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Effects of preparation on nutrient and environmental contaminant levels in Arctic beluga whale (*Delphinapterus leucas)* traditional foods

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Table of Contents

S1. Detailed solvent extraction and GC-MS/MS methods for neutral environmental contaminants

S1.1. Standards and chemicals

Neutral environmental contaminant analytical standards included the following chemicals: organochlorine pesticides (OCPs): hexachlorobenzene (HCB), hexachlorocyclohexane (HCH - α, β, γ), dichlorodiphenyltrichloroethane (DDT - *o,p'*, *p,p'*), dichlorodiphenyldichloroethylene (DDE - *o,p'*, *p,p'*), dichlorodiphenyldichloroethane (DDD - *o,p'*, *p,p'*), dieldrin, mirex, trans-nonachlor, oxychlordane, trans-chlordane, cis-chlordane, endosulfan, endosulfan sulfate; and ^{13}C-OCPs: $^{13}C_6$-HCB, $^{13}C_6$-γ-HCH, $^{13}C_{12}$-o,p'-DDT, $^{13}C_{12}$-*p,p'*-DDT, and $^{13}C_8$-mirex; polychlorinated biphenyls (PCBs): PCB-28, -44, -52, -99, -101, -118, -138, -153, -180; $^{13}C_{12}$-PCBs: $^{13}C_{12}$-PCB-28, -52, -101, -105, -138, -153, -180; polybrominated diphenyl ethers (PBDEs): PBDE-28, -47, -99, -100, -153, -154, -183, -209; $^{13}C_{12}$-PBDEs: $^{13}C_{12}$-PBDE-28, -47, -139, -153, -209; polycyclic aromatic hydrocarbons (PAHs): naphthalene (NAP), acenaphthylene (ACL), acenaphthene (ACN), phenanthrene (PHE), anthracene (ANT), fluorene (FLU), fluoranthene (FLA), pyrene (PYR), chrysene (CHR), benzo(b)fluoranthene (BbF), benzo(k)fluoranthene (BkF), benzo(a)pyrene (BaP), indeno(1,2,3-c,d)pyrene (IP), and benzo(g,h,i)perylene (BghiP); d-PAHs: d_8-naphthalene, d_8-acenaphthylene, d_{10}-phenanthrene, d_{10}-fluorene, d_{10}-fluoranthene, d_{10}-pyrene, d_{10}-chrysene, d_{12}-benzo(a)pyrene, d_{12}-benzo(g,h,i)perylene; The purity of all standards was over 98%. Acetone, hexane, dichloromethane (DCM), isooctane (all GCMS grade), sodium sulfate (Na_2SO_4), and silica gel were acquired from EMD Chemicals Inc. (Mississauga, ON). Bio-Beads® SX-1 gel permeation column beads were purchased from Bio-Rad Laboratories Ltd (Mississauga, ON).

S1.2. Sample extraction and cleanup

Direct analysis of neutral environmental contaminant concentrations in blubber, muktuk, and uqsuq samples began by extracting 1 g of tissue using pressurized liquid extraction (Dionex ASE® 350) with DCM at 100 °C. Duplicate blubber samples for each preparation step were extracted to ascertain the reproducibility of extraction and quantification methods. Prior to extraction spike

standards were added to samples, specifically 40 ng of $^{13}C_{12}$-PCBs (PCB-28, -52, -101, -138, -153, -180), 50 ng of $^{13}C_{12}$-PBDEs (PBDE-28, -47, -153, -200), 50 ng of deuterated PAHs (d_8-naphthalene, d_8-acenaphthylene, d_{10}-phenanthrene, d_{10}-fluoranthene, d_{10}-pyrene, d_{12}-benzo(a)pyrene, d_{12}-benzo(g,h,i)perylene), and 50 ng of radiolabeled OCPs ($^{13}C_6$-HCB, $^{13}C_6$-γ-HCH, $^{13}C_{12}$-*p,p'*-DDT, $^{13}C_{12}$-o,p'-DDT, $^{13}C_{12}$-dieldrin). Following extraction, all samples (~30 mL) were dried using Na_2SO_4 and then reduced to 2 mL via a rotary evaporator. Evaporated samples were then subject to gel permeation column (GPC) separation. Each GPC was packed with approximately 60 g of Bio-Rad 5-X3 Bio-Beads® and used to separate contaminants from the lipid fraction. The lipid fraction was permitted to evaporate over the course of 3 days in a fumehood, and the dried fraction was used to determine the percent lipid of the original tissue sample. The contaminant fraction was again rotary evaporated to 2 mL, and then extracts were pipetted onto silica gel columns pre-cleaned with hexane and composed of (containing from bottom to top): glass wool, Na_2SO_4, SiO_2, Na_2SO_4. Chemicals were eluted using hexane and DCM, and then concentrated first by rotary evaporation to 2 mL, then exchanged to iso-octane as a keeper and further evaporated under a gentle stream of high-purity nitrogen gas to 1 mL.

S1.3. Instrumental analysis

S1.3.1. OCPs, PAHs, PCBs

Sample extracts were analyzed using an Agilent 7890A gas chromatograph (GC) with auto sampler (Agilent 7683), coupled to a 7000A triple-quad mass spectrometer/mass spectrometer (MS/MS) operated in EI mode. A volume of 2.0 μL was injected in pulsed splitless mode. Chromatographic separation was accomplished using a DB-5 column (J&W Scientific: 30 m, 0.25 mm i.d., 0.25 μm film thickness) and helium as a carrier gas (flow rate: 1.2 ml min^{-1}). GC program particulars (inlet temperature, time), and MS/MS method details (retention times, ion transitions, collusion energies) are reported in Tables S1-S7.

S1.3.2. PBDEs

Sample extracts were analyzed using a Thermo Scientific Trace 1310 GC coupled to an TSQ8000 Evo triple quadrupole MS/MS equipped with a TriPlus RSH autosampler, operated in EI mode. A volume of 2.0 µL was injected in programmed temperature vaporization (PTV) splitless mode. Chromatographic separation was accomplished using a Rxi-5Sil MS column: (RESTEK: 15 m, 0.25 mm i.d., 0.1 µm d.f.) and helium as a carrier gas (flow rate: initially 5 ml min^{-1}, then reduced to 1.5 ml min^{-1}). GC program particulars (inlet temperature, time), and MS/MS method details (retention times, ion transitions, collusion energies) are reported in Tables S8-S9.

Table S1 - GC-MS/MS programs for each neutral contaminant group.

Contaminant Group	**OCPs**	**PAHs**	**PCBs**	**PBDEs**
Inlet Temp.	280 °C	280 °C	250 °C	300 °C
GC Oven Temperature Program				
Initial Temp. Hold Time	70 °C for 1 min	90 °C for 1 min	80 °C for 1 min	80 °C for 0.05 min
Increase 1	50 °C min^{-1} to 150 °C	10 °C min^{-1} to 250 °C	10 °C min^{-1} to 160 °C	14.5 °C sec^{-1} to 300 °C
Increase 2	6 °C min^{-1} to 200 °C	5 °C min^{-1} to 300 °C	3 °C min^{-1} to 280 °C	14.5 °C sec^{-1} to 320 °C
Hold Time	200 °C for 3 min	300 °C for 2 min	280 °C for 6 min	320 °C for 2.5 min
Increase 3	10 °C min^{-1} to 300 °C	/	/	/
GC-MS/MS Interface Temp.	310 °C	310 °C	290 °C	320 °C
Ion Source Temp.	230 °C	230 °C	230 °C	275 °C
Quadrupole Temps.	150 °C	150 °C	150 °C	/

Table S2 - Quantitative transitions for 6 radiolabeled OCPs.

		Quantitative Transition		
^{13}C-OCP	RT (min)	Precursor ion	Product ion	CE
$^{13}C_6$-HCB	8.47	289.9	254.9	20
$^{13}C_6$-γ-HCH	8.97	229.9	155.7	20
$^{13}C_{12}$-dieldrin	16.91	269.8	199.7	30
$^{13}C_{12}$-*o,p'*-DDT	17.32	246.9	176.9	25
$^{13}C_{12}$-*p,p'*-DDT	18.26	246.9	177.2	25
$^{13}C_8$-mirex	20.50	275.7	240.6	30

Table S3 - Quantitative and qualitative transitions for 19 native OCPs.

		Quantitative Transition			Qualitative Transition		
OCP	RT (min)	Precursor ion	Product ion	CE	Precursor ion	Product ion	CE
α-HCH	8.26	181.0	145.0	15	181.0	109.0	30
HCB	8.47	283.9	213.9	35	283.9	248.8	25
γ-HCH	8.92	181.0	145.0	15	181.0	109.0	30
β-HCH	9.08	181.0	145.0	15	181.0	109.0	30
oxy-Chlordane	13.60	184.8	120.9	15	184.8	149.1	5
Endosulfan-I	15.01	240.9	206.1	15	240.9	136.0	40
cis-Chlordane	15.14	372.9	265.9	40	372.9	263.9	40
trans-Chlordane	15.14	372.9	265.9	20	372.9	263.9	25
trans-Nonachlor	15.33	408.8	299.8	25	408.8	301.8	30
o,p'-DDE	15.97	246.0	176.1	40	246.0	211.0	20
p,p'-DDE	16.24	246.0	176.1	40	246.0	175.1	40
o,p'-DDD	16.24	235.0	165.1	30	235.0	199.1	30
Dieldrin	16.89	262.9	192.9	40	262.9	190.9	35
o,p'-DDT	17.25	235.0	165.1	30	235.0	199.1	30
Endosulfan-II	17.33	240.9	206.1	15	236.7	142.6	30
p,p'-DDD	17.35	236.8	165.2	25	240.9	167.2	25
Endosulfan sulfate	18.10	271.9	236.9	20	271.9	116.9	40
p,p'-DDT	18.27	235.0	165.1	30	235.0	199.1	20
Mirex	20.51	271.9	236.9	15	271.9	116.9	40

Table S4 - Quantitative transitions for 10 deuterated PAHs.

		Quantitative Transition		
d-PAH	RT (min)	Precursor ion	Product ion	CE
d_8-NAP	4.94	136.1	108.2	22
d_8-ACL	8.26	160.0	158.0	40
d_{10}-FLU	9.80	176.0	174.0	30
d_{10}-PHE	12.02	188.0	160.0	34
d_{10}-PYR	14.89	212.0	210.0	30
d_{10}-FLA	15.39	212.0	210.0	30
d_{12}-CHR	18.45	240.0	236.0	38
d_{12}-BbF	21.39	264.0	260.0	42
d_{12}-BaP	22.32	264.0	260.3	42
d_{12}-BghiP	26.33	288.0	284.0	38

Table S5 - Quantitative and qualitative transitions for 14 native PAHs.

		Quantitative Transition			Qualitative Transition		
PAH	RT (min)	Precursor ion	Product ion	CE	Precursor ion	Product ion	CE
NAP	4.94	128.0	102.0	22	128.0	127.0	20
ACL	8.26	152.0	150.0	40	152.0	151.0	40
ACN	8.69	154.0	152.0	40	153.0	152.0	40
FLU	9.86	166.0	165.0	30	165.0	163.0	34
ANT	12.07	178.0	152.0	20	178.0	176.0	34
PHE	12.17	178.0	152.0	20	178.0	176.0	34
PYR	14.88	202.0	201.0	30	202.0	200.0	50
FLA	15.38	202.0	201.0	30	202.0	200.0	50
CHR	18.44	228.0	226.0	38	228.0	224.0	38
BbF	21.40	252.0	250.0	42	250.0	248.0	40
BkF	21.47	252.0	250.0	42	250.0	248.0	40
BaP	22.32	252.0	250.0	42	250.0	248.0	40
IP	25.64	276.0	274.0	42	277.0	275.0	42
BghiP	26.33	276.0	274.0	30	277.0	275.0	40

Table S6 - Quantitative transitions for 7 radiolabeled PCBs.

		Quantitative Transition		
^{13}C-PCB	RT (min)	Precursor ion	Product ion	CE
$^{13}C_6$-PCB-28	16.82	268.0	198.1	26
$^{13}C_6$-PCB-52	18.43	302.0	232.0	28
$^{13}C_6$-PCB-101	22.81	335.9	266.0	28
$^{13}C_6$-PCB-138	27.38	371.9	301.9	28
$^{13}C_6$-PCB-105	27.52	335.9	266.0	28
$^{13}C_6$-PCB-153	28.84	371.9	301.9	28
$^{13}C_6$-PCB-180	32.59	405.8	335.9	30

Table S7 - Quantitative and qualitative transitions for 9 native PCBs.

		Quantitative Transition			Qualitative Transition		
PCB	RT (min)	Precursor ion	Product ion	CE	Precursor ion	Product ion	CE
PCB-28	16.83	256.0	186.0	26	258.0	186.0	26
PCB-52	18.45	289.9	220.0	28	291.9	222.0	28
PCB-44	19.42	290.0	220.0	25	292.0	222.0	25
PCB-101	22.83	325.9	255.9	28	323.9	253.9	28
PCB-99	23.10	326.0	256.0	25	324.0	254.0	25
PCB-118	26.14	323.9	253.9	28	325.9	255.9	28
PCB-138	27.39	357.8	287.9	25	359.8	289.9	25
PCB-153	28.87	357.8	287.9	28	359.8	289.9	28
PCB-180	32.60	393.8	323.9	30	395.8	325.9	30

Table S8 - Quantitative transitions for 4 radiolabeled PBDEs.

		Quantitative Transition		
^{13}C-PBDE	RT (min)	Precursor ion	Product ion	CE
$^{13}C_{12}$-PBDE-28	5.65	259.9	150.1	30
$^{13}C_{12}$-PBDE-47	6.71	483.7	324.1	32
$^{13}C_{12}$-PBDE-153	8.58	495.7	387.9	40
$^{13}C_{12}$-PBDE-139	8.66	227.9	147.2	20
$^{13}C_{12}$-PBDE-209	12.80	809.7	649.5	55

Table S9 - Quantitative and qualitative transitions for 7 native PBDEs.

		Quantitative Transition			Qualitative Transition		
PCB	RT (min)	Precursor ion	Product ion	CE	Precursor ion	Product ion	CE
PBDE-28	5.65	405.8	245.9	20	407.8	248.1	22
PBDE-47	6.71	483.7	324.1	32	485.7	325.8	28
PBDE-99	7.45	563.7	403.8	28	565.7	405.8	28
PBDE-100	7.69	563.7	403.8	28	565.7	405.8	28
PBDE-154	8.26	483.7	374.9	40	643.5	483.7	20
PBDE-153	8.58	483.7	374.9	40	643.5	483.7	20
PBDE-183	9.38	561.7	454.9	45	721.4	561.8	17
PBDE-209	12.80	639.6	530.7	36	799.4	639.5	44

S2. Detailed solvent extraction methods for PFASs

S2.1. Standards and chemicals

PFAS analytical standards included the following chemicals: perfluoropentanoate (PFPeA), perfluorohexanoate (PFHxA), perfluoroheptanoate (PFHpA), perfluorooctanoate (PFOA), perfluorononanoate (PFNA), perfluorodecanoate (PFDA), perfluoroundecanoate (PFUnDA), perfluorododecanoate (PFDoDA), $^{13}C_5$-PFPeA, $^{13}C_2$-PFHxA, $^{13}C_4$-PFHpA, $^{13}C_4$-PFOA, $^{13}C_5$-PFNA, $^{13}C_2$-PFDA, $^{13}C_2$-PFUnDA, $^{13}C_2$-PFDoDA, perfluorooctanesulfonamide (FOSA), potassium salts of perfluorobutane sulfonate (PFBS), perfluorooctane sulfonate (PFOS), sodium salts of perfluorohexane sulfonate (PFHxS), perfluoroheptane sulfonate (PFHpS), perfluorodecane sulfonate (PFDS), $^{13}C_4$-PFOS, and $^{18}O_2$-PFHxS. The purity of all standards was over 98%. Methanol (MeOH, LCMS grade), methyl-*tert*-butyl ether (MTBE, Omnisolv, >99%) ammonium acetate (>99%) and ammonia (NH_3, 30%), hydrochloric acid (HCl, 37%), and potassium hydroxide (KOH, >99%) were acquired from EMD Chemicals Inc. (Mississauga, ON). OASIS solid phase extraction-weak anion exchange (SPE-WAX) cartridges (6 cm^3, 150 mg, 30 μm) were purchased from Waters Corporation (Milford, MA). Milli-Q water was also used throughout ionogenic POP extraction.

S2.2. Sample extraction

Briefly, 1 g of blubber was first spiked with 100 μL of a 50 ng mL^{-1} perfluoroalkyl and polyfluoroalkyl substance (PFAS) internal standard mixture; ($^{13}C_5$-PFPeA, $^{13}C_2$-PFHxA, $^{13}C_4$-PFHpA, $^{13}C_4$-PFOA, $^{13}C_5$-PFNA, $^{13}C_2$-PFDA, $^{13}C_2$-PFUnDA, $^{13}C_2$-PFDoDA, $^{13}C_4$-PFOS, and $^{18}O_2$-PFHxS) and homogenized using a mortar and pestle. The homogenized and spiked blubber was then transferred to a 50 mL polypropylene (PP) test tube; 2 x 10 mL of 100 mM KOH in MeOH solution were first rinsed the mortar and pestle and then transferred to the PP test tube. The solution was then subjected to 1 h sonication, overnight shaking, and neutralization with 0.75 mL of 2 M HCl. Samples were then gently evaporated under a stream of high purity nitrogen gas to 1 mL prior to reconstitution in 10 mL high purity Milli-Q water and further Oasis SPE-WAX cartridge cleanup. In brief, SPE-WAX cartridges

were preconditioned by passing through 4 mL of 0.5% NH_4OH in MeOH, 4 mL of MeOH, and 4 mL of Milli-Q water in sequence. The 10 mL extract was applied to the cartridge followed by 4 mL of 25 mM ammonium acetate buffer to remove unwanted interference before elution. The cartridge was centrifuged for 2 min at 3000 RPM and then dried under vacuum for a further 2 min. Neutral compounds were eluted first using 4 mL MeOH, followed by anionic PFASs using 4 mL 0.5% NH_4OH in MeOH. Eluates were gently evaporated under a stream of high purity nitrogen gas to a volume of 1 mL prior to liquid chromatography-mass spectrometry (LCMS) analysis.

S2.3. Instrumental analysis

Separation and quantification of PFASs in blubber, muktuk, and uqsuq samples were performed using an Acquity ultra performance liquid chromatograph (UPLC) and a Xevo TQ-S mass spectrometer/mass spectrometer (MS/MS - Waters Corporation) operated in negative ionization mode with an atmospheric electrospray interface. An Acquity BEH C18 column (2.1 × 75 mm, 1.7 μm, 100 Å), maintained at 40 °C was used to achieve chromatographic separation. A 10 μL extract aliquot was injected onto the column, with 2 mM ammonium acetate in Milli-Q water and MeOH used as mobile phases. LC-MS/MS method details (ion transitions, collusion energies) are reported in Tables S10-S11. Other detailed LC-MS/MS conditions (cone voltages, optimization parameters, etc.) have been reported elsewhere.[1]

Table S10 - Quantitative transitions for 10 mass-labeled PFASs.

	Quantitative Transition		
^{13}C-PFAS	Precursor ion	Product ion	CE
$^{13}C_5$-PFPeA	268.1	223.0	8
$^{13}C_2$-PFHxA	314.8	269.8	13
$^{13}C_4$-PFHpA	367.1	169.0	19
$^{13}C_4$-PFOA	417.0	372.0	10
$^{13}C_5$-PFNA	468.0	423.0	10
$^{13}C_2$-PFDA	515.0	470.0	10
$^{13}C_2$-PFUnDA	565.0	520.0	10
$^{13}C_2$-PFDoDA	615.0	570.0	10
$^{13}C_4$-PFOS	503.0	99.0	39
$^{18}O_2$-PFHxS	403.0	103.0	15

Table S11 - Quantitative and qualitative transitions for 14 natural PFASs

	Quantitative Transition			Qualitative Transition		
PFAS	Precursor ion	Product ion	CE	Precursor ion	Product ion	CE
PFPeA	263.0	219.0	8	263.0	243.1	18
PFHxA	313.2	269.0	20	313.2	128.0	6
PFHpA	363.0	319.0	10	363.0	169.0	19
PFOA	413.0	369.0	10	413.0	169.0	19
PFNA	463.0	419.1	10	463.0	169.0	20
PFDA	513.0	469.1	10	513.0	219.0	18
PFUnDA	563.0	519.0	10	563.0	319.0	17
PFDoDA	613.0	569.0	10	613.0	169.0	22
FOSA	556.0	418.9	24	556.0	498.0	24
PFBS	299.0	99.0	31	299.0	80.0	30
PFHxS	399.0	99.0	31	399.0	80.0	33
PFHpS	449.0	99.0	31	449.0	80.0	33
PFOS	499.0	99.0	38	499.0	80.0	39
PFDS	598.9	98.9	38	598.9	80.0	56

S3. Method detection limits and labeled/deuterated spike recoveries

All direct blubber extraction data were corrected using the average of laboratory blanks. Method detection limits (MDLs) were calculated as three times the standard deviation for environmental contaminants that were detected in blank samples. For compounds that were not detected in blanks, MDLs were calculated as three times the signal-to-noise ratio of the lowest instrument calibration standard.[2] Values for labeled/deuterated spike recovery standards are listed in the tables below (Tables S12-S16), while MDLs are listed in the following section alongside measured contaminant concentration tables (Tables S18-S22).

Table S12 - Recoveries of radiolabeled OCPs and their RSDs.

OCP	Recovery (%)	RSD (%)
$^{13}C_6$-HCB	100.6	38
$^{13}C_6$-γ-HCH	74.6	44
$^{13}C_{12}$-*o,p'*-DDT	97.0	30
$^{13}C_{12}$-*p,p'*-DDT	104.7	25

Table S13 - Recoveries of deuterated PAHs and their RSDs.

PAH	Recovery (%)	RSD (%)
d_8-Napthalene	49.3	33
d_8-Acenapthylene	26.3	23
d_{10}-Fluorene	50.4	20
d_{10}-Phenanthrene	75.3	20
d_{10}-Pyrene	78.2	24
d_{10}-Fluoranthene	76.0	24
d_{10}-Chrysene	57.0	30
d_{12}-Benzo(b)fluoranthene	52.7	41
d_{12}-Benzo(a)pyrene	41.5	33
d_{12}-Benzo(g,h,i)perylene	44.8	30

Table S14 - Recoveries of radiolabeled PCBs and their RSDs.

PCB	Recovery (%)	RSD (%)
$^{13}C_{12}$-PCB-28	65.8	27
$^{13}C_{12}$-PCB-52	75.4	26
$^{13}C_{12}$-PCB-101	77.1	26
$^{13}C_{12}$-PCB-138	71.7	26
$^{13}C_{12}$-PCB-153	70.0	27
$^{13}C_{12}$-PCB-180	56.3	31

Table S15 - Recoveries of radiolabeled PBDEs, and their RSDs.

PBDE	Recovery (%)	RSD (%)
$^{13}C_{12}$-PBDE-28	73.2	23
$^{13}C_{12}$-PBDE-47	80.9	24
$^{13}C_{12}$-PBDE-153	80.7	25
$^{13}C_{12}$-PBDE-209	75.4	29

Table S16 - Recoveries of mass-labeled PFASs and their relative standard deviations (RSDs).

^{13}C-PFAS	Recovery (%)	RSD (%)
$^{13}C_5$-PFPeA	92.6	15
$^{13}C_2$-PFHxA	94.3	16
$^{13}C_4$-PFHpA	95.5	15
$^{13}C_4$-PFOA	94.3	12
$^{13}C_5$-PFNA	95.4	14
$^{13}C_2$-PFDA	96.4	14
$^{13}C_2$-PFUnDA	102.4	13
$^{13}C_2$-PFDoDA	85.3	28
$^{13}C_4$-PFOS	97.4	12
$^{18}O_2$-PFHxS	97.6	12

S4. Comments on recoveries

The relatively low recoveries for the low molecular weight surrogate PAHs (NAP, ACL, FLU) from direct blubber analysis (Table S14) were likely due to chemical evaporation during sample handling and analysis. Conversely, the heavier deuterated PAHs (BaP, BbF, BghiP) probably exhibited lower recoveries due to adsorption onto analytical vessel surfaces, or longer retention in the GC column due to their high molecular weight These effects also likely contributed to the reduced recovery of radiolabeled PCB-180 (Table S15).

Measured concentrations were recovery-corrected by dividing individual sample measurements by the mean percent recovery of the corresponding labeled/deuterated congener. If the corresponding labeled/deuterated congener was not measured, the labeled/deuterated congener with the most similar chemical properties (i.e. molecular mass, MS/MS retention time, halogen substitution pattern, etc.) was selected instead to utilize a mean percent recovery.

S5. Nutrient and environmental contaminant concentrations in beluga blubber TFs

Table S17 - Concentrations of PUFAs, Se, and Hg measured in beluga blubber TFs.

		Preparation Step	PUFA[a]				Se[a] (μg g^{-1})	Hg[a] (ng g^{-1})
			DHA (mg g^{-1})	EPA (mg g^{-1})	Other ω-3 (mg g^{-1})	ω-6 (mg g^{-1})		
HI-14-11	Muktuk	Air Dry	23.0	15.0	11.9	7.9	0.78	45.1
		Hang Dry	10.1	9.2	7.6	4.1	1.42	34.4
		Boil Drum	20.8	16.7	11.8	7.8	1.27	67.9
		Boil Pot	18.6	15.2	12.5	7.4	1.98	56.1
		Roast	2.8	3.2	2.7	1.4	3.94	132.2
		Age 2 d	12.9	10.5	8.9	4.5	1.44	82.7
		Age 5 d	6.9	5.6	5.1	2.5	2.02	137.8
	Uqsuq	Baseline	34.4	25.3	17.9	12.0	0.12	43.2
		Age 2 d	32.5	24.5	18.5	12.3	0.10	151.4
		Age 5 d	50.2	27.1	26.3	14.1	0.15	120.8
		Oil	45.6	27.3	26.1	11.9	0.02	39.2
HI-14-06	Muktuk	Air Dry	44.4	20.3	24.2	10.0	0.92	157.9
		Hang Dry	42.1	22.1	20.4	11.1	0.26	106.4
		Boil Drum	14.4	9.3	6.9	5.6	1.51	203.1
		Boil Pot	29.4	17.6	15.7	9.0	1.52	505.4
		Roast	3.9	3.9	3.2	2.4	1.87	178.2
		Age 2 d	39.0	21.7	20.9	10.1	0.81	145.6
		Age 5 d	16.7	11.2	7.2	5.9	1.51	332.0
	Uqsuq	Baseline	27.3	13.3	12.7	7.2	1.88	139.3
		Age 2 d	55.3	24.2	3.9	10.9	0.63	1936.0
		Age 5 d	47.8	22.7	23.2	10.1	0.55	946.3
		Oil	55.0	24.8	28.8	9.8	0.03	10.7

[a]Single measurements were performed for PUFAs, Se, and Hg, and values were averaged for each preparation step in Figure 6.2 within the main text.

Table S18 - Blank corrected, recovery corrected, and lipid-adjusted concentrations of OCPs (mean, SD), plus OCP method detection limits, for beluga blubber TFs.

		Prep. Step	α-HCH (ng g lip^{-1})	β-HCH (ng g lip^{-1})	γ-HCH (ng g lip^{-1})	HCB (ng g lip^{-1})	*trans*-Chlordane (ng g lip^{-1})	Oxy-chlordane (ng g lip^{-1})	*trans*-Nonachlor (ng g lip^{-1})	Endosulfan (ng g lip^{-1})	Endosulfan Sulfate (ng g lip^{-1})
HI-14-11	Muktuk	Air Dry	16.6 (1.7)	11.5 (0.7)	108.7 (4.1)	228.3 (11.8)	7.5 (0.4)	164.2 (5.7)	293.8 (11.9)	9.2 (0.8)	23.9 (0.1)
		Hang Dry	7.3 (1.1)	5.0 (1.3)	51.2 (9.8)	109.3 (23.9)	4.7 (0.4)	100.5 (3.6)	124.5 (22.6)	3.2 (0.2)	12.6 (3.4)
		Boil Drum	4.9 (2.1)	2.6 (2.2)	36.9 (16.8)	111.7 (1.9)	3.3 (2.6)	102.7 (96.1)	97.4 (53.7)	3.3 (1.2)	11.5 (5.9)
		Boil Pot	8.3 (1.6)	5.5 (0.8)	63.4 (10.7)	120.7 (16.1)	6.1 (0.4)	115.5 (0.1)	153.1 (16.5)	3.4 (0.3)	0.6 (0.1)
		Roast	7.6 (0.1)	4.6 (0.3)	68.1 (1.1)	118.7 (6.2)	5.4 (1.3)	81.2 (16.4)	142.4 (41.0)	3.6 (1.1)	6.9 (8.8)
		Age 2 d	8.2 (0.4)	5.5 (0.3)	62.2 (0.3)	130.3 (2.3)	6.2 (1.0)	151.4 (2.3)	157.3 (22.4)	4.2 (0.8)	7.6 (9.2)
		Age 5 d	9.9 (0.4)	6.9 (0.1)	65.8 (1.4)	149.8 (5.2)	5.3 (0.5)	149.7 (49.6)	196.7 (10.5)	6.3 (0.2)	15.6 (0.2)
	Uqsuq	Baseline	10.2 (0.4)	7.0 (0.1)	60.5 (2.2)	175.1 (2.3)	4.9 (0.5)	172.8 (72.4)	185.9 (5.0)	5.1 (0.3)	1.0 (0.1)
		Age 2 d	18.1 (1.6)	10.8 (0.2)	78.9 (21.7)	240.4 (3.1)	7.5 (0.2)	169.5 (31.0)	282.3 (21.1)	8.3 (1.2)	13.3 (16.4)
		Age 5 d	16.4 (2.2)	11.8 (1.1)	114.3 (5.9)	249.2 (6.9)	8.0 (0.5)	133.4 (61.9)	237.5 (38.6)	22.3 (19.7)	15.7 (19.4)
		Oil	19.5 (1.2)	12.6 (0.3)	100.7 (7.7)	295.0 (17.6)	8.0 (0.8)	113.0 (56.0)	245.4 (32.6)	6.0 (1.1)	17.5 (21.0)
MDL (ng mL^{-1})			0.3	1.0	0.7	1.5	1.3	1.0	6.7	5.8	0.2

Table S18 Continued.

		Preparation Step	*o,p'*-DDT (ng g lip^{-1})	*p,p'*-DDT (ng g lip^{-1})	*p,p'*-DDE (ng g lip^{-1})	*o,p'*-DDD (ng g lip^{-1})	*p,p'*-DDD (ng g lip^{-1})	Dieldrin (ng g lip^{-1})	Mirex (ng g lip^{-1})
HI-14-11	Muktuk	Air Dry	55.0 (1.9)	45.8 (3.3)	342.1 (15.2)	9.0 (0.0)	51.8 (1.8)	16.5 (2.0)	10.6 (0.5)
		Hang Dry	25.3 (5.2)	24.5 (4.9)	172.3 (36.0)	5.3 (1.5)	14.8 (2.8)	7.3 (2.0)	5.4 (1.6)
		Boil Drum	17.5 (4.8)	14.6 (10.2)	111.3 (79.3)	3.4 (3.0)	19.4 (12.2)	4.2 (5.9)	4.0 (2.6)
		Boil Pot	29.2 (4.2)	26.9 (3.8)	200.3 (35.3)	7.8 (1.0)	17.0 (1.2)	8.8 (0.5)	6.1 (1.3)
		Roast	17.6 (1.6)	14.8 (1.3)	217.6 (3.9)	19.5 (0.6)	28.3 (26.1)	7.7 (1.9)	5.4 (0.6)
		Age 2 d	31.9 (1.7)	31.4 (1.5)	216.2 (6.1)	6.6 (0.2)	18.4 (1.2)	9.6 (4.0)	6.1 (0.3)
		Age 5 d	37.8 (0.4)	31.1 (0.1)	222.3 (2.4)	6.1 (0.2)	35.1 (2.7)	12.5 (4.1)	7.3 (0.4)
	Uqsuq	Baseline	39.7 (0.2)	33.2 (0.1)	244.6 (0.2)	6.1 (0.1)	37.3 (1.5)	7.5 (1.8)	8.5 (0.8)
		Age 2 d	54.5 (5.5)	45.8 (4.2)	358.4 (5.5)	9.2 (0.1)	51.9 (8.0)	16.3 (0.8)	10.9 (0.1)
		Age 5 d	66.2 (6.0)	51.5 (0.7)	383.7 (37.5)	10.4 (1.0)	51.0 (2.9)	7.7 (9.1)	11.1 (0.9)
		Oil	82.8 (9.6)	59.0 (1.3)	477.6 (21.4)	12.6 (1.0)	55.8 (7.8)	4.5 (1.7)	15.9 (3.7)
MDL (ng mL^{-1})			0.6	0.9	5.7	0.2	0.6	4.7	1.4

Table S18 Continued.

		Prep. Step	α-HCH (ng g lip^{-1})	β-HCH (ng g lip^{-1})	γ-HCH (ng g lip^{-1})	HCB (ng g lip^{-1})	*trans*-Chlordane (ng g lip^{-1})	Oxy-chlordane (ng g lip^{-1})	*trans*-Nonachlor (ng g lip^{-1})	Endosulfan (ng g lip^{-1})	Endosulfan Sulfate (ng g lip^{-1})
HI-14-06	Muktuk	Air Dry	12.1 (3.9)	9.3 (1.0)	106.0 (18.3)	188.3 (39.3)	17.1 (3.0)	(481.2) 74.2	478.9 (66.7)	27.3 (3.6)	58.0 (13.1)
		Hang Dry	12.2 (1.6)	9.6 (0.5)	108.8 (10.5)	175.1 (13.9)	16.0 (1.2)	348.6 (61.1)	491.8 (27.2)	21.0 (2.6)	52.6 (3.5)
		Boil Drum	14.9 (1.5)	10.2 (1.4)	121.1 (14.2)	193.5 (31.4)	17.0 (2.0)	299.0 (98.8)	475.5 (48.2)	21.7 (0.8)	50.8 (6.8)
		Boil Pot	12.6 (0.6)	8.4 (1.4)	107.5 (19.1)	175.8 (1.1)	14.3 (2.3)	440.4 (13.3)	423.7 (18.7)	19.5 (1.3)	55.5 (11.2)
		Roast	11.9 (1.5)	8.4 (0.1)	108.7 (1.4)	173.4 (2.4)	14.1 (0.2)	413.5 (21.9)	428.6 (0.6)	18.6 (1.4)	48.3 (2.0)
		Age 2 d	11.4 (4.8)	9.5 (2.6)	99.7 (19.5)	169.1 (24.5)	11.3 (1.6)	93.0 (131.5)	323.7 (31.3)	14.6 (1.9)	46.8 (5.3)
		Age 5 d	9.1 (1.6)	9.8 (0.8)	107.7 (4.0)	168.6 (10.1)	13.9 (2.9)	161.9 (14.6)	352.2 (38.4)	11.9 (0.9)	55.0 (10.6)
	Uqsuq	Baseline	12.5 (0.6)	8.8 (0.3)	92.1 (4.7)	213.3 (12.4)	14.3 (0.5)	407.6 (77.0)	470.0 (14.5)	23.4 (1.5)	59.4 (4.8)
		Age 2 d	9.5 (0.6)	8.5 (0.8)	79.0 (5.0)	203.7 (13.3)	14.6 (1.3)	361.1 (88.3)	465.9 (10.8)	22.9 (1.2)	63.4 (4.8)
		Age 5 d	11.6 (0.2)	10.2 (0.4)	91.3 (5.3)	218.9 (21.5)	13.3 (0.6)	468.9 (200.7)	457.3 (7.8)	20.5 (2.7)	67.9 (4.3)
		Oil	10.5 (1.8)	10.4 (0.1)	83.4 (14.9)	217.9 (15.6)	12.5 (1.6)	216.2 (65.8)	400.1 (131.4)	16.7 (10.4)	65.3 (0.6)
MDL (ng mL^{-1})			0.3	1.0	0.7	1.5	1.3	1.0	6.7	5.8	0.2

Table S18 Continued.

		Preparation Step	*o,p'*-DDT (ng g lip^{-1})	*p,p'*-DDT (ng g lip^{-1})	*p,p'*-DDE (ng g lip^{-1})	*o,p'*-DDD (ng g lip^{-1})	*p,p'*-DDD (ng g lip^{-1})	Dieldrin (ng g lip^{-1})	Mirex (ng g lip^{-1})
HI-14-06	Muktuk	Air Dry	126.8 (11.5)	204.3 (23.6)	732.7 (75.4)	20.3 (2.6)	169.8 (2.4)	38.7 (0.9)	39.9 (10.8)
		Hang Dry	128.9 (9.8)	210.2 (12.8)	946.8 (45.8)	22.5 (2.0)	197.9 (18.2)	44.1 (3.7)	35.6 (0.8)
		Boil Drum	207.6 (43.8)	116.2 (14.6)	991.1 (272.7)	74.0 (16.7)	148.6 (64.0)	40.3 (2.3)	33.7 (3.9)
		Boil Pot	142.1 (19.9)	159.7 (1.0)	896.5 (57.8)	36.1 (5.0)	188.6 (21.8)	43.9 (7.8)	40.7 (10.7)
		Roast	108.3 (1.6)	188.6 (4.3)	854.1 (33.2)	20.4 (0.7)	182.0 (4.9)	37.7 (12.9)	33.7 (3.5)
		Age 2 d	117.2 (12.1)	176.7 (12.3)	829.6 (89.3)	17.6 (1.9)	141.7 (11.3)	31.5 (2.2)	16.7 (23.7)
		Age 5 d	153.6 (38.2)	187.0 (6.1)	1001.5 (205.5)	22.7 (4.8)	130.0 (4.3)	20.2 (2.0)	35.5 (7.6)
	Uqsuq	Baseline	122.5 (11.2)	181.4 (0.1)	996.5 (60.4)	19.1 (1.4)	203.7 (63.1)	47.4 (6.2)	44.7 (9.0)
		Age 2 d	121.4 (7.0)	178.4 (8.6)	975.0 (60.4)	18.6 (1.5)	159.2 (17.6)	41.9 (3.0)	57.4 (7.2)
		Age 5 d	126.2 (6.1)	189.6 (7.2)	1026.8 (73.4)	18.9 (1.4)	174.0 (6.5)	35.8 (1.2)	54.7 (0.8)
		Oil	117.9 (4.7)	170.8 (13.0)	1000.6 (3.1)	18.0 (0.5)	137.9 (25.3)	34.0 (23.2)	56.1 (0.7)
MDL (ng mL^{-1})			0.6	0.9	5.7	0.2	0.6	4.7	1.4

Table S19 - Blank corrected, recovery corrected, and lipid-adjusted concentrations of PAHs (mean, SD), plus PAH method detection limits, for beluga blubber TFs.

		Preparation Step	NAP (ng g lip^{-1})	ACL (ng g lip^{-1})	ACN (ng g lip^{-1})	FLU (ng g lip^{-1})	ANT (ng g lip^{-1})	PHE (ng g lip^{-1})	PYR (ng g lip^{-1})	FLA (ng g lip^{-1})	CHR (ng g lip^{-1})	BaP (ng g lip^{-1})	IP (ng g lip^{-1})
HI-14-11	Muktuk	Air Dry	67.5 (2.3)	35.6 (1.5)	4.7 (0.4)	10.9 (0.7)	24.8 (0.8)	20.8 (0.8)	1.2 (0.0)	1.1 (0.0)	0.4 (0.1)	0.1 (0.1)	0.2 (0.0)
		Hang Dry	55.4 (13.1)	45.7 (8.5)	4.6 (1.2)	14.5 (2.6)	28.7 (6.1)	32.6 (6.7)	2.0 (0.5)	1.2 (0.5)	0.1 (0.0)	0.3 (0.1)	0.6 (0.3)
		Boil Drum	17.3 (2.1)	8.3 (1.3)	0.3 (0.4)	3.3 (0.2)	3.5 (5.0)	4.4 (6.2)	0.6 (0.2)	1.3 (1.1)	0.1 (0.2)	2.0 (2.8)	1.6 (1.8)
		Boil Pot	13.5 (2.7)	4.9 (0.3)	MDL[a]	1.5 (0.3)	1.8 (1.5)	1.9 (2.1)	1.6 (1.6)	1.4 (0.7)	0.1 (0.1)	0.3 (0.1)	0.5 (0.1)
		Roast	38.8 (3.3)	61.8 (5.2)	4.1 (0.4)	17.2 (1.5)	61.0 (4.3)	18.4 (2.3)	21.1 (1.7)	23.9 (1.6)	10.1 (0.1)	7.1 (1.7)	1.7 (1.6)
		Age 2 d	39.1 (0.4)	22.9 (2.1)	1.7 (0.3)	6.8 (0.3)	10.5 (0.7)	12.1 (0.8)	0.6 (0.1)	1.0 (0.2)	0.3 (0.4)	MDL[a]	0.4 (0.1)
		Age 5 d	17.1 (0.1)	9.8 (0.5)	1.1 (0.4)	2.4 (0.1)	4.8 (0.0)	3.5 (0.1)	1.0 (0.1)	1.1 (0.0)	0.1 (0.1)	0.1 (0.1)	0.2 (0.1)
	Uqsuq	Baseline	MDL[a]	0.6 (0.4)	0.4 (0.2)	0.1 (0.1)	MDL[a]	MDL[a]	0.5 (0.0)	0.7 (0.0)	0.2 (0.0)	MDL[a]	0.3 (0.1)
		Age 2 d	15.8 (1.1)	5.3 (0.2)	0.8 (0.3)	1.7 (0.0)	3.1 (0.1)	2.1 (0.2)	0.6 (0.2)	0.5 (0.2)	0.3 (0.1)	0.3 (0.3)	0.7 (0.5)
		Age 5 d	26.2 (5.8)	7.6 (1.5)	1.3 (0.4)	2.5 (0.1)	6.0 (0.3)	5.0 (0.1)	1.6 (0.2)	2.9 (0.2)	MDL[a]	1.5 (0.5)	MDL[a]
		Oil	32.9 (0.9)	22.3 (1.1)	4.6 (0.0)	12.5 (0.8)	41.4 (1.2)	34.7 (1.6)	3.4 (0.4)	2.8 (0.3)	0.5 (0.1)	0.5 (0.2)	0.3 (0.4)
MDL (ng mL^{-1})_			0.4	0.4	0.2	0.4	1.0	1.2	0.7	0.8	0.1	0.4	0.3

[a]MDL - indicates sample concentration was below method detection limits.

Table S19 Continued.

		Preparation Step	NAP (ng g lip^{-1})	ACL (ng g lip^{-1})	ACN (ng g lip^{-1})	FLU (ng g lip^{-1})	ANT (ng g lip^{-1})	PHE (ng g lip^{-1})	PYR (ng g lip^{-1})	FLA (ng g lip^{-1})	CHR (ng g lip^{-1})	BaP (ng g lip^{-1})	IP (ng g lip^{-1})
HI-14-06	Muktuk	Air Dry	2.2 (0.1)	MDL[a]	0.8 (0.4)	0.1 (0.1)	0.3 (0.2)	0.2 (0.2)	MDL[a]	MDL[a]	2.7 (3.2)	0.1 (0.2)	MDL[a]
		Hang Dry	1.8 (0.4)	0.3 (0.4)	0.5 (0.7)	0.5 (0.0)	0.8 (0.5)	0.6 (0.4)	MDL[a]	MDL[a]	0.1 (0.2)	MDL[a]	MDL[a]
		Boil Drum	2.6 (0.1)	MDL[a]	0.9 (1.1)	0.5 (0.2)	0.7 (0.3)	0.5 (0.3)	MDL[a]	MDL[a]	0.4 (0.0)	MDL[a]	MDL[a]
		Boil Pot	0.9 (0.1)	2.1 (3.0)	0.2 (0.1)	0.4 (0.1)	2.5 (1.2)	2.0 (0.8)	0.4 (0.3)	0.8 (0.2)	0.1 (0.2)	MDL[a]	MDL[a]
		Roast	2.1 (0.2)	3.0 (0.6)	2.7 (2.8)	1.2 (0.1)	5.5 (0.8)	4.6 (0.6)	1.2 (0.1)	0.9 (0.0)	0.6 (0.1)	0.7 (0.0)	MDL[a]
		Age 2 d	3.0 (0.4)	MDL[a]	0.3 (0.3)	0.3 (0.2)	1.8 (1.3)	1.8 (0.9)	0.6 (0.3)	1.8 (0.7)	0.2 (0.3)	1.9 (0.3)	MDL[a]
		Age 5 d	3.0 (0.1)	MDL[a]	MDL[a]	MDL[a]	1.1 (0.2)	1.0 (0.1)	MDL[a]	0.1 (0.1)	MDL[a]	MDL[a]	MDL[a]
	Uqsuq	Baseline	0.9 (0.1)	1.4 (0.2)	MDL[a]	MDL[a]	0.5 (0.1)	0.6 (0.2)	MDL[a]	0.3 (0.2)	MDL[a]	MDL[a]	0.9 (0.1)
		Age 2 d	0.9 (0.3)	1.7 (0.2)	MDL[a]	MDL[a]	0.3 (0.0)	1.0 (0.9)	0.1 (0.1)	0.4 (0.3)	MDL[a]	MDL[a]	0.3 (0.1)
		Age 5 d	1.0 (0.0)	1.1 (0.0)	MDL[a]	MDL[a]	0.7 (0.0)	0.8 (0.1)	MDL[a]	0.3 (0.1)	MDL[a]	MDL[a]	0.4 (0.2)
		Oil	7.2 (0.5)	7.4 (0.1)	MDL[a]	2.7 (0.9)	6.7 (0.5)	7.1 (0.4)	0.3 (0.1)	1.1 (0.4)	MDL[a]	MDL[a]	0.3 (0.1)
MDL (ng mL^{-1})_			0.4	0.4	0.2	0.4	1.0	1.2	0.7	0.8	0.1	0.4	0.3

[a]MDL - indicates sample concentration was below method detection limit.

Table S20 - Blank corrected, recovery corrected, and lipid-adjusted concentrations of PCBs (mean, SD), plus PCB method detection limits, for beluga blubber TFs.

		Prep. Step	PCB								
			28 (ng g lip^{-1})	44 (ng g lip^{-1})	52 (ng g lip^{-1})	99 (ng g lip^{-1})	101 (ng g lip^{-1})	118 (ng g lip^{-1})	138 (ng g lip^{-1})	153 (ng g lip^{-1})	180 (ng g lip^{-1})
HI-14-11	Muktuk	Air Dry	6.0 (0.4)	13.2 (0.6)	51.6 (1.9)	46.7 (0.6)	54.7 (0.1)	41.2 (0.5)	106.8 (4.8)	95.3 (4.7)	20.3 (0.8)
		Hang Dry	5.5 (1.2)	12.0 (2.8)	47.6 (12.5)	39.3 (7.6)	46.6 (10.7)	34.9 (8.8)	94.0 (21.8)	80.3 (16.5)	19.8 (3.9)
		Boil Drum	5.6 (0.6)	13.9 (4.6)	58.0 (19.2)	46.4 (10.3)	61.6 (24.7)	37.1 (6.5)	97.4 (11.8)	90.4 (14.0)	17.9 (0.3)
		Boil Pot	6.0 (0.9)	12.4 (2.2)	51.8 (8.6)	46.0 (6.5)	54.4 (6.6)	42.8 (4.7)	102.4 (16.3)	90.7 (13.2)	18.7 (3.3)
		Roast	5.9 (0.4)	12.0 (0.8)	52.9 (2.5)	45.0 (3.4)	52.3 (3.2)	40.4 (1.7)	101.5 (3.7)	95.7 (8.5)	18.4 (1.1)
		Age 2 d	6.1 (0.3)	12.3 (0.7)	53.8 (1.8)	45.3 (2.1)	53.4 (1.3)	37.3 (4.0)	108.1 (3.4)	96.1 (3.5)	19.9 (1.1)
		Age 5 d	6.8 (0.0)	14.2 (0.3)	59.2 (1.9)	49.5 (1.0)	58.8 (0.8)	44.1 (1.0)	119.3 (3.6)	97.0 (2.0)	23.1 (2.1)
	Uqsuq	Baseline	7.4 (0.1)	15.5 (0.0)	63.6 (0.6)	55.6 (2.1)	71.3 (2.6)	55.8 (2.4)	142.5 (1.1)	116.1 (3.7)	26.7 (2.6)
		Age 2 d	6.4 (0.1)	14.4 (0.9)	56.9 (3.0)	50.5 (3.2)	59.4 (2.5)	46.7 (2.7)	117.3 (2.8)	99.6 (0.9)	22.2 (0.5)
		Age 5 d	5.9 (0.5)	13.0 (0.2)	58.0 (2.8)	46.2 (1.9)	67.1 (0.6)	42.8 (4.1)	115.5 (7.5)	99.7 (1.3)	11.8 (14.3)
		Oil	6.1 (0.9)	13.2 (2.5)	98.5 (18.7)	48.9 (4.7)	91.9 (10.7)	46.2 (2.9)	124.0 (8.9)	107.9 (9.9)	25.0 (1.2)
HI-14-06	Muktuk	Air Dry	3.1 (0.8)	25.3 (3.2)	134.2 (17.6)	136.6 (17.7)	161.6 (15.9)	134.4 (10.7)	370.2 (50.3)	340.9 (37.3)	101.1(15.1)
		Hang Dry	3.1 (0.0)	23.9 (0.4)	134.8 (0.7)	137.9 (7.0)	161.5 (7.0)	127.1 (7.4)	370.6 (32.8)	336.8 (11.8)	99.1 (8.6)
		Boil Drum	3.1 (0.4)	25.5 (3.3)	138.7 (17.0)	145.0 (27.1)	172.8 (33.9)	138.7 (27.8)	385.6 (62.1)	343.8 (49.0)	104.9 (14.4)
		Boil Pot	3.0 (0.1)	24.0 (1.5)	132.3 (6.3)	124.1 (0.7)	145.8 (1.2)	116.9 (3.2)	344.3 (14.0)	309.0 (6.1)	94.5 (7.0)
		Roast	2.9 (0.1)	21.8 (1.2)	126.3 (7.9)	124.0 (1.7)	142.7 (3.4)	110.9 (2.3)	330.2 (10.1)	306.9 (4.9)	90.4 (2.3)
		Age 2 d	3.3 (0.5)	20.7 (3.9)	119.4 (16.5)	111.6 (9.1)	146.8 (11.6)	97.4 (6.4)	325.8 (47.0)	304.5 (55.2)	6.4 (1.0)
		Age 5 d	3.6 (0.1)	21.7 (0.9)	231.5 (0.3)	113.8 (8.4)	218.3 (16.4)	101.4 (1.5)	321.2 (8.8)	301.3 (8.3)	74.1 (2.0)
	Uqsuq	Baseline	3.7 (0.1)	25.7 (0.3)	271.3 (7.3)	151.1 (5.6)	290.3 (10.9)	143.1 (3.7)	456.9 (5.0)	389.5 (0.6)	115.8 (2.7)
		Age 2 d	3.9 (0.2)	25.3 (1.5)	274.5 (17.1)	148.7 (12.0)	293.9 (24.4)	142.1 (6.9)	471.8 (25.5)	382.4 (22.4)	119.2 (6.4)
		Age 5 d	3.9 (0.3)	26.3 (0.9)	286.2 (12.1)	156.5 (0.2)	309.6 (5.2)	154.4 (1.1)	488.2 (20.5)	408.6 (24.8)	120.5 (4.4)
		Oil	3.8 (0.2)	26.6 (2.6)	278.4 (25.0)	148.9 (9.7)	306.9 (5.6)	156.1 (3.5)	487.4 (34.3)	404.1 (36.0)	121.1 (9.2)
MDL (ng mL^{-1})			0.8	0.3	1.8	3.3	3.1	2.6	3.4	2.2	1.0

Table S21 - Blank corrected, recovery corrected, and lipid-adjusted concentrations of PBDEs (mean, SD), plus PBDE method detection limits, for beluga blubber TFs.

		Preparation Step	PBDE						
			28 (ng g lip^{-1})	47 (ng g lip^{-1})	99 (ng g lip^{-1})	100 (ng g lip^{-1})	153 (ng g lip^{-1})	154 (ng g lip^{-1})	209 (ng g lip^{-1})
HI-14-11	Muktuk	Air Dry	0.28 (0.01)	4.84 (0.37)	0.55 (0.01)	0.41 (0.03)	0.09 (0.01)	0.24 (0.01)	0.43 (0.02)
		Hang Dry	0.27 (0.04)	4.60 (1.03)	0.55 (0.05)	0.43 (0.08)	0.07 (0.02)	0.19 (0.01)	0.87 (0.24)
		Boil Drum	0.29 (0.11)	4.75 (0.37)	0.58 (0.17)	0.43 (0.10)	0.03 (0.02)	0.11 (0.16)	0.73 (0.01)
		Boil Pot	0.31 (0.06)	5.17 (0.80)	0.54 (0.11)	0.48 (0.03)	0.12 (0.10)	0.18 (0.01)	0.83 (0.11)
		Roast	0.30 (0.01)	5.11 (0.25)	0.50 (0.01)	0.41 (0.05)	0.10 (0.00)	0.14 (0.01)	0.91 (0.04)
		Age 2 d	0.30 (0.00)	5.25 (0.22)	0.55 (0.05)	0.45 (0.01)	0.05 (0.01)	0.16 (0.02)	0.76 (0.01)
		Age 5 d	0.35 (0.03)	5.68 (0.21)	0.58 (0.09)	0.63 (0.05)	0.10 (0.05)	0.26 (0.01)	0.58 (0.04)
	Uqsuq	Baseline	0.34 (0.02)	6.89 (0.01)	0.81 (0.01)	0.75 (0.01)	0.20 (0.02)	0.40 (0.05)	0.49 (0.12)
		Age 2 d	0.31 (0.08)	5.52 (0.07)	0.60 (0.02)	0.59 (0.24)	0.11 (0.08)	0.28 (0.02)	0.89 (0.97)
		Age 5 d	0.46 (0.02)	4.97 (0.12)	0.87 (0.04)	0.38 (0.00)	0.19 (0.08)	0.06 (0.03)	1.86 (0.20)
		Oil	0.41 (0.03)	7.22 (0.01)	0.77 (0.08)	0.69 (0.04)	0.16 (0.02)	0.34 (0.01)	0.81 (0.04)
HI-14-06	Muktuk	Air Dry	0.21 (0.01)	13.65 (1.37)	1.68 (0.23)	1.67 (0.03)	0.20 (0.00)	0.80 (0.10)	MDL[a]
		Hang Dry	0.10 (0.01)	13.10 (0.18)	1.90 (0.01)	1.67 (0.03)	0.21 (0.04)	0.80 (0.10)	MDL[a]
		Boil Drum	0.19 (0.03)	13.57 (2.13)	1.87 (0.42)	1.60 (0.50)	0.25 (0.10)	0.81 (0.03)	MDL[a]
		Boil Pot	0.15 (0.03)	12.52 (0.57)	1.67 (0.06)	1.50 (0.12)	0.24 (0.02)	0.88 (0.26)	MDL[a]
		Roast	0.15 (0.01)	11.62 (0.33)	1.60 (0.03)	1.52 (0.09)	0.21 (0.08)	0.75 (0.06)	MDL[a]
		Age 2 d	0.28 (0.15)	10.74 (2.15)	1.39 (0.16)	1.30 (0.22)	0.25 (0.07)	0.72 (0.06)	1.58 (0.69)
		Age 5 d	0.12 (0.00)	10.97 (0.03)	1.55 (0.04)	1.48 (0.03)	0.21 (0.02)	0.24 (0.04)	MDL[a]
	Uqsuq	Baseline	0.18 (0.01)	14.90 (0.30)	2.16 (0.18)	1.86 (0.24)	0.28 (0.06)	0.72 (0.06)	MDL[a]
		Age 2 d	0.14 (0.02)	15.01 (1.16)	2.30 (0.21)	1.93 (0.02)	0.33 (0.03)	1.24 (0.06)	MDL[a]
		Age 5 d	0.13 (0.01)	15.49 (0.37)	2.41 (0.25)	2.17 (0.14)	0.34 (0.01)	1.29 (0.15)	MDL[a]
		Oil	0.18 (0.04)	15.45 (0.84)	2.30 (0.22)	1.86 (0.03)	0.35 (0.06)	1.31 (0.23)	0.68 (0.07)
MDL (pg mL^{-1})			20.0	160.0	300.0	230.0	70.0	310.0	20.0

[a]MDL - indicates sample concentration was below method detection limits.

Table S22 - Concentrations of PFASs (mean, SD), plus PFAS method detection limits, for beluga blubber TFs.

		Preparation Step	PFNA (pg g lip^{-1})	PFDA (pg g lip^{-1})	PFUnDA (pg g lip^{-1})	PFDoDA (pg g lip^{-1})	PFOS (pg g lip^{-1})	FOSA (pg g lip^{-1})
HI-14-11	Muktuk	Air Dry	71.3 (17.1)	26.9 (5.1)	192.9 (0.2)	136.9 (2.1)	201.7 (6.0)	1741.8 (52.7)
		Hang Dry	101.3 (11.0)	37.7 (5.7)	239.4 (17.4)	147.9 (14.9)	250.3 (1.4)	2271.2 (53.3)
		Boil Drum	83.1 (4.7)	22.8 (3.8)	287.3 (9.3)	65.5 (4.3)	334.8 (7.5)	1765.7 (33.5)
		Boil Pot	61.7 (7.6)	MDL[a]	250.3 (2.9)	46.1 (3.9)	275.2 (7.5)	2311.7 (4.0)
		Roast	81.3 (13.4)	19.2 (0.9)	191.1 (35.7)	164.7 (12.6)	573.6 (2.7)	1237.4 (49.3)
		Age 2 d	MDL[a]	17.1 (0.7)	258.2 (19.7)	65.8 (6.7)	292.8 (10.1)	1765.5 (51.0)
		Age 5 d	77.3 (6.2)	MDL[a]	281.6 (23.8)	65.4 (0.5)	330.1 (29.5)	2170.3 (41.2)
	Uqsuq	Baseline	38.5 (3.4)	MDL[a]	183.0 (10.1)	41.6 (1.6)	228.4 (51.6)	2442.2 (29.1)
		Age 2 d	MDL[a]	42.3 (0.0)	334.4 (12.7)	74.2 (9.0)	382.3 (29.0)	2293.1 (95.2)
		Age 5 d	58.2 (9.0)	MDL[a]	235.3 (8.3)	50.1 (7.9)	255.6 (9.3)	2302.2 (6.0)
		Oil	MDL[a]	MDL[a]	34.5 (0.9)	MDL[a]	MDL[a]	2402.6 (23.5)
HI-14-06	Muktuk	Air Dry	128.8 (5.7)	172.5 (4.9)	892.2 (74.7)	147.9 (14.9)	480.5 (10.4)	2016.6 (9.1)
		Hang Dry	150.0 (2.8)	174.9 (37.9)	1016.3 (88.2)	186.9 (44.0)	454.3 (4.5)	2277.6 (27.1)
		Boil Drum	126.8 (4.3)	144.9 (7.7)	902.5 (28.8)	158.2 (7.5)	432.3 (16.5)	2029.8 (36.4)
		Boil Pot	79.0 (7.1)	112.6 (6.5)	645.9 (29.3)	MDL[a]	319.1 (8.2)	1841.5 (0.9)
		Roast	120.5 (2.4)	207.0 (16.3)	1026.0 (19.5)	MDL[a]	614.9 (33.8)	1934.2 (70.1)
		Age 2 d	91.4 (9.7)	MDL[a]	554.0 (25.6)	MDL[a]	312.4 (10.1)	1956.9 (68.3)
		Age 5 d	100.4 (4.7)	153.6 (27.7)	775.1 (39.2)	MDL[a]	432.1 (19.5)	2315.6 (13.4)
	Uqsuq	Baseline	76.9 (6.0)	138.9 (1.7)	910.2 (33.4)	221.6 (34.4)	430.6 (11.2)	1551.9 (24.8)
		Age 2 d	171.8 (13.0)	290.1 (47.8)	2025.1 (149.2)	484.4 (20.0)	904.6 (38.7)	1613.2 (4.5)
		Age 5 d	139.1 (1.3)	208.6 (16.4)	1426.2 (43.1)	340.1 (13.7)	641.6 (32.6)	1458.3 (7.3)
		Oil	MDL[a]	MDL[a]	50.1 (3.5)	MDL[a]	23.5 (2.6)	1838.2 (39.9)
MDL (pg ml^{-1})			10.0	10.0	20.0	20.0	10.0	50.0

[a]MDL - indicates sample concentration was below method detection limits.

S6. Comparing beluga blubber TF nutrient and environmental contaminant levels to literature findings

S6.1. PUFAs, Se, and Hg

Comparisons of nutrient measurements from the current study to previously published levels of FAs and Se are listed in Table S23. The two studies performed by Dahl et al.[3] and Thiemann et al.[4] observed lipid proportions of total saturated fatty acids (ΣSFAs), total monounsaturated fatty acids (ΣMUFAs), and total PUFAs that were quite similar to those measured in the current study. However, when comparing total lipid content of all 22 samples to a previous analysis by Krahn et al.,[5] our results were appreciably different. This is primarily due to the generous range in lipid contents of the different samples (Figure 3A - main text), with those sampled following certain processes (i.e. roasted muktuk, aged muktuk) exhibiting relatively limited lipid contents.

For Se, the geometric mean concentration of all samples was amongst the lowest concentration measured in the literature (Table S23). Our data compares well to blubber data from Johansen et al.[6] and Laird et al.,[7] yet our mean measurement of 0.59 μg g ww^{-1}, fell below alternative quantifications from Blanchet et al.[8] and Muir et al.[9] by over an order of magnitude. One explanation is the importance of skin to Se availability, as beluga skin is known to be one of the most concentrated TF sources of Se.[7,8] Thus, the comparatively low Se levels measured in our blubber samples may be largely due to the exclusion of skin tissues. For example, all uqsuq samples were composed solely of inner blubber and thus by definition did not include skin. To maintain consistency, all extracted raw blubber and muktuk aliquots (~1 g) excluded skin also, to eliminate the influence of skin as potential confounder on blubber nutrient and contaminant variability.

Unlike Se, beluga skin is not an appreciably greater source of Hg when compared to other blubber-based TF products. Therefore, the fact that our measurement of Hg concentrations in beluga blubber TF items closely aligned with measured and estimated levels[6,7,10,11] was unsurprising. We did not anticipate a lack of skin sampling to bias our measurements low as compared to previous work

including both the blubber and skin constituents of muktuk. Our findings further support the notion that beluga blubber is not a significant source of Hg.[6,10]

S6.2. OCPs, PAHs, PBDEs, PCBs, and PFASs

Generally, our mean concentrations of neutral and ionogenic environmental contaminants in beluga blubber fell within measured ranges established by previous beluga biomonitoring work (Tables S24-S28). For legacy POPs such as chlordanes, DDTs, and PCBs, our mean measurements fell within the lower bounds of beluga cross-sectional concentrations quantified over the past two decades.[12-14] This was likely influenced by two main factors: i) the greater environmental contaminant exposures experienced by St. Lawrence beluga populations versus Beaufort Sea groups, based on closer proximity to temperate emissions sources.[13,15-18] Plus, ii) our sampling occurring in the year 2014, at least a decade further from emissions peaks than comparable populations in Tables S24-S25, which would be expected to result in lower observed beluga exposures, assuming similar whale age ranges in these studies (20-40 y).[19,20] Also, our measurements most resembled those by Hoguet et al.,[13] the most geographically and temporally proximate population to our own. Also, note that comparisons of beluga blubber preparation impact on certain OCPs not presented in the main text (dieldrin, HCB, mirex) are depicted in Figure S1.

For more recently emitted pollutants, such as PBDEs and PFASs (Tables S26, S28), our quantified concentrations were middling with respect to comparator populations. This seemed a result of remoteness from major emissions sources, as populations monitored by Raach et al.[18] in the St. Lawrence estuary exhibited ΣPBDE exposures that exceeded our measurements by well over an order of magnitude. This affirms the role of proximity to local emissions sources in predominantly determining contaminant exposure, including more recently emerging pollutants.

The influence of Arctic remoteness on contaminant levels in belugas was further evidenced by comparisons of beluga ΣPAH concentrations to those from different whale species throughout the globe (Table S27). Even though our results strongly suggest that the majority of PAH burden possessed

by our sampled belugas were introduced through preparation (Figure 5 - main text), these concentrations were still dwarfed by certain temperate whale populations.[21,22] In fact, our measurements suggest that for both PAHs and PFASs raw beluga blubber is likely not a significant pollutant source, a notion supported by the limited literature assessments of PFAS levels in beluga lipid.[23,24] Importantly, PAHs were predominantly deposited to blubber products through preparation, but this effect could be mitigated through judicious use of cookfires and smokehouses.

Table S23 - Comparisons of observed blubber, muktuk, and uqsuq PUFA, Se, and Hg levels to select previous literature reports.

	Current Work	Dahl et al. 2000[3]	Thiemann et al. 2008[4]	Krahn et al. 2004[5]
n	2[a]	7	105	3[b]
Units	Lipid mass % (SD)	Lipid mass % (SD)	Lipid mass % (SD)	Mean (SD)
ΣSFA	**13.0** (4.6)	**13.0** (0.4)	**16.8** (0.2)	-
ΣMUFA	**74.1** (4.5)	**72.8** (0.9)	**68.8** (0.5)	-
ΣPUFA	**12.9** (2.2)	**13.0** (1.1)	**14.4** (0.4)	-
% Lipid	**50.8**[c] (21.6)	-	-	**73.3** (6.2)

	Current Work	Muir et al. 1999[9]	Blanchet et al. 2000[8]	Johansen et al. 2004[6]	Laird et al. 2013[d 7]
n	2	71	1	5	-
Sample Type(s)	Blubber, Muktuk, Uqsuq	Muktuk	Skin, Fat	Blubber	Blubber
					Muktuk
Units	μg g ww^{-1} (SD)	μg g ww^{-1} (SD)	μg g ww^{-1} (SD)	μg g ww^{-1} (SD)	μg g ww^{-1} (SD)
Se	**0.6** (0.9)	**4020** (1170)	**6000**	**< 0.20**	**0.1** (0.1)
					3.7 (2.2)

	Current Work	Johansen et al. 2004[e 6]	Wagemann and Kozlowska 2005[11]	Lemire et al. 2015[e 10]	Laird et al. 2013[d 7]
n	2	-	12	-	-
Sample Type(s)	Blubber, Muktuk, Uqsuq	Blubber	Blubber	Blubber	Blubber
					Muktuk
Units	μg g ww^{-1} (SD)	μg g ww^{-1}	μg g ww^{-1} (SD)	μg g ww^{-1}	μg g ww^{-1} (SD)
Hg	**0.37** (0.51)	**0.01-0.09**	**0.12** (0.10)	**< 0.20**	**0.14** (0.11)
					0.31 (0.25)

[a]Unlike cited literature comparisons, the 2 belugas in the current study were sampled 11 times each, and listed data represent the means of these 22 collective data points.
[b]Includes only animals sampled via necropsy, and not dart trocar, by Krahn et al.[5]
[c]Units of g lipid g ww^{-1} • 100%
[d]Data from Laird et al.[7] represent model estimates of TF Se and Hg content based on an extensive dataset of Inuit biomonitoring data and food intake information.
[e]Data from Johansen et al.[6] and Lemire et al.[10] represent estimates of TF Hg content based on an extensive dataset of Inuit biomonitoring data and food intake information.

Table S24 - Comparisons of observed beluga blubber, muktuk, and uqsuq OCP levels to select previous literature reports.

		Current	Hobbs et al. 2003[12]		Stern et al. 2005[a 14]					Hoguet et al. 2013[13]			
n		2 M	10 F	34 M	15 M	15 M	18 M	20 M	22 M	15 M	12 F	26 M	14 F
Year(s)		2014	1994-1998		1994-2001					2002-2004			
Location		Tuktoyaktuk NT	St. Lawrence Estuary		Iglooik, Pangnirtung, Sanikiluaq - NU Tuktoyaktuk - NT					Cook Inlet, AK		E. Chukchi Sea	
Units		ng g lip^{-1} mean (SD)	ng g lip^{-1} mean (range)		ng g ww^{-1} geomean (± GSD)					ng g lip^{-1} median (range)			
ΣCHL	*n* CHL	3	7		6					6			
	Conc.	**557** (269)	**1400** (110-3380)	**2040** (253-8100)	**1895** (1235-2908)	**1446** (870-2404)	**2004** (1324-3033)	**2016** (1408-2887)	**1701** (1203-2403)	**707** (156-1390)	**298** (97-767)	**3830** (1300-6720)	**1150** (242-2980)
ΣDDT	*n* DDT	5	6		6					6			
	Conc.	**912** (553)	**3560** (87-24400)	**9440** (1340-201000)	**3203** (1773-5784)	**5375** (3829-7544)	**3492** (2289-5329)	**2037** (1398-2967)	**4900** (3574-6719)	**1960** (376-5170)	**626** (196-1850)	**4310** (1350-8240)	**1350** (288-4500)
HCB		**183** (48.5)	**126** (12-1070)	**184** (40-845)	**677** (450-1018)	**634** (475-848)	**508** (366-706)	**486** (415-569)	**642** (464-887)	**244** (65-533)	**138** (48-328)	**545** (340-1150)	**234** (71-1260)
ΣHCH	*n* HCH	3	3		3					3			
	Conc.	**107** (28.3)	**295** (46-1810)	**531** (45-3560)	**208** (173-251)	**223** (178-279)	**213** (189-240)	**449** (336-600)	**192** (120-308)	**164** (77-329)	**93** (53-200)	**143** (76-898)	**221** (89-759)
Dieldrin	Conc.	**24** (15.7)	**200** (19-1140)	**596** (42-8480)	**265** (184-451)	**1006** (548-1846)	**313** (225-435)	**419** (304-579)	**484** (324-723)	-			
Mirex	Conc.	**24.5** (18.8)	**137** (3-970)	**115** (17-1630)	-	-	-	-	-	-			
Endosulfan		**13** (8.2)	-		MDL[b]	-	MDL[b]	-	**10** (6-18)	-			
Endosulfan Sulfate		**34** (24.1)	-		-	**11** (8-16)	-	**45** (34-61)	-	-			

[a]Only the five largest beluga populations from Stern et al.[14] were selected for comparison to measured OCP values.
[b]Below method detection limits from the study by Stern et al.[14]

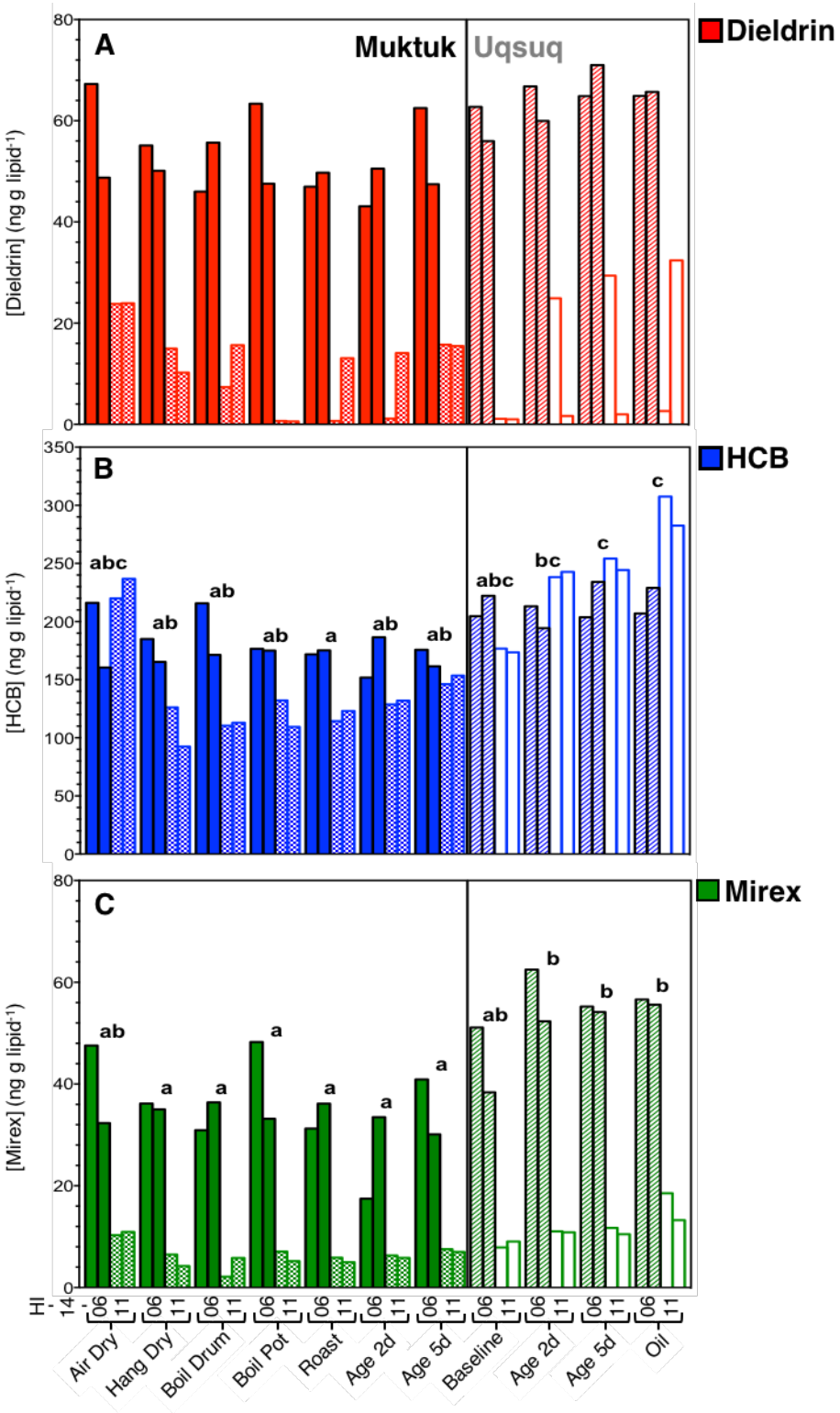

Figure S1. The impact of beluga blubber preparation on dieldrin, HCB, and mirex levels. Lipid-normalized concentrations of dieldrin (A), HCB (B), and mirex (C) were measured in duplicate for each preparation step, and depictions of these replicate pairs are interleaved for belugas HI-14-06 and HI-14-11. Significant differences were detected between preparation steps for HCB and mirex while controlling for whale identity; those that do not share any letter designators were distinct according to Kruskal-Wallis ANOVA with Tukey multiple comparisons ($p < 0.05$).

Table S25 - Comparisons of observed beluga blubber, muktuk, and uqsuq PCB levels to select previous literature reports.

		Current	Hobbs et al. 2003[12]		Stern et al. 2005[a 14]					Hoguet et al. 2013[13]			
n		2 M	10 F	34 M	15 M	15 M	18 M	20 M	22 M	15 M	12 F	26 M	14 F
Year(s)		2014	1994-1998		1994-2001					2002-2004			
Location		Tuktoyaktuk NT	St. Lawrence Estuary		Iglooik, Pangnirtung, Sanikiluaq - NU Tuktoyaktuk - NT					Cook Inlet, AK		E. Chukchi Sea	
Units		ng g lip^{-1} mean (SD)	ng g lip^{-1} mean (range)		ng g ww^{-1} geomean (± GSD)					ng g lip^{-1} median (range)			
ΣPCB	*n* PCB	9	104		103					90			
	Conc.	**999** (591)	**12200** (148-44100)	**11800** (2080-128000)	**3935** (2737-5659)	**4135** (3454-4950)	**3982** (2770-5725)	**3394** (2303-5003)	**3840** (2740-5382)	**1640** (441-4530)	**692** (260-1960)	**4860** (2190-9070)	**1910** (561-5430)

[a]Only the five largest beluga populations from Stern et al. (14) were selected for comparison to measured OCP values.

Table S26 - Comparisons of observed beluga blubber, muktuk, and uqsuq PBDE levels to select previous literature reports.

		Current Work	Raach et al. 2011[a 18]		Desforges et al. 2012[27]	Hoguet et al. 2013[13]				Desforges et al. 2013[28]	
n		2 M	32 F	33M	2 F	15 M	12 F	26 M	14 F	59 M	
Year(s)		2014	1993-2007		2008-2009	1989-2006				2007-2010	
Location		Tuktoyaktuk, NT	St. Lawrence Estuary		Tuktoyaktuk, NT	Cook Inlet, AK		E. Chukchi Sea		Tuktoyaktuk, NT	
ΣPBDE	*n* PBDE	7	7		10	8				11	
	Units	ng g lip^{-1} mean (SD)	ng g lip^{-1} mean (SD)		ng g lip^{-1} mean	ng g lip^{-1} median (range)				ng g lip^{-1} mean (SEM)	
	Conc.	**13.3** (5.7)	**474.3** (292)	**391.9** (205)	**5.5**	**13.8** (7-46)	**14.6** (7-32)	**12.8** (4-32)	**5.1** (2-19)	**17.2** (1.5)	**22.1** (1.8)

[a]Raach et al.[18] reported absolute ΣPBDE concentrations only in liver, but also provided blubber to liver concentration ratios, from which the listed blubber ΣPBDE concentrations are derived.
M - Male; F - Female

Table S27 - Comparisons of observed beluga blubber, muktuk, and uqsuq PAH levels to select previous literature reports.

		Current Work	Holsbeek et al. 1999[25]	Marsili et al. 2001[21]	Leung et al. 2005[22]	Moon et al. 2012[26]
n		2 M	4	23	4	11
Year(s)		2014	1994	1993-1996	2002-2004	2006
Location		Tuktoyaktuk, NT	Koksijde, Belgium	Ligurian, Ionian Seas	Xiamen, China	South Korea
Sample Type(s)		Blubber	*Minke Whale*[a] Blubber	*Fin Whale*[a] Blubber	*Indo-Pacific Humpback Dolphin*[a] Blubber	*Minke Whale*[a] Blubber
ΣPAH	*n* PAH	11	6	14	15	16
	Units	ng g lip^{-1} mean (SD)	ng g dw^{-1} mean (SD)	ng g fw^{-1} mean (SD)	ng g ww^{-1} mean	ng g lip^{-1} mean (SD)
	Conc.	**53.7** (73.3)	**99.2** (28.5)	**9052** (21304)	**6751**	**213** (109)

[a]Due to a dearth of literature reports on PAH levels in beluga blubber, concentrations from the current study were compared to blubber concentrations from alternative whale species.
M - Male; F - Female

Table S28 - Comparisons of observed beluga blubber, muktuk, and uqsuq PFAS levels to select previous literature reports.

	Current Work	Kelly et al. 2009[23]	Ostertag et al. 2009[24]
n	2	6	1
Year(s)	2014	1999-2003	1997-1998
Location	Tuktoyaktuk, NT	East Hudson Bay	Nunavut
Units	geomean (range)	geomean (95% CI)	-
ΣPFCA	**0.56** (0.03 - 3.04)	**3.45** (2.12 - 9.06)	**1.6**
PFOS	**1.95** (1.20 - 2.46)	**2.40** (0.45 - 12.8)	-
FOSA	**0.38** (0.00 - 0.93)	**2.23** (0.64 - 7.74)	**1.5**

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