



Alaska Department of Environmental Conservation
Office of the State Veterinarian Fish Monitoring Program
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Polychlorinated biphenyls (PCBs) in Alaska's Fish

Fish Samples collected: 2001-2022

Concentration in $\mu\text{g}/\text{Kg}$ wet weight (parts per billion)

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/fish-monitoring-program>

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

Table 1: Total PCBs in Alaskan Fishes

Species	Tissue	n	ND	$\mu\text{g/Kg}$ wet weight				
				Mean	SD	Median	Min	Max
Alaska Plaice	C-Muscle	1	0	0.35	NA	0.35	0.35	0.35
Arctic Char	Fillet	1	0	25.30	NA	25.30	25.30	25.30
Arctic Grayling	Whole Body	4	0	79.67	127.03	24.74	1.21	268.00
Bering Cisco	Fillet	5	0	1.43	1.01	1.23	0.48	3.14
Big Skate	Fillet	2	0	0.11	0.06	0.11	0.07	0.15
Blue Mussel	C-Invert-Whole	1	0	0.45	NA	0.45	0.45	0.45
Broad Whitefish	C-Muscle	3	0	0.96	0.42	1.01	0.51	1.35
Burbot	Fillet	1	0	2.03	NA	2.03	2.03	2.03
Capelin	C-Whole Body	1	0	1.08	NA	1.08	1.08	1.08
Chum Salmon	Fillet	50	0	1.88	1.48	1.45	0.50	7.83
Chum Salmon	C-Muscle	1	0	0.66	NA	0.66	0.66	0.66
Chum Salmon	Whole Body	2	0	2.79	1.15	2.79	1.97	3.60
Coho Salmon	Fillet	113	0	1.37	0.58	1.37	0.40	2.95
Coho Salmon	Belly	10	0	4.88	2.61	4.10	1.39	9.37
Coho Salmon	Whole Body	58	0	3.66	0.75	3.60	2.32	5.43
Coho Salmon	Eggs	19	0	4.51	1.21	4.17	3.16	7.89
Coho Salmon	C-Juvenile	1	0	1.23	NA	1.23	1.23	1.23
Dolly Varden	Fillet	1	0	9.71	NA	9.71	9.71	9.71
Dolly Varden	C-Whole Body	3	0	3.27	0.51	3.26	2.76	3.78
Dungeness Crab Tissue	Invert-Muscle	2	0	0.55	0.28	0.55	0.35	0.75
Dusky Rockfish	Fillet	15	0	1.47	3.22	0.63	0.20	13.00
Eulachon	C-Whole Body	7	0	2.57	0.21	2.56	2.31	2.97
Humpback Whitefish	Fillet	12	0	0.62	0.76	0.35	0.19	2.94
Humpback Whitefish	Whole Body	2	0	2.56	1.94	2.56	1.18	3.93
King Salmon	Fillet	79	0	11.65	4.93	10.70	2.36	25.00
King Salmon	C-Muscle	1	0	3.49	NA	3.49	3.49	3.49
King Salmon	Whole Body	15	0	17.19	6.34	15.30	9.14	28.60
King Salmon	C-Juvenile	3	0	0.64	0.05	0.61	0.61	0.70
King Salmon	C-Whole Body	1	0	0.34	NA	0.34	0.34	0.34
Lake Trout	Fillet	11	0	15.58	9.12	14.70	5.17	32.00
Lake Trout	Whole Body	2	0	76.20	56.29	76.20	36.40	116.00
Least Cisco	Fillet	5	0	0.59	0.42	0.41	0.34	1.34
Least Cisco	Whole Body	1	0	0.44	NA	0.44	0.44	0.44
Longnose Skate	Fillet	2	0	0.20	0.20	0.20	0.06	0.34
Northern Pike	Fillet	11	0	0.50	0.39	0.46	0.23	1.61
Northern Pike	C-Muscle	6	0	0.99	1.64	0.35	0.13	4.32
Northern Pike	Whole Body	10	0	3.98	3.16	3.22	1.84	12.70
Northernrock Sole	C-Muscle	1	0	0.61	NA	0.61	0.61	0.61
Pacific Cod	Fillet	25	0	0.57	0.37	0.48	0.15	1.56

Table 1: Total PCBs in Alaskan Fishes (*continued*)

Species	Tissue	n	ND	$\mu\text{g/Kg}$ wet weight				
				Mean	SD	Median	Min	Max
Pacific Halibut	Fillet	98	0	8.21	9.54	4.95	0.36	47.10
Pacific Halibut	C-Muscle	23	0	3.29	3.68	1.61	0.46	14.70
Pacific Herring	Fillet	1	0	4.89	NA	4.89	4.89	4.89
Pacific Herring	Eggs	1	0	3.03	NA	3.03	3.03	3.03
Pacific Herring	C-Whole Body	11	0	3.25	0.90	3.39	1.10	4.34
Pink Salmon	Fillet	33	0	1.06	0.40	1.06	0.44	2.39
Rainbow Trout	Fillet	4	0	5.76	1.53	5.44	4.29	7.88
Sablefish	Fillet	38	0	28.18	29.31	22.25	0.91	122.00
Sablefish	C-Muscle	4	0	9.26	16.34	1.52	0.28	33.70
Sablefish	Whole Body	3	0	34.53	16.84	36.50	16.80	50.30
Saffron Cod	Whole Body	9	0	0.82	0.44	0.78	0.32	1.80
Salmon Shark	Fillet	8	0	77.03	53.14	62.40	26.50	180.00
Sand Lance	C-Whole Body	1	0	1.16	NA	1.16	1.16	1.16
Sheefish	Fillet	26	0	5.83	5.35	4.53	0.50	20.00
Sheefish	Whole Body	5	0	18.98	9.39	25.30	5.22	25.80
Sheefish	Eggs	1	0	14.80	NA	14.80	14.80	14.80
Shortraker Rockfish	Fillet	5	0	2.10	1.44	1.42	0.72	4.36
Sleeper Shark	Fillet	1	0	51.90	NA	51.90	51.90	51.90
Snow Crab	C-Muscle	1	0	0.26	NA	0.26	0.26	0.26
Sockeye Salmon	Fillet	68	0	6.56	5.75	3.88	0.13	23.30
Sockeye Salmon	C-Muscle	1	0	2.77	NA	2.77	2.77	2.77
Sockeye Salmon	Whole Body	20	0	7.13	3.53	6.51	2.16	17.20
Sockeye Salmon	Eggs	2	0	5.71	4.23	5.71	2.72	8.70
Sockeye Salmon	C-Whole Body	6	0	8.47	2.65	8.46	5.29	11.40
Spiny Dogfish	Fillet	5	0	18.16	6.33	18.90	9.11	26.50
Starry Flounder	Fillet	1	0	3.14	NA	3.14	3.14	3.14
Starry Flounder	C-Whole Body	3	0	0.67	0.34	0.49	0.46	1.06
Walleye Pollock	Fillet	15	0	0.79	0.65	0.57	0.27	2.53
Yellowfin Sole	C-Muscle	1	0	0.74	NA	0.74	0.74	0.74

Note:

n= sample size

ND = non-detect

Mean = arithmetic mean

SD = standard deviation

C = Composite of multiple individuals

Table 2: PCB Congener 153 in Alaskan Fishes

Species	Tissue	n	ND	$\mu\text{g/Kg}$ wet weight				
				Mean	SD	Median	Min	Max
Alaska Plaice	C-Muscle	1	0	0.08	NA	0.08	0.08	0.08
Arctic Char	Fillet	1	0	4.77	NA	4.77	4.77	4.77
Arctic Grayling	Whole Body	4	0	9.26	14.48	3.10	0.16	30.70
Bering Cisco	Fillet	5	0	0.18	0.11	0.15	0.07	0.37
Big Skate	Fillet	2	0	0.02	0.01	0.02	0.01	0.02
Blue Mussel	C-Invert-Whole	1	0	0.06	NA	0.06	0.06	0.06
Broad Whitefish	C-Muscle	3	0	0.14	0.06	0.14	0.08	0.19
Burbot	Fillet	1	0	0.46	NA	0.46	0.46	0.46
Capelin	C-Whole Body	1	0	0.07	NA	0.07	0.07	0.07
Chum Salmon	Fillet	50	0	0.13	0.10	0.11	0.04	0.61
Chum Salmon	C-Muscle	1	0	0.05	NA	0.05	0.05	0.05
Chum Salmon	Whole Body	2	0	0.22	0.02	0.22	0.21	0.24
Coho Salmon	Fillet	113	0	0.11	0.05	0.10	0.03	0.31
Coho Salmon	Belly	10	0	0.40	0.21	0.36	0.12	0.79
Coho Salmon	Whole Body	58	0	0.27	0.08	0.26	0.15	0.53
Coho Salmon	Eggs	19	0	0.31	0.10	0.28	0.20	0.55
Coho Salmon	C-Juvenile	1	0	0.13	NA	0.13	0.13	0.13
Dolly Varden	Fillet	1	0	1.14	NA	1.14	1.14	1.14
Dolly Varden	C-Whole Body	3	0	0.37	0.08	0.40	0.28	0.43
Dungeness Crab Tissue	Invert-Muscle	2	0	0.07	0.02	0.07	0.05	0.08
Dusky Rockfish	Fillet	15	0	0.23	0.60	0.06	0.01	2.38
Eulachon	C-Whole Body	7	0	0.13	0.01	0.13	0.11	0.15
Humpback Whitefish	Fillet	12	0	0.08	0.08	0.05	0.02	0.32
Humpback Whitefish	Whole Body	2	0	0.29	0.21	0.29	0.15	0.44
King Salmon	Fillet	79	0	0.90	0.40	0.85	0.18	2.43
King Salmon	C-Muscle	1	0	0.29	NA	0.29	0.29	0.29
King Salmon	Whole Body	15	0	1.27	0.57	1.04	0.61	2.35
King Salmon	C-Juvenile	3	0	0.07	0.01	0.06	0.06	0.08
King Salmon	C-Whole Body	1	0	0.04	NA	0.04	0.04	0.04
Lake Trout	Fillet	11	0	2.14	1.41	1.85	0.59	4.67
Lake Trout	Whole Body	2	0	12.67	8.24	12.67	6.84	18.50
Least Cisco	Fillet	5	0	0.07	0.04	0.05	0.03	0.14
Least Cisco	Whole Body	1	0	0.05	NA	0.05	0.05	0.05
Longnose Skate	Fillet	2	0	0.04	0.04	0.04	0.01	0.07
Northern Pike	Fillet	11	0	0.07	0.05	0.06	0.03	0.22
Northern Pike	C-Muscle	6	0	0.13	0.22	0.05	0.02	0.58
Northern Pike	Whole Body	10	0	0.57	0.43	0.46	0.28	1.75
Northernrock Sole	C-Muscle	1	0	0.11	NA	0.11	0.11	0.11
Pacific Cod	Fillet	25	0	0.10	0.10	0.07	0.02	0.48

Table 2: PCB Congener 153 in Alaskan Fishes (*continued*)

Species	Tissue	n	ND	$\mu\text{g/Kg}$ wet weight				
				Mean	SD	Median	Min	Max
Pacific Halibut	Fillet	98	0	1.23	1.48	0.68	0.05	8.11
Pacific Halibut	C-Muscle	23	0	0.48	0.53	0.23	0.07	2.01
Pacific Herring	Fillet	1	0	0.72	NA	0.72	0.72	0.72
Pacific Herring	Eggs	1	0	0.38	NA	0.38	0.38	0.38
Pacific Herring	C-Whole Body	11	0	0.20	0.05	0.20	0.10	0.26
Pink Salmon	Fillet	33	0	0.08	0.03	0.08	0.03	0.16
Rainbow Trout	Fillet	4	0	0.63	0.17	0.59	0.48	0.87
Sablefish	Fillet	38	0	3.49	3.97	2.71	0.08	16.90
Sablefish	C-Muscle	4	0	1.13	1.98	0.20	0.03	4.09
Sablefish	Whole Body	3	0	3.55	1.97	3.50	1.60	5.54
Saffron Cod	Whole Body	9	0	0.20	0.07	0.19	0.08	0.34
Salmon Shark	Fillet	8	0	11.85	9.58	8.51	3.94	32.20
Sand Lance	C-Whole Body	1	0	0.10	NA	0.10	0.10	0.10
Sheefish	Fillet	26	0	0.67	0.65	0.49	0.08	2.67
Sheefish	Whole Body	5	0	2.17	1.19	2.68	0.49	3.16
Sheefish	Eggs	1	0	1.34	NA	1.34	1.34	1.34
Shortraker Rockfish	Fillet	5	0	0.35	0.24	0.24	0.12	0.67
Sleeper Shark	Fillet	1	0	7.40	NA	7.40	7.40	7.40
Snow Crab	C-Muscle	1	0	0.04	NA	0.04	0.04	0.04
Sockeye Salmon	Fillet	68	0	0.53	0.47	0.28	0.01	2.00
Sockeye Salmon	C-Muscle	1	0	0.24	NA	0.24	0.24	0.24
Sockeye Salmon	Whole Body	20	0	0.54	0.29	0.49	0.15	1.32
Sockeye Salmon	Eggs	2	0	0.33	0.23	0.33	0.16	0.49
Sockeye Salmon	C-Whole Body	6	0	0.76	0.26	0.76	0.44	1.05
Spiny Dogfish	Fillet	5	0	2.74	1.09	2.78	1.20	4.20
Starry Flounder	Fillet	1	0	0.36	NA	0.36	0.36	0.36
Starry Flounder	C-Whole Body	3	0	0.12	0.09	0.07	0.07	0.23
Walleye Pollock	Fillet	15	0	0.06	0.07	0.03	0.01	0.26
Yellowfin Sole	C-Muscle	1	0	0.18	NA	0.18	0.18	0.18

Note:

n= sample size

ND = non-detect

Mean = arithmetic mean

SD = standard deviation

C = Composite of multiple individuals

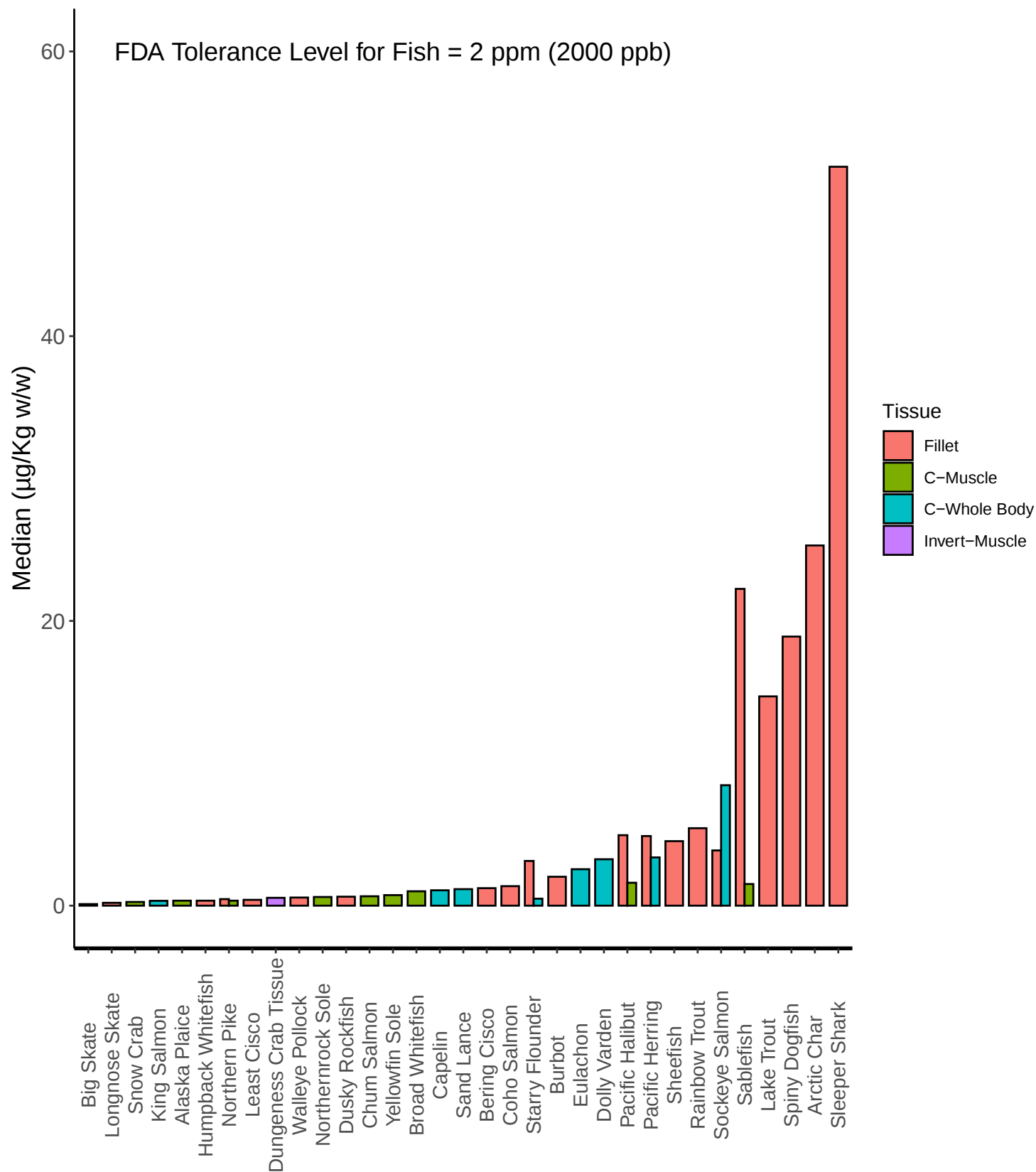


Figure 1: Total PCB's in Alaskan Fish

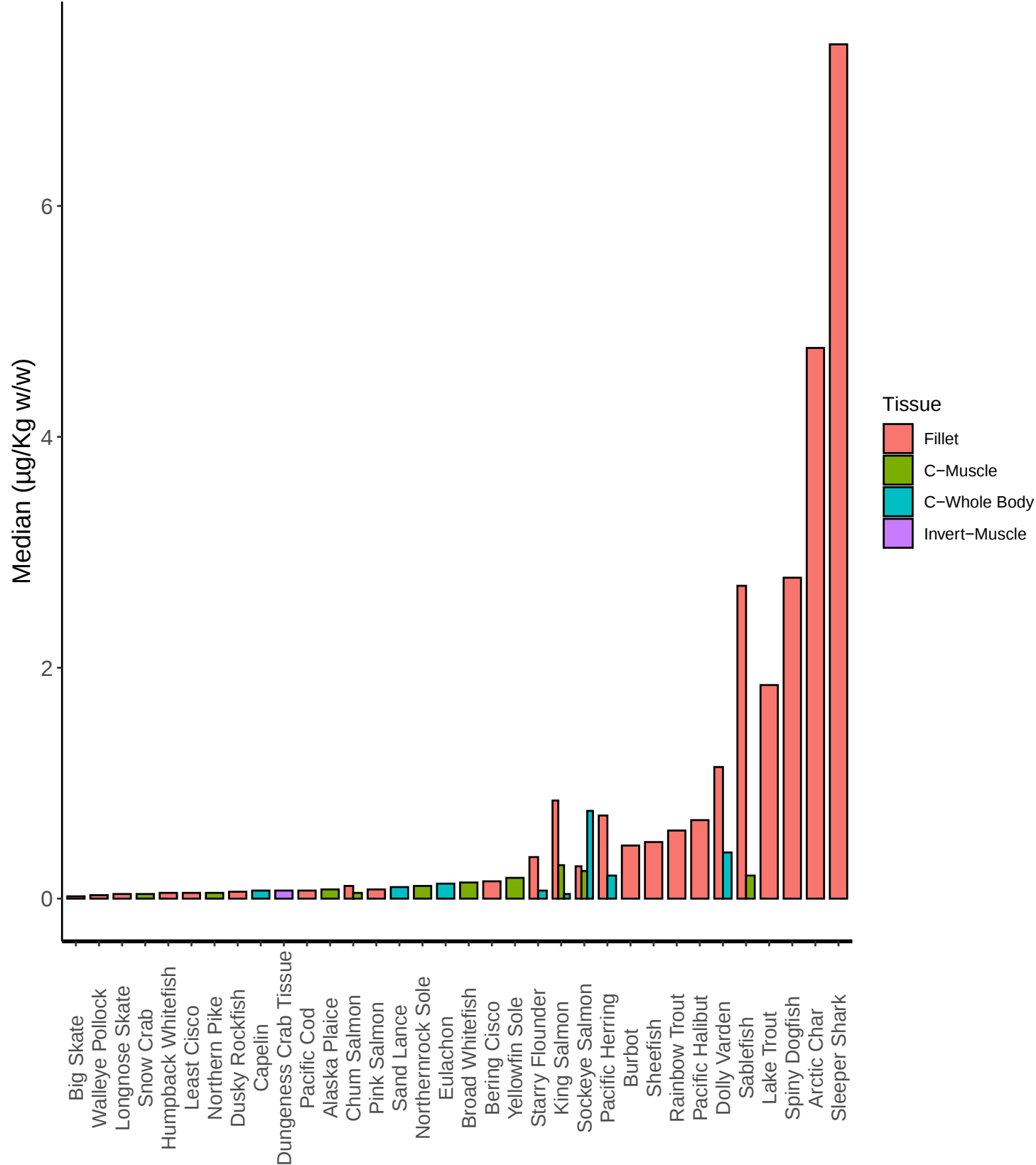


Figure 2: PCB Congener 153 in Alaskan Fish