	<<0.1	<<0.3	<<0.3	<<0.3	<<0.1	
Minimum		4	667	418	23,5	0,3	<0.0	<0.0	<0.1	<0.1	0,1	0,1	0,2	<0.0	<0.1	<0.0	<1	<1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.0	
Maximum		6	3590	678	52,1	0,4	<0.1	<0.1	0,3	0,3	0,7	0,8	1,0	0,1	0,2	<0.1	<3	<3	0,6	0,4	0,6	0,6	0,6	<0.1	
St.Dev		1	1141	98	10,5	0,0	~0.0	~0.0	~0.1	~0.1	0,2	0,3	0,3	~0.0	~0.1	~0.0	~1	~1	~0.2	~0.1	~0.2	~0.2	~0.2	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		341	Calc	Calc	341	341	341	
Detection limit		=>		0.05			0.05	0.05	0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	F	4	667	418	0.06	<0.1	<0.1	0.06	<0.03	<0.03
27/1	M	5	985	480	<0.08	<0.1	<0.1	0.08	<0.04	<0.04
28/1	F	5	1460	530	<0.06	<0.1	<0.1	<0.06	<0.03	<0.03
29/1	F	6	1747	566	0.09	<0.1	<0.1	0.09	<0.02	<0.02
30/1	M	6	3590	678	0.07	<0.1	<0.1	<0.06	<0.03	<0.03
Mean		5	1690	534	<<0.1	<<0.1	<<0.1	<<0.1	<<0.0	<<0.0
Minimum		4	667	418	<0.1	<0.1	<0.1	<0.1	<0.0	<0.0
Maximum		6	3590	678	0,1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	1141	98	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

sample no.

- 26 Bulk of 1-5 (original no. resp. 7,21,2,25,9)
- 27 Bulk of 6-10 (original no. resp. 20,17,19,4,3)
- 28 Bulk of 11-15 (original no. resp. 5,24,11,22,15)
- 29 Bulk of 16-20 (original no. resp. 1,13,23,8,16)
- 30 Bulk of 21-25 (original no. resp. 10,18,12,14,6)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **23B Karihavet area** Latitude: 59°55.0N Longitude: 5°7.0E
 Catch,date : **19990922** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA				
Analysis code =>					310				
Detection limit =>					0.005				
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	HG	
F/M		year	g	mm	g	%	%	ppm	
no.								w.wt	
1/1	F	5	1493	540	24,2	20,3		0.115	
2/1	M	5	1208	490	35,0	19,3		0.118	
3/1	M	4	697	400	27,5	18,6		0.060	
4/1	F	6	2318	600	41,7	20,1		0.194	
5/1	F	5	1135	500	21,1	20,6		0.095	
6/1	M	5	1125	490	25,4	21,4		0.066	
7/1	M	5	698	410	29,7	18,5		0.069	
8/1	F	6	1262	490	28,3	19,9		0.085	
9/1	M	6	2649	650	39,9	20,3		0.100	
10/1	F	7	4938	720	42,0	19,1		0.290	
11/1	M	5	991	480	20,8	20,3		0.076	
12/1	F	6	1852	590	35,9	19,9		0.125	
13/1	F	5	804	450	25,8	20,8		0.079	
14/1	M	4	641	410	27,7	16,7		0.044	
15/1	F	6	1602	550	34,4	21,9		0.112	
16/1	F	5	657	410	23,1	19,6		0.050	
17/1	M	6	1463	540	36,0	21,8		0.150	
18/1	M	5	994	460	29,1	19,2		0.058	
19/1	M	5	1639	570	34,5	20,5		0.119	
20/1	F	7	4408	730	51,0	20,8		0.086	
21/1	F	4	679	410	24,0	20,0		0.063	
22/1	M	4	1081	480	24,3	19,7		0.077	
23/1	F	5	968	470	24,2	20,7		0.052	
24/1	M	4	531	390	23,5	20,1		0.048	
25/1	X	5	971	470	28,0	20,5		0.061	
Mean		5	1472	508	30,3	20,0		0,096	
Minimum		4	531	390	20,8	16,7		0,044	
Maximum		7	4938	730	51,0	21,9		0,290	
St.Dev		1	1097	94	7,6	1,1		0,054	
Count		25	25	25	25	25		25	

sample no

- 5 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Signs of mechanical damage (e.g., net wounds)
- 6 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or Skin with ulceration, lymphocytic areas and/or lesions
- 7 Signs of mechanical damage (e.g., net wounds) Gills with Lernaecocera copepods
- 8 Bacterial fin rot Liver and/or intestinal guts with larvae of Anisakis simplex
- 9 Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisakis simplex Liver with necrotic areas and/or discoloration
- 10 Bacterial fin rot Signs of mechanical damage (e.g., net wounds) Skin with ulceration, lymphocytic areas and/or lesions Liver with necrotic areas and/or discoloration
- 11 Signs of mechanical damage (e.g., net wounds) Skin with ulceration, lymphocytic areas and/or lesions
- 12 Bacterial fin rot Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Signs of mechanical damage (e.g., net wounds)
- 13 Bacterial fin rot Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisakis simplex
- 14 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Skin with ulceration, lymphocytic areas and/or lesions
- 15 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods
- 16 Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 17 Signs of mechanical damage (e.g., net wounds) Gills with Lernaecocera copepods
- 18 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods
- 19 Liver and/or intestinal guts with larvae of Anisakis simplex Signs of mechanical damage (e.g., net wounds) Gills with Lernaecocera copepods Bacterial fin rot
- 20 Liver and/or intestinal guts with larvae of Anisakis simplex
- 21 Liver and/or intestinal guts with larvae of Anisakis simplex Signs of mechanical damage (e.g., net wounds)
- 22 Liver and/or intestinal guts with larvae of Anisakis simplex
- 23 (Bacterial fin rot) Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 24 Liver and/or intestinal guts with larvae of Anisakis simplex
- 25 Skin with ulceration, lymphocytic areas and/or lesions Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex

sample no.

- 1 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisakis simplex
- 2 Bacterial fin rot
- 3 Liver and/or intestinal guts with larvae of Anisakis simplex
- 4 Signs of mechanical damage (e.g., net wounds) Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **23B Karihavet area** Latitude: 59°55.0N Longitude: 5°7.0E
 Catch,date : **19990922** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341			
Detection limit =>				Mean	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05			0.05			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb
no.					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	4	645	404		0,4	<0.06	<0.06	0.08	0.11	0.23	0.26	0.62	0.08	0.13	<0.06	<1	<2	0.19	<0.1	<0.3	<0.3	<0.3	<0.06
27/1	X	5	883	452		0,4	<0.06	<0.06	0.08	<0.06	0.10	0.20	0.33	<0.06	0.08	<0.06	<1	<1	0.15	<0.1	<0.3	<0.3	<0.3	<0.06
28/1	X	5	1133	486		0,4	<0.06	<0.06	<0.06	<0.06	<0.06	0.08	0.14	<0.06	<0.06	<0.06	<0	<0	0.06	<0.1	<0.2	<0.2	<0.2	<0.06
29/1	X	5	1466	540		0,4	<0.06	<0.06	0.09	<0.06	0.11	0.21	0.39	<0.06	0.09	<0.06	<1	<1	0.18	<0.1	<0.3	<0.3	<0.3	<0.06
30/1	X	6	3233	658		0,4	<0.06	<0.06	0.11	0.06	0.17	0.26	0.45	<0.06	0.11	<0.06	<1	<1	0.27	<0.1	<0.4	<0.4	<0.4	<0.06
Mean		5	1472	508		0,4	<<0.1	<<0.1	<0.1	<<0.1	<0.1	0,2	0,4	<<0.1	<0.1	<<0.1	<<1	<<1	0,2	<<0.1	<<0.3	<<0.3	<<0.3	<<0.1
Minimum		4	645	404		0,4	<0.1	<0.1	<0.1	<0.1	<0.1	0,1	0,1	<0.1	<0.1	<0.1	<0	<0	0,1	<0.1	<0.2	<0.2	<0.2	<0.1
Maximum		6	3233	658		0,4	<0.1	<0.1	0,1	0,1	0,2	0,3	0,6	0,1	0,1	<0.1	<1	<2	0,3	<0.1	<0.4	<0.4	<0.4	<0.1
St.Dev		1	1030	97		0,0	~0.0	~0.0	~0.0	~0.0	~0.1	0,1	0,2	~0.0	~0.0	~0.0	~0	~1	0,1	~0.0	~0.1	~0.1	~0.1	~0.0
Count		5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05	0.05	0.05	0.05	0.05	0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	4	645	404	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
27/1	X	5	883	452	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
28/1	X	5	1133	486	<0.06	<0.1	<0.1	0.03	<0.03	<0.03
29/1	X	5	1466	540	<0.06	<0.1	<0.1	0.05	<0.03	<0.03
30/1	X	6	3233	658	<0.06	<0.1	<0.1	0.07	<0.03	<0.03
Mean		5	1472	508	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		4	645	404	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		6	3233	658	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	1030	97	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

sample no.
 26 bulk of NIVA no.s.24,3,7,14,16
 27 Bulk of NIVA no.s.21,13,18,23,25
 28 Bulk of NIVA no.s.11,22,2,6,8
 29 Bulk of NIVA no.s.5,1,17,15,19
 30 bulk of NIVA no.s.12,4,9,10,20

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **23B Karihavet area** Latitude: 59°55.0N Longitude: 5°7.0E
 Catch,date : **20001020** Count: 25 Sample type: **Individual**

Analytical lab.		=>				NIVA		
Analysis code		=>				310		
Detection limit		=>		Mean		0.005		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm
no.								w.wt
1/1	F	4	3960	730	53,2	19,3		0.298
2/1	M	4	2943	670	54,0	18,8		0.087
3/1	F	4	3749	750	67,6	19,4		0.158
4/1	F	4	3276	690	52,8	19,4		0.233
5/1	F	3	4241	740	61,8	19,9		0.181
6/1	M	4	1805	570	38,6	19,5		0.134
7/1	M	3	1483	630	44,8	19,7		0.099
8/1	F	3	2089	570	47,6	20,6		0.089
9/1	F	3	2054	550	58,4	20,2		0.116
10/1	M	3	1697	580	54,0	19,4		0.087
11/1	M	4	2443	580	63,6	20,3		0.077
12/1	M	5	2596	650	72,8	20,4		0.115
13/1	M	3	1760	600	55,2	17,7		0.165
14/1	F	2	1897	550	53,0	20,5		0.124
15/1	F	2	1278	530	45,8	20,1		0.078
16/1	F	2	2922	590	63,8	19,8		0.092
17/1	M	4	1985	580	60,0	19,8		0.082
18/1	F	2	887	450	51,0	19,3		0.065
19/1	F	3	1199	510	49,2	19,4		0.029
20/1	M	2	1196	500	46,6	19,2		0.101
21/1	M	1	838	440	47,8	19,3		0.054
22/1	M	1	425	350	36,6	19,2		0.030
23/1	F	2	1197	520	61,6	20,0		0.109
24/1	F	2	692	420	47,2	19,7		0.072
25/1	F	2	993	470	47,4	19,7		0.089
Mean		3	1984	569	53,4	19,6		0,111
Minimum		1	425	350	36,6	17,7		0,029
Maximum		5	4241	750	72,8	20,6		0,298
St.Dev		1	1052	102	8,8	0,6		0,060
Count		25	25	25	25	25		25

sample no

- | | |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 5 | Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with 1 |
| 6 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 7 | Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with 1 |
| 8 | Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform Lernaepodiform copepods Skin with ulceration, lymphocytic areas and/or lesions |
| 9 | Gills with Lernaecocera copepods Skin with metacercariae of cf. Cryptocotyle lingua |
| 10 | Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with 1 |
| 11 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 12 | Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larva |
| 13 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 14 | Skin with ulceration, lymphocytic areas and/or lesions |
| 15 | Gills with Lernaecocera copepods Skin with metacercariae of cf. Cryptocotyle lingua |
| 16 | Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with 1 |
| 17 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 18 | Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with 1 |
| 19 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 20 | Skin with ulceration, lymphocytic areas and/or lesions |
| 21 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 22 | Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larva |
| 23 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 24 | Skin with ulceration, lymphocytic areas and/or lesions Bacterial fin rot |
| 25 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 26 | Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas |
| 27 | Liver and/or intestinal guts with larvae of Anisakis simplex |
| 28 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 29 | Skin with metacercariae of cf. Cryptocotyle lingua |
| 30 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 31 | Skin with ulceration, lymphocytic areas and/or lesions |
| 32 | Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas |
| 33 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 34 | Age uncertain |
| 35 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 36 | Skin with ulceration, lymphocytic areas and/or lesions Gonad weight <1 |
| 37 | Age uncertain |
| 38 | Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform |
| 39 | Lernaepodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex |
| 40 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 41 | Skin with ulceration, lymphocytic areas and/or lesions |
| 42 | Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform |
| 43 | Lernaepodiform copepods |

sample no.

- | | |
|---|-------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 2 | Skin with ulceration, lymphocytic areas a/o lesions Liver a/o intestinal guts with 1 |
| 3 | Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods |
| 4 | Skin with ulceration, lymphocytic areas a/o lesions Liver a/o intestinal gut |
| 5 | Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic Bacterial fin rot Skin and/or oral cavity with Lernaepodiform copepods |
| 6 | Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform Lernaepodiform copepods Gills with Lernaecocera copepods |
| 7 | Skin with ulceration, lymphocytic areas and/or lesions |

JAMP contaminant data for fish 1998-2001 - Norway

Species : GADU MOR Gadus morhua GB: Cod, N: Torsk
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 23B Karihavet area Latitude: 59°55.0N Longitude: 5°7.0E
 Catch,date : 20001020 Count: 25 Sample type: Bulked

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>		341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	341		
Detection limit		=>		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05	0.05	0.05	0.05		
Samp/ Sex	Age	Wght	Lngt	Mean	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA
repl. F/M	year	g	mm	weight	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.				w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	2	767	426	43,1	0,3	<0.03	<0.03	0.03	0.03	0.07	0.14	0.23	<0.3	0.05	<0.03	<1	<1	0.13	<0.04	<0.2	<0.2	<0.03
27/1	X	2	1385	522	52,3	0,3	<0.03	<0.03	0.04	<0.03	0.04	0.07	0.13	<0.03	0.03	<0.03	<0	<0	0.10	<0.04	<0.1	<0.1	<0.03
28/1	X	2	1986	570	51,4	0,3	<0.03	<0.03	0.03	<0.03	0.07	0.09	0.17	<0.03	0.04	<0.03	<0	<0	0.06	<0.04	<0.1	<0.1	<0.03
29/1	X	3	2149	610	59,3	0,3	<0.03	<0.03	0.05	0.03	0.08	0.13	0.23	<0.03	0.06	<0.03	<1	<1	0.15	<0.04	<0.2	<0.2	<0.03
30/1	X	4	3634	716	59,9	0,2	<0.03	<0.03	0.04	0.03	0.07	0.11	0.17	<0.03	0.03	<0.03	<0	<0	0.12	<0.04	<0.2	<0.2	<0.03
Mean		3	1984	569	53,2	0,3	<<0.0	<<0.0	0,0	<<0.0	0,1	0,1	0,2	<<0.1	0,0	<<0.0	<<0	<<0	0,1	<<0.0	<<0.2	<<0.2	<<0.0
Minimum		2	767	426	43,1	0,2	<0.0	<0.0	0,0	<0.0	0,0	0,1	0,1	<0.0	0,0	<0.0	<0	<0	0,1	<0.0	<0.1	<0.1	<0.0
Maximum		4	3634	716	59,9	0,3	<0.0	<0.0	0,1	0,0	0,1	0,2	<0.3	0,1	<0.0	<1	<1	0,2	<0.0	<0.2	<0.2	<0.2	<0.0
St.Dev		1	1071	107	6,9	0,0	~0.0	~0.0	0,0	~0.0	0,0	0,0	0,0	~0.1	0,0	~0.0	~1	~1	0,0	~0.0	~0.1	~0.1	~0.0
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		341	Calc	Calc	341	341	341	
Detection limit		=>		0.05	0.05	0.05	0.05	0.05	0.05	
Samp/ Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS	
repl. F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	
no.				w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
26/1	X	2	767	426	0.03	<0.1	<0.1	0.05	<0.02	<0.02
27/1	X	2	1385	522	0.03	<0.1	<0.1	0.06	<0.02	<0.02
28/1	X	2	1986	570	0.03	<0.1	<0.1	0.06	<0.02	<0.02
29/1	X	3	2149	610	<0.03	<0.0	<0.0	0.06	<0.02	<0.02
30/1	X	4	3634	716	<0.03	<0.0	<0.0	0.06	<0.02	<0.02
Mean		3	1984	569	<<0.0	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		2	767	426	<0.0	<0.0	<0.0	0,1	<0.0	<0.0
Maximum		4	3634	716	0,0	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	1071	107	~0.0	~0.1	~0.1	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

sample no 26 Bulk of Niva no 22,24,21,18,25 Age uncertain no21,22 Skin with metacercariae of cf. Cryptocotyle lingua 21,18,25
 Skin,oral cavity with caligif,Lern.opodif.copep.22,24,21,25 Skin with ulcerat., lymphocyt. areas a/o lesions 22,24,21,18
 Liver and/or intestinal guts with larvae of Anisakis simp.18

sample no 27 Bulk of NIVA no 20,19,23,15,9 Age uncertain and net wound 9 Skin with metacercariae of cf. Cryptocotyle lingua ,19,23
 Skin a/o oral cavity with caligiform a/o Lernaeopdif.copepod Skin with ulceration, lymphocytic areas , lesions 20,15,9
 Liver and/or intestinal guts with larvae of Anisakis simp.23

sample no 28 Bulk of NIVA no 14,6,8,10,11 Age unc. 10 . Gills,Lern.cop.8. Liver and/or intestinal guts with larvae of Anisakis simplex
 Skin with metacercariae of cf. Cryptocotyle lingua 8,10,11 Skin with ulceration, lymphocytic areas, lesions 14,6,8
 Skin,oral cavity with caligiform ,Lernaeopdif.cop.14,6,8,11

sample no 29 Bulk of NIVA n 17,16,13,7,12. Bakter.rot 17. GillsLern.c.13 Skin with metacercariae of cf. Cryptocotyle lingua16,13,7
 Skin with ulceration, lymphocytic areas, lesions 17,13,7,12 Liver , intestinal guts with larvaeof Anisakis simp.17,16,13
 Skin,oral cavity with caligif.Lernaeopdif.cpoep.17,16,12,7

sample no 30 Bulk of NIVA n 2,4,1,5,3. Bakt rot 3. Gills,Lernaeoc.co.4 Skin with ulceration, lymphocytic areas and/or lesions
 Liver, intestinal guts with larvae of Anisakis simp.2,1,5 Skin, oral cavity with caligi.,Lernaeopdif.copepods1,2,3,4
 Skin with metacercariae of cf. Cryptocotyle lingua 3,4

JAMP contaminant data for fish 1998-2001 - Norway

Species : GADU MOR Gadus morhua GB: Cod, N: Torsk
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 23B Karihavet area Latitude: 59°55.0N Longitude: 5°7.0E
 Catch,date : 20011015 Count: 25 Sample type: Individual

Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	NIVA HG ppm w.wt
1/1	M	3	2261	600	64,1	20,1		0.100
2/1	M	2	1782	560	72,4	19,2		0.107
3/1	F	2	2111	600	79,4	19,7		0.102
4/1	F	4	2473	650	84,8	20,6		0.100
5/1	F	4	3136	620	60,7	20,1		0.131
6/1	M	2	1269	510	43,8	18,1		0.074
7/1	M	3	3127	670	54,5	20,3		0.094
8/1	F	3	2548	590	66,6	20,3		0.151
9/1	M	3	3189	640	48,3	20,9		0.083
10/1	F	3	2490	610	61,7	20,4		0.061
11/1	F	3	2442	620	48,4	19,7		0.133
12/1	F	2	1772	520	46,7	20,3		0.064
13/1	M	2	875	430	43,5	20,0		0.032
14/1	F	3	2877	640	59,7	19,6		0.093
15/1	F	2	1455	540	48,7	19,6		0.105
16/1	F	2	2682	550	57,8	19,4		0.066
17/1	F	3	1692	560	50,1	19,0		0.100
18/1	F	2	893	460	41,5	19,8		0.082
19/1	M	3	1931	570	52,0	19,5		0.070
20/1	M	2	391	350	30,4	19,8		0.046
21/1	F	2	1335	530	51,0	20,2		0.085
22/1	M	2	936	460	41,5	18,1		0.071
23/1	M	3	2444	610	42,8	19,3		0.093
24/1	M	3	3358	700	49,9	19,5		0.086
25/1	F	2	616	390	32,5	19,6		0.065
Mean		3	2003	559	53,3	19,7		0,088
Minimum		2	391	350	30,4	18,1		0,032
Maximum		4	3358	700	84,8	20,9		0,151
St.Dev		1	863	88	13,2	0,7		0,027
Count		25	25	25	25	25		25

Comments

Station: Karihavet area fished between 10.-15. Oct 2001
 fished 5-10m depht

sample no.

- 1 Gills with Lernaeocera copepods Liver and/or intestinal guts with larvae of Anisakis simplex (Skin with metacercariae of cf. Cryptocotyle lingua) (Skin with ulceration, lymphocytic areas and/or lesions)
- 2 Gills with Lernaeocera copepods Skin with ulceration, lymphocytic areas and/or lesions
- 3 Skin with ulceration, lymphocytic areas and/or lesions Signs of mechanical damage (e.g., net wound) Liver and/or intestinal guts with larvae of Anisakis simplex
- 4 Gills with Lernaeocera copepods Skin with ulceration, lymphocytic areas and/or lesions Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 5 Liver and/or intestinal guts with larvae of Anisakis simplex
- 6 Gills with Lernaeocera copepods Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 7 Skin with ulceration, lymphocytic areas and/or lesions Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 8 Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisakis simplex Skin with metacercariae of cf. Cryptocotyle lingua
- 9 Liver and/or intestinal guts with larvae of Anisakis simplex
- 10 Liver and/or intestinal guts with larvae of Anisakis simplex Gills with Lernaeocera copepods Signs of mechanical damage (e.g., net wounds)
- 11 Skin with metacercariae of cf. Cryptocotyle lingua Skin with ulceration, lymphocytic areas and/or Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 12 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera copepods Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Lernaeopodiform copepods
- 13 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 14 Bacterial fin rot Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 15 Gills with Lernaeocera copepods
- 16 Skin with ulceration, lymphocytic areas and/or lesions ! Liver and/or intestinal guts with larvae of Anisakis simplex
- 17 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with larvae of Anisakis simplex
- 18 Signs of mechanical damage (e.g., net wounds)
- 19 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 20 Signs of mechanical damage (e.g., net wounds)
- 21 Liver and/or intestinal guts with larvae of Anisakis simplex
- 22 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Gills with Lernaeocera copepods
- 23 Gills with Lernaeocera copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 24 Liver and/or intestinal guts with larvae of Anisakis simplex
- 25 Gills with Lernaeocera copepods Age uncertain Skin with ulceration, lymphocytic areas and/or lesions Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **23B Karihavet area** Latitude: 59°55.0N Longitude: 5°7.0E
 Catch,date : **20011015** Count: 25 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code		=>				341	341	341	341	341	341	341	341	341	341	341	341	341	341	341				
Detection limit		=>		Mean		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Samp/	Sex	Age	Wght	Lngr	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA
repl.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	2	742	418			0,3	<0.06	<0.06	0.07	0.07	0.14	0.22	0.37	<0.06	0.10	<0.06	<1	<1	0.18	<0.08	<0.3	<0.3	<0.06
27/1	X	2	1702	530			0,3	<0.06	<0.06	<0.06	<0.06	0.08	0.14	0.25	<0.06	0.06	<0.06	<1	<1	0.14	<0.08	<0.2	<0.2	<0.06
28/1	X	3	2043	576			0,3	<0.06	<0.06	<0.06	<0.06	0.06	0.10	0.15	<0.06	<0.06	<0.06	<0	<0	0.14	<0.08	<0.2	<0.2	<0.06
29/1	X	3	2525	612			0,3	<0.06	<0.06	0.10	<0.06	0.13	0.22	0.36	<0.06	0.10	<0.06	<1	<1	0.28	<0.08	<0.4	<0.4	<0.06
30/1	X	3	3005	660			0,3	<0.06	<0.06	0.07	<0.06	0.06	0.11	0.14	<0.06	<0.06	<0.06	<0	<0	0.16	<0.08	<0.2	<0.2	<0.06
Mean		3	2003	559			0,3	<<0.1	<<0.1	<<0.1	<<0.1	0,1	0,2	0,3	<<0.1	<<0.1	<<0.1	<<1	<<1	0,2	<<0.1	<<0.3	<<0.3	<<0.1
Minimum		2	742	418			0,3	<0.1	<0.1	<0.1	<0.1	0,1	0,1	0,1	<0.1	<0.1	<0.1	<0	<0	0,1	<0.1	<0.2	<0.2	<0.1
Maximum		3	3005	660			0,4	<0.1	<0.1	0,1	0,1	0,1	0,2	0,4	<0.1	0,1	<0.1	<1	<1	0,3	<0.1	<0.4	<0.4	<0.1
St.Dev		1	860	92			0,0	~0.0	~0.0	~0.0	~0.0	0,0	0,1	~0.0	~0.0	~0.0	~0.0	~1	~1	0,1	~0.0	~0.1	~0.1	~0.0
Count		5	5	5			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		341	Calc	Calc	341	341	341	
Detection limit		=>		0.05	0.05	0.05	0.05	0.05	0.05	
Samp/	Sex	Age	Wght	Lngr	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
repl.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	2	742	418	<0.06	<0.1	<0.1	0.05	<0.03	<0.03
27/1	X	2	1702	530	<0.06	<0.1	<0.1	0.07	<0.03	<0.03
28/1	X	3	2043	576	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
29/1	X	3	2525	612	<0.03	<0.1	<0.1	0.05	<0.03	<0.03
30/1	X	3	3005	660	<0.06	<0.1	<0.1	0.07	<0.03	<0.03
Mean		3	2003	559	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		2	742	418	<0.0	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		3	3005	660	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	860	92	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

Comments

Station: Karihavet area fished between 10.-15. Oct 2001
 fished 5-10m depth

sample no.

- 26 Bulk of NIVA no 20,25,13,18,22
- 27 Bulk of NIVA no 6,12,21,15,16
- 28 Bulk of NIVA no 17,2,19,8,1
- 29 Bulk of NIVA no 3,10,23,5,11
- 30 Bulk of NIVA no 9,14,4,7,24

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **98B Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **19981015** Count: 25 Sample type: **Individual**

Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG
no.	F/M	year	g	mm	g	%	%	ppm w.wt
1/1	F	4	760	435	59,6	19,2		0.039
2/1	F	4	719	445	55,6	22,4		0.054
3/1	M	5	1333	500	60,7	21,5		0.047
4/1	M	6	1292	530	60,4	19,4		0.172
5/1	M	6	1683	550	59,0	18,9		0.088
6/1	M	6	1928	575	57,5	19,9		0.031
7/1	M	7	2356	580	59,4	18,4		0.132
8/1	F	6	2152	590	56,0	22,1		0.070
9/1	M	7	2491	590	58,1	20,2		0.073
10/1	F	6	2673	600	60,0	21,3		0.053
11/1	M	6	2750	600	59,4	20,6		0.063
12/1	F	7	2379	600	60,4	20,0		0.107
13/1	M	6	3219	610	61,5	21,2		0.269
14/1	F	8	3009	620	60,7	18,8		0.024
15/1	F	7	2949	620	60,2	20,4		0.100
16/1	F	6	3367	640	59,2	19,7		0.091
17/1	F	6	3490	640	66,6	20,7		0.080
18/1	F	8	3552	670	58,9	18,5		0.206
19/1	M	8	2959	670	57,6	19,5		0.081
20/1	M	8	3511	670	63,5	19,8		0.071
21/1	F	7	2817	670	59,9	20,4		0.145
22/1	M	8	3282	680	60,4	21,5		0.133
23/1	M	7	3584	700	59,4	21,2		0.106
24/1	M	9	3373	710	59,4	19,0		0.088
25/1	M	10	3277	710	61,7	19,7		0.066
Mean		7	2596	608	59,8	20,2		0,096
Minimum		4	719	435	55,6	18,4		0,024
Maximum		10	3584	710	66,6	22,4		0,269
St.Dev		1	874	74	2,2	1,1		0,056
Count		25	25	25	25	25		25

sample no.

- 1 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
- 2 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
- 3 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Liver and/or intestinal guts with larvae of Anisakis simplex
- 4 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 5 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 6 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 7 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 8 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
Liver and/or intestinal guts with larvae of Anisakis simplex
- 9 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
Liver and/or intestinal guts with larvae of Anisakis simplex
- 10 Liver and/or intestinal guts with larvae of Anisakis simplex
- 12 Liver and/or intestinal guts with larvae of Anisakis simplex
- 13 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of An:
- 14 Liver and/or intestinal guts with larvae of Anisakis simplex
- 15 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 16 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 17 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of An:
- 18 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 19 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 20 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
Liver and/or intestinal guts with larvae of Anisakis simplex
- 21 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of An:
Liver with signs of bleeding
- 22 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
Liver and/or intestinal guts with larvae of Anisakis simplex
- 23 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 24 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 25 Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **98B Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **19981015** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA																					
Analysis code =>				341																					
Detection limit =>				0.05																					
Samp/	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA	
repl.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	M	5	1158	492	59,1	0,2	<0.04	<0.04	0.08	<0.04	0.06	0.09	0.13	<0.04	<0.04	<0.04	<0	<0	0.13	<0.04	<0.2	<0.2	<0.04		
27/1	M	6	2320	587	58,2	0,3	<0.06	<0.06	0.10	<0.06	0.06	0.08	0.11	<0.06	<0.06	<0.06	<0	<0	0.13	<0.06	<0.2	<0.2	<0.03		
28/1	F	7	2861	610	60,4	0,3	<0.04	<0.04	0.09	<0.04	0.06	0.09	0.12	<0.04	<0.04	<0.04	<0	<0	0.18	0.06	0.2	0.2	<0.04		
29/1	F	7	3376	658	61,2	0,4	<0.06	<0.06	0.15	<0.06	0.13	0.16	0.23	<0.06	<0.06	<0.06	<1	<1	0.34	0.07	0.4	0.4	<0.06		
30/1	M	8	3267	694	60,2	0,4	<0.04	0.06	0.20	0.09	0.21	0.28	0.38	<0.04	0.08	<0.04	<1	<1	0.48	0.10	0.6	0.6	<0.04		
Mean		7	2596	608	59,8	0,3	<<0.0	<<0.1	0,1	<<0.1	0,1	0,1	0,2	<<0.0	<<0.1	<<0.0	<<0	<<0	0,3	<<0.1	<<0.3	<<0.3	<<0.0		
Minimum		5	1158	492	58,2	0,2	<0.0	<0.0	0,1	<0.0	0,1	0,1	0,1	<0.0	<0.0	<0.0	<0	<0	0,1	<0.0	<0.2	<0.2	<0.0		
Maximum		8	3376	694	61,2	0,4	<0.1	0,1	0,2	0,1	0,2	0,3	0,4	<0.1	0,1	<0.1	<1	<1	0,5	0,1	0,6	0,6	<0.1		
St.Dev		1	905	77	1,2	0,1	~0.0	~0.0	0,1	~0.0	0,1	0,1	0,1	~0.0	~0.0	~0.0	~1	~1	0,2	~0.0	~0.2	~0.2	~0.0		
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
repl.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	M	5	1158	492	0.04	<0.1	<0.1	0.09	<0.02	<0.02
27/1	M	6	2320	587	<0.06	<0.1	<0.1	0.07	<0.03	<0.03
28/1	F	7	2861	610	0.04	<0.1	<0.1	0.10	<0.02	<0.02
29/1	F	7	3376	658	<0.06	<0.1	<0.1	0.11	<0.03	<0.03
30/1	M	8	3267	694	0.04	<0.1	<0.1	0.18	<0.02	<0.02
Mean		7	2596	608	<<0.0	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		5	1158	492	0,0	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		8	3376	694	<0.1	<0.1	<0.1	0,2	<0.0	<0.0
St.Dev		1	905	77	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

sample no.
 26 Bulk of NIVA nos.:1,2,3,4,5
 27 Bulk of NIVA nos.:6,7,8,9,10
 28 Bulk of NIVA nos.:11,12,13,14,15
 29 Bulk of NIVA nos.:16,17,18,19,20
 30 Bulk of NIVA nos.:21,22,23,24,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **98B Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **19990916** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA			
Analysis code =>					310			
Detection limit =>					Mean 0.005			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG
no.	F/M	year	g	mm	g	%	%	ppm w.wt
1/1	F	4	554	400	20,3	21,0		0.081
2/1	M	4	1203	470	20,1	20,8		0.080
3/1	X	2	1138	480	20,2	19,9		0.026
4/1	M	4	1268	490	20,4	20,2		0.074
5/1	F	4	1119	485	19,9	21,1		0.034
6/1	M	3	1521	510	19,9	19,0		0.046
7/1	M	4	1534	510	20,1	20,1		0.025
8/1	M	5	1435	510	19,9	20,6		0.036
9/1	M	5	1467	510	20,3	20,2		0.047
10/1	M	5	1372	515	20,0	19,3		0.188
11/1	M	4	1504	520	20,1	20,4		0.065
12/1	M	6	1615	530	20,1	20,1		0.035
13/1	M	4	1525	530	19,9	20,7		0.028
14/1	F	3	1644	540	19,9	19,9		0.032
15/1	M	4	1969	550	20,3	20,1		0.043
16/1	M	4	1560	550	20,2	19,9		0.029
17/1	M	5	1802	550	20,4	19,5		0.082
18/1	M	3	1718	560	20,3	21,0		0.043
19/1	F	4	1889	570	20,6	21,6		0.039
20/1	F	4	1742	575	19,9	20,3		0.070
21/1	M	3	1830	575	20,3	20,8		0.037
22/1	F	6	2377	580	20,5	20,4		0.060
23/1	F	4	1926	585	20,1	19,6		0.069
24/1	M	6	2519	630	19,9	19,7		0.031
25/1	F	6	2967	640	20,0	20,5		0.066
Mean		4	1648	535	20,1	20,3		0,055
Minimum		2	554	400	19,9	19,0		0,025
Maximum		6	2967	640	20,6	21,6		0,188
St.Dev		1	485	51	0,2	0,6		0,034
Count		25	25	25	25	25		25

sample no.

- 2 Liver and/or intestinal guts with larvae of Anisakis simplex
- 4 Signs of mechanical damage (e.g., net wounds)
- 6 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 8 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 10 Skin with metacercariae of cf. Cryptocotyle lingua Muscle with signs of inner bleeding
- 11 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 12 Liver and/or intestinal guts with larvae of Anisakis simplex
- 15 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera copepods
- 16 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 18 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera copepods
- Liver and/or intestinal guts with larvae of Anisakis simplex
- 19 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 20 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Muscle with signs of inner bleeding
- 21 Skin with metacercariae of cf. Cryptocotyle lingua
- 22 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 23 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- Gills with Lernaeocera copepods
- 24 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 25 Skin with metacercariae of cf. Cryptocotyle lingua Gills with Lernaeocera copepods
- Muscle with signs of inner bleeding

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **98B Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **19990916** Count: 25 Sample type: **Bulked**

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA				
Analysis code		=>		341		341		341		341		341		341		341		341		341				
Detection limit		=>		Mean		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA
no.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	4	1056	465			0,4	<0.05	<0.05	0.14	<0.05	0.06	0.13	0.18	<0.05	<0.05	<0.05	<1	<1	0.15	<0.05	<0.2	<0.2	<0.05
27/1	M	4	1466	511			0,4	<0.05	<0.05	0.24	<0.05	0.11	0.19	0.30	<0.05	0.07	<0.05	<1	<1	0.17	<0.05	<0.2	<0.2	<0.05
28/1	X	4	1651	534			0,3	<0.05	<0.05	0.22	<0.05	0.05	0.08	0.10	<0.05	<0.05	<0.05	<1	<1	0.11	<0.05	<0.2	<0.2	<0.05
29/1	X	4	1742	561			0,3	<0.05	<0.05	0.18	<0.05	0.07	0.10	0.13	<0.05	<0.05	<0.05	<1	<1	0.15	<0.05	<0.2	<0.2	<0.05
30/1	X	5	2324	602			0,4	<0.05	<0.05	0.37	0.05	0.10	0.12	0.13	<0.05	<0.05	<0.05	<1	<1	0.16	0.06	0.2	0.2	<0.05
Mean		4	1648	535			0,4	<<0.1	<<0.1	0,2	<<0.1	0,1	0,1	0,2	<<0.1	<<0.1	<<0.1	<<1	<<1	0,1	<<0.1	<<0.2	<<0.2	<<0.1
Minimum		4	1056	465			0,3	<0.1	<0.1	0,1	<0.1	0,1	0,1	0,1	<0.1	<0.1	<0.1	<1	<1	0,1	<0.1	<0.2	<0.2	<0.1
Maximum		5	2324	602			0,4	<0.1	<0.1	0,4	0,1	0,1	0,2	0,3	<0.1	0,1	<0.1	<1	<1	0,2	0,1	0,2	0,2	<0.1
St.Dev		1	461	52			0,0	~0.0	~0.0	0,1	~0.0	0,0	0,0	0,1	~0.0	~0.0	~0.0	~0	~0	0,0	~0.0	~0.0	~0.0	~0.0
Count		5	5	5			5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA	
Analysis code		=>		341		Calc		Calc		341	
Detection limit		=>		0.05		0.05		0.05		0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS	
no.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
26/1	X	4	1056	465	<0.05	<0.1	<0.1	0.07	<0.03	<0.03	
27/1	M	4	1466	511	<0.05	<0.1	<0.1	0.08	<0.03	<0.03	
28/1	X	4	1651	534	<0.05	<0.1	<0.1	0.07	<0.03	<0.03	
29/1	X	4	1742	561	<0.05	<0.1	<0.1	0.09	<0.03	<0.03	
30/1	X	5	2324	602	<0.05	<0.1	<0.1	0.12	<0.03	<0.03	
Mean		4	1648	535	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0	
Minimum		4	1056	465	<0.1	<0.1	<0.1	0,1	<0.0	<0.0	
Maximum		5	2324	602	<0.1	<0.1	<0.1	0,1	<0.0	<0.0	
St.Dev		1	461	52	~0.0	~0.0	~0.0	0,0	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	

sample no.
 26 Bulk of NIVA no.s.1,2,3,4,5
 27 Bulk of NIVA no.s.6,7,8,9,10
 28 Bulk of NIVA no.s.11,12,13,14,15
 29 Bulk of NIVA no.s.16,17,18,19,20
 30 Bulk of NIVA no.s.21,22,23,24,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **98B Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **20000921** Count: 25 Sample type: **Individual**

					=>			NIVA
Analytical lab.								310
Analysis code								
Detection limit					Mean			0.005
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	HG
no.	F/M	year	g	mm	g	%	%	ppm w.wt
1/1	F	6	295	330	16,0	16,4		0.131
2/1	M	4	758	445	24,0	18,8		0.082
3/1	M	3	143	310	14,0	18,2		0.079
4/1	F	4	312	330	24,0	17,8		0.046
5/1	F	5	671	430	24,0	17,6		0.081
6/1	F	5	865	460	27,0	16,7		0.105
7/1	M	5	549	390	18,0	16,9		0.117
8/1	F	5	458	370	20,0	18,3		0.051
9/1	M	4	305	310	14,0	18,9		0.061
10/1	F	4	1840	575	41,0	18,5		0.106
11/1	F	4	2346	590	44,0	18,3		0.083
12/1	M	4	510	390	16,0	16,8		0.115
13/1	F	5	1309	470	25,0	19,8		0.083
14/1	M	3	463	370	17,0	17,8		0.060
15/1	M	3	238	300	17,0	19,0		0.059
16/1	M		276	325	46,6	22,1		0.144
17/1	M	4	554	410	52,6	18,2		0.223
18/1	M	5	629	415	52,3	21,4		0.133
19/1	M	4	645	415	51,6	19,5		0.092
20/1	F	3	847	430	51,3	19,6		0.209
21/1	F	5	1089	470	51,1	20,1		0.091
22/1	F	5	1030	485	52,0	21,4		0.093
23/1	M	3	1216	505	53,5	22,3		0.077
24/1	M	6	1706	540	51,0	21,0		0.181
25/1	M	6	2783	625	51,1	19,2		0.089
Mean		4	873	428	34,2	19,0		0,104
Minimum		3	143	300	14,0	16,4		0,046
Maximum		6	2783	625	53,5	22,3		0,223
St.Dev		1	675	91	15,9	1,7		0,046
Count		24	25	25	25	25		25

sample no.

- 1 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of An.
- 2 Skin with metacercariae of cf. Cryptocotyle lingua
- 3 Gills with Lernaeocera copepods
- 4 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of An.
- 5 Skin with metacercariae of cf. Cryptocotyle lingua
- 6 Skin with metacercariae of cf. Cryptocotyle lingua
- 7 Liver and/or intestinal guts with larvae of Anisakis simplex
- 8 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 9 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 10 Gills with Lernaeocera copepods Skin with metacercariae of cf. Cryptocotyle lingua
- 11 Skin with metacercariae of cf. Cryptocotyle lingua
- 12 Skin with metacercariae of cf. Cryptocotyle lingua
- 13 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
- 14 Liver and/or intestinal guts with larvae of Anisakis simplex
- 15 Skin with metacercariae of cf. Cryptocotyle lingua
- 16 sex code M? Skin with metacercariae of cf. Cryptocotyle lingua
Age impossible to analyz.
- 18 Skin with metacercariae of cf. Cryptocotyle lingua
- 19 Skin with metacercariae of cf. Cryptocotyle lingua
- 22 Fish malodorous

Comments

Station: Lille Molla Date of samling date 21.9.2000 is for fish 1-15
 Fish from 16-25 is fished in des.2000

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **98B Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **20000921** Count: 25 Sample type: **Bulked**

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA				
Analysis code		=>		341		341		341		341		341		341		341		341		341				
Detection limit		=>		Mean		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb	HCHA ppb
26/1	X	3	251	315	21,5		0,3	<0.05	<0.05	0.09	0.09	0.26	0.48	0.82	<0.05	0.19	<0.05	<2	<2	0.33	<0.08	<0.4	<0.4	<0.05
27/1	X	4	459	370	19,0		0,3	<0.05	<0.05	<0.05	0.10	0.27	0.54	0.91	<0.05	0.22	<0.05	<2	<2	0.27	<0.08	<0.3	<0.3	<0.05
28/1	X	4	669	420	46,4		0,3	<0.05	0.07	0.18	0.16	0.42	0.66	1.2	0.06	0.27	<0.05	<3	<3	0.46	<0.08	<0.5	<0.5	<0.05
29/1	X	5	1010	466	35,8		0,3	<0.05	<0.05	0.15	0.12	0.34	0.57	0.86	<0.05	0.17	<0.05	<2	<2	0.56	<0.08	<0.6	<0.6	<0.05
30/1	X	5	1978	567	48,1		0,3	<0.10	<0.10	0.12	<0.10	0.22	0.29	0.46	<0.10	<0.10	<0.10	<1	<1	0.40	<0.15	<0.6	<0.6	<0.10
Mean		4	873	428	34,2		0,3	<<0.1	<<0.1	<0.1	<0.1	0,3	0,5	0,9	<<0.1	<0.2	<<0.1	<<2	<<2	0,4	<<0.1	<<0.5	<<0.5	<<0.1
Minimum		3	251	315	19,0		0,3	<0.1	<0.1	<0.1	0,1	0,2	0,3	0,5	<0.1	<0.1	<0.1	<1	<1	0,3	<0.1	<0.3	<0.3	<0.1
Maximum		5	1978	567	48,1		0,3	<0.1	<0.1	0,2	0,2	0,4	0,7	1,2	<0.1	0,3	<0.1	<3	<3	0,6	<0.1	<0.6	<0.6	<0.1
St.Dev		1	678	96	13,6		0,0	~0.0	~0.0	~0.1	~0.0	0,1	0,1	0,3	~0.0	~0.1	~0.0	~1	~1	0,1	~0.0	~0.1	~0.1	~0.0
Count		5	5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>		NIVA		NIVA		NIVA		
Analysis code		=>		341		Calc		Calc		
Detection limit		=>		0.05		0.05		0.05		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
26/1	X	3	251	315	<0.05	<0.1	<0.1	0.06	<0.03	<0.05
27/1	X	4	459	370	<0.05	<0.1	<0.1	0.06	<0.03	<0.05
28/1	X	4	669	420	<0.05	<0.1	<0.1	0.12	<0.03	<0.05
29/1	X	5	1010	466	<0.05	<0.1	<0.1	0.10	<0.03	<0.05
30/1	X	5	1978	567	<0.10	<0.1	<0.1	0.11	<0.05	<0.10
Mean		4	873	428	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.1
Minimum		3	251	315	<0.1	<0.1	<0.1	0,1	<0.0	<0.1
Maximum		5	1978	567	<0.1	<0.1	<0.1	0,1	<0.1	<0.1
St.Dev		1	678	96	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

Comments Station: Lille Molla Date of samling date 21.9.2000 is for fish 1-15 sample no.

- 26 Bulk of NIVA no,15,3,9,16,1 None age of no 16 Skin with metacercariae of cf. Cryptocotyle lingua15,16,1,9 Liver a/or intestinal guts with larvae of Anisakis simplx1.9 Skin and/or oral cavity with calig.f and/or Lernaep.cop no9 Gills with Lernaecocera copepods ,no3
- 27 Bulk of NIVA no 4,8,14,7,12 Skin with metacercariae of cf. Cryptocotyle lingua 4,8,12 Liver intestinal guts with larvaeof Anisakis simpl.no4,14,7 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepodsno,8,12
- 28 Bulk of NIVA no 17,18,19,5,20 Age uncertain no 18 Skin with metacercariae of cf. Cryptocotyle lingua no18,19,5
- 29 Bulk of NIVA no 2,6,13,21,22 Skin with metacercariae of cf. Cryptocotyle lingua no2,6 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 13
- 30 Bulk of NIVA no 23,24,10,11,25 Skin with metacercariae of cf. Cryptocotyle lingua no 23,10,11 Gills with Lernaecocera copepods no 10

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **98B Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **20010918** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA				
Analysis code =>					310				
Detection limit =>					0.005				
Samp/ repl.	Sex	Age year	Wght g	Lngr mm	Mean weight g	Dry %	Fat %	HG ppm	
no.	F/M	year	g	mm					w.wt
1/1	F	5	491	377	21,2	18,2		0.096	
2/1	M	6	898	500	22,6	17,4		0.064	
3/1	F	6	1388	555	26,5	19,0		0.115	
4/1	M	5	640	427	20,3	19,2		0.033	
5/1	M	4	1182	540	36,9	16,3		0.330	
6/1	X	5	1652	572	35,9	18,9		0.056	
7/1	F	5	449	360	21,7	18,9		0.047	
8/1	F	4	205	291	18,0	18,5		0.065	
9/1	F	5	332	316	22,0	18,9		0.043	
10/1	M	5	691	404	22,2	19,8		0.038	
11/1	M	4	447	367	31,1	19,2		0.049	
12/1	F	4	518	399	27,8	16,7		0.119	
13/1	M	4	420	348	27,2	19,6		0.036	
14/1	F	5	698	436	30,1	16,8		0.048	
15/1	M	2	137	260	10,5	18,2		0.036	
16/1	M	3	155	255	16,7	18,1		0.056	
17/1	F	2	113	235	11,6	19,7		0.014	
18/1	F	4	975	519	26,9	14,9		0.094	
19/1	M	6	2003	630	43,7	18,3		0.080	
20/1	F	5	2148	595	41,9	19,1		0.097	
21/1	F	4	1012	468	39,5	19,5		0.060	
22/1	F	3	291	285	20,4	18,1		0.047	
23/1	M	4	532	378	27,9	18,7		0.039	
24/1	M	3	197	290	15,6	15,2		0.073	
25/1	F	4	476	381	23,3	17,3		0.048	
Mean		4	722	408	25,7	18,2		0,071	
Minimum		2	113	235	10,5	14,9		0,014	
Maximum		6	2148	630	43,7	19,8		0,330	
St.Dev		1	568	114	8,8	1,3		0,060	
Count		25	25	25	25	25		25	

sample no.

- 1 Skin with metacercariae of cf. Cryptocotyle lingua
- 2 Skin with metacercariae of cf. Cryptocotyle lingua
- 3 Skin with metacercariae of cf. Cryptocotyle lingua
- 4 Skin with metacercariae of cf. Cryptocotyle lingua
- 5 Skin with metacercariae of cf. Cryptocotyle lingua
- 6 Skin with metacercariae of cf. Cryptocotyle lingua
- 7 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods Age uncert:
Liver with necrotic areas and/or discolouration Signs of mechanical damage (e.g., net wounds)
- 8 Skin with metacercariae of cf. Cryptocotyle lingua
- 9 Skin with metacercariae of cf. Cryptocotyle lingua Liver with necrotic areas and/or discolouratio:
Liver with necrotic cysts or tumors
- 10 Skin with metacercariae of cf. Cryptocotyle lingua Liver with necrotic areas and/or discolouratio:
Liver with necrotic cysts or tumors
- 11 Liver with necrotic areas and/or discolouration Liver with necrotic cysts or tumors
- 12 Skin with metacercariae of cf. Cryptocotyle lingua
- 13 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of An:
- 14 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Gills with Lernaeocera copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 15 Skin with metacercariae of cf. Cryptocotyle lingua
- 16 Skin with metacercariae of cf. Cryptocotyle lingua Liver and/or intestinal guts with larvae of An:
Liver with necrotic areas and/or discolouration Liver with necrotic cysts or tumors
- 17 Skin with metacercariae of cf. Cryptocotyle lingua
- 18 Skin with metacercariae of cf. Cryptocotyle lingua
- 19 Liver with necrotic areas and/or discolouration Liver with signs of bleeding
- 20 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Skin with metacercariae of cf. Cryptocotyle lingua
- 21 Skin with metacercariae of cf. Cryptocotyle lingua
- 22 Skin with metacercariae of cf. Cryptocotyle lingua
- 23 Skin with metacercariae of cf. Cryptocotyle lingua
- 24 Skin with metacercariae of cf. Cryptocotyle lingua Skin and/or oral cavity with caligiform and/or
Lernaeopodiform copepods
- 25 Skin with metacercariae of cf. Cryptocotyle lingua

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **98B Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **20010918** Count: 25 Sample type: **Bulked**

Analytical lab.				NIVA																					
Analysis code				341																					
Detection limit				0.05																					
Samp/	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA	
repl.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
26/1	X	3	179	265	15,0	0,4	<0.04	<0.04	0.07	0.06	0.18	0.31	0.49	<0.04	0.10	<0.04	<1	<1	0.38	<0.06	<0.4	<0.4	<0.4	<0.04	
27/1	X	4	370	336	24,0	0,4	<0.04	<0.04	0.08	0.07	0.22	0.41	0.65	<0.04	0.12	<0.04	<2	<2	0.38	<0.06	<0.4	<0.4	<0.4	<0.04	
28/1	X	4	542	388	24,5	0,4	0.08	0.05	0.09	0.08	0.21	0.38	0.54	<0.04	0.13	<0.04	1	<2	0.41	<0.06	<0.5	<0.5	<0.5	<0.04	
29/1	X	5	845	470	27,9	0,3	<0.04	<0.04	0.12	0.08	0.23	0.41	0.61	<0.04	0.13	<0.04	<2	<2	0.52	<0.06	<0.6	<0.6	<0.6	<0.04	
30/1	X	5	1674	578	37,0	0,3	<0.04	<0.04	0.10	0.07	0.17	0.30	0.46	<0.04	0.13	<0.04	<1	<1	0.33	<0.06	<0.4	<0.4	<0.4	<0.04	
Mean		4	722	408	25,7	0,4	<<0.0	<<0.0	0,1	0,1	0,2	0,4	0,6	<<0.0	0,1	<<0.0	<<1	<<2	0,4	<<0.1	<<0.5	<<0.5	<<0.5	<<0.0	
Minimum		3	179	265	15,0	0,3	<0.0	<0.0	0,1	0,1	0,2	0,3	0,5	<0.0	0,1	<0.0	<1	<1	0,3	<0.1	<0.4	<0.4	<0.4	<0.0	
Maximum		5	1674	578	37,0	0,4	0,1	0,1	0,1	0,2	0,4	0,7	<0.0	0,1	<0.0	<2	<2	0,5	<0.1	<0.6	<0.6	<0.6	<0.6	<0.0	
St.Dev		1	586	121	7,9	0,0	~0.0	~0.0	0,0	0,0	0,1	0,1	~0.0	0,0	~0.0	~1	~1	0,1	~0.0	~0.1	~0.1	~0.1	~0.1	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code				341	Calc	Calc	341	341	341	
Detection limit				0.05			0.05	0.05	0.05	
Samp/	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
repl.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	3	179	265	<0.04	<0.0	<0.0	0.04	<0.02	<0.02
27/1	X	4	370	336	<0.04	<0.0	<0.0	0.06	<0.02	<0.02
28/1	X	4	542	388	<0.04	<0.0	<0.0	0.05	<0.02	<0.02
29/1	X	5	845	470	<0.04	<0.0	<0.0	0.06	<0.02	<0.02
30/1	X	5	1674	578	<0.04	<0.0	<0.0	0.08	<0.02	<0.02
Mean		4	722	408	<<0.0	<<0.0	<<0.0	0,1	<<0.0	<<0.0
Minimum		3	179	265	<0.0	<0.0	<0.0	0,0	<0.0	<0.0
Maximum		5	1674	578	<0.0	<0.0	<0.0	0,1	<0.0	<0.0
St.Dev		1	586	121	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

sample no.
 26 Bulk of NIVA no 17,16,15,22,24
 27 Bulk of NIVA no 8,9,13,7,11
 28 Bulk of NIVA no 1,23,25,12,10
 29 Bulk of NIVA no 4,14,21,2,18
 30 Bulk of NIVA no 5,3,6,20,19

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **10B Varangerfjorden** Latitude: 69°56.0N Longitude: 29°40.0E
 Catch,date : **19981203** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA			
Analysis code =>					310			
Detection limit =>					Mean 0.005			
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm w.wt
1/1	M	5	498	390	55,2	19,9		0.012
2/1	F	5	602	390	53,4	20,5		0.014
3/1	F	6	508	400	52,2	18,9		0.028
4/1	M	5	598	400	56,0	20,3		0.012
5/1	M	6	761	415	56,9	19,8		0.016
6/1	F	6	861	430	56,0	20,6		0.013
7/1	M	6	726	430	59,3	20,9		0.009
8/1	M	6	736	440	55,5	19,8		0.008
9/1	M	6	770	445	57,6	20,0		0.010
10/1	F	6	1042	450	61,3	21,2		0.016
11/1	F	7	993	455	61,7	20,1		0.016
12/1	M	5	952	455	57,2	19,6		0.018
13/1	M	7	1081	470	58,2	20,5		0.017
14/1	F	7	1040	485	56,7	20,2		0.034
15/1	M	7	1057	500	57,2	20,0		0.014
16/1	M	6	1068	500	60,0	20,1		0.010
17/1	F	7	1057	500	57,5	20,8		0.009
18/1	F	7	1351	510	58,2	20,5		0.018
19/1	M	7	1653	520	62,7	21,5		0.035
20/1	M	7	1693	520	70,5	22,6		0.020
21/1	M	6	1233	530	61,9	21,1		0.027
22/1	F	6	1242	530	61,0	20,1		0.015
23/1	M	6	1723	550	62,8	21,1		0.050
24/1	M	8	1895	600	58,5	20,0		0.035
25/1	F	8	2374	640	60,2	20,6		0.017
Mean		6	1100	478	58,7	20,4		0,019
Minimum		5	498	390	52,2	18,9		0,008
Maximum		8	2374	640	70,5	22,6		0,050
St.Dev		1	466	64	3,7	0,7		0,010
Count		25	25	25	25	25		25

sample no.

- 1 Muscle with signs of inner bleeding Gills with Lernaeocera copepods
Liver and/or intestinal guts with larvae of Anisakis simplex
- 2 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 3 Liver and/or intestinal guts with larvae of Anisakis simplex
- 4 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 5 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 6 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 7 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 8 Liver and/or intestinal guts with larvae of Anisakis simplex Gills with Lernaeocera copepods
- 9 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
Liver with signs of bleeding Fish malodorous
- 10 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 11 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 12 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 13 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 14 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 15 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
Liver with necrotic areas and/or discolouration
- 16 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 17 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 18 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
Fish malodorous
- 19 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 20 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 21 Liver and/or intestinal guts with larvae of Anisakis simplex
- 22 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 23 Liver and/or intestinal guts with larvae of Anisakis simplex
- 24 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex
- 25 Muscle with signs of inner bleeding Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **10B Varangerfjorden** Latitude: 69°56.0N Longitude: 29°40.0E
 Catch,date : **19981203** Count: 25 Sample type: **Bulked**

Analytical lab.				NIVA																					
Analysis code				341																					
Detection limit				0.05																					
Samp/	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA	
repl.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	M	5	594	399	54,7		0,4	<0.04	0.06	0.09	0.09	0.20	0.27	0.32	<0.04	0.06	<0.04	<1	<1	0.41	0.09	0.5	0.5	<0.04	
27/1	M	6	827	439	57,9		0,4	<0.04	0.04	0.09	0.06	0.10	0.13	0.15	<0.04	<0.04	<0.04	<1	<1	0.22	0.06	0.3	0.3	<0.04	
28/1	M	7	1025	473	58,2		0,4	<0.04	0.06	0.13	0.09	0.21	0.24	0.26	<0.04	0.05	<0.04	<1	<1	0.33	0.08	0.4	0.4	<0.04	
29/1	M	7	1364	510	61,8		0,4	<0.04	0.06	0.13	0.06	0.13	0.16	0.07	<0.04	0.04	<0.04	<1	<1	0.24	0.11	0.3	0.3	<0.04	
30/1	M	7	1693	570	60,9		0,4	<0.04	0.06	0.12	0.07	0.15	0.20	0.20	<0.04	0.04	<0.04	<1	<1	0.26	0.08	0.3	0.3	<0.04	
Mean		6	1101	478	58,7		0,4	<<0.0	0,1	0,1	0,1	0,2	0,2	<<0.0	<0.0	<<0.0	<<1	<<1	0,3	0,1	0,4	0,4	<<0.0		
Minimum		5	594	399	54,7		0,4	<0.0	0,0	0,1	0,1	0,1	0,1	0,1	<0.0	<0.0	<0.0	<1	<1	0,2	0,1	0,3	0,3	<0.0	
Maximum		7	1693	570	61,8		0,5	<0.0	0,1	0,1	0,1	0,2	0,3	0,3	<0.0	0,1	<0.0	<1	<1	0,4	0,1	0,5	0,5	<0.0	
St.Dev		1	436	66	2,8		0,0	~0.0	0,0	0,0	0,0	0,0	0,1	0,1	~0.0	~0.0	~0.0	~0	~0	0,1	0,0	0,1	0,1	~0.0	
Count		5	5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code				341	Calc	Calc	341	341	341	
Detection limit				0.05			0.05	0.05	0.05	
Samp/	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
repl.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	M	5	594	399	0.04	<0.1	<0.1	0.17	<0.02	<0.02
27/1	M	6	827	439	<0.04	<0.0	<0.0	0.14	<0.02	<0.02
28/1	M	7	1025	473	0.04	<0.1	<0.1	0.18	<0.02	<0.02
29/1	M	7	1364	510	<0.04	<0.0	<0.0	0.16	<0.02	<0.02
30/1	M	7	1693	570	<0.04	<0.0	<0.0	0.17	<0.02	<0.02
Mean		6	1101	478	<<0.0	<<0.0	<<0.0	0,2	<<0.0	<<0.0
Minimum		5	594	399	<0.0	<0.0	<0.0	0,1	<0.0	<0.0
Maximum		7	1693	570	0,0	<0.1	<0.1	0,2	<0.0	<0.0
St.Dev		1	436	66	~0.0	~0.1	~0.1	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

sample no.
 26 Bulk of NIVA nos.:1,2,3,4,5
 27 Bulk of NIVA nos.:6,7,8,9,10
 28 Bulk of NIVA nos.:11,12,13,14,15
 29 Bulk of NIVA nos.:16,17,18,19,20
 30 Bulk of NIVA nos.:21,22,23,24,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **10B Varangerfjorden** Latitude: 69°56.0N Longitude: 29°40.0E
 Catch,date : **19990929** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA			
Analysis code =>					310			
Detection limit =>					Mean 0.005			
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm w.wt
1/1	M	3	569	415		19,9		0.011
2/1	M	3	626	415	57,6	19,1		0.007
3/1	M	3	667	420	50,4	21,2		0.012
4/1	M	3	649	420	53,1	20,1		0.020
5/1	M	4	738	445	53,4	19,3		0.021
6/1	M	3	806	450	51,2	21,5		0.016
7/1	M	4	793	450	53,1	20,1		0.017
8/1	M	4	790	455	55,5	20,2		0.016
9/1	M	3	954	460	54,3	19,5		0.026
10/1	F	4	727	465	56,5	19,4		0.027
11/1	M	4	873	485	54,5	20,5		0.016
12/1	F	4	936	500	50,2	19,8		0.018
13/1	F	4	1040	500	52,5	19,2		0.019
14/1	F	4	910	510	57,2	18,8		0.020
15/1	F	4	941	510	55,6	18,7		0.055
16/1	M	4	1091	515	54,1	19,4		0.015
17/1	F	4	1165	545	54,1	20,3		0.040
18/1	M	4	1085	545	52,7	17,9		0.038
19/1	F	4	1199	545	59,3	19,8		0.017
20/1	F	4	1299	545	75,1	23,5		0.023
21/1	F	4	1094	540	53,5	17,6		0.039
22/1	F	4	1176	545	56,1	19,6		0.031
23/1	F	3	1049	550	64,6	18,5		0.072
24/1	F	4	1232	560	58,5	19,8		0.015
25/1	F	8	4137	775	52,0	19,8		0.033
Mean		4	1062	503	55,6	19,7		0,025
Minimum		3	569	415	50,2	17,6		0,007
Maximum		8	4137	775	75,1	23,5		0,072
St.Dev		1	673	75	5,2	1,2		0,015
Count		25	25	25	24	25		25

sample no.

- 1 Liver and/or intestinal guts with larvae of Anisakis simplex
- 2 Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisaki:
- 3 Liver and/or intestinal guts with larvae of Anisakis simplex
- 4 Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
Liver and/or intestinal guts with larvae of Anisakis simplex
- 5 Liver and/or intestinal guts with larvae of Anisakis simplex
- 6 Liver and/or intestinal guts with larvae of Anisakis simplex
- 7 Liver and/or intestinal guts with larvae of Anisakis simplex
- 8 Gills with Lernaeocera copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 9 Liver and/or intestinal guts with larvae of Anisakis simplex
- 10 Liver and/or intestinal guts with larvae of Anisakis simplex
- 11 Gills with Lernaeocera copepods Liver and/or intestinal guts with larvae of Anisakis simplex
- 12 Liver and/or intestinal guts with larvae of Anisakis simplex
- 13 Liver and/or intestinal guts with larvae of Anisakis simplex
- 14 Liver and/or intestinal guts with larvae of Anisakis simplex
- 15 Liver and/or intestinal guts with larvae of Anisakis simplex
- 16 Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisaki:
- 17 Liver and/or intestinal guts with larvae of Anisakis simplex
- 18 Liver and/or intestinal guts with larvae of Anisakis simplex
- 19 Liver and/or intestinal guts with larvae of Anisakis simplex
- 20 Liver and/or intestinal guts with larvae of Anisakis simplex
- 21 Liver and/or intestinal guts with larvae of Anisakis simplex
- 22 Liver and/or intestinal guts with larvae of Anisakis simplex
- 23 Liver and/or intestinal guts with larvae of Anisakis simplex
- 24 Liver and/or intestinal guts with larvae of Anisakis simplex
- 25 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **10B Varangerfjorden** Latitude: 69°56.0N Longitude: 29°40.0E
 Catch,date : **19990929** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA																					
Analysis code =>				341																					
Detection limit =>				0.05																					
Samp/	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣΣ	HCHA	
repl.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
26/1	M	3	650	423	52,9		0,5	<0.05	0.06	0.33	0.06	0.12	0.14	0.17	<0.05	<0.05	<0.05	<1	<1	0.22	0.05	0.3	0.3	<0.02	
27/1	X	4	814	456	54,1		0,4	<0.05	0.10	0.55	0.12	0.26	0.40	0.40	0.03	0.08	<0.03	<2	<2	0.44	0.11	0.6	0.6	<0.02	
28/1	X	4	950	501	54,0		0,4	<0.04	0.09	0.48	0.09	0.18	0.26	0.30	<0.04	0.06	<0.04	<1	<2	0.41	0.10	0.5	0.5	<0.02	
29/1	X	4	1127	538	54,7		0,4	<0.05	0.06	0.51	0.07	0.13	0.19	0.22	<0.05	0.05	<0.02	<1	<1	0.28	0.07	0.3	0.3	<0.03	
30/1	F	5	1779	595	61,3		0,4	<0.05	0.10	0.59	0.13	0.30	0.43	0.53	<0.05	0.10	<0.03	<2	<2	0.46	0.10	0.6	0.6	<0.03	
Mean		4	1064	503	55,4		0,4	<<0.0	0,1	0,5	0,1	0,2	0,3	0,3	<<0.0	<0.1	<<0.0	<<1	<<2	0,4	0,1	0,5	0,5	<<0.0	
Minimum		3	650	423	52,9		0,4	<0.0	0,1	0,3	0,1	0,1	0,1	0,2	0,0	<0.1	<0.0	<1	<1	0,2	0,1	0,3	0,3	<0.0	
Maximum		5	1779	595	61,3		0,5	<0.1	0,1	0,6	0,1	0,3	0,4	0,5	<0.1	0,1	<0.1	<2	<2	0,5	0,1	0,6	0,6	<0.0	
St.Dev		1	436	68	3,3		0,0	~0.0	0,0	0,1	0,0	0,1	0,1	~0.0	~0.0	~0.0	~0.0	~1	~1	0,1	0,0	0,2	0,2	~0.0	
Count		5	5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>				NIVA						
Analysis code =>				341						
Detection limit =>				0.05						
Samp/	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
repl.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	M	3	650	423	0.03	<0.1	<0.1	0.20	<0.02	<0.02
27/1	X	4	814	456	0.03	<0.1	<0.1	0.32	<0.02	0.02
28/1	X	4	950	501	0.03	<0.1	<0.1	0.26	<0.02	0.02
29/1	X	4	1127	538	0.03	<0.1	<0.1	0.26	<0.02	<0.02
30/1	F	5	1779	595	<0.03	<0.0	<0.0	0.26	<0.02	0.02
Mean		4	1064	503	<0.0	<<0.1	<<0.1	0,3	<<0.0	<<0.0
Minimum		3	650	423	<0.0	<0.0	<0.0	0,2	<0.0	<0.0
Maximum		5	1779	595	0,0	<0.1	<0.1	0,3	<0.0	0,0
St.Dev		1	436	68	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

- sample no.
- 26 Bulk of NIVA no.1,2,3,4,5 Skin with metacercariae of cf. Cryptocotyle lingua (4)
Signs of mechanical damage (e.g., net wounds)(2,4) Liver and/or intestinal guts with larvae of Anisakis simplex
 - 27 Bulk of NIVA no.6,7,8,9,10 Gills with Lernaeocera copepods (8)
Liver and/or intestinal guts with larvae of Anisakis simplex
 - 28 Bulk of NIVA no.11,12,13,14,15 Gills with Lernaeocera copepods(11)
Liver and/or intestinal guts with larvae of Anisakis simplex
 - 29 Bulk of NIVA no.16,21,17,18,19 Signs of mechanical damage (e.g., net wounds)(16)
Liver and/or intestinal guts with larvae of Anisakis simplex
 - 30 Bulk of NIVA no.20,22,23,24,25 Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **10B Varangerfjorden** Latitude: 69°56.0N Longitude: 29°40.0E
 Catch,date : **20000918** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA			
Analysis code =>					310			
Detection limit =>					Mean	0.005		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG
no.	F/M	year	g	mm	g	%	%	ppm
					w.wt			
1/1	M	2	270	320	20,7	19,7		0.009
2/1	M	3	427	375	29,3	19,7		0.016
3/1	F	3	382	370	21,7	19,9		0.020
4/1	F	3	237	310	14,1	20,1		0.012
5/1	F	2	275	335	10,4	19,3		0.015
6/1	M	4	806	440	43,1	21,2		0.015
7/1	M	3	265	320	16,8	19,6		0.010
8/1	M	2	251	315	17,6	19,6		0.012
9/1	F	3	207	310	18,1	19,0		0.011
10/1	F	3	301	325	10,3	19,2		0.013
11/1	F	2	228	310	20,2	18,9		0.015
12/1	F	2	358	350	21,2	19,3		0.014
13/1	M	3	416	360	22,2	19,5		0.011
14/1	F	3	425	370	20,8	20,1		0.012
15/1	F	3	346	340	21,6	19,7		0.010
16/1	F	3	322	340	17,4	19,0		0.015
17/1	M	2	239	300	18,1	19,6		0.007
18/1	F	3	376	350	24,0	18,9		0.017
19/1	M	2	207	300	14,1	18,8		0.008
20/1	M	2	138	260	11,8	19,1		0.008
21/1	M	3	533	310	17,0	19,5		0.019
22/1	F	3	346	350	20,2	18,8		0.017
23/1	M	3	407	375	15,5	18,8		0.034
24/1	M	3	281	330	18,0	18,9		0.008
25/1	M	2	247	320	21,5	20,1		0.009
Mean		3	332	335	19,4	19,5		0,013
Minimum		2	138	260	10,3	18,8		0,007
Maximum		4	806	440	43,1	21,2		0,034
St.Dev		1	133	35	6,5	0,6		0,006
Count		25	25	25	25	25		25

sample no.

- 2 Gills with Lernaeocera copepods
- 3 Gills with Lernaeocera copepods
- 4 Liver and/or intestinal guts with larvae of Anisakis simplex
- 5 Gills with Lernaeocera copepods
- 6 Skin with ulceration, lymphocytic areas and/or lesions Liver and/or intestinal guts with la
- 9 Gills with Lernaeocera copepods
- 11 Gills with Lernaeocera copepods Liver and/or intestinal guts with larvae of Anisakis simple
- 14 Gills with Lernaeocera copepods
- 15 Gills with Lernaeocera copepods
- 17 Liver and/or intestinal guts with larvae of Anisakis simplex

sample no.

- 18 Liver and/or intestinal guts with larvae of Anisakis simplex Age uncertain
- 19 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Liver and/or intestinal guts with larvae of Anisakis simplex
- 20 Liver and/or intestinal guts with larvae of Anisakis simplex
- 22 Liver and/or intestinal guts with larvae of Anisakis simplex
- 23 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
Gills with Lernaeocera copepods Age uncertain
- 24 Liver and/or intestinal guts with larvae of Anisakis simplex
- 25 Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **10B Varangerfjorden** Latitude: 69°56.0N Longitude: 29°40.0E
 Catch,date : **20000918** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA																					
Analysis code =>				341																					
Detection limit =>				0.05																					
Samp/	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA	
repl.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	2	206	296	15,2		0,5	<0.1	0.04	0.12	0.05	0.12	0.18	0.23	<0.1	0.04	miss	<1	<1	0.26	<0.06	<0.3	<0.3	<0.05	
27/1	X	2	309	315	18,5		0,4	<0.05	<0.05	0.07	<0.05	0.06	0.08	0.10	<0.05	<0.05	miss	<0	<0	0.11	<0.06	<0.2	<0.2	<0.04	
28/1	X	3	290	330	16,4		0,4	<0.05	<0.05	0.09	0.04	0.09	0.13	0.16	<0.05	0.03	miss	<1	<1	0.18	<0.05	<0.2	<0.2	<0.04	
29/1	X	3	364	350	21,0		0,4	<0.05	<0.05	0.08	0.04	0.08	0.11	0.15	<0.05	0.03	<0.05	<1	<1	0.15	<0.05	<0.2	<0.2	<0.04	
30/1	X	3	489	386	26,1		0,4	<0.04	<0.04	0.08	0.03	0.07	0.09	0.13	<0.04	0.03	miss	<0	<0	0.10	<0.04	<0.1	<0.1	<0.03	
Mean		3	332	335	19,4		0,4	<<0.1	<<0.0	0,1	<0.0	0,1	0,1	0,2	<<0.1	<0.0	<<0.1	<<1	<<1	0,2	<<0.1	<<0.2	<<0.2	<<0.0	
Minimum		2	206	296	15,2		0,4	<0.0	<0.0	0,1	0,0	0,1	0,1	0,1	<0.0	0,0	<0.1	<0	<0	0,1	<0.0	<0.1	<0.1	<0.0	
Maximum		3	489	386	26,1		0,5	<0.1	<0.1	0,1	0,1	0,1	0,2	0,2	<0.1	<0.1	<0.1	<1	<1	0,3	<0.1	<0.3	<0.3	<0.1	
St.Dev		0	105	35	4,3		0,0	~0.0	~0.0	0,0	~0.0	0,0	0,0	0,0	~0.0	~0.0	~1	~1	0,1	~0.0	~0.1	~0.1	~0.1	~0.0	
Count		5	5	5	5		5	5	5	5	5	5	5	5	5	5	1	5	5	5	5	5	5	5	

miss(4) ! Missing value

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
repl.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
26/1	X	2	206	296	<0.05	<0.1	<0.1	0.10	<0.05	<0.05
27/1	X	2	309	315	<0.04	<0.0	<0.0	0.09	<0.04	<0.04
28/1	X	3	290	330	<0.04	<0.0	<0.0	0.09	<0.04	<0.04
29/1	X	3	364	350	<0.04	<0.0	<0.0	0.10	<0.04	<0.04
30/1	X	3	489	386	<0.03	<0.0	<0.0	0.09	<0.03	<0.03
Mean		3	332	335	<<0.0	<<0.0	<<0.0	0,1	<<0.0	<<0.0
Minimum		2	206	296	<0.0	<0.0	<0.0	0,1	<0.0	<0.0
Maximum		3	489	386	<0.1	<0.1	<0.1	0,1	<0.1	<0.1
St.Dev		0	105	35	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

miss(4) ! Missing value

sample no.

- 26 Bulk of NIVA no 20,17,19,4,9 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 19 Gills with Lernaecera copepods no 9 Liver a/o intest guts with larvae, Anisakis simpl.20,19,17,4
- 27 Bulk of NIVA no 11,21,8,1,7 Gills with Lernaecera copepods no 11 Liver a/or intestinal guts with larvae of Anisakis simpl.n11
- 28 Bulk of NIVA no 25,10,24,5,15 Gills with Lernaecera copepods no 5,15 Liver a/o intestinal guts with larvae Anisakis simpl.No24,25
- 29 Bulk of NIVA no 16,12,18,22,13 age uncertain no 18 Liver a/o intestinal guts with larvae,Anisakis simpl.no18,22
- 30 Bulk of NIVA no 3,14,2,23,6 Age uncertain no 23 Gills with Lernaecera copepods no,2,3,14,23 Skin with ulceration, lymphocytic areas and/or lesions no6 Liver a/or intestinal guts with larvae,Anisakis simplex no 6 Skin,oral cavity with caligiform,lernaepodiform copepods,23

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **10B Varangerfjorden** Latitude: 69°56.0N Longitude: 29°40.0E
 Catch,date : **20010915** Count: 25 Sample type: **Individual**

Analytical lab. =>					NIVA				
Analysis code =>					310				
Detection limit =>					Mean				
Samp/	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	
repl.	F/M	year	g	mm	g	%	%	ppm	
no.								w.wt	
1/1	F	3	318	338	16,3	20,4		0.009	
2/1	F	2	251	313	17,4	21,1		0.009	
3/1	F	2	423	368	20,4	20,1		0.008	
4/1	F	2	308	335	22,7	19,6		0.009	
5/1	F	3	459	374	27,9	19,9		0.010	
6/1	M	4	1056	486	35,2	19,9		0.027	
7/1	F	2	181	279	13,4	20,0		0.005	
8/1	F	2	253	320	16,6	20,3		0.010	
9/1	M	2	214	300	20,1	19,8		0.007	
10/1	F	2	212	300	18,0	19,7		0.010	
11/1	F	2	309	329	24,3	20,4		0.009	
12/1	F	2	256	316	17,4	18,9		0.011	
13/1	F	2	263	330	22,4	19,2		0.009	
14/1	F	3	311	344	20,7	19,9		0.009	
15/1	M	3	457	372	22,0	20,6		0.011	
16/1	M	2	309	330	22,6	19,6		0.012	
17/1	F	3	390	376	21,2	19,4		0.012	
18/1	M	2	221	303	18,5	19,9		0.007	
19/1	M	2	366	359	24,0	18,8		0.012	
20/1	M	2	266	321	19,8	20,0		0.009	
21/1	M	4	342	356	22,0	20,0		0.033	
22/1	M	2	293	331	20,1	20,4		0.006	
23/1	F	2	320	308	18,8	20,5		0.009	
24/1	F	2	238	311	21,3	19,8		0.008	
25/1	M	3	288	324	22,2	19,0		0.015	
Mean		2	332	337	21,0	19,9		0,011	
Minimum		2	181	279	13,4	18,8		0,005	
Maximum		4	1056	486	35,2	21,1		0,033	
St.Dev		1	168	40	4,2	0,6		0,006	
Count		25	25	25	25	25		25	

sample no.
 1 Liver and/or intestinal guts with larvae of Anisakis simplex
 2 Liver and/or intestinal guts with larvae of Anisakis simplex
 3 Liver and/or intestinal guts with larvae of Anisakis simplex
 5 Liver and/or intestinal guts with larvae of Anisakis simplex
 6 Liver and/or intestinal guts with larvae of Anisakis simplex
 7 Liver and/or intestinal guts with larvae of Anisakis simplex
 8 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 9 sex uncertain Liver and/or intestinal guts with larvae of Anisakis simplex
 10 sex uncertain
 11 Liver and/or intestinal guts with larvae of Anisakis simplex
 12 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 13 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 14 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 15 Liver and/or intestinal guts with larvae of Anisakis simplex
 17 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 18 sex uncertain
 19 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 20 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods
 Liver and/or intestinal guts with larvae of Anisakis simplex
 22 Liver and/or intestinal guts with larvae of Anisakis simplex
 23 Liver and/or intestinal guts with larvae of Anisakis simplex
 24 Liver and/or intestinal guts with larvae of Anisakis simplex
 25 Liver and/or intestinal guts with larvae of Anisakis simplex

JAMP contaminant data for fish 1998-2001 - Norway

Species : **GADU MOR** Gadus morhua GB: Cod, N: Torsk
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **10B Varangerfjorden** Latitude: 69°56.0N Longitude: 29°40.0E
 Catch,date : **20010915** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA																					
Analysis code =>				341																					
Detection limit =>				0.05																					
Samp/	Sex	Age	Wght	Lngt	weight	Dry	Fat	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA	
repl.	F/M	year	g	mm	g	%	%	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	
26/1	X	2	230	298	17,8		0,5	<0.06	miss	0.10	<0.06	0.08	0.11	0.11	<0.06	<0.06	<0.06	<0	<0	0.13	<0.06	<0.2	<0.2	<0.06	
27/1	X	2	253	316	18,5		0,5	<0.06	miss	0.09	<0.06	0.09	0.12	0.13	<0.06	<0.06	<0.06	<0	<0	0.16	<0.06	<0.2	<0.2	<0.06	
28/1	X	2	292	329	22,3		0,5	<0.06	miss	0.11	<0.06	0.12	0.17	0.22	<0.06	<0.06	<0.06	<1	<1	0.23	<0.06	<0.3	<0.3	<0.06	
29/1	X	3	329	346	21,1		0,5	<0.06	miss	0.11	<0.06	0.10	0.13	0.15	<0.06	<0.06	<0.06	<1	<1	0.18	<0.06	<0.2	<0.2	<0.06	
30/1	X	3	557	395	25,3		0,5	<0.06	miss	0.13	0.07	0.16	0.21	0.30	<0.06	<0.06	<0.06	<1	<1	0.27	<0.06	<0.3	<0.3	<0.06	
Mean		2	332	337	21,0		0,5	<<0.1		0,1	<<0.1	0,1	0,1	0,2	<<0.1	<<0.1	<<0.1	<<1	<<1	0,2	<<0.1	<<0.2	<<0.2	<<0.1	
Minimum		2	230	298	17,8		0,5	<0.1		0,1	<0.1	0,1	0,1	0,1	<0.1	<0.1	<0.1	<0	<0	0,1	<0.1	<0.2	<0.2	<0.1	
Maximum		3	557	395	25,3		0,5	<0.1		0,1	0,1	0,2	0,2	0,3	<0.1	<0.1	<0.1	<1	<1	0,3	<0.1	<0.3	<0.3	<0.1	
St.Dev		0	131	37	3,1		0,0	~0.0		0,0	~0.0	0,0	0,0	0,1	~0.0	~0.0	~0.0	~1	~1	0,1	~0.0	~0.1	~0.1	~0.0	
Count		5	5	5	5		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

miss(5) ! Missing value

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	Calc	Calc	341	341	341	
Detection limit =>				0.05			0.05	0.05	0.05	
Samp/	Sex	Age	Wght	Lngt	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
repl.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.					w. wt	w. wt	w. wt	w. wt	w. wt	w. wt
26/1	X	2	230	298	<0.06	<0.1	<0.1	0.10	<0.03	<0.03
27/1	X	2	253	316	<0.06	<0.1	<0.1	0.10	<0.03	<0.03
28/1	X	2	292	329	<0.06	<0.1	<0.1	0.12	<0.03	<0.03
29/1	X	3	329	346	<0.06	<0.1	<0.1	0.12	<0.03	<0.03
30/1	X	3	557	395	<0.06	<0.1	<0.1	0.11	<0.03	<0.03
Mean		2	332	337	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		2	230	298	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		3	557	395	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		0	131	37	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5

miss(5) ! Missing value

sample no.

- 26 Bulk of NIVA no 7,9,10,18,23
- 27 Bulk of NIVA no 24,2,12,8,20
- 28 Bulk of NIVA no 25,11,13,16,22
- 29 Bulk of NIVA no 4,1,14,21,19
- 30 Bulk of NIVA no 3,15,5,17,6

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **33B Sande (east side)** Latitude: 59°31.70N Longitude: 10°21.0E
 Catch,date : **19981015** Count: 25 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit		=>		Mean		0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3	4		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	206	256	2,5	21,8	3,5	0.118	14.8	<0.04	45.2	1.2	0.89	1.3	0.98	2.2	3.5	3.9	0.24	0.76	<0.1	14	<15	4.1
2/1	F	4	231	272	2,4	21,4	3,8	0.159	14.7	<0.04	41.7	0.85	0.94	1.2	0.79	1.7	2.9	3.3	<0.2	0.68	<0.2	12	<13	3.1
3/1	M	5	258	278	2,9	14,3	5,3	0.126	17.0	<0.04	44.7	1.5	1.8	2.2	1.9	3.9	5.5	6.3	0.38	1.4	<0.1	23	<25	5.2
4/1	F	6	319	300	4,9	25,8	8,4	0.100	16.2	<0.04	53.2	12	7.4	7.2	5.7	15	19	24	1.3	5.5	<0.2	90	<97	11
5/1	F	5	443	332	9,2	25,9	9,2	0.110	19.3	<0.04	58.5	7.6	5.0	6.2	3.9	8.7	11	13	0.83	3.3	<0.1	55	<60	11
Mean		5	291	288	4,4	21,8	6,0	0.12	16,40	<<0.04	48,7	4,6	3,2	3,6	2,7	6,3	8,4	10,1	<0.6	2,3	<<0.1	39	<<42	6,9
Minimum		4	206	256	2,4	14,3	3,5	0.10	14,70	<0.04	41,7	0,9	0,9	1,2	0,8	1,7	2,9	3,3	<0.2	0,7	<0.1	12	<13	3,1
Maximum		6	443	332	9,2	25,9	9,2	0.16	19,30	<0.04	58,5	12,0	7,4	7,2	5,7	15,0	19,0	24,0	1,3	5,5	<0.2	90	<97	11,0
St.Dev		1	94	29	2,9	4,7	2,6	0.02	1,89	~0.00	7,0	5,0	2,9	2,9	2,1	5,6	6,7	8,7	~0.5	2,1	~0.1	33	~36	3,8
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>				340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit		=>				3			0.5	2			2	2	2
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	F	4	206	256	1.1	5.2	5.2	0.30	0.58	0.9	0.9	0.34	<0.1	<0.1	
2/1	F	4	231	272	1.1	4.2	4.2	0.27	0.60	0.9	0.9	0.37	<0.1	<0.1	
3/1	M	5	258	278	1.3	6.5	6.5	0.39	0.92	1.3	1.3	0.53	<0.1	<0.1	
4/1	F	6	319	300	2.4	13.4	13.4	0.83	1.6	2.4	2.4	0.85	<0.1	<0.1	
5/1	F	5	443	332	1.7	12.7	12.7	0.98	1.7	2.7	2.7	0.88	<0.1	<0.1	
Mean		5	291	288	1,5	8,4	8,4	0,6	1,1	1,6	1,6	0,6	<<0.1	<<0.1	
Minimum		4	206	256	1,1	4,2	4,2	0,3	0,6	0,9	0,9	0,3	<0.1	<0.1	
Maximum		6	443	332	2,4	13,4	13,4	1,0	1,7	2,7	2,7	0,9	<0.1	<0.1	
St.Dev		1	94	29	0,5	4,3	4,3	0,3	0,5	0,9	0,9	0,3	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	

sample no.

- 1 Bulk of NIVA nos.:1,2,3,4,5 Muscle with signs of inner bleeding (2,3,4,5)
- 2 Bulk of NIVA nos.: 6,7,8,9,10 Muscle with signs of inner bleeding (10)
- 3 Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (11,12,15)
- 4 Bulk of NIVA nos.:16,17,18,19,20 Muscle with signs of inner bleeding (16,17,18,19,20)
Skin with red film and/or uneven pigmentations (20)
- 5 Bulk of NIVA nos.:21,22,23,24,25 Muscle with signs of inner bleeding (21,22,23,24)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichtys flesus GB: Flounder, N: Skrubbe
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **33B Sande (east side)** Latitude: 59°31.70N Longitude: 10°21.0E
 Catch,date : **19981115** Count: 14 Sample type: **Bulked**

Analytical lab. =>					NIVA															NIVA		NIVA			
Analysis code =>					312															311		312			
Detection limit =>					0.05															0.01		0.04			
Samp/ repl. no.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
F/M		year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	4	261	284	3,6	25,5	9,8	0.103	21.8	<0.04	47.7	4.7	3.4	3.6	2.9	6.5	9.8	12	0.76	3.0	<0.2	43	<47	11	
2/1	M	5	321	302	5,5	25,8	11,2	0.108	22.4	<0.04	50.9	7.5	5.2	5.9	4.5	10	16	20	1.1	5.0	<0.2	70	<75	16	
3/1	F	5	416	320	12,0	26,9	11,7	0.058	13.8	<0.04	47.2	8.1	4.9	5.6	4.0	9.2	15	20	0.97	4.8	<0.2	68	<73	13	
Mean		5	333	302	7,0	26,1	10,9	0,09	19,33	<<0.04	48,6	6,8	4,5	5,0	3,8	8,6	13,6	17,3	0,9	4,3	<<0.2	60	<<65	13,3	
Minimum		4	261	284	3,6	25,5	9,8	0,06	13,80	<0.04	47,2	4,7	3,4	3,6	2,9	6,5	9,8	12,0	0,8	3,0	<0.2	43	<47	11,0	
Maximum		5	416	320	12,0	26,9	11,7	0,11	22,40	<0.04	50,9	8,1	5,2	5,9	4,5	10,0	16,0	20,0	1,1	5,0	<0.2	70	<75	16,0	
St.Dev		0	78	18	4,4	0,7	1,0	0,03	4,80	~0.00	2,0	1,8	1,0	1,3	0,8	1,8	3,3	4,6	0,2	1,1	~0.0	15	~16	2,5	
Count		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		Calc		Calc		340		340		340	
Detection limit =>					3		0.5		2		2		2		2	
Samp/ repl. no.	Sex	Age	Wght	Lngt	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb		
F/M		year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt		
1/1	M	4	261	284	1.9	12.9	12.9	0.88	1.6	2.5	2.5	0.87	<0.1	<0.1		
2/1	M	5	321	302	2.8	18.8	18.8	1.3	1.8	3.1	3.1	0.99	<0.1	<0.1		
3/1	F	5	416	320	1.7	14.7	14.7	1.2	1.5	2.7	2.7	1.0	<0.1	<0.1		
Mean		5	333	302	2,1	15,5	15,5	1,1	1,6	2,8	2,8	1,0	<<0.1	<<0.1		
Minimum		4	261	284	1,7	12,9	12,9	0,9	1,5	2,5	2,5	0,9	<0.1	<0.1		
Maximum		5	416	320	2,8	18,8	18,8	1,3	1,8	3,1	3,1	1,0	<0.1	<0.1		
St.Dev		0	78	18	0,6	3,0	3,0	0,2	0,2	0,3	0,3	0,1	~0.0	~0.0		
Count		3	3	3	3	3	3	3	3	3	3	3	3	3		

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Muscle with signs of inner bleeding (1,2,3)
Skin with red film and/or uneven pigmentations (5)
- Bulk of NIVA no.:6,7,8,9,10 Muscle with signs of inner bleeding (6,7,8,9,10)
- Bulk of NIVA nos.:11,12,13,14 Muscle with signs of inner bleeding (12,13,14)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **33B Sande (east side)** Latitude: 59°31.70N Longitude: 10°21.0E
 Catch,date : **19981215** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA																NIVA		NIVA													
Analysis code =>					312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340																Calc		Calc		340											
Detection limit =>					Mean																0.05		0.01		0.04		1		3		3		3		3	
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb												
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt											
1/1	M	4	182	248	2,7	18,4	2,5	0.070	8.73	<0.04	31.0	1.2	0.87	1.1	1.1	2.2	3.6	3.9	0.26	0.88	<0.2	14	<15	3.4												
2/1	M	5	268	278	4,0	21,6	5,0	0.085	15.1	<0.04	44.5	1.2	1.0	1.5	1.5	3.0	4.9	5.3	0.36	1.4	<0.2	18	<20	5.4												
3/1	F	5	270	281	3,6	20,1	3,4	0.126	14.9	0.05	40.8	1.7	1.5	1.8	1.7	3.4	5.1	5.8	0.36	1.4	<0.2	21	<23	9.4												
4/1	M	5	315	292	4,7	22,3	5,8	0.088	10.9	<0.04	36.9	4.6	2.8	3.2	2.9	7.1	9.3	11	0.69	2.8	<0.2	41	<45	8.6												
5/1	M	5	336	309	4,8	22,0	4,9	0.143	12.7	<0.04	41.3	1.7	2.1	3.4	2.3	5.0	7.5	8.7	0.53	2.1	<0.2	31	<34	7.9												
Mean		5	274	282	4,0	20,9	4,3	0.10	12,47	<<0.04	38,9	2,1	1,7	2,2	1,9	4,1	6,1	6,9	0,4	1,7	<<0.2	25	<<27	6,9												
Minimum		4	182	248	2,7	18,4	2,5	0,07	8,73	<0.04	31,0	1,2	0,9	1,1	1,1	2,2	3,6	3,9	0,3	0,9	<0.2	14	<15	3,4												
Maximum		5	336	309	4,8	22,3	5,8	0,14	15,10	0,05	44,5	4,6	2,8	3,4	2,9	7,1	9,3	11,0	0,7	2,8	<0.2	41	<45	9,4												
St.Dev		0	59	22	0,8	1,6	1,3	0,03	2,71	~0.00	5,2	1,4	0,8	1,0	0,7	1,9	2,3	2,9	0,2	0,7	~0.0	11	~12	2,5												
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5												

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		Calc		Calc		340		340		Calc		Calc	
Detection limit =>					3		0.5		2		2		2		2		2	
Samp/ repl.	Sex	Age	Wght	Lngr	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb				
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt				
1/1	M	4	182	248	1.0	4.4	4.4	0.19	0.34	0.5	0.5	0.25	0.10	<0.1				
2/1	M	5	268	278	1.2	6.6	6.6	0.24	0.47	0.7	0.7	0.32	<0.1	<0.1				
3/1	F	5	270	281	3.0	12.4	12.4	0.39	0.89	1.3	1.3	0.59	0.13	<0.1				
4/1	M	5	315	292	2.4	11.0	11.0	0.62	1.2	1.8	1.8	0.70	0.12	<0.1				
5/1	M	5	336	309	2.1	10.0	10.0	0.45	1.1	1.6	1.6	0.54	0.10	<0.1				
Mean		5	274	282	1,9	8,9	8,9	0,4	0,8	1,2	1,2	0,5	<0.1	<<0.1				
Minimum		4	182	248	1,0	4,4	4,4	0,2	0,3	0,5	0,5	0,3	<0.1	<0.1				
Maximum		5	336	309	3,0	12,4	12,4	0,6	1,2	1,8	1,8	0,7	0,1	<0.1				
St.Dev		0	59	22	0,8	3,3	3,3	0,2	0,4	0,6	0,6	0,2	~0.0	~0.0				
Count		5	5	5	5	5	5	5	5	5	5	5	5	5				

sample no.

- 1 Bulk of NIVA nos.:1,2,3,4,5 Muscle with signs of inner bleeding (1,2,5)
- 2 Bulk of NIVA nos.: 6,7,8,9,10 Muscle with signs of inner bleeding (6,7,8,9,10)
Skin with red film and/or uneven pigmentations (7,9)
- 3 Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (12,13,14,15)
Skin with red film and/or uneven pigmentations (15)
- 4 Bulk of NIVA nos.: 16,17,18,19,20 Muscle with signs of inner bleeding (16,18,20)
Skin with red film and/or uneven pigmentations (16,18,20)
- 5 Bulk of NIVA nos.: 21,22,23,24,25 Muscle with signs of inner bleeding (21,22,24)
Skin with red film and/or uneven pigmentations (23,24)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **33B Sande (east side)** Latitude: 59°31.70N Longitude: 10°21.0E
 Catch,date : **20000120** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA																				
Analysis code =>					312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340																				
Detection limit =>					Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3																				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	288	297	4,2	23,0	3,7	0.088	8.7	0.09	34.7	2.3	6.1	17	7.2	22	27	23	1.6	3.0	<0.2	100	<109	4.5	
2/1	M	3	307	307	3,7	25,9	6,9	0.126	17.9	0.03	41.6	1.4	1.5	2.4	1.8	4.1	6.9	8.2	0.49	2.4	<0.2	27	<29	9.2	
3/1	X	3	379	321	6,2	24,2	5,6	0.104	16.0	<0.04	41.0	2.09	3.1	5.5	2.8	6.9	12	14	0.88	3.6	<0.2	47	<51	6.8	
4/1	X	3	434	335	7,3	23,8	5,2	0.187	17.2	<0.04	44.4	2.9	1.8	2.4	1.4	3.0	5.1	6.3	0.38	1.7	<0.1	23	<25	6.6	
5/1	X	3	543	367	12,5	26,3	7,4	0.227	20.7	0.13	48.6	9.2	7.0	9.9	5.7	13	22	29	1.8	8.7	<0.4	99	<107	23	
Mean		3	390	325	6,8	24,6	5,8	0.15	16,10	<<0.07	42,1	3,6	3,9	7,4	3,8	9,8	14,6	16,1	1,0	3,9	<<0.2	59	<<64	10,0	
Minimum		2	288	297	3,7	23,0	3,7	0,09	8,70	0,03	34,7	1,4	1,5	2,4	1,4	3,0	5,1	6,3	0,4	1,7	<0.1	23	<25	4,5	
Maximum		3	543	367	12,5	26,3	7,4	0,23	20,70	0,13	48,6	9,2	7,0	17,0	7,2	22,0	27,0	29,0	1,8	8,7	<0.4	100	<109	23,0	
St.Dev		0	103	27	3,5	1,4	1,5	0,06	4,48	-0.04	5,1	3,2	2,5	6,2	2,5	7,8	9,6	9,7	0,6	2,8	-0.1	38	-41	7,4	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA							NIVA		
Analysis code =>					340 Calc Calc 340 340 Calc Calc 340 340 340									
Detection limit =>					3							2 2 2		
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	288	297	1.4	5.9	5.9	0.27	0.38	0.7	0.7	0.36	<0.1	0.21
2/1	M	3	307	307	1.5	10.7	10.7	0.45	0.81	1.3	1.3	0.59	<0.2	<0.2
3/1	X	3	379	321	1.4	8.2	8.2	0.50	0.69	1.2	1.2	0.54	<0.1	0.14
4/1	X	3	434	335	1.4	8.0	8.0	0.57	0.59	1.2	1.2	0.51	<0.1	0.12
5/1	X	3	543	367	4.2	27.2	27.2	0.78	0.94	1.7	1.7	1.1	<0.2	0.38
Mean		3	390	325	2,0	12,0	12,0	0,5	0,7	1,2	1,2	0,6	<<0.1	<0.2
Minimum		2	288	297	1,4	5,9	5,9	0,3	0,4	0,7	0,7	0,4	<0.1	0,1
Maximum		3	543	367	4,2	27,2	27,2	0,8	0,9	1,7	1,7	1,1	<0.2	0,4
St.Dev		0	103	27	1,2	8,7	8,7	0,2	0,2	0,4	0,4	0,3	-0.1	-0.1
Count		5	5	5	5	5	5	5	5	5	5	5	5	5

sample no.

- 1 Skin with ulceration, lymphocytic areas and/or lesions(3) Skin with red film and/or uneven pigmentations(3)
Bulk of NIVA no.s.1,2,3,4,5,
- 2 Skin with ulceration, lymphocytic areas and/or lesions(9) Skin and/or oral cavity with caligiform and/or(9)
Bulk of NIVA no.s.6,7,8,9,10
- 3 Bulk of NIVA no.s.11,12,13,14,15
- 4 Bulk of NIVA no.s.16,17,18,19,20 Skin with red film and/or uneven pigmentations(16)
Skin and/or oral cavity with caligiform and/or (17) Skin with ulceration, lymphocytic areas and/or lesions(18)
Bacterial fin rot (18)
- 5 Bulk of NIVA no.s.21,22,23,24,25 Skin with ulceration, lymphocytic areas and/or lesions (22)
Bacterial fin rot (22,24,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **33B Sande (east side)** Latitude: 59°31.70N Longitude: 10°21.0E
 Catch,date : **20001025** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA																				
Analysis code =>					312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340 340																				
Detection limit =>					Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3																				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	292	278	4,4	31,4	15,0	0.071	14.0	<0.03	40.2	5.1	4.3	3.8	3.8	7.9	12	16	1.0	4.5	<1.0	54	<59	17	
2/1	X	2	338	301	5,5	36,0	20,4	0.041	14.9	<0.04	43.3	13	11	9.8	9.3	19	28	38	2.5	12	<2.0	131	<145	43	
3/1	X	3	393	312	7,7	35,6	20,0	0.072	12.8	<0.04	46.6	7.1	7.9	8.5	6.6	14	20	26	1.6	7.2	<1.0	91	<100	27	
4/1	X	3	444	321	9,6	36,8	22,0	0.060	12.2	<0.04	48.2	8.6	8.1	10	6.8	15	23	32	1.9	8.7	<1.0	105	<115	29	
5/1	X	4	542	347	13,1	33,8	18,0	0.082	14.2	<0.03	57.1	5.5	5.2	5.2	4.3	9.6	14	20	1.2	5.2	<1.0	65	<71	20	
Mean		3	402	312	8,0	34,7	19,1	0,07	13,62	<<0.04	47,1	7,9	7,3	7,5	6,2	13,1	19,4	26,4	1,6	7,5	<<1.2	89	<<98	27,2	
Minimum		2	292	278	4,4	31,4	15,0	0,04	12,20	<0.03	40,2	5,1	4,3	3,8	3,8	7,9	12,0	16,0	1,0	4,5	<1.0	54	<59	17,0	
Maximum		4	542	347	13,1	36,8	22,0	0,08	14,90	<0.04	57,1	13,0	11,0	10,0	9,3	19,0	28,0	38,0	2,5	12,0	<2.0	131	<145	43,0	
St.Dev		1	97	25	3,5	2,2	2,7	0,02	1,10	~0.01	6,4	3,2	2,7	2,8	2,2	4,4	6,5	8,9	0,6	3,0	~0.4	31	~34	10,1	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA							NIVA		
Analysis code =>					340 Calc Calc 340 340 Calc Calc 340 340 340							340		
Detection limit =>					3 0.5 2 2 2 2 2 2 2							2 2 2		
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	292	278	3.3	20.3	20.3	1.0	1.4	2.4	2.4	1.2	<0.50	<1.0
2/1	X	2	338	301	8.5	51.5	51.5	2.5	3.8	6.3	6.3	3.1	<1.0	<2.0
3/1	X	3	393	312	5.7	32.7	32.7	1.2	2.0	3.2	3.2	1.6	<0.50	<1.0
4/1	X	3	444	321	6.5	35.5	35.5	1.4	1.9	3.3	3.3	1.8	<0.50	<1.0
5/1	X	4	542	347	4.1	24.1	24.1	1.1	1.7	2.8	2.8	1.3	<0.50	<1.0
Mean		3	402	312	5,6	32,8	32,8	1,4	2,2	3,6	3,6	1,8	<<0.6	<<1.2
Minimum		2	292	278	3,3	20,3	20,3	1,0	1,4	2,4	2,4	1,2	<0.5	<1.0
Maximum		4	542	347	8,5	51,5	51,5	2,5	3,8	6,3	6,3	3,1	<1.0	<2.0
St.Dev		1	97	25	2,0	12,1	12,1	0,6	0,9	1,6	1,6	0,8	~0.2	~0.4
Count		5	5	5	5	5	5	5	5	5	5	5	5	5

- sample no.
 1 Bulk of NIVA no 1,2,3,4,5 Age uncertain no 1,2
 2 Bulk of NIVA no 6,7,8,9,10
 3 Bulk of NIVA no 11,12,13,14,15 Age uncertain no 13
 4 Bulk of NIVA no 16,17,18,19,20 Age uncertain no 18,19,20
 5 Bulk of NIVA no 21,22,23,24,25 Age uncertain no 21,22

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichtys flesus GB: Flounder, N: Skrubbe
 Sample area: **J26 Oslofjorden** Tissue: LIVER
 Locality : **33B Sande (east side)** Latitude: 59°31.70N Longitude: 10°21.0E
 Catch,date : **20011025** Count: 25 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	340				
Detection limit		=>		Mean		0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	2	252	272	2,2	33,1	14,0	0.081	12.8	<0.03	45.6	5.3	s12	7.5	6.3	13	13	17	1.1	4.8	<0.40	s73	s<80	22	
2/1	X	2	370	309	5,7	34,5	19,0	0.066	10.9	<0.03	47.4	4.9	s19	31	21	43	46	45	6.8	10	<0.40	s199	s<227	24	
3/1	X	3	406	310	7,2	37,6	23,0	0.133	13.6	<0.03	45.0	4.7	s13	8.5	6.4	15	18	25	1.4	6.2	<0.40	s90	s<99	27	
4/1	X	4	405	324	6,8	39,7	24,0	0.091	12.3	0.04	42.9	8.2	s18	14	11	25	29	40	2.2	9.4	1.9	s144	s159	32	
5/1	X	5	574	349	12,3	34,4	19,0	0.136	12.0	0.05	54.0	6.2	15	17	13	36	31	43	2.6	9.5	<0.40	158	<174	33	
Mean		3	401	313	6,8	35,9	19,8	0.10	12,32	<<0.04	47,0	5,9	15,0	15,6	11,5	26,4	27,4	34,0	2,8	8,0	<<0.7	158	<<174	27,6	
Minimum		2	252	272	2,2	33,1	14,0	0,07	10,90	<0.03	42,9	4,7	15,0	7,5	6,3	13,0	13,0	17,0	1,1	4,8	<0.4	158	<174	22,0	
Maximum		5	574	349	12,3	39,7	24,0	0,14	13,60	0,05	54,0	8,2	15,0	31,0	21,0	43,0	46,0	45,0	6,8	10,0	1,9	158	<174	33,0	
St.Dev		1	115	28	3,7	2,7	4,0	0,03	1,00	~0.01	4,2	1,4		9,5	6,0	13,0	12,8	12,3	2,3	2,3	~0.7			4,8	
Count		5	5	5	5	5	5	5	5	5	5	5	1	5	5	5	5	5	5	5	5	1	1	5	

s/q(12) ! Suspect value

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code		=>				340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit		=>		3		3	0.5	2	2	2	2	2	2	2	2
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	F	2	252	272	4.4	26.4	26.4	0.82	1.2	2.0	2.0	1.4	<0.20	0.39	
2/1	X	2	370	309	5.1	29.1	29.1	0.80	1.3	2.1	2.1	1.2	<0.20	0.40	
3/1	X	3	406	310	5.2	32.2	32.2	0.97	1.7	2.7	2.7	1.6	0.20	0.35	
4/1	X	4	405	324	7.4	39.4	39.4	1.2	2.0	3.2	3.2	2.1	0.27	0.67	
5/1	X	5	574	349	9.2	42.2	42.2	0.83	1.4	2.2	2.2	2.0	<0.2	0.57	
Mean		3	401	313	6,3	33,9	33,9	0,9	1,5	2,4	2,4	1,7	<<0.2	0,5	
Minimum		2	252	272	4,4	26,4	26,4	0,8	1,2	2,0	2,0	1,2	<0.2	0,4	
Maximum		5	574	349	9,2	42,2	42,2	1,2	2,0	3,2	3,2	2,1	0,3	0,7	
St.Dev		1	115	28	2,0	6,7	6,7	0,2	0,3	0,5	0,5	0,4	~0.0	0,1	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	

s/q(12) ! Suspect value

Comments

Station: Sande (east side) Fished between 18.-25.oct.2001

sample no.

- 1 Bulk of NIVA no 1,2,3,4,5
- 2 Bulk of NIVA no 6,7,8,9,10
- 3 Bulk of NIVA no 11,12,13,14,15
- 4 Bulk of NIVA no 16,17,18,19,20
- 5 Bulk of NIVA no 21,22,23,24,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J63 Sør fjorden** Tissue: LIVER
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19981101** Count: 15 Sample type: **Bulked**

Analytical lab.		=>		NIVA																				
Analysis code		=>		312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340 340																				
Detection limit		=>		Mean																				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
1/1	F	5	400	310	10,8	32,3	16,7	1.47	18.4	0.28	56.7	<2	<2	6.2	<2	5.2	13	18	<2	3.9	<2	<48	<48	21
2/1	M	6	514	336	13,5	40,1	25,1	0.832	16.6	0.38	44.8	<2	<2	8.9	<2	6.4	19	26	<2	6.4	<2	<69	<69	98
3/1	F	7	672	373	17,8	37,7	23,4	1.99	19.0	0.52	72.3	<2	5.1	17	4.2	11	35	47	2.6	14	<2	<131	<138	29
Mean		6	529	340	14,0	36,7	21,7	1,43	18,00	0,39	57,9	<<2.0	<<3.0	10,7	<<2.7	7,5	22,3	30,3	<<2.2	8,1	<<2.0	<<83	<<85	49,3
Minimum		5	400	310	10,8	32,3	16,7	0,83	16,60	0,28	44,8	<2.0	<2.0	6,2	<2.0	5,2	13,0	18,0	<2.0	3,9	<2.0	<48	<48	21,0
Maximum		7	672	373	17,8	40,1	25,1	1,99	19,00	0,52	72,3	<2.0	5,1	17,0	4,2	11,0	35,0	47,0	2,6	14,0	<2.0	<131	<138	98,0
St.Dev		1	137	32	3,5	4,0	4,4	0,58	1,25	0,12	13,8	~0.0	~1.8	5,6	~1.3	3,1	11,4	15,0	~0.3	5,3	~0.0	~43	~47	42,3
Count		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Analytical lab.		=>		NIVA											
Analysis code		=>		340 340 Calc Calc 340 340 Calc Calc 340 340 340											
Detection limit		=>		2 3 0.5 2 2 2											
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	F	5	400	310	<8	6.8	<35.8	<35.8	<2	<2	<2.0	<2.0	<1	<1	<1
2/1	M	6	514	336	11	47	156.0	156.0	<2	3.8	<5.8	<5.8	1.4	<1	<1
3/1	F	7	672	373	<8	13	<50.0	<50.0	<2	<2	<2.0	<2.0	1.8	<1	<1
Mean		6	529	340	<<9.0	22,3	<<80.6	<<80.6	<<2.0	<<2.6	<<3.3	<<3.3	<<1.4	<<1.0	<<1.0
Minimum		5	400	310	<8.0	6,8	<35.8	<35.8	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0
Maximum		7	672	373	11,0	47,0	156,0	156,0	<2.0	3,8	<5.8	<5.8	1,8	<1.0	<1.0
St.Dev		1	137	32	~1.7	21,6	~65.7	~65.7	~0.0	~1.0	~2.2	~2.2	~0.4	~0.0	~0.0
Count		3	3	3	3	3	3	3	3	3	3	3	3	3	3

Comments

Station: Inner Sør fjord Eddna , 5-10 m, fish traps

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Bacterial fin rot (1,4,5)
Muscle with signs of inner bleeding (1,2,3,5)
- Bulk of NIVA nos.:6,7,8,9,10 Muscle with signs of inner bleeding (6,9)
Bacterial fin rot (10)
- Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (11,14,15)
Bacterial fin rot (13,14)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J63 Sør fjorden** Tissue: LIVER
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19981105** Count: 15 Sample type: **Bulked**

Analytical lab. =>					NIVA															NIVA		NIVA			
Analysis code =>					312															311		312			
Detection limit =>					Mean															0.05		0.01			
Samp/ repl. no.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
F/M		year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	6	320	300	9,9	30,6	15,4	1.11	16.0	0.41	45.9	<2	<2	6.0	2.0	5.8	17	25	<2	7.4	<2	<63	<65	22	
2/1	M	6	438	333	9,4	35,5	20,7	1.40	19.7	0.52	48.8	8.4	7.6	16	7.4	19	35	45	2.7	14	<2	145	<157	130	
3/1	F	7	720	374	24,2	33,9	19,4	3.48	20.1	0.51	59.6	<2	<2	11	2.5	8.4	26	37	<2	8.8	<2	<93	<96	32	
Mean		6	493	336	14,5	33,3	18,5	2,00	18,60	0,48	51,4	<<4.1	<<3.9	11,0	4,0	11,1	26,0	35,7	<<2.2	10,1	<<2.0	<<100	<<106	61,3	
Minimum		6	320	300	9,4	30,6	15,4	1,11	16,00	0,41	45,9	<2.0	<2.0	6,0	2,0	5,8	17,0	25,0	<2.0	7,4	<2.0	<63	<65	22,0	
Maximum		7	720	374	24,2	35,5	20,7	3,48	20,10	0,52	59,6	8,4	7,6	16,0	7,4	19,0	35,0	45,0	2,7	14,0	<2.0	145	<157	130,0	
St.Dev		1	206	37	8,4	2,5	2,8	1,29	2,26	0,06	7,2	~3.7	~3.2	5,0	3,0	7,0	9,0	10,1	~0.4	3,5	~0.0	~41	~47	59,7	
Count		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		340		Calc		Calc		340		340		340	
Detection limit =>					2		3		0.5		2		2		2		2	
Samp/ repl. no.	Sex	Age	Wght	Lngt	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb			
F/M		year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt			
1/1	M	6	320	300	<8	6.8	<36.8	<36.8	<2	<2	<2.0	<2.0	1.1	<1	<1			
2/1	M	6	438	333	36	15	181.0	181.0	<2	<2	<2.0	<2.0	1.6	<1	<1			
3/1	F	7	720	374	11	8.8	51.8	51.8	<2	<2	<2.0	<2.0	<1	<1	<1			
Mean		6	493	336	<<18.3	10,2	<<89.9	<<89.9	<<2.0	<<2.0	<<2.0	<<2.0	<<1.2	<<1.0	<<1.0			
Minimum		6	320	300	<8.0	6,8	<36.8	<36.8	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<1.0			
Maximum		7	720	374	36,0	15,0	181,0	181,0	<2.0	<2.0	<2.0	<2.0	1,6	<1.0	<1.0			
St.Dev		1	206	37	~15.4	4,3	~79.3	~79.3	~0.0	~0.0	~0.0	~0.0	~0.3	~0.0	~0.0			
Count		3	3	3	3	3	3	3	3	3	3	3	3	3	3			

Comments

Station: Inner Sør fjord Tyssedal, 5-10 m, fish traps

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Bacterial fin rot (1,5)
Muscle with signs of inner bleeding (2,3,4,5)
- Bulk of NIVA nos.:6,7,8,9,10 Bacterial fin rot (7,8)
Muscle with signs of inner bleeding (6,7,8)
- Bulk of NIVA nos.:11,12,13,14,15 Bacterial fin rot (11,15)
Muscle with signs of inner bleeding (11)

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLAT FLE Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: J63 Sørffjorden Tissue: LIVER
 Locality : 53B Inner Sørffjord Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : 19981120 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA																			
Analysis code =>					312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340 340																			
Detection limit =>					Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3																			
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
1/1	M	6	365	311	9,8	31,0	16,0	1.81	17.7	0.73	62.1	<2	4.5	14	3.5	9.8	27	35	2.3	13	miss	<105	<111	43
2/1	M	7	426	322	12,4	30,8	16,8	1.90	15.3	0.92	47.2	<2	6.2	23	6.3	17	50	66	3.6	20	<2	<184	<194	46
3/1	M	6	470	344	13,5	31,3	17,3	1.52	18.6	0.67	51.0	<2	4.4	15	3.4	9.7	31	38	2.3	12	<2	<112	<118	38
4/1	F	7	570	350	18,6	34,1	19,2	1.01	22.4	0.67	58.7	<2	4.6	15	3.8	11	31	39	2.4	14	<2	<117	<123	37
5/1	F	7	701	367	22,5	38,1	23,4	1.35	25.8	1.40	66.6	<2	9.6	31	8.0	23	54	62	4.0	20	<2	<202	<214	46
Mean		7	506	339	15,4	33,1	18,5	1,52	19,96	0,88	57,1	<<2.0	5,9	19,6	5,0	14,1	38,6	48,0	2,9	15,8	<<2.0	<<144	<<152	42,0
Minimum		6	365	311	9,8	30,8	16,0	1,01	15,30	0,67	47,2	<2.0	4,4	14,0	3,4	9,7	27,0	35,0	2,3	12,0	<2.0	<105	<111	37,0
Maximum		7	701	367	22,5	38,1	23,4	1,90	25,80	1,40	66,6	<2.0	9,6	31,0	8,0	23,0	54,0	66,0	4,0	20,0	<2.0	<202	<214	46,0
St.Dev		0	132	22	5,1	3,1	3,0	0,36	4,15	0,31	8,0	~0.0	2,2	7,3	2,1	5,8	12,4	14,7	0,8	3,9	~0.0	~45	~48	4,3
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

miss(1) ! Missing value

Analytical lab. =>					NIVA										
Analysis code =>					340 340 Calc Calc 340 340 Calc Calc 340 340 340										
Detection limit =>					2 3 0.5 2 2 2 2 2 2 2 2 2										
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	M	6	365	311	<8	17	<68.0	<68.0	<2	<2	<2.0	<2.0	3.1	<1	<1
2/1	M	7	426	322	14	16	76.0	76.0	<2	<2	<2.0	<2.0	2.6	<1	<1
3/1	M	6	470	344	11	20	69.0	69.0	<2	<2	<2.0	<2.0	3.6	<1	<1
4/1	F	7	570	350	13	13	63.0	63.0	<2	<2	<2.0	<2.0	2.5	<1	<1
5/1	F	7	701	367	<8	20	<74.0	<74.0	<2	<2	<2.0	<2.0	1.8	<1	<1
Mean		7	506	339	<<10.8	17,2	<<70.0	<<70.0	<<2.0	<<2.0	<<2.0	<<2.0	2,7	<<1.0	<<1.0
Minimum		6	365	311	<8.0	13,0	63,0	63,0	<2.0	<2.0	<2.0	<2.0	1,8	<1.0	<1.0
Maximum		7	701	367	14,0	20,0	76,0	76,0	<2.0	<2.0	<2.0	<2.0	3,6	<1.0	<1.0
St.Dev		0	132	22	~2.8	2,9	~5.1	~5.1	~0.0	~0.0	~0.0	~0.0	0,7	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5

miss(1) ! Missing value

Comments

Station: Inner Sørffjord Odda harbour, 5-10m, fish traps

sample no.

- 1 Bulk of NIVA nos.:1,2,3,4,5 Liver with signs of bleeding (1)
Muscle with signs of inner bleeding (5)
- 2 Bulk of NIVA nos.:6,7,8,9,10 Muscle with signs of inner bleeding (8, 10)
- 3 Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (11)
- 4 Bulk of NIVA nos.:16,17,18,19,20 Muscle with signs of inner bleeding (16,19)
Bacterial fin rot (18,19)
- 5 Bulk of NIVA nos.:21,22,23,24,25 Muscle with signs of inner bleeding (22,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J63 Sør fjorden** Tissue: LIVER
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19990930** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>					312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit =>					Mean	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
Samp/ repl.	Sex	Age	Wght	Lngt	weight	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
F/M		year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	X	2	393	318	8,9	35,0	20,2	2.21	12.8	0.34	40.8	1.0	5.8	16	5.9	14	38	52	3.3	15	<1	142	<152	36
2/1	X	2	401	336	8,6	33,1	15,7	3.23	13.7	0.85	38.2	<1	4.3	15	6.2	14	33	39	3.0	12	<1	<118	<128	42
3/1	X	3	541	368	8,5	28,9	15,3	2.55	16.6	0.38	40.6	1.1	6.6	22	7.9	19	41	52	4.0	17	<1	159	<172	51
4/1	X	3	466	350	10,4	34,0	20,1	1.80	8.75	0.60	35.1	1.9	7.9	24	9.7	22	39	47	3.6	14	<1	156	<170	59
5/1	F	3	650	376	13,4	36,5	21,7	2.61	15.1	0.46	44.3	1.6	10	30	12	30	54	64	5.3	17	<1	207	<225	44
Mean		3	490	350	10,0	33,5	18,6	2.48	13,39	0,53	39,8	<1.3	6,9	21,4	8,3	19,8	41,0	50,8	3,8	15,0	<<1.0	<156	<<169	46,4
Minimum		2	393	318	8,5	28,9	15,3	1,80	8,75	0,34	35,1	<1.0	4,3	15,0	5,9	14,0	33,0	39,0	3,0	12,0	<1.0	<118	<128	36,0
Maximum		3	650	376	13,4	36,5	21,7	3,23	16,60	0,85	44,3	1,9	10,0	30,0	12,0	30,0	54,0	64,0	5,3	17,0	<1.0	207	<225	59,0
St.Dev		0	107	24	2,1	2,9	2,9	0,53	2,97	0,21	3,4	~0.4	2,2	6,1	2,5	6,6	7,8	9,1	0,9	2,1	~0.0	~33	~36	8,8
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>					340	340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit =>					2	3			0.5	2			2	2	2
Samp/ repl.	Sex	Age	Wght	Lngt	DDTPP	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	393	318	18	10	64.0	64.0	1.2	2.4	3.6	3.6	2.3	0.55	<0.5
2/1	X	2	401	336	18	15	75.0	75.0	0.95	2.0	3.0	3.0	2.0	0.69	<0.5
3/1	X	3	541	368	21	17	89.0	89.0	<1	1.9	<2.9	<2.9	2.7	0.58	<0.5
4/1	X	3	466	350	15	22	96.0	96.0	1.3	2.6	3.9	3.9	4.0	1.0	<0.5
5/1	F	3	650	376	16	12	72.0	72.0	1.4	2.8	4.2	4.2	2.5	0.68	<0.5
Mean		3	490	350	17,6	15,2	79,2	79,2	<1.2	2,3	<3.5	<3.5	2,7	0,7	<<0.5
Minimum		2	393	318	15,0	10,0	64,0	64,0	0,9	1,9	<2.9	<2.9	2,0	0,6	<0.5
Maximum		3	650	376	21,0	22,0	96,0	96,0	1,4	2,8	4,2	4,2	4,0	1,0	<0.5
St.Dev		0	107	24	2,3	4,7	13,0	13,0	~0.2	0,4	~0.6	~0.6	0,8	0,2	~0.0
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5

sample no.

- 1 Bulk of NIVA no.s.16,17,18,19,20, not sort at length Skin with ulceration, lymphocytic areas and/or lesions (16,18,19,20) Liver with necrotic areas and/or discolouration (16,20) no3 age impossible to decide
- 2 Bulk of NIVA no.s.21,22,23,24,25, not sort by length Skin with ulceration, lymphocytic areas and/or lesions Liver with necrotic areas and/or discolouration (21) Bacterial fin rot (22)
- 3 Bulk of NIVA no.s.6,7,8,9,10, not sort by length Bacterial fin rot (6,7,8,9)
- 4 Bulk of NIVA no.s.1,2,3,4,5, not sort by length Bacterial fin rot
- 5 Bulk of NIVA no.s.11,12,13,14,15, not sort by length Skin with ulceration, lymphocytic areas and/or lesions (11,13,14) Bacterial fin rot (12,13)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J63 Sør fjorden** Tissue: LIVER
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **20001011** Count: 10 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code =>					312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit =>				Mean	0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3	3	4		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
F/M		year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	407	330	8,1	31,7	16,0	1.49	6.06	0.41	32.5	<1.0	5.7	15	6.0	16	33	39	2.9	13	<1.0	<123	<132	22
2/1	X	2	286	302	6,1	24,0	8,5	2.10	5.03	0.31	33.5	0.84	4.5	11	4.6	11	20	22	1.6	5.8	<0.20	75	<82	14
Mean		2	346	316	7,1	27,9	12,3	1,80	5,55	0,36	33,0	<<0.9	5,1	13,0	5,3	13,5	26,5	30,5	2,3	9,4	<<0.6	<<99	<<107	18,0
Minimum		2	286	302	6,1	24,0	8,5	1,49	5,03	0,31	32,5	0,8	4,5	11,0	4,6	11,0	20,0	22,0	1,6	5,8	<0.2	75	<82	14,0
Maximum		2	407	330	8,1	31,7	16,0	2,10	6,06	0,41	33,5	<1.0	5,7	15,0	6,0	16,0	33,0	39,0	2,9	13,0	<1.0	<123	<132	22,0
St.Dev		0	86	20	1,4	5,4	5,3	0,43	0,73	0,07	0,7	~0.1	0,8	2,8	1,0	3,5	9,2	12,0	0,9	5,1	~0.6	~34	~35	5,7
Count		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				340	340	Calc	Calc	340	340	Calc	Calc	340	340	340	
Detection limit =>				2	3			0.5	2			2	2	2	
Samp/ repl.	Sex	Age	Wght	Lngt	DDTPP	TDEPP	DD Σ4	DD Σ5	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	407	330	6.9	9.2	38.1	38.1	<1.0	1.5	<2.5	<2.5	3.8	0.71	<0.50
2/1	X	2	286	302	4.5	6.1	24.6	24.6	0.35	0.59	0.9	0.9	1.5	0.32	<0.10
Mean		2	346	316	5,7	7,7	31,4	31,4	<<0.7	1,0	<<1.7	<<1.7	2,7	0,5	<<0.3
Minimum		2	286	302	4,5	6,1	24,6	24,6	0,3	0,6	0,9	0,9	1,5	0,3	<0.1
Maximum		2	407	330	6,9	9,2	38,1	38,1	<1.0	1,5	<2.5	<2.5	3,8	0,7	<0.5
St.Dev		0	86	20	1,7	2,2	9,5	9,5	~0.5	0,6	~1.1	~1.1	1,6	0,3	~0.3
Count		2	2	2	2	2	2	2	2	2	2	2	2	2	2

sample no.

- 1 Bulk of NIVA no 3,4,5,6,10 Age uncertain no 3,4,6,10 Skin with ulceration, lymphocytic areas and/or lesions no 5,6 Bacterial fin rot
- 2 Bulk of NIVA no 1,2,7,8,11 All age uncertain Bacterial fin rot no 1,2,7,8

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J63 Sørffjorden** Tissue: LIVER
 Locality : **53B Inner Sørffjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **20011201** Count: 25 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit		=>		Mean		0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3	4		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	314	296	5,3	33,8	16,0	2.24	14.8	0.43	52.0	0.44	2.4	9.8	4.2	11	23	28	1.9	8.3	<0.40	83	<89	40
2/1	X	5	470	348	9,0	36,3	21,0	2.74	16.0	0.30	51.8	<0.60	3.1	11	4.2	11	26	33	2.0	10	<0.60	<95	<101	39
3/1	F	5	631	376	14,2	35,8	19,0	2.92	21.1	0.60	66.2	0.79	5.7	21	7.9	20	35	40	3.2	11	<0.60	133	<145	39
4/1	X	6	839	394	19,8	33,0	17,0	2.24	20.9	0.71	64.4	1.1	5.5	18	6.8	18	33	40	2.9	13	<0.60	129	<139	42
5/1	F	6	931	422	20,3	30,4	14,0	4.34	13.6	0.57	66.3	0.62	3.5	12	4.1	11	25	33	2.1	10	<0.40	95	<102	30
Mean		5	637	367	13,7	33,9	17,4	2,90	17,28	0,52	60,1	<0,7	4,0	14,4	5,4	14,2	28,4	34,8	2,4	10,5	<<0,5	<107	<<115	38,0
Minimum		3	314	296	5,3	30,4	14,0	2,24	13,60	0,30	51,8	0,4	2,4	9,8	4,1	11,0	23,0	28,0	1,9	8,3	<0,4	83	<89	30,0
Maximum		6	931	422	20,3	36,3	21,0	4,34	21,10	0,71	66,3	1,1	5,7	21,0	7,9	20,0	35,0	40,0	3,2	13,0	<0,6	133	<145	42,0
St.Dev		1	255	48	6,6	2,4	2,7	0,86	3,50	0,16	7,6	~0,3	1,5	4,9	1,8	4,4	5,3	5,2	0,6	1,7	~0,1	~22	~25	4,6
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>		340	340	Calc	Calc	340	340	Calc	Calc	340	340		
Detection limit		=>		2	3			0.5	2			2	2		
Samp/ repl.	Sex	Age	Wght	Lngt	DDTPP	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
no.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	314	296	12	6.0	58.0	58.0	0.52	0.78	1.3	1.3	1.6	0.65	<0.20
2/1	X	5	470	348	13	6.6	58.6	58.6	0.64	0.94	1.6	1.6	2.3	0.97	<0.30
3/1	F	5	631	376	12	8.5	59.5	59.5	0.61	0.86	1.5	1.5	2.0	1.4	<0.30
4/1	X	6	839	394	13	8.7	63.7	63.7	0.56	0.91	1.5	1.5	2.4	1.3	<0.30
5/1	F	6	931	422	9.6	8.0	47.6	47.6	0.48	0.7	1.2	1.2	1.7	1.1	<0.20
Mean		5	637	367	11,9	7,6	57,5	57,5	0,6	0,8	1,4	1,4	2,0	1,1	<<0,3
Minimum		3	314	296	9,6	6,0	47,6	47,6	0,5	0,7	1,2	1,2	1,6	0,7	<0,2
Maximum		6	931	422	13,0	8,7	63,7	63,7	0,6	0,9	1,6	1,6	2,4	1,4	<0,3
St.Dev		1	255	48	1,4	1,2	6,0	6,0	0,1	0,1	0,2	0,2	0,4	0,3	~0,1
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5

Comments

Station: Inner Sørffjord Fish 1-13 fished 6.oct-10.oct
 Fish14-25 fished 1.dec 2001 Fished at 5-20m depth

sample no.

- Bulk of NIVA no 6,3,8,4,9 Skin with ulceration, lymphocytic areas and/or lesions
 Liver with necrotic areas and/or discolouration no 4,9 Bacterial fin rot no 4
 Skin a/o oral cavity with caligif.a/o Lernaepodif. Copepod 2
- Bulk of NIVA no 12,10,13,5,7 Skin with ulceration, lymphocytic areas and/or lesions no10
 Liver with necrotic areas and/or discolouration no13,7 Liver with signs of bleeding no13
 Fish malodorous no13
- Bulk of NIVA no 1,11,20,23,24 Skin with ulceration, lymphocytic areas and/or lesions no11
- Bulk of NIVA no 18,21,22,25,17
- Bulk of NIVA no,2,14,16,19,15

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** *Platichthys flesus* GB: Flounder, N: Skrubbe
 Sample area: **J62 Hardangerfjorden** Tissue: LIVER
 Locality : **67B Strandebrarm** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **19981115** Count: 19 Sample type: **Bulked**

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>					312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit =>					Mean																			
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
F/M		year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	5	258	286	3,3	24,7	8,4	0.226	7.38	0.10	35.8	0.50	0.84	2.8	1.4	3.8	9.4	11	0.65	2.4	<0.2	31	<33	37
2/1	M	7	825	386	22,1	37,6	21,3	0.164	8.01	<0.03	35.5	2.1	4.5	16	4.6	14	29	38	2.4	10	<0.2	114	<121	82
3/1	F	7	1292	434	42,8	40,1	26,2	0.191	10.7	<0.03	36.8	2.1	5.4	15	4.6	13	24	28	2.0	6.3	<0.2	94	<101	87
4/1	F	8	2048	490	104,7	46,5	33,0	0.184	6.32	<0.03	30.5	<2	miss	15	4.3	16	28	33	2.1	7.2	<2	<101	<108	100
Mean		7	1105	399	43,2	37,2	22,2	0.19	8,10	<<0.05	34,7	<1.7	3,6	12,2	3,7	11,7	22,6	27,5	1,8	6,5	<<0.7	<85	<<91	76,5
Minimum		5	258	286	3,3	24,7	8,4	0,16	6,32	<0.03	30,5	0,5	0,8	2,8	1,4	3,8	9,4	11,0	0,7	2,4	<0.2	31	<33	37,0
Maximum		8	2048	490	104,7	46,5	33,0	0,23	10,70	0,10	36,8	2,1	5,4	16,0	4,6	16,0	29,0	38,0	2,4	10,0	<2.0	114	<121	100,0
St.Dev		1	757	86	44,0	9,2	10,4	0,03	1,87	~0.04	2,8	~0.8	2,4	6,3	1,6	5,4	9,1	11,7	0,8	3,1	~0.9	~37	~39	27,4
Count		4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	4	4	4

miss(1) ! Missing value

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code =>					340	340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit =>					2	3			0.5	2			2	2	2
Samp/ repl.	Sex	Age	Wght	Lngr	DDTTPP	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	5	258	286	2.7	9.1	48.8	48.8	0.59	1.8	2.4	2.4	1.0	0.17	<0.1
2/1	M	7	825	386	12	31	125.0	125.0	1.8	5.4	7.2	7.2	5.3	0.51	<0.1
3/1	F	7	1292	434	15	41	143.0	143.0	2.4	7.4	9.8	9.8	8.0	0.81	<0.1
4/1	F	8	2048	490	34	33	167.0	167.0	2.4	7.1	9.5	9.5	7.7	<1	<1
Mean		7	1105	399	15,9	28,5	121,0	121,0	1,8	5,4	7,2	7,2	5,5	<0.6	<<0.3
Minimum		5	258	286	2,7	9,1	48,8	48,8	0,6	1,8	2,4	2,4	1,0	0,2	<0.1
Maximum		8	2048	490	34,0	41,0	167,0	167,0	2,4	7,4	9,8	9,8	8,0	<1.0	<1.0
St.Dev		1	757	86	13,1	13,7	51,1	51,1	0,9	2,6	3,4	3,4	3,2	~0.4	~0.5
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4

miss(1) ! Missing value

Comments

Station: Strandebrarm Caught nov. 1998 feb. 1999

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Skin with metacercariae of cf. *Cryptocotyle lingua* (1)
 Bacterial fin rot (1,3,5) Muscle with signs of inner bleeding (3,4)
 Signs of mechanical damage (e.g., net wounds) (4)
- Bulk of NIVA nos.:6,7,8,9,10 Muscle with signs of inner bleeding (6,7,8,9,10)
- Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (11,12,13,14)
- Bulk of NIVA nos.:16,17,18,19 Bacterial fin rot (16,19)
 Muscle with signs of inner bleeding (16,17)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J62 Hardangerfjorden** Tissue: LIVER
 Locality : **67B Strandebar** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **19990927** Count: 25 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	340			
Detection limit		=>		Mean		0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
F/M		year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	1018	392	34,8	47,5	30,3	0.097	17.7	<0.03	62.7	<2	<2	4.6	<2	3.8	8.8	12	<2	3.0	<2	<34	<34	29
2/1	F	3	1365	416	42,4	44,8	30,0	0.211	23.0	<0.03	83.6	<2	2.3	5.9	<2	5.8	11	15.8	<2	4.0	<2	<47	<47	39
3/1	X	4	1281	430	51,4	50,8	37,4	0.168	14.4	<0.03	51.0	<2	3.3	8.9	2.7	8.3	17	24	<2	6.0	<2	<70	<72	68
4/1	X	3	1317	432	44,9	48,3	31,2	0.185	18.2	<0.04	51.3	<2	2.4	5.8	<2	5.4	11	14	<2	3.5	<2	<44	<44	40
5/1	F	4	1562	392	58,3	45,0	28,8	0.219	19.9	<0.03	73.6	<2	2.4	6.8	<2	6.1	12	17	<2	4.3	<2	<51	<51	45
Mean		3	1309	412	46,4	47,3	31,5	0,18	18,64	<<0.03	64,4	<<2.0	<2.5	6,4	<<2.1	5,9	12,0	16,6	<<2.0	4,2	<<2.0	<<49	<<50	44,2
Minimum		2	1018	392	34,8	44,8	28,8	0,10	14,40	<0.03	51,0	<2.0	<2.0	4,6	<2.0	3,8	8,8	12,0	<2.0	3,0	<2.0	<34	<34	29,0
Maximum		4	1562	432	58,3	50,8	37,4	0,22	23,00	<0.04	83,6	<2.0	3,3	8,9	2,7	8,3	17,0	24,0	<2.0	6,0	<2.0	<70	<72	68,0
St.Dev		1	196	20	8,9	2,5	3,4	0,05	3,15	~0.00	14,2	~0.0	~0.5	1,6	~0.3	1,6	3,1	4,6	~0.0	1,1	~0.0	~13	~14	14,5
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>				340	340	Calc	Calc	340	340	Calc	Calc		
Detection limit		=>				2	3	0.5	2	2	2	2	2		
Samp/ repl.	Sex	Age	Wght	Lngt	DDTPP	TDEPP	DD Σ4	DD ΣΣ	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	1018	392	<8	11	<48.0	<48.0	<2	3.1	<5.1	<5.1	3.0	<1	<1
2/1	F	3	1365	416	<8	13	<60.0	<60.0	<2	3.1	<5.1	<5.1	3.3	<1	<1
3/1	X	4	1281	430	21	22	111.0	111.0	<2	4.1	<6.1	<6.1	4.8	<1	<1
4/1	X	3	1317	432	<8	13	<61.0	<61.0	<2	3.3	<5.3	<5.3	3.8	<1	<1
5/1	F	4	1562	392	<8	16	<69.0	<69.0	<2	3.4	<5.4	<5.4	3.6	<1	<1
Mean		3	1309	412	<<10.6	15,0	<<69.8	<<69.8	<<2.0	3,4	<<5.4	<<5.4	3,7	<<1.0	<<1.0
Minimum		2	1018	392	<8.0	11,0	<48.0	<48.0	<2.0	3,1	<5.1	<5.1	3,0	<1.0	<1.0
Maximum		4	1562	432	21,0	22,0	111,0	111,0	<2.0	4,1	<6.1	<6.1	4,8	<1.0	<1.0
St.Dev		1	196	20	~5.8	4,3	~24.2	~24.2	~0.0	0,4	~0.4	~0.4	0,7	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5

sample no.

- Bulk of NIVA no.s.11,12,13,14,15 not sort by length Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Bacterial fin rot (14,15)
- Bulk of NIVA no.s.16,17,18,19,20 not sort by length Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods(17,18,19,20 Bacterial fin rot (17,18,19,20) Signs of mechanical damage (e.g., net wounds)(19)
- Bulk of NIVA no.s.1,2,3,4,5, not sort by length Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods(2,4,) Skin with ulceration, lymphocytic areas and/o Bacterial fin rot
- Bulk of NIVA no.s.21,22,23,24,25 not sort by length Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Skin with ulceration lymphocytic areas and/c Bacterial fin rot (21,22,24,25)
- Bulk of NIVA no.s.6,7,8,9,10 not sort by length Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods(7,8,9,10) Skin with ulceration, lymphocytic areas a Bacterial fin rot

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J62 Hardangerfjorden** Tissue: LIVER
 Locality : **67B Strandebar** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **20001013** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA															NIVA		NIVA			
Analysis code =>					312															311		312			
Detection limit =>					Mean															0.05		0.01			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	5	2259	715	89,2	47,4	33,9	0.243	15.1	<0.03	72.8	<2.0	4.1	7.9	2.8	6.2	11	15	<2.0	4.2	<2.0	<50	<53	40	
2/1	F	4	1736	478	71,3	50,6	36,8	0.213	8.94	<0.03	63.6	<2.0	3.5	7.2	2.7	5.4	10	13	<2.0	3.9	<2.0	<45	<48	35	
3/1	X	4	1316	436	49,9	49,1	34,9	0.148	11.1	<0.03	56.7	<2.0	3.2	8.1	3.0	6.4	12	15	<2.0	4.4	<2.0	<51	<54	39	
4/1	X	3	860	400	29,6	44,6	29,0	0.144	12.5	<0.03	58.8	<2.0	2.2	5.9	2.1	4.5	8.1	11	<2.0	2.8	<2.0	<37	<39	28	
5/1	X	3	1538	440	64,3	48,0	32,5	0.143	6.73	0.03	54.7	<2.0	2.9	6.7	2.4	4.9	9.3	12	<2.0	3.5	<2.0	<41	<44	33	
Mean		4	1542	494	60,8	47,9	33,4	0,18	10,87	<<0.03	61,3	<<2.0	3,2	7,2	2,6	5,5	10,1	13,2	<<2.0	3,8	<<2.0	<<45	<<48	35,0	
Minimum		3	860	400	29,6	44,6	29,0	0,14	6,73	<0.03	54,7	<2.0	2,2	5,9	2,1	4,5	8,1	11,0	<2.0	2,8	<2.0	<37	<39	28,0	
Maximum		5	2259	715	89,2	50,6	36,8	0,24	15,10	0,03	72,8	<2.0	4,1	8,1	3,0	6,4	12,0	15,0	<2.0	4,4	<2.0	<51	<54	40,0	
St.Dev		1	517	127	22,5	2,2	2,9	0,05	3,22	~0.00	7,2	~0.0	0,7	0,9	0,4	0,8	1,5	1,8	~0.0	0,6	~0.0	~6	~6	4,8	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		340		Calc		Calc		340		340		340	
Detection limit =>					2		3		0.5		2		2		2		2	
Samp/ repl.	Sex	Age	Wght	Lngt	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb			
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt			
1/1	F	5	2259	715	9.4	15	64.4	64.4	<2.0	3.1	<5.1	<5.1	4.2	<1.0	<1.0			
2/1	F	4	1736	478	7.0	14	56.0	56.0	<2.0	2.6	<4.6	<4.6	2.1	<1.0	<1.0			
3/1	X	4	1316	436	6.2	12	57.2	57.2	<2.0	3.3	<5.3	<5.3	4.8	<1.0	<1.0			
4/1	X	3	860	400	4.8	10	42.8	42.8	<2.0	2.8	<4.8	<4.8	4.0	<1.0	<1.0			
5/1	X	3	1538	440	8.7	13	54.7	54.7	<2.0	3.6	<5.6	<5.6	4.8	<1.0	<1.0			
Mean		4	1542	494	7,2	12,8	55,0	55,0	<<2.0	3,1	<<5.1	<<5.1	4,0	<<1.0	<<1.0			
Minimum		3	860	400	4,8	10,0	42,8	42,8	<2.0	2,6	<4.6	<4.6	2,1	<1.0	<1.0			
Maximum		5	2259	715	9,4	15,0	64,4	64,4	<2.0	3,6	<5.6	<5.6	4,8	<1.0	<1.0			
St.Dev		1	517	127	1,9	1,9	7,8	7,8	~0.0	0,4	~0.4	~0.4	1,1	~0.0	~0.0			
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5			

sample no.

- Bulk of NIVA no 2,4,5,8,17 Age uncertain 2,4,5,17 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 4 Skin with ulceration, lymphocytic areas and/or Bacterial fin rot no 17
- Bulk of NIVA no 3,9,11,12,18 Age uncertain 3,9,11,12 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Skin with ulceration, lymphocyt areas a/or lesions3,9,11,12 Signs of mechanical damage (e.g., net wounds) no 11,12,18
- Bulk of NIVA no 1,7,10,15,16 Age uncertain 7,10,16 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 1,10,15,16 Skin with ulceration, lymphocyt.areas Bacterial fin rot no 16
- Bulk of NIVA no 6,13,14,23,25 Age uncertain 6,13,23,25 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 13,14,23 Skin with ulceration, lymphocytareas an Bacterial fin rot no 14
- Bulk of NIVA no 19,20,21,22,24 Age uncertain no 20,21 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 19,20,21,22 Skin with ulceration, lymphocytic ar no 19,20,21

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J62 Hardangerfjorden** Tissue: LIVER
 Locality : **67B Strandebar** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **20011012** Count: 25 Sample type: **Bulked**

Analytical lab.		=>		NIVA																					
Analysis code		=>		312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340 340																					
Detection limit		=>		Mean																					
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	
F/M		year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	F	4	617	336	17,1	42,7	25,0	0.058	11.9	<0.03	67.7	<0.60	1.3	3.7	1.4	3.2	5.6	6.6	<0.60	1.8	<0.60	<23	<24	15	
2/1	X	4	983	392	39,3	42,9	25,0	0.043	10.9	<0.03	61.8	0.69	1.6	4.3	1.7	3.8	6.6	8.1	<0.60	2.2	<0.60	27	<30	18	
3/1	X	5	1197	418	49,3	45,5	29,0	0.059	13.1	<0.03	58.7	0.81	2.1	5.6	2.3	5.5	9.4	12	0.74	3.2	<0.60	39	<42	28	
4/1	F	5	1590	444	69,2	47,0	31,0	0.092	9.70	<0.03	67.3	1.1	2.6	6.8	2.5	5.9	10	12	<0.60	3.4	<0.60	42	<45	31	
5/1	F	6	2241	496	102,8	45,0	28,0	0.089	11.1	<0.03	69.2	0.85	2.1	5.8	2.1	5.0	8.6	11	<0.60	2.9	<0.60	36	<39	25	
Mean		5	1326	417	55,6	44,6	27,6	0,07	11,34	<<0.03	64,9	<0.8	1,9	5,2	2,0	4,7	8,0	9,9	<<0.6	2,7	<<0.6	<33	<<36	23,4	
Minimum		4	617	336	17,1	42,7	25,0	0,04	9,70	<0.03	58,7	<0.6	1,3	3,7	1,4	3,2	5,6	6,6	<0.6	1,8	<0.6	<23	<24	15,0	
Maximum		6	2241	496	102,8	47,0	31,0	0,09	13,10	<0.03	69,2	1,1	2,6	6,8	2,5	5,9	10,0	12,0	0,7	3,4	<0.6	42	<45	31,0	
St.Dev		1	621	59	32,4	1,8	2,6	0,02	1,26	~0.00	4,5	~0.2	0,5	1,2	0,4	1,1	1,9	2,5	~0.1	0,7	~0.0	~8	~9	6,7	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.		=>		NIVA											
Analysis code		=>		340 340 Calc Calc 340 340 Calc Calc 340 340 340											
Detection limit		=>		2 3 0.5 2 2 2											
Samp/ repl.	Sex	Age	Wght	Lngt	DDTPP	TDEPP	DD Σ4	DD ΣΣ	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	617	336	3.5	4.8	23.3	23.3	0.89	1.4	2.3	2.3	3.1	<0.30	<0.30
2/1	X	4	983	392	3.8	5.9	27.7	27.7	0.86	1.4	2.3	2.3	3.7	<0.30	<0.30
3/1	X	5	1197	418	4.9	8.1	41.0	41.0	1.0	1.7	2.7	2.7	4.3	0.31	<0.30
4/1	F	5	1590	444	5.9	10	46.9	46.9	1.2	2.1	3.3	3.3	6.0	0.38	<0.30
5/1	F	6	2241	496	5.3	7.7	38.0	38.0	0.99	1.7	2.7	2.7	4.9	0.32	<0.3
Mean		5	1326	417	4,7	7,3	35,4	35,4	1,0	1,7	2,7	2,7	4,4	<<0.3	<<0.3
Minimum		4	617	336	3,5	4,8	23,3	23,3	0,9	1,4	2,3	2,3	3,1	<0.3	<0.3
Maximum		6	2241	496	5,9	10,0	46,9	46,9	1,2	2,1	3,3	3,3	6,0	0,4	<0.3
St.Dev		1	621	59	1,0	2,0	9,7	9,7	0,1	0,3	0,4	0,4	1,1	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5

sample no.

- Bulk of NIVA no 23,25,5,13,6 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no23,25,13,6 Skin with ulceration, lymphocytic area no23,5
- Bulk of NIVA no 24,18,20,9,10 Age uncertain no 10 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Skin w. ulceration, lymphocytic areas a/o l_r Liver with signs of bleeding no20
- Bulk of NIVA no 22,15,11,3,4 Age uncertain no3,11 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Skin with ulceration, lymphocytic areas and, Liver with signs of bleeding no15
- Bulk of NIVA no 8,14,19,7,21 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 8,19,21 Skin w. ulceration, lymphocytic areas a/o lesions no8,19,7 Liver with signs of bleeding no21
- Bulk of NIVA no 1,12,2,17,16 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Skin with ulceration, lymphocytic areas and, Age uncertain no1

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **21F Åkrefjord** Latitude: 59°45.0N Longitude: 6°7.0E
 Catch,date : **19991122** Count: 11 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code =>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit =>				Mean	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	
Samp/ repl.	Sex	Age	Wght	Lngt	weight	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
F/M		year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	F		136	220	1,6	46,0	16,0	miss	miss	miss	<1.4	<1.4	1.9	<1.0	1.6	3.2	3.8	<1.4	1.0	miss	<13	<13	6.5	
2/1	X		439	325	8,0	46,0	25,0	miss	miss	miss	<1.8	6.4	8.7	6.1	11	20	27	1.8	7.6	miss	<83	<90	22	
3/1	X		637	355	13,4	43,0	24,0	0.052	8.30	<0.04	66.6	<2.0	<2.0	2.8	<1.5	2.7	5.7	7.5	<2.0	2.2	miss	<23	<23	11
Mean				404	300	7,7	44,5	21,7	0,05	8,30	<<0.04	66,6	<<1.7	<<3.3	4,5	<<2.9	5,1	9,6	12,8	<<1.7	3,6	<<40	<<42	13,2
Minimum				136	220	1,6	43,0	16,0	0,05	8,30	<0.04	66,6	<1.4	<1.4	1,9	<1.0	1,6	3,2	3,8	<1.4	1,0	<13	<13	6,5
Maximum				637	355	13,4	46,0	25,0	0,05	8,30	<0.04	66,6	<2.0	6,4	8,7	6,1	11,0	20,0	27,0	<2.0	7,6	<83	<90	22,0
St.Dev				252	71	5,9	2,1	4,9				~0.3	~2.7	3,7	~2.8	5,1	9,1	12,5	~0.3	3,5	~38	~42	8,0	
Count				3	3	3	2	3	1	1	1	1	3	3	3	3	3	3	3	3	3	3	3	3

miss(9) ! Missing value

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				340	Calc	Calc	340	340	Calc	Calc	340	340	340		
Detection limit =>				3			0.5	2			2	2	2		
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP	DD Σ4	DD Σ5	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS	
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	F		136	220	3.3	9.8	9.8	<1.0	2.3	<3.3	<3.3	2.6	<1.0	<1.0	
2/1	X		439	325	10	32.0	32.0	<1.5	3.3	<4.8	<4.8	3.7	<1.5	<1.5	
3/1	X		637	355	4.3	15.3	15.3	<1.7	3.3	<5.0	<5.0	3.1	<1.7	<1.7	
Mean				404	300	5,9	19,0	19,0	<<1.4	3,0	<<4.4	<<4.4	3,1	<<1.4	<<1.4
Minimum				136	220	3,3	9,8	9,8	<1.0	2,3	<3.3	<3.3	2,6	<1.0	<1.0
Maximum				637	355	10,0	32,0	32,0	<1.7	3,3	<5.0	<5.0	3,7	<1.7	<1.7
St.Dev				252	71	3,6	11,6	11,6	~0.4	0,6	~0.9	~0.9	0,6	~0.4	~0.4
Count				3	3	3	3	3	3	3	3	3	3	3	

miss(9) ! Missing value

sample no.

- Bulk of NIVA no 10,11,12 Bacterial fin rot fish no 10and 12
Liver a/or intestinal guts with larvae of Anisakis simpl, 11 Signs of mechanical damage (e.g., net wounds) no 11
- Bulk of NIVA no 2,3,5,and 9 Bacterial fin rot no 6 and 8
Liver a/o intestinal guts with larvae of Anisakis simpl. 6,8 Skin a/o oral cavity with caligif. a/o Lernaepodif.copep.9
Signs of mechanical damage (e.g., net wounds)no 9
- Bulk of NIVA no 4,6,7,8 Bacterial fin rot no 4 and 7. Net wounds 6,8
Skin a/o oral cavity with caligif. a/o lernaec.copep. 4,7,8 Liver a/o intestinal guts with larvae Anisakis simpl. 6,7,8
Skin with ulceration, lymphocytic areas and/or lesions 8

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLAT FLE Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: J99 Undefined Tissue: LIVER
 Locality : 21F Åkrefjord Latitude: 59°45.0N Longitude: 6°7.0E
 Catch,date : 20001016 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA																				
Analysis code =>					312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340																				
Detection limit =>					Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3																				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	287	290	4,9	45,3	28,0	0.093	6.16	0.05	42.3	<1.6	<1.6	<1.6	<1.6	<1.6	3.7	4.6	<1.6	<1.6	<1.6	<1.6	<10	<10	5.2
2/1	X	2	95	206	1,1	22,0	3,0	0.149	8.01	0.03	38.4	<2.5	<2.5	4.0	<2.5	4.5	10	11	<2.5	2.8	<2.5	<35	<35	17	
3/1	M	2	127	222	2,1	26,6	13,0	0.074	6.15	<0.04	33.4	<0.40	<0.40	0.60	<0.40	0.64	1.8	2.8	<0.40	0.73	<0.40	<7	<7	2.6	
4/1	X	2	90	202	1,0	23,2	3,5	0.103	21.2	<0.10	66.1	<0.20	0.25	0.44	<0.20	0.47	0.99	1.3	<0.20	0.30	<0.20	<4	<4	1.7	
5/1	X	2	72	192	0,7	20,0	2,6	miss	miss	miss	miss	<0.20	<0.20	0.29	<0.20	0.44	1.3	1.9	<0.20	0.49	<0.20	<5	<5	2.0	
Mean		2	134	222	1,9	27,4	10,0	0,10	10,38	<<0.06	45,1	<<1.0	<<1.0	<1.4	<<1.0	<1.5	3,6	4,3	<<1.0	<1.2	<<1.0	<<12	<<12	5,7	
Minimum		2	72	192	0,7	20,0	2,6	0,07	6,15	0,03	33,4	<0.2	<0.2	0,3	<0.2	0,4	1,0	1,3	<0.2	0,3	<0.2	<4	<4	1,7	
Maximum		3	287	290	4,9	45,3	28,0	0,15	21,20	<0.10	66,1	<2.5	<2.5	4,0	<2.5	4,5	10,0	11,0	<2.5	2,8	<2.5	<35	<35	17,0	
St.Dev		0	88	39	1,7	10,3	10,9	0,03	7,27	~0.03	14,5	~1.0	~1.0	~1.5	~1.0	~1.7	3,8	3,9	~1.0	~1.0	~1.0	~13	~13	6,5	
Count		5	5	5	5	5	5	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	

miss(3) ! Missing value

Analytical lab. =>					NIVA										
Analysis code =>					340 Calc Calc 340 340 Calc Calc 340 340										
Detection limit =>					3 0.5 2 2 2										
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	X	3	287	290	<3.0	<8.2	<8.2	<1.6	2.1	<3.7	<3.7	2.3	<0.80	<1.6	
2/1	X	2	95	206	<4.0	<21.0	<21.0	<2.5	<2.5	<2.5	<2.5	2.9	<1.2	<2.5	
3/1	M	2	127	222	0.76	3.4	3.4	<0.40	0.85	<1.3	<1.3	1.1	<0.20	<0.40	
4/1	X	2	90	202	0.38	2.1	2.1	<0.20	0.22	<0.4	<0.4	0.35	<0.10	<0.20	
5/1	X	2	72	192	0.37	2.4	2.4	<0.20	0.23	<0.4	<0.4	0.32	<0.10	<0.20	
Mean		2	134	222	<<1.7	<<7.4	<<7.4	<<1.0	<1.2	<<1.7	<<1.7	1,4	<<0.5	<<1.0	
Minimum		2	72	192	0,4	2,1	2,1	<0.2	0,2	<0.4	<0.4	0,3	<0.1	<0.2	
Maximum		3	287	290	<4.0	<21.0	<21.0	<2.5	<2.5	<3.7	<3.7	2,9	<1.2	<2.5	
St.Dev		0	88	39	~1.7	~8.0	~8.0	~1.0	~1.1	~1.4	~1.4	1,2	~0.5	~1.0	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	

miss(3) ! Missing value

sample no.

- Bulk of NIVA no 1,2,3,4,5 Skin with ulceration, lymphocytic areas and/or lesions
Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 5
- Bulk of NIVA no 6,7,8,9,10 Age uncertain no 6,9 Skin with ulceration, lymphocytic areas and/or lesions
no 7,8,9,10 Bacterial fin rot no7,9
- Bulk of NIVA no 11,12,13,14,15 Age uncertain for all Skin with ulceration, lymphocytic areas and/or lesions
no 12,13,14 Bacterial fin rot no 11,14,15
- Bulk of NIVA no 16,17,18,19,20 Age uncertain no 17,18,20 Skin with ulceration, lymphocytic areas and/or lesions
no 16,18,20 Bacterial fin rot no 18
- Bulk of NIVA no 21,22,23,24,25 Age uncertain no21,22,23

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **21F Åkrefjord** Latitude: 59°45.0N Longitude: 6°7.0E
 Catch,date : **20011201** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA																			
Analysis code =>					312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340																			
Detection limit =>					Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3																			
Samp/ repl. no.	Sex	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
1/1	X	4	248	278	2,0	26,5	7,0	0.077	14.4	0.07	50.7	0.23	2.3	0.65	0.41	1.1	2.1	3.0	0.18	0.92	<0.10	10	<11	7.2
2/1	X	3	378	320	4,6	30,0	13,0	0.176	15.3	0.16	55.1	0.32	0.90	2.2	1.3	3.8	5.4	7.9	0.29	1.8	<0.30	22	<24	14
3/1	X	5	471	342	6,4	30,1	12,0	0.162	8.91	0.06	59.1	0.71	5.2	4.2	1.7	5.0	6.6	9.7	0.59	2.2	<0.30	34	<36	16
4/1	X	5	698	373	14,0	37,5	22,0	0.141	10.4	0.06	70.3	1.7	4.0	6.5	2.9	7.6	11	16	0.96	4.2	<0.30	51	<55	33
5/1	X	5	1082	406	37,4	42,8	27,0	0.057	6.65	<0.03	62.4	3.1	6.9	9.8	4.7	12	16	22	1.4	5.5	<0.30	75	<82	61
Mean		4	575	344	12,9	33,4	16,2	0.12	11,13	<0.08	59,5	1,2	3,9	4,7	2,2	5,9	8,2	11,7	0,7	2,9	<<0.3	38	<<42	26,2
Minimum		3	248	278	2,0	26,5	7,0	0,06	6,65	<0.03	50,7	0,2	0,9	0,7	0,4	1,1	2,1	3,0	0,2	0,9	<0.1	10	<11	7,2
Maximum		5	1082	406	37,4	42,8	27,0	0,18	15,30	0,16	70,3	3,1	6,9	9,8	4,7	12,0	16,0	22,0	1,4	5,5	<0.3	75	<82	61,0
St.Dev		1	328	49	14,4	6,6	8,1	0,05	3,66	-0.05	7,4	1,2	2,4	3,6	1,7	4,1	5,4	7,4	0,5	1,9	~0.1	25	~28	21,6
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA							NIVA		
Analysis code =>					340 Calc Calc 340 340 Calc Calc 340 340 340							340		
Detection limit =>					3 0.5 2							2 2 2		
Samp/ repl. no.	Sex	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	X	4	248	278	1.0	8.2	8.2	0.31	0.52	0.8	0.8	0.72	0.07	<0.05
2/1	X	3	378	320	3.5	17.5	17.5	0.52	0.78	1.3	1.3	1.4	0.14	<0.15
3/1	X	5	471	342	4.4	20.4	20.4	0.49	0.78	1.3	1.3	2.4	0.22	<0.15
4/1	X	5	698	373	15	48.0	48.0	0.83	1.3	2.1	2.1	4.6	0.35	0.40
5/1	X	5	1082	406	31	92.0	92.0	1.0	1.6	2.6	2.6	7.1	0.55	0.68
Mean		4	575	344	11,0	37,2	37,2	0,6	1,0	1,6	1,6	3,2	0,3	<<0.3
Minimum		3	248	278	1,0	8,2	8,2	0,3	0,5	0,8	0,8	0,7	0,1	<0.1
Maximum		5	1082	406	31,0	92,0	92,0	1,0	1,6	2,6	2,6	7,1	0,6	0,7
St.Dev		1	328	49	12,4	34,0	34,0	0,3	0,4	0,7	0,7	2,6	0,2	~0.3
Count		5	5	5	5	5	5	5	5	5	5	5	5	5

Comments
 Station: Åkrefjord Fished in dec.2001

- sample no.
 1 Bulk of NIVA no 1,2,3,4,5
 2 Bulk of NIVA no 6,7,8,9,10
 3 Bulk of NIVA no 11,12,13,14,15
 4 Bulk of NIVA no 16,17,18,19,20
 5 Bulk of NIVA no 21,22,23,24,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **33B Sande (east side)** Latitude: 59°31.70N Longitude: 10°21.0E
 Catch,date : **19981015** Count: 25 Sample type: **Bulked**

Analytical lab.		=>																							
Analysis code		=>																		=>					
Detection limit		=>																		=>					
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	Mean weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	206	256	15,0	20,5	0,1	0.041	0.08	miss	miss	0.03	0.10	0.12	0.08	<0.02	0.03	<0.02	0	<0	0.14	<0.05	<0.2	<0.2	
2/1	F	4	231	272	15,0	21,0	0,1	0.036	0.03	miss	miss	<0.02	0.04	0.05	0.04	<0.02	<0.02	<0.02	<0	<0	0.03	<0.05	<0.1	<0.1	
3/1	M	5	258	278	15,0	21,0	0,2	0.044	0.05	0.06	miss	0.04	0.11	0.12	0.10	<0.02	0.03	<0.02	0	<1	0.12	<0.05	<0.2	<0.2	
4/1	F	6	319	300	15,0	19,6	0,4	0.061	miss	0.18	miss	0.26	0.54	0.58	0.61	0.06	0.19	<0.02	2	<2	0.36	0.08	0.4	0.4	
5/1	F	5	443	332	15,0	21,5	0,1	0.092	miss	0.09	miss	0.06	0.12	0.13	0.13	<0.02	0.03	<0.02	1	<1	0.14	<0.05	<0.2	<0.2	
Mean		5	291	288	15,0	20,7	0,2	0,055	0,1	0,1		<0.1	0,2	0,2	0,2	<<0.0	<0.1	<<0.0	<1	<<1	0,2	<<0.1	<<0.2	<<0.2	
Minimum		4	206	256	15,0	19,6	0,1	0,036	0,0	0,1		<0.0	0,0	0,1	0,0	<0.0	<0.0	<0.0	<0	<0	0,0	<0.1	<0.1	<0.1	
Maximum		6	443	332	15,0	21,5	0,4	0,092	0,1	0,2		0,3	0,5	0,6	0,6	0,1	0,2	<0.0	2	<2	0,4	0,1	0,4	0,4	
St.Dev		1	94	29	0,0	0,7	0,1	0,023	0,0	0,1		~0.1	0,2	0,2	0,2	~0.0	~0.1	~0.0	~1	~1	0,1	~0.0	~0.1	~0.1	
Count		5	5	5	5	5	5	5	3	3		5	5	5	5	5	5	5	5	5	5	5	5	5	

miss(9) ! Missing value

Analytical lab.		=>									
Analysis code		=>								=>	
Detection limit		=>								=>	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	206	256	<0.05	0.06	<0.1	<0.1	0.03	<0.02	<0.02
2/1	F	4	231	272	<0.05	0.06	<0.1	<0.1	0.02	<0.02	<0.02
3/1	M	5	258	278	<0.05	0.07	<0.1	<0.1	0.03	<0.02	<0.02
4/1	F	6	319	300	<0.05	0.09	<0.1	<0.1	0.04	<0.02	<0.02
5/1	F	5	443	332	<0.05	0.08	<0.1	<0.1	0.02	<0.02	<0.02
Mean		5	291	288	<<0.1	0,1	<<0.1	<<0.1	0,0	<<0.0	<<0.0
Minimum		4	206	256	<0.1	0,1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		6	443	332	<0.1	0,1	<0.1	<0.1	0,0	<0.0	<0.0
St.Dev		1	94	29	~0.0	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

miss(9) ! Missing value

sample no.

- 1 Bulk of NIVA nos.:1,2,3,4,5 Muscle with signs of inner bleeding (2,3,4,5)
- 2 Bulk of NIVA nos.: 6,7,8,9,10 Muscle with signs of inner bleeding (10)
- 3 Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (11,12,15)
- 4 Bulk of NIVA nos.:16,17,18,19,20 Muscle with signs of inner bleeding (16,17,18,19,20)
Skin with red film and/or uneven pigmentations (20)
- 5 Bulk of NIVA nos.:21,22,23,24,25 Muscle with signs of inner bleeding (21,22,23,24)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **33B Sande (east side)** Latitude: 59°31.70N Longitude: 10°21.0E
 Catch,date : **19981115** Count: 14 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code		=>				310	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341				
Detection limit		=>		Mean		0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
						w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	4	261	284	15,0	20,1	0,2	0.054	0.16	0.10	0.11	0.09	0.19	0.23	0.29	<0.04	0.07	<0.04	1	<1	0.30	0.06	0.4	0.4	
2/1	M	5	321	302	15,0	21,0	0,2	0.091	0.08	0.06	0.07	0.04	0.10	0.13	0.15	<0.04	0.04	<0.04	1	<1	0.16	<0.05	<0.2	<0.2	
3/1	F	5	416	320	15,0	19,3	0,2	0.080	0.14	0.08	0.10	0.06	0.12	0.16	0.20	<0.04	0.05	<0.04	1	<1	0.16	<0.05	<0.2	<0.2	
Mean		5	333	302	15,0	20,1	0,2	0,075	0,1	0,1	0,1	0,1	0,1	0,2	0,2	<<0.0	0,1	<<0.0	1	<<1	0,2	<<0.1	<<0.3	<<0.3	
Minimum		4	261	284	15,0	19,3	0,2	0,054	0,1	0,1	0,1	0,0	0,1	0,1	0,2	<0.0	0,0	<0.0	1	<1	0,2	<0.1	<0.2	<0.2	
Maximum		5	416	320	15,0	21,0	0,2	0,091	0,2	0,1	0,1	0,1	0,2	0,2	0,3	<0.0	0,1	<0.0	1	<1	0,3	0,1	0,4	0,4	
St.Dev		0	78	18	0,0	0,9	0,0	0,019	0,0	0,0	0,0	0,0	0,0	0,1	0,1	~0.0	0,0	~0.0	0	~0	0,1	~0.0	~0.1	~0.1	
Count		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		341	341	Calc	Calc	341	341	341	
Detection limit		=>		0.05	0.05			0.05	0.05	0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
						w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	4	261	284	<0.05	0.09	<0.1	<0.1	0.02	<0.02	<0.02
2/1	M	5	321	302	<0.05	0.05	<0.1	<0.1	<0.02	<0.03	<0.02
3/1	F	5	416	320	<0.05	0.06	<0.1	<0.1	0.02	<0.02	<0.02
Mean		5	333	302	<<0.1	0,1	<<0.1	<<0.1	<<0.0	<<0.0	<<0.0
Minimum		4	261	284	<0.1	0,1	<0.1	<0.1	<0.0	<0.0	<0.0
Maximum		5	416	320	<0.1	0,1	<0.1	<0.1	0,0	<0.0	<0.0
St.Dev		0	78	18	~0.0	0,0	~0.0	~0.0	~0.0	~0.0	~0.0
Count		3	3	3	3	3	3	3	3	3	3

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Muscle with signs of inner bleeding (1,2,3)
Skin with red film and/or uneven pigmentations (5)
- Bulk of NIVA no.:6,7,8,9,10 Muscle with signs of inner bleeding (6,7,8,9,10)
- Bulk of NIVA nos.:11,12,13,14 Muscle with signs of inner bleeding (12,13,14)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **33B Sande (east side)** Latitude: 59°31.70N Longitude: 10°21.0E
 Catch,date : **19981215** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA																			
Analysis code =>					310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																			
Detection limit =>					Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																			
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb
1/1	M	4	182	248	15,0	18,8	0,3	0.034	0.13	0.16	0.25	0.34	0.37	0.38	0.43	0.05	0.11	<0.02	2	<2	0.25	0.09	0.3	0.3
2/1	M	5	268	278	15,0	19,4	0,2	0.032	0.07	0.07	0.06	0.05	0.09	0.11	0.12	<0.02	0.03	<0.02	1	<1	0.24	0.05	0.3	0.3
3/1	F	5	270	281	15,0	19,5	0,3	0.049	0.11	0.12	0.13	0.11	0.20	0.26	0.31	0.02	0.07	<0.02	1	<1	0.40	0.07	0.5	0.5
4/1	M	5	315	292	15,0	20,1	0,3	0.047	0.17	0.12	0.11	0.10	0.18	0.22	0.26	0.02	0.07	<0.02	1	<1	0.27	0.06	0.3	0.3
5/1	M	5	336	309	15,0	20,1	0,3	0.049	0.11	0.12	0.14	0.09	0.18	0.25	0.30	0.02	0.07	<0.02	1	<1	0.30	0.06	0.4	0.4
Mean		5	274	282	15,0	19,6	0,3	0,042	0,1	0,1	0,1	0,1	0,2	0,2	0,3	<0,0	0,1	<<0,0	1	<<1	0,3	0,1	0,4	0,4
Minimum		4	182	248	15,0	18,8	0,2	0,032	0,1	0,1	0,1	0,1	0,1	0,1	0,1	<0,0	0,0	<0,0	1	<1	0,2	0,1	0,3	0,3
Maximum		5	336	309	15,0	20,1	0,3	0,049	0,2	0,2	0,3	0,3	0,4	0,4	0,4	0,1	0,1	<0,0	2	<2	0,4	0,1	0,5	0,5
St.Dev		0	59	22	0,0	0,5	0,1	0,008	0,0	0,0	0,1	0,1	0,1	0,1	0,1	~0,0	0,0	~0,0	0	~0	0,1	0,0	0,1	0,1
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA							
Analysis code =>					341 341 Calc Calc 341 341 341							
Detection limit =>					0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
1/1	M	4	182	248	<0.05	0.08	<0.1	<0.1	0.03	<0.02	<0.02	
2/1	M	5	268	278	<0.05	0.09	<0.1	<0.1	0.2	<0.02	<0.02	
3/1	F	5	270	281	<0.05	0.11	<0.2	<0.2	0.03	<0.02	<0.02	
4/1	M	5	315	292	<0.05	0.11	<0.2	<0.2	0.03	<0.02	<0.02	
5/1	M	5	336	309	<0.05	0.11	<0.2	<0.2	0.03	<0.02	<0.02	
Mean		5	274	282	<<0.1	0,1	<<0.2	<<0.2	0,1	<<0.0	<<0.0	
Minimum		4	182	248	<0.1	0,1	<0.1	<0.1	0,0	<0.0	<0.0	
Maximum		5	336	309	<0.1	0,1	<0.2	<0.2	0,2	<0.0	<0.0	
St.Dev		0	59	22	~0.0	0,0	~0.1	~0.1	0,1	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Muscle with signs of inner bleeding (1,2,5)
- Bulk of NIVA nos.: 6,7,8,9,10 Muscle with signs of inner bleeding (6,7,8,9,10)
Skin with red film and/or uneven pigmentations (7,9)
- Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (12,13,14,15)
Skin with red film and/or uneven pigmentations (15)
- Bulk of NIVA nos.: 16,17,18,19,20 Muscle with signs of inner bleeding (16,18,20)
Skin with red film and/or uneven pigmentations (16,18,20)
- Bulk of NIVA nos.: 21,22,23,24,25 Muscle with signs of inner bleeding (21,22,24)
Skin with red film and/or uneven pigmentations (23,24)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **33B Sande (east side)** Latitude: 59°31.70N Longitude: 10°21.0E
 Catch,date : **20000120** Count: 25 Sample type: **Bulked**

Analytical lab.						NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA			
Analysis code						310		341		341		341		341		341		341		341		341			
Detection limit				Mean		0.005		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	288	297	10,5	19,7	0,7	0.046	0.57	1.6	4.5	1.9	5.6	6.4	6.0	0.43	0.79	<0.06	25	<28	1.5	0.51	2.0	2.0	
2/1	M	3	307	307	10,6	21,5	0,9	0.045	0.22	0.28	0.47	0.33	0.72	1.1	1.5	0.09	0.42	<0.06	5	<5	2.5	0.31	2.8	2.8	
3/1	X	3	379	321	10,6	20,2	0,7	0.078	0.19	0.87	1.5	0.58	1.4	2.1	2.5	0.15	0.61	<0.06	9	<10	0.73	0.20	0.9	0.9	
4/1	X	3	434	335	10,4	20,6	0,6	0.102	0.34	0.24	0.38	0.21	0.47	0.71	0.85	<0.06	0.21	<0.06	3	<3	1.4	0.23	1.6	1.6	
5/1	X	3	543	367	10,6	17,8	0,4	0.140	0.33	0.39	0.62	0.31	0.69	1.2	1.6	0.10	0.49	<0.06	5	<6	2.2	0.29	2.5	2.5	
Mean		3	390	325	10,6	20,0	0,7	0,082	0,3	0,7	1,5	0,7	1,8	2,3	2,5	<0,2	0,5	<<0,1	9	<<10	1,7	0,3	2,0	2,0	
Minimum		2	288	297	10,4	17,8	0,4	0,045	0,2	0,2	0,4	0,2	0,5	0,7	0,9	<0,1	0,2	<0,1	3	<3	0,7	0,2	0,9	0,9	
Maximum		3	543	367	10,6	21,5	1,0	0,140	0,6	1,6	4,5	1,9	5,6	6,4	6,0	0,4	0,8	<0,1	25	<28	2,5	0,5	2,8	2,8	
St.Dev		0	103	27	0,1	1,4	0,2	0,040	0,1	0,6	1,7	0,7	2,2	2,3	2,0	~0,2	0,2	~0,0	9	~10	0,7	0,1	0,8	0,8	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.				NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code				341		341		Calc		Calc		341	
Detection limit				0.05		0.05		0.05		0.05		0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb		
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt		
1/1	X	2	288	297	<0.06	0.10	<0.2	<0.2	0.06	<0.03	0.05		
2/1	M	3	307	307	<0.06	0.12	<0.2	<0.2	0.07	<0.03	<0.03		
3/1	X	3	379	321	<0.06	0.08	<0.1	<0.1	0.05	<0.03	0.03		
4/1	X	3	434	335	0.05	0.10	0.1	0.1	0.06	<0.03	<0.03		
5/1	X	3	543	367	<0.06	0.08	<0.1	<0.1	0.07	<0.03	<0.03		
Mean		3	390	325	<<0.1	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.0		
Minimum		2	288	297	0,1	0,1	<0.1	<0.1	0,1	<0.0	<0.0		
Maximum		3	543	367	<0.1	0,1	<0.2	<0.2	0,1	<0.0	0,1		
St.Dev		0	103	27	~0.0	0,0	~0.1	~0.1	0,0	~0.0	~0.0		
Count		5	5	5	5	5	5	5	5	5	5		

sample no.

- Skin with ulceration, lymphocytic areas and/or lesions(3) Skin with red film and/or uneven pigmentations(3)
Bulk of NIVA no.s.1,2,3,4,5,
- Skin with ulceration, lymphocytic areas and/or lesions(9) Skin and/or oral cavity with caligiform and/or(9)
Bulk of NIVA no.s.6,7,8,9,10
- Bulk of NIVA no.s.11,12,13,14,15
- Bulk of NIVA no.s.16,17,18,19,20 Skin with red film and/or uneven pigmentations(16)
Skin and/or oral cavity with caligiform and/or (17) Skin with ulceration, lymphocytic areas and/or lesions(18)
Bacterial fin rot (18)
- Bulk of NIVA no.s.21,22,23,24,25 Skin with ulceration, lymphocytic areas and/or lesions (22)
Bacterial fin rot (22,24,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **33B Sande (east side)** Latitude: 59°31.70N Longitude: 10°21.0E
 Catch,date : **20001025** Count: 25 Sample type: **Bulked**

Analytical lab.		=>																							
Analysis code		=>																		=>					
Detection limit		=>																		=>					
Samp/ repl.	Sex	Age	Wght	Lngt	Mean weight	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	292	278	12,5	20,0	0,2	0.050	<0.10	<0.10	<0.10	<0.10	<0.10	0.11	0.13	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10
2/1	X	2	338	301	12,7	21,0	0,3	0.049	0.08	0.07	0.06	0.05	0.09	0.13	0.15	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
3/1	X	3	393	312	12,6	21,0	0,5	0.046	0.14	0.17	0.17	0.11	0.24	0.31	0.40	<0.04	0.10	<0.04	2	<2	0.43	0.09	0.5	0.5	0.5
4/1	X	3	444	321	13,0	21,0	0,3	0.050	0.11	0.11	0.13	0.08	0.16	0.23	0.32	<0.04	0.08	<0.04	1	<1	0.30	0.08	0.4	0.4	0.4
5/1	X	4	542	347	14,2	21,0	0,5	0.121	0.15	0.14	0.13	0.09	0.22	0.30	0.42	<0.04	0.10	<0.04	1	<2	0.44	0.08	0.5	0.5	0.5
Mean		3	402	312	13,0	20,8	0,4	0,063	<0.1	<0.1	<0.1	<0.1	<0.2	0,2	0,3	<<0.1	<<0.1	<<0.1	<<1	<<1	0,3	<<0.1	<<0.4	<<0.4	<<0.4
Minimum		2	292	278	12,5	20,0	0,2	0,046	0,1	0,1	0,1	0,1	0,1	0,1	0,1	<0.0	<0.0	<0.0	<0	<0	0,2	<0.1	<0.3	<0.3	<0.3
Maximum		4	542	347	14,2	21,0	0,5	0,121	0,1	0,2	0,2	0,1	0,2	0,3	0,4	<0.1	0,1	<0.1	2	<2	0,4	<0.1	0,5	0,5	0,5
St.Dev		1	97	25	0,7	0,4	0,2	0,032	~0.0	~0.0	~0.0	~0.0	~0.1	0,1	0,1	~0.0	~0.0	~0.0	~1	~1	0,1	~0.0	~0.1	~0.1	~0.1
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>									
Analysis code		=>							=>		
Detection limit		=>							=>		
Samp/ repl.	Sex	Age	Wght	Lngt	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	292	278	<0.10	<0.10	<0.1	<0.1	<0.05	<0.05	<0.10
2/1	X	2	338	301	<0.04	0.05	<0.1	<0.1	0.03	<0.02	<0.04
3/1	X	3	393	312	<0.04	0.06	<0.1	<0.1	0.04	<0.02	<0.04
4/1	X	3	444	321	<0.04	0.05	<0.1	<0.1	0.03	<0.02	<0.04
5/1	X	4	542	347	<0.04	0.07	<0.1	<0.1	0.04	<0.02	<0.04
Mean		3	402	312	<<0.1	<0.1	<<0.1	<<0.1	<0.0	<<0.0	<<0.1
Minimum		2	292	278	<0.0	0,1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		4	542	347	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
St.Dev		1	97	25	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

sample no.

- 1 Bulk of NIVA no 1,2,3,4,5 Age uncertain no 1,2
- 2 Bulk of NIVA no 6,7,8,9,10
- 3 Bulk of NIVA no 11,12,13,14,15 Age uncertain no 13
- 4 Bulk of NIVA no 16,17,18,19,20 Age uncertain no 18,19,20
- 5 Bulk of NIVA no 21,22,23,24,25 Age uncertain no 21,22

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **33B Sande (east side)** Latitude: 59°31.70N Longitude: 10°21.0E
 Catch,date : **20011025** Count: 25 Sample type: **Bulked**

Analytical lab.		=>																							
Analysis code		=>																		=>					
Detection limit		=>																		=>					
Samp/ repl.	Sex	Age	Wght	Lngt	Mean weight	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	2	252	272	17,8	20,5	0,4	0.022	0.17	0.22	0.17	0.15	0.30	0.30	0.39	<0.06	0.10	<0.06	2	<2	0.56	<0.08	<0.6	<0.6	
2/1	X	2	370	309	20,0	21,0	0,5	0.039	0.10	0.16	0.18	0.13	0.30	0.38	0.53	<0.06	0.11	<0.06	2	<2	0.44	<0.08	<0.5	<0.5	
3/1	X	3	406	310	20,8	22,1	0,6	0.076	0.09	0.20	0.14	0.11	0.23	0.29	0.39	<0.06	0.09	<0.06	1	<2	0.49	<0.08	<0.6	<0.6	
4/1	X	4	405	324	19,3	21,7	0,6	0.049	0.16	0.22	0.25	0.19	0.44	0.51	0.73	<0.06	0.16	<0.06	2	<3	0.61	0.09	0.7	0.7	
5/1	X	5	574	349	19,4	19,6	0,6	0.071	0.15	0.32	0.34	0.27	0.68	0.60	0.88	<0.06	0.19	<0.06	3	<3	0.73	0.13	0.9	0.9	
Mean		3	401	313	19,5	21,0	0,6	0,051	0,1	0,2	0,2	0,2	0,4	0,4	0,6	<<0.1	0,1	<<0.1	2	<<2	0,6	<<0.1	<<0.7	<<0.7	
Minimum		2	252	272	17,8	19,6	0,4	0,022	0,1	0,2	0,1	0,1	0,2	0,3	0,4	<0.1	0,1	<0.1	1	<2	0,4	<0.1	<0.5	<0.5	
Maximum		5	574	349	20,8	22,1	0,6	0,076	0,2	0,3	0,3	0,3	0,7	0,6	0,9	<0.1	0,2	<0.1	3	<3	0,7	0,1	0,9	0,9	
St.Dev		1	115	28	1,1	1,0	0,1	0,022	0,0	0,1	0,1	0,1	0,2	0,1	0,2	~0.0	0,0	~0.0	1	~1	0,1	~0.0	~0.2	~0.2	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.		=>									
Analysis code		=>						=>			
Detection limit		=>						=>			
Samp/ repl.	Sex	Age	Wght	Lngt	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	2	252	272	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
2/1	X	2	370	309	<0.06	<0.06	<0.1	<0.1	0.03	<0.03	<0.03
3/1	X	3	406	310	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
4/1	X	4	405	324	<0.06	<0.06	<0.1	<0.1	0.05	<0.03	<0.03
5/1	X	5	574	349	<0.06	0.06	<0.1	<0.1	0.07	<0.03	<0.03
Mean		3	401	313	<<0.1	<<0.1	<<0.1	<<0.1	0,0	<<0.0	<<0.0
Minimum		2	252	272	<0.1	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		5	574	349	<0.1	0,1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	115	28	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

sample no.

- 1 Bulk of NIVA no 1,2,3,4,5
- 2 Bulk of NIVA no 6,7,8,9,10
- 3 Bulk of NIVA no 11,12,13,14,15
- 4 Bulk of NIVA no 16,17,18,19,20
- 5 Bulk of NIVA no 21,22,23,24,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J63 Sør fjorden** Tissue: MUSCLE
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19981101** Count: 15 Sample type: **Bulked**

Analytical lab.		=>				NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		
Analysis code		=>				310		341		341		341		341		341		341		341		341		
Detection limit		=>		Mean		0.005		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	DDTPP ppb	TDEPP ppb	DD Σ4 ppb
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	5	400	310	15,0	21,9	0,4	0.151	0.09	0.09	0.21	0.11	0.26	0.43	0.58	0.04	0.17	<0.03	2	<2	1.8	0.78	0.23	2.8
2/1	M	6	514	336	15,0	22,0	0,6	0.105	<0.03	0.05	0.17	0.05	0.13	0.31	0.44	0.03	0.13	<0.03	<1	<1	1.4	0.33	0.67	2.4
3/1	F	7	672	373	15,0	21,3	0,6	0.164	0.03	0.10	0.43	0.12	0.29	0.84	1.1	0.08	0.41	<0.03	3	<3	0.89	0.29	0.35	1.5
Mean		6	529	340	15,0	21,7	0,6	0,140	<<0.1	0,1	0,3	0,1	0,2	0,5	0,7	0,1	0,2	<<0.0	<<2	<<2	1,4	0,5	0,4	2,2
Minimum		5	400	310	15,0	21,3	0,5	0,105	<0.0	0,1	0,2	0,1	0,1	0,3	0,4	0,0	0,1	<0.0	<1	<1	0,9	0,3	0,2	1,5
Maximum		7	672	373	15,0	22,0	0,7	0,164	0,1	0,1	0,4	0,1	0,3	0,8	1,1	0,1	0,4	<0.0	3	<3	1,8	0,8	0,7	2,8
St.Dev		1	137	32	0,0	0,4	0,1	0,031	~0.0	0,0	0,1	0,0	0,1	0,3	0,3	0,0	0,2	~0.0	~1	~1	0,5	0,3	0,2	0,7
Count		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code		=>		Calc		341		341		Calc		Calc		341	
Detection limit		=>		0.05		0.05		0.05		0.05		0.05		0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb			
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt			
1/1	F	5	400	310	2.8	<0.05	0.14	<0.2	<0.2	0.05	0.02	<0.02			
2/1	M	6	514	336	2.4	<0.05	0.13	<0.2	<0.2	0.04	0.02	<0.02			
3/1	F	7	672	373	1.5	<0.05	0.14	<0.2	<0.2	0.06	0.03	<0.02			
Mean		6	529	340	2,2	<<0.1	0,1	<<0.2	<<0.2	0,1	0,0	<<0.0			
Minimum		5	400	310	1,5	<0.1	0,1	<0.2	<0.2	0,0	0,0	<0.0			
Maximum		7	672	373	2,8	<0.1	0,1	<0.2	<0.2	0,1	0,0	<0.0			
St.Dev		1	137	32	0,7	~0.0	0,0	~0.0	~0.0	0,0	0,0	~0.0			
Count		3	3	3	3	3	3	3	3	3	3	3			

Comments

Station: Inner Sør fjord Eddna , 5-10 m, fish traps

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Bacterial fin rot (1,4,5)
Muscle with signs of inner bleeding (1,2,3,5)
- Bulk of NIVA nos.:6,7,8,9,10 Muscle with signs of inner bleeding (6,9)
Bacterial fin rot (10)
- Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (11,14,15)
Bacterial fin rot (13,14)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J63 Sør fjorden** Tissue: MUSCLE
 Locality : **53B Inner Sør fjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch, date : **19981105** Count: 15 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code		=>				310	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341				
Detection limit		=>		Mean		0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	6	320	300	15,0	22,3	0,5	0.165	0.03	0.07	0.19	0.08	0.17	0.41	0.59	0.04	0.19	<0.03	2	<2	0.69	0.36	0.14	1.2	
2/1	M	6	438	333	15,0	23,3	0,7	0.108	<0.03	0.06	0.18	0.06	0.16	0.33	0.47	0.03	0.12	<0.03	<1	<1	0.65	0.36	0.13	1.1	
3/1	F	7	720	374	15,0	22,3	0,8	0.257	<0.03	0.10	0.40	0.13	0.33	0.83	1.2	0.08	0.35	<0.03	<3	<3	1.4	0.67	0.31	2.4	
Mean		6	493	336	15,0	22,6	0,7	0.177	<<0.0	0,1	0,3	0,1	0,2	0,5	0,8	0,1	0,2	<<0.0	<<2	<<2	0,9	0,5	0,2	1,6	
Minimum		6	320	300	15,0	22,3	0,5	0,108	<0.0	0,1	0,2	0,1	0,2	0,3	0,5	0,0	0,1	<0.0	<1	<1	0,7	0,4	0,1	1,1	
Maximum		7	720	374	15,0	23,3	0,8	0,257	0,0	0,1	0,4	0,1	0,3	0,8	1,2	0,1	0,4	<0.0	<3	<3	1,4	0,7	0,3	2,4	
St.Dev		1	206	37	0,0	0,6	0,1	0,075	~0.0	0,0	0,1	0,0	0,1	0,3	0,4	0,0	0,1	<0.0	~1	~1	0,4	0,2	0,1	0,7	
Count		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>		Calc	341	341	Calc	Calc	341	341	341		
Detection limit		=>		0.05		0.05		0.05		0.05			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	DD ppb	ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	6	320	300	1.2	<0.05	0.13	<0.2	<0.2	0.06	0.02	<0.02	<0.02
2/1	M	6	438	333	1.1	<0.05	0.13	<0.2	<0.2	0.04	0.02	<0.02	<0.02
3/1	F	7	720	374	2.4	0.06	0.17	0.2	0.2	0.06	0.03	<0.02	<0.02
Mean		6	493	336	1,6	<<0.1	0,1	<<0.2	<<0.2	0,1	0,0	<<0.0	<<0.0
Minimum		6	320	300	1,1	<0.1	0,1	<0.2	<0.2	0,0	0,0	<0.0	<0.0
Maximum		7	720	374	2,4	0,1	0,2	0,2	0,2	0,1	0,0	<0.0	<0.0
St.Dev		1	206	37	0,7	~0.0	0,0	~0.0	~0.0	0,0	0,0	~0.0	~0.0
Count		3	3	3	3	3	3	3	3	3	3	3	3

Comments

Station: Inner Sør fjord Tyssedal, 5-10 m, fish traps

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Bacterial fin rot (1,5)
Muscle with signs of inner bleeding (2,3,4,5)
- Bulk of NIVA nos.:6,7,8,9,10 Bacterial fin rot 7,8)
Muscle with signs of inner bleeding (6,7,8)
- Bulk of NIVA nos.:11,12,13,14,15 Bacterial fin rot (11,15)
Muscle with signs of inner bleeding (11)

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLAT FLE Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: J63 Sørffjorden Tissue: MUSCLE
 Locality : 53B Inner Sørffjord Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : 19981120 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA																			
Analysis code =>					310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																			
Detection limit =>					Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																			
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	DDTPP ppb	TDEPP ppb	DD Σ4 ppb
1/1	M	6	365	311	15,0	22,0	0,3	0.211	0.04	0.09	0.33	0.10	0.25	0.55	0.70	0.06	0.23	<0.02	2	<2	1.2	0.37	0.35	1.9
2/1	M	7	426	322	15,0	22,1	0,3	0.201	0.02	0.06	miss	0.10	0.32	0.68	0.82	0.07	0.34	<0.02	2	<2	0.96	0.40	0.29	1.6
3/1	M	6	470	344	15,0	22,8	0,5	0.428	0.04	0.13	0.38	0.12	0.26	0.72	0.92	0.07	0.29	<0.02	3	<3	1.1	0.38	0.76	2.2
4/1	F	7	570	350	15,0	22,8	0,3	0.216	0.03	0.10	0.25	0.09	0.18	0.40	0.53	0.04	0.17	<0.02	2	<2	0.70	0.25	0.27	1.2
5/1	F	7	701	367	15,0	22,8	0,5	0.268	0.03	0.15	0.44	0.12	0.31	0.71	0.90	0.07	0.27	<0.02	3	<3	0.63	0.28	0.24	1.1
Mean		7	506	339	15,0	22,5	0,4	0,265	0,0	0,1	0,4	0,1	0,3	0,6	0,8	0,1	0,3	<<0.0	2	<<2	0,9	0,3	0,4	1,6
Minimum		6	365	311	15,0	22,0	0,3	0,201	0,0	0,1	0,3	0,1	0,2	0,4	0,5	0,0	0,2	<0.0	2	<2	0,6	0,3	0,2	1,1
Maximum		7	701	367	15,0	22,8	0,5	0,428	0,0	0,2	0,4	0,1	0,3	0,7	0,9	0,1	0,3	<0.0	3	<3	1,2	0,4	0,8	2,2
St.Dev		0	132	22	0,0	0,4	0,1	0,095	0,0	0,0	0,1	0,0	0,1	0,1	0,2	0,0	0,1	~0.0	1	~1	0,2	0,1	0,2	0,5
Count		5	5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5

miss(1) ! Missing value

Analytical lab. =>					NIVA								
Analysis code =>					Calc 341 341 Calc Calc 341 341								
Detection limit =>					0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05								
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	DD ppb	ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	M	6	365	311	1.9	<0.05	0.13	<0.2	<0.2	0.09	0.03	<0.02	
2/1	M	7	426	322	1.6	<0.05	0.09	<0.1	<0.1	0.07	0.02	<0.02	
3/1	M	6	470	344	2.2	0.05	0.14	0.2	0.2	0.15	0.03	<0.02	
4/1	F	7	570	350	1.2	<0.05	0.11	<0.2	<0.2	0.06	0.02	<0.02	
5/1	F	7	701	367	1.1	0.05	0.15	0.2	0.2	0.05	0.02	<0.02	
Mean		7	506	339	1,6	<<0.1	0,1	<<0.2	<<0.2	0,1	0,0	<<0.0	
Minimum		6	365	311	1,1	<0.1	0,1	<0.1	<0.1	0,1	0,0	<0.0	
Maximum		7	701	367	2,2	0,1	0,2	0,2	0,2	0,2	0,0	<0.0	
St.Dev		0	132	22	0,5	~0.0	0,0	~0.0	~0.0	0,0	0,0	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	5	

miss(1) ! Missing value

Comments Station: Inner Sørffjord Odde harbour, 5-10m, fish traps

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Liver with signs of bleeding (1)
Muscle with signs of inner bleeding (5)
- Bulk of NIVA nos.:6,7,8,9,10 Muscle with signs of inner bleeding (8, 10)
- Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (11)
- Bulk of NIVA nos.:16,17,18,19,20 Muscle with signs of inner bleeding (16,19)
Bacterial fin rot (18,19)
- Bulk of NIVA nos.:21,22,23,24,25 Muscle with signs of inner bleeding (22,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J63 Sørffjorden** Tissue: MUSCLE
 Locality : **53B Inner Sørffjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **19990930** Count: 25 Sample type: **Bulked**

Analytical lab.		=>																							
Analysis code		=>																		=>					
Detection limit		=>																		=>					
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	HG	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	
F/M		year	g	mm	g	%	%	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	393	318	10,0	18,5	0,5	0.184	<0.1	0.13	0.33	0.13	0.29	0.66	0.90	<0.1	0.27	<0.1	<3	<3	0.71	<0.2	<0.9	<0.9	
2/1	X	2	401	336	10,0	17,9	0,3	0.336	<0.1	0.10	0.34	0.13	0.30	0.72	0.95	<0.1	0.27	<0.1	<3	<3	0.96	0.21	1.2	1.2	
3/1	X	3	541	368	10,1	17,1	0,4	0.159	<0.1	0.28	0.89	0.36	0.73	1.3	1.5	0.14	0.46	<0.1	<5	<6	1.5	0.37	1.9	1.9	
4/1	X	3	466	350	10,0	20,3	0,5	0.140	<0.1	0.18	0.45	0.20	0.43	0.74	0.85	<0.1	0.24	<0.1	<3	<3	0.93	0.27	1.2	1.2	
5/1	F	3	650	376	10,1	18,4	0,4	0.155	<0.1	0.13	0.32	0.13	0.31	0.56	0.70	<0.1	0.17	<0.1	<2	<2	0.47	<0.2	<0.7	<0.7	
Mean		3	490	350	10,1	18,4	0,4	0,195	<<0.1	0,2	0,5	0,2	0,4	0,8	1,0	<<0.1	0,3	<<0.1	<<3	<<3	0,9	<<0.3	<<1.2	<<1.2	
Minimum		2	393	318	10,0	17,1	0,4	0,140	<0.1	0,1	0,3	0,1	0,3	0,6	0,7	<0.1	0,2	<0.1	<2	<2	0,5	<0.2	<0.7	<0.7	
Maximum		3	650	376	10,1	20,3	0,5	0,336	<0.1	0,3	0,9	0,4	0,7	1,3	1,5	0,1	0,5	<0.1	<5	<6	1,5	0,4	1,9	1,9	
St.Dev		0	107	24	0,0	1,2	0,1	0,081	~0.0	0,1	0,2	0,1	0,2	0,3	0,3	~0.0	0,1	~0.0	~1	~2	0,4	~0.1	~0.5	~0.5	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>									
Analysis code		=>						=>			
Detection limit		=>						=>			
Samp/ repl.	Sex	Age	Wght	Lngr	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	393	318	<0.1	<0.1	<0.1	<0.1	0.06	<0.05	<0.05
2/1	X	2	401	336	<0.1	<0.1	<0.1	<0.1	0.05	<0.05	<0.05
3/1	X	3	541	368	<0.1	<0.1	<0.1	<0.1	0.09	<0.05	<0.05
4/1	X	3	466	350	<0.1	<0.1	<0.1	<0.1	0.09	<0.05	<0.05
5/1	F	3	650	376	<0.1	<0.1	<0.1	<0.1	<0.05	<0.05	<0.05
Mean		3	490	350	<<0.1	<<0.1	<<0.1	<<0.1	<0.1	<<0.1	<<0.1
Minimum		2	393	318	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum		3	650	376	<0.1	<0.1	<0.1	<0.1	0,1	<0.1	<0.1
St.Dev		0	107	24	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

sample no.

- Bulk of NIVA no.s.16,17,18,19,20, not sort at length Skin with ulceration, lymphocytic areas and/or lesions (16,18,19,20) Liver with necrotic areas and/or discolouration (16,20) no3 age impossible to decide
- Bulk of NIVA no.s.21,22,23,24,25, not sort by length Skin with ulceration, lymphocytic areas and/or lesions Liver with necrotic areas and/or discolouration (21) Bacterial fin rot (22)
- Bulk of NIVA no.s.6,7,8,9,10, not sort by length Bacterial fin rot (6,7,8,9)
- Bulk of NIVA no.s.1,2,3,4,5, not sort by length Bacterial fin rot
- Bulk of NIVA no.s.11,12,13,14,15, not sort by length Skin with ulceration, lymphocytic areas and/or lesions (11,13,14) Bacterial fin rot (12,13)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J63 Sørffjorden** Tissue: MUSCLE
 Locality : **53B Inner Sørffjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **20001011** Count: 10 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code		=>				310	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341				
Detection limit		=>		Mean		0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb	
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	407	330	10,3	19,7	0,6	0,233	<0.10	0.13	0.25	0.11	0.27	0.51	0.68	<0.10	0.19	<0.10	<2	<2	0.40	0.12	0.5	0.5	
2/1	X	2	286	302	10,2	19,8	0,8	0,289	<0.10	0.29	0.62	0.27	0.63	1.1	1.3	<0.10	0.33	<0.10	<4	<5	0.93	0.30	1.2	1.2	
Mean		2	346	316	10,3	19,8	0,7	0,261	<<0.1	0,2	0,4	0,2	0,5	0,8	1,0	<<0.1	0,3	<<0.1	<<3	<<4	0,7	0,2	0,9	0,9	
Minimum		2	286	302	10,2	19,7	0,6	0,233	<0.1	0,1	0,3	0,1	0,3	0,5	0,7	<0.1	0,2	<0.1	<2	<2	0,4	0,1	0,5	0,5	
Maximum		2	407	330	10,3	19,8	0,8	0,289	<0.1	0,3	0,6	0,3	0,6	1,1	1,3	<0.1	0,3	<0.1	<4	<5	0,9	0,3	1,2	1,2	
St.Dev		0	86	20	0,1	0,1	0,1	0,040	~0.0	0,1	0,3	0,1	0,3	0,4	0,4	~0.0	0,1	~0.0	~1	~2	0,4	0,1	0,5	0,5	
Count		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		341	341	Calc	Calc	341	341	341	
Detection limit		=>		0.05	0.05			0.05	0.05	0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	407	330	<0.10	<0.05	<0.1	<0.1	0.09	<0.05	<0.05
2/1	X	2	286	302	<0.10	<0.05	<0.1	<0.1	0.09	<0.05	<0.05
Mean		2	346	316	<<0.1	<<0.1	<<0.1	<<0.1	0,1	<<0.1	<<0.1
Minimum		2	286	302	<0.1	<0.1	<0.1	<0.1	0,1	<0.1	<0.1
Maximum		2	407	330	<0.1	<0.1	<0.1	<0.1	0,1	<0.1	<0.1
St.Dev		0	86	20	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		2	2	2	2	2	2	2	2	2	2

sample no.

- 1 Bulk of NIVA no 3,4,5,6,10 Age uncertain no 3,4,6,10 Skin with ulceration, lymphocytic areas and/or lesions no 5,6 Bacterial fin rot
- 2 Bulk of NIVA no 1,2,7,8,11 All age uncertain Bacterial fin rot no 1,2,7,8

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J63 Sørffjorden** Tissue: MUSCLE
 Locality : **53B Inner Sørffjord** Latitude: 60°10.0N Longitude: 6°34.0E
 Catch,date : **20011201** Count: 25 Sample type: **Bulked**

Analytical lab.		NIVA																																						
Analysis code		310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																		Calc	Calc	341	341	NIVA																
Detection limit		Mean																		0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb																
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt																
1/1	X	3	314	296	31,7	19,3	0,3	0.328	<0.06	miss	0.26	0.14	0.36	0.75	1.0	0.06	0.27	<0.06	<3	<3	1.2	<0.08	<1.3	<1.3																
2/1	X	5	470	348	43,5	20,8	0,5	0.338	<0.06	miss	0.26	0.11	0.27	0.59	0.80	<0.06	0.20	<0.06	<2	<2	0.85	0.11	1.0	1.0																
3/1	F	5	631	376	45,1	20,3	0,5	0.301	<0.06	miss	0.47	0.21	0.49	0.78	0.89	0.07	0.21	<0.06	<3	<3	0.88	0.15	1.0	1.0																
4/1	X	6	839	394	45,1	20,7	0,6	0.446	<0.06	miss	0.45	0.18	0.46	0.81	1.1	0.07	0.27	<0.06	<3	<3	1.3	0.20	1.5	1.5																
5/1	F	6	931	422	47,2	19,9	0,5	0.431	<0.06	miss	0.33	0.12	0.32	0.65	0.94	<0.06	0.23	<0.06	<3	<3	0.73	0.17	0.9	0.9																
Mean		5	637	367	42,5	20,2	0,5	0,369	<<0.1		0,4	0,2	0,4	0,7	0,9	<<0.1	0,2	<<0.1	<<3	<<3	1,0	<0.1	<1.1	<1.1																
Minimum		3	314	296	31,7	19,3	0,3	0,301	<0.1		0,3	0,1	0,3	0,6	0,8	<0.1	0,2	<0.1	<2	<2	0,7	<0.1	0,9	0,9																
Maximum		6	931	422	47,2	20,8	0,6	0,446	<0.1		0,5	0,2	0,5	0,8	1,1	0,1	0,3	<0.1	<3	<3	1,3	0,2	1,5	1,5																
St.Dev		1	255	48	6,2	0,6	0,1	0,065	~0.0		0,1	0,0	0,1	0,1	0,1	~0.0	0,0	~0.0	~0	~0	0,2	~0.0	~0.3	~0.3																
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5																

miss(5) ! Missing value

Analytical lab.		NIVA									
Analysis code		341 341 Calc Calc 341 341 341							NIVA		
Detection limit		0.05 0.05							0.05	0.05	0.05
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	314	296	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
2/1	X	5	470	348	<0.06	<0.06	<0.1	<0.1	0.05	0.03	<0.03
3/1	F	5	631	376	<0.06	<0.06	<0.1	<0.1	0.06	0.04	<0.03
4/1	X	6	839	394	<0.06	<0.06	<0.1	<0.1	0.06	0.04	<0.03
5/1	F	6	931	422	<0.06	<0.06	<0.1	<0.1	0.06	0.04	<0.03
Mean		5	637	367	<<0.1	<<0.1	<<0.1	<<0.1	0,1	<0.0	<<0.0
Minimum		3	314	296	<0.1	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		6	931	422	<0.1	<0.1	<0.1	<0.1	0,1	0,0	<0.0
St.Dev		1	255	48	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

miss(5) ! Missing value

Comments Station: Inner Sørffjord Fish 1-13 fish Fish14-25 fished 1.dec 2001 Fished at 5-20m depth sample no.

- Bulk of NIVA no 6,3,8,4,9 Skin with ulceration, lymphocytic areas and/or lesions
Liver with necrotic areas and/or discolouration no 4,9 Bacterial fin rot no 4
Skin a/o oral cavity with caligif.a/o Lernaepodif. Copepod 2
- Bulk of NIVA no 12,10,13,5,7 Skin with ulceration, lymphocytic areas and/or lesions no10
Liver with necrotic areas and/or discolouration no13,7 Liver with signs of bleeding no13
Fish malodorous no13
- Bulk of NIVA no 1,11,20,23,24 Skin with ulceration, lymphocytic areas and/or lesions no11
- Bulk of NIVA no 18,21,22,25,17
- Bulk of NIVA no,2,14,16,19,15

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** *Platichthys flesus* GB: Flounder, N: Skrubbe
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandebar**m Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **19981115** Count: 19 Sample type: **Bulked**

Analytical lab. =>					NIVA																				
Analysis code =>					310 341 341 341 341 341 341 341 341 341 341 341 341 Calc Calc 341 340 341 Calc																				
Detection limit =>					Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.1 0.05 0.05 DD Σ4																				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	5	258	286	15,0	19,1	0,2	0.033	<0.05	<0.05	0.10	<0.05	0.07	0.17	0.18	<0.05	<0.05	<0.05	<1	<1	0.91	0.18	0.14	1.2	
2/1	M	7	825	386	15,0	20,9	0,3	0.055	0.9	0.19	0.72	0.14	0.41	0.94	1.3	0.07	0.33	<0.05	5	<5	1.9	0.23	0.79	2.9	
3/1	F	7	1292	434	15,0	19,0	0,3	0.056	<0.05	0.06	0.12	<0.05	0.10	0.16	0.19	<0.05	<0.05	<0.05	<1	<1	0.61	<0.1	0.27	<1.0	
4/1	F	8	2048	490	20,0	22,6	2,7	0.066	0.19	0.53	1.4	0.35	1.3	2.3	2.5	0.18	0.62	<0.05	9	<9	7.4	2.0	2.7	12.1	
Mean		7	1105	399	16,3	20,4	0,9	0,053	<<0.3	<0.2	0,6	<<0.1	0,5	0,9	1,0	<<0.1	<<0.3	<<0.1	<<4	<<4	2,7	<0.6	1,0	<4.3	
Minimum		5	258	286	15,0	19,0	0,2	0,033	<0.1	<0.1	0,1	<0.1	0,1	0,2	0,2	<0.1	<0.1	<0.1	<1	<1	0,6	<0.1	0,1	<1.0	
Maximum		8	2048	490	20,0	22,6	2,7	0,066	0,9	0,5	1,4	0,3	1,3	2,3	2,5	0,2	0,6	<0.1	9	<9	7,4	2,0	2,7	12,1	
St.Dev		1	757	86	2,5	1,7	1,2	0,014	~0.4	~0.2	0,6	~0.1	0,6	1,0	1,1	~0.1	~0.3	~0.0	~4	~4	3,2	~0.9	1,2	~5.3	
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	

Analytical lab. =>					NIVA								
Analysis code =>					Calc 341 341 Calc Calc 341 341 341								
Detection limit =>					0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05								
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	DD ppb	ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	5	258	286	1.2	<0.06	0.09	<0.1	<0.1	0.03	<0.03	<0.03	
2/1	M	7	825	386	2.9	<0.06	0.15	<0.2	<0.2	0.12	<0.03	<0.03	
3/1	F	7	1292	434	<1.0	<0.06	0.10	<0.2	<0.2	0.08	<0.03	<0.03	
4/1	F	8	2048	490	12.1	0.31	0.98	1.3	1.3	0.83	0.08	<0.03	
Mean		7	1105	399	<4.3	<<0.1	0,3	<<0.5	<<0.5	0,3	<<0.0	<<0.0	
Minimum		5	258	286	<1.0	<0.1	0,1	<0.1	<0.1	0,0	<0.0	<0.0	
Maximum		8	2048	490	12,1	0,3	1,0	1,3	1,3	0,8	0,1	<0.0	
St.Dev		1	757	86	~5.3	~0.1	0,4	~0.6	~0.6	0,4	~0.0	~0.0	
Count		4	4	4	4	4	4	4	4	4	4	4	

Comments

Station: Strandebar

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Skin with metacercariae of cf. *Cryptocotyle lingua* (1)
 Bacterial fin rot (1,3,5) Muscle with signs of inner bleeding (3,4)
 Signs of mechanical damage (e.g., net wounds) (4)
- Bulk of NIVA nos.:6,7,8,9,10 Muscle with signs of inner bleeding (6,7,8,9,10)
- Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (11,12,13,14)
- Bulk of NIVA nos.:16,17,18,19 Bacterial fin rot (16,19)
 Muscle with signs of inner bleeding (16,17)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandebar**m Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **19990927** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code =>				310	341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc			
Detection limit =>				Mean																				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	CB28	CB52	CB101	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	
F/M		year	g	mm	g	%	%	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	1018	392	10,1	25,2	1,2	0.024	<0.06	0.07	0.17	<0.06	0.13	0.30	0.39	<0.06	0.11	<0.1	<1	<1	1.1	0.45	1.6	1.6
2/1	F	3	1365	416	10,1	22,1	1,5	0.037	<0.06	0.10	0.25	0.08	0.20	0.41	0.53	<0.06	0.14	<0.06	<2	<2	1.4	0.58	2.0	2.0
3/1	X	4	1281	430	10,1	23,7	1,5	0.021	<0.06	0.13	0.34	0.10	0.29	0.61	0.81	<0.06	0.20	<0.1	<2	<3	1.9	0.74	2.6	2.6
4/1	X	3	1317	432	10,1	24,2	1,5	0.054	<0.06	0.09	0.23	0.08	0.18	0.40	0.48	<0.06	0.14	<0.1	<2	<2	1.3	0.51	1.8	1.8
5/1	F	4	1562	392	10,1	24,6	1,7	0.055	<0.06	0.1	0.28	0.09	0.23	0.51	0.64	<0.06	0.17	<0.1	<2	<2	1.7	0.64	2.3	2.3
Mean		3	1309	412	10,1	24,0	1,5	0,038	<<0.1	0,1	0,3	<0.1	0,2	0,4	0,6	<<0.1	0,2	<<0.1	<<2	<<2	1,5	0,6	2,1	2,1
Minimum		2	1018	392	10,1	22,1	1,2	0,021	<0.1	0,1	0,2	<0.1	0,1	0,3	0,4	<0.1	0,1	<0.1	<1	<1	1,1	0,5	1,6	1,6
Maximum		4	1562	432	10,1	25,2	1,7	0,055	<0.1	0,1	0,3	0,1	0,3	0,6	0,8	<0.1	0,2	<0.1	<2	<3	1,9	0,7	2,6	2,6
St.Dev		1	196	20	0,0	1,2	0,2	0,016	~0.0	0,0	0,1	~0.0	0,1	0,1	0,2	~0.0	0,0	~0.0	~0	~1	0,3	0,1	0,4	0,4
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	341	Calc	Calc	341	341	341	
Detection limit =>				0.05	0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	1018	392	0.06	0.12	0.2	0.2	0.13	<0.03	<0.03
2/1	F	3	1365	416	0.07	0.64	0.7	0.7	0.19	<0.03	<0.03
3/1	X	4	1281	430	0.07	0.19	0.3	0.3	0.20	<0.03	<0.03
4/1	X	3	1317	432	0.09	0.18	0.3	0.3	0.17	<0.03	<0.03
5/1	F	4	1562	392	0.10	0.21	0.3	0.3	0.19	0.03	<0.03
Mean		3	1309	412	0,1	0,3	0,4	0,4	0,2	<<0.0	<<0.0
Minimum		2	1018	392	0,1	0,1	0,2	0,2	0,1	<0.0	<0.0
Maximum		4	1562	432	0,1	0,6	0,7	0,7	0,2	0,0	<0.0
St.Dev		1	196	20	0,0	0,2	0,2	0,2	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

sample no.

- Bulk of NIVA no.s.11,12,13,14,15 not sort by length Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Bacterial fin rot (14,15)
- Bulk of NIVA no.s.16,17,18,19,20 not sort by length Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods(17,18,19,20 Bacterial fin rot (17,18,19,20)
Signs of mechanical damage (e.g., net wounds)(19)
- Bulk of NIVA no.s.1,2,3,4,5, not sort by length Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods(2,4,) Skin with ulceration, lymphocytic areas and/or lesion (1,2,4 Bacterial fin rot
- Bulk of NIVA no.s.21,22,23,24,25 not sort by length Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Skin with ulceration lymphocytic areas and/or lesions21,24-5 Bacterial fin rot (21,22,24,25)
- Bulk of NIVA no.s.6,7,8,9,10 not sort by length Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods(7,8,9,10) Skin with ulceration, lymphocytic areas a Bacterial fin rot

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandebar** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **20001013** Count: 25 Sample type: **Bulked**

Analytical lab.		=>				NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code		=>				310		341		341		341		341		341		341		341		341		341		341		341		341		341		341		341	
Detection limit		=>		Mean		0.005		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb													
1/1	F	5	2259	715	10,2	26,2	2,1	0.099	<0.08	0.20	0.47	0.18	0.37	0.61	0.83	<0.08	0.22	<0.08	<3	<3	2.3	0.80	3.1	3.1													
2/1	F	4	1736	478	10,3	26,4	1,6	0.068	<0.10	0.10	0.24	0.10	0.20	0.33	0.44	<0.10	0.12	<0.10	<2	<2	0.99	0.43	1.4	1.4													
3/1	X	4	1316	436	10,4	26,0	1,5	0.069	<0.08	0.10	0.21	0.09	0.19	0.33	0.43	<0.08	0.11	<0.08	<1	<2	1.0	0.38	1.4	1.4													
4/1	X	3	860	400	10,2	26,7	1,5	0.059	<0.08	0.10	0.22	0.10	0.21	0.36	0.48	<0.08	0.12	<0.08	<2	<2	1.2	0.40	1.6	1.6													
5/1	X	3	1538	440	10,2	25,2	1,8	0.073	<0.10	0.10	0.22	<0.10	0.19	0.33	0.41	<0.10	0.12	<0.10	<1	<1	1.2	0.43	1.6	1.6													
Mean		4	1542	494	10,3	26,1	1,7	0,074	<<0.1	0,1	0,3	<0.1	0,2	0,4	0,5	<<0.1	0,1	<<0.1	<<2	<<2	1,3	0,5	1,8	1,8													
Minimum		3	860	400	10,2	25,2	1,5	0,059	<0.1	0,1	0,2	0,1	0,2	0,3	0,4	<0.1	0,1	<0.1	<1	<1	1,0	0,4	1,4	1,4													
Maximum		5	2259	715	10,4	26,7	2,1	0,099	<0.1	0,2	0,5	0,2	0,4	0,6	0,8	<0.1	0,2	<0.1	<3	<3	2,3	0,8	3,1	3,1													
St.Dev		1	517	127	0,1	0,6	0,3	0,015	~0.0	0,0	0,1	~0.0	0,1	0,1	0,2	~0.0	0,0	~0.0	~1	~1	0,5	0,2	0,7	0,7													
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5													

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code		=>		341		341		Calc		Calc		341		341	
Detection limit		=>		0.05		0.05		0.05		0.05		0.05		0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb				
1/1	F	5	2259	715	0.09	0.21	0.3	0.3	0.33	<0.04	<0.04				
2/1	F	4	1736	478	<0.10	0.13	<0.2	<0.2	0.16	<0.05	<0.08				
3/1	X	4	1316	436	<0.08	0.13	<0.2	<0.2	0.14	<0.04	<0.06				
4/1	X	3	860	400	<0.08	0.12	<0.2	<0.2	0.15	<0.04	<0.04				
5/1	X	3	1538	440	<0.10	0.13	<0.2	<0.2	0.16	<0.05	<0.05				
Mean		4	1542	494	<<0.1	0,1	<<0.2	<<0.2	0,2	<<0.0	<<0.1				
Minimum		3	860	400	<0.1	0,1	<0.2	<0.2	0,1	<0.0	<0.0				
Maximum		5	2259	715	<0.1	0,2	0,3	0,3	0,3	<0.1	<0.1				
St.Dev		1	517	127	~0.0	0,0	~0.0	~0.0	0,1	~0.0	~0.0				
Count		5	5	5	5	5	5	5	5	5	5				

sample no.

- Bulk of NIVA no 2,4,5,8,17 Age uncertain 2,4,5,17 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 4 Skin with ulceration, lymphocytic areas and/or Bacterial fin rot no 17
- Bulk of NIVA no 3,9,11,12,18 Age uncertain 3,9,12 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Skin with ulceration, lymphocyt areas a/or lesions3,9,11,12 Signs of mechanical damage (e.g., net wounds) no 11,12,18
- Bulk of NIVA no 1,7,10,15,16 Age uncertain 7,10,16 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 1,10,15,16 Skin with ulceration, lymphocyt.areas Bacterial fin rot no 16
- Bulk of NIVA no 6,13,14,23,25 Age uncertain 6,13,23,25 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 13,14,23 Skin with ulceration, lymphocytareas an Bacterial fin rot no 14
- Bulk of NIVA no 19,20,21,22,24 Age uncertain no 20,21 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 19,20,21,22 Skin with ulceration, lymphocytic ar no 19,20,21

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandeabarm** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **20011012** Count: 25 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code		=>				310	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341				
Detection limit		=>		Mean		0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	617	336	43,8	23,4	0,9	0.050	<0.06	0.08	0.17	0.06	0.12	0.22	0.27	<0.06	0.06	<0.06	<1	<1	0.54	0.18	0.7	0.7	0.7
2/1	X	4	983	392	61,6	25,6	1,0	0.039	<0.06	0.07	0.15	0.06	0.13	0.22	0.27	<0.06	0.06	<0.06	<1	<1	0.52	0.19	0.7	0.7	0.7
3/1	X	5	1197	418	80,2	24,7	0,9	0.045	<0.06	0.07	0.15	0.06	0.13	0.23	0.27	<0.06	0.07	<0.06	<1	<1	0.53	0.18	0.7	0.7	0.7
4/1	F	5	1590	444	101,1	25,5	1,9	0.063	<0.06	0.15	0.38	0.13	0.30	0.53	0.66	<0.06	0.15	<0.06	<2	<2	1.3	0.45	1.8	1.8	1.8
5/1	F	6	2241	496	147,0	25,5	1,9	0.073	<0.06	0.14	0.35	0.13	0.29	0.53	0.66	<0.06	0.16	<0.06	<2	<2	1.2	0.41	1.6	1.6	1.6
Mean		5	1326	417	86,8	24,9	1,3	0,054	<<0.1	0,1	0,2	0,1	0,2	0,3	0,4	<<0.1	0,1	<<0.1	<<1	<<1	0,8	0,3	1,1	1,1	1,1
Minimum		4	617	336	43,8	23,4	0,9	0,039	<0.1	0,1	0,2	0,1	0,1	0,2	0,3	<0.1	0,1	<0.1	<1	<1	0,5	0,2	0,7	0,7	0,7
Maximum		6	2241	496	147,0	25,6	1,9	0,073	<0.1	0,2	0,4	0,1	0,3	0,5	0,7	<0.1	0,2	<0.1	<2	<2	1,3	0,5	1,8	1,8	1,8
St.Dev		1	621	59	39,9	0,9	0,5	0,014	~0.0	0,0	0,1	0,0	0,1	0,2	0,2	~0.0	0,1	~0.0	~1	~1	0,4	0,1	0,6	0,6	0,6
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		341	341	Calc	Calc	341	341	341	
Detection limit		=>		0.05	0.05			0.05	0.05	0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	617	336	<0.06	0.06	<0.1	<0.1	0.12	<0.03	<0.03
2/1	X	4	983	392	<0.06	0.06	<0.1	<0.1	0.12	<0.03	<0.03
3/1	X	5	1197	418	<0.06	<0.06	<0.1	<0.1	0.11	<0.03	<0.03
4/1	F	5	1590	444	0.06	0.10	0.2	0.2	0.27	<0.03	<0.03
5/1	F	6	2241	496	0.06	0.10	0.2	0.2	0.26	<0.03	<0.03
Mean		5	1326	417	<<0.1	<0.1	<<0.1	<<0.1	0,2	<<0.0	<<0.0
Minimum		4	617	336	<0.1	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		6	2241	496	0,1	0,1	0,2	0,2	0,3	<0.0	<0.0
St.Dev		1	621	59	~0.0	~0.0	~0.1	~0.1	0,1	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

Comments Station: Strandeabarm Fished at 0.-10m dept.
 sample no.

- Bulk of NIVA no 23,25,5,13,6 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no23,25,13,6 Skin with ulceration, lymphocytic area no23,5
- Bulk of NIVA no 24,18,20,9,10 Age uncertain no 10 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Skin w. ulceration, lymphocytic areas a/o l_e Liver with signs of bleeding no20
- Bulk of NIVA no 22,15,11,3,4 Age uncertain no3,11 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Skin with ulceration, lymphocytic areas and, Liver with signs of bleeding no15
- Bulk of NIVA no 8,14,19,7,21 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 8,19,21 Skin w. ulceration, lymphocytic areas a/o lesions no8,19,7 Liver with signs of bleeding no21
- Bulk of NIVA no 1,12,2,17,16 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods Skin with ulceration, lymphocytic areas and, Age uncertain no1

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLAT FLE Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 21F Åkrefjord Latitude: 59°45.0N Longitude: 6°7.0E
 Catch,date : 19991122 Count: 11 Sample type: Bulked

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code =>				310	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc				
Detection limit =>				Mean	0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS
F/M		year	g	mm	g	%	%	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt
1/1	F		136	220	9,9	27,2	0,8	0,075	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	<0.10	miss	<0	<0	0.23	<0.15	<0.4	<0.4
2/1	X		439	325	29,0	22,7	0,9	0,059	<0.06	0.10	0.11	0.08	0.13	0.26	0.33	miss	0.09	miss	<1	<1	0.32	0.12	0.4	0.4
3/1	X		637	355	37,5	25,5	1,1	0,119	<0.06	0.08	0.09	<0.06	0.07	0.18	0.25	<0.06	0.06	<0.06	<1	<1	0.35	0.14	0.5	0.5
Mean			404	300	25,5	25,1	0,9	0,084	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.2	<<0.2	<<0.1	<<0.1	<<0.1	<<1	<<1	0,3	<<0.1	<<0.4	<<0.4
Minimum			136	220	9,9	22,7	0,8	0,059	<0.1	0,1	0,1	<0.1	0,1	<0.1	<0.1	<0.1	0,1	<0.1	<0	<0	0,2	0,1	<0.4	<0.4
Maximum			637	355	37,5	27,2	1,1	0,119	<0.1	0,1	0,1	<0.1	0,1	0,3	0,3	<0.1	<0.1	<0.1	<1	<1	0,4	<0.1	0,5	0,5
St.Dev			252	71	14,1	2,3	0,2	0,031	~0.0	~0.0	~0.0	~0.0	~0.0	~0.1	~0.1	~0.0	~0.0	~0.0	~1	~1	0,1	~0.0	~0.1	~0.1
Count			3	3	3	3	3	3	3	3	3	3	3	3	3	2	3	1	3	3	3	3	3	3

miss(3) ! Missing value

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	341	Calc	Calc	341	341	341	
Detection limit =>				0.05	0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w. wt	w. wt	w. wt	w. wt	w. wt	w. wt	w. wt
1/1	F		136	220	<0.10	<0.10	<0.1	<0.1	0.08	<0.05	<0.10
2/1	X		439	325	<0.06	0.11	<0.2	<0.2	0.10	<0.03	<0.06
3/1	X		637	355	<0.06	0.14	<0.2	<0.2	0.11	<0.03	<0.06
Mean			404	300	<<0.1	<<0.1	<<0.2	<<0.2	0,1	<<0.0	<<0.1
Minimum			136	220	<0.1	<0.1	<0.1	<0.1	0,1	<0.0	<0.1
Maximum			637	355	<0.1	0,1	<0.2	<0.2	0,1	<0.1	<0.1
St.Dev			252	71	~0.0	~0.0	~0.1	~0.1	0,0	~0.0	~0.0
Count			3	3	3	3	3	3	3	3	3

miss(3) ! Missing value

sample no.

- Bulk of NIVA no 10,11,12 Bacterial fin rot fish no 10 and 12
 Liver a/or intestinal guts with larvae of Anisakis simpl, 11 Signs of mechanical damage (e.g., net wounds) no 11
- Bulk of NIVA no 2,3,5, and 9 Bacterial fin rot no 6 and 8
 Liver a/o intestinal guts with larvae of Anisakis simpl. 6,8 Skin a/o oral cavity with caligif. a/o Lernaepodif. coep. 9
 Signs of mechanical damage (e.g., net wounds) no 9
- Bulk of NIVA no 4,6,7,8 Bacterial fin rot no 4 and 7. Net wounds 6,8
 Skin a/o oral cavity with caligif. a/o lernaec. coep. 4,7,8 Liver a/o intestinal guts with larvae Anisakis simpl. 6,7,8
 Skin with ulceration, lymphocytic areas and/or lesions 8

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **21F Åkrefjord** Latitude: 59°45.0N Longitude: 6°7.0E
 Catch,date : **20001016** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA																				
Analysis code =>					310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																				
Detection limit =>					Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																				
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
1/1	X	3	287	290	10,1	20,6	0,3	0.104	<0.04	<0.04	0.04	<0.04	0.04	<0.04	0.06	0.08	<0.04	<0.04	<0.04	<0	<0	0.13	<0.08	<0.2	<0.2
2/1	X	2	95	206	8,7	18,6	0,2	0.067	<0.04	<0.04	<0.04	<0.04	<0.04	0.06	0.08	<0.04	<0.04	<0.04	<0	<0	0.13	<0.08	<0.2	<0.2	
3/1	M	2	127	222	9,3	19,7	0,2	0.061	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0	<0	0.05	<0.08	<0.1	<0.1
4/1	X	2	90	202	9,1	19,3	0,2	0.078	<0.04	<0.04	<0.04	<0.04	<0.04	0.04	0.05	<0.04	<0.04	<0.04	<0.04	<0	<0	0.10	<0.08	<0.2	<0.2
5/1	X	2	72	192	8,8	18,7	0,1	0.085	<0.04	<0.04	<0.04	<0.04	<0.04	0.04	0.06	<0.04	<0.04	<0.04	<0.04	<0	<0	0.10	<0.08	<0.2	<0.2
Mean		2	134	222	9,2	19,4	0,2	0,079	<<0.0	<<0.0	<<0.0	<<0.0	<<0.0	<0.0	<0.1	<<0.0	<<0.0	<<0.0	<<0.0	<<0	<<0	0,1	<<0.1	<<0.2	<<0.2
Minimum		2	72	192	8,7	18,6	0,1	0,061	<0.0	<0.0	<0.0	<0.0	<0.0	<0.0	<0.0	<0.0	<0.0	<0.0	<0.0	<0	<0	0,1	<0.1	<0.1	<0.1
Maximum		3	287	290	10,1	20,6	0,3	0,104	<0.0	<0.0	0,0	<0.0	0,0	0,1	0,1	<0.0	<0.0	<0.0	<0.0	<0	<0	0,1	<0.1	<0.2	<0.2
St.Dev		0	88	39	0,6	0,8	0,1	0,017	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0	~0	0,0	~0.0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA							
Analysis code =>					341 341 Calc Calc 341 341 341							
Detection limit =>					0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
1/1	X	3	287	290	<0.04	0.07	<0.1	<0.1	0.04	<0.02	<0.04	
2/1	X	2	95	206	<0.04	<0.04	<0.0	<0.0	0.03	<0.02	<0.04	
3/1	M	2	127	222	<0.04	<0.04	<0.0	<0.0	0.02	<0.02	<0.04	
4/1	X	2	90	202	<0.04	<0.04	<0.0	<0.0	0.03	<0.02	<0.04	
5/1	X	2	72	192	<0.04	<0.04	<0.0	<0.0	0.02	<0.02	<0.04	
Mean		2	134	222	<<0.0	<<0.0	<<0.0	<<0.0	0,0	<<0.0	<<0.0	
Minimum		2	72	192	<0.0	<0.0	<0.0	<0.0	0,0	<0.0	<0.0	
Maximum		3	287	290	<0.0	0,1	<0.1	<0.1	0,0	<0.0	<0.0	
St.Dev		0	88	39	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	

sample no.

- Bulk of NIVA no 1,2,3,4,5 Skin with ulceration, lymphocytic areas and/or lesions
Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no 5
- Bulk of NIVA no 6,7,8,9,10 Age uncertain no 6,9 Skin with ulceration, lymphocytic areas and/or lesions
no 7,8,9,10 Bacterial fin rot no7,9
- Bulk of NIVA no 11,12,13,14,15 Age uncertain for all Skin with ulceration, lymphocytic areas and/or lesions
no 12,13,14 Bacterial fin rot no 11,14,15
- Bulk of NIVA no 16,17,18,19,20 Age uncertain no 17,18,20 Skin with ulceration, lymphocytic areas and/or lesions
no 16,18,20 Bacterial fin rot no 18
- Bulk of NIVA no 21,22,23,24,25 Age uncertain no21,22,23

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLAT FLE** Platichthys flesus GB: Flounder, N: Skrubbe
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **21F Åkrefjord** Latitude: 59°45.0N Longitude: 6°7.0E
 Catch,date : **20011201** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA																					
Analysis code =>					310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																					
Detection limit =>					Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																					
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb		
1/1	X	4	248	278	32,5	20,2	0,5	0.041	<0.06	miss	<0.06	<0.06	0.06	0.10	0.14	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
2/1	X	3	378	320	38,5	20,1	0,5	0.037	<0.06	miss	0.08	<0.06	0.13	0.15	0.19	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
3/1	X	5	471	342	37,7	19,1	0,5	0.040	<0.06	miss	0.07	<0.06	0.09	0.13	0.18	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
4/1	X	5	698	373	39,2	21,7	0,7	0.042	<0.06	0.24	0.62	0.50	0.99	1.0	0.92	0.17	0.19	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
5/1	X	5	1082	406	34,6	23,7	1,0	0.027	0.10	0.23	0.30	0.14	0.36	0.47	0.65	<0.06	0.15	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06
Mean		4	575	344	36,5	21,0	0,6	0,037	<<0.1	0,2	<0.2	<<0.2	0,3	0,4	0,4	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1
Minimum		3	248	278	32,5	19,1	0,5	0,027	<0.1	0,2	<0.1	<0.1	0,1	0,1	0,1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
Maximum		5	1082	406	39,2	23,7	1,0	0,042	0,1	0,2	0,6	0,5	1,0	1,0	0,9	0,2	0,2	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1
St.Dev		1	328	49	2,8	1,8	0,2	0,006	~0.0	0,0	~0.2	~0.2	0,4	0,4	0,4	~0.0	~0.1	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	2	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

miss(3) ! Missing value

Analytical lab. =>					NIVA							
Analysis code =>					341 341 Calc Calc 341 341 341							
Detection limit =>					0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
1/1	X	4	248	278	<0.06	<0.06	<0.1	<0.1	0.03	<0.03	<0.03	
2/1	X	3	378	320	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.06	
3/1	X	5	471	342	<0.06	<0.06	<0.1	<0.1	0.06	<0.03	<0.03	
4/1	X	5	698	373	<0.06	<0.06	<0.1	<0.1	0.12	<0.03	<0.03	
5/1	X	5	1082	406	<0.06	<0.06	<0.1	<0.1	0.22	<0.03	<0.03	
Mean		4	575	344	<<0.1	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0	
Minimum		3	248	278	<0.1	<0.1	<0.1	<0.1	0,0	<0.0	<0.0	
Maximum		5	1082	406	<0.1	<0.1	<0.1	<0.1	0,2	<0.0	<0.1	
St.Dev		1	328	49	~0.0	~0.0	~0.0	~0.0	0,1	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	

miss(3) ! Missing value

Comments

Station: Åkrefjord Fished in dec.2001

sample no.

- 1 Bulk of NIVA no 1,2,3,4,5
- 2 Bulk of NIVA no 6,7,8,9,10
- 3 Bulk of NIVA no 11,12,13,14,15
- 4 Bulk of NIVA no 16,17,18,19,20
- 5 Bulk of NIVA no 21,22,23,24,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : LIMA LIM Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: J26 Oslofjorden Tissue: LIVER
 Locality : 36F Fårder area Latitude: 59°4.0N Longitude: 10°23.0E
 Catch,date : 19990105 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA															NIVA		NIVA			
Analysis code =>					312															311		312			
Detection limit =>					Mean															Calc		Calc			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	
F/M		year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	5	243	278	3,3	25,7	10,7	0.202	5.01	0.06	30.8	2.4	4.8	16	14	46	71	96	4.3	17	2.1	253	274	19	
2/1	F	6	246	284	4,2	29,4	13,9	0.149	10.9	0.05	38.1	3.7	9.8	20	16	41	51	65	3.1	12	<2	203	<224	15	
3/1	M	5	276	293	3,6	26,9	11,4	0.314	7.20	0.08	27.2	3.8	8.7	43	30	100	180	220	8.3	25	3.2	581	622	26	
4/1	F	5	317	308	5,7	24,2	8,6	0.158	7.57	0.05	35.6	2.2	3.9	13	14	48	65	89	3.9	15	<2	236	<256	16	
5/1	F	5	362	323	5,3	28,9	13,4	0.241	14.3	0.05	40.0	2.9	4.5	11	11	30	48	69	3.1	14	2.3	179	196	18	
Mean		5	289	297	4,4	27,0	11,6	0,21	9,00	0,06	34,3	3,0	6,3	20,6	17,0	53,0	83,0	107,8	4,5	16,6	<<2.3	290	<<314	18,8	
Minimum		5	243	278	3,3	24,2	8,6	0,15	5,01	0,05	27,2	2,2	3,9	11,0	11,0	30,0	48,0	65,0	3,1	12,0	<2.0	179	196	15,0	
Maximum		6	362	323	5,7	29,4	13,9	0,31	14,30	0,08	40,0	3,8	9,8	43,0	30,0	100,0	180,0	220,0	8,3	25,0	3,2	581	622	26,0	
St.Dev		0	51	18	1,0	2,2	2,1	0,07	3,64	0,01	5,3	0,7	2,7	13,0	7,5	27,2	55,1	64,1	2,2	5,0	~0.5	165	~175	4,3	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		Calc		Calc		340		340		Calc		340	
Detection limit =>					3		0.5		2		2		2		2		2	
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP	DD Σ4	DD Σ5	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS				
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb				
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt				
1/1	F	5	243	278	<3	<22.0	<22.0	<2	<2	<2.0	<2.0	0.81	<0.8	<0.8				
2/1	F	6	246	284	<3	<18.0	<18.0	<2	2	<4.0	<4.0	1.1	<0.8	<0.8				
3/1	M	5	276	293	<3	<29.0	<29.0	<2	<2	<2.0	<2.0	1.1	<0.8	<0.8				
4/1	F	5	317	308	<3	<19.0	<19.0	<2	<2	<2.0	<2.0	<0.8	<0.8	<0.8				
5/1	F	5	362	323	<3	<21.0	<21.0	<2	<2	<2.0	<2.0	1.3	<0.8	<0.8				
Mean		5	289	297	<<3.0	<<21.8	<<21.8	<<2.0	<<2.0	<<2.4	<<2.4	<1.0	<<0.8	<<0.8				
Minimum		5	243	278	<3.0	<18.0	<18.0	<2.0	<2.0	<2.0	<2.0	<0.8	<0.8	<0.8				
Maximum		6	362	323	<3.0	<29.0	<29.0	<2.0	2,0	<4.0	<4.0	1,3	<0.8	<0.8				
St.Dev		0	51	18	~0.0	~4.3	~4.3	~0.0	~0.0	~0.9	~0.9	~0.2	~0.0	~0.0				
Count		5	5	5	5	5	5	5	5	5	5	5	5	5				

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Skin with metacercariae of cf. Cryptocotyle lingua (1,2,3,4)
Muscle with signs of inner bleeding (2,5) Liver and/or intestinal guts with (1,5)
- Bulk of NIVA nos.: 6,7,8,9,10 Skin with metacercariae of cf. Cryptocotyle lingua (6,7,8,9)
Muscle with signs of inner bleeding (6,8,9,10) Skin with red film and/or uneven pigmentations (7,9)
- Bulk of NIVA nos.:11,12,13,14,15 Skin with metacercariae of cf. Cryptocotyle lingua (13)
Muscle with signs of inner bleeding (13,14,15) Skin with red film and/or uneven pigmentations (15)
- Bulk of NIVA nos.:16,17,18,19,20 Skin with metacercariae of cf. Cryptocotyle lingua (16,17,18,19)
Muscle with signs of inner bleeding 16,17,18,19,20)
Skin with red film and/or uneven pigmentations (17)
- Bulk of NIVA nos.:21,22,23,24,25 Skin with metacercariae of cf. Cryptocotyle lingua (21,24,25)
Muscle with signs of inner bleeding (21,22,23,24,25) Skin with red film and/ (22,23,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : LIMA LIM Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: J26 Oslofjorden Tissue: LIVER
 Locality : 36F Fårder area Latitude: 59°4.0N Longitude: 10°23.0E
 Catch,date : 19991027 Count: 25 Sample type: Bulk

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>					312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340	
Detection limit =>					Mean																			
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	152	237	1,7		30,1	0.222	14,2	0.05	39,6	2,9	6,7	24	14	35	79	98	5,4	22	miss	268	287	31
2/1	X	3	210	268	3,1	49,0	30,0	0.240	21,0	0.06	51,4	3,3	8,9	33	20	53	99	130	6,5	24	miss	351	378	46
3/1	X	3	229	280	2,7	44,6	25,6	0.248	12,6	0.07	38,7	3,7	6,5	35	34	94	180	250	14	53	16	622	686	65
4/1	X	4	284	296	4,2	43,4	29,0	0.213	16,0	0.05	38,7	4,0	9,0	38	27	79	130	180	9,7	32	10	472	519	57
5/1	F	4	333	314	5,9	49,2	33,8	0.227	12,4	0.04	32,4	4,1	10	37	23	60	120	150	7,5	31	15	412	458	52
Mean		3	242	279	3,5	46,6	29,7	0,23	15,24	0,05	40,2	3,6	8,2	33,4	23,6	64,2	121,6	161,6	8,6	32,4	13,7	425	466	50,2
Minimum		3	152	237	1,7	43,4	25,6	0,21	12,40	0,04	32,4	2,9	6,5	24,0	14,0	35,0	79,0	98,0	5,4	22,0	10,0	268	287	31,0
Maximum		4	333	314	5,9	49,2	33,8	0,25	21,00	0,07	51,4	4,1	10,0	38,0	34,0	94,0	180,0	250,0	14,0	53,0	16,0	622	686	65,0
St.Dev		0	69	29	1,6	3,0	2,9	0,01	3,53	0,01	6,9	0,5	1,5	5,6	7,5	22,9	38,1	57,7	3,4	12,3	3,2	134	151	12,8
Count		5	5	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3	5	5	5

miss(2) ! Missing value

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code =>					340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit =>					3			0.5	2			2	2	2
Samp/ repl.	Sex	Age	Wght	Lngr	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
no.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	X	3	152	237	5.5	36.5	36.5	1.2	3.2	4.4	4.4	2.3	<0.5	<0.6
2/1	X	3	210	268	6.5	52.5	52.5	1.4	3.8	5.2	5.2	2.3	<0.5	<0.6
3/1	X	3	229	280	6.5	71.5	71.5	1.3	3.8	5.1	5.1	2.5	<0.5	<0.6
4/1	X	4	284	296	6.7	63.7	63.7	1.4	3.8	5.2	5.2	3.2	<0.5	<0.6
5/1	F	4	333	314	6.6	58.6	58.6	1.7	4.4	6.1	6.1	3.2	<0.5	<0.6
Mean		3	242	279	6,4	56,6	56,6	1,4	3,8	5,2	5,2	2,7	<<0.5	<<0.6
Minimum		3	152	237	5,5	36,5	36,5	1,2	3,2	4,4	4,4	2,3	<0.5	<0.6
Maximum		4	333	314	6,7	71,5	71,5	1,7	4,4	6,1	6,1	3,2	<0.5	<0.6
St.Dev		0	69	29	0,5	13,2	13,2	0,2	0,4	0,6	0,6	0,5	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5	5	5	5

miss(2) ! Missing value

sample no.

- Bulk of NIVA no.s.6,10,21,4,1
- Bulk of NIVA no.s.18,3,8,13,17 Skin with metacercariae of cf. Cryptocotyle lingua (18,8) filet with metacercariae of cf. Cryptocotyle lingua (8)
- Bulk of NIVAno.s.20,11,15,19,2 Liver and/or intestinal guts with larvae of Anisakis simplex Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
- Bulk of NIVA no.s.16,25,5,9,12 Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisakis simplex
- Bulk of NIVA no.s.7,14,22,23,24

JAMP contaminant data for fish 1998-2001 - Norway

Species : LIMA LIM Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: J26 Oslofjorden Tissue: LIVER
 Locality : 36F Fårder area Latitude: 59°4.0N Longitude: 10°23.0E
 Catch,date : 20001026 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA															NIVA		NIVA			
Analysis code =>					312															311		312			
Detection limit =>					Mean															0.05		0.01			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	
F/M		year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	174	249	2,5	42,0	33,0	0.133	6.01	<0.04	26.2	8.3	18	57	50	150	240	320	18	45	6.0	838	912	32	
2/1	X	3	217	268	2,3	25,5	14,0	0.139	6.45	0.06	29.1	5.9	10	26	41	140	270	400	21	65	5.6	917	985	45	
3/1	X	4	258	279	3,0	38,5	29,0	0.164	9.43	0.06	31.8	5.7	14	44	48	150	240	330	19	55	7.0	839	913	46	
4/1	X	4	279	291	4,9	36,8	27,0	0.132	5.68	0.06	25.8	4.6	10	34	36	110	190	270	16	48	6.8	667	725	40	
5/1	X	4	326	306	5,1	42,8	31,0	0.175	8.60	0.07	31.5	5.6	18	52	34	94	150	190	12	40	4.1	550	600	55	
Mean		4	251	279	3,6	37,1	26,8	0.15	7,23	<0.06	28,9	6,0	14,0	42,6	41,8	128,8	218,0	302,0	17,2	50,6	5,9	762	827	43,6	
Minimum		3	174	249	2,3	25,5	14,0	0,13	5,68	<0.04	25,8	4,6	10,0	26,0	34,0	94,0	150,0	190,0	12,0	40,0	4,1	550	600	32,0	
Maximum		4	326	306	5,1	42,8	33,0	0,18	9,43	0,07	31,8	8,3	18,0	57,0	50,0	150,0	270,0	400,0	21,0	65,0	7,0	917	985	55,0	
St.Dev		0	58	22	1,3	6,9	7,5	0,02	1,67	~0.01	2,8	1,4	4,0	12,7	7,1	25,4	47,6	77,9	3,4	9,7	1,2	150	159	8,4	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		Calc		Calc		340		340		340	
Detection limit =>					3		0.5		2		2		2		2	
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP	DD Σ4	DD ΣΣ	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS		
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	174	249	7.0	39.0	39.0	1.9	4.0	5.9	5.9	3.0	<0.50	<2.0		
2/1	X	3	217	268	5.2	50.2	50.2	0.77	1.8	2.6	2.6	1.7	<0.30	0.64		
3/1	X	4	258	279	6.2	52.2	52.2	1.9	4.0	5.9	5.9	3.0	<0.50	<1.0		
4/1	X	4	279	291	5.6	45.6	45.6	1.3	3.2	4.5	4.5	2.0	<0.50	<1.0		
5/1	X	4	326	306	11	66.0	66.0	1.9	4.1	6.0	6.0	3.4	<0.50	<1.0		
Mean		4	251	279	7,0	50,6	50,6	1,6	3,4	5,0	5,0	2,6	<<0.5	<<1.1		
Minimum		3	174	249	5,2	39,0	39,0	0,8	1,8	2,6	2,6	1,7	<0.3	0,6		
Maximum		4	326	306	11,0	66,0	66,0	1,9	4,1	6,0	6,0	3,4	<0.5	<2.0		
St.Dev		0	58	22	2,3	10,0	10,0	0,5	1,0	1,5	1,5	0,7	~0.1	~0.5		
Count		5	5	5	5	5	5	5	5	5	5	5	5	5		

sample no.

- Bulk of NIVA no 6,10,3,11,7 Liver and/or intestinal guts with larvae of Anisakis simp. 3
Signs of mechanical damage (e.g., net wounds)6,7
- Bulk of NIVA no.12,13,14,15,16 Age uncertain no 13,14,16
- Bulk of NIVA no 17,8,1,4,18 Signs of mechanical damage (e.g., net wounds)1,8
- Bulk of NIVA no 9,19,20,21,2 Signs of mechanical damage (e.g., net wounds) 2,9
- Bulk of NIVA no5,22,23,24,25 Liver and/or intestinal guts with larvae of Anisakis simpl.5
Age uncertain no 5,22

JAMP contaminant data for fish 1998-2001 - Norway

Species : LIMA LIM Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: J26 Oslofjorden Tissue: LIVER
 Locality : 36F Færder area Latitude: 59°4.0N Longitude: 10°23.0E
 Catch,date : 20011025 Count: 25 Sample type: Bulk

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>					312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit =>					Mean	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
Samp/ repl.	Sex	Age	Wght	Lngr	weight	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
F/M		year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	X	3	152	241	2,3	44,4	27,0	0.232	8.90	0.07	37.3	7.2	14	45	30	87	140	170	9.1	29	5.3	492	537	23
2/1	X	3	190	265	2,5	39,8	22,0	0.196	14.9	0.04	41.5	7.3	15	51	29	92	150	180	6.2	32	3.0	527	566	23
3/1	X	4	236	285	3,5	36,1	19,0	0.192	6.37	0.03	34.4	8.8	20	65	37	120	180	210	13	39	4.0	643	697	44
4/1	X	5	296	301	4,9	43,9	28,0	0.232	14.2	0.03	48.0	12	39	120	63	210	290	350	15	55	4.3	1076	1158	31
5/1	X	5	324	314	4,7	37,0	21,0	0.355	8.52	0.04	35.5	4.0	9.0	35	21	67	110	150	7.5	27	4.6	402	435	27
Mean		4	240	281	3,6	40,2	23,4	0,24	10,58	0,04	39,3	7,9	19,4	63,2	36,0	115,2	174,0	212,0	10,2	36,4	4,2	628	679	29,6
Minimum		3	152	241	2,3	36,1	19,0	0,19	6,37	0,03	34,4	4,0	9,0	35,0	21,0	67,0	110,0	150,0	6,2	27,0	3,0	402	435	23,0
Maximum		5	324	314	4,9	44,4	28,0	0,36	14,90	0,07	48,0	12,0	39,0	120,0	63,0	210,0	290,0	350,0	15,0	55,0	5,3	1076	1158	44,0
St.Dev		1	72	29	1,2	3,8	3,9	0,07	3,76	0,02	5,5	2,9	11,6	33,6	16,1	56,3	69,5	80,1	3,7	11,3	0,8	265	284	8,7
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code =>					340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit =>					3			0.5	2			2	2	2
Samp/ repl.	Sex	Age	Wght	Lngr	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	152	241	3.2	26.2	26.2	1.2	2.3	3.5	3.5	2.6	<0.30	0.58
2/1	X	3	190	265	4.1	27.1	27.1	0.88	1.8	2.7	2.7	2.3	<0.30	0.60
3/1	X	4	236	285	1.2	56.0	56.0	0.77	1.8	2.6	2.6	2.8	<0.30	0.95
4/1	X	5	296	301	9.3	40.3	40.3	1.0	2.2	3.2	3.2	3.1	<0.30	1.6
5/1	X	5	324	314	3.9	30.9	30.9	0.76	1.7	2.5	2.5	2.3	<0.3	0.50
Mean		4	240	281	6,5	36,1	36,1	0,9	2,0	2,9	2,9	2,6	<<0.3	0,8
Minimum		3	152	241	3,2	26,2	26,2	0,8	1,7	2,5	2,5	2,3	<0.3	0,5
Maximum		5	324	314	12,0	56,0	56,0	1,2	2,3	3,5	3,5	3,1	<0.3	1,6
St.Dev		1	72	29	3,9	12,4	12,4	0,2	0,3	0,4	0,4	0,3	~0.0	0,5
Count		5	5	5	5	5	5	5	5	5	5	5	5	5

sample no.

- 1 Bulk of NIVA no 13,6,20,15,18 Age uncertain no20,15
- 2 Bulk of NIVA no 8,14,19,16,21 Age uncertain no14,19
- 3 Bulk of NIVA no 7,22,12,3,9
- 4 Bulk of NIVA no 23,4,10,25,2 Age uncertain no 23,10
- 5 Bulk of NIVA no 5,11,17,24,1 Age uncertain no 24

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LIMA LIM** Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **15F Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **19981115** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA															NIVA		NIVA			
Analysis code =>					312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340															Calc		Calc		340	
Detection limit =>					Mean															3		3		4	
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	5	213	268	3,5	37,9	23,9	0.126	6.45	0.04	41.1	<2	<2	5.5	3.3	7.5	16	21	<2	4.4	<2	<56	<60	18	
2/1	M	6	323	299	5,2	30,5	14,5	0.200	9.78	<0.04	32.6	<2	<2	3.7	2.5	6.5	15	20	<2	3.9	<2	<51	<54	13	
3/1	F	5	327	310	5,6	36,7	19,9	0.169	9.01	<0.04	31.9	<2	<2	5.2	3.5	9.0	18	27	<2	5.2	<2	<66	<70	19	
4/1	F	6	425	334	9,2	37,6	22,2	0.181	14.6	<0.04	39.0	<2	<2	3.0	2.8	5.2	9.8	14	<2	2.9	<2	<37	<40	9.4	
5/1	F	7	554	367	9,2	31,1	15,0	0.330	7.06	<0.04	30.6	<2	<2	4.0	3.0	5.4	11	16	<2	3.2	<2	<42	<45	13	
Mean		6	368	316	6,5	34,8	19,1	0.20	9,38	<<0.04	35,0	<<2.0	<<2.0	4,3	3,0	6,7	14,0	19,6	<<2.0	3,9	<<2.0	<<50	<<54	14,5	
Minimum		5	213	268	3,5	30,5	14,5	0,13	6,45	<0.04	30,6	<2.0	<2.0	3,0	2,5	5,2	9,8	14,0	<2.0	2,9	<2.0	<37	<40	9,4	
Maximum		7	554	367	9,2	37,9	23,9	0,33	14,60	0,04	41,1	<2.0	<2.0	5,5	3,5	9,0	18,0	27,0	<2.0	5,2	<2.0	<66	<70	19,0	
St.Dev		1	128	37	2,6	3,6	4,2	0,08	3,22	~0.00	4,7	~0.0	~0.0	1,0	0,4	1,6	3,5	5,0	~0.0	0,9	~0.0	~11	~12	4,0	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		Calc		Calc		340		340		340		340	
Detection limit =>					3		0.5		2		2		2		2		2	
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb				
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt				
1/1	F	5	213	268	<3	<21.0	<21.0	<2	4.5	<6.5	<6.5	3.7	<1	<1				
2/1	M	6	323	299	<3	<16.0	<16.0	<2	3.2	<5.2	<5.2	1.8	<1	<1				
3/1	F	5	327	310	<3	<22.0	<22.0	<2	4.1	<6.1	<6.1	3.7	<1	<1				
4/1	F	6	425	334	<3	<12.4	<12.4	<2	4.7	<6.7	<6.7	2.2	<1	<1				
5/1	F	7	554	367	<3	<16.0	<16.0	<2	3.0	<5.0	<5.0	3.0	<1	<1				
Mean		6	368	316	<<3.0	<<17.5	<<17.5	<<2.0	3,9	<<5.9	<<5.9	2,9	<<1.0	<<1.0				
Minimum		5	213	268	<3.0	<12.4	<12.4	<2.0	3,0	<5.0	<5.0	1,8	<1.0	<1.0				
Maximum		7	554	367	<3.0	<22.0	<22.0	<2.0	4,7	<6.7	<6.7	3,7	<1.0	<1.0				
St.Dev		1	128	37	~0.0	~4.0	~4.0	~0.0	0,8	~0.8	~0.8	0,9	~0.0	~0.0				
Count		5	5	5	5	5	5	5	5	5	5	5	5	5				

sample no.

- 1 Bulk of NIVA nos.:1,2,3,4,5 Muscle with signs of inner bleeding (1,2,5)
Skin with metacercariae of cf. Cryptocotyle lingua (3,4) Liver and/or intestinal guts with larvae of Anisakis simplex no4
- 2 Bulk of NIVA nos.:6,7,8,9,10 Skin with metacercariae of cf. C (6,7,9)
- 3 Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (13)
- 4 Bulk of NIVA nos.:16,17,18,19,20 Muscle with signs of inner bleeding (16,17)
Liver with signs of bleeding (19) Skin with ulceration, lymphocytic areas and/or lesions (20)
- 5 Bulk of NIVA nos.:21,22,23,24,25 Skin with metacercariae of cf. Cryptocotyle lingua (23)
Muscle with signs of inner bleeding (23) Liver with signs of bleeding (25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LIMA LIM** Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **15F Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **19991020** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA															NIVA		NIVA			
Analysis code =>					312															311		312			
Detection limit =>					Mean															0.05		0.01			
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	2	211	272	1,9	38,5	21,9	0.128	12.2	<0.03	39.1	<1	1.4	5.7	2.7	8.3	16	20	1.1	4.0	<1	<56	<60	40	
2/1	X	3	269	300	2,6	38,3	28,7	0.193	5.50	<0.03	30.6	<2	<2	6.3	3.9	14	30	42	2.0	8.3	<2	<103	<109	31	
3/1	X	3	327	316	3,6	45,2	28,8	0.130	8.54	<0.03	34.7	<2	<2	7.2	4.6	16	33	46	2.0	8.5	<2	<113	<119	50	
4/1	X	3	453	340	5,9	56,0	39,9	0.196	10.3	<0.03	37.1	<2	<2	6.9	4.1	13	31	38	<2	7.8	<2	<99	<103	33	
5/1	F	5	449	360	5,6	46,6	23,8	0.532	18.5	<0.03	59.3	<2	2.5	12	3.9	14	30	41	<2	7.6	<2	<109	<113	49	
Mean		3	342	318	3,9	44,9	28,6	0.24	11,01	<<0.03	40,2	<<1.8	<<2.0	7,6	3,8	13,1	28,0	37,4	<<1.8	7,2	<<1.8	<<96	<<101	40,6	
Minimum		2	211	272	1,9	38,3	21,9	0,13	5,50	<0.03	30,6	<1.0	1,4	5,7	2,7	8,3	16,0	20,0	1,1	4,0	<1.0	<56	<60	31,0	
Maximum		5	453	360	5,9	56,0	39,9	0,53	18,50	<0.03	59,3	<2.0	2,5	12,0	4,6	16,0	33,0	46,0	2,0	8,5	<2.0	<113	<119	50,0	
St.Dev		1	108	34	1,8	7,3	7,0	0,17	4,86	~0.00	11,2	~0.4	~0.4	2,5	0,7	2,9	6,8	10,1	~0.4	1,8	~0.4	~23	~24	8,8	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		Calc		Calc		340		340		Calc		Calc	
Detection limit =>					3		0.5		2		2		2		2		2	
Samp/ repl.	Sex	Age	Wght	Lngr	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb				
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt				
1/1	X	2	211	272	5.5	45.5	45.5	<1	3.1	<4.1	<4.1	<0.5	<0.5	<0.5				
2/1	X	3	269	300	3.2	34.2	34.2	<2	3.4	<5.4	<5.4	3.9	<1	<1				
3/1	X	3	327	316	4.0	54.0	54.0	<2	3.7	<5.7	<5.7	4.7	<1	<1				
4/1	X	3	453	340	3.5	36.5	36.5	<2	5.0	<7.0	<7.0	5.6	<1	<1				
5/1	F	5	449	360	5.5	54.5	54.5	<2	3.4	<5.4	<5.4	5.2	<1	<1				
Mean		3	342	318	4,3	44,9	44,9	<<1.8	3,7	<<5.5	<<5.5	<4.0	<<0.9	<<0.9				
Minimum		2	211	272	3,2	34,2	34,2	<1.0	3,1	<4.1	<4.1	<0.5	<0.5	<0.5				
Maximum		5	453	360	5,5	54,5	54,5	<2.0	5,0	<7.0	<7.0	5,6	<1.0	<1.0				
St.Dev		1	108	34	1,1	9,5	9,5	~0.4	0,7	~1.0	~1.0	~2.0	~0.2	~0.2				
Count		5	5	5	5	5	5	5	5	5	5	5	5	5				

- sample no.
 1 Bulk of NIVA no.s.14,15,13,21,24 contaminatin
 2 Bulk of NIVA no.s.25,12,22,23,4
 3 Bulk of NIVA no.s.7,10,8,11,20 contamination
 4 Bulk of NIVA no.s.9,17,16,2,5, contamination
 5 Bulk of NIVA no.s.18,19,6,1,3 contamination

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LIMA LIM** Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **15F Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **2000120** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA																				
Analysis code =>					312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340 340																				
Detection limit =>					Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3																				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	184	257	2,2	34,5	21,0	0.183	6.13	<0.04	30.5	<1.0	1.1	3.9	2.2	7.1	15	23	1.0	4.5	<1.0	<56	<59	16	
2/1	X	3	212	269	2,6	33,0	18,0	0.121	6.55	<0.04	33.5	<0.60	0.71	2.3	1.6	5.2	11	14	<0.60	2.5	0.60	<36	<39	14	
3/1	F	2	284	289	4,6	35,6	23,0	0.112	5.21	<0.04	34.5	<0.80	1.5	4.0	2.0	6.3	14	17	<0.80	3.2	<0.80	<47	<49	17	
4/1	F	3	345	313	6,9	39,5	26,0	0.153	6.67	<0.04	35.9	<2.0	<2.0	4.6	2.0	6.5	14	19	<2.0	3.9	<2.0	<50	<52	15	
5/1	F	4	426	335	8,5	39,5	27,0	0.218	5.72	<0.04	39.3	1.1	2.9	8.4	4.0	12	23	33	1.4	6.3	<1.0	87	<93	41	
Mean		3	290	293	5,0	36,4	23,0	0,16	6,06	<<0.04	34,7	<<1.1	<1.6	4,6	2,4	7,4	15,4	21,2	<<1.2	4,1	<<1.1	<<55	<<58	20,6	
Minimum		2	184	257	2,2	33,0	18,0	0,11	5,21	<0.04	30,5	<0.6	0,7	2,3	1,6	5,2	11,0	14,0	<0.6	2,5	0,6	<36	<39	14,0	
Maximum		4	426	335	8,5	39,5	27,0	0,22	6,67	<0.04	39,3	<2.0	2,9	8,4	4,0	12,0	23,0	33,0	<2.0	6,3	<2.0	87	<93	41,0	
St.Dev		1	99	32	2,7	3,0	3,7	0,04	0,60	~0.00	3,2	~0.5	~0.9	2,3	0,9	2,7	4,5	7,4	~0.6	1,4	~0.5	~19	~21	11,5	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA							NIVA		
Analysis code =>					340 Calc Calc 340 340 Calc Calc 340 340							340		
Detection limit =>					3 0.5 2							2 2 2		
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	184	257	1.7	17.7	17.7	<1.0	2.6	<3.6	<3.6	3.2	<0.5	<1.0
2/1	X	3	212	269	1.2	15.2	15.2	0.62	2.3	2.9	2.9	2.3	<0.30	<0.60
3/1	F	2	284	289	1.7	18.7	18.7	0.69	2.5	3.2	3.2	2.9	<0.40	<0.80
4/1	F	3	345	313	2.2	17.2	17.2	<2.0	2.1	<4.1	<4.1	3.4	<1.0	<2.0
5/1	F	4	426	335	3.8	44.8	44.8	1.3	4.4	5.7	5.7	4.9	<0.50	<1.0
Mean		3	290	293	2,1	22,7	22,7	<<1.1	2,8	<<3.9	<<3.9	3,3	<<0.5	<<1.1
Minimum		2	184	257	1,2	15,2	15,2	0,6	2,1	2,9	2,9	2,3	<0.3	<0.6
Maximum		4	426	335	3,8	44,8	44,8	<2.0	4,4	5,7	5,7	4,9	<1.0	<2.0
St.Dev		1	99	32	1,0	12,4	12,4	~0.6	0,9	~1.1	~1.1	1,0	~0.3	~0.5
Count		5	5	5	5	5	5	5	5	5	5	5	5	5

Comments

Station: Ullerø area Fished in jan. before 20.jan 01

sample no.

- Bulk of NIVA no 1,2,3,4,5
- Bulk of NIVA no 6,7,8,9,10
- Bulk of NIVA no 11,12,13,14,15 Age of no14,impossible to analys.
- Bulk of NIVA no 16,17,18,19,20 Age of no 19 impossible to analys.
- Bulk of NIVA no 21,22,23,24,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : LIMA LIM Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: J99 Undefined Tissue: LIVER
 Locality : 15F Ullerø area Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : 20010927 Count: 25 Sample type: Bulked

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	340			
Detection limit		=>		Mean		0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
F/M		year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	3	272	295	3,5	36,6	25,0	0.112	6.14	0.05	31.6	0.95	1.9	4.5	2.2	5.8	13	17	0.85	3.5	<0.60	47	<50	18
2/1	F	4	328	318	5,1	47,5	34,0	0.194	7.23	0.05	37.6	1.9	5.8	13	5.3	17	40	48	2.1	10	0.70	136	144	56
3/1	X	4	373	333	5,8	46,9	32,0	0.313	8.33	0.05	36.9	1.4	2.8	7.6	3.8	11	26	34	1.6	7.4	<0.60	90	<96	32
4/1	X	5	410	342	6,2	38,6	26,0	0.376	6.96	0.04	34.8	1.0	4.1	8.6	4.6	17	40	56	2.1	14	1.0	141	148	55
5/1	X	4	451	365	5,5	36,5	22,0	0.538	8.80	0.05	36.0	1.4	3.7	9.9	4.4	14	30	39	1.8	7.6	<0.60	106	<112	41
Mean		4	367	331	5,2	41,2	27,8	0,31	7,49	0,05	35,4	1,3	3,7	8,7	4,1	13,0	29,8	38,8	1,7	8,5	<<0.7	104	<<110	40,4
Minimum		3	272	295	3,5	36,5	22,0	0,11	6,14	0,04	31,6	1,0	1,9	4,5	2,2	5,8	13,0	17,0	0,9	3,5	<0.6	47	<50	18,0
Maximum		5	451	365	6,2	47,5	34,0	0,54	8,80	0,05	37,6	1,9	5,8	13,0	5,3	17,0	40,0	56,0	2,1	14,0	1,0	141	148	56,0
St.Dev		1	70	26	1,0	5,5	5,0	0,17	1,07	0,00	2,4	0,4	1,5	3,1	1,2	4,7	11,2	14,8	0,5	3,9	~0.2	38	~40	16,0
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>				340	Calc	Calc	340	340	Calc	Calc	340	
Detection limit		=>				3			0.5	2			2	
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP	DD Σ4	DD ΣΣ	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	3	272	295	2.5	20.5	20.5	0.89	2.7	3.6	3.6	4.7	0.32	0.36
2/1	F	4	328	318	7.9	63.9	63.9	1.2	2.6	3.8	3.8	10	0.50	0.80
3/1	X	4	373	333	3.9	35.9	35.9	1.1	2.7	3.8	3.8	5.9	0.40	0.49
4/1	X	5	410	342	7.2	62.2	62.2	0.83	1.8	2.6	2.6	8.1	0.35	0.68
5/1	X	4	451	365	5.4	46.4	46.4	0.71	1.8	2.5	2.5	5.3	<0.30	0.63
Mean		4	367	331	5,4	45,8	45,8	0,9	2,3	3,3	3,3	6,8	<0.4	0,6
Minimum		3	272	295	2,5	20,5	20,5	0,7	1,8	2,5	2,5	4,7	<0.3	0,4
Maximum		5	451	365	7,9	63,9	63,9	1,2	2,7	3,8	3,8	10,0	0,5	0,8
St.Dev		1	70	26	2,2	18,3	18,3	0,2	0,5	0,7	0,7	2,2	~0.1	0,2
Count		5	5	5	5	5	5	5	5	5	5	5	5	5

sample no.

- Bulk of NIVA no 22,10,4,8,11 Skin with metacercariae of cf. Cryptocotyle lingua
Gills with Lernaecocera copepods no22 Liver colour:yellow white
- Bulk of NIVA no 13,20,25,7,12 Skin with metacercariae of cf. Cryptocotyle lingua
Gills with Lernaecocera copepods no20 Liver a/o intestinal guts with larvae of Anisakis simpl.no20
- Bulk of NIVA no 6,18,3,9,2 Skin with metacercariae of cf. Cryptocotyle lingua
- Bulk of NIVA no 14,1,23,21,16 Skin with metacercariae of cf. Cryptocotyle lingua
Liver a/o intestinal guts with larvae of Anisakis simpl.no1 Gills with Lernaecocera copepods no14,23
- Bulk of NIVA no 15,5,24,19,17 Skin with metacercariae of cf. Cryptocotyle lingua

JAMP contaminant data for fish 1998-2001 - Norway

Species : LIMA LIM Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: J62 Hardangerfjorden Tissue: LIVER
 Locality : 67B Strandebarim Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : 19981115 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA															NIVA		NIVA			
Analysis code =>					312															311		312			
Detection limit =>					Mean															0.05		0.01			
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	5	182	259	1,9	31,4	16,6	0.152	7.12	0.29	26.8	7.2	5.0	8.6	4.8	13	30	39	2.1	7.5	<0.4	110	<118	120	
2/1	F	5	232	280	2,5	23,8	4,9	0.290	11.7	0.26	36.1	0.30	0.45	2.0	1.3	4.2	9.4	13	0.65	2.5	0.4	32	34	19	
3/1	F	7	339	310	5,2	28,6	11,4	0.178	9.82	0.14	44.2	0.54	0.94	4.0	2.8	8.2	17	26	1.5	6.1	<0.4	63	<67	67	
4/1	F	7	397	336	5,6	25,0	7,3	0.322	10.6	0.14	42.6	0.50	0.95	4.5	4.2	16	37	59	3.5	18	0.4	136	144	110	
5/1	F	8	639	377	13,7	36,3	20,9	0.153	7.91	0.03	46.3	<2	3.1	10	2.7	8.3	18	26	<2	4.5	<2	<72	<75	46	
Mean		6	358	312	5,8	29,0	12,2	0.22	9,43	0,17	39,2	<2.1	2.1	5,8	3,2	9,9	22,3	32,6	<2.0	7,7	<<0.7	<83	<<88	72,4	
Minimum		5	182	259	1,9	23,8	4,9	0.15	7,12	0,03	26,8	0,3	0,5	2,0	1,3	4,2	9,4	13,0	0,7	2,5	<0.4	32	34	19,0	
Maximum		8	639	377	13,7	36,3	20,9	0.32	11,70	0,29	46,3	7,2	5,0	10,0	4,8	16,0	37,0	59,0	3,5	18,0	<2.0	136	144	120,0	
St.Dev		1	179	46	4,7	5,1	6,6	0,08	1,89	0,10	7,9	~2.9	1,9	3,3	1,4	4,6	11,0	17,4	~1.0	6,0	~0.7	~41	~43	42,6	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		340		Calc		Calc		340		340		340	
Detection limit =>					2		3		0.5		2		2		2		2	
Samp/ repl.	Sex	Age	Wght	Lngr	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb			
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt			
1/1	M	5	182	259	26	17	163.0	163.0	1.3	4.3	5.6	5.6	2.4	0.59	<0.2			
2/1	F	5	232	280	1.8	4.3	25.1	25.1	<0.4	1.4	<1.8	<1.8	0.56	<0.2	<0.2			
3/1	F	7	339	310	17	7.4	91.4	91.4	0.82	2.7	3.5	3.5	2.1	0.29	<0.2			
4/1	F	7	397	336	21	8.9	139.9	139.9	0.52	2.1	2.6	2.6	1.8	<0.2	<0.2			
5/1	F	8	639	377	<6	4.3	<56.3	<56.3	<2	<2	<2.0	<2.0	3.4	<1	<1			
Mean		6	358	312	<14.4	8,4	<95.1	<95.1	<<1.0	<2.5	<<3.1	<<3.1	2,1	<<0.5	<<0.4			
Minimum		5	182	259	1,8	4,3	25,1	25,1	<0.4	1,4	<1.8	<1.8	0,6	<0.2	<0.2			
Maximum		8	639	377	26,0	17,0	163,0	163,0	<2.0	4,3	5,6	5,6	3,4	<1.0	<1.0			
St.Dev		1	179	46	~10.2	5,2	~57.1	~57.1	~0.7	~1.1	~1.5	~1.5	1,0	~0.3	~0.4			
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5			

Comments Station: Strandebarim Caught nov.1998 feb.1999 sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Skin with metacercariae of cf. Cryptocotyle lingua (2,3,4) Muscle with signs of inner bleeding (2,3,4,5)
- Bulk of NIVA no.:6,7,8,9,10 Skin with metacercariae of cf. Cryptocotyle lingua (6,7,8,9,10) Muscle with signs of inner bleeding (7,8,9,10)
- Bulk of NIVA nos.:11,12,13,14,15 Skin with metacercariae of cf. Cryptocotyle lingua (13,14,15) Muscle with signs of inner l (11,12,13,14)
- Bulk of NIVA nos.:16,17,18,19,20 Skin with metacercariae of cf. Cryptocotyle lingua (16,18) Muscle with signs of ir (16,18,19,20)
- Bulk of NIVA nos.:21,22,23,24,25 Skin with metacercariae of cf. Cryptocotyle lingua (21,22,23,24,25) Muscle with signs of (21,22,23,24,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : LIMA LIM Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: J26 Oslofjorden Tissue: MUSCLE
 Locality : 36F Færder area Latitude: 59°4.0N Longitude: 10°23.0E
 Catch,date : 19990105 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>						310	341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	
Detection limit =>					Mean	0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS
F/M		year	g	mm	g	%	%	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	5	243	278	15,0	18,9	0,5	0.070	0.14	0.33	0.89	1.3	3.5	5.5	7.2	0.45	1.3	0.12	19	21	1.7	<0.1	<1.8	<1.8
2/1	F	6	246	284	15,0	19,5	0,5	0.054	0.13	0.35	0.56	0.64	1.3	1.6	2.0	0.11	0.34	0.05	6	7	0.52	<0.1	<0.6	<0.6
3/1	M	5	276	293	15,0	18,7	0,5	0.090	<0.1	0.19	1.9	1.4	4.6	9.0	11	0.39	1.0	<0.1	<28	<30	1.1	<0.2	<1.3	<1.3
4/1	F	5	317	308	15,0	20,1	0,3	0.090	0.9	0.19	0.47	0.69	1.8	2.5	3.1	0.16	0.45	0.05	9	10	0.65	<0.1	<0.8	<0.8
5/1	F	5	362	323	15,0	19,7	0,5	0.093	0.12	0.22	0.42	0.53	1.2	1.8	2.3	0.13	0.47	0.6	7	8	0.67	<0.1	<0.8	<0.8
Mean		5	289	297	15,0	19,4	0,5	0,079	<0.3	0,3	0,8	0,9	2,5	4,1	5,1	0,2	0,7	<0.2	<14	<15	0,9	<<0.1	<<1.1	<<1.1
Minimum		5	243	278	15,0	18,7	0,4	0,054	<0.1	0,2	0,4	0,5	1,2	1,6	2,0	0,1	0,3	0,1	6	7	0,5	<0.1	<0.6	<0.6
Maximum		6	362	323	15,0	20,1	0,5	0,093	0,9	0,4	1,9	1,4	4,6	9,0	11,0	0,5	1,3	0,6	<28	<30	1,7	<0.2	<1.8	<1.8
St.Dev		0	51	18	0,0	0,6	0,1	0,017	~0.3	0,1	0,6	0,4	1,5	3,2	3,9	0,2	0,4	~0.2	~9	~10	0,5	~0.0	~0.5	~0.5
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code =>					341	341	Calc	Calc	341	341	341
Detection limit =>					0.05	0.05			0.05	0.05	0.05
Samp/ repl.	Sex	Age	Wght	Lngt	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	5	243	278	<0.06	0.15	<0.2	<0.2	0.05	<0.03	<0.03
2/1	F	6	246	284	<0.06	0.16	<0.2	<0.2	0.05	<0.03	<0.03
3/1	M	5	276	293	<0.1	<0.1	<0.1	<0.1	0.05	<0.05	<0.05
4/1	F	5	317	308	<0.06	0.14	<0.2	<0.2	0.04	<0.03	<0.03
5/1	F	5	362	323	<0.06	0.18	<0.2	<0.2	0.07	<0.3	<0.03
Mean		5	289	297	<<0.1	<0.1	<<0.2	<<0.2	0,1	<<0.1	<<0.0
Minimum		5	243	278	<0.1	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		6	362	323	<0.1	0,2	<0.2	<0.2	0,1	<0.3	<0.1
St.Dev		0	51	18	~0.0	~0.0	~0.0	~0.0	0,0	~0.1	~0.0
Count		5	5	5	5	5	5	5	5	5	5

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Skin with metacercariae of cf. Cryptocotyle lingua (1,2,3,4)
Muscle with signs of inner bleeding (2,5) Liver and/or intestinal guts with (1,5)
- Bulk of NIVA nos.: 6,7,8,9,10 Skin with metacercariae of cf. Cryptocotyle lingua (6,7,8,9)
Muscle with signs of inner bleeding (6,8,9,10) Skin with red film and/or uneven pigmentations (7,9)
- Bulk of NIVA nos.:11,12,13,14,15 Skin with metacercariae of cf. Cryptocotyle lingua (13)
Muscle with signs of inner bleeding (13,14,15) Skin with red film and/or uneven pigmentations (15)
- Bulk of NIVA nos.:16,17,18,19,20 Skin with metacercariae of cf. Cryptocotyle lingua (16,17,18,19) Muscle with signs of inner bleeding 16,17,18,19,20)
Skin with red film and/or uneven pigmentations (17)
- Bulk of NIVA nos.:21,22,23,24,25 Skin with metacercariae of cf. Cryptocotyle lingua (21,24,25)
Muscle with signs of inner bleeding (21,22,23,24,25) Skin with red film and/ (22,23,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LIMA LIM** Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **36F Fårder area** Latitude: 59°4.0N Longitude: 10°23.0E
 Catch,date : **19991027** Count: 25 Sample type: **Bulked**

Analytical lab.		=>																						
Analysis code		=>																		=>				
Detection limit		=>																		=>				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	Mean weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	152	237	10,6	21,1	0,4	0.027	<0.06	0.09	0.21	0.12	0.26	0.53	0.67	<0.06	0.13	0.10	<2	<2	0.22	<0.1	<0.3	<0.3
2/1	X	3	210	268	15,7	21,3	0,6	0.052	<0.06	0.11	0.43	0.42	1.1	2.1	2.5	0.15	0.50	0.16	<7	<8	0.66	<0.1	<0.8	<0.8
3/1	X	3	229	280	17,8	22,3	0,5	0.054	<0.06	0.12	0.32	0.19	0.44	0.80	1.0	<0.06	0.16	0.10	<3	<3	0.38	<0.1	<0.5	<0.5
4/1	X	4	284	296	21,5	18,8	0,6	0.055	0.06	0.12	0.41	0.29	0.77	1.3	1.8	0.09	0.30	0.09	5	5	0.59	<0.1	<0.7	<0.7
5/1	F	4	333	314	25,5	23,9	0,5	0.083	<0.06	0.12	0.36	0.26	0.61	1.1	1.4	0.08	0.26	0.12	<4	<4	0.49	<0.1	<0.6	<0.6
Mean		3	242	279	18,2	21,5	0,5	0,054	<<0.1	0,1	0,3	0,3	0,6	1,2	1,5	<<0.1	0,3	0,1	<<4	<<4	0,5	<<0.1	<<0.6	<<0.6
Minimum		3	152	237	10,6	18,8	0,5	0,027	<0.1	0,1	0,2	0,1	0,3	0,5	0,7	<0.1	0,1	0,1	<2	<2	0,2	<0.1	<0.3	<0.3
Maximum		4	333	314	25,5	23,9	0,6	0,083	0,1	0,1	0,4	0,4	1,1	2,1	2,5	0,1	0,5	0,2	<7	<8	0,7	<0.1	<0.8	<0.8
St.Dev		0	69	29	5,7	1,9	0,1	0,020	~0.0	0,0	0,1	0,1	0,3	0,6	0,7	~0.0	0,1	0,0	~2	~2	0,2	~0.0	~0.2	~0.2
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>									
Analysis code		=>						=>			
Detection limit		=>						=>			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	152	237	<0.06	0.07	<0.1	<0.1	0.04	<0.03	<0.03
2/1	X	3	210	268	<0.06	0.09	<0.1	<0.1	0.05	<0.03	<0.03
3/1	X	3	229	280	<0.06	0.09	<0.1	<0.1	0.04	<0.03	<0.03
4/1	X	4	284	296	<0.06	0.08	<0.1	<0.1	0.06	<0.03	<0.03
5/1	F	4	333	314	<0.06	0.09	<0.1	<0.1	0.05	<0.03	<0.03
Mean		3	242	279	<<0.1	0,1	<<0.1	<<0.1	0,0	<<0.0	<<0.0
Minimum		3	152	237	<0.1	0,1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		4	333	314	<0.1	0,1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		0	69	29	~0.0	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

sample no.

- 1 Bulk of NIVA no.s.6,10,21,4,1
- 2 Bulk of NIVA no.s.18,3,8,13,17 Skin with metacercariae of cf. Cryptocotyle lingua (18,8) filet with metacercariae of cf. Cryptocotyle lingua (8)
- 3 Bulk of NIVAno.s.20,11,15,19,2 Liver and/or intestinal guts with larvae of Anisakis simplex Skin with metacercariae of cf. Cryptocotyle lingua Signs of mechanical damage (e.g., net wounds)
- 4 Bulk of NIVA no.s.16,25,5,9,12 Signs of mechanical damage (e.g., net wounds) Liver and/or intestinal guts with larvae of Anisakis simplex
- 5 Bulk of NIVA no.s.7,14,22,23,24 Contamin.of Kristiansandswater

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LIMA LIM** Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **36F Fårder area** Latitude: 59°4.0N Longitude: 10°23.0E
 Catch,date : **20001026** Count: 25 Sample type: **Bulked**

Analytical lab.		=>																							
Analysis code		=>																		=>					
Detection limit		=>																		=>					
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb	
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	174	249	10,2	21,2	0,6	0.048	0.09	0.20	0.55	0.45	1.2	1.9	2.30	0.12	0.31	0.05	7	7	0.29	<0.06	<0.3	<0.3	
2/1	X	3	217	268	10,5	20,7	0,4	0.066	0.13	0.28	0.70	0.98	3.2	5.8	8.8	0.42	1.2	0.08	20	22	0.92	0.10	1.0	1.0	
3/1	X	4	258	279	10,4	21,3	0,7	0.065	0.10	0.25	0.71	0.71	2.1	3.2	4.3	0.25	0.65	0.08	11	12	0.61	0.09	0.7	0.7	
4/1	X	4	279	291	10,4	20,6	0,5	0.100	0.06	0.14	0.45	0.48	1.5	2.4	3.3	0.19	0.53	0.08	8	9	0.42	<0.06	<0.5	<0.5	
5/1	X	4	326	306	10,7	19,6	0,5	0.104	0.07	0.25	0.72	0.45	1.2	2.1	2.5	0.13	0.40	0.05	7	8	0.52	0.11	0.6	0.6	
Mean		4	251	279	10,5	20,7	0,6	0,077	0,1	0,2	0,6	0,6	1,8	3,1	4,2	0,2	0,6	0,1	11	12	0,6	<<0.1	<<0.6	<<0.6	
Minimum		3	174	249	10,2	19,6	0,4	0,048	0,1	0,1	0,5	0,5	1,2	1,9	2,3	0,1	0,3	0,1	7	7	0,3	<0.1	<0.3	<0.3	
Maximum		4	326	306	10,7	21,3	0,7	0,104	0,1	0,3	0,7	1,0	3,2	5,8	8,8	0,4	1,2	0,1	20	22	0,9	0,1	1,0	1,0	
St.Dev		0	58	22	0,2	0,7	0,1	0,024	0,0	0,1	0,1	0,2	0,8	1,6	2,7	0,1	0,3	0,0	6	6	0,2	~0.0	~0.3	~0.3	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.		=>									
Analysis code		=>						=>			
Detection limit		=>						=>			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	174	249	<0.04	0.08	<0.1	<0.1	0.05	<0.02	<0.02
2/1	X	3	217	268	<0.04	0.06	<0.1	<0.1	0.06	<0.02	<0.02
3/1	X	4	258	279	<0.04	0.08	<0.1	<0.1	0.07	<0.02	<0.02
4/1	X	4	279	291	<0.04	0.05	<0.1	<0.1	0.04	<0.02	<0.02
5/1	X	4	326	306	<0.04	0.07	<0.1	<0.1	0.05	<0.02	<0.02
Mean		4	251	279	<<0.0	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		3	174	249	<0.0	0,1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		4	326	306	<0.0	0,1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		0	58	22	~0.0	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

sample no.

- Bulk of NIVA no 6,10,3,11,7 Liver and/or intestinal guts with larvae of Anisakis simp. 3
Signs of mechanical damage (e.g., net wounds)6,7
- Bulk of NIVA no.12,13,14,15,16 Age uncertain no 13,14,16
- Bulk of NIVA no 17,8,1,4,18 Signs of mechanical damage (e.g., net wounds)1,8
- Bulk of NIVA no 9,19,20,21,2 Signs of mechanical damage (e.g., net wounds) 2,9
- Bulk of NIVA no5,22,23,24,25 Liver and/or intestinal guts with larvae of Anisakis simpl.5
Age uncertain no 5,22

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LIMA LIM** Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: **J26 Oslofjorden** Tissue: MUSCLE
 Locality : **36F Fårder area** Latitude: 59°4.0N Longitude: 10°23.0E
 Catch,date : **20011025** Count: 25 Sample type: **Bulked**

Analytical lab.		=>																							
Analysis code		=>																		=>					
Detection limit		=>																		=>					
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	Mean weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
no.					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	152	241	12,0	21,2	0,9	0.041	0.20	0.41	1.1	1.0	2.9	3.9	5.0	0.28	0.71	<0.06	14	<16	0.67	0.08	0.8	0.8	
2/1	X	3	190	265	13,0	20,4	0,5	0.041	<0.06	0.14	0.40	0.26	0.70	1.0	1.2	0.07	0.21	<0.06	<4	<4	0.20	<0.08	<0.3	<0.3	
3/1	X	4	236	285	15,1	20,2	0,5	0.053	0.12	0.36	0.92	0.52	1.4	2.0	2.5	0.13	0.43	<0.06	8	<8	0.58	0.10	0.7	0.7	
4/1	X	5	296	301	20,2	21,2	0,7	0.110	0.20	0.84	2.1	1.1	3.4	4.4	5.5	0.31	0.87	<0.06	17	<19	0.51	<0.08	<0.6	<0.6	
5/1	X	5	324	314	20,0	19,1	0,4	0.089	0.06	0.18	0.52	0.36	1.1	1.5	2.1	0.10	0.32	<0.06	6	<6	0.40	<0.08	<0.5	<0.5	
Mean		4	240	281	16,0	20,4	0,6	0,067	<0.1	0,4	1,0	0,6	1,9	2,6	3,3	0,2	0,5	<<0.1	<10	<<11	0,5	<<0.1	<<0.6	<<0.6	
Minimum		3	152	241	12,0	19,1	0,4	0,041	<0.1	0,1	0,4	0,3	0,7	1,0	1,2	0,1	0,2	<0.1	<4	<4	0,2	<0.1	<0.3	<0.3	
Maximum		5	324	314	20,2	21,2	0,9	0,110	0,2	0,8	2,1	1,1	3,4	4,4	5,5	0,3	0,9	<0.1	17	<19	0,7	0,1	0,8	0,8	
St.Dev		1	72	29	3,8	0,9	0,2	0,031	~0.1	0,3	0,7	0,4	1,2	1,5	1,9	0,1	0,3	~0.0	~5	~7	0,2	~0.0	~0.2	~0.2	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.		=>									
Analysis code		=>									
Detection limit		=>									
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	152	241	<0.06	0.09	<0.1	<0.1	0.09	<0.03	<0.03
2/1	X	3	190	265	<0.06	<0.06	<0.1	<0.1	<0.03	<0.03	<0.03
3/1	X	4	236	285	<0.06	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
4/1	X	5	296	301	<0.06	<0.06	<0.1	<0.1	0.07	<0.03	0.03
5/1	X	5	324	314	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
Mean		4	240	281	<<0.1	<<0.1	<<0.1	<<0.1	<0.1	<<0.0	<<0.0
Minimum		3	152	241	<0.1	<0.1	<0.1	<0.1	<0.0	<0.0	<0.0
Maximum		5	324	314	<0.1	0,1	<0.1	<0.1	0,1	<0.0	0,0
St.Dev		1	72	29	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

sample no.

- 1 Bulk of NIVA no 13,6,20,15,18 Age uncertain no20,15
- 2 Bulk of NIVA no 8,14,19,16,21 Age uncertain no14,19
- 3 Bulk of NIVA no 7,22,12,3,9
- 4 Bulk of NIVA no 23,4,10,25,2 Age uncertain no 23,10
- 5 Bulk of NIVA no 5,11,17,24,1 Age uncertain no 24

JAMP contaminant data for fish 1998-2001 - Norway

Species : LIMA LIM Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 15F Ullerø area Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : 19981115 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA																				
Analysis code =>					310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																				
Detection limit =>					Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	5	213	268	15,0	25,5	0,6	0.036	<0.05	<0.05	0.20	0.05	0.13	0.30	0.36	<0.05	0.07	<0.05	<1	<1	0.06	<0.08	<0.1	<0.1	
2/1	M	6	323	299	15,0	20,2	0,5	0.049	<0.05	<0.05	0.13	0.13	0.19	0.45	0.56	<0.05	0.11	<0.05	<1	<2	0.38	<0.08	<0.5	<0.5	
3/1	F	5	327	310	15,0	20,9	0,5	0.043	<0.05	<0.05	0.09	0.08	0.14	0.28	0.34	<0.05	0.07	<0.05	<1	<1	0.27	<0.08	<0.3	<0.3	
4/1	F	6	425	334	15,0	20,3	0,5	0.084	<0.05	0.05	0.11	0.07	0.18	0.41	0.53	<0.05	0.11	<0.05	<1	<2	0.44	<0.08	<0.5	<0.5	
5/1	F	7	554	367	15,0	19,7	0,7	0.093	<0.05	0.07	0.18	0.09	0.28	0.61	0.72	<0.05	0.14	<0.05	<2	<2	0.61	0.09	0.7	0.7	
Mean		6	368	316	15,0	21,3	0,6	0,061	<<0.1	<<0.1	0,1	0,1	0,2	0,4	0,5	<<0.1	0,1	<<0.1	<<1	<<2	0,4	<<0.1	<<0.4	<<0.4	
Minimum		5	213	268	15,0	19,7	0,5	0,036	<0.1	<0.1	0,1	0,1	0,1	0,3	0,3	<0.1	0,1	<0.1	<1	<1	0,1	<0.1	<0.1	<0.1	
Maximum		7	554	367	15,0	25,5	0,7	0,093	<0.1	0,1	0,2	0,1	0,3	0,6	0,7	<0.1	0,1	<0.1	<2	<2	0,6	0,1	0,7	0,7	
St.Dev		1	128	37	0,0	2,4	0,1	0,026	~0.0	~0.0	0,0	0,0	0,1	0,1	0,2	~0.0	0,0	~0.0	~0	~1	0,2	~0.0	~0.2	~0.2	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA							
Analysis code =>					341 341 Calc Calc 341 341 341							
Detection limit =>					0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl.	Sex	Age	Wght	Lngt	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	F	5	213	268	<0.06	0.14	<0.2	<0.2	0.10	0.03	<0.03	
2/1	M	6	323	299	<0.06	0.14	<0.2	<0.2	0.08	<0.03	<0.03	
3/1	F	5	327	310	<0.06	0.15	<0.2	<0.2	0.09	<0.03	<0.03	
4/1	F	6	425	334	<0.06	0.17	<0.2	<0.2	0.09	<0.03	<0.03	
5/1	F	7	554	367	<0.06	0.20	<0.3	<0.3	0.14	<0.03	<0.03	
Mean		6	368	316	<<0.1	0,2	<<0.2	<<0.2	0,1	<<0.0	<<0.0	
Minimum		5	213	268	<0.1	0,1	<0.2	<0.2	0,1	<0.0	<0.0	
Maximum		7	554	367	<0.1	0,2	<0.3	<0.3	0,1	0,0	<0.0	
St.Dev		1	128	37	~0.0	0,0	~0.0	~0.0	0,0	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Muscle with signs of inner bleeding (1,2,5)
Skin with metacercariae of cf. Cryptocotyle lingua (3,4) Liver and/or intestinal gut-4
- Bulk of NIVA nos.:6,7,8,9,10 Skin with metacercariae of cf. C (6,7,9)
- Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (13)
- Bulk of NIVA nos.:16,17,18,19,20 Muscle with signs of inner bleeding (16,17)
Liver with signs of bleeding (19) Skin with ulceration, lymphocytic areas and/or lesions (20)
- Bulk of NIVA nos.:21,22,23,24,25 Skin with metacercariae of cf. Cryptocotyle lingua (23)
Muscle with signs of inner bleeding (23) Liver with signs of bleeding (25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LIMA LIM** Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **15F Ullerø area** Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : **19991020** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA																			
Analysis code =>					310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																			
Detection limit =>					Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb
1/1	X	2	211	272	9,3	19,8	0,6	0.024	<0.04	<0.05	0.13	0.05	0.14	0.43	0.53	<0.04	0.09	<0.03	<1	<1	0.35	<0.05	<0.4	<0.4
2/1	X	3	269	300	13,1	20,1	0,6	0.036	<0.04	<0.04	0.11	0.06	0.20	0.54	0.76	0.04	0.14	0.04	<2	<2	0.38	<0.05	<0.4	<0.4
3/1	X	3	327	316	11,7	19,8	0,6	0.057	<0.04	0.06	0.18	0.06	0.20	0.59	0.77	0.04	0.12	<0.03	<2	<2	0.54	0.06	0.6	0.6
4/1	X	3	453	340	17,7	21,1	0,5	0.059	<0.04	<0.04	0.09	<0.04	0.09	0.22	0.27	<0.04	0.05	<0.02	<1	<1	0.30	<0.04	<0.3	<0.3
5/1	F	5	449	360	14,0	20,2	0,5	0.079	<0.04	0.06	0.23	0.06	0.20	0.53	0.73	<0.04	0.11	0.04	<2	<2	0.51	<0.04	<0.6	<0.6
Mean		3	342	318	13,1	20,2	0,5	0,051	<<0.0	<<0.1	0,1	<0.1	0,2	0,5	0,6	<<0.0	0,1	<<0.0	<<2	<<2	0,4	<<0.0	<<0.5	<<0.5
Minimum		2	211	272	9,3	19,8	0,5	0,024	<0.0	<0.0	0,1	<0.0	0,1	0,2	0,3	<0.0	0,1	<0.0	<1	<1	0,3	<0.0	<0.3	<0.3
Maximum		5	453	360	17,7	21,1	0,6	0,079	<0.0	0,1	0,2	0,1	0,2	0,6	0,8	0,0	0,1	0,0	<2	<2	0,5	0,1	0,6	0,6
St.Dev		1	108	34	3,1	0,5	0,0	0,021	~0.0	~0.0	0,1	~0.0	0,0	0,1	0,2	~0.0	0,0	~0.0	~1	~1	0,1	~0.0	~0.1	~0.1
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA							
Analysis code =>					341 341 Calc Calc 341 341 341							
Detection limit =>					0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
1/1	X	2	211	272	<0.03	0.06	<0.1	<0.1	0.10	<0.02	<0.02	
2/1	X	3	269	300	<0.02	0.05	<0.1	<0.1	0.07	<0.02	<0.02	
3/1	X	3	327	316	<0.03	0.06	<0.1	<0.1	0.09	<0.03	<0.03	
4/1	X	3	453	340	<0.02	0.04	<0.1	<0.1	0.06	<0.02	<0.02	
5/1	F	5	449	360	<0.02	0.06	<0.1	<0.1	0.11	<0.02	<0.02	
Mean		3	342	318	<<0.0	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.0	
Minimum		2	211	272	<0.0	0,0	<0.1	<0.1	0,1	<0.0	<0.0	
Maximum		5	453	360	<0.0	0,1	<0.1	<0.1	0,1	<0.0	<0.0	
St.Dev		1	108	34	~0.0	0,0	~0.0	~0.0	0,0	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	

- sample no.
 1 Bulk of NIVA no.s.14,15,13,21,24 contaminatin
 2 Bulk of NIVA no.s.25,12,22,23,4
 3 Bulk of NIVA no.s.7,10,8,11,20 contamination
 4 Bulk of NIVA no.s.9,17,16,2,5, contamination
 5 Bulk of NIVA no.s.18,19,6,1,3 contamination

JAMP contaminant data for fish 1998-2001 - Norway

Species : LIMA LIM Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 15F Ullerø area Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : 20000120 Count: 25 Sample type: Bulked

Analytical lab.		=>																						
Analysis code		=>																		=>				
Detection limit		=>																		=>				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	Mean weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	184	257	13,7	19,3	0,5	0.043	<0.04	<0.04	0.06	0.04	0.10	0.22	0.32	<0.04	0.06	<0.04	<1	<1	0.22	<0.08	<0.3	<0.3
2/1	X	3	212	269	12,9	20,2	0,3	0.036	<0.10	<0.10	<0.10	<0.10	<0.10	0.13	0.16	<0.10	<0.10	<0.10	<0	<0	0.17	<0.20	<0.4	<0.4
3/1	F	2	284	289	13,6	20,4	0,4	0.034	<0.04	<0.04	0.06	<0.04	0.07	0.16	0.20	<0.04	0.04	<0.04	<1	<1	0.19	<0.08	<0.3	<0.3
4/1	F	3	345	313	13,9	20,9	0,5	0.049	<0.04	<0.04	0.07	<0.04	0.08	0.18	0.25	<0.04	0.05	<0.04	<1	<1	0.22	<0.08	<0.3	<0.3
5/1	F	4	426	335	12,9	20,0	0,6	0.183	<0.04	0.07	0.13	0.06	0.15	0.31	0.39	<0.04	0.08	<0.04	<1	<1	0.56	<0.08	<0.6	<0.6
Mean		3	290	293	13,4	20,2	0,5	0,069	<<0.1	<<0.1	<0.1	<<0.1	<0.1	0,2	0,3	<<0.1	<0.1	<<0.1	<<1	<<1	0,3	<<0.1	<<0.4	<<0.4
Minimum		2	184	257	12,9	19,3	0,3	0,034	<0.0	<0.0	0,1	<0.0	0,1	0,1	0,2	<0.0	0,0	<0.0	<0	<0	0,2	<0.1	<0.3	<0.3
Maximum		4	426	335	13,9	20,9	0,6	0,183	<0.1	<0.1	0,1	<0.1	0,1	0,3	0,4	<0.1	<0.1	<0.1	<1	<1	0,6	<0.2	<0.6	<0.6
St.Dev		1	99	32	0,5	0,6	0,1	0,064	~0.0	~0.0	~0.0	~0.0	~0.0	0,1	0,1	~0.0	~0.0	~0.0	~0	~0	0,2	~0.1	~0.1	~0.1
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>									
Analysis code		=>									
Detection limit		=>									
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	3	184	257	<0.04	0.05	<0.1	<0.1	0.06	<0.02	<0.04
2/1	X	3	212	269	<0.10	<0.10	<0.1	<0.1	<0.05	<0.05	<0.10
3/1	F	2	284	289	<0.04	0.08	<0.1	<0.1	0.08	<0.02	<0.04
4/1	F	3	345	313	<0.04	0.08	<0.1	<0.1	0.08	<0.02	<0.04
5/1	F	4	426	335	<0.04	0.14	<0.2	<0.2	0.12	<0.02	<0.04
Mean		3	290	293	<<0.1	<0.1	<<0.1	<<0.1	<0.1	<<0.0	<<0.1
Minimum		2	184	257	<0.0	0,1	<0.1	<0.1	<0.1	<0.0	<0.0
Maximum		4	426	335	<0.1	0,1	<0.2	<0.2	0,1	<0.1	<0.1
St.Dev		1	99	32	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

Comments

Station: Ullerø area Fished in jan. before 20.jan 01

sample no.

- Bulk of NIVA no 1,2,3,4,5
- Bulk of NIVA no 6,7,8,9,10
- Bulk of NIVA no 11,12,13,14,15 Age of no14,impossible to analys.
- Bulk of NIVA no 16,17,18,19,20 Age of no 19 impossible to analys.
- Bulk of NIVA no 21,22,23,24,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : LIMA LIM Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 15F Ullerø area Latitude: 58°3.0N Longitude: 6°43.0E
 Catch,date : 20010927 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA																			
Analysis code =>					310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																			
Detection limit =>					Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																			
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb
1/1	F	3	272	295	12,8	22,6	0,5	0.047	<0.06	miss	0.06	<0.06	0.08	0.16	0.20	<0.06	<0.06	<0.06	<1	<1	0.18	<0.08	<0.3	<0.3
2/1	F	4	328	318	14,1	23,0	0,6	0.064	<0.06	miss	0.14	0.07	0.21	0.42	0.58	<0.06	0.12	<0.06	<2	<2	0.55	<0.08	<0.6	<0.6
3/1	X	4	373	333	18,7	22,0	0,5	0.053	<0.06	miss	0.09	<0.06	0.14	0.27	0.37	<0.06	0.08	<0.06	<1	<1	0.34	<0.08	<0.4	<0.4
4/1	X	5	410	342	16,0	21,0	0,6	0.160	<0.06	s0.18	0.24	0.14	0.43	0.76	1.1	<0.06	0.18	<0.06	s<3	s<3	0.96	0.08	1.0	1.0
5/1	X	4	451	365	15,4	23,1	0,6	0.170	<0.06	miss	0.14	0.09	0.28	0.58	0.88	<0.06	0.21	<0.06	<2	<2	0.76	0.08	0.8	0.8
Mean		4	367	331	15,4	22,3	0,6	0,099	<<0.1		0,1	<<0.1	0,2	0,4	0,6	<<0.1	<0.1	<<0.1	<<2	<<2	0,6	<<0.1	<<0.6	<<0.6
Minimum		3	272	295	12,8	21,0	0,5	0,047	<0.1		0,1	<0.1	0,1	0,2	0,2	<0.1	<0.1	<0.1	<1	<1	0,2	<0.1	<0.3	<0.3
Maximum		5	451	365	18,7	23,1	0,7	0,170	<0.1		0,2	0,1	0,4	0,8	1,1	<0.1	0,2	<0.1	<2	<2	1,0	0,1	1,0	1,0
St.Dev		1	70	26	2,2	0,9	0,1	0,061	~0.0		0,1	~0.0	0,1	0,2	0,4	~0.0	~0.1	~0.0	~1	~1	0,3	~0.0	~0.3	~0.3
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4	5	5	5	5

miss(4) ! Missing value s/q(3) ! Suspect value

Analytical lab. =>					NIVA							
Analysis code =>					341 341 Calc Calc 341 341 341							
Detection limit =>					0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
1/1	F	3	272	295	<0.06	0.06	<0.1	<0.1	0.08	<0.03	<0.03	
2/1	F	4	328	318	<0.06	<0.06	<0.1	<0.1	0.15	<0.03	<0.03	
3/1	X	4	373	333	<0.06	<0.06	<0.1	<0.1	0.09	<0.03	<0.03	
4/1	X	5	410	342	<0.06	0.06	<0.1	<0.1	0.15	0.03	<0.03	
5/1	X	4	451	365	<0.06	<0.06	<0.1	<0.1	0.20	<0.03	<0.03	
Mean		4	367	331	<<0.1	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0	
Minimum		3	272	295	<0.1	<0.1	<0.1	<0.1	0,1	<0.0	<0.0	
Maximum		5	451	365	<0.1	0,1	<0.1	<0.1	0,2	0,0	<0.0	
St.Dev		1	70	26	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	

miss(4) ! Missing value s/q(3) ! Suspect value

sample no.

- Bulk of NIVA no 22,10,4,8,11 Skin with metacercariae of cf. Cryptocotyle lingua
Gills with Lernaecocera copepods no22
- Bulk of NIVA no 13,20,25,7,12 Skin with metacercariae of cf. Cryptocotyle lingua
Gills with Lernaecocera copepods no20 Liver a/o intestinal guts with larvae of Anisakis simpl.no20
- Bulk of NIVA no 6,18,3,9,2 Skin with metacercariae of cf. Cryptocotyle lingua
- Bulk of NIVA no 14,1,23,21,16 Skin with metacercariae of cf. Cryptocotyle lingua
Liver a/o intestinal guts with larvae of Anisakis simpl.no1 Gills with Lernaecocera copepods no14,23
- Bulk of NIVA no 15,5,24,19,17 Skin with metacercariae of cf. Cryptocotyle lingua

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LIMA LIM** Limanda limanda GB: Dab, N: Sandflyndre
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandeabarm** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **19981115** Count: 25 Sample type: **Bulked**

Analytical lab.		NIVA																						
Analysis code		NIVA																		Calc				
Detection limit		NIVA																		Calc				
Samp/ Sex	Age Wght Lngt	Mean	Dry	Fat	HG	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	DDTPP	TDEPP	DD Σ4			
repl. F/M	year g mm	weight g	%	%	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb			
no.		w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt			
1/1	M	5	182	259	15,0	20,0	0,1	0.080	0.05	0.06	0.05	<0.05	0.08	0.18	0.23	<0.05	<0.05	<0.05	<1	<1	0.87	0.17	0.11	1.1
2/1	F	5	232	280	15,0	19,0	0,1	0.060	<0.05	0.05	0.08	0.05	0.15	0.32	0.36	<0.05	0.06	<0.05	<1	<1	0.61	<0.1	0.12	<0.8
3/1	F	7	339	310	15,0	20,5	0,2	0.076	<0.05	<0.05	<0.05	<0.05	0.07	0.14	0.19	<0.05	<0.05	<0.05	<0	<0	0.63	0.10	0.07	0.8
4/1	F	7	397	336	15,0	17,2	0,2	0.174	<0.05	<0.05	0.10	0.08	0.22	0.53	0.77	<0.05	0.19	<0.05	<2	<2	1.8	0.26	0.13	2.2
5/1	F	8	639	377	15,0	19,0	0,3	0.117	0.05	0.10	0.27	0.12	0.29	0.57	0.77	<0.05	0.15	<0.05	2	<2	2.0	0.26	0.25	2.5
Mean		6	358	312	15,0	19,1	0,2	0,101	<<0.1	<<0.1	<0.1	<<0.1	0,2	0,3	0,5	<<0.1	<<0.1	<<0.1	<<1	<<1	1,2	<0.2	0,1	<1.5
Minimum		5	182	259	15,0	17,2	0,1	0,060	<0.1	<0.1	<0.1	<0.1	0,1	0,1	0,2	<0.1	<0.1	<0.1	<0	<0	0,6	<0.1	0,1	<0.8
Maximum		8	639	377	15,0	20,5	0,3	0,174	0,1	0,1	0,3	0,1	0,3	0,6	0,8	<0.1	0,2	<0.1	2	<2	2,0	0,3	0,3	2,5
St.Dev		1	179	46	0,0	1,3	0,1	0,046	~0.0	~0.0	~0.1	~0.0	0,1	0,2	0,3	~0.0	~0.1	~0.0	~1	~1	0,7	~0.1	0,1	~0.8
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		NIVA										
Analysis code		Calc								Calc		
Detection limit		NIVA										
Samp/ Sex	Age Wght Lngt	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS			
repl. F/M	year g mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb			
no.		w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt			
1/1	M	5	182	259	1.1	<0.06	0.10	<0.2	<0.2	0.3	<0.03	<0.03
2/1	F	5	232	280	<0.8	<0.06	0.10	<0.2	<0.2	<0.03	<0.03	<0.03
3/1	F	7	339	310	0.8	<0.06	0.10	<0.2	<0.2	0.05	<0.03	<0.03
4/1	F	7	397	336	2.2	<0.06	0.11	<0.2	<0.2	0.07	<0.03	<0.03
5/1	F	8	639	377	2.5	<0.06	0.19	<0.3	<0.3	0.16	<0.03	<0.03
Mean		6	358	312	<1.5	<<0.1	0,1	<<0.2	<<0.2	<0.1	<<0.0	<<0.0
Minimum		5	182	259	<0.8	<0.1	0,1	<0.2	<0.2	<0.0	<0.0	<0.0
Maximum		8	639	377	2,5	<0.1	0,2	<0.3	<0.3	0,3	<0.0	<0.0
St.Dev		1	179	46	~0.8	~0.0	0,0	~0.0	~0.0	~0.1	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5	5

Comments Station: Strandeabarm Caught nov.1998 feb.1999 sample no.

- Bulk of NIVA no.:1,2,3,4,5 Skin with metacercariae of cf. Cryptocotyle lingua (2,3,4)
Muscle with signs of inner bleeding (2,3,4,5)
- Bulk of NIVA no.:6,7,8,9,10 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding (7,8,9,10)
- Bulk of NIVA nos.:11,12,13,14,15 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding (11,12,13,14)
- Bulk of NIVA no.:16,17,18,19,20 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding (16,18,19,20)
- Bulk of NIVA no.:21,22,23,24,25 Skin with metacercariae of cf. Cryptocotyle lingua
Muscle with signs of inner bleeding

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLEU PLA** Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **22F Borøyfjorden** Latitude: 59°43.0N Longitude: 5°21.0E
 Catch,date : **19990115** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>					312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit =>					Mean																			
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
F/M		year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	6	405	342	3,4	19,8	3,9	0.198	2.27	0.46	31.8	<0.3	<0.6	0.61	1.8	5.3	6.3	9.0	<0.6	1.8	<0.6	<24	<25	4.7
2/1	M	6	572	379	5,5	19,7	3,2	0.182	2.01	0.72	32.0	<0.6	<0.6	0.76	1.6	4.0	3.3	4.9	<0.6	0.93	<0.6	<14	<16	2.2
3/1	M	8	679	396	7,3	18,9	4,0	0.339	2.40	0.77	25.2	<0.6	0.70	3.3	1.4	5.4	11	13	0.64	2.6	<0.6	<37	<39	4.3
4/1	F	9	901	432	11,4	18,6	3,3	0.293	2.21	0.35	24.1	<0.6	<0.6	<0.6	<0.6	1.6	2.8	6.2	<0.6	1.5	<0.6	<13	<13	2.8
5/1	F	10	1427	490	18,8	19,5	2,9	0.244	3.31	0.13	23.9	1.8	<0.6	0.60	<0.6	1.1	1.6	2.6	<0.6	<0.6	<0.6	<8	<8	2.1
Mean		8	797	408	9,3	19,3	3,5	0,25	2,44	0,49	27,4	<<0.8	<<0.6	<1.2	<<1.2	3,5	5,0	7,1	<<0.6	<1.5	<<0.6	<<19	<<20	3,2
Minimum		6	405	342	3,4	18,6	2,9	0,18	2,01	0,13	23,9	<0.3	<0.6	<0.6	<0.6	1,1	1,6	2,6	<0.6	<0.6	<0.6	<8	<8	2,1
Maximum		10	1427	490	18,8	19,8	4,0	0,34	3,31	0,77	32,0	1,8	0,7	3,3	1,8	5,4	11,0	13,0	0,6	2,6	<0.6	<37	<39	4,7
St.Dev		2	396	56	6,1	0,5	0,5	0,07	0,51	0,27	4,1	~0.6	~0.0	~1.2	~0.6	2,0	3,8	4,0	~0.0	~0.8	~0.0	~12	~12	1,2
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code =>					340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit =>					3			0.5	2			2	2	2
Samp/ repl.	Sex	Age	Wght	Lngr	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	6	405	342	<1	<5.7	<5.7	<0.6	<0.6	<0.6	<0.6	0.41	<0.3	<0.3
2/1	M	6	572	379	<1	<3.2	<3.2	<0.6	<0.6	<0.6	<0.6	<0.3	<0.3	<0.3
3/1	M	8	679	396	<1	<5.3	<5.3	<0.6	<0.6	<0.6	<0.6	0.37	<0.3	<0.3
4/1	F	9	901	432	<1	<3.8	<3.8	<0.6	<0.6	<0.6	<0.6	<0.3	<0.3	<0.3
5/1	F	10	1427	490	<1	<3.1	<3.1	<0.6	<0.6	<0.6	<0.6	<0.3	<0.3	<0.3
Mean		8	797	408	<<1.0	<<4.2	<<4.2	<<0.6	<<0.6	<<0.6	<<0.6	<<0.3	<<0.3	<<0.3
Minimum		6	405	342	<1.0	<3.1	<3.1	<0.6	<0.6	<0.6	<0.6	<0.3	<0.3	<0.3
Maximum		10	1427	490	<1.0	<5.7	<5.7	<0.6	<0.6	<0.6	<0.6	0,4	<0.3	<0.3
St.Dev		2	396	56	~0.0	~1.2	~1.2	~0.0	~0.0	~0.0	~0.0	~0.1	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5	5	5	5

sample no.

- 1 Bulk of NIVA nos.:1,2,3,4, Muscle with signs of inner bleeding (2,4)
- 2 Bulk of NIVA nos.:6,7,8,9,10
- 3 Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (11,13)
- 4 Bulk of NIVA nos.:16,17,18,19,20 Muscle with signs of inner bleeding (17,18,19,20)
- 5 Bulk of NIVA nos.:21,22,23,24,25 Muscle with signs of inner bleeding (22,23,24,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLEU PLA Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: J99 Undefined Tissue: LIVER
 Locality : 98F Lille Molla Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : 19980915 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA																				
Analysis code =>					312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340 340																				
Detection limit =>					Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3																				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	7	655	380	10,6	31,7	18,0	0.203	1.87	<0.04	27.7	<2	<2	<2	2.6	3.3	6.1	7.5	<2	<2	<2	<19	<22	5.2	
2/1	M	7	873	418	13,1	22,2	9,3	0.162	3.00	0.10	28.2	<1	<1	<1	<1	2.1	3.4	5.0	<1	<1	<1	<12	<12	3.6	
3/1	F	8	1083	445	16,9	27,0	13,9	0.185	2.47	<0.04	36.2	<2	<2	<2	2.7	3.7	6.4	8.7	<2	2.3	<2	<23	<23	6.2	
4/1	F	9	1177	458	15,4	24,4	10,7	0.583	2.38	0.04	33.7	<1	<1	2.7	2.7	8.9	13	22	<1	4.8	<1	<52	<55	16	
5/1	F	13	1559	503	23,8	27,2	13,6	0.514	2.27	0.04	36.0	<2	<2	2.5	<2	5.7	8.9	14	<2	2.9	<2	<36	<36	9.3	
Mean		9	1069	441	15,9	26,5	13,1	0,33	2,40	<<0.05	32,4	<<1.6	<<1.6	<<2.0	<<2.1	4,7	7,6	11,4	<<1.6	<<2.6	<<1.6	<<28	<<30	8,1	
Minimum		7	655	380	10,6	22,2	9,3	0,16	1,87	<0.04	27,7	<1.0	<1.0	<1.0	<1.0	2,1	3,4	5,0	<1.0	<1.0	<1.0	<12	<12	3,6	
Maximum		13	1559	503	23,8	31,7	18,0	0,58	3,00	0,10	36,2	<2.0	<2.0	2,7	2,7	8,9	13,0	22,0	<2.0	4,8	<2.0	<52	<55	16,0	
St.Dev		2	340	46	5,0	3,6	3,4	0,20	0,41	-0.03	4,1	-0.5	-0.5	-0.7	-0.7	2,7	3,6	6,8	-0.5	-1.4	-0.5	-16	-17	4,9	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA										
Analysis code =>					340 Calc Calc 340 340 Calc Calc 340 340 340										
Detection limit =>					3 2 2 2										
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	M	7	655	380	<5	<10.2	<10.2	<2	<2	<2.0	<2.0	1.4	<1	<1	
2/1	M	7	873	418	<3	<6.6	<6.6	<1	<1	<1.0	<1.0	0.75	<0.5	<0.5	
3/1	F	8	1083	445	<5	<11.2	<11.2	<2	<2	<2.0	<2.0	<1	<1	<1	
4/1	F	9	1177	458	<3	<19.0	<19.0	<1	<1	<1.0	<1.0	0.76	<0.5	<0.5	
5/1	F	13	1559	503	<5	<14.3	<14.3	<2	<2	<2.0	<2.0	1.1	<1	<1	
Mean		9	1069	441	<<4.2	<<12.3	<<12.3	<<1.6	<<1.6	<<1.6	<<1.6	<1.0	<<0.8	<<0.8	
Minimum		7	655	380	<3.0	<6.6	<6.6	<1.0	<1.0	<1.0	<1.0	0,8	<0.5	<0.5	
Maximum		13	1559	503	<5.0	<19.0	<19.0	<2.0	<2.0	<2.0	<2.0	1,4	<1.0	<1.0	
St.Dev		2	340	46	~1.1	~4.7	~4.7	~0.5	~0.5	~0.5	~0.5	~0.3	~0.3	~0.3	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Skin with ulceration, lymphocytic areas and/or lesions (1,2,3,4,5) Bacterial fin rot (1,2,3,4,5) Muscle with signs of inner bleeding (4,5)
- Bulk of NIVA nos.:6,7,8,9,10 Bacterial fin rot (6,7) Skin with ulceration, lymphocytic areas and/or lesions (8,10)
- Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (11,14)
- Bulk of NIVA nos.:16,17,18,19,20 Muscle with signs of inner bleeding (16,17,19,20) Liver with signs of bleeding (17)
- Bulk of NIVA nos.:21,22,23,24,25 Muscle with signs of inner bleeding (23,24,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLEU PLA** Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **98F Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **19990916** Count: 5 Sample type: **Bulked**

Analytical lab.				=>	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code				=>	312	311	312	311	340	340	340	340	340	340	340	340	340	Calc	Calc	340				
Detection limit				=>	Mean	0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	4				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X		746	391	6,3			0.214	9.48	0.22	51.0	<0.60	0.84	1.9	1.1	3.5	7.3	9.3	<0.60	1.6	<0.60	<25	<26	7.8
Mean			746	391	6,3			0,21	9,48	0,22	51,0	<<0.6	0,8	1,9	1,1	3,5	7,3	9,3	<<0.6	1,6	<<0.6	<<25	<<26	7,8
Minimum			746	391	6,3			0,21	9,48	0,22	51,0	<0.6	0,8	1,9	1,1	3,5	7,3	9,3	<0.6	1,6	<0.6	<25	<26	7,8
Maximum			746	391	6,3			0,21	9,48	0,22	51,0	<0.6	0,8	1,9	1,1	3,5	7,3	9,3	<0.6	1,6	<0.6	<25	<26	7,8
St.Dev																								
Count			1	1	1			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Analytical lab.				=>	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code				=>	340	Calc	Calc	340	340	Calc	Calc	340	340	
Detection limit				=>	3			0.5	2			2	2	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X		746	391	1.1	8.9	8.9	0.87	1.3	2.2	2.2	2.5	<0.30	<0.60
Mean			746	391	1,1	8,9	8,9	0,9	1,3	2,2	2,2	2,5	<<0.3	<<0.6
Minimum			746	391	1,1	8,9	8,9	0,9	1,3	2,2	2,2	2,5	<0.3	<0.6
Maximum			746	391	1,1	8,9	8,9	0,9	1,3	2,2	2,2	2,5	<0.3	<0.6
St.Dev														
Count			1	1	1	1	1	1	1	1	1	1	1	1

sample no.
 1 Bulk of Niva no 1,2,3,4,5

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLEU PLA** Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **98F Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **20000921** Count: 20 Sample type: **Bulked**

Analytical lab. =>					NIVA															NIVA		NIVA		
Analysis code =>					312															311		312		
Detection limit =>					Mean															0.05		0.01		
Samp/ repl. no.	Sex	Age	Wght	Lngr	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
1/1	X	5	896	417	13,0	30,6	14,0	0.388	4.65	0.13	53.2	1.7	3.1	4.0	2.1	5.6	7.0	8.5	<0.60	1.5	<0.60	31	<34	6.5
2/1	F	7	1991	539	34,4	29,3	14,0	1.38	2.90	0.06	49.0	0.79	1.3	3.0	1.9	6.2	9.7	14	<0.60	2.7	<0.60	38	<40	9.0
3/1	X	6	1193	456	18,0	33,8	24,0	0.783	3.98	0.09	42.8	1.1	2.6	5.4	3.1	9.8	16	22	<1.0	4.1	<1.0	61	<65	19
4/1	F	6	2283	568	36,6	27,3	13,0	0.860	2.21	0.12	41.7	0.67	1.7	3.8	1.9	6.9	12	16	0.56	3.1	<0.40	44	<47	13
Mean		6	1591	495	25,5	30,3	16,3	0.85	3,44	0,10	46,7	1,1	2,2	4,1	2,3	7,1	11,2	15,1	<<0.7	2,9	<<0.7	44	<<47	11,9
Minimum		5	896	417	13,0	27,3	13,0	0.39	2,21	0,06	41,7	0,7	1,3	3,0	1,9	5,6	7,0	8,5	0,6	1,5	<0.4	31	<34	6,5
Maximum		7	2283	568	36,6	33,8	24,0	1,38	4,65	0,13	53,2	1,7	3,1	5,4	3,1	9,8	16,0	22,0	<1.0	4,1	<1.0	61	<65	19,0
St.Dev		1	653	70	11,8	2,7	5,2	0,41	1,09	0,03	5,4	0,5	0,8	1,0	0,6	1,9	3,8	5,6	~0.2	1,1	~0.3	13	~13	5,5
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		Calc		Calc		340		340		340	
Detection limit =>					3		0.5		2		2		2		2	
Samp/ repl. no.	Sex	Age	Wght	Lngr	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb		
1/1	X	5	896	417	1.6	8.1	8.1	0.64	<0.60	<1.2	<1.2	1.3	<0.30	<0.60		
2/1	F	7	1991	539	1.4	10.4	10.4	0.69	0.70	1.4	1.4	1.3	<0.30	<0.60		
3/1	X	6	1193	456	2.0	21.0	21.0	1.2	1.4	2.6	2.6	2.0	<0.50	<1.0		
4/1	F	6	2283	568	1.3	14.3	14.3	0.64	0.72	1.4	1.4	1.2	<0.20	<0.40		
Mean		6	1591	495	1,6	13,5	13,5	0,8	<0.9	<1.6	<1.6	1,5	<<0.3	<<0.7		
Minimum		5	896	417	1,3	8,1	8,1	0,6	<0.6	<1.2	<1.2	1,2	<0.2	<0.4		
Maximum		7	2283	568	2,0	21,0	21,0	1,2	1,4	2,6	2,6	2,0	<0.5	<1.0		
St.Dev		1	653	70	0,3	5,6	5,6	0,3	~0.4	~0.6	~0.6	0,4	~0.1	~0.3		
Count		4	4	4	4	4	4	4	4	4	4	4	4	4		

Comments

Station: Lille Molla Fish from 1-16 and 21,22 are fished 20.09.2000
 Fish 23,24,25 are fished in januar 2001

sample no.

- 1 Bulk of NIVA no1,2,3,4,5
- 2 Bulk of NIVA no 6,7,8,9,10 None age of no 6 . Age uncertain no 9,10
- 3 Bulk of NIVA no 11,12,13,14,15 Age uncertain no 12,13,15.
- 4 Bulk of NIVA no 21,22,23,24,25 Age uncertain 21,22.

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLEU PLA Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: J99 Undefined Tissue: LIVER
 Locality : 98F Lille Molla Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : 20010919 Count: 25 Sample type: Bulked

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit		=>		Mean		0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3	4		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	6	532	359	3,7	28,4	13,0	0.640	7.25	0.07	37.4	0.66	2.9	6.0	2.1	6.7	13	22	0.68	3.3	<0.60	55	<58	17
2/1	X	7	913	427	10,9	32,0	16,0	0.386	10.9	0.04	61.4	<0.60	1.1	1.4	0.92	3.1	4.9	7.7	<0.60	1.4	<0.60	<20	<21	6.7
3/1	X	8	1108	455	15,3	33,5	17,0	0.603	4.02	0.03	33.9	<0.60	1.2	2.1	1.4	4.5	6.8	9.5	<0.60	1.1	<0.60	<26	<27	8.8
4/1	X	10	1560	508	20,4	30,0	14,0	0.521	2.25	0.04	47.2	<0.60	0.91	1.7	1.4	3.9	4.5	5.6	<0.60	0.96	<0.60	<18	<20	5.3
5/1	F	14	2600	589	42,9	30,4	15,0	0.454	2.22	0.05	42.4	<0.60	1.6	3.0	2.9	7.9	8.0	9.6	0.84	1.6	<0.60	<32	<36	8.0
Mean		9	1343	468	18,6	30,9	15,0	0,52	5,33	0,05	44,5	<<0.6	1,5	2,8	1,7	5,2	7,4	10,9	<<0.7	1,7	<<0.6	<<30	<<32	9,2
Minimum		6	532	359	3,7	28,4	13,0	0,39	2,22	0,03	33,9	<0.6	0,9	1,4	0,9	3,1	4,5	5,6	<0.6	1,0	<0.6	<18	<20	5,3
Maximum		14	2600	589	42,9	33,5	17,0	0,64	10,90	0,07	61,4	0,7	2,9	6,0	2,9	7,9	13,0	22,0	0,8	3,3	<0.6	55	<58	17,0
St.Dev		3	795	86	14,9	2,0	1,6	0,10	3,73	0,02	10,7	~0.0	0,8	1,9	0,8	2,0	3,4	6,4	~0.1	0,9	~0.0	~15	~16	4,6
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>				340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit		=>				3			0.5	2			2	2	2
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	X	6	532	359	2.5	19.5	19.5	<0.60	0.75	<1.4	<1.4	2.1	<0.30	<0.30	
2/1	X	7	913	427	<0.80	<7.5	<7.5	<0.60	0.67	<1.3	<1.3	1.3	<0.30	<0.30	
3/1	X	8	1108	455	<0.80	<9.6	<9.6	<0.60	0.71	<1.3	<1.3	1.3	<0.30	<0.30	
4/1	X	10	1560	508	0.98	6.3	6.3	<0.60	<0.60	<0.6	<0.6	1.8	<0.30	<0.30	
5/1	F	14	2600	589	1.7	9.7	9.7	<0.60	<0.60	<0.6	<0.6	2.7	<0.30	<0.30	
Mean		9	1343	468	<<1.4	<<10.5	<<10.5	<<0.6	<<0.7	<<1.0	<<1.0	1.8	<<0.3	<<0.3	
Minimum		6	532	359	<0.8	6,3	6,3	<0.6	<0.6	<0.6	<0.6	1,3	<0.3	<0.3	
Maximum		14	2600	589	2,5	19,5	19,5	<0.6	0,8	<1.4	<1.4	2,7	<0.3	<0.3	
St.Dev		3	795	86	~0.7	~5.2	~5.2	~0.0	~0.1	~0.4	~0.4	0,6	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	

Comments

Station: Lille Molla Fished from 16.-19.sept.20 Fished 22.sept.2001(20-25)
 sample no.
 1 Bulk of NIVA no18,25,24,15,23 Liver and/or intestinal guts with larv no15
 2 Bulk of NIVA no 17,13,21,22,9 Liver and/or intestinal guts with larv no17
 3 Bulk of NIVA no 1,2,12,16,3 Signs of mechanical damage (e.g., net wounds) no1,2,3
 Skin and/or oral cavity with caligiform and/or Lernaeopodiform copepods no2
 4 Bulk of NIVA no 19,20,10,11,7 Liver with necrotic areas and/or discolouration no10,19
 Liver with signs of bleeding no19
 5 Bulk of NIVA no 6,8,5,4,14 Liver and/or intestinal guts with larvae of Anisakis simplex
 no5 Liver with necrotic areas and/or discolouration no5
 Liver with signs of bleeding no5

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLEU PLA Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: J99 Undefined Tissue: LIVER
 Locality : 10F Skogerøy Latitude: 69°55.0N Longitude: 29°51.0E
 Catch,date : 19991018 Count: 19 Sample type: Bulked

Analytical lab. =>					NIVA															NIVA		NIVA		
Analysis code =>					312															311		312		
Detection limit =>					Mean															0.05		0.01		
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
1/1	X	6	466	339	4,3	26,9	12,2	0.072	1.42	0.05	27.9	1.1	3.0	9.1	5.9	18	18	16	1.5	2.5	<1	68	<76	15
2/1	F	6	618	365	7,4	31,6	18,3	0.108	1.08	0.07	36.6	2.1	4.9	15	3.6	11	11	12	0.76	2.3	<0.5	58	<63	43
3/1	X	8	679	394	7,4	34,2	22,6	0.185	1.33	0.06	24.7	1.7	3.8	12	4.7	16	23	24	1.7	5.5	<1	86	<93	44
4/1	X	8	1150	458	17,2	29,2	15,1	0.343	3.59	0.09	40.9	<1	1.9	7.0	2.9	10	11	15	<1	3.3	<1	<49	<52	28
Mean		7	728	389	9,1	30,5	17,1	0,18	1,86	0,07	32,5	<1.5	3,4	10,8	4,3	13,8	15,8	16,8	<1.2	3,4	<<0.9	<65	<<71	32,5
Minimum		6	466	339	4,3	26,9	12,2	0,07	1,08	0,05	24,7	<1.0	1,9	7,0	2,9	10,0	11,0	12,0	0,8	2,3	<0.5	<49	<52	15,0
Maximum		8	1150	458	17,2	34,2	22,6	0,34	3,59	0,09	40,9	2,1	4,9	15,0	5,9	18,0	23,0	24,0	1,7	5,5	<1.0	86	<93	44,0
St.Dev		1	295	51	5,6	3,1	4,5	0,12	1,17	0,02	7,5	~0.5	1,3	3,5	1,3	3,9	5,9	5,1	~0.4	1,5	~0.3	~16	~18	13,8
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		Calc		Calc		Calc		340		340	
Detection limit =>					3		0.5		2		2		2		2	
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	TDEPP ppb	DD Σ4 ppb	DD Σ5 ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb		
1/1	X	6	466	339	5.6	20.6	20.6	<1	<1	<1.0	<1.0	7.7	<0.5	<0.5		
2/1	F	6	618	365	12	55.0	55.0	1.0	1.1	2.1	2.1	14	0.70	0.64		
3/1	X	8	679	394	8.5	52.5	52.5	1.4	1.8	3.2	3.2	10	1.4	<0.5		
4/1	X	8	1150	458	5.3	33.3	33.3	0.81	1.1	1.9	1.9	5.8	<0.5	<0.5		
Mean		7	728	389	7,9	40,4	40,4	<1.1	<1.3	<2.0	<2.0	9,4	<<0.8	<<0.5		
Minimum		6	466	339	5,3	20,6	20,6	0,8	<1.0	<1.0	<1.0	5,8	<0.5	<0.5		
Maximum		8	1150	458	12,0	55,0	55,0	1,4	1,8	3,2	3,2	14,0	1,4	0,6		
St.Dev		1	295	51	3,1	16,4	16,4	~0.2	~0.4	~0.9	~0.9	3,5	~0.4	~0.1		
Count		4	4	4	4	4	4	4	4	4	4	4	4	4		

Comments

Station: Skogerøy Caught 3-18 okt 1999

sample no.

- Bulk of NIVA no.1,2,3,4,5 Skin with ulceration, lymphocytic areas and/or lesions(5)
Skin with red film and/or uneven pigmentations(5)
- Bulk of NIVA no.6,7,8,9,10 Skin with ulceration, lymphocytic areas and/or lesions(6,7,8)
Skin with red film and/or uneven pigmentations(6)
- Bulk of NIVA no.11,12,13,14,15 Skin with ulceration, lymphocytic areas and/or lesions(12,15)
Skin with red film and/or uneven pigmentations(13,15)
- Bulk of NIVA no.16,17,18,19 Skin with ulceration, lymphocytic areas and/or lesions
Skin with red film and/or uneven pigmentations(19) Muscle with signs of inner bleeding (17)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLEU PLA** Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **10F Skogerøy** Latitude: 69°55.0N Longitude: 29°51.0E
 Catch,date : **20000919** Count: 15 Sample type: **Bulked**

Analytical lab.		=>		NIVA																				
Analysis code		=>		312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340 340																				
Detection limit		=>		Mean																				
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
1/1	F	7	660	394	8,2	33,9	19,0	0.217	2.42	0.11	30.8	<2.0	<2.0	2.0	2.8	7.1	11	13	<2.0	2.6	<2.0	<38	<41	17
2/1	X	7	934	444	16,2	41,0	26,0	0.613	1.83	0.03	33.6	1.8	4.6	5.9	4.9	12	17	22	1.5	4.9	<1.0	68	<76	42
3/1	F	7	795	417	11,2	39,8	22,0	0.248	1.56	0.08	30.2	1.3	3.0	4.4	3.0	8.0	11	14	<1.0	3.3	<1.0	45	<49	28
Mean		7	796	418	11,9	38,2	22,3	0,36	1,94	0,07	31,5	<<1.7	<<3.2	4,1	3,6	9,0	13,0	16,3	<<1.5	3,6	<<1.3	<<50	<<55	29,0
Minimum		7	660	394	8,2	33,9	19,0	0,22	1,56	0,03	30,2	1,3	<2.0	2,0	2,8	7,1	11,0	13,0	<1.0	2,6	<1.0	<38	<41	17,0
Maximum		7	934	444	16,2	41,0	26,0	0,61	2,42	0,11	33,6	<2.0	4,6	5,9	4,9	12,0	17,0	22,0	<2.0	4,9	<2.0	68	<76	42,0
St.Dev		0	137	25	4,1	3,8	3,5	0,22	0,44	0,04	1,8	~0.4	~1.3	2,0	1,2	2,6	3,5	4,9	~0.5	1,2	~0.6	~16	~18	12,5
Count		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Analytical lab.		=>		NIVA										
Analysis code		=>		340 Calc Calc 340 340 Calc Calc 340 340 340										
Detection limit		=>		3										
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	F	7	660	394	2.3	19.3	19.3	<2.0	<2.0	<2.0	<2.0	<1.0	<1.0	<2.0
2/1	X	7	934	444	8.0	50.0	50.0	1.3	1.3	2.6	2.6	6.4	<0.50	<1.0
3/1	F	7	795	417	5.6	33.6	33.6	1.3	1.2	2.5	2.5	7.8	<0.50	<1.0
Mean		7	796	418	5,3	34,3	34,3	<<1.5	<<1.5	<<2.4	<<2.4	<<5.1	<<0.7	<<1.3
Minimum		7	660	394	2,3	19,3	19,3	1,3	1,2	<2.0	<2.0	<1.0	<0.5	<1.0
Maximum		7	934	444	8,0	50,0	50,0	<2.0	<2.0	2,6	2,6	7,8	<1.0	<2.0
St.Dev		0	137	25	2,9	15,4	15,4	~0.4	~0.4	~0.3	~0.3	~3.6	~0.3	~0.6
Count		3	3	3	3	3	3	3	3	3	3	3	3	3

sample no.

- Bulk of NIVA no 1,2,3,4,5 Age of no 1, imposible to analys.
- Bulk of NIVA no 6,7,8,9,10 Liver and/or intestinal guts with larvae of Anisakis simplex no6,9,10
- Bulk of NIVA no 11,12,13,14,15

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLEU PLA Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: J99 Undefined Tissue: LIVER
 Locality : 10F Skogerøy Latitude: 69°55.0N Longitude: 29°51.0E
 Catch,date : 20010916 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA															NIVA		NIVA			
Analysis code =>					312															312		340			
Detection limit =>					Mean															Calc		Calc			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	7	665	375	11,8	28,9	11,0	0.211	2.21	0.04	44.9	<0.60	1.3	2.4	1.7	4.4	4.8	5.9	<0.60	1.0	<0.60	<20	<22	7.1	
2/1	F	8	838	411	17,4	33,8	13,0	0.135	2.64	0.10	53.9	<0.60	1.3	1.9	1.7	4.6	5.0	6.6	<0.60	1.2	<0.60	<21	<23	5.4	
3/1	X	8	896	427	16,2	30,7	12,0	0.582	1.53	0.05	43.8	<0.60	1.1	2.2	3.0	9.0	8.9	12	0.80	2.0	<0.60	<36	<40	10	
4/1	F	9	1146	455	24,1	40,0	21,0	0.302	1.95	0.06	43.9	<0.60	1.2	2.7	1.8	7.1	10	16	<0.60	2.3	<0.60	<40	<42	18	
5/1	F	9	1230	483	26,2	32,7	16,0	0.733	3.99	<0.03	62.7	<0.60	1.1	1.6	0.89	4.4	6.1	10	<0.60	1.4	<0.60	<25	<26	8.9	
Mean		8	955	430	19,1	33,2	14,6	0.39	2,46	<0.06	49,8	<0.6	1,2	2,2	1,8	5,9	7,0	10,1	<<0.6	1,6	<<0.6	<<28	<<31	9,9	
Minimum		7	665	375	11,8	28,9	11,0	0,14	1,53	<0.03	43,8	<0.6	1,1	1,6	0,9	4,4	4,8	5,9	<0.6	1,0	<0.6	<20	<22	5,4	
Maximum		9	1230	483	26,2	40,0	21,0	0,73	3,99	0,10	62,7	<0.6	1,3	2,7	3,0	9,0	10,0	16,0	0,8	2,3	<0.6	<40	<42	18,0	
St.Dev		1	231	41	5,9	4,2	4,0	0,25	0,94	-0.03	8,3	-0.0	0,1	0,4	0,8	2,1	2,4	4,1	-0.1	0,5	-0.0	-9	-10	4,9	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		Calc		Calc		340		340		Calc		Calc	
Detection limit =>					3		0.5		2		2		2		2		2	
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb				
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt				
1/1	X	7	665	375	2.0	9.1	9.1	<0.60	<0.60	<0.6	<0.6	2.4	<0.30	<0.30				
2/1	F	8	838	411	1.3	6.7	6.7	<0.60	<0.60	<60.0	<60.0	2.7	<0.30	<0.30				
3/1	X	8	896	427	2.1	12.1	12.1	<0.60	<0.60	<0.6	<0.6	2.9	<0.30	<0.30				
4/1	F	9	1146	455	1.6	19.6	19.6	0.69	0.94	1.6	1.6	1.6	<0.30	<0.30				
5/1	F	9	1230	483	<0.80	<9.7	<9.7	<0.60	<0.60	<0.6	<0.6	1.2	<0.30	<0.30				
Mean		8	955	430	<1.6	<11.4	<11.4	<<12.5	<<0.7	<<12.7	<<12.7	2,2	<<0.3	<<0.3				
Minimum		7	665	375	<0.8	6,7	6,7	<0.6	<0.6	<0.6	<0.6	1,2	<0.3	<0.3				
Maximum		9	1230	483	2,1	19,6	19,6	<60.0	0,9	<60.0	<60.0	2,9	<0.3	<0.3				
St.Dev		1	231	41	~0.5	~4.9	~4.9	~26.6	~0.2	~26.5	~26.5	0,7	~0.0	~0.0				
Count		5	5	5	5	5	5	5	5	5	5	5	5	5				

sample no.

- Bulk of NIVA no 9,15,23,13,22 Liver with necrotic areas and/or discolouration no15,23
Liver with signs of bleeding no15,23
- Bulk of NIVA no 20,14,11,5,17 Liver a/o intestinal guts with larvae of Anisakis simpl no17
Liver with necrotic areas and/or discolouration no5 Liver with signs of bleeding no5
Muscle with signs of inner bleeding no14
- Bulk of NIVA no 19,10,25,24,12 Liver a/o intest. guts w. larvae, Anisakis simp. no19,24,25,12
Liver with necrotic areas and/or discolouration no19 Liver with signs of bleeding no19
Skin with ulceration, lymphocytic areas and/or lesions no25
- Bulk of NIVA no 16,21,4,6,7 Liver a/o intest. guts w. larvae of Anisakis simpl. no4,6,7
Signs of mechanical damage (e.g., net wounds) no6 Liver with necrotic areas and/or discolouration no6
- Bulk of NIVA no 1,8,18,2,3 Skin with ulceration, lymphocytic areas and/or lesions no3
Liver a/or intestinal guts with larvae of Anisakis simpl. no3 Liver with necrotic areas and/or discolouration no3,9

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLEU PLA Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 22F Borøyfjorden Latitude: 59°43.0N Longitude: 5°21.0E
 Catch,date : 19990115 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>						310	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc		
Detection limit =>					Mean	0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05					
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS
F/M		year	g	mm	g	%	%	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	6	405	342	15,0	20,2	0,5	0.057	0.05	0.04	0.13	0.32	0.75	0.90	1.22	0.07	0.26	<0.04	3	<4	0.85	0.15	1.0	1.0
2/1	M	6	572	379	15,0	17,7	0,3	0.043	0.09	0.07	0.17	0.45	0.98	0.74	1.07	0.06	0.21	<0.04	3	<4	0.52	0.07	0.6	0.6
3/1	M	8	679	396	15,0	18,1	0,4	0.074	0.04	0.13	0.36	0.21	0.71	1.37	1.79	0.08	0.39	<0.04	5	<5	1.09	0.14	1.2	1.2
4/1	F	9	901	432	15,0	16,8	0,4	0.090	<0.04	<0.04	0.07	0.07	0.23	0.37	0.79	0.04	0.20	<0.04	<2	<2	0.48	<0.08	<0.6	<0.6
5/1	F	10	1427	490	15,0	13,9	0,4	0.076	0.17	0.14	0.18	0.08	0.34	0.53	0.93	0.04	0.19	<0.04	2	<3	0.76	0.14	0.9	0.9
Mean		8	797	408	15,0	17,3	0,4	0,068	<0.1	<0.1	0,2	0,2	0,6	0,8	1,2	0,1	0,3	<<0.0	<3	<<4	0,7	<0.1	<0.9	<0.9
Minimum		6	405	342	15,0	13,9	0,4	0,043	<0.0	<0.0	0,1	0,1	0,2	0,4	0,8	0,0	0,2	<0.0	<2	<2	0,5	0,1	<0.6	<0.6
Maximum		10	1427	490	15,0	20,2	0,5	0,090	0,2	0,1	0,4	0,5	1,0	1,4	1,8	0,1	0,4	<0.0	5	<5	1,1	0,1	1,2	1,2
St.Dev		2	396	56	0,0	2,3	0,0	0,018	~0.1	~0.0	0,1	0,2	0,3	0,4	0,4	0,0	0,1	~0.0	~1	~1	0,3	~0.0	~0.3	~0.3
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code =>					341	341	Calc	Calc	341	341	341
Detection limit =>					0.05	0.05			0.05	0.05	0.05
Samp/ repl.	Sex	Age	Wght	Lngt	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	M	6	405	342	<0.04	0.10	<0.1	<0.1	0.07	0.02	<0.02
2/1	M	6	572	379	<0.04	0.07	<0.1	<0.1	0.04	<0.02	<0.02
3/1	M	8	679	396	<0.04	0.08	<0.1	<0.1	0.06	0.02	<0.02
4/1	F	9	901	432	<0.04	0.07	<0.1	<0.1	0.04	<0.02	<0.02
5/1	F	10	1427	490	<0.04	0.07	<0.1	<0.1	0.04	<0.02	<0.02
Mean		8	797	408	<<0.0	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		6	405	342	<0.0	0,1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		10	1427	490	<0.0	0,1	<0.1	<0.1	0,1	0,0	<0.0
St.Dev		2	396	56	~0.0	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

sample no.

- 1 Bulk of NIVA nos.:1,2,3,4, Muscle with signs of inner bleeding (2,4)
- 2 Bulk of NIVA nos.:6,7,8,9,10
- 3 Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (11,13)
- 4 Bulk of NIVA nos.:16,17,18,19,20 Muscle with signs of inner bleeding (17,18,19,20)
- 5 Bulk of NIVA nos.:21,22,23,24,25 Muscle with signs of inner bleeding (22,23,24,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLEU PLA Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 98F Lille Molla Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : 19980915 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA																			
Analysis code =>					310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																			
Detection limit =>					Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																			
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb
1/1	M	7	655	380	15,0	20,1	0,4	0.034	<0.05	<0.05	0.05	<0.05	0.09	0.16	0.19	<0.05	<0.05	<0.05	<1	<1	0.15	<0.06	<0.2	<0.2
2/1	M	7	873	418	15,0	20,1	0,4	0.025	<0.05	<0.05	<0.05	<0.05	0.07	0.10	0.12	<0.05	<0.05	<0.05	<0	<0	0.12	<0.06	<0.2	<0.2
3/1	F	8	1083	445	15,0	20,2	0,7	0.047	<0.03	<0.05	0.08	0.07	0.19	0.33	0.42	<0.05	0.11	<0.05	<1	<1	0.32	<0.06	<0.4	<0.4
4/1	F	9	1177	458	15,0	19,9	0,8	0.064	<0.05	0.05	0.16	0.09	0.26	0.37	0.49	<0.05	0.13	<0.05	<2	<2	0.50	0.06	0.6	0.6
5/1	F	13	1559	503	15,0	20,2	0,4	0.054	<0.05	<0.05	0.13	<0.05	0.14	0.21	0.24	<0.05	0.06	<0.05	<1	<1	0.21	<0.06	<0.3	<0.3
Mean		9	1069	441	15,0	20,1	0,5	0,045	<<0.0	<<0.1	<0.1	<<0.1	0,2	0,2	0,3	<<0.1	<<0.1	<<0.1	<<1	<<1	0,3	<<0.1	<<0.3	<<0.3
Minimum		7	655	380	15,0	19,9	0,4	0,025	<0.0	<0.1	<0.1	<0.1	0,1	0,1	0,1	<0.1	<0.1	<0.1	<0	<0	0,1	<0.1	<0.2	<0.2
Maximum		13	1559	503	15,0	20,2	0,8	0,064	<0.1	0,1	0,2	0,1	0,3	0,4	0,5	<0.1	0,1	<0.1	<2	<2	0,5	0,1	0,6	0,6
St.Dev		2	340	46	0,0	0,1	0,2	0,016	~0.0	~0.0	~0.0	~0.0	0,1	0,1	0,2	~0.0	~0.0	~0.0	~1	~1	0,2	~0.0	~0.2	~0.2
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA							
Analysis code =>					341 341 Calc Calc 341 341 341							
Detection limit =>					0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
1/1	M	7	655	380	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03	
2/1	M	7	873	418	<0.06	<0.06	<0.1	<0.1	0.03	<0.03	<0.03	
3/1	F	8	1083	445	<0.06	0.07	<0.1	<0.1	0.5	<0.03	<0.03	
4/1	F	9	1177	458	<0.06	0.07	<0.1	<0.1	0.07	<0.03	<0.03	
5/1	F	13	1559	503	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03	
Mean		9	1069	441	<<0.1	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0	
Minimum		7	655	380	<0.1	<0.1	<0.1	<0.1	0,0	<0.0	<0.0	
Maximum		13	1559	503	<0.1	0,1	<0.1	<0.1	0,5	<0.0	<0.0	
St.Dev		2	340	46	~0.0	~0.0	~0.0	~0.0	0,2	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	

sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Skin with ulceration, lymphocytic areas and/or lesions (1,2,3,4,5) Bacterial fin rot (1,2,3,4,5) Muscle with signs of inner bleeding (4,5)
- Bulk of NIVA nos.:6,7,8,9,10 Bacterial fin rot (6,7) Skin with ulceration, lymphocytic areas and/or lesions (8,10)
- Bulk of NIVA nos.:11,12,13,14,15 Muscle with signs of inner bleeding (11,14)
- Bulk of NIVA nos.:16,17,18,19,20 Muscle with signs of inner bleeding (16,17,19,20) Liver with signs of bleeding (17)
- Bulk of NIVA nos.:21,22,23,24,25 Muscle with signs of inner bleeding (23,24,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLEU PLA** Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **98F Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **19990916** Count: 5 Sample type: **Bulked**

Analytical lab. =>				NIVA																				
Analysis code =>				310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																				
Detection limit =>				Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																				
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb
1/1	X		746	391	20,1	18,8	0,5	0.049	<0.05	<0.05	0.05	<0.05	0.06	0.11	0.14	<0.05	<0.05	<0.05	<0	<0	0.14	<0.07	<0.2	<0.2
Mean			746	391	20,1	18,8	0,5	0,049	<<0.1	<<0.1	0,1	<<0.1	0,1	0,1	0,1	<<0.1	<<0.1	<<0.1	<<0	<<0	0,1	<<0.1	<<0.2	<<0.2
Minimum			746	391	20,1	18,8	0,5	0,049	<0.1	<0.1	0,1	<0.1	0,1	0,1	0,1	<0.1	<0.1	<0.1	<0	<0	0,1	<0.1	<0.2	<0.2
Maximum			746	391	20,1	18,8	0,5	0,049	<0.1	<0.1	0,1	<0.1	0,1	0,1	0,1	<0.1	<0.1	<0.1	<0	<0	0,1	<0.1	<0.2	<0.2
St.Dev																								
Count			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Analytical lab. =>				NIVA							
Analysis code =>				341 341 Calc Calc 341 341 341							
Detection limit =>				0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	X		746	391	<0.05	0.06	<0.1	<0.1	0.07	<0.03	<0.05
Mean			746	391	<<0.1	0,1	<<0.1	<<0.1	0,1	<<0.0	<<0.1
Minimum			746	391	<0.1	0,1	<0.1	<0.1	0,1	<0.0	<0.1
Maximum			746	391	<0.1	0,1	<0.1	<0.1	0,1	<0.0	<0.1
St.Dev											
Count			1	1	1	1	1	1	1	1	1

sample no.
 1 Bulk of Niva no 1,2,3,4,5

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLEU PLA** Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **98F Lille Molla** Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : **20000921** Count: 20 Sample type: **Bulked**

Analytical lab.		=>																						
Analysis code		=>																		=>				
Detection limit		=>																		=>				
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb
1/1	X	5	896	417	22,2	19,2	0,6	0.039	0.06	0.12	0.14	0.07	0.19	0.23	0.28	<0.05	0.05	<0.05	1	<1	0.26	<0.08	<0.3	<0.3
2/1	F	7	1991	539	26,4	20,0	0,8	0.176	0.05	0.10	0.18	0.12	0.37	0.57	0.77	<0.05	0.15	<0.05	2	<2	0.57	<0.08	<0.7	<0.7
3/1	X	6	1193	456	23,0	20,1	0,8	0.086	<0.05	0.08	0.17	0.10	0.29	0.49	0.64	<0.05	0.14	<0.05	<2	<2	0.65	<0.08	<0.7	<0.7
4/1	F	6	2283	568	27,2	19,1	0,6	0.153	<0.05	0.07	0.12	0.06	0.21	0.34	0.45	<0.05	0.08	<0.05	<1	<1	0.38	<0.08	<0.5	<0.5
Mean		6	1591	495	24,7	19,6	0,7	0,114	<<0.1	0,1	0,2	0,1	0,3	0,4	0,5	<<0.1	0,1	<<0.1	<<2	<<2	0,5	<<0.1	<<0.6	<<0.6
Minimum		5	896	417	22,2	19,1	0,6	0,039	<0.1	0,1	0,1	0,1	0,2	0,2	0,3	<0.1	0,1	<0.1	<1	<1	0,3	<0.1	<0.3	<0.3
Maximum		7	2283	568	27,2	20,1	0,8	0,176	0,1	0,1	0,2	0,1	0,4	0,6	0,8	<0.1	0,2	<0.1	2	<2	0,7	<0.1	<0.7	<0.7
St.Dev		1	653	70	2,5	0,5	0,1	0,063	~0.0	0,0	0,0	0,0	0,1	0,2	0,2	~0.0	0,0	~0.0	~1	~1	0,2	~0.0	~0.2	~0.2
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Analytical lab.		=>									
Analysis code		=>							=>		
Detection limit		=>							=>		
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	X	5	896	417	<0.05	<0.05	<0.1	<0.1	0.07	<0.02	<0.02
2/1	F	7	1991	539	<0.05	0.06	<0.1	<0.1	0.07	<0.02	<0.02
3/1	X	6	1193	456	<0.05	0.06	<0.1	<0.1	0.08	<0.02	<0.02
4/1	F	6	2283	568	<0.05	<0.05	<0.1	<0.1	0.05	<0.02	<0.02
Mean		6	1591	495	<<0.1	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		5	896	417	<0.1	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		7	2283	568	<0.1	0,1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	653	70	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		4	4	4	4	4	4	4	4	4	4

Comments

Station: Lille Molla Fish from 1-16 and 21,22 are fished 20.09.2000
 Fish 23,24,25 are fished in januar 2001

sample no.

- 1 Bulk of NIVA no1,2,3,4,5
- 2 Bulk of NIVA no 6,7,8,9,10 None age of no 6 . Age uncertain no 9,10
- 3 Bulk of NIVA no 11,12,13,14,15 Age uncertain no 12,13,15.
- 4 Bulk of NIVA no 21,22,23,24,25 Age uncertain 21,22.

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLEU PLA Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 98F Lille Molla Latitude: 68°12.0N Longitude: 14°48.0E
 Catch,date : 20010919 Count: 25 Sample type: Bulked

Analytical lab.						NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code						310		341		341		341		341		341		341		341		341		341		341		341		341		341		341	
Detection limit				Mean		0.005		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS											
F/M		year	g	mm	g	%	%	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb		
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt			
1/1	X	6	532	359	34,9	19,5	0,3	0.072	<0.06	<0.06	0.06	<0.06	0.06	<0.06	0.11	0.14	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06		
2/1	X	7	913	427	42,2	19,5	0,4	0.048	<0.06	miss	<0.06	<0.06	<0.06	0.09	0.12	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06		
3/1	X	8	1108	455	31,1	21,2	0,6	0.046	<0.06	miss	0.06	<0.06	0.10	0.17	0.21	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06		
4/1	X	10	1560	508	48,8	20,0	0,7	0.073	<0.06	miss	0.08	<0.06	0.19	0.29	0.43	<0.06	0.07	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06		
5/1	F	14	2600	589	67,0	20,1	0,7	0.110	<0.06	miss	0.08	<0.06	0.19	0.27	0.44	<0.06	0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06		
Mean		9	1343	468	44,8	20,1	0,6	0,070	<<0.1	<<0.1	<0.1	<<0.1	<0.1	0,2	0,3	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1		
Minimum		6	532	359	31,1	19,5	0,3	0,046	<0.1	<0.1	<0.1	<0.1	<0.1	0,1	0,1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
Maximum		14	2600	589	67,0	21,2	0,7	0,110	<0.1	<0.1	0,1	<0.1	0,2	0,3	0,4	<0.1	0,1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1		
St.Dev		3	795	86	14,1	0,7	0,2	0,026	~0.0	~0.0	~0.0	~0.0	~0.1	0,1	0,2	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0		
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		

miss(4) ! Missing value

Analytical lab.				NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code				341		341		Calc		Calc		341		341	
Detection limit				0.05		0.05				0.05		0.05		0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS				
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	6	532	359	<0.06	<0.06	<0.1	<0.1	0.03	<0.03	<0.03				
2/1	X	7	913	427	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03				
3/1	X	8	1108	455	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03				
4/1	X	10	1560	508	<0.06	<0.06	<0.1	<0.1	0.05	<0.03	<0.03				
5/1	F	14	2600	589	<0.06	<0.06	<0.1	<0.1	0.06	<0.03	<0.03				
Mean		9	1343	468	<<0.1	<<0.1	<<0.1	<<0.1	0,0	<<0.0	<<0.0				
Minimum		6	532	359	<0.1	<0.1	<0.1	<0.1	0,0	<0.0	<0.0				
Maximum		14	2600	589	<0.1	<0.1	<0.1	<0.1	0,1	<0.0	<0.0				
St.Dev		3	795	86	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0				
Count		5	5	5	5	5	5	5	5	5	5				

miss(4) ! Missing value

Comments Station: Lille Molla Fished from 16.-19.sept.2001 Fished 22.sept.2001(20-25)
 sample no.

- Bulk of NIVA no18,25,24,15,23 Liver and/or intestinal guts with larvae no15
- Bulk of NIVA no 17,13,21,22,9 Liver and/or intestinal guts with larvae no17
- Bulk of NIVA no 1,2,12,16,3 Signs of mechanical damage (e.g., net wounds) no1,2,3
 Skin and/or oral cavity with caligiform and/or Lernaepodiform copepods no2
- Bulk of NIVA no 19,20,10,11,7 Liver with necrotic areas and/or discoloration no10,19
 Liver with signs of bleeding no19
- Bulk of NIVA no 6,8,5,4,14 Liver and/or intestinal guts with larvae of Anisakis simplex
 no5 Liver with necrotic areas and/or discoloration Liver with signs of bleeding no5

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLEU PLA Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 10F Skogerøy Latitude: 69°55.0N Longitude: 29°51.0E
 Catch,date : 19991018 Count: 19 Sample type: Bulked

Analytical lab.				=>																					
Analysis code				=>																					
Detection limit				=>																					
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	
F/M		year	g	mm	g	%	%	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	X	6	466	339	20,4	19,5	0,8	0.015	0.06	0.15	0.58	0.31	0.94	0.90	0.89	0.08	0.12	<0.06	4	<4	0.90	0.24	1.1	1.1	
2/1	F	6	618	365	20,6	20,1	0,7	0.013	0.06	0.11	0.47	0.11	0.33	0.33	0.39	<0.06	0.06	<0.06	2	<2	0.69	0.19	0.9	0.9	
3/1	X	8	679	394	20,6	20,6	0,7	0.031	<0.06	0.08	0.34	0.19	0.67	0.88	1.2	0.08	0.21	<0.06	<3	<4	1.1	0.14	1.2	1.2	
4/1	X	8	1150	458	20,4	18,5	0,6	0.037	<0.06	0.06	0.24	0.11	0.39	0.46	0.64	<0.06	0.13	<0.06	<2	<2	0.82	0.13	0.9	0.9	
Mean		7	728	389	20,5	19,7	0,7	0,024	<<0.1	0,1	0,4	0,2	0,6	0,6	0,8	<<0.1	0,1	<<0.1	<<3	<<3	0,9	0,2	1,0	1,0	
Minimum		6	466	339	20,4	18,5	0,6	0,013	<0.1	0,1	0,2	0,1	0,3	0,3	0,4	<0.1	0,1	<0.1	<2	<2	0,7	0,1	0,9	0,9	
Maximum		8	1150	458	20,6	20,6	0,8	0,037	0,1	0,2	0,6	0,3	0,9	0,9	1,2	0,1	0,2	<0.1	4	<4	1,1	0,2	1,2	1,2	
St.Dev		1	295	51	0,1	0,9	0,1	0,012	~0.0	0,0	0,1	0,1	0,3	0,3	0,3	~0.0	0,1	~0.0	~1	~1	0,2	0,1	0,1	0,1	
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	

Analytical lab.				=>							
Analysis code				=>							
Detection limit				=>							
Samp/ repl.	Sex	Age	Wght	Lngt	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	6	466	339	<0.06	0.06	<0.1	<0.1	0.45	<0.03	<0.03
2/1	F	6	618	365	<0.06	<0.06	<0.1	<0.1	0.40	<0.03	<0.03
3/1	X	8	679	394	<0.06	0.06	<0.1	<0.1	0.23	<0.03	<0.03
4/1	X	8	1150	458	<0.06	<0.06	<0.1	<0.1	0.19	<0.03	<0.03
Mean		7	728	389	<<0.1	<<0.1	<<0.1	<<0.1	0,3	<<0.0	<<0.0
Minimum		6	466	339	<0.1	<0.1	<0.1	<0.1	0,2	<0.0	<0.0
Maximum		8	1150	458	<0.1	0,1	<0.1	<0.1	0,5	<0.0	<0.0
St.Dev		1	295	51	~0.0	~0.0	~0.0	~0.0	0,1	~0.0	~0.0
Count		4	4	4	4	4	4	4	4	4	4

Comments

Station: Skogerøy Caught 3-18 okt 1999

sample no.

- Bulk of NIVA no.1,2,3,4,5 Skin with ulceration, lymphocytic areas and/or lesions(5)
Skin with red film and/or uneven pigmentations(5)
- Bulk of NIVA no.6,7,8,9,10 Skin with ulceration, lymphocytic areas and/or lesions(6,7,8)
Skin with red film and/or uneven pigmentations(6)
- Bulk of NIVA no.11,12,13,14,15 Skin with ulceration, lymphocytic areas and/or lesions(12,15)
Skin with red film and/or uneven pigmentations(13,15)
- Bulk of NIVA no.16,17,18,19 Skin with ulceration, lymphocytic areas and/or lesions
Skin with red film and/or uneven pigmentations(19) Muscle with signs of inner bleeding (17)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **PLEU PLA** Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **10F Skogerøy** Latitude: 69°55.0N Longitude: 29°51.0E
 Catch,date : **20000919** Count: 15 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code		=>				310	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341				
Detection limit		=>		Mean		0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
		=>				w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	7	660	394	21,1	20,1	0,4	0.029	<0.04	<0.04	0.04	0.04	0.10	0.13	0.16	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04	<0.04
2/1	X	7	934	444	28,2	20,6	1,1	0.031	0.07	0.19	0.21	0.13	0.32	0.41	0.49	<0.04	0.09	<0.04	2	<2	1.1	0.27	1.4	1.4	1.4
3/1	F	7	795	417	24,7	20,8	2,1	0.017	0.10	0.29	0.46	0.23	0.61	0.86	1.1	0.06	0.19	<0.04	4	<4	2.8	0.83	3.6	3.6	3.6
Mean		7	796	418	24,7	20,5	1,2	0,026	<<0.1	<<0.2	0,2	0,1	0,3	0,5	0,6	<<0.0	<<0.1	<<0.0	<<2	<<2	1,4	<<0.4	<<1.8	<<1.8	<<1.8
Minimum		7	660	394	21,1	20,1	0,4	0,017	<0.0	<0.0	0,0	0,0	0,1	0,1	0,2	<0.0	<0.0	<0.0	<0	<1	0,2	<0.1	<0.3	<0.3	<0.3
Maximum		7	934	444	28,2	20,8	2,1	0,031	0,1	0,3	0,5	0,2	0,6	0,9	1,1	0,1	0,2	<0.0	4	<4	2,8	0,8	3,6	3,6	3,6
St.Dev		0	137	25	3,5	0,4	0,9	0,008	~0.0	~0.1	0,2	0,1	0,3	0,4	0,5	~0.0	~0.1	~0.0	~2	~2	1,3	~0.4	~1.7	~1.7	~1.7
Count		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		341	341	Calc	Calc	341	341	341	
Detection limit		=>		0.05	0.05			0.05	0.05	0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
		=>				w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	7	660	394	<0.04	<0.04	<0.0	<0.0	0.09	<0.02	<0.04
2/1	X	7	934	444	0.07	0.07	0.1	0.1	0.49	0.02	<0.04
3/1	F	7	795	417	0.13	0.14	0.3	0.3	0.55	0.03	<0.04
Mean		7	796	418	<<0.1	<<0.1	<<0.1	<<0.1	0,4	<<0.0	<<0.0
Minimum		7	660	394	<0.0	<0.0	<0.0	<0.0	0,1	<0.0	<0.0
Maximum		7	934	444	0,1	0,1	0,3	0,3	0,6	0,0	<0.0
St.Dev		0	137	25	~0.0	~0.1	~0.2	~0.2	0,3	~0.0	~0.0
Count		3	3	3	3	3	3	3	3	3	3

sample no.

- 1 Bulk of NIVA no 1,2,3,4,5 Age of no 1, impossible to analys.
- 2 Bulk of NIVA no 6,7,8,9,10 Liver and/or intestinal guts with larvae of Anisakis simplex no6,9,10
- 3 Bulk of NIVA no 11,12,13,14,15

JAMP contaminant data for fish 1998-2001 - Norway

Species : PLEU PLA Pleuronectes platessa GB: Plaice, N: Rødspette
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 10F Skogerøy Latitude: 69°55.0N Longitude: 29°51.0E
 Catch,date : 20010916 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA																			
Analysis code =>					310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																			
Detection limit =>					Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																			
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb
1/1	X	7	665	375	23,2	22,2	0,8	0.019	<0.06	0.58	1.8	1.3	2.6	2.5	1.9	0.44	0.35	<0.06	s<10	s<12	0.37	0.09	0.5	0.5
2/1	F	8	838	411	29,2	21,6	0,7	0.019	<0.06	0.07	0.10	0.08	0.20	0.21	0.24	<0.06	<0.06	<0.06	<1	<1	0.25	<0.08	<0.3	<0.3
3/1	X	8	896	427	27,5	21,4	1,0	0.023	<0.06	0.07	0.12	0.19	0.55	0.52	0.69	0.06	0.13	<0.06	<2	<2	0.72	0.08	0.8	0.8
4/1	F	9	1146	455	36,4	21,7	0,9	0.023	<0.06	0.06	0.10	0.11	0.27	0.25	0.28	<0.06	<0.06	<0.06	<1	<1	0.28	<0.08	<0.4	<0.4
5/1	F	9	1230	483	37,9	21,1	0,8	0.025	<0.06	0.07	0.12	0.13	0.32	0.29	0.33	<0.06	0.06	<0.06	<1	<1	0.30	<0.08	<0.4	<0.4
Mean		8	955	430	30,8	21,6	0,9	0,022	<<0.1	0,1	0,4	0,4	0,8	0,8	0,7	<<0.1	<<0.1	<<0.1	<<1	<<1	0,4	<<0.1	<<0.5	<<0.5
Minimum		7	665	375	23,2	21,1	0,7	0,019	<0.1	0,1	0,1	0,2	0,2	0,2	0,2	<0.1	<0.1	<0.1	<1	<1	0,3	<0.1	<0.3	<0.3
Maximum		9	1230	483	37,9	22,2	1,0	0,025	<0.1	0,1	1,8	1,3	2,6	2,5	1,9	0,4	0,3	<0.1	<2	<2	0,7	0,1	0,8	0,8
St.Dev		1	231	41	6,2	0,4	0,1	0,003	~0.0	0,0	0,8	0,5	1,0	1,0	0,7	~0.2	~0.1	~0.0	~1	~1	0,2	~0.0	~0.2	~0.2
Count		5	5	5	5	5	5	5	5	4	5	5	5	5	5	5	5	5	4	4	5	5	5	5

s/q(3) ! Suspect value

Analytical lab. =>					NIVA							
Analysis code =>					341 341 Calc Calc 341 341 341							
Detection limit =>					0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
1/1	X	7	665	375	<0.06	<0.06	<0.1	<0.1	0.15	<0.03	<0.03	
2/1	F	8	838	411	<0.06	<0.06	<0.1	<0.1	0.15	<0.03	<0.03	
3/1	X	8	896	427	<0.06	<0.06	<0.1	<0.1	0.22	<0.03	<0.03	
4/1	F	9	1146	455	<0.06	<0.06	<0.1	<0.1	0.11	<0.03	<0.03	
5/1	F	9	1230	483	<0.06	<0.06	<0.1	<0.1	0.11	<0.03	<0.03	
Mean		8	955	430	<<0.1	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0	
Minimum		7	665	375	<0.1	<0.1	<0.1	<0.1	0,1	<0.0	<0.0	
Maximum		9	1230	483	<0.1	<0.1	<0.1	<0.1	0,2	<0.0	<0.0	
St.Dev		1	231	41	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	

s/q(3) ! Suspect value

sample no.

- Bulk of NIVA no 9,15,23,13,22 Liver with necrotic areas and/or discol Liver with signs of bleeding no15,23
- Bulk of NIVA no 20,14,11,5,17 Liver a/o intestinal guts with larvae of Anisakis simpl no17
Liver with necrotic areas and/or discolouration no5 Liver with signs Muscle with signs of inner bleeding no14
- Bulk of NIVA no 19,10,25,24,12 Liver a/o intest. guts w. larvae, Anisakis simp. no19,24,25,12
Liver with necrotic areas and/or discolouration no19 Liver with signs of bleeding no19
Skin with ulceration, lymphocytic areas and/or lesions no25
- Bulk of NIVA no 16,21,4,6,7 Liver a/o intest. guts w. larvae of Anisakis simpl. no4,6,7
Signs of mechanical damage (e.g., net wounds) no6 Liver with necrotic areas and/or discolouration no6
- Bulk of NIVA no 1,8,18,2,3 Skin with ulceration, lymphocytic areas and/or lesions no3
Liver a/or intestinal guts with larvae of Anisakis simpl. no3 Liver with necrotic areas and/or discolouration no3,9

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LEPI WHI** *Lepidorhombus whiffiagonis* GB: Megrim, N: Glassvar
 Sample area: **J62 Hardangerfjorden** Tissue: LIVER
 Locality : **67B Strandebar** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **19981115** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code =>					312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit =>					Mean																			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	328	329	7,5	46,3	30,5	0.013	9.13	0.04	108	0.73	2.3	<4.5	2.7	6.7	13	21	1.5	6.1	<0.6	<54	<59	89
2/1	F	7	399	351	8,7	48,1	33,0	0.027	11.4	0.03	98.6	0.96	3.3	11	3.7	10	20	28	2.4	8.0	<0.6	81	<88	130
3/1	F	7	442	372	7,2	42,6	27,7	0.033	9.41	0.04	88.3	1.2	3.4	10	5.1	16	27	49	3.6	14	<0.6	121	<130	170
4/1	M	8	704	484	16,3	44,1	27,4	0.040	9.10	0.03	93.2	0.95	2.5	8.5	4.3	12	29	50	3.7	15	<0.6	118	<127	160
5/1	M	8	871	482	13,8	42,0	24,9	0.180	15.0	0.05	116	1.1	2.6	17	7.6	24	42	85	5.8	24	<0.6	196	<210	360
Mean		7	549	404	10,7	44,6	28,7	0,06	10,81	0,04	100,8	1,0	2,8	<10.2	4,7	13,7	26,2	46,6	3,4	13,4	<<0.6	<114	<<123	181,8
Minimum		6	328	329	7,2	42,0	24,9	0,01	9,10	0,03	88,3	0,7	2,3	<4.5	2,7	6,7	13,0	21,0	1,5	6,1	<0.6	<54	<59	89,0
Maximum		8	871	484	16,3	48,1	33,0	0,18	15,00	0,05	116,0	1,2	3,4	17,0	7,6	24,0	42,0	85,0	5,8	24,0	<0.6	196	<210	360,0
St.Dev		1	230	74	4,1	2,6	3,1	0,07	2,53	0,01	11,2	0,2	0,5	~4.5	1,9	6,7	10,8	25,0	1,6	7,0	~0.0	~54	~57	104,5
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>					340	340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit =>					2	3			0.5	2			2	2	2
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	328	329	47	16	152.0	152.0	1.4	4.0	5.4	5.4	3.3	0.34	<0.3
2/1	F	7	399	351	77	22	229.0	229.0	2.2	5.6	7.8	7.8	5.6	0.53	<0.3
3/1	F	7	442	372	81	25	276.0	276.0	2.0	4.6	6.6	6.6	5.7	0.60	<0.3
4/1	M	8	704	484	93	30	283.0	283.0	2.1	5.4	7.5	7.5	4.2	0.43	<0.3
5/1	M	8	871	482	170	40	570.0	570.0	1.7	4.6	6.3	6.3	5.0	0.49	<0.3
Mean		7	549	404	93,6	26,6	302,0	302,0	1,9	4,8	6,7	6,7	4,8	0,5	<<0.3
Minimum		6	328	329	47,0	16,0	152,0	152,0	1,4	4,0	5,4	5,4	3,3	0,3	<0.3
Maximum		8	871	484	170,0	40,0	570,0	570,0	2,2	5,6	7,8	7,8	5,7	0,6	<0.3
St.Dev		1	230	74	45,9	9,0	158,7	158,7	0,3	0,7	1,0	1,0	1,0	0,1	~0.0
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5

Comments Station: Strandebar Caught nov.1998 feb.1999
 sample no.

- Bulk of NIVA nos.:1,2,3,4,5 Muscle with signs of inner bleeding (3,4,5)
Bacterial fin rot (3,4) no.5 40 m. 5.11.1998
- Bulk of NIVA nos.:6,7,8,9,10 Muscle with signs of inner bleeding (10)
- Bulk of NIVA nos.:11,12,13,14,15 Skin with metacercariae of cf. *Cryptocotyle lingua* (11,15)
Bacterial fin rot (13) Muscle with signs of inner bleeding (14)
no. 15 20 m. 5.11.1998
- Bulk of NIVA nos.:16,17,18,19,20 Muscle with signs of inner bleeding (17,19,20)
Skin with metacercariae of cf. *Cryptocotyle lingua* (18)
- Bulk of NIVA nos.:21,22,23,24,25 Bacterial fin rot (21)
Muscle with signs of inner bleeding (22,23,24)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LEPI WHI** *Lepidorhombus whiffiagonis* GB: Megrim, N: Glassvar
 Sample area: **J62 Hardangerfjorden** Tissue: LIVER
 Locality : **67B Strandebar** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **19990928** Count: 25 Sample type: **Bulked**

Analytical lab.				NIVA																				
Analysis code				312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 Calc Calc 340																				
Detection limit				Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 4																				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppm	CB52 ppm	CB101 ppm	CB105 ppm	CB118 ppm	CB138 ppm	CB153 ppm	CB156 ppm	CB180 ppm	CB209 ppm	CB Σ7 ppm	CB ΣΣ ppm	DDEPP ppm
1/1	F	3	338	331	6,4	44,4	30,0	0.019	8.24	<0.03	96.1	<2.0	<4.0	6.2	<2.0	8.7	14	24	<2.0	5.5	<2.0	<62	<62	130
2/1	F	5	387	358	4,4	33,7	16,0	0.040	11.3	0.05	84.2	<2.0	<2.0	5.7	2.5	12	18	36	<2.0	8.6	<2.0	<82	<85	160
3/1	X	7	457	384	5,5	36,2	20,0	0.051	12.8	<0.03	61.8	<2.0	<2.0	12	4.7	27	36	81	<2.0	17	<2.0	<175	<180	330
4/1	X	6	571	415	6,8	37,9	18,0	0.085	11.2	<0.03	70.0	<2.0	3.0	4.3	1.9	8.6	12	22	<2.0	4.3	<1.0	<56	<58	59
5/1	X	7	648	436	6,9	30,5	16,0	0.342	11.4	0.05	61.4	<2.0	2.9	11	5.0	32	87	87	3.4	24	1.3	<246	<256	336
Mean		6	480	385	6,0	36,5	20,0	0.11	10,99	<<0.04	74,7	<<2.0	<<2.0	7,8	<3.2	17,7	33,4	50,0	<<2.3	11,9	<<1.7	<<124	<<128	203,0
Minimum		3	338	331	4,4	30,5	16,0	0.02	8,24	<0.03	61,4	<2.0	<2.0	4,3	1,9	8,6	12,0	22,0	<2.0	4,3	<1.0	<56	<58	59,0
Maximum		7	648	436	6,9	44,4	30,0	0,34	12,80	0,05	96,1	<2.0	<4.0	12,0	5,0	32,0	87,0	87,0	3,4	24,0	<2.0	<246	<256	336,0
St.Dev		1	128	42	1,0	5,2	5,8	0,13	1,67	~0.01	15,1	~0.0	~0.8	3,4	~1.5	11,0	31,4	31,6	~0.6	8,4	~0.5	~83	~87	124,2
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.				NIVA											
Analysis code				340 340 Calc Calc 340 340 Calc Calc 340 340 340											
Detection limit				2 3 0.5 2 2 2 2											
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	F	3	338	331	75	16	221.0	221.0	<2.0	2.5	<4.5	<4.5	2.8	<2.0	<2.0
2/1	F	5	387	358	65	15	240.0	240.0	<1.0	1.0	<2.0	<2.0	2.4	<1.0	<1.0
3/1	X	7	457	384	106	39	475.0	475.0	<1.0	1.4	<2.4	<2.4	3.4	<1.0	<1.0
4/1	X	6	571	415	19	8.4	86.4	86.4	<1.0	1.1	<2.1	<2.1	2.7	<1.0	<1.0
5/1	X	7	648	436	126	27	489.0	489.0	<1.0	1.0	<2.0	<2.0	3.0	<1.0	<1.0
Mean		6	480	385	78,2	21,1	302,3	302,3	<<1.2	1,4	<<2.6	<<2.6	2,9	<<1.2	<<1.2
Minimum		3	338	331	19,0	8,4	86,4	86,4	<1.0	1,0	<2.0	<2.0	2,4	<1.0	<1.0
Maximum		7	648	436	126,0	39,0	489,0	489,0	<2.0	2,5	<4.5	<4.5	3,4	<2.0	<2.0
St.Dev		1	128	42	41,1	12,0	174,5	174,5	~0.4	0,6	~1.1	~1.1	0,4	~0.4	~0.4
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5

- sample no.
 1 Bulk of NIVA no.s.1,2,3,4,5
 2 Bulk of NIVA no.s.6,7,8,9,10
 3 Bulk of NIVA no.s.11,12,13,14,15 Fish malodorous(15)
 4 Bulk of NIVA no.s.16,17,18,19,20 no 19 age is impossible to decide
 5 Bulk of NIVA no.s.21,22,23,24,25 age of no25 is impossible to decide

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LEPI WHI** Lepidorhombus whiffiagonis GB: Megrin, N: Glassvar
 Sample area: **J62 Hardangerfjorden** Tissue: LIVER
 Locality : **67B Strandeabarm** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **20001110** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA															NIVA		NIVA			
Analysis code =>					312															311		312			
Detection limit =>					Mean															Calc		Calc			
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	
no.	F/M	year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	478	389	4,8	38,5	24,0	0.037	14.2	<0.04	74.5	0.90	2.9	8.7	3.1	9.8	20	33	2.1	8.4	<0.80	84	<90	130	
2/1	F	5	557	403	9,0	42,6	28,0	0.031	9.16	<0.04	84.2	0.82	2.7	8.8	3.1	9.5	20	34	2.4	9.5	<0.80	85	<92	130	
3/1	F	5	637	413	9,4	43,4	30,0	0.028	12.7	<0.03	91.3	<1.5	2.8	7.5	3.0	8.9	17	27	2.0	6.7	<1.5	<71	<76	97	
4/1	F	5	788	463	10,6	46,0	32,0	0.091	7.50	<0.03	101	<1.5	2.8	8.0	3.2	9.7	21	32	2.2	9.6	<1.5	<85	<90	100	
5/1	X	8	976	493	2,7	43,0	29,0	0.097	7.56	<0.03	82.7	1.2	4.2	13	5.9	18	39	63	3.9	18	1.2	156	167	170	
Mean		6	687	432	7,3	42,7	28,6	0,06	10,22	<<0.03	86,7	<<1.2	3,1	9,2	3,7	11,2	23,4	37,8	2,5	10,4	<<1.2	<<96	<<103	125,4	
Minimum		4	478	389	2,7	38,5	24,0	0,03	7,50	<0.03	74,5	0,8	2,7	7,5	3,0	8,9	17,0	27,0	2,0	6,7	<0.8	<71	<76	97,0	
Maximum		8	976	493	10,6	46,0	32,0	0,10	14,20	<0.04	101,0	<1.5	4,2	13,0	5,9	18,0	39,0	63,0	3,9	18,0	<1.5	156	167	170,0	
St.Dev		1	198	44	3,4	2,7	3,0	0,03	3,07	~0.01	10,0	~0.3	0,6	2,2	1,3	3,8	8,8	14,3	0,8	4,4	~0.4	~34	~36	29,5	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab. =>					NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code =>					340		340		Calc		Calc		340		340		340	
Detection limit =>					2		3		0.5		2		2		2		2	
Samp/ repl.	Sex	Age	Wght	Lngt	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb			
no.	F/M	year	g	mm	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt			
1/1	F	4	478	389	39	14	183.0	183.0	0.99	2.3	3.3	3.3	4.7	<0.40	<0.80			
2/1	F	5	557	403	44	15	189.0	189.0	1.1	2.6	3.7	3.7	4.7	0.42	<0.80			
3/1	F	5	637	413	32	14	143.0	143.0	<1.5	2.9	<4.4	<4.4	4.8	<0.80	<1.5			
4/1	F	5	788	463	35	13	148.0	148.0	<1.5	2.9	<4.4	<4.4	4.9	<0.80	<1.5			
5/1	X	8	976	493	59	22	251.0	251.0	1.2	2.8	4.0	4.0	6.6	<0.50	<1.0			
Mean		6	687	432	41,8	15,6	182,8	182,8	<<1.3	2,7	<<4.0	<<4.0	5,1	<<0.6	<<1.1			
Minimum		4	478	389	32,0	13,0	143,0	143,0	1,0	2,3	3,3	3,3	4,7	<0.4	<0.8			
Maximum		8	976	493	59,0	22,0	251,0	251,0	<1.5	2,9	<4.4	<4.4	6,6	<0.8	<1.5			
St.Dev		1	198	44	10,6	3,6	43,3	43,3	~0.2	0,3	~0.5	~0.5	0,8	~0.2	~0.4			
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5			

Comments

Station: Strandeabarm fished 19.11.2000 no18,25 Fished 4.11.2000 no 1,2,4,10,12,16,20 fished 1.11.2000 no 8
 fished 18.11.2000 no 3,5,23 fished10.11.2000 no 6,24 fished 10.12.2000 no7,9,11,13,22 fished 1.12.2000 no 14
 fish.28.10.2000 no 19,15 and 10.10.2000 no 17,21

sample no.

- 1 Bulk of NIVA no 1,2,3,4,5 Age uncertain no 1,3,4,5
- 2 Bulk of NIVA no 6,7,8,9,10 Age uncertain no 6
- 3 Bulk of NIVA no11,12,13,14,15
- 4 Bulk of NIVA no 16,17,18,19,20 Age uncertain no 16,17,20
- 5 Bulk of NIVA no 21,22,23,24,25 Age uncertain no 22
- Impossible to analyz. no 21

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LEPI WHI** *Lepidorhombus whiffiagonis* GB: Megrim, N: Glassvar
 Sample area: **J62 Hardangerfjorden** Tissue: LIVER
 Locality : **67B Strandebar** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **20011213** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>					312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit =>					Mean	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
Samp/ repl.	Sex	Age	Wght	Lngt	weight	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
F/M		year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	X	8	661	426	14,6	41,7	27,0	0.060	9.93	0.04	112	0.72	2.3	9.7	4.7	14	22	33	2.1	8.3	<0.60	90	<97	82
2/1	X	9	956	482	12,9	37,8	22,0	0.111	13.0	0.05	106	1.0	3.7	17	6.3	23	35	70	4.1	21	0.95	171	182	150
3/1	X	7	499	384	9,7	39,7	24,0	0.028	15.3	0.04	105	0.51	1.5	5.8	2.5	6.7	13	18	1.1	4.3	<0.60	50	<54	47
4/1	F	8	594	398	10,7	43,3	29,0	0.049	11.5	0.03	117	0.67	1.9	7.5	2.9	7.8	16	24	1.3	5.9	<0.60	64	<69	58
5/1	X	7	450	368	10,4	44,1	27,0	0.031	14.8	0.05	120	<0.60	1.4	5.1	2.2	5.5	11	15	0.90	3.6	<0.60	<42	<45	41
Mean		8	632	412	11,6	41,3	25,8	0,06	12,91	0,04	112,0	<0,7	2,2	9,0	3,7	11,4	19,4	32,0	1,9	8,6	<<0,7	<83	<<89	75,6
Minimum		7	450	368	9,7	37,8	22,0	0,03	9,93	0,03	105,0	0,5	1,4	5,1	2,2	5,5	11,0	15,0	0,9	3,6	<0,6	<42	<45	41,0
Maximum		9	956	482	14,6	44,1	29,0	0,11	15,30	0,05	120,0	1,0	3,7	17,0	6,3	23,0	35,0	70,0	4,1	21,0	0,9	171	182	150,0
St.Dev		1	199	45	2,0	2,6	2,8	0,03	2,25	0,01	6,6	~0,2	0,9	4,8	1,7	7,3	9,7	22,3	1,3	7,2	~0,2	~52	~55	44,4
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>					340	340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit =>					2	3			0.5	2			2	2	2
Samp/ repl.	Sex	Age	Wght	Lngt	DDTPP	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	8	661	426	29	9.8	120.8	120.8	0.86	1.4	2.3	2.3	3.4	<0.30	<0.30
2/1	X	9	956	482	54	14	218.0	218.0	0.76	1.1	1.9	1.9	4.7	0.31	0.43
3/1	X	7	499	384	17	6.8	70.8	70.8	0.75	1.2	2.0	2.0	2.8	<0.30	<0.30
4/1	F	8	594	398	21	8.3	87.3	87.3	0.93	1.5	2.4	2.4	3.4	0.33	<0.30
5/1	X	7	450	368	16	6.5	63.5	63.5	0.84	1.4	2.2	2.2	3.0	<0.30	<0.30
Mean		8	632	412	27,4	9,1	112,1	112,1	0,8	1,3	2,2	2,2	3,5	<<0,3	<<0,3
Minimum		7	450	368	16,0	6,5	63,5	63,5	0,8	1,1	1,9	1,9	2,8	<0,3	<0,3
Maximum		9	956	482	54,0	14,0	218,0	218,0	0,9	1,5	2,4	2,4	4,7	0,3	0,4
St.Dev		1	199	45	15,7	3,0	63,2	63,2	0,1	0,2	0,2	0,2	0,7	~0,0	~0,1
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5

Comments

Station: Strandebar Fished from 1.oct- 13. dec 2001

sample no.

- 1 Bulk of NIVA no 1,2,3,4,5
- 2 Bulk of NIVA no 6,7,8,9,10
- 3 Bulk of NIVA no 11,12,13,14,15
- 4 Bulk of NIVA no 16,17,18,19,20
- 5 Bul of NIVA no 21,22,23,24,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : LEPI WHI Lepidorhombus whiffiagonis GB: Megrin, N: Glassvar
 Sample area: J99 Undefined Tissue: LIVER
 Locality : 21F Åkrefjord Latitude: 59°45.0N Longitude: 6°7.0E
 Catch,date : 20000310 Count: 25 Sample type: Bulkded

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>				312	311	312	311	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit		=>		Mean		0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3	4		
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
F/M		year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	4	218	279	3,4	31,0	14,1	0.024	7.86	0.03	62.8	0.95	1.4	7.7	3.3	10	18	29	1.4	6.3	<0.5	73	<79	47
2/1	X	5	287	327	3,4	34,6	19,1	0.048	3.72	<0.03	65.7	1.4	2.3	8.4	4.3	13	20	31	1.6	7.2	<1.0	83	<90	58
3/1	F	5	422	357	7,0	38,3	24,2	0.017	10.6	<0.03	97.8	1.3	2.7	10	4.3	13	21	40	2.1	10	<1.0	98	<105	150
4/1	F	5	546	386	8,9	33,9	18,0	0.028	13.9	<0.03	74.0	0.96	1.5	4.8	2.4	6.9	12	18	0.97	4.7	<0.5	49	<53	29
5/1	X	7	756	438	10,6	37,2	23,1	0.106	12.7	<0.03	99.1	1.7	3.6	15	7.1	22	39	64	3.3	16	1.2	161	173	77
Mean		5	446	357	6,7	35,0	19,7	0,04	9,76	<<0.03	79,9	1,3	2,3	9,2	4,3	13,0	22,0	36,4	1,9	8,8	<<0.8	93	<<100	72,2
Minimum		4	218	279	3,4	31,0	14,1	0,02	3,72	<0.03	62,8	1,0	1,4	4,8	2,4	6,9	12,0	18,0	1,0	4,7	<0.5	49	<53	29,0
Maximum		7	756	438	10,6	38,3	24,2	0,11	13,90	0,03	99,1	1,7	3,6	15,0	7,1	22,0	39,0	64,0	3,3	16,0	1,2	161	173	150,0
St.Dev		1	214	60	3,3	2,9	4,1	0,04	4,08	~0.00	17,4	0,3	0,9	3,8	1,8	5,6	10,1	17,3	0,9	4,4	~0.3	42	~45	46,8
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>				340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit		=>				3			0.5	2			2	2	2
Samp/ repl.	Sex	Age	Wght	Lngt	TDEPP	DD Σ4	DD ΣΣ	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS	
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	X	4	218	279	9.0	56.0	56.0	<0.5	1.1	<1.6	<1.6	2.5	<0.3	<0.3	
2/1	X	5	287	327	6.9	64.9	64.9	<1.0	1.6	<2.6	<2.6	3.4	<0.6	<0.6	
3/1	F	5	422	357	25	175.0	175.0	<1.0	1.6	<2.6	<2.6	4.6	0.65	<0.6	
4/1	F	5	546	386	5.8	34.8	34.8	0.76	1.4	2.2	2.2	2.8	<0.3	<0.3	
5/1	X	7	756	438	16	93.0	93.0	<1.0	1.8	<2.8	<2.8	4.8	<0.6	<0.6	
Mean		5	446	357	12,5	84,7	84,7	<<0.9	1,5	<<2.4	<<2.4	3,6	<<0.5	<<0.5	
Minimum		4	218	279	5,8	34,8	34,8	<0.5	1,1	<1.6	<1.6	2,5	<0.3	<0.3	
Maximum		7	756	438	25,0	175,0	175,0	<1.0	1,8	<2.8	<2.8	4,8	0,7	<0.6	
St.Dev		1	214	60	8,0	54,6	54,6	~0.2	0,3	~0.5	~0.5	1,0	~0.2	~0.2	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	

Comments

Station: Åkrefjord Caught 15febr-10mar 2000

sample no.

- Bulk of NIVA no.1,2,3,4,5 Bacterial fin rot
- Bulk of NIVA no.6,7,8,9,10 Bacterial fin rot
- Bulk of NIVA no.11,12,13,14,15 Bacterial fin rot
- Bulk of NIVA no.16,17,18,19,20 Bacterial fin rot (16,19,20)
- Bulk of NIVA no.21,22,23,24,25 Bacterial fin rot
Liver and/or intestinal guts with larvae of Anisakis simplex (21,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : LEPI WHI *Lepidorhombus whiffiagonis* GB: Megrin, N: Glassvar
 Sample area: J62 **Hardangerfjorden** Tissue: MUSCLE
 Locality : 67B **Strandebarm** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : 19981115 Count: 25 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code		=>				310	341	341	341	341	341	341	341	341	341	341	341	341	341	341	341				
Detection limit		=>		Mean		0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05				
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	328	329	15,0	21,7	0,3	0.053	<0.04	0.05	0.10	<0.04	0.09	0.20	0.27	<0.04	0.07	<0.04	<1	<1	1.2	0.22	1.4	1.4	
2/1	F	7	399	351	15,0	21,3	0,2	0.083	<0.04	0.05	0.06	<0.04	0.05	0.10	0.12	<0.04	<0.04	<0.04	<0	<0	0.56	0.11	0.7	0.7	
3/1	F	7	442	372	15,0	20,4	0,1	0.110	<0.04	0.04	0.05	<0.04	0.04	0.07	0.10	<0.04	<0.04	<0.04	<0	<0	0.45	0.07	0.5	0.5	
4/1	M	8	704	484	15,0	20,0	0,1	0.179	<0.04	<0.04	<0.04	<0.04	<0.04	0.05	0.07	<0.04	<0.04	<0.04	<0	<0	0.31	0.07	0.4	0.4	
5/1	M	8	871	482	15,0	19,8	0,1	0.423	<0.04	0.06	0.05	<0.04	0.06	0.10	0.18	<0.04	0.04	<0.04	<1	<1	0.78	0.09	0.9	0.9	
Mean		7	549	404	15,0	20,6	0,2	0,170	<<0.0	<0.0	<0.1	<<0.0	<0.1	0,1	0,1	<<0.0	<<0.0	<<0.0	<<0	<<0	0,7	0,1	0,8	0,8	
Minimum		6	328	329	15,0	19,8	0,1	0,053	<0.0	<0.0	<0.0	<0.0	<0.0	0,1	0,1	<0.0	<0.0	<0.0	<0	<0	0,3	0,1	0,4	0,4	
Maximum		8	871	484	15,0	21,7	0,3	0,423	<0.0	0,1	0,1	<0.0	0,1	0,2	0,3	<0.0	0,1	<0.0	<1	<1	1,2	0,2	1,4	1,4	
St.Dev		1	230	74	0,0	0,8	0,1	0,149	~0.0	~0.0	~0.0	~0.0	~0.0	0,1	0,1	~0.0	~0.0	~0.0	~1	~1	0,3	0,1	0,4	0,4	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		341	341	Calc	Calc	341	341	341	
Detection limit		=>		0.05	0.05			0.05	0.05	0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	6	328	329	0.04	0.11	0.1	0.1	0.07	0.02	<0.02
2/1	F	7	399	351	<0.04	0.08	<0.1	<0.1	0.06	0.02	<0.02
3/1	F	7	442	372	<0.04	0.05	<0.1	<0.1	0.03	<0.02	<0.02
4/1	M	8	704	484	<0.04	0.04	<0.1	<0.1	0.02	<0.02	<0.02
5/1	M	8	871	482	<0.04	0.04	<0.1	<0.1	0.02	<0.02	<0.02
Mean		7	549	404	<<0.0	0,1	<<0.1	<<0.1	0,0	<<0.0	<<0.0
Minimum		6	328	329	<0.0	0,0	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		8	871	484	0,0	0,1	0,1	0,1	0,1	0,0	<0.0
St.Dev		1	230	74	~0.0	0,0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

Comments

- Station: Strandebarm Caught nov.1998 feb.1999
- sample no.
- Bulk of NIVA nos.:1,2,3,4,5 Muscle with signs of inner bleeding (3,4,5)
Bacterial fin rot (3,4) no.5 40 m. 5.11.1998
 - Bulk of NIVA nos.:6,7,8,9,10 Muscle with signs of inner bleeding (10)
Bacterial fin rot (13) Muscle with signs of inner bleeding (14)
no. 15 20 m. 5.11.1998
 - Bulk of NIVA nos.:11,12,13,14,15 Skin with metacercariae of cf. *Cryptocotyle lingua* (11,15)
Bacterial fin rot (13) Muscle with signs of inner bleeding (14)
no. 15 20 m. 5.11.1998
 - Bulk of NIVA nos.:16,17,18,19,20 Muscle with signs of inner bleeding (17,19,20)
Skin with metacercariae of cf. *Cryptocotyle lingua* (18)
 - Bulk of NIVA nos.:21,22,23,24,25 Bacterial fin rot (21)
Muscle with signs of inner bleeding (22,23,24)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LEPI WHI** Lepidorhombus whiffiagonis GB: Megrim, N: Glassvar
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandebrarm** Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **19990928** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>						310	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc		
Detection limit =>					Mean	0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05					
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS
F/M		year	g	mm	g	%	%	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	3	338	331	15,3	21,4	0,4	0.078	<0.06	<0.06	0.09	<0.06	0.09	0.18	0.25	<0.06	0.08	<0.06	<1	<1	1.3	0.22	1.5	1.5
2/1	F	5	387	358	15,2	20,2	0,3	0.154	<0.06	<0.06	0.10	<0.06	0.12	0.23	0.40	<0.06	0.12	<0.06	<1	<1	1.4	0.20	1.6	1.6
3/1	X	7	457	384	15,0	20,2	0,3	0.147	<0.06	<0.06	0.09	<0.06	0.11	0.19	0.32	<0.06	0.08	<0.06	<1	<1	1.2	0.18	1.4	1.4
4/1	X	6	571	415	15,0	19,9	0,2	0.307	<0.06	<0.06	0.10	<0.06	0.15	0.26	0.48	<0.06	0.12	<0.06	<1	<1	1.9	0.21	2.1	2.1
5/1	X	7	648	436	15,1	18,9	0,3	0.501	<0.06	<0.06	0.08	0.07	0.16	0.27	0.51	<0.06	0.15	<0.06	<1	<1	1.7	0.17	1.9	1.9
Mean		6	480	385	15,1	20,1	0,3	0,237	<<0.1	<<0.1	0,1	<<0.1	0,1	0,2	0,4	<<0.1	0,1	<<0.1	<<1	<<1	1,5	0,2	1,7	1,7
Minimum		3	338	331	15,0	18,9	0,2	0,078	<0.1	<0.1	0,1	<0.1	0,1	0,2	0,3	<0.1	0,1	<0.1	<1	<1	1,2	0,2	1,4	1,4
Maximum		7	648	436	15,3	21,4	0,4	0,501	<0.1	<0.1	0,1	0,1	0,2	0,3	0,5	<0.1	0,2	<0.1	<1	<1	1,9	0,2	2,1	2,1
St.Dev		1	128	42	0,1	0,9	0,1	0,169	~0.0	~0.0	0,0	~0.0	0,0	0,0	0,1	~0.0	0,0	~0.0	~0	~0	0,3	0,0	0,3	0,3
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code =>					341	341	Calc	Calc	341	341	341
Detection limit =>					0.05	0.05			0.05	0.05	0.05
Samp/ repl.	Sex	Age	Wght	Lngt	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	3	338	331	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
2/1	F	5	387	358	<0.06	<0.06	<0.1	<0.1	0.03	<0.03	<0.03
3/1	X	7	457	384	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
4/1	X	6	571	415	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
5/1	X	7	648	436	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
Mean		6	480	385	<<0.1	<<0.1	<<0.1	<<0.1	0,0	<<0.0	<<0.0
Minimum		3	338	331	<0.1	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		7	648	436	<0.1	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
St.Dev		1	128	42	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

sample no.

- 1 Bulk of NIVA no.s.1,2,3,4,5
- 2 Bulk of NIVA no.s.6,7,8,9,10
- 3 Bulk of NIVA no.s.11,12,13,14,15 Fish malodorous(15)
- 4 Bulk of NIVA no.s.16,17,18,19,20 no 19 age is impossible to decide
- 5 Bulk of NIVA no.s.21,22,23,24,25 age of no25 is impossible to decide

JAMP contaminant data for fish 1998-2001 - Norway

Species : LEPI WHI Lepidorhombus whiffiagonis GB: Megrin, N: Glassvar
 Sample area: J62 Hardangerfjorden Tissue: MUSCLE
 Locality : 67B Strandebarin Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : 20001110 Count: 25 Sample type: Bulked

Analytical lab.		=>				NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA			
Analysis code		=>				310		341		341		341		341		341		341		341		341			
Detection limit		=>		Mean		0.005		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4	478	389	21,1	20,3	0,5	0.094	<0.04	0.04	0.09	0.04	0.09	0.18	0.32	<0.04	0.08	<0.04	<1	<1	1.1	0.16	1.3	1.3	
2/1	F	5	557	403	20,7	20,7	0,4	0.114	<0.04	0.06	0.13	0.05	0.13	0.24	0.47	<0.04	0.12	<0.04	<1	<1	1.6	0.24	1.8	1.8	
3/1	F	5	637	413	20,9	20,7	0,4	0.086	<0.06	0.07	0.06	<0.06	0.06	0.11	0.17	<0.06	<0.06	<0.06	<1	<1	0.59	0.14	0.7	0.7	
4/1	F	5	788	463	20,8	19,8	0,4	0.324	<0.04	0.07	0.20	0.07	0.21	0.43	0.77	0.05	0.23	<0.04	<2	<2	2.4	0.32	2.7	2.7	
5/1	X	8	976	493	20,8	20,2	0,3	0.337	<0.04	<0.04	0.06	<0.04	0.08	0.15	0.24	<0.04	0.07	<0.04	<1	<1	0.68	0.12	0.8	0.8	
Mean		6	687	432	20,9	20,3	0,4	0,191	<<0.0	<0.1	0,1	<<0.1	0,1	0,2	0,4	<<0.0	<0.1	<<0.0	<<1	<<1	1,3	0,2	1,5	1,5	
Minimum		4	478	389	20,7	19,8	0,3	0,086	<0.0	<0.0	0,1	<0.0	0,1	0,1	0,2	<0.0	<0.1	<0.0	<1	<1	0,6	0,1	0,7	0,7	
Maximum		8	976	493	21,1	20,7	0,5	0,337	<0.1	0,1	0,2	0,1	0,2	0,4	0,8	<0.1	0,2	<0.1	<2	<2	2,4	0,3	2,7	2,7	
St.Dev		1	198	44	0,2	0,4	0,1	0,128	~0.0	~0.0	0,1	~0.0	0,1	0,1	0,2	~0.0	~0.1	~0.0	~0	~0	0,7	0,1	0,8	0,8	
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	

Analytical lab.		=>		NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code		=>		341		341		Calc		Calc		341	
Detection limit		=>		0.05		0.05		0.05		0.05		0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb		
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt		
1/1	F	4	478	389	<0.04	<0.04	<0.0	<0.0	0.06	<0.02	<0.04		
2/1	F	5	557	403	<0.04	<0.04	<0.0	<0.0	0.06	<0.02	<0.04		
3/1	F	5	637	413	<0.06	<0.06	<0.1	<0.1	0.03	<0.03	<0.06		
4/1	F	5	788	463	<0.04	<0.04	<0.0	<0.0	0.05	<0.02	<0.04		
5/1	X	8	976	493	<0.04	<0.04	<0.0	<0.0	0.04	<0.02	<0.04		
Mean		6	687	432	<<0.0	<<0.0	<<0.0	<<0.0	0,0	<<0.0	<<0.0		
Minimum		4	478	389	<0.0	<0.0	<0.0	<0.0	0,0	<0.0	<0.0		
Maximum		8	976	493	<0.1	<0.1	<0.1	<0.1	0,1	<0.0	<0.1		
St.Dev		1	198	44	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0		
Count		5	5	5	5	5	5	5	5	5	5		

Comments

Station: Strandebarin fished 19.11.2000 no18,25 Fished 4.11.2000 no 1,2,4,10,12,16,20 fished 1.11.2000 no 8
 fished 18.11.2000 no 3,5,23 fished10.11.2000 no 6,24 fished 10.12.2000 no7,9,11,13,22 fished 1.12.2000 no 14
 fish.28.10.2000 no 19,15 and 10.10.2000 no 17,21

sample no.

- 1 Bulk of NIVA no 1,2,3,4,5 Age uncertain no 1,3,4,5
- 2 Bulk of NIVA no 6,7,8,9,10 Age uncertain no 6
- 3 Bulk of NIVA no11,12,13,14,15
- 4 Bulk of NIVA no 16,17,18,19,20 Age uncertain no 16,17,20
- 5 Bulk of NIVA no 21,22,23,24,25 Age uncertain no 22
 Impossible to analyz. no 21

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LEPI WHI** Lepidorhombus whiffiagonis GB: Megrim, N: Glassvar
 Sample area: **J62 Hardangerfjorden** Tissue: MUSCLE
 Locality : **67B Strandebar**m Latitude: 60°16.0N Longitude: 6°2.0E
 Catch,date : **20011213** Count: 25 Sample type: **Bulked**

Analytical lab. =>				NIVA																					
Analysis code =>				310 341 341 341 341 341 341 341 341 341 341 341 341 Calc Calc 341 341 Calc Calc																					
Detection limit =>				Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.1 0.05																					
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
no.								w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	8	661	426	20,4	21,4	0,4	0.167	<0.06	0.06	0.08	<0.06	0.10	0.14	0.26	<0.06	0.06	<0.06	<1	<1	0.54	<0.08	<0.6	<0.6	
2/1	X	9	956	482	20,4	19,9	0,4	0.335	<0.06	0.10	0.17	0.07	0.25	0.30	0.82	<0.06	0.20	<0.06	<2	<2	1.2	0.08	1.3	1.3	
3/1	X	7	499	384	20,4	21,5	0,5	0.111	<0.06	<0.06	0.07	<0.06	0.08	0.15	0.23	<0.06	<0.06	<0.06	<1	<1	0.55	<0.08	<0.6	<0.6	
4/1	F	8	594	398	20,4	20,8	0,4	0.090	<0.06	s0.06	0.06	<0.06	0.06	0.10	0.16	<0.06	<0.06	<0.06	s<1	s<1	0.35	<0.08	<0.4	<0.4	
5/1	X	7	450	368	20,5	21,7	0,4	0.079	<0.06	miss	<0.06	<0.06	<0.06	0.07	0.09	<0.06	<0.06	<0.06	<0	<0	0.24	<0.08	<0.3	<0.3	
Mean		8	632	412	20,4	21,1	0,4	0,156	<<0.1	<<0.1	<0.1	<<0.1	<0.1	0,2	0,3	<<0.1	<<0.1	<<0.1	<<1	<<1	0,6	<<0.1	<<0.6	<<0.6	
Minimum		7	450	368	20,4	19,9	0,4	0,079	<0.1	<0.1	<0.1	<0.1	<0.1	0,1	0,1	<0.1	<0.1	<0.1	<0	<0	0,2	<0.1	<0.3	<0.3	
Maximum		9	956	482	20,5	21,7	0,5	0,335	<0.1	0,1	0,2	0,1	0,3	0,3	0,8	<0.1	0,2	<0.1	<2	<2	1,2	0,1	1,3	1,3	
St.Dev		1	199	45	0,1	0,7	0,0	0,105	~0.0	~0.0	~0.0	~0.0	~0.1	0,1	0,3	~0.0	~0.1	~0.0	~1	~1	0,4	~0.0	~0.4	~0.4	
Count		5	5	5	5	5	5	5	5	3	5	5	5	5	5	5	5	5	4	4	5	5	5	5	

miss(1) ! Missing value s/q(3) ! Suspect value

Analytical lab. =>				NIVA							
Analysis code =>				341 341 Calc Calc 341 341 341							
Detection limit =>				0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	8	661	426	<0.06	<0.06	<0.1	<0.1	0.03	<0.03	<0.03
2/1	X	9	956	482	<0.06	<0.06	<0.1	<0.1	0.05	<0.03	<0.03
3/1	X	7	499	384	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
4/1	F	8	594	398	<0.06	<0.06	<0.1	<0.1	0.03	<0.03	<0.03
5/1	X	7	450	368	<0.06	<0.06	<0.1	<0.1	0.03	<0.03	<0.03
Mean		8	632	412	<<0.1	<<0.1	<<0.1	<<0.1	0,0	<<0.0	<<0.0
Minimum		7	450	368	<0.1	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		9	956	482	<0.1	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	199	45	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

miss(1) ! Missing value s/q(3) ! Suspect value

Comments

Station: Strandebar Fished from 1.oct- 13. dec 2001

sample no.

- 1 Bulk of NIVA no 1,2,3,4,5
- 2 Bulk of NIVA no 6,7,8,9,10
- 3 Bulk of NIVA no 11,12,13,14,15
- 4 Bulk of NIVA no 16,17,18,19,20
- 5 Bul of NIVA no 21,22,23,24,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : **LEPI WHI** *Lepidorhombus whiffiagonis* GB: Megrim, N: Glassvar
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **21F Åkrefjord** Latitude: 59°45.0N Longitude: 6°7.0E
 Catch,date : **20000310** Count: 25 Sample type: **Bulked**

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>						310	341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc	
Detection limit =>					Mean	0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05				
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS
F/M		year	g	mm	g	%	%	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	4	218	279	15,4	19,1	0,3	0,069	<0.04	<0.04	0.14	0.05	0.15	0.31	0.46	<0.04	0.11	<0.04	<1	<1	0.67	0.15	0.8	0.8
2/1	X	5	287	327	15,0	19,9	0,3	0,049	<0.04	<0.04	0.12	0.04	0.11	0.18	0.28	<0.04	0.05	<0.04	<1	<1	0.56	0.06	0.6	0.6
3/1	F	5	422	357	15,0	20,8	0,4	0,047	<0.04	<0.04	0.07	<0.04	0.06	0.10	0.13	<0.04	<0.04	<0.04	<0	<0	0.21	0.05	0.3	0.3
4/1	F	5	546	386	15,1	20,0	0,3	0,067	<0.04	0.04	0.11	0.05	0.13	0.21	0.31	<0.04	0.08	<0.04	<1	<1	0.42	0.09	0.5	0.5
5/1	X	7	756	438	15,3	19,8	0,3	0,126	<0.04	<0.04	0.06	<0.04	0.06	0.11	0.16	<0.04	0.04	<0.04	<0	<0	0.24	0.05	0.3	0.3
Mean		5	446	357	15,2	19,9	0,3	0,072	<<0.0	<<0.0	0,1	<<0.0	0,1	0,2	0,3	<<0.0	<0.1	<<0.0	<<1	<<1	0,4	0,1	0,5	0,5
Minimum		4	218	279	15,0	19,1	0,3	0,047	<0.0	<0.0	0,1	<0.0	0,1	0,1	0,1	<0.0	<0.0	<0.0	<0	<0	0,2	0,1	0,3	0,3
Maximum		7	756	438	15,4	20,8	0,4	0,126	<0.0	0,0	0,1	0,1	0,2	0,3	0,5	<0.0	0,1	<0.0	<1	<1	0,7	0,2	0,8	0,8
St.Dev		1	214	60	0,2	0,6	0,0	0,032	~0.0	~0.0	0,0	~0.0	0,0	0,1	0,1	~0.0	~0.0	~0.0	~1	~1	0,2	0,0	0,2	0,2
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code =>					341	341	Calc	Calc	341	341	341
Detection limit =>					0.05	0.05			0.05	0.05	0.05
Samp/ repl.	Sex	Age	Wght	Lngt	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	4	218	279	<0.04	<0.04	<0.0	<0.0	0.05	<0.02	<0.02
2/1	X	5	287	327	<0.04	<0.04	<0.0	<0.0	0.05	<0.02	<0.02
3/1	F	5	422	357	<0.04	0.04	<0.1	<0.1	0.05	<0.02	<0.02
4/1	F	5	546	386	<0.04	<0.04	<0.0	<0.0	0.06	<0.02	<0.02
5/1	X	7	756	438	<0.04	<0.04	<0.0	<0.0	0.05	<0.02	<0.02
Mean		5	446	357	<<0.0	<<0.0	<<0.0	<<0.0	0,1	<<0.0	<<0.0
Minimum		4	218	279	<0.0	<0.0	<0.0	<0.0	0,1	<0.0	<0.0
Maximum		7	756	438	<0.0	0,0	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		1	214	60	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		5	5	5	5	5	5	5	5	5	5

Comments

Station: Åkrefjord Caught 15febr-10mar 2000

sample no.

- Bulk of NIVA no.1,2,3,4,5 Bacterial fin rot
- Bulk of NIVA no.6,7,8,9,10 Bacterial fin rot
- Bulk of NIVA no.11,12,13,14,15 Bacterial fin rot
- Bulk of NIVA no.16,17,18,19,20 Bacterial fin rot (16,19,20)
- Bulk of NIVA no.21,22,23,24,25 Bacterial fin rot
Liver and/or intestinal guts with larvae of *Anisakis simplex* (21,25)

JAMP contaminant data for fish 1998-2001 - Norway

Species : **BROS BRO** Brosme brosme GB: Bream, N: Brosme
 Sample area: **J63 Sørfjorden** Tissue: LIVER
 Locality : **53D Digraneset** Latitude: 60°11.0N Longitude: 6°34.5E
 Catch,date : **20011204** Count: 20 Sample type: **Bulked**

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>					312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit =>					Mean	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
Samp/ repl.	Sex	Age	Wght	Lngt	weight	%	%	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	
F/M		year	g	mm	g	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	
1/1	X	10	2241	606	64,4	56,7	44,0	0.123	3.11	0.47	19.8	<4.0	35	150	77	210	530	700	38	150	<4.0	<1779	<1894	1600
2/1	X	13	4158	728	187,1	65,4	54,0	0.096	4.27	0.25	15.5	<3.0	27	190	110	330	970	1300	82	530	12	<3350	<3554	5500
3/1	X	10	2161	568	76,1	63,0	53,0	0.049	1.77	0.20	14.2	<3.0	7.7	43	33	87	210	290	22	120	<3.0	<761	<816	1100
4/1	X	10	3870	718	126,7	59,9	49,0	0.301	5.83	0.48	21.5	<2.5	25	140	54	160	660	900	47	280	8.6	<2168	<2277	3800
Mean		11	3108	655	113,6	61,3	50,0	0,14	3,75	0,35	17,8	<<3.1	23,7	130,8	68,5	196,8	592,5	797,5	47,3	270,0	<<6.9	<<2015	<<2135	3000
Minimum		10	2161	568	64,4	56,7	44,0	0,05	1,77	0,20	14,2	<2.5	7,7	43,0	33,0	87,0	210,0	290,0	22,0	120,0	<3.0	<761	<816	1100
Maximum		13	4158	728	187,1	65,4	54,0	0,30	5,83	0,48	21,5	<4.0	35,0	190,0	110,0	330,0	970,0	1300	82,0	530,0	12,0	<3350	<3554	5500
St.Dev		1	1054	80	56,0	3,8	4,5	0,11	1,72	0,15	3,5	~0.6	11,5	62,4	33,0	102,2	314,8	420,3	25,4	186,7	~4.2	~1070	~1130	2038
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

miss(3) ! Missing value

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>					340	340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit =>					2	3			0.5	2			2	2	2
Samp/ repl.	Sex	Age	Wght	Lngt	DDTPP	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
F/M		year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	10	2241	606	1600	670	3870	3870	<4.0	<4.0	<4.0	<4.0	6.0	<2.0	<2.0
2/1	X	13	4158	728	7000	900	13400	13400	<3.0	<3.0	<3.0	<3.0	14	miss	7.3
3/1	X	10	2161	568	770	240	2110	2110	<3.0	<3.0	<3.0	<3.0	8.0	miss	<1.5
4/1	X	10	3870	718	4700	1100	9600	9600	<2.5	<2.5	<2.5	<2.5	11	miss	5.2
Mean		11	3108	655	3518	727,5	7245	7245	<<3.1	<<3.1	<<3.1	<<3.1	9,8	<<2.0	<<4.0
Minimum		10	2161	568	770,0	240,0	2110	2110	<2.5	<2.5	<2.5	<2.5	6,0	<2.0	<1.5
Maximum		13	4158	728	7000	1100	13400	13400	<4.0	<4.0	<4.0	<4.0	14,0	<2.0	7,3
St.Dev		1	1054	80	2872	369,4	5202	5202	~0.6	~0.6	~0.6	~0.6	3,5		~2.7
Count		4	4	4	4	4	4	4	4	4	4	4	4	1	4

miss(3) ! Missing value

sample no.

- 1 Bulk of NIVA no 1,2,3,4 about 24g of each liver in the bulk
- 2 Bulk of NIVA no 6,7,8,9 about 24g of each liver in the bulk
- 3 Bulk of NIVA no 11,12,1 about 24g of each liver in the bulk
- 4 Bulk of NIVA no 16,17,1 about 24g of each liver in the bulk

JAMP contaminant data for fish 1998-2001 - Norway

Species : **BROS BRO** Brosme brosme GB: Bream, N: Brosme
 Sample area: **J63 Sør fjorden** Tissue: LIVER
 Locality : **56D** Latitude: 60°13.40N Longitude: 6°36.10E
 Catch,date : **20000410** Count: 15 Sample type: **Bulked**

Analytical lab.				NIVA																					
Analysis code				312 311 310 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340																					
Detection limit				0.05 0.01 0.005 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3																					
Samp/ repl.	Sex	Age	Wght	Lngr	weight	Dry	Fat	CD	CU	HG	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	
no.	F/M	year	g	mm	g	%	%	ppm	ppm	ppm	ppm	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X		1731	526			55,0	0.059	2.48			0.25	14.0	<3.0	8.9	48	24	64	260	360	20	130	<3.0	<874	<918
2/1	X		3072	664			55,0	0.211	5.21			0.52	16.0	<3.0	32	240	78	210	1100	1400	62	420	7.2	<3405	<3552
3/1	X		4950	760			54,0	0.244	6.00	13.51		0.54	18.2	3.2	33	280	80	270	1300	1900	76	620	<3.0	4406	<4565
Mean			3251	650			54,7	0,17	4,56	13,510		0,44	16,1	<<3.1	24,6	189,3	60,7	181,3	886,7	1220	52,7	390,0	<<4.4	<<2895	<<3012
Minimum			1731	526			54,0	0,06	2,48	13,510		0,25	14,0	<3.0	8,9	48,0	24,0	64,0	260,0	360,0	20,0	130,0	<3.0	<874	<918
Maximum			4950	760			55,0	0,24	6,00	13,510		0,54	18,2	3,2	33,0	280,0	80,0	270,0	1300	1900	76,0	620,0	7,2	4406	<4565
St.Dev			1617	118			0,6	0,10	1,85			0,16	2,1	~0.1	13,6	124,0	31,8	105,9	551,8	785,6	29,1	246,4	~2.4	~1820	~1883
Count			3	3			3	3	3	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3

s/q(7) ! Suspect value

Analytical lab.				NIVA											
Analysis code				340 340 Calc Calc 340 340 Calc Calc 340 340 340											
Detection limit				4 3 0.5 2 2 2											
Samp/ repl.	Sex	Age	Wght	Lngr	DDEPP	TDEPP	DD Σ4	DD ΣS	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
no.	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X		1731	526	1600	230	1830	1830	<3.0	<3.0	<3.0	<3.0	7.6	s2.1	<2.0
2/1	X		3072	664	5600	1300	6900	6900	<2.0	2.3	<4.3	<4.3	10	s2.7	4.9
3/1	X		4950	760	8900	1500	10400	10400	<2.0	2.1	<4.1	<4.1	11	s2.0	7.9
Mean			3251	650	5367	1010	6377	6377	<<2.3	<<2.5	<<3.8	<<3.8	9,5	s2.3	<<4.9
Minimum			1731	526	1600	230,0	1830	1830	<2.0	2,1	<3.0	<3.0	7,6	s2.0	<2.0
Maximum			4950	760	8900	1500	10400	10400	<3.0	<3.0	<4.3	<4.3	11,0	s2.7	7,9
St.Dev			1617	118	3656	682,9	4309	4309	~0.6	~0.5	~0.7	~0.7	1,7	s0.4	~3.0
Count			3	3	3	3	3	3	3	3	3	3	3	3	3

s/q(7) ! Suspect value

sample no.

- 1 The tot. weight of liver is missed, but from each fish there has been taken about 15.0g to 15,5g liver to the sample
- 2 The tot. liver weight is missed, but there has been taken 15,0g-15,5g from each fish in the bulk to the sample
- 3 The tot. weight of liver is missed, but there has been taken 14,7g to 15,6g of each fish to the sample

JAMP contaminant data for fish 1998-2001 - Norway

Species : **BROS BRO** Brosme brosme GB: Bream, N: Brosme
 Sample area: **J99 Undefined** Tissue: LIVER
 Locality : **21D Åkrafjord** Latitude: 60°0.0N Longitude: 4°0.0E
 Catch,date : **20000400** Count: 3 Sample type: **Homogenate**

Analytical lab.		=>	NIVA																					
Analysis code		=>	340																					
Detection limit		=>	3																					
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
1/1	X		2783	637	119,7		69,0	0.041	1.18	<0.03	9.75	5.3	13	51	23	61	200	290	14	6.8	<0.05	627	<664	280
Mean			2783	637	119,7		69,0	0,04	1,18	<<0.03	9,8	5,3	13,0	51,0	23,0	61,0	200,0	290,0	14,0	6,8	<<0.1	627	<<664	280,0
Minimum			2783	637	119,7		69,0	0,04	1,18	<0.03	9,8	5,3	13,0	51,0	23,0	61,0	200,0	290,0	14,0	6,8	<0.1	627	<664	280,0
Maximum			2783	637	119,7		69,0	0,04	1,18	<0.03	9,8	5,3	13,0	51,0	23,0	61,0	200,0	290,0	14,0	6,8	<0.1	627	<664	280,0
St.Dev																								
Count			1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

s/q(5) ! Suspect value

Analytical lab.		=>	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		=>	340	Calc	Calc	340	340	Calc	Calc	340	340			
Detection limit		=>	3			0.5	2			2	2			
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	X		2783	637	110	390.0	390.0	3.3	4.3	7.6	7.6	12	s2.0	1.6
Mean			2783	637	110,0	390,0	390,0	3,3	4,3	7,6	7,6	12,0	s2.0	1,6
Minimum			2783	637	110,0	390,0	390,0	3,3	4,3	7,6	7,6	12,0	s2.0	1,6
Maximum			2783	637	110,0	390,0	390,0	3,3	4,3	7,6	7,6	12,0	s2.0	1,6
St.Dev														
Count			1	1	1	1	1	1	1	1	1	1	1	1

s/q(5) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Species : BROS BRO Brosme brosme GB: Bream, N: Brosme
 Sample area: J99 Undefined Tissue: LIVER
 Locality : 21D Åkrafjord Latitude: 59°48.0N Longitude: 6°11.0E
 Catch,date : 20011215 Count: 20 Sample type: Bulked

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code =>					312	311	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit =>					Mean	Dry	Fat	CD	CU	PB	ZN	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	%	%	ppm w.wt	ppm w.wt	ppm w.wt	ppm w.wt	ppb w.wt	ppb w.wt	ppb w.wt	ppb w.wt	ppb w.wt	ppb w.wt	ppb w.wt	ppb w.wt	ppb w.wt	ppb w.wt	ppb w.wt	ppb w.wt	
1/1	X	8	1400	502	44,2	61,4	50,0	0.061	1.69	<0.03	13.9	<3.0	7.1	28	18	54	130	180	9.0	53	<3.0	<455	<482	220
2/1	X	10	2080	576	85,3	61,0	53,0	0.080	1.18	<0.03	14.5	4.8	15	52	34	100	240	310	16	86	3.1	808	861	390
3/1	X	10	2840	638	150,4	70,8	63,0	0.171	1.11	<0.03	11.8	6.6	29	110	46	130	450	590	21	120	3.8	1436	1506	590
4/1	X	13	5290	768	210,6	66,3	58,0	0.039	1.08	<0.03	11.0	6.7	37	160	77	230	680	940	42	250	6.1	2304	2429	920
Mean		10	2903	621	122,6	64,9	56,0	0,09	1,27	<<0.03	12,8	<5.3	22,0	87,5	43,8	128,5	375,0	505,0	22,0	127,3	<4.0	<1251	<1320	530,0
Minimum		8	1400	502	44,2	61,0	50,0	0,04	1,08	<0.03	11,0	<3.0	7,1	28,0	18,0	54,0	130,0	180,0	9,0	53,0	<3.0	<455	<482	220,0
Maximum		13	5290	768	210,6	70,8	63,0	0,17	1,69	<0.03	14,5	6,7	37,0	160,0	77,0	230,0	680,0	940,0	42,0	250,0	6,1	2304	2429	920,0
St.Dev		2	1697	113	73,1	4,6	5,7	0,06	0,29	~0.00	1,7	~1.8	13,5	59,3	25,0	74,5	242,8	336,7	14,2	86,3	~1.4	~811	~852	300,8
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

miss(4) ! Missing value

Analytical lab. =>					NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code =>					340	340	Calc	Calc	340	340	Calc	Calc	340	340	340
Detection limit =>					2	3			0.5	2			2	2	2
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	DDTPP ppb w.wt	TDEPP ppb w.wt	DD Σ4 ppb w.wt	DD ΣS ppb w.wt	HCHA ppb w.wt	HCHG ppb w.wt	HC Σ2 ppb w.wt	HC Σ3 ppb w.wt	HCB ppb w.wt	QCB ppb w.wt	OCS ppb w.wt
1/1	X	8	1400	502	59	41	320.0	320.0	<3.0	<3.0	<3.0	<3.0	7.9	miss	<1.5
2/1	X	10	2080	576	150	90	630.0	630.0	<3.0	<3.0	<3.0	<3.0	14	miss	2.8
3/1	X	10	2840	638	340	230	1160	1160	<3.0	<3.0	<3.0	<3.0	17	miss	3.6
4/1	X	13	5290	768	840	380	2140	2140	<3.0	<3.0	<3.0	<3.0	19	miss	5.9
Mean		10	2903	621	347,3	185,3	1063	1063	<<3.0	<<3.0	<<3.0	<<3.0	14,5		<3.5
Minimum		8	1400	502	59,0	41,0	320,0	320,0	<3.0	<3.0	<3.0	<3.0	7,9		<1.5
Maximum		13	5290	768	840,0	380,0	2140	2140	<3.0	<3.0	<3.0	<3.0	19,0		5,9
St.Dev		2	1697	113	348,7	152,5	797,7	797,7	~0.0	~0.0	~0.0	~0.0	4,8		~1.8
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4

miss(4) ! Missing value

Comments

!Station: Åkrafjord Fishing date uncertain

sample no.

- 1 Bulk of NIVA no 1,2,3,4 Liver weight from 5,5g to 33,0g
- 2 Bulk of NIVA no 6,7,8,9 Liver weight about 22g from each fish
- 3 Bulk of NIVA no 11,12,1 Liver weight about 25g from each fish
- 4 Bulk of NIVA no 16,17,1 Liver weight about 22g from each fish

JAMP contaminant data for fish 1998-2001 - Norway

Species : **BROS BRO** Brosme brosme GB: Bream, N: Brosme
 Sample area: **J63 Sørfjorden** Tissue: MUSCLE
 Locality : **53D Digraaneset** Latitude: 60°11.0N Longitude: 6°34.5E
 Catch,date : **20011204** Count: 20 Sample type: **Bulked**

Analytical lab. =>					NIVA																			
Analysis code =>					310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																			
Detection limit =>					Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																			
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb
1/1	X	10	2241	606	23,8	22,3	0,3	1.426	<0.10	0.10	0.37	0.26	0.50	1.4	1.6	0.10	0.31	<0.10	<4	<5	3.9	1.2	5.1	5.1
2/1	X	13	4158	728	24,2	21,1	0,2	2.286	<0.10	<0.10	0.34	0.20	0.51	1.5	1.9	0.13	0.62	<0.10	<5	<5	7.9	0.96	8.9	8.9
3/1	X	10	2161	568	24,3	22,0	0,3	1.086	<0.10	<0.10	0.30	0.28	0.53	0.88	0.97	0.11	0.28	<0.10	<3	<3	2.0	0.33	2.3	2.3
4/1	X	10	3870	718	23,9	20,3	0,3	3.480	<0.10	<0.10	0.33	0.16	0.42	1.6	2.0	0.12	0.61	<0.10	<5	<5	9.2	1.4	10.6	10.6
Mean		11	3108	655	24,1	21,4	0,3	2,070	<<0.1	<<0.1	0,3	0,2	0,5	1,3	1,6	0,1	0,5	<<0.1	<<4	<<5	5,8	1,0	6,7	6,7
Minimum		10	2161	568	23,8	20,3	0,2	1,086	<0.1	<0.1	0,3	0,2	0,4	0,9	1,0	0,1	0,3	<0.1	<3	<3	2,0	0,3	2,3	2,3
Maximum		13	4158	728	24,3	22,3	0,3	3,480	<0.1	0,1	0,4	0,3	0,5	1,6	2,0	0,1	0,6	<0.1	<5	<5	9,2	1,4	10,6	10,6
St.Dev		1	1054	80	0,3	0,9	0,0	1,067	~0.0	~0.0	0,0	0,1	0,0	0,3	0,5	0,0	0,2	~0.0	~1	~1	3,4	0,5	3,7	3,7
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Analytical lab. =>					NIVA							
Analysis code =>					341 341 341 341 341 341 341 341 341 341							
Detection limit =>					0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
1/1	X	10	2241	606	<0.10	<0.10	<0.1	<0.1	<0.05	<0.05	<0.05	
2/1	X	13	4158	728	<0.10	<0.10	<0.1	<0.1	<0.05	<0.05	<0.05	
3/1	X	10	2161	568	<0.10	<0.10	<0.1	<0.1	<0.05	<0.05	<0.05	
4/1	X	10	3870	718	<0.10	<0.10	<0.1	<0.1	0.05	<0.05	<0.05	
Mean		11	3108	655	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	
Minimum		10	2161	568	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Maximum		13	4158	728	<0.1	<0.1	<0.1	<0.1	0,1	<0.1	<0.1	
St.Dev		1	1054	80	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	
Count		4	4	4	4	4	4	4	4	4	4	

- sample no.
 1 Bulk of NIVA no 1,2,3,4,5
 2 Bulk of NIVA no 6,7,8,9,10
 3 Bulk of NIVA no 11,12,13,14,15
 4 Bulk of NIVA no 16,17,18,19,20

JAMP contaminant data for fish 1998-2001 - Norway

Species : **BROS BRO** Brosme brosme GB: Bream, N: Brosme
 Sample area: **J63 Sør fjorden** Tissue: MUSCLE
 Locality : **56D** Latitude: 60°15.0N Longitude: 6°36.0E
 Catch,date : **20000410** Count: 15 Sample type: **Bulked**

Analytical lab.		=>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA					
Analysis code		=>				310	341	341	341	341	341	341	341	341	341	341	341	341	341	341					
Detection limit		=>		Mean		0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05					
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X		1731	526	15,3		0,3	1.06	<0.05	<0.05	0.15	0.08	0.17	0.52	0.73	0.06	0.24	<0.05	<2	<2	3.1	0.48	3.6	3.6	
2/1	X		3072	664	15,2		0,3	3.10	<0.05	0.08	0.41	0.16	0.35	1.6	2.0	0.11	0.46	<0.05	<5	<5	7.8	1.7	9.5	9.5	
3/1	X		4950	760	15,2		0,3	3.50	<0.05	0.08	0.50	0.18	0.44	2.2	2.9	0.14	0.70	<0.05	<7	<7	13	2.4	15.4	15.4	
Mean			3251	650	15,2		0,3	2,553	<<0.1	<<0.1	0,4	0,1	0,3	1,4	1,9	0,1	0,5	<<0.1	<<5	<<5	8,0	1,5	9,5	9,5	
Minimum			1731	526	15,2		0,3	1,060	<0.1	<0.1	0,2	0,1	0,2	0,5	0,7	0,1	0,2	<0.1	<2	<2	3,1	0,5	3,6	3,6	
Maximum			4950	760	15,3		0,3	3,500	<0.1	0,1	0,5	0,2	0,4	2,2	2,9	0,1	0,7	<0.1	<7	<7	13,0	2,4	15,4	15,4	
St.Dev			1617	118	0,1		0,0	1,309	~0.0	~0.0	0,2	0,1	0,1	0,9	1,1	0,0	0,2	~0.0	~3	~3	5,0	1,0	5,9	5,9	
Count			3	3	3		3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	

Analytical lab.		=>		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code		=>		341	341	Calc	Calc	341	341	341	
Detection limit		=>		0.05	0.05			0.05	0.05	0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X		1731	526	<0.04	<0.04	<0.0	<0.0	0.04	<0.02	<0.02
2/1	X		3072	664	<0.04	<0.04	<0.0	<0.0	0.04	<0.02	<0.02
3/1	X		4950	760	<0.04	<0.04	<0.0	<0.0	0.04	<0.02	<0.02
Mean			3251	650	<<0.0	<<0.0	<<0.0	<<0.0	0,0	<<0.0	<<0.0
Minimum			1731	526	<0.0	<0.0	<0.0	<0.0	0,0	<0.0	<0.0
Maximum			4950	760	<0.0	<0.0	<0.0	<0.0	0,0	<0.0	<0.0
St.Dev			1617	118	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count			3	3	3	3	3	3	3	3	3

JAMP contaminant data for fish 1998-2001 - Norway

Species : **BROS BRO** Brosme brosme GB: Bream, N: Brosme
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **21D Åkrafjord** Latitude: 60°0.0N Longitude: 4°0.0E
 Catch,date : **20000400** Count: 3 Sample type: **Homogenate**

Analytical lab.		=>	NIVA																						
Analysis code		=>	310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																						
Detection limit		=>	Mean	0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																					
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
l/l	X		2783	637	50,3		0,3	0,354	<0.05	<0.05	0.12	<0.05	0.10	0.33	0.42	<0.05	0.09	<0.05	<1	<1	0.41	0.18	0.6	0.6	
Mean			2783	637	50,3		0,3	0,354	<<0.1	<<0.1	0,1	<<0.1	0,1	0,3	0,4	<<0.1	0,1	<<0.1	<<1	<<1	0,4	0,2	0,6	0,6	
Minimum			2783	637	50,3		0,3	0,354	<0.1	<0.1	0,1	<0.1	0,1	0,3	0,4	<0.1	0,1	<0.1	<1	<1	0,4	0,2	0,6	0,6	
Maximum			2783	637	50,3		0,3	0,354	<0.1	<0.1	0,1	<0.1	0,1	0,3	0,4	<0.1	0,1	<0.1	<1	<1	0,4	0,2	0,6	0,6	
St.Dev																									
Count			1	1		1			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Analytical lab.		=>	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>	341	341	Calc	Calc	341	341	341		
Detection limit		=>	0.05	0.05			0.05	0.05	0.05		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
l/l	X		2783	637	<0.04	<0.04	<0.0	<0.0	0.04	<0.02	<0.02
Mean			2783	637	<<0.0	<<0.0	<<0.0	<<0.0	0,0	<<0.0	<<0.0
Minimum			2783	637	<0.0	<0.0	<0.0	<0.0	0,0	<0.0	<0.0
Maximum			2783	637	<0.0	<0.0	<0.0	<0.0	0,0	<0.0	<0.0
St.Dev											
Count			1	1	1	1	1	1	1	1	1

JAMP contaminant data for fish 1998-2001 - Norway

Species : **BROS BRO** Brosme brosme GB: Bream, N: Brosme
 Sample area: **J99 Undefined** Tissue: MUSCLE
 Locality : **21D Åkrafjord** Latitude: 59°48.0N Longitude: 6°11.0E
 Catch,date : **20011215** Count: 20 Sample type: **Bulked**

Analytical lab.		=>																						
Analysis code		=>																		=>				
Detection limit		=>																		=>				
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb
1/1	X	8	1400	502	21,7	21,4	0,3	0.359	<0.06	<0.06	0.08	0.06	0.13	0.33	0.45	<0.06	0.12	<0.06	<1	<1	0.51	<0.09	<0.6	<0.6
2/1	X	10	2080	576	22,3	20,5	0,3	0.375	<0.06	0.06	0.20	0.17	0.40	1.0	1.2	0.07	0.29	<0.06	<3	<3	1.5	0.23	1.7	1.7
3/1	X	10	2840	638	21,7	21,4	0,3	0.596	<0.06	<0.06	0.19	0.10	0.22	0.73	0.91	<0.06	0.16	<0.06	<2	<2	0.84	0.26	1.1	1.1
4/1	X	13	5290	768	21,3	21,1	0,2	0.836	<0.06	0.09	0.37	0.22	0.52	1.6	1.9	0.09	0.44	<0.06	<5	<5	1.9	0.59	2.5	2.5
Mean		10	2903	621	21,8	21,1	0,2	0,542	<<0.1	<<0.1	0,2	0,1	0,3	0,9	1,1	<<0.1	0,3	<<0.1	<<3	<<3	1,2	<0.3	<1.5	<1.5
Minimum		8	1400	502	21,3	20,5	0,2	0,359	<0.1	<0.1	0,1	0,1	0,1	0,3	0,5	<0.1	0,1	<0.1	<1	<1	0,5	<0.1	<0.6	<0.6
Maximum		13	5290	768	22,3	21,4	0,3	0,836	<0.1	0,1	0,4	0,2	0,5	1,6	1,9	0,1	0,4	<0.1	<5	<5	1,9	0,6	2,5	2,5
St.Dev		2	1697	113	0,4	0,4	0,0	0,224	~0.0	~0.0	0,1	0,1	0,2	0,5	0,6	~0.0	0,1	~0.0	~2	~2	0,6	~0.2	~0.8	~0.8
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Analytical lab.		=>									
Analysis code		=>							=>		
Detection limit		=>							=>		
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	X	8	1400	502	<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
2/1	X	10	2080	576	<0.06	<0.06	<0.1	<0.1	0.07	<0.03	<0.03
3/1	X	10	2840	638	<0.06	<0.06	<0.1	<0.1	0.06	<0.03	<0.03
4/1	X	13	5290	768	<0.06	<0.06	<0.1	<0.1	0.07	<0.03	<0.03
Mean		10	2903	621	<<0.1	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		8	1400	502	<0.1	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		13	5290	768	<0.1	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		2	1697	113	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		4	4	4	4	4	4	4	4	4	4

Comments

!Station: Åkrafjord Fishing date uncertain

sample no.

- 1 Bulk of NIVA no 1,2,3,4,5
- 2 Bulk of NIVA no 6,7,8,9,10
- 3 Bulk of NIVA no 11,12,13,14,15
- 4 Bulk of NIVA no 16,17,18,19,20

JAMP contaminant data for fish 1998-2001 - Norway

Species : MOLV MOL Molve Molve GB: Ling, N: Lange
 Sample area: J63 Sørkjorden Tissue: LIVER
 Locality : 56D Latitude: 60°15.0N Longitude: 6°36.0E
 Catch,date : 20000410 Count: 2 Sample type: Homogenate

Analytical lab.				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA				
Analysis code				312	311	310	312	311	340	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc			
Detection limit		Mean		0.05	0.01	0.005	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3	3	3			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CD ppm	CU ppm	HG ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	
no.					w.wt	%	%	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X		3380	905	135,0		56,0	0.377	8.60	1.86	<0.03	19.4	3.0	12	100	59	180	580	650	42	290	<3.0	1815	<1919	
			3380	905	135,0		56,0	0,38	8,60	1,860	<<0.03	19,4	3,0	12,0	100,0	59,0	180,0	580,0	650,0	42,0	290,0	<<3.0	1815	<<1919	
			3380	905	135,0		56,0	0,38	8,60	1,860	<0.03	19,4	3,0	12,0	100,0	59,0	180,0	580,0	650,0	42,0	290,0	<3.0	1815	<1919	
			3380	905	135,0		56,0	0,38	8,60	1,860	<0.03	19,4	3,0	12,0	100,0	59,0	180,0	580,0	650,0	42,0	290,0	<3.0	1815	<1919	
			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

s/q(5) ! Suspect value

Analytical lab.		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		340	340	Calc	Calc	340	340	Calc	Calc	340	340	340			
Detection limit		4	3			0.5	2			2	2	2			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X		3380	905	2800	280	3080	3080	<2.0	2.4	<4.4	<4.4	10	s2.3	5.0
			3380	905	2800	280,0	3080	3080	<<2.0	2,4	<<4.4	<<4.4	10,0	s2.3	5,0
			3380	905	2800	280,0	3080	3080	<2.0	2,4	<4.4	<4.4	10,0	s2.3	5,0
			3380	905	2800	280,0	3080	3080	<2.0	2,4	<4.4	<4.4	10,0	s2.3	5,0
			1	1	1	1	1	1	1	1	1	1	1	1	1

s/q(5) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Species : MOLV MOL Molve Molve GB: Ling, N: Lange
 Sample area: J99 Undefined Tissue: LIVER
 Locality : 21D Åkrafjord Latitude: 60°0.0N Longitude: 4°0.0E
 Catch,date : 20000400 Count: 5 Sample type: Homogenate

Analytical lab. =>				NIVA																				
Analysis code =>				312 311 312 311 340 340 340 340 340 340 340 340 340 340 340 340 340																				
Detection limit =>				Mean 0.05 0.01 0.04 1 3 3 3 3 3 3 3 3 3 3 3 3 3																				
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
1/1	F	4485	1006		175,3	57,0	0.380	5.93	<0.03	15.5	7.0	21	70	64	170	470	530	35	230	<3.0	1498	<1600	790	
Mean		4485	1006		175,3	57,0	0,38	5,93	<<0.03	15,5	7,0	21,0	70,0	64,0	170,0	470,0	530,0	35,0	230,0	<<3.0	1498	<<1600	790,0	
Minimum		4485	1006		175,3	57,0	0,38	5,93	<0.03	15,5	7,0	21,0	70,0	64,0	170,0	470,0	530,0	35,0	230,0	<3.0	1498	<1600	790,0	
Maximum		4485	1006		175,3	57,0	0,38	5,93	<0.03	15,5	7,0	21,0	70,0	64,0	170,0	470,0	530,0	35,0	230,0	<3.0	1498	<1600	790,0	
St.Dev																								
Count		1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

s/q(5) ! Suspect value

Analytical lab. =>				NIVA										
Analysis code =>				340 Calc Calc 340 340 Calc Calc 340 340 340										
Detection limit =>				3 0.5 2 2 2 2 2 2 2 2 2										
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	F	4485	1006		190	980.0	980.0	<2.0	2.6	<4.6	<4.6	24	s1.4	7.4
Mean		4485	1006		190,0	980,0	980,0	<<2.0	2,6	<<4.6	<<4.6	24,0	s1.4	7,4
Minimum		4485	1006		190,0	980,0	980,0	<2.0	2,6	<4.6	<4.6	24,0	s1.4	7,4
Maximum		4485	1006		190,0	980,0	980,0	<2.0	2,6	<4.6	<4.6	24,0	s1.4	7,4
St.Dev														
Count		1	1		1	1	1	1	1	1	1	1	1	1

s/q(5) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Species : MOLV MOL Molve Molve GB: Ling, N: Lange
 Sample area: J63 Sørfjorden Tissue: MUSCLE
 Locality : 53D Digraaneset Latitude: 60°11.0N Longitude: 6°34.5E
 Catch,date : 20011204 Count: 25 Sample type: Bulked

Analytical lab. =>					NIVA																			
Analysis code =>					310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																			
Detection limit =>					Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																			
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb
1/1	F	12	3601	910	25,3	21,2	0,3	1.152	<0.10	<0.10	0.26	0.15	0.31	0.52	0.54	<0.10	0.15	<0.10	<2	<2	2.4	0.32	2.7	2.7
2/1	X	11	3396	892	26,3	20,9	0,3	1.136	<0.10	<0.10	0.20	0.12	0.25	0.48	0.51	<0.10	0.17	<0.10	<2	<2	2.6	0.31	2.9	2.9
3/1	F	10	3989	944	24,2	20,7	0,3	1.093	<0.10	<0.10	0.18	0.14	0.30	0.59	0.64	<0.10	0.22	<0.10	<2	<2	2.9	0.33	3.2	3.2
4/1	F	9	2157	776	24,0	20,5	0,3	0.796	<0.10	0.13	0.75	0.51	1.1	2.2	2.4	0.23	0.83	<0.10	<8	<8	11	0.73	11.7	11.7
5/1	X	7	3064	812	24,3	22,0	0,3	0.385	<0.10	<0.10	0.33	0.20	0.43	0.92	1.0	0.10	0.39	<0.10	<3	<3	4.8	0.47	5.3	5.3
Mean		10	3241	867	24,8	21,1	0,3	0,912	<<0.1	<<0.1	0,3	0,2	0,5	0,9	1,0	<<0.1	0,4	<<0.1	<<3	<<3	4,7	0,4	5,2	5,2
Minimum		7	2157	776	24,0	20,5	0,3	0,385	<0.1	<0.1	0,2	0,1	0,3	0,5	0,5	<0.1	0,2	<0.1	<2	<2	2,4	0,3	2,7	2,7
Maximum		12	3989	944	26,3	22,0	0,3	1,152	<0.1	0,1	0,8	0,5	1,1	2,2	2,4	0,2	0,8	<0.1	<8	<8	11,0	0,7	11,7	11,7
St.Dev		2	693	70	1,0	0,6	0,0	0,329	~0.0	~0.0	0,2	0,2	0,4	0,7	0,8	~0.1	0,3	~0.0	~3	~3	3,6	0,2	3,8	3,8
Count		5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

Analytical lab. =>					NIVA							
Analysis code =>					341 341 Calc Calc 341 341 341							
Detection limit =>					0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb	
1/1	F	12	3601	910	<0.10	<0.10	<0.1	<0.1	0.07	<0.05	<0.05	
2/1	X	11	3396	892	<0.10	<0.10	<0.1	<0.1	0.07	<0.05	<0.05	
3/1	F	10	3989	944	<0.10	<0.10	<0.1	<0.1	0.05	<0.05	<0.05	
4/1	F	9	2157	776	<0.10	<0.10	<0.1	<0.1	<0.05	<0.05	<0.05	
5/1	X	7	3064	812	<0.10	<0.10	<0.1	<0.1	<0.05	<0.05	<0.05	
Mean		10	3241	867	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	
Minimum		7	2157	776	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	
Maximum		12	3989	944	<0.1	<0.1	<0.1	<0.1	0,1	<0.1	<0.1	
St.Dev		2	693	70	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	
Count		5	5	5	5	5	5	5	5	5	5	

- sample no.
 1 Bulk of NIVA no 1,2,3,4,5
 2 Bulk of NIVA no 6,7,8,9,10
 3 Bulk of NIVA no 11,12,13,14,15
 4 Bulk of NIVA no 16,17,18,19,20
 5 Bulk of NIVA no 21,22,23,24,25

JAMP contaminant data for fish 1998-2001 - Norway

Species : MOLV MOL Molve Molve GB: Ling, N: Lange
 Sample area: J63 Sørkjorden Tissue: MUSCLE
 Locality : 56D Latitude: 60°15.0N Longitude: 6°36.0E
 Catch,date : 20000410 Count: 2 Sample type: Homogenate

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code =>				310	341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc			
Detection limit =>				Mean	0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05						
Samp/ repl.	Sex	Age	Wght	Lngt	weight	Dry	Fat	HG	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS
	F/M	year	g	mm	g	%	%	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt			w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X		3380	905	50,3		0,3	2,200	<0.05	<0.05	0.28	0.17	0.38	1.1	1.1	0.10	0.47	<0.05	<3	<4	5.6	0.59	6.2	6.2
Mean			3380	905	50,3		0,3	2,200	<<0.1	<<0.1	0,3	0,2	0,4	1,1	1,1	0,1	0,5	<<0.1	<<3	<<4	5,6	0,6	6,2	6,2
Minimum			3380	905	50,3		0,3	2,200	<0.1	<0.1	0,3	0,2	0,4	1,1	1,1	0,1	0,5	<0.1	<3	<4	5,6	0,6	6,2	6,2
Maximum			3380	905	50,3		0,3	2,200	<0.1	<0.1	0,3	0,2	0,4	1,1	1,1	0,1	0,5	<0.1	<3	<4	5,6	0,6	6,2	6,2
St.Dev																								
Count			1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Analytical lab. =>				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	
Analysis code =>				341	341	Calc	Calc	341	341	341	
Detection limit =>				0.05	0.05			0.05	0.05	0.05	
Samp/ repl.	Sex	Age	Wght	Lngt	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB	OCS
	F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X		3380	905	<0.04	<0.04	<0.0	<0.0	0.08	<0.02	0.02
Mean			3380	905	<<0.0	<<0.0	<<0.0	<<0.0	0,1	<<0.0	0,0
Minimum			3380	905	<0.0	<0.0	<0.0	<0.0	0,1	<0.0	0,0
Maximum			3380	905	<0.0	<0.0	<0.0	<0.0	0,1	<0.0	0,0
St.Dev											
Count			1	1	1	1	1	1	1	1	1

JAMP contaminant data for fish 1998-2001 - Norway

Species : MOLV MOL Molve Molve GB: Ling, N: Lange
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 21D Åkrafjord Latitude: 60°0.0N Longitude: 4°0.0E
 Catch,date : 20000400 Count: 5 Sample type: Homogenate

Analytical lab.				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code				310	341	341	341	341	341	341	341	341	341	341	341	Calc	Calc	341	341	Calc	Calc			
Detection limit		=>		Mean	0.005	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.1	0.05					
Samp/ Sex	Age	Wght	Lngr	weight	Dry	Fat	HG	CB28	CB52	CB101	CB105	CB118	CB138	CB153	CB156	CB180	CB209	CB Σ7	CB ΣΣ	DDEPP	TDEPP	DD Σ4	DD ΣS	
repl. F/M	year	g	mm	g	%	%	ppm	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb	ppb
no.				w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4485	1006	50,2		0,3	0,581	<0.05	0.05	0.20	0.15	0.32	0.81	0.87	0.07	0.33	<0.05	<3	<3	1.4	0.29	1.7	1.7	1.7
Mean		4485	1006	50,2		0,3	0,581	<<0.1	0,1	0,2	0,2	0,3	0,8	0,9	0,1	0,3	<<0.1	<<3	<<3	1,4	0,3	1,7	1,7	1,7
Minimum		4485	1006	50,2		0,3	0,581	<0.1	0,1	0,2	0,2	0,3	0,8	0,9	0,1	0,3	<0.1	<3	<3	1,4	0,3	1,7	1,7	1,7
Maximum		4485	1006	50,2		0,3	0,581	<0.1	0,1	0,2	0,2	0,3	0,8	0,9	0,1	0,3	<0.1	<3	<3	1,4	0,3	1,7	1,7	1,7
St.Dev																								
Count		1	1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Analytical lab.				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA
Analysis code				341	341	Calc	Calc	341	341
Detection limit		=>		0.05	0.05			0.05	0.05
Samp/ Sex	Age	Wght	Lngr	HCHA	HCHG	HC Σ2	HC Σ3	HCB	QCB
repl. F/M	year	g	mm	ppb	ppb	ppb	ppb	ppb	ppb
no.				w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	F	4485	1006	<0.04	<0.04	<0.0	<0.0	0.14	<0.02
Mean		4485	1006	<<0.0	<<0.0	<<0.0	<<0.0	0,1	<<0.0
Minimum		4485	1006	<0.0	<0.0	<0.0	<0.0	0,1	<0.0
Maximum		4485	1006	<0.0	<0.0	<0.0	<0.0	0,1	<0.0
St.Dev									
Count		1	1	1	1	1	1	1	1

JAMP contaminant data for fish 1998-2001 - Norway

Species : MOLV MOL Molve Molve GB: Ling, N: Lange
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 21D Åkrafjord Latitude: 59°48.0N Longitude: 6°11.0E
 Catch,date : 20011215 Count: 20 Sample type: Bulked

Analytical lab. =>				NIVA																				
Analysis code =>				310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																				
Detection limit =>				Mean 0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																				
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb
1/1	X	5	1910	698	21,8	20,9	0,4	0.252	<0.06	<0.06	0.15	0.08	0.19	0.40	0.51	<0.06	0.15	<0.06	<1	<2	3.2	0.30	3.5	3.5
2/1	X	6	2860	805	20,8	21,2	0,4	0.192	<0.06	<0.06	0.14	0.07	0.16	0.39	0.46	<0.06	0.12	<0.06	<1	<1	0.53	<0.09	<0.6	<0.6
3/1	X	7	3940	900	21,0	21,4	0,4	0.318	<0.06	<0.06	0.15	0.08	0.18	0.39	0.44	<0.06	0.12	<0.06	<1	<1	0.65	0.11	0.8	0.8
4/1	X	12	4920	1047	22,7	19,7	0,3	0.809	<0.06	0.07	0.22	0.16	0.36	0.83	0.88	0.06	0.28	<0.06	<3	<3	1.3	0.22	1.5	1.5
Mean		8	3408	863	21,6	20,8	0,4	0,393	<<0.1	<<0.1	0,2	0,1	0,2	0,5	0,6	<<0.1	0,2	<<0.1	<<2	<<2	1,4	<0.2	<1.6	<1.6
Minimum		5	1910	698	20,8	19,7	0,3	0,192	<0.1	<0.1	0,1	0,1	0,2	0,4	0,4	<0.1	0,1	<0.1	<1	<1	0,5	<0.1	<0.6	<0.6
Maximum		12	4920	1047	22,7	21,4	0,4	0,809	<0.1	0,1	0,2	0,2	0,4	0,8	0,9	0,1	0,3	<0.1	<3	<3	3,2	0,3	3,5	3,5
St.Dev		3	1306	148	0,9	0,8	0,0	0,282	~0.0	~0.0	0,0	0,0	0,1	0,2	0,2	~0.0	0,1	~0.0	~1	~1	1,2	~0.1	~1.3	~1.3
Count		4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4

Analytical lab. =>				NIVA							
Analysis code =>				341 341 341 341 341 341 341 341							
Detection limit =>				0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05							
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	X	5	1910	698	<0.06	<0.06	<0.1	<0.1	0.07	<0.03	<0.03
2/1	X	6	2860	805	<0.06	<0.06	<0.1	<0.1	0.05	<0.03	<0.03
3/1	X	7	3940	900	<0.06	<0.06	<0.1	<0.1	0.07	<0.03	<0.03
4/1	X	12	4920	1047	<0.06	<0.06	<0.1	<0.1	0.14	<0.03	<0.03
Mean		8	3408	863	<<0.1	<<0.1	<<0.1	<<0.1	0,1	<<0.0	<<0.0
Minimum		5	1910	698	<0.1	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
Maximum		12	4920	1047	<0.1	<0.1	<0.1	<0.1	0,1	<0.0	<0.0
St.Dev		3	1306	148	~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		4	4	4	4	4	4	4	4	4	4

Comments
 !Station: Åkrafjord Sample date uncertain

- sample no.
 1 Bulk of NIVA no 1,2,3,4,5
 2 Bulk of NIVA no 6,7,8,9,10
 3 Bulk o NIVA no 11,12,13,14,15
 4 Bulk of NIVA no 16,17,18,19,20

JAMP contaminant data for fish 1998-2001 - Norway

Species : CHIM MON Chimaera Monstrosa GB: Rabbit fish, N: Havmus
 Sample area: J63 Sørfjorden Tissue: LIVER
 Locality : 53D Digraaneset Latitude: 60°11.0N Longitude: 6°34.5E
 Catch,date : 20011204 Count: 10 Sample type: Bulked

Analytical lab.						NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code						312	311	312	311	340	340	340	340	340	340	340	340	340	340	Calc	Calc	340		
Detection limit						0.05	0.01	0.04	1	3	3	3	3	3	3	3	3	3	3	3	3	4		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X		1251	850	209,7	82,5	77,0	0.040	1.58	0.10	2.98	<4.0	<4.0	<4.0	6.8	37	84	110	5.6	30	<4.0	<265	<277	1500
2/1	X		1374	818	246,1	84,3	82,0	0.066	1.47	0.07	2.36	<4.0	<4.0	<4.0	5.1	80	270	360	20	180	7.8	<894	<927	3600
Mean			1313	834	227,9	83,4	79,5	0,05	1,53	0,09	2,7	<<4.0	<<4.0	<<4.0	6,0	58,5	177,0	235,0	12,8	105,0	<<5.9	<<580	<<602	2550
Minimum			1251	818	209,7	82,5	77,0	0,04	1,47	0,07	2,4	<4.0	<4.0	<4.0	5,1	37,0	84,0	110,0	5,6	30,0	<4.0	<265	<277	1500
Maximum			1374	850	246,1	84,3	82,0	0,07	1,58	0,10	3,0	<4.0	<4.0	<4.0	6,8	80,0	270,0	360,0	20,0	180,0	7,8	<894	<927	3600
St.Dev			86	23	25,8	1,3	3,5	0,02	0,08	0,02	0,4	~0.0	~0.0	~0.0	1,2	30,4	131,5	176,8	10,2	106,1	~2.7	~445	~460	1485
Count			2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2

miss(2) ! Missing value

Analytical lab.						NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code						340	340	Calc	Calc	340	340	340	340		
Detection limit						2	3	0.5	2	2	2	2	2		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	DDTPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X		1251	850	330	96	1926	1926	<4.0	<4.0	<4.0	<4.0	9.1	miss	<2.0
2/1	X		1374	818	410	64	4074	4074	<4.0	<4.0	<4.0	<4.0	12	miss	3.4
Mean			1313	834	370,0	80,0	3000	3000	<<4.0	<<4.0	<<4.0	<<4.0	10,6		<<2.7
Minimum			1251	818	330,0	64,0	1926	1926	<4.0	<4.0	<4.0	<4.0	9,1		<2.0
Maximum			1374	850	410,0	96,0	4074	4074	<4.0	<4.0	<4.0	<4.0	12,0		3,4
St.Dev			86	23	56,6	22,6	1519	1519	~0.0	~0.0	~0.0	~0.0	2,1		~1.0
Count			2	2	2	2	2	2	2	2	2	2	2		2

miss(2) ! Missing value

sample no.

- 1 Bulk of NIVA no 1,2,3,4 Liver weight about 25g from each fish in the bulk
- 2 Bulk of NIVA no 6,7,8,9 Liver weight about 25g from each fish in the bulk

JAMP contaminant data for fish 1998-2001 - Norway

Species : CHIM MON Chimaera Monstrosa GB: Rabbit fish, N: Havmus
 Sample area: J63 Sør fjorden Tissue: LIVER
 Locality : 56D Latitude: 60°15.0N Longitude: 6°36.0E
 Catch,date : 20000410 Count: 4 Sample type: Homogenate

Analytical lab.				NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code				312	311	310	312	311	340	340	340	340	340	340	340	340	340	340	340	Calc	Calc			
Detection limit		Mean		0.05	0.01	0.005	0.04	1	3	3	3	3	3	3	3	3	3	3	3					
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CD ppm	CU ppm	HG ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	1122	755		184,7	77,0	0.098	2.08	1.85	0.04	3.98	<3.0	<3.0	3.8	4.9	90	410	580	25	240	<3.0	<1327	<1357	
Mean		1122	755		184,7	77,0	0,10	2,08	1,850	0,04	4,0	<<3.0	<<3.0	3,8	4,9	90,0	410,0	580,0	25,0	240,0	<<3.0	<<1327	<<1357	
Minimum		1122	755		184,7	77,0	0,10	2,08	1,850	0,04	4,0	<3.0	<3.0	3,8	4,9	90,0	410,0	580,0	25,0	240,0	<3.0	<1327	<1357	
Maximum		1122	755		184,7	77,0	0,10	2,08	1,850	0,04	4,0	<3.0	<3.0	3,8	4,9	90,0	410,0	580,0	25,0	240,0	<3.0	<1327	<1357	
St.Dev																								
Count		1	1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

s/q(5) ! Suspect value

Analytical lab.		NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA			
Analysis code		340	340	Calc	Calc	340	340	Calc	Calc	340	340	340			
Detection limit		4	3			0.5	2			2	2	2			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	1122	755		5300	220	5520	5520	<2.0	2.7	<4.7	<4.7	12	s3.0	3.9
Mean		1122	755		5300	220,0	5520	5520	<<2.0	2,7	<<4.7	<<4.7	12,0	s3.0	3,9
Minimum		1122	755		5300	220,0	5520	5520	<2.0	2,7	<4.7	<4.7	12,0	s3.0	3,9
Maximum		1122	755		5300	220,0	5520	5520	<2.0	2,7	<4.7	<4.7	12,0	s3.0	3,9
St.Dev															
Count		1	1		1	1	1	1	1	1	1	1	1	1	1

s/q(5) ! Suspect value

JAMP contaminant data for fish 1998-2001 - Norway

Species : CHIM MON Chimaera Monstrosa GB: Rabbit fish, N: Havmus
 Sample area: J99 Undefined Tissue: LIVER
 Locality : 21D Åkrafjord Latitude: 60°0.0N Longitude: 4°0.0E
 Catch,date : 20000400 Count: 3 Sample type: Homogenate

Analytical lab.		=>																						
Analysis code		=>																						
Detection limit		=>																						
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	CD ppm	CU ppm	PB ppm	ZN ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb
1/1	X	1119	773		184,3	77,0	0.052	1.81	<0.03	3.55	<3.0	<3.0	3.4	4.8	23	87	110	4.6	31	<3.0	<257	<267	210	
Mean		1119	773		184,3	77,0	0,05	1,81	<<0.03	3,6	<<3.0	<<3.0	3,4	4,8	23,0	87,0	110,0	4,6	31,0	<<3.0	<<257	<<267	210,0	
Minimum		1119	773		184,3	77,0	0,05	1,81	<0.03	3,6	<3.0	<3.0	3,4	4,8	23,0	87,0	110,0	4,6	31,0	<3.0	<257	<267	210,0	
Maximum		1119	773		184,3	77,0	0,05	1,81	<0.03	3,6	<3.0	<3.0	3,4	4,8	23,0	87,0	110,0	4,6	31,0	<3.0	<257	<267	210,0	
St.Dev																								
Count		1	1		1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Analytical lab.		=>												
Analysis code		=>												
Detection limit		=>												
Samp/ repl. no.	Sex F/M	Age year	Wght g	Lngr mm	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
1/1	X	1119	773		42	252.0	252.0	2.6	3.7	6.3	6.3	8.1	<1.0	<1.0
Mean		1119	773		42,0	252,0	252,0	2,6	3,7	6,3	6,3	8,1	<<1.0	<<1.0
Minimum		1119	773		42,0	252,0	252,0	2,6	3,7	6,3	6,3	8,1	<1.0	<1.0
Maximum		1119	773		42,0	252,0	252,0	2,6	3,7	6,3	6,3	8,1	<1.0	<1.0
St.Dev														
Count		1	1		1	1	1	1	1	1	1	1	1	1

JAMP contaminant data for fish 1998-2001 - Norway

Species : **CHIM MON** Chimaera Monstrosa GB: Rabbit fish, N: Havmus
 Sample area: **J63 Sørfjorden** Tissue: MUSCLE
 Locality : **53D Digraneset** Latitude: 60°11.0N Longitude: 6°34.5E
 Catch,date : **20011204** Count: 10 Sample type: **Bulked**

Analytical lab.						NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA			
Analysis code						310		341		341		341		341		341		341		Calc		Calc			
Detection limit				Mean		0.005		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
						w.wt		w.wt		w.wt		w.wt		w.wt		w.wt		w.wt		w.wt		w.wt		w.wt	
1/1	X	1251	850	20,9	19,7	0,6	0,821	<0.10	miss	<0.10	<0.10	0.13	0.29	0.37	<0.10	0.10	<0.10	<1	<1	5.7	0.18	5.9	5.9		
2/1	X	1374	818	26,7	18,5	0,6	0,811	<0.10	miss	<0.10	<0.10	0.14	0.44	0.64	<0.10	0.25	<0.10	<2	<2	6.5	<0.15	<6.7	<6.7		
Mean		1313	834	23,8	19,1	0,6	0,816	<<0.1	<<0.1	<<0.1	0,1	0,4	0,5	<<0.1	0,2	<<0.1	<<2	<<2	6,1	<<0.2	<<6.3	<<6.3			
Minimum		1251	818	20,9	18,5	0,6	0,811	<0.1	<0.1	<0.1	0,1	0,3	0,4	<0.1	0,1	<0.1	<1	<1	5,7	<0.1	5,9	5,9			
Maximum		1374	850	26,7	19,7	0,6	0,821	<0.1	<0.1	<0.1	0,1	0,4	0,6	<0.1	0,3	<0.1	<2	<2	6,5	0,2	<6.7	<6.7			
St.Dev		86	23	4,1	0,8	0,0	0,007	~0.0	~0.0	~0.0	0,0	0,1	0,2	~0.0	0,1	~0.0	~1	~1	0,6	~0.0	~0.6	~0.6			
Count		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2		

miss(2) ! Missing value

Analytical lab.				NIVA		NIVA		NIVA		NIVA		NIVA	
Analysis code				341		341		Calc		Calc		341	
Detection limit				0.05		0.05		0.05		0.05		0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb		
				w.wt		w.wt		w.wt		w.wt		w.wt	
1/1	X	1251	850	<0.10	<0.10	<0.1	<0.1	0.05	<0.05	<0.05			
2/1	X	1374	818	<0.10	<0.10	<0.1	<0.1	<0.05	<0.05	<0.05			
Mean		1313	834	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1			
Minimum		1251	818	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1	<0.1			
Maximum		1374	850	<0.1	<0.1	<0.1	<0.1	0,1	<0.1	<0.1			
St.Dev		86	23	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0	~0.0			
Count		2	2	2	2	2	2	2	2	2			

miss(2) ! Missing value

sample no.

- 1 Bulk of NIVA no 1,2,3,4,5
- 2 Bulk of NIVA no 6,7,8,9,10

JAMP contaminant data for fish 1998-2001 - Norway

Species : CHIM MON Chimaera Monstrosa GB: Rabbit fish, N: Havmus
 Sample area: J63 Sør fjorden Tissue: MUSCLE
 Locality : 56D Latitude: 60°15.0N Longitude: 6°36.0E
 Catch,date : 20000410 Count: 4 Sample type: Homogenate

Analytical lab.				NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA		NIVA					
Analysis code				310		341		341		341		341		341		Calc		Calc		Calc					
Detection limit		=>		0.005		0.05		0.05		0.05		0.05		0.05		0.05		0.05		0.05					
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
				w.wt		w.wt		w.wt		w.wt		w.wt		w.wt		w.wt		w.wt		w.wt		w.wt		w.wt	
l/l	X	1122	755		50,2		0,6	1,04	<0.05	<0.05	0.05	<0.05	0.36	1.4	1.9	0.10	0.77	<0.05	<5	<5	23	0.28	23.3	23.3	
Mean		1122	755		50,2		0,6	1,040	<<0.1	<<0.1	0,1	<<0.1	0,4	1,4	1,9	0,1	0,8	<<0.1	<<5	<<5	23,0	0,3	23,3	23,3	
Minimum		1122	755		50,2		0,6	1,040	<0.1	<0.1	0,1	<0.1	0,4	1,4	1,9	0,1	0,8	<0.1	<5	<5	23,0	0,3	23,3	23,3	
Maximum		1122	755		50,2		0,6	1,040	<0.1	<0.1	0,1	<0.1	0,4	1,4	1,9	0,1	0,8	<0.1	<5	<5	23,0	0,3	23,3	23,3	
St.Dev																									
Count		1	1		1		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	

Analytical lab.				NIVA		NIVA		NIVA		NIVA	
Analysis code		=>		341		341		Calc		Calc	
Detection limit		=>		0.05		0.05		0.05		0.05	
Samp/ repl.	Sex F/M	Age year	Wght g	Lngt mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
				w.wt		w.wt		w.wt		w.wt	
l/l	X	1122	755		<0.04	<0.04	<0.0	<0.0	0.07	<0.02	0.02
Mean		1122	755		<<0.0	<<0.0	<<0.0	<<0.0	0,1	<<0.0	0,0
Minimum		1122	755		<0.0	<0.0	<0.0	<0.0	0,1	<0.0	0,0
Maximum		1122	755		<0.0	<0.0	<0.0	<0.0	0,1	<0.0	0,0
St.Dev											
Count		1	1		1	1	1	1	1	1	1

JAMP contaminant data for fish 1998-2001 - Norway

Species : CHIM MON Chimaera Monstrosa GB: Rabbit fish, N: Havmus
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 21D Åkrafjord Latitude: 60°0.0N Longitude: 4°0.0E
 Catch,date : 20000400 Count: 3 Sample type: Homogenate

Analytical lab.		=>	NIVA																						
Analysis code		=>	310 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341 341																						
Detection limit		=>	Mean	0.005 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05 0.05																					
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣS ppb	
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
l/l	X		1119	773	20,5	0,6	0,331	<0.05	<0.05	0.12	<0.05	0.06	0.20	0.24	<0.05	0.07	<0.05	<1	<1	0.48	<0.06	<0.5	<0.5		
Mean			1119	773	20,5	0,6	0,331	<<0.1	<<0.1	0,1	<<0.1	0,1	0,2	0,2	<<0.1	0,1	<<0.1	<<1	<<1	0,5	<<0.1	<<0.5	<<0.5		
Minimum			1119	773	20,5	0,6	0,331	<0.1	<0.1	0,1	<0.1	0,1	0,2	0,2	<0.1	0,1	<0.1	<1	<1	0,5	<0.1	<0.5	<0.5		
Maximum			1119	773	20,5	0,6	0,331	<0.1	<0.1	0,1	<0.1	0,1	0,2	0,2	<0.1	0,1	<0.1	<1	<1	0,5	<0.1	<0.5	<0.5		
St.Dev																									
Count			1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Analytical lab.		=>	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA	NIVA		
Analysis code		=>	341	341	Calc	Calc	341	341	341		
Detection limit		=>	0.05	0.05			0.05	0.05	0.05		
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
l/l	X		1119	773	<0.04	<0.04	<0.0	<0.0	0.04	<0.02	<0.02
Mean			1119	773	<<0.0	<<0.0	<<0.0	<<0.0	0,0	<<0.0	<<0.0
Minimum			1119	773	<0.0	<0.0	<0.0	<0.0	0,0	<0.0	<0.0
Maximum			1119	773	<0.0	<0.0	<0.0	<0.0	0,0	<0.0	<0.0
St.Dev											
Count			1	1	1	1	1	1	1	1	1

JAMP contaminant data for fish 1998-2001 - Norway

Species : CHIM MON Chimaera Monstrosa GB: Rabbit fish, N: Havmus
 Sample area: J99 Undefined Tissue: MUSCLE
 Locality : 21D Åkrafjord Latitude: 59°48.0N Longitude: 6°11.0E
 Catch,date : 20011215 Count: 10 Sample type: Bulked

Analytical lab.		=>																							
Analysis code		=>																		=>					
Detection limit		=>																		=>					
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	weight g	Dry %	Fat %	HG ppm	CB28 ppb	CB52 ppb	CB101 ppb	CB105 ppb	CB118 ppb	CB138 ppb	CB153 ppb	CB156 ppb	CB180 ppb	CB209 ppb	CB Σ7 ppb	CB ΣΣ ppb	DDEPP ppb	TDEPP ppb	DD Σ4 ppb	DD ΣΣ ppb	
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	935	773		20,7	17,7	0,4	0,259	<0.06	<0.06	<0.06	<0.06	<0.06	<0.06	0.10	0.13	<0.06	<0.06	<0.06	<0	<0	0.29	<0.09	<0.4	<0.4
2/1	X	1601	862		21,7	17,5	0,6	0,306	<0.06	<0.06	0.06	<0.06	0.06	0.14	0.20	<0.06	0.06	<0.06	<1	<1	0.37	<0.09	<0.5	<0.5	
Mean		1268	818		21,2	17,6	0,5	0,283	<<0.1	<<0.1	<<0.1	<<0.1	<<0.1	0,1	0,2	<<0.1	<<0.1	<<0.1	<<1	<<1	0,3	<<0.1	<<0.5	<<0.5	
Minimum		935	773		20,7	17,5	0,4	0,259	<0.1	<0.1	<0.1	<0.1	<0.1	0,1	0,1	<0.1	<0.1	<0.1	<0	<0	0,3	<0.1	<0.4	<0.4	
Maximum		1601	862		21,7	17,7	0,6	0,306	<0.1	<0.1	0,1	<0.1	0,1	0,1	0,2	<0.1	0,1	<0.1	<1	<1	0,4	<0.1	<0.5	<0.5	
St.Dev		471	63		0,7	0,1	0,1	0,033	~0.0	~0.0	~0.0	~0.0	~0.0	0,0	0,0	~0.0	~0.0	~0.0	~1	~1	0,1	~0.0	~0.1	~0.1	
Count		2	2		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	

Analytical lab.		=>									
Analysis code		=>						=>			
Detection limit		=>						=>			
Samp/ repl.	Sex F/M	Age year	Wght g	Lngr mm	HCHA ppb	HCHG ppb	HC Σ2 ppb	HC Σ3 ppb	HCB ppb	QCB ppb	OCS ppb
no.					w.wt	w.wt	w.wt	w.wt	w.wt	w.wt	w.wt
1/1	X	935	773		<0.06	<0.06	<0.1	<0.1	0.03	<0.03	<0.03
2/1	X	1601	862		<0.06	<0.06	<0.1	<0.1	0.04	<0.03	<0.03
Mean		1268	818		<<0.1	<<0.1	<<0.1	<<0.1	0,0	<<0.0	<<0.0
Minimum		935	773		<0.1	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
Maximum		1601	862		<0.1	<0.1	<0.1	<0.1	0,0	<0.0	<0.0
St.Dev		471	63		~0.0	~0.0	~0.0	~0.0	0,0	~0.0	~0.0
Count		2	2		2	2	2	2	2	2	2

Comments

!Station: Åkrafjord Fishing date uncertain

sample no.

- 1 Bulk of NIVA no 1,2,3,4,5
- 2 Bulk of NIVA no 6,7,8,9,10