Alaska Department of Environmental Conservation

Office of the State Veterinarian

Fish Monitoring Program

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Chromium in Alaska's Fish

Fish Samples collected: 2001-2016

Concentration in mg/Kg wet weight

ND = Non-detect in greater than 50% of fish samples

Visit the Fish Monitoring Program webpage for more information:
http://www.dec.alaska.gov/eh/vet/FMP.html

For State of Alaska fish consumption recommendations visit:
http://www.dhss.alaska.gov/dph/Epi/eph/Pages/fish/default.aspx

Table 1: Chromium in Marine Fish

mg/Kg wet weight

Species	Tissue	n	Non Detect	A mean	SD	G mean	Median	Min	Max
Arctic Flounder	Whole Body	4	0	0.310	0.029	0.309	0.305	0.280	0.350
Arctic Sculpin	Whole Body	1	0	0.300	NA	0.300	0.300	0.300	0.300
Atka Mackerel	Fillet	4	0	0.308	0.077	0.301	0.280	0.250	0.420
Atka Mackerel	Whole Body	5	0	0.382	0.128	0.362	0.380	0.200	0.530
Black Rockfish	Fillet	59	43	ND	NA	ND	ND	ND	ND
Black Rockfish	Whole Body	7	0	0.303	0.038	0.301	0.290	0.250	0.350
Blue Shark	Fillet	1	1	ND	NA	ND	ND	ND	ND
Butter Sole	Whole Body	1	0	0.480	NA	0.480	0.480	0.480	0.480
Dusky Rockfish	Fillet	20	5	0.186	0.132	0.106	0.240	0.005	0.370
Dusky Rockfish	Whole Body	20	0	0.306	0.050	0.301	0.325	0.200	0.380
Fourhorn Sculpin	Whole Body	4	0	1.200	0.880	0.941	1.075	0.350	2.300
Great Sculpin	Whole Body	2	0	0.255	0.021	0.255	0.255	0.240	0.270
Kelp Greenling	Fillet	1	0	0.220	NA	0.220	0.220	0.220	0.220
Kelp Greenling	Whole Body	18	0	0.400	0.269	0.342	0.305	0.190	1.200
Lingcod	Fillet	129	94	ND	NA	ND	ND	ND	ND
Northernrock Sole	Whole Body	18	0	0.421	0.671	0.295	0.270	0.170	3.100
Pacific Cod	Fillet	131	68	ND	NA	ND	ND	ND	ND
Pacific Halibut	Fillet	945	636	ND	NA	ND	ND	ND	ND
Quillback Rockfish	Fillet	3	2	ND	NA	ND	ND	ND	ND
Rock Greenling	Whole Body	16	0	0.252	0.053	0.247	0.235	0.180	0.340
Rougheye Rockfish	Fillet	21	11	ND	NA	ND	ND	ND	ND
Sablefish	Fillet	191	163	ND	NA	ND	ND	ND	ND
Salmon Shark	Fillet	43	20	0.050	0.048	0.035	0.026	0.005	0.263
Silvergray Rockfish	Fillet	4	3	ND	NA	ND	ND	ND	ND
Southernrock Sole	Whole Body	1	0	0.350	NA	0.350	0.350	0.350	0.350
Spiny Dogfish	Fillet	52	24	0.058	0.052	0.044	0.041	0.005	0.273
Starry Flounder	Whole Body	1	0	0.440	NA	0.440	0.440	0.440	0.440
Tiger Rockfish	Fillet	1	0	0.030	NA	0.030	0.030	0.030	0.030
Walleye Pollock	Fillet	167	95	ND	NA	ND	ND	ND	ND
Yelloweye Rockfish	Fillet	66	44	ND	NA	ND	ND	ND	ND
Yellowtail Rockfish	Fillet	2	1	ND	NA	ND	ND	ND	ND

n = Sample Size; A Mean = Arithmetic Mean; G Mean = Geometric Mean; SD = Standard Deviation;
C = Composite of multiple individuals

Table 2: Chromium in Salmonids (Salmon, Whitefish, Grayling, Char)

mg/Kg wet weight

Species	Tissue	n	Non Detect	A mean	SD	G mean	Median	Min	Max
Arctic Char	Whole Body	1	0	0.990	NA	0.990	0.990	0.990	0.990
Arctic Cisco	Fillet	7	7	ND	NA	ND	ND	ND	ND
Arctic Cisco	C-Fillet	1	0	1.300	NA	1.300	1.300	1.300	1.300
Arctic Grayling	Fillet	5	5	ND	NA	ND	ND	ND	ND
Arctic Grayling	Whole Body	1	0	0.760	NA	0.760	0.760	0.760	0.760
Arctic Grayling	C-Whole Body	5	2	0.380	0.358	0.167	0.370	0.026	0.770
Chum Salmon	Fillet	202	153	ND	NA	ND	ND	ND	ND
Chum Salmon	Whole Body	2	0	0.282	0.059	0.279	0.282	0.241	0.324
Chum Salmon	C-Juvenile	1	0	0.320	NA	0.320	0.320	0.320	0.320
Coho Salmon	Fillet	227	174	ND	NA	ND	ND	ND	ND
Coho Salmon	Whole Body	5	0	0.392	0.515	0.220	0.208	0.074	1.300
Coho Salmon	Fry Whole	2	2	ND	NA	ND	ND	ND	ND
Dolly Varden	Fillet	7	6	ND	NA	ND	ND	ND	ND
Dolly Varden	C-Fillet	2	0	3.850	2.475	3.429	3.850	2.100	5.600
Dolly Varden	Whole Body	1	0	0.350	NA	0.350	0.350	0.350	0.350
Humpback Whitefish	Fillet	3	3	ND	NA	ND	ND	ND	ND
King Salmon	Fillet	139	111	ND	NA	ND	ND	ND	ND
Least Cisco	Fillet	19	19	ND	NA	ND	ND	ND	ND
Least Cisco	Whole Body	1	0	0.530	NA	0.530	0.530	0.530	0.530
Pink Salmon	Fillet	159	103	ND	NA	ND	ND	ND	ND
Pygmy Whitefish	Whole Body	1	1	ND	NA	ND	ND	ND	ND
Sheefish	Fillet	33	2	0.395	0.413	0.175	0.320	0.003	2.000
Sheefish	Whole Body	5	0	0.946	0.654	0.820	0.700	0.490	2.100
Sheefish	Eggs	1	0	0.350	NA	0.350	0.350	0.350	0.350
Sheefish	Testis	4	0	0.440	0.029	0.439	0.445	0.400	0.470
Sheefish	Liver	5	0	0.376	0.092	0.365	0.380	0.230	0.460
Sheefish	Kidney	20	0	0.712	0.582	0.578	0.480	0.310	2.400
Sockeye Salmon	Fillet	194	173	ND	NA	ND	ND	ND	ND
Sockeye Salmon	Whole Body	4	0	0.202	0.126	0.168	0.208	0.070	0.321

n = Sample Size; A Mean = Arithmetic Mean; G Mean = Geometric Mean; SD = Standard Deviation;
C = Composite of multiple individuals

Table 3: Chromium in Marine Forage Fish

mg/Kg wet weight

Species	Tissue	n	Non Detect	A mean	SD	G mean	Median	Min	Max
Saffron Cod	C-Fillet	2	0	0.62	0.042	0.619	0.62	0.59	0.65

Table 4: Chromium in Marine Invertebrates

mg/Kg wet weight

Species	Tissue	n	Non Detect	A mean	SD	G mean	Median	Min	Max
Geoduck	Invert Viscera	7	0	0.619	0.169	0.599	0.620	0.384	0.897
Oysters	Invert Whole Tissue	16	6	0.059	0.034	0.051	0.058	0.026	0.144
Razor Clam	Invert Muscle	2	0	0.611	0.165	0.600	0.611	0.494	0.728

n = Sample Size; A Mean = Arithmetic Mean; G Mean = Geometric Mean; SD = Standard Deviation;
C = Composite of multiple individuals

Table 5: Chromium in Freshwater Fish

mg/Kg wet weight

Species	Tissue	n	Non Detect	A mean	SD	G mean	Median	Min	Max
Burbot	Fillet	10	9	ND	NA	ND	ND	ND	ND
Lake Trout	Fillet	9	8	ND	NA	ND	ND	ND	ND
Lake Trout	Whole Body	2	0	1.600	0.424	1.572	1.60	1.300	1.900
Northern Pike	Fillet	105	39	0.141	0.419	0.021	0.02	0.003	2.558
NS Stickleback	C-Whole Body	1	1	ND	NA	ND	ND	ND	ND
Rainbow Trout	Fillet	20	6	0.261	0.384	0.083	0.13	0.005	1.400
Rainbow Trout	Whole Body	10	0	0.861	0.577	0.738	0.66	0.390	2.300
Slimy Sculpin	C-Whole Body	10	6	ND	NA	ND	ND	ND	ND
TS Stickleback	C-Whole Body	1	0	0.340	NA	0.340	0.34	0.340	0.340

n = Sample Size; A Mean = Arithmetic Mean; G Mean = Geometric Mean; SD = Standard Deviation;
C = Composite of multiple individuals

NS = Ninespine, TS = Threespine