

Alaska Department of Environmental Conservation

Office of the State Veterinarian Fish Monitoring Program

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ANALYTICAL RESULTS FOR PERFLUORINTED COMPOUNDS IN FISH TISSUE SAMPLES

Analytical Analysis for perfluorinated compounds performed by:

SGS AXYS Analytical Services Ltd.

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<https://www.sgsaxys.com/>

Summary report prepared by:

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Report to: FMP

Sample Location(s): Chitna, Bristol Bay, other

Analytes: PFAS

Date of Report: March 9, 2022

Narrative:

SAMPLES AND ANALYSIS:

Samples were received at the State Environmental Health Lab (EHL) and were stored at -20°C and processed according to standard operation procedures (SOP) of the Fish Monitoring Program and EHL. Standard EHL QA/QC procedures were followed. Samples were sent to SGS-AXYS Analytical on March 9, 2021 for Per- and Polyfluoroalkyl Substances (PFAS) analysis. Samples tested included a composite of 3 Chum, a composite of 3 Sockeye, a composite of 2 Chinook, a composite of 8 Sablefish, 3 composites of 5 individuals each of halibut, and a composite of 9 small freshwater fish including: longnose sucker, slimy sculpin, and juvenile chinook and coho salmon. All samples were of fillet tissue except for the small freshwater fish, which were processed as whole fish. Salmon were collected from Bristol Bay, Sablefish were from the Southeast commercial catch, the Halibut were IPHC caught fish from PWS, Yakutat, and Seward regions, and the freshwater fish were from the Chitna area.

PFAS compounds reported by SGS-AXYS include: PFBA, PFPeA, PFHxA, PFHpA, PFOA, PFNA, PFDA, PFUnA, PFDaA, PFTrDA, PFTeDA, PFBS, PFPeS, PFHxS, PFHpS, PFOS, PFNS, PFDS, PFDoS, 4:2 FTS, 6:2 FTS, 8:2 FTS, PFOSA, N-MeFOSA, N-EtFOSA, MeFOSAA, EtFOSAA, N-MeFOSE, N-EtFOSE, HFPO-DA, ADONA, 9Cl-PF3ONS,

and 11Cl-PF3OUdS. Compounds in tissue were quantified using AXYS method MLA-043 which is an isotopic dilution method via HPLC/MS-MS.

RESULTS:

A table of the data is provided below. Results are reported in ng/g (parts per billion) wet weight. No PFAS compounds were detected in Chum or Sockeye salmon from Bristol Bay. PFAS compounds tested for, but not detected in any sample included: PFBA, PFPeA, PFHxA, PFHpA, PFDoA, PFBS, PFHpS, PFNS, PFDS, PFDoS, 4:2 FTS, 6:2 FTS, 8:2 FTS, PFOSA, N-MeFOSA, N-EtFOSA, MeFOSAA, EtFOSAA, N-MeFOSE, N-EtFOSE, HFPO-DA, ADONA, 9Cl-PF3ONS, and 11Cl-PF3OUdS. Results have been blank corrected which resulted in PFTrDA as a non-detect in all samples and PFOS and PFUnA being reported below the detection level in some samples. All results below the limit of quantification (LMCL) are considered estimates.

See our website: <http://dec.alaska.gov/eh/vet/fish-monitoring-program> for further information about contaminants in fish and shellfish from the State of Alaska.

Fish consumption guidelines for Alaska can be found at <http://dhss.alaska.gov/dph/Epi/eph/Pages/fish/default.aspx>

Table 1: PFAS in Fish Samples- Blank Corrected

Region	Species	Tissue	COMPOUND	Date collected	n	Conc (ng/g)	DL	LMCL
Bristol Bay	Chinook salmon	fillet	PFOS	2020-07-03	1	0.027	0.096	0.383
Bristol Bay	Chinook salmon	fillet	PFUnA	2020-07-03	1	0.065	0.096	0.383
Freshwater-INT	Various	whole body	PFDA	2020-09-01	1	0.104	0.088	0.354
Freshwater-INT	Various	whole body	PFHxS	2020-09-01	1	0.275	0.088	0.354
Freshwater-INT	Various	whole body	PFNA	2020-09-01	1	0.217	0.088	0.354
Freshwater-INT	Various	whole body	PFOA	2020-09-01	1	0.100	0.088	0.354
Freshwater-INT	Various	whole body	PFOS	2020-09-01	1	6.000	0.088	0.354
Freshwater-INT	Various	whole body	PFPeS	2020-09-01	1	0.194	0.089	0.354
SE	Sablefish	fillet	PFTeDA	2020-09-21	4	0.119	0.097	0.388
Seward	Halibut	fillet	PFNA	2019-06-09	1	0.105	0.087	0.348

Note:

DL = Detection Limit (ng/g)

LMCL = Limit of Quantification (ng/g)

Composite samples: Chinook = 2 fish, Sablefish = 8 fish, Various = 9 fish

Blank corrected for: PFUnA = 0.152, PFTeDA = 0.161, PFOS = 0.11

All detects were J flagged (less than the limit of quantification (LOQ)) and are considered estimates.

SE = Southeast Alaska