

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location	Sample ID	Sample Date	Sitewide 4 SMB001	Sitewide 4 SMB002	Sitewide 4 SMB003	Sitewide 4 SMB004	Sitewide 4 SMB005	Sitewide 4 SMB006	Sitewide 4 SMB007	Sitewide 4 SMB008	Sitewide 4 SMB009	Sitewide 4 SMB010
Chemical	CAS	Units			PDI-TF-SMB001 8/22/18	PDI-TF-SMB002 9/13/18	PDI-TF-SMB003 8/22/18	PDI-TF-SMB004 9/10/18	PDI-TF-SMB005 8/22/18	PDI-TF-SMB006 9/10/18	PDI-TF-SMB007 8/22/18	PDI-TF-SMB008 8/22/18	PDI-TF-SMB009 8/22/18	PDI-TF-SMB010 8/21/18
Dioxins and Furans														
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg			0.0000962 JN	0.000207 J	< 0.000169 U	0.000228 J	0.000362 JN	0.000152 JN	0.000224 JN	0.000400 J+	< 0.000175 U	0.000108 J
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg			< 0.0000716 U	< 0.0000716 U	< 0.0000732 U	0.0000916 JN	< 0.0000712 U	< 0.0000734 U	< 0.0000858 U	< 0.0000854 U	< 0.0000869 U	< 0.0000737 U
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg			< 0.0000716 U	< 0.0000716 U	< 0.0000732 U	< 0.0000669 U	< 0.0000712 U	< 0.0000734 U	< 0.0000858 U	< 0.0000854 U	< 0.0000869 U	< 0.0000737 U
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg			0.000100 JN	< 0.0000716 U	0.000120 JN	0.000135 JN	0.000132 JN	< 0.0000824 U	0.000127 J	< 0.0000917 U	< 0.0000869 U	0.0000814 JN
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg			< 0.0000716 U	< 0.0000716 U	0.000117 JN	0.000147 JN	0.000155 J	0.000200 JN	0.000128 J	< 0.0000854 U	< 0.0000869 U	0.0000767 J
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg			0.000180 JN	0.000214 J	0.000503 JN	0.000506 JN	0.000650 JN	0.000591 JN	0.000426 JN	0.000199 JN	0.000177 JN	0.000272 J
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg			< 0.0000716 U	< 0.0000716 U	< 0.0000732 U	0.0000811 J	0.0000975 J	0.000124 JN	< 0.0000858 U	< 0.0000854 U	< 0.0000869 U	< 0.0000737 U
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg			< 0.0000716 U	< 0.0000716 U	< 0.0000744 U	< 0.0000753 U	< 0.000130 U	< 0.0000734 U	< 0.0000858 U	< 0.0000875 U	< 0.0000869 U	< 0.0000737 U
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg			< 0.0000716 U	< 0.0000716 U	< 0.0000732 U	< 0.0000669 U	< 0.0000712 U	< 0.0000734 U	< 0.0000978 U	< 0.0000854 U	< 0.0000869 U	< 0.0000737 U
1,2,3,7,8-PeCDD	40321-76-4	µg/kg			0.000327 J	0.000292 JN	0.000503 J	0.000454 JN	0.000551 JN	0.000426 JN	0.000588 JN	0.000352 J	0.000544 J	0.000376 J
1,2,3,7,8-PeCDF	57117-41-6	µg/kg			0.000223 J	0.000176 JN	0.000249 J	0.000322 JN	0.000280 JN	0.000543 J	0.000309 JN	0.000161 JN	0.000171 J	0.000265 JN
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg			< 0.0000716 U	< 0.0000716 U	< 0.0000732 U	0.000112 JN	< 0.0000712 U	< 0.0000734 U	0.0000887 J	< 0.0000854 U	< 0.0000869 U	< 0.0000737 U
2,3,4,7,8-PeCDF	57117-31-4	µg/kg			0.000340 J	0.000228 JN	0.000574 J	0.000601 J	0.000529 JN	0.000730 J	0.000504 JN	0.000311 J	0.000427 J	0.000343 J
2,3,7,8-TCDD	1746-01-6	µg/kg			0.000227 J	0.000173 J	0.000289 J	0.000283	0.000228 J	0.000359 JN	0.000337 JN	0.000233 JN	0.000243 JN	0.000204 J
2,3,7,8-TCDF	51207-31-9	µg/kg			0.00170	0.00184	0.00264	0.00168	0.00143	0.00178	0.00149	0.00139	0.00165	0.00149
OCDD	3268-87-9	µg/kg			< 0.000110 U	0.000228 J+	0.000164 JN	0.000253 JN	0.000141 JN	< 0.0000906 U	0.000209 JN	0.000238 J	0.000150 JN	0.000180 J+
OCDF	39001-02-0	µg/kg			< 0.0000716 U	< 0.0000716 U	< 0.0000732 U	0.000111 JN	< 0.0000712 U	< 0.0000734 U	< 0.000107 U	< 0.0000854 U	< 0.0000869 U	< 0.0000737 U
TCDD-TEQ (a)	T_DF_TEQ (PDI)	µg/kg			0.000865	0.00075	0.00131	0.0012	0.0012	0.0013	0.00132	0.000851	0.00111	0.000888
TCDD-TEQ (EMPC=half) (b)	T_DF_TEQ(E_0.5)	µg/kg			0.000842	0.000527	0.00126	0.000869	0.000672	0.000985	0.000477	0.000705	0.000964	0.000872
TCDD-TEQ (EMPC=0) (b)	T_DF_TEQ(E_0)	µg/kg			0.000833	0.000381	0.00124	0.000642	0.000396	0.000772	0.000183	0.000588	0.000842	0.000868
Polychlorinated Biphenyls (PCBs)														
PCB-1	2051-60-7	µg/kg			0.0373	0.0131	0.173	0.0503	0.0300	0.0203	0.0323	0.00388	0.0127	0.00449
PCB-2	2051-61-8	µg/kg			0.00401	0.00211 J	0.0148	0.00575	0.00308	0.00239 J	0.00283 J	0.00249 J	0.00190 JN	0.00306
PCB-3	2051-62-9	µg/kg			0.0228	0.00389	0.109	0.0507	0.0158	0.0104	0.0170	0.00236 JN	0.00640	0.00191 J+
PCB-4	13029-08-8	µg/kg			1.02	0.109	3.35	0.972	0.47	0.338	0.421	0.127	0.288	0.142
PCB-5	16605-91-7	µg/kg			< 0.00414 U	< 0.00289 U	0.0153	< 0.00437 U	0.00439	< 0.00267 U	0.00187 JN	< 0.00138 U	< 0.00275 U	0.00125 JN
PCB-6	25569-80-6	µg/kg			0.265	0.0446	0.744	0.383	0.137	0.107	0.0935	0.0185	0.0536	0.0208
PCB-7	33284-50-3	µg/kg			0.0191 JN	0.00375	0.0608	0.0241	0.0170	0.0119 JN	0.00781	0.00370	0.00643	0.00389
PCB-8	34883-43-7	µg/kg			0.823	0.106	1.52	0.796	0.472	0.293	0.233	0.0691	0.166	0.0898
PCB-9	34883-39-1	µg/kg			0.0372	0.00703	0.123	0.0607	0.0276	0.0212	0.0165	0.00530	0.0121	0.00612
PCB-10	33146-45-1	µg/kg			0.0538	0.0116	0.0957	0.0409	0.0299	0.0188	0.0154	0.00684	0.0154	0.0104
PCB-11	2050-67-1	µg/kg			0.111	0.638	0.234	0.0462	0.143	0.0428	0.0864	0.104	0.101	0.19
PCB-12/13	PCB-12/13	µg/kg			0.0174	0.00650 JN	0.0489	0.0184	0.0135 JN	0.00409 JN	0.00732	0.00236 J	0.00699	0.00403
PCB-14	34883-41-5	µg/kg			< 0.00382 U	< 0.00263 U	< 0.00210 U	< 0.00411 U	< 0.00330 U	< 0.00249 U	< 0.00163 U	< 0.00129 U	< 0.00246 U	< 0.000940 U
PCB-15	2050-68-2	µg/kg			0.229	0.0385	0.514	0.206	0.13	0.0590	0.0877	0.0221	0.0491	0.0230
PCB-16	38444-78-9	µg/kg			0.33	0.0541	0.676	0.341	0.231	0.196	0.141	0.0669	0.138	0.0733
PCB-17	37680-66-3	µg/kg			1.89	0.333	2.83	1.89	0.774	0.631	0.466	0.174	0.382	0.197
PCB-18/30	PCB-18/30	µg/kg			2.11	0.426	3.85	1.98	0.874	0.742	0.603	0.234	0.5	0.253
PCB-19	38444-73-4	µg/kg			0.928	0.131	1.4	0.869	0.527	0.52	0.39	0.268	0.433	0.3
PCB-20/28	PCB-20/28	µg/kg			8.87	1.18	11.5	6.18	2.55	2.13	1.96	0.688	1.38	0.853
PCB-21/33	PCB-21/33	µg/kg			0.892	0.195	0.999	0.895	0.515	0.475	0.296	0.174	0.332	0.207
PCB-22	38444-85-8	µg/kg			1.28	0.163	1.62	0.919	0.483	0.452	0.384	0.157	0.306	0.187
PCB-23	55720-44-0	µg/kg			< 0.00774 U	< 0.00398 U	< 0.00777 U	< 0.0123 U	< 0.00365 U	< 0.00253 U	< 0.00174 U	< 0.00117 U	< 0.00368 U	< 0.00101 U
PCB-24	55702-45-9	µg/kg			0.0158	0.00412 JN	0.0417	0.0270	0.0116	0.00820	0.00795	0.00306 J	0.0102	0.00384
PCB-25	55712-37-3	µg/kg			0.32	0.147	0.688	0.456	0.18	0.176	0.131	0.0641	0.101	0.0598
PCB-26/29	PCB-26/29	µg/kg			0.872	0.317	2.12	1.32	0.385	0.398	0.352	0.214	0.227	0.134
PCB-27	38444-76-7	µg/kg			0.409	0.0965	0.69	0.397	0.157	0.13	0.0979	0.0385	0.0935	0.0433
PCB-31	16606-02-3	µg/kg			3.44	0.753	4.61	2.84	1.22	1.24	0.946	0.426	0.751	0.504
PCB-32	38444-77-8	µg/kg			1.61	0.256	3.66	1.86	0.75	0.432	0.326	0.0954	0.228	0.104
PCB-34	37680-68-5	µg/kg			0.0632	0.0142	0.0869	0.0639	0.0215	0.0166	0.0123	0.00547	0.0106	0.00596
PCB-35	37680-69-6	µg/kg			< 0.00804 U	< 0.00420 U	0.0588 JN	0.0254	< 0.00379 U	< 0.00275 U	< 0.00174 U	0.00200 JN	0.00477	< 0.00102 U
PCB-36	38444-87-0	µg/kg			< 0.00726 U	< 0.00388 U	< 0.00714 U	0.533 JN	< 0.00342 U	< 0.00255 U	< 0.00157 U	< 0.00107 U	0.0827	< 0.000934 U
PCB-37	38444-90-5	µg/kg			0.476	0.0583	0.605	0.308	0.179	0.152	0.161	0.0627	0.0866	0.0538
PCB-38	53555-66-1	µg/kg			0.0180 JN	< 0.00383 U	0.0373	0.0143	0.00425	< 0.00251 U	0.00623 JN	0.00137 J	< 0.00369 U	0.00194 JN

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 4 SMB001 PDI-TF-SMB001 8/22/18	Sitewide 4 SMB002 PDI-TF-SMB002 9/13/18	Sitewide 4 SMB003 PDI-TF-SMB003 8/22/18	Sitewide 4 SMB004 PDI-TF-SMB004 9/10/18	Sitewide 4 SMB005 PDI-TF-SMB005 8/22/18	Sitewide 4 SMB006 PDI-TF-SMB006 9/10/18	Sitewide 4 SMB007 PDI-TF-SMB007 8/22/18	Sitewide 4 SMB008 PDI-TF-SMB008 8/22/18	Sitewide 4 SMB009 PDI-TF-SMB009 8/22/18	Sitewide 4 SMB010 PDI-TF-SMB010 8/22/18
PCB-39	38444-88-1	µg/kg		0.0675	0.00997	0.0955	0.0519	0.0233	0.0167	0.0163	0.00751	0.0119	0.00691 JN
PCB-40/41/71	PCB-40/41/71	µg/kg		5.96	1.05	12.7	5.27	2.9	1.45	1.42	0.554	0.864	0.496
PCB-42	36559-22-5	µg/kg		4.37	0.455	8.11	2.67	1.68	0.775	1.3	0.343	0.505	0.317
PCB-43	70362-46-8	µg/kg		0.583	0.0983	1.34	0.614	0.298	0.143	0.143 JN	0.0524	0.115	0.0553
PCB-44/47/65	PCB-44/47/65	µg/kg		25.1	2.79	41.4	16.9	8.2	4.18	6.96	2.21	3.16	1.93
PCB-45/51	PCB-45/51	µg/kg		1.69	0.283	3.66	1.66	0.811	0.676	0.455	0.217	0.382	0.237
PCB-46	41464-47-5	µg/kg		0.34	0.0591	0.753	0.333	0.158	0.123	0.0904	0.0425	0.0729	0.0377
PCB-48	70362-47-9	µg/kg		1.9	0.289	2.83	1.46	0.645	0.474	0.491	0.198	0.365	0.204
PCB-49/69	PCB-49/69	µg/kg		19.3	2.71	35.6	13.8	6.53	2.9	5.38	1.57	2.08	1.33
PCB-50/53	PCB-50/53	µg/kg		1.56	0.274	2.81	1.43	0.608	0.595	0.4	0.245	0.37	0.211
PCB-52	35693-99-3	µg/kg		32.7	3.86	59.2	22.5	10.2	4.75	7.87	3.11	3.5	2.08
PCB-54	15968-05-5	µg/kg		0.0845	0.0107	0.117	0.118	0.0756	0.105	0.0569	0.0438	0.0724	0.0560
PCB-55	74338-24-2	µg/kg		< 0.0328 U	< 0.00586 U	< 0.0335 U	< 0.0488 U	< 0.0108 U	< 0.00847 U	< 0.0171 U	< 0.0131 U	< 0.0136 U	< 0.00214 U
PCB-56	41464-43-1	µg/kg		5.88	0.574	6.62	3.22	1.23	1.1	1.31	0.423	0.662	0.374
PCB-57	70424-67-8	µg/kg		0.0711	< 0.00540 U	0.137	0.0480	0.0221	0.0144	0.0310	< 0.0119 U	< 0.0125 U	0.00836
PCB-58	41464-49-7	µg/kg		0.0558	0.0160 JN	0.0778	0.0466	0.0176	0.0167 JN	0.0317	< 0.0120 U	< 0.0130 U	0.0107
PCB-59/62/75	PCB-59/62/75	µg/kg		1.81	0.234	2.91	1.29	0.594	0.315	0.515	0.137	0.247	0.139
PCB-60	33025-41-1	µg/kg		7.86	0.526	9.94	5.72	1.97	0.856	2.43	0.384	0.582	0.385
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg		37	3.54	41.7	21.7	7.46	5.26	9.62	3.27	3.73	2.39
PCB-63	74472-34-7	µg/kg		1.38	0.166	1.89	1.01	0.401	0.206	0.512	0.105	0.155	0.1
PCB-64	52663-58-8	µg/kg		12.2	1.08	23	8.28	3.88	1.55	3.12	0.702	1.08	0.665
PCB-66	32598-10-0	µg/kg		40.6	3.02	46.7 J	23	8.72	4.38	10.5	2.11	3.23	1.86
PCB-67	73575-53-8	µg/kg		0.247	0.0389	0.33	0.168	0.0693	0.0747	0.0749	0.0312	0.0476	0.0349
PCB-68	73575-52-7	µg/kg		0.148	0.0706	0.119	0.127	0.0502	0.0566	0.0702	0.0374	0.0484	0.0376
PCB-72	41464-42-0	µg/kg		0.257	0.0808	0.298	0.209	0.0771	0.0659	0.111	0.0450	0.0629	0.0456
PCB-73	74338-23-1	µg/kg		0.128	0.0309	< 0.000348 U	0.407	0.0676	0.0330	< 0.000397 U	< 0.000354 U	< 0.000323 U	< 0.000300 U
PCB-77	32598-13-3	µg/kg		0.879	0.108	0.853	0.501	0.178	0.191	0.254	0.0813	0.117	0.0803
PCB-78	70362-49-1	µg/kg		< 0.0334 U	< 0.00586 U	< 0.0323 U	< 0.0471 U	< 0.0110 U	< 0.00859 U	< 0.0165 U	< 0.0126 U	< 0.0136 U	< 0.00207 U
PCB-79	41464-48-6	µg/kg		0.28	0.0371	0.247 JN	0.114 JN	0.0853	0.0585	0.122 JN	0.0593	0.0396	0.0297
PCB-80	33284-52-5	µg/kg		< 0.0300 U	< 0.00529 U	< 0.0291 U	< 0.0417 U	< 0.00990 U	< 0.00754 U	< 0.0156 U	< 0.0114 U	< 0.0124 U	< 0.00191 U
PCB-81	70362-50-4	µg/kg		0.0455 JN	0.00582 JN	0.0355 JN	< 0.0446 U	0.0111 JN	0.00915 JN	< 0.0166 U	< 0.0126 U	< 0.0138 U	0.00358
PCB-82	52663-62-4	µg/kg		1.81	0.233	1.57	0.826	0.607	0.424	0.719	0.476	0.287	0.184
PCB-83/99	PCB-83/99	µg/kg		27.3	3.95	27.3	16.2	8.1	5.03	11.6	4.72	4.13	3.12
PCB-84	52663-60-2	µg/kg		3.04	0.447	2.64	1.51	1.03	0.864	1.09	0.879	0.58	0.325
PCB-85/116/117	PCB-85/116/117	µg/kg		9.33	1.2	10.3	5.5	2.52	1.44	3.72	1.4	1.22	0.845
PCB-86/87/97/108/119/125	PCB-86/87/97/ C	µg/kg		17.2	2.2	17.3 J	9.64	5.59	3.54	7.48 J	4.1 J	2.77 J	1.87 J
PCB-88/91	PCB-88/91	µg/kg		3.6	0.673	3.53	2.06	1.28	0.897	1.38	0.744	0.663	0.429
PCB-89	73575-57-2	µg/kg		0.135	0.0239	0.226	0.121	0.0699	0.0449	0.0313 JN	0.0301	0.0218	0.0148
PCB-90/101/113	PCB-90/101/113	µg/kg		29.5	4.47	29.9	17.1	10.3	6.42	13.7	7.08	5.6	3.99
PCB-92	52663-61-3	µg/kg		5.68	1.06	5.95	3.51	2.08	1.38	2.61	1.43	1.2	0.852
PCB-93/95/98/100/102	PCB-93/95/98/ C	µg/kg		13.3	2.37	14.1	8.39	5.26	4.05	5.65	3.91	3.11	2.02
PCB-94	73575-55-0	µg/kg		0.0569	0.0227	0.0757	0.0582	0.0345	0.0400	0.0169	0.0205	0.0237	0.0146
PCB-96	73575-54-9	µg/kg		0.118	0.0289	0.207	0.118	0.0541	0.0426	0.0341	0.0257	0.0278	0.0169
PCB-103	60145-21-3	µg/kg		0.211	0.0798	0.243	0.184	0.138	0.122	0.133	0.0842	0.1	0.0725
PCB-104	56558-16-8	µg/kg		0.00870	0.00208 J	0.0131	0.0136	0.0102	0.0126	0.00476	0.00464	0.00851	0.00614
PCB-105	32598-14-4	µg/kg		12.8	1.67	12.5	7.63	3.19	2.08	6.06	2.36	1.91	1.26
PCB-106	70424-69-0	µg/kg		< 0.0205 U	< 0.00438 U	< 0.0359 U	< 0.0456 U	< 0.0111 U	< 0.00656 U	< 0.0243 U	< 0.0113 U	< 0.0136 U	< 0.00702 U
PCB-107/124	PCB-107/124	µg/kg		0.924	0.136	0.764	0.481	0.242	0.209	0.384	0.229	0.177	0.128
PCB-109	74472-35-8	µg/kg		2.64	0.432	2.39	1.66	0.823	0.588	1.3	0.533	0.514	0.42
PCB-110/115	PCB-110/115	µg/kg		25.9	4.14	26.3	15.6	8.92	5.52	10	6.38	4.62	3.12
PCB-111	39635-32-0	µg/kg		0.0153	0.00937	0.0176	0.0162	0.0101	0.00976	0.0130	0.0115 JN	0.0110	0.00881
PCB-112	74472-36-9	µg/kg		< 0.00264 U	< 0.00176 U	< 0.00750 U	< 0.00758 U	< 0.00391 U	< 0.00179 U	< 0.00398 U	< 0.00292 U	< 0.00271 U	< 0.00182 U
PCB-114	74472-37-0	µg/kg		0.939	0.114	0.918	0.623	0.241	0.16	0.515	0.163	0.132	0.0915
PCB-118	31508-00-6	µg/kg		29.3	4.17	27.1	17	7.77	5.83	15.3	6.55	5.23	3.65
PCB-120	68194-12-7	µg/kg		0.0682	0.0350	0.0825	0.0645	0.0528	0.0433	0.0622	0.0426	0.0445	0.0415

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 4 SMB001 PDI-TF-SMB001 8/22/18	Sitewide 4 SMB002 PDI-TF-SMB002 9/13/18	Sitewide 4 SMB003 PDI-TF-SMB003 8/22/18	Sitewide 4 SMB004 PDI-TF-SMB004 9/10/18	Sitewide 4 SMB005 PDI-TF-SMB005 8/22/18	Sitewide 4 SMB006 PDI-TF-SMB006 9/10/18	Sitewide 4 SMB007 PDI-TF-SMB007 8/22/18	Sitewide 4 SMB008 PDI-TF-SMB008 8/22/18	Sitewide 4 SMB009 PDI-TF-SMB009 8/22/18	Sitewide 4 SMB010 PDI-TF-SMB010 8/22/18
PCB-121	56558-18-0	µg/kg		0.00761	0.00649	0.0150	0.0122	0.00936	0.00905 JN	0.00936	0.00596	0.00958	0.00714
PCB-122	76842-07-4	µg/kg		0.175	0.0369 JN	0.152	0.118	0.0566	0.0533	0.0560	0.0349 JN	0.0403	0.0225
PCB-123	65510-44-3	µg/kg		0.723 JN	0.0908 JN	0.56	0.364 JN	0.186 JN	0.133 JN	0.364	0.121	0.121	0.0684
PCB-126	57465-28-8	µg/kg		0.0277 JN	0.00591 JN	< 0.0444 U	< 0.0602 U	0.0133 JN	0.00884 JN	< 0.0317 U	0.0127 JN	0.0208 JN	0.0118 JN
PCB-127	39635-33-1	µg/kg		0.0359	0.00872 JN	0.0399	< 0.0496 U	0.0149	0.0148	< 0.0265 U	0.0191 JN	< 0.0159 U	0.00955
PCB-128/166	PCB-128/166	µg/kg		3.96	1.16	3.65	3.15	1.9	1.63	2.74	1.87	1.4	1.19
PCB-129/138/160/163	PCB-129/138/ C	µg/kg		28.1	8.03	28.9	22.5	14	12.6	19.5	13.3	10.2	8.83
PCB-130	52663-66-8	µg/kg		1.34	0.409	1.15	1.01	0.711	0.616	0.927	0.65	0.525	0.405
PCB-131	61798-70-7	µg/kg		0.12	0.0280	0.0926	0.0860	0.0664	0.0536	0.0688	0.0742	0.0378	0.0302
PCB-132	38380-05-1	µg/kg		3.44	0.913	2.96	2.62	1.94	1.68	2.07	2.12	1.32	0.954
PCB-133	35694-04-3	µg/kg		0.412	0.188	0.463	0.366	0.272	0.245	0.316	0.219	0.2	0.187
PCB-134/143	PCB-134/143	µg/kg		0.598	0.178	0.551	0.464	0.321	0.307	0.334	0.331	0.225	0.171
PCB-135/151/154	PCB-135/151/154	µg/kg		5.35	2.01	5.83	4.74	3.29	3.19	3.58	2.82	2.64	2.01
PCB-136	38411-22-2	µg/kg		1.1	0.397	1.08	1.02	0.675	0.62	0.591	0.651	0.474	0.368
PCB-137	35694-06-5	µg/kg		1.31	0.336	1.08	1.13	0.549	0.457	0.911	0.532	0.373	0.321
PCB-139/140	PCB-139/140	µg/kg		0.475	0.133	0.472	0.346	0.198	0.169	0.314	0.196	0.165	0.132
PCB-141	52712-04-6	µg/kg		3.47	0.908	3.32	2.86	1.65	1.45	2.15	1.5	1.2	0.954
PCB-142	41411-61-4	µg/kg		< 0.0160 U	< 0.0166 U	< 0.0291 U	< 0.0338 U	< 0.0137 U	< 0.00862 U	< 0.0150 U	< 0.0132 U	< 0.00743 U	< 0.0102 U
PCB-144	68194-14-9	µg/kg		0.645	0.166	0.619	0.507	0.359	0.315	0.423	0.311	0.277	0.189
PCB-145	74472-40-5	µg/kg		0.00398	< 0.000839 U	0.00246 JN	0.00421	0.00178 J	0.00291 JN	0.00120 JN	0.00168 J	0.00196 JN	< 0.000568 U
PCB-146	51908-16-8	µg/kg		4.31	1.83	5.01	3.94	2.81	2.6	3.13	2.4	2	1.83
PCB-147/149	PCB-147/149	µg/kg		9.65	3.1	9.75	8.29	6.6	6.42	6.84	6.05	4.96	3.73
PCB-148	74472-41-6	µg/kg		0.0371	0.0349	0.0491	0.0520	0.0461	0.0367	0.0360	0.0311	0.0345	0.0289
PCB-150	68194-08-1	µg/kg		0.0201	0.0146	0.0319	0.0315	0.0238	0.0254	0.0184	0.0175	0.0187	0.0140
PCB-152	68194-09-2	µg/kg		0.0156	0.00693 JN	0.0292	0.0192	0.00934	0.00986	0.00754	0.00843	0.00870 JN	0.00555
PCB-153/168	PCB-153/168	µg/kg		25.3	8.53	28.4	21.4	14.8	13.8	17.2	12	10.5	9.59
PCB-155	33979-03-2	µg/kg		0.00708	0.0103	0.0153	0.0129	0.0106	0.0109	0.0142	0.0110	0.00995	0.0108
PCB-156/157	PCB-156/157	µg/kg		2.61	0.626	2.44	1.87	0.986	0.921	1.82	1.18	0.78	0.649
PCB-158	74472-42-7	µg/kg		2.27	0.555	2.1	1.74	0.999	0.911	1.64	0.968	0.744	0.628
PCB-159	39635-35-3	µg/kg		< 0.0116 U	< 0.0116 U	0.0838	< 0.0248 U	< 0.00992 U	< 0.00641 U	0.0703	0.0555	0.0537	0.0351
PCB-161	74472-43-8	µg/kg		< 0.0116 U	< 0.0109 U	< 0.0194 U	< 0.0236 U	< 0.00995 U	< 0.00621 U	< 0.0104 U	< 0.00883 U	< 0.00533 U	< 0.00707 U
PCB-162	39635-34-2	µg/kg		0.0752	0.0192	0.0526	0.0424	0.0309	0.0225	0.0605	0.0259	0.0351	0.0207
PCB-164	74472-45-0	µg/kg		1.07	0.305	1.07	0.722	0.544	0.483	0.671	0.482	0.43	0.307
PCB-165	74472-46-1	µg/kg		< 0.0130 U	< 0.0132 U	< 0.0225 U	< 0.0281 U	< 0.0111 U	0.00996	< 0.0125 U	< 0.0102 U	0.00899 JN	< 0.00818 U
PCB-167	52663-72-6	µg/kg		0.892	0.251	0.827	0.661	0.433	0.397	0.628	0.433	0.342	0.263
PCB-169	32774-16-6	µg/kg		< 0.0131 U	< 0.0141 U	< 0.0276 U	< 0.0370 U	< 0.0118 U	< 0.0105 U	< 0.0228 U	< 0.00992 U	< 0.00871 U	< 0.00767 U
PCB-170	35065-30-6	µg/kg		3.09	1.23	3.69	2.75	2.08	2.01	2.46	1.69	1.62	1.39
PCB-171/173	PCB-171/173	µg/kg		1	0.408	1.06	0.855	0.698	0.637	0.727	0.478	0.465	0.4
PCB-172	52663-74-8	µg/kg		0.649	0.279	0.725	0.526	0.474	0.504	0.453	0.301	0.316	0.274
PCB-174	38411-25-5	µg/kg		1.74	0.612	1.53	1.46	1.4	1.32	1.22	0.902	0.951	0.691
PCB-175	40186-70-7	µg/kg		0.117	0.0489	0.123	0.106	0.0977	0.0909	0.0966	0.0631	0.0646	0.0534
PCB-176	52663-65-7	µg/kg		0.196	0.0800	0.191	0.187	0.176	0.166	0.151	0.118	0.111	0.0841
PCB-177	52663-70-4	µg/kg		1.3	0.589	1.29	1.1	1.16	1.14	1.32	0.688	0.676	0.595
PCB-178	52663-67-9	µg/kg		0.883	0.454	0.996	0.808	0.699	0.803	0.695	0.478	0.5	0.454
PCB-179	52663-64-6	µg/kg		0.917	0.466	0.955	0.841	0.708	0.684	0.638	0.506	0.529	0.432
PCB-180/193	PCB-180/193	µg/kg		9.13	3.67	12	7.82	7	6.99	8.22	5.01	5.05	4.63
PCB-181	74472-47-2	µg/kg		0.0467	0.0148	0.0455	0.0368	0.0260	0.0244	0.0362	0.0206	0.0184	0.0169
PCB-182	60145-23-5	µg/kg		< 0.000661 U	< 0.000822 U	< 0.000834 U	0.0263	< 0.000744 U	< 0.000713 U	0.0208	0.0161	0.0186	0.0187
PCB-183/185	PCB-183/185	µg/kg		2.69	1.05	2.95	2.3	2.01	1.92	1.95	1.24	1.38	1.15
PCB-184	74472-48-3	µg/kg		0.00832	0.0112	0.0134	0.0122	0.00994	0.0105	0.0105	0.00874	0.00933	0.00909
PCB-186	74472-49-4	µg/kg		< 0.000546 U	< 0.000673 U	< 0.000719 U	< 0.000506 U	< 0.000614 U	< 0.000587 U	< 0.000539 U	< 0.000524 U	0.000720 J	< 0.000364 U
PCB-187	52663-68-0	µg/kg		6.84	3.09	8.4	6.55	5.78	6.24	5.35	3.72	3.85	3.2
PCB-188	74487-85-7	µg/kg		0.00997	0.00914	0.0151	0.0115	0.0135	0.0112	0.0123	0.00853	0.0110	0.00806
PCB-189	39635-31-9	µg/kg		0.0996	0.0385	0.127	0.0884	0.0682	0.0653	0.0851	0.0568	0.0501	0.0428
PCB-190	41411-64-7	µg/kg		0.788	0.326	0.975	0.585	0.484	0.558	0.567	0.374	0.371	0.322

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 4 SMB001 PDI-TF-SMB001 8/22/18	Sitewide 4 SMB002 PDI-TF-SMB002 9/13/18	Sitewide 4 SMB003 PDI-TF-SMB003 8/22/18	Sitewide 4 SMB004 PDI-TF-SMB004 9/10/18	Sitewide 4 SMB005 PDI-TF-SMB005 8/22/18	Sitewide 4 SMB006 PDI-TF-SMB006 9/10/18	Sitewide 4 SMB007 PDI-TF-SMB007 8/22/18	Sitewide 4 SMB008 PDI-TF-SMB008 8/22/18	Sitewide 4 SMB009 PDI-TF-SMB009 8/22/18	Sitewide 4 SMB010 PDI-TF-SMB010 8/22/18
Chemical	CAS	Units										
PCB-191	74472-50-7	µg/kg	0.136	0.0487	0.156	0.12	0.0987	0.0942	0.0943	0.0627	0.0666	0.0595
PCB-192	74472-51-8	µg/kg	< 0.000655 U	< 0.000796 U	0.00620 JN	< 0.000577 U	< 0.000736 U	< 0.000694 U	< 0.000629 U	0.00117 JN	< 0.000487 U	< 0.000418 U
PCB-194	35694-08-7	µg/kg	0.912 J	0.388 J	1.26 J	1.02	0.819 J	0.736 J	0.828 J	0.507 J	0.722	0.702
PCB-195	52663-78-2	µg/kg	0.585	0.291	0.903	0.419	0.413	0.488	0.447	0.324	0.338	0.268
PCB-196	42740-50-1	µg/kg	0.642	0.327	1.1	0.541	0.599	0.565	0.548	0.417	0.385	0.299
PCB-197/200	PCB-197/200	µg/kg	0.155	0.0796	0.19	0.136	0.13	0.122 J	0.129	0.0918	0.0867	0.0696
PCB-198/199	PCB-198/199	µg/kg	1.48	0.843	2.3	1.26	1.8	1.5	1.2	0.871	0.824	0.709
PCB-201	40186-71-8	µg/kg	0.151	0.0844	0.18	0.139	0.154	0.14	0.127	0.0837	0.0767	0.0741
PCB-202	2136-99-4	µg/kg	0.459	0.283	0.566	0.403	0.6	0.409	0.405	0.275	0.317	0.287
PCB-203	52663-76-0	µg/kg	1.14	0.589	1.77	0.908	0.983	0.984	0.926	0.661	0.603	0.523
PCB-204	74472-52-9	µg/kg	0.00148 J	0.00109 JN	0.00215 JN	0.00145 JN	0.00181 J	0.00141 JN	0.00140 JN	0.00116 J	0.00171 J	0.000782 JN
PCB-205	74472-53-0	µg/kg	0.0547	0.0289	0.0811	0.0494	0.0451	0.0505	0.0511	0.0301	0.0336	0.0316
PCB-206	40186-72-9	µg/kg	0.41	0.208	0.524	0.377	2.2	0.33	0.382	0.251	0.275	0.253
PCB-207	52663-79-3	µg/kg	0.0511	0.0306	0.0681	0.0505	0.148	0.0452	0.0532	0.0361	0.0406	0.0359
PCB-208	52663-77-1	µg/kg	0.14	0.0902	0.188	0.148	1.13	0.128	0.156	0.0981	0.113	0.0999
PCB-209	2051-24-3	µg/kg	0.112	0.0771	0.175	0.144	0.956	0.115	0.158	0.102	0.101	0.12
Total PCBs	(a) T_PCBCg (PDI)	µg/kg	546	100	675	376	212	156	238	128	119	89.4
Pesticides												
2,4-DDD	53-19-0	µg/kg	1.31	0.942	1.82	2.27	1.91	3.05	1.15	1.81	1.98 J	1.69
2,4-DDE	3424-82-6	µg/kg	0.443	0.490	0.601	0.648	0.635	0.713	0.380	0.531	0.556 J	0.548
2,4-DDT	789-02-6	µg/kg	0.435	0.659	0.582	0.740	0.386	0.765	0.462	0.554	0.629 J	0.491
4,4'-DDD	72-54-8	µg/kg	7.58	10.2	10.3	11.5	10.8	13.0	8.48	9.69	10.2 J	10.3
4,4'-DDE	72-55-9	µg/kg	40.8	57.4	54.0	56.9	50.1	57.0	45.1	50.2	49.8 J	50.4
4,4'-DDT	50-29-3	µg/kg	2.01	2.89	4.34	4.61	2.22	1.85	3.47	2.38	2.77 J	2.63
DDx	(a) T_DDx (PDI)	µg/kg	52.6	72.6	71.6	76.7	66.1	76.4	59	65.2	65.9	66.1
alpha-Chlordane	5103-71-9	µg/kg	0.816	0.699	1.30	1.14	0.985	0.788	0.648	0.902	1.26 J	1.02
cis-Nonachlor	5103-73-1	µg/kg	0.949	0.858	1.32	1.38	1.14	1.06	1.09	1.11	1.32 J	1.16
Oxychlordane	27304-13-8	µg/kg	0.472	0.350 J	0.597	0.562	0.574	0.553	0.446 J	0.489 J	0.618 J	0.506
trans-Chlordane	5103-74-2	µg/kg	0.278 J	0.211 J	0.455 J	0.397 J	0.351 J	0.293 J	0.031 J	0.309 J	0.486 J	0.386 J
trans-Nonachlor	39765-80-5	µg/kg	2.26	2.06	3.46	3.62	2.86	2.63	2.96	2.80	3.18 J	2.88
Total Chlordanes	(a) T_Clrn (PDI)	µg/kg	4.78	4.18	7.13	7.1	5.91	5.32	5.18	5.61	6.86	5.95
Aldrin	309-00-2	µg/kg	0.010 J	< 0.0046 U	0.013 J	0.012 J	0.014 JN	0.015 J	0.014 JN	0.015 JN	0.016 J	0.012 J
Dieldrin	60-57-1	µg/kg	1.24	0.988	1.89	1.43	1.60	1.36	2.44	1.13	2.25 J	1.35
Metals												
Arsenic	7440-38-2	mg/kg	0.23	0.37	0.23	0.24	0.22	0.16	0.23	0.19	0.24	0.27
Mercury	7439-97-6	mg/kg	0.077 J	0.090 J	0.103 J	0.099 J	0.097 J	0.092 J	0.078 J	0.080 J	0.081 J	0.070 J
Semivolatile Organics												
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg	0.872	0.991	1.43	1.09	1.19	0.822	1.03	0.955	1.25 J	1.22
Pentachlorophenol	(c) 87-86-5	µg/kg	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)												
PBDE-7	171977-44-9	µg/kg	0.00473 J	0.00161 J	0.00573 J	0.00593 JN	0.00543 J	0.00365 J	0.00387 J	0.00408 J	0.00387 JN	0.00408 J
PBDE-8/11	PBDE-8/11	µg/kg	0.00413 J	0.00134 J	0.00477 J	0.00583 JN	0.00651 J	0.00423 J	0.00367 J	0.00386 J	0.00366 J	0.00500 J
PBDE-10	51930-04-2	µg/kg	< 0.000486 U	< 0.000451 U	< 0.000579 U	< 0.000718 U	< 0.000529 U	< 0.000531 U	< 0.000619 U	< 0.000553 U	< 0.000443 U	< 0.000406 U
PBDE-12/13	PBDE-12/13	µg/kg	0.00152 J	0.00112 J	0.0184 JN	0.0249 JN	0.00188 JN	0.00178 J	0.00788 JN	0.00737 JN	0.0114 JN	0.00217 JN
PBDE-15	2050-47-7	µg/kg	0.0199	0.0360	0.0229	0.0207	0.0208	0.0157	0.0167 J	0.0192	0.0166 J	0.0222
PBDE-17/25	PBDE-17/25	µg/kg	0.142	0.0820	0.156 JN	0.18 JN	0.203	0.163	0.106 JN	0.107 JN	0.149 JN	0.139 JN
PBDE-28/33	PBDE-28/33	µg/kg	0.473	0.309	0.531	0.461	0.507	0.34	0.456	0.323	0.411	0.349
PBDE-30	155999-95-4	µg/kg	< 0.00209 U	< 0.00320 U	< 0.00289 U	< 0.00272 U	< 0.00274 U	< 0.00302 U	< 0.00309 U	< 0.00237 U	< 0.00339 U	< 0.00237 U
PBDE-32	189084-60-4	µg/kg	< 0.00172 U	< 0.00246 U	< 0.00232 U	< 0.00218 U	< 0.00226 U	< 0.00244 U	< 0.00249 U	< 0.00191 U	< 0.00267 U	< 0.00182 U
PBDE-35	147217-80-9	µg/kg	0.00401 JN	0.00756 JN	0.00556 JN	0.00561 JN	0.00665 JN	0.00393 JN	0.00536 JN	0.00500 JN	0.00590 JN	0.00512 JN
PBDE-37	147217-81-0	µg/kg	0.0108 J	0.0131 J	0.00922 J	0.00863 J	0.00891 J	0.0104 J	0.00932 J	0.00836 J	0.00802 J	0.00998 J
PBDE-047	5436-43-1	µg/kg	18.8	12.3	26.2	20.5	15.2	16	21.7	13.9	15.4	14.4 J
PBDE-49	243982-82-3	µg/kg	0.666	0.737	1.23	1.2	1.09	1.91	0.746	0.821	1.03	0.792
PBDE-51	189084-57-9	µg/kg	0.0402	0.0415	0.0639	0.0636	0.0703	0.0695	0.0342	0.0528	0.0563	0.0412

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 4 SMB001 PDI-TF-SMB001 8/22/18	Sitewide 4 SMB002 PDI-TF-SMB002 9/13/18	Sitewide 4 SMB003 PDI-TF-SMB003 8/22/18	Sitewide 4 SMB004 PDI-TF-SMB004 9/10/18	Sitewide 4 SMB005 PDI-TF-SMB005 8/22/18	Sitewide 4 SMB006 PDI-TF-SMB006 9/10/18	Sitewide 4 SMB007 PDI-TF-SMB007 8/22/18	Sitewide 4 SMB008 PDI-TF-SMB008 8/22/18	Sitewide 4 SMB009 PDI-TF-SMB009 8/22/18	Sitewide 4 SMB010 PDI-TF-SMB010 8/21/18
Chemical	CAS	Units										
PBDE-66	189084-61-5	µg/kg	0.228	0.179	0.317	0.235	0.2	0.337	0.153	0.218	0.255	0.246
PBDE-71	189084-62-6	µg/kg	0.0240	0.0259	0.0474	0.0433	0.0347	0.0726 JN	0.0281	0.0326	0.0384	0.0227
PBDE-75	189084-63-7	µg/kg	0.0199	0.0202	0.0275	0.0210	0.0174	0.0264	0.0229	0.0184 JN	0.0210 JN	0.0212
PBDE-77	93703-48-1	µg/kg	0.00292 JN	0.00553 JN	< 0.000146 U	< 0.000134 U	0.00328 JN	0.00432 J	< 0.000172 U	0.00339 JN	0.00598 JN	0.00360 JN
PBDE-79	PBDE-79	µg/kg	0.0123 J+	0.0211 JN	0.0403 JN	0.0253 JN	0.0146 J+	0.0206 JN	0.0235 JN	0.0322 JN	0.0248 JN	0.0314 JN
PBDE-85	182346-21-0	µg/kg	< 0.00261 U	< 0.00338 U	< 0.00293 U	< 0.00319 U	< 0.00242 UJ	< 0.00842 U	< 0.00204 U	< 0.00277 U	< 0.00313 U	< 0.00333 U
PBDE-099	60348-60-9	µg/kg	3.29	1.94	4.02	3.12	3.47	13.8	1.98	2.54	3.13	3.62
PBDE-100	189084-64-8	µg/kg	3.36	2.11	4.98	3.4	3.08 J	4.45	4.28	2.7	2.85	2.8
PBDE-105	373594-78-6	µg/kg	< 0.00346 U	< 0.00400 U	< 0.00414 U	< 0.00393 U	< 0.00320 UJ	< 0.0106 U	< 0.00287 U	< 0.00391 U	< 0.00402 U	< 0.00429 U
PBDE-116	189084-65-9	µg/kg	< 0.00495 U	< 0.00542 U	< 0.00601 U	< 0.00531 U	< 0.00458 UJ	< 0.0138 U	< 0.00417 U	< 0.00568 U	< 0.00527 U	< 0.00547 U
PBDE-119/120	PBDE-119/120	µg/kg	0.0854	0.0579	0.114	0.0738	0.0658 J	0.0907	0.111	0.0726	0.0808	0.0821
PBDE-126	366791-32-4	µg/kg	0.00947 J	0.00549 J	0.0168	0.0120 J	0.00921 J	0.0144 J	0.0233	0.00960 J	0.00770 J	0.00638 J
PBDE-128	182677-28-7	µg/kg	0.00255 JN	0.00295 JN	0.00624 JN	0.00357 JN	0.00337 JN	0.00538 J	0.00524 JN	0.00422 JN	0.00396 JN	0.00588 JN
PBDE-138/166	PBDE-138/166	µg/kg	0.000473 JN	0.000380 JN	< 0.00101 U	0.00150 JN	0.000210 JN	0.0116 J	< 0.000616 U	< 0.000775 U	< 0.00101 U	0.00130 J
PBDE-140	243982-83-4	µg/kg	0.00543 J	0.00465 J	0.0105 J	0.00732 J	0.00754 J	0.0440 J	0.00407 JN	0.00691 J	0.00837 JN	0.00970 J
PBDE-153	68631-49-2	µg/kg	0.88	0.554	1.73	0.909	0.653	1.74	0.919	0.672	0.691	0.822
PBDE-154	207122-15-4	µg/kg	0.872 J	0.391 J	1.58	0.818 J	0.643 J	1.44 J	1.27	0.637	0.63	0.67 J
PBDE-155	35854-94-5	µg/kg	0.0791 J	0.0446 J	0.106	0.0963 J	0.0706 J	0.0994 J	0.172	0.0619	0.0637	0.0577 J
PBDE-181	189084-67-1	µg/kg	< 0.000143 U	< 0.000163 U	< 0.000146 U	< 0.000134 U	< 0.000142 U	< 0.000147 U	< 0.000606 U	< 0.000230 U	< 0.000415 U	< 0.000159 U
PBDE-183	207122-16-5	µg/kg	0.00720 JN	0.00359 JN	0.0103 J	0.00503 J	0.00656 JN	0.0192	0.00582 JN	0.00686 J	0.00621 JN	0.00734 J
PBDE-190	189084-68-2	µg/kg	< 0.000194 U	< 0.000238 U	0.000211 JN	< 0.000134 U	< 0.000197 U	< 0.000151 U	0.000180 JN	0.000238 JN	< 0.000228 U	< 0.000233 U
PBDE-203	337513-72-1	µg/kg	0.00167 JN	0.000655 JN	< 0.00157 U	0.000438 JN	0.00154 JN	0.000946 J	< 0.00253 U	< 0.00152 U	< 0.00123 U	0.00146 JN
PBDE-206	63387-28-0	µg/kg	0.0187 JN	< 0.000485 U	< 0.000649 U	0.00294 JN	< 0.000466 U	0.0113 JN	< 0.00398 U	0.00554 JN	< 0.00209 U	< 0.00108 U
PBDE-207	437701-79-6	µg/kg	0.0168 JN	0.00322 JN	< 0.000310 U	0.00515 JN	< 0.000325 U	0.0196 JN	< 0.00237 U	< 0.00491 U	0.00866 J+	< 0.00264 U
PBDE-208	437701-78-5	µg/kg	0.0189 JN	0.00259 JN	< 0.000757 U	< 0.00364 U	< 0.000505 U	0.0114 JN	< 0.000386 U	< 0.00558 U	< 0.00229 U	< 0.00326 U
PBDE-209	1163-19-5	µg/kg	0.4 JN	0.0337 JN	< 0.0284 U	0.0590 JN	0.0346 JN	0.474	0.0743 JN	0.0706 J+	< 0.0303 U	< 0.0376 U
Total PBDE	(a) T. PBDE (PDI)	µg/kg	29.5	18.9	41.3	31.3	25.4	41.2	32.2	22.3	24.9	24.2

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 4 SMB001 PDI-TF-SMB001 8/22/18	Sitewide 4 SMB002 PDI-TF-SMB002 9/13/18	Sitewide 4 SMB003 PDI-TF-SMB003 8/22/18	Sitewide 4 SMB004 PDI-TF-SMB004 9/10/18	Sitewide 4 SMB005 PDI-TF-SMB005 8/22/18	Sitewide 4 SMB006 PDI-TF-SMB006 9/10/18	Sitewide 4 SMB007 PDI-TF-SMB007 8/22/18	Sitewide 4 SMB008 PDI-TF-SMB008 8/22/18	Sitewide 4 SMB009 PDI-TF-SMB009 8/22/18	Sitewide 4 SMB010 PDI-TF-SMB010 8/21/18
Chemical	CAS	Units										
Physical Parameters												
Lipids	LIPID	%	5.34	9.17	6.98	5.78	7.09	4.90	4.65	4.73	5.45	6.47
Total Solids@104C	TSOLID	%	26.9	29.9	29.2	27.5	29.7	25.8	27.0	26.1	28.4	28.5

Notes:**Qualifiers:**

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
 JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 U = Not detected at detection limit shown.
 UJ = Not detected; sample detection limit is estimated.
 R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
 The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
 Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
 There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location Sample ID Sample Date	Sitewide 4 SMB011 PDI-TF-SMB011 8/21/18	Sitewide 4 SMB012 PDI-TF-SMB012 9/5/18	Sitewide 4 SMB013 PDI-TF-SMB013 9/10/18	Sitewide 4 SMB014 PDI-TF-SMB014 8/21/18	Sitewide 4 SMB015 PDI-TF-SMB015 8/21/18	Sitewide 4 SMB016 PDI-TF-SMB016 9/10/18	Sitewide 4 SMB017 PDI-TF-SMB017 9/5/18	Sitewide 4 SMB018 PDI-TF-SMB018 9/10/18	Sitewide 4 SMB019 PDI-TF-SMB019 9/6/18	Sitewide 4 SMB020 PDI-TF-SMB020 8/21/18
Chemical	CAS	Units										
Dioxins and Furans												
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg	0.000217 JN	0.000116 JN	0.000190 J	< 0.0000732 U	< 0.0000710 U	0.000196 J	0.000153 JN	0.000176 J	0.000173 JN	0.000220 J
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg	< 0.0000731 U	< 0.0000733 U	< 0.0000679 U	< 0.0000732 U	< 0.0000710 U	< 0.0000722 U	< 0.0000743 U	< 0.0000722 U	< 0.0000730 U	< 0.0000743 U
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg	< 0.0000731 U	< 0.0000733 U	< 0.0000679 U	< 0.0000732 U	< 0.0000710 U	< 0.0000722 U	< 0.0000743 U	< 0.0000722 U	< 0.0000730 U	< 0.0000743 U
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg	< 0.0000731 U	< 0.0000733 U	0.000136 JN	< 0.0000732 U	0.000107 J	0.000141 JN	0.0000960 JN	< 0.0000722 U	0.000119 J	0.000117 J
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg	0.0000944 J	0.000113 JN	0.000160 JN	< 0.0000732 U	0.0000762 JN	0.000339 J	0.000181 J	0.000116 JN	0.0000866 J	0.000157 JN
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg	0.000268 J	0.000212 J	0.000252 JN	0.000132 JN	0.000210 JN	0.000489 JN	0.000349 J	0.000185 JN	0.000323 JN	0.000333 J
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg	< 0.0000731 U	< 0.0000733 U	0.0000970 JN	< 0.0000732 U	< 0.0000710 U	0.000118 JN	< 0.0000743 U	< 0.0000722 U	< 0.0000730 U	0.0000776 JN
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg	< 0.0000731 U	< 0.0000733 U	< 0.0000679 U	< 0.0000732 U	< 0.0000710 U	< 0.0000722 U	< 0.0000743 U	< 0.0000722 U	< 0.0000730 U	< 0.0000743 U
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg	< 0.0000731 U	< 0.0000733 U	< 0.0000679 U	< 0.0000732 U	< 0.0000710 U	< 0.0000819 U	< 0.0000743 U	< 0.0000722 U	< 0.0000730 U	< 0.0000743 U
1,2,3,7,8-PeCDD	40321-76-4	µg/kg	0.000503 J	0.000399 J	0.000558 JN	0.000293 J	0.000313 J	0.000503 JN	0.000600 J	0.000357 JN	0.000580 J	0.000559 J
1,2,3,7,8-PeCDF	57117-41-6	µg/kg	0.000336 J	0.000437 J	0.000460 JN	0.000156 J	0.000247 J	0.000576 J	0.000343 JN	0.000302 J	0.000398 J	0.000329 J
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg	< 0.0000731 U	< 0.0000733 U	< 0.0000679 U	< 0.0000732 U	< 0.0000710 U	< 0.0000722 U	< 0.0000743 U	< 0.0000722 U	< 0.0000730 U	< 0.0000743 U
2,3,4,7,8-PeCDF	57117-31-4	µg/kg	0.000555 J	0.000448 J	0.000698 JN	0.000463 J	0.000426 J	0.000642 JN	0.000621 J	0.000597 J	0.000559 J	0.000504 J
2,3,7,8-TCDD	1746-01-6	µg/kg	0.000323	0.000210 J	0.000374	0.000223 JN	0.000242 J	0.000337	0.000291 J	0.000261 J	0.000318	0.000309
2,3,7,8-TCDF	51207-31-9	µg/kg	0.00173	0.00212	0.00187 JN	0.00110	0.00175	0.00233	0.00137	0.00178	0.00249	0.00147
OCDD	3268-87-9	µg/kg	0.000853 J	0.000180 J	0.000362 JN	0.000145 J+	0.000258 JN	0.000198 JN	0.000525 J	0.000532 J+	0.000452 J	0.000264 J+
OCDF	39001-02-0	µg/kg	< 0.0000731 U	< 0.0000733 U	0.0000721 JN	< 0.0000732 U	< 0.0000710 U	< 0.0000722 U	< 0.0000743 U	< 0.0000722 U	< 0.0000730 U	< 0.0000905 U
TCDD-TEQ (a)	T_DF_TEQ (PDI)	µg/kg	0.00122	0.00101	0.00141	0.000786	0.000908	0.0014	0.00129	0.00102	0.00139	0.00125
TCDD-TEQ (EMPC=half) (b)	T_DF_TEQ(E 0.5)	µg/kg	0.00122	0.000995	0.000842	0.000658	0.000886	0.000875	0.00127	0.000808	0.00136	0.00123
TCDD-TEQ (EMPC=0) (b)	T_DF_TEQ(E 0)	µg/kg	0.00121	0.00099	0.000563	0.000547	0.000876	0.000623	0.00127	0.000629	0.00135	0.00122
Polychlorinated Biphenyls (PCBs)												
PCB-1	2051-60-7	µg/kg	0.0101	0.00435	0.00388	0.0283	0.17	0.0615	0.0176	0.00325	0.00472	0.00452
PCB-2	2051-61-8	µg/kg	0.00210	0.00189 J	0.00107 J+	0.00181 JN	0.00785	0.00310	0.00121 JN	0.000922 J+	0.00141 J+	0.000829 J+
PCB-3	2051-62-9	µg/kg	0.00558	0.00369 JN	0.00292 J+	0.00664	0.0427	0.0149	0.00538 J+	0.00195 J+	0.00231 J+	0.00173 J+
PCB-4	13029-08-8	µg/kg	0.262	0.164	0.129	0.386	1.68	1.77	0.277	0.113	0.182	0.134
PCB-5	16605-91-7	µg/kg	0.00182 JN	< 0.00350 U	< 0.00295 U	0.00469	0.0418	0.0169	< 0.00369 U	< 0.00256 U	< 0.00304 U	0.00119 J
PCB-6	25569-80-6	µg/kg	0.0383	0.0199	0.0158	0.0724	0.537	0.273	0.0409	0.0122	0.0215	0.0197
PCB-7	33284-50-3	µg/kg	0.00600	0.00487	0.00344 JN	0.0161	0.112	0.0592	0.00844	0.00246 J	0.00472 JN	0.00420
PCB-8	34883-43-7	µg/kg	0.133	0.0864	0.0666	0.415	2.52	1.19	0.199	0.0566	0.103	0.0966
PCB-9	34883-39-1	µg/kg	0.00977	0.00640	0.00511 JN	0.0227	0.17	0.11	0.0138	0.00413	0.00535	0.00544
PCB-10	33146-45-1	µg/kg	0.0156	0.0111 JN	0.00640	0.0212	0.108	0.144	0.0257	0.00712 JN	0.0115	0.00909
PCB-11	2050-67-1	µg/kg	0.119	0.117	0.0451	0.0321	0.103	0.0478	0.0269	0.0470	0.0713	0.0411
PCB-12/13	PCB-12/13	µg/kg	0.00539	0.00419	< 0.00286 U	0.00559	0.0593	0.0885	0.00408 JN	0.00250 JN	< 0.00293 U	0.00277 J
PCB-14	34883-41-5	µg/kg	< 0.000206 U	< 0.00321 U	< 0.00277 U	< 0.000906 U	< 0.00165 U	< 0.00282 U	< 0.00339 U	< 0.00238 U	< 0.00281 U	< 0.000835 U
PCB-15	2050-68-2	µg/kg	0.0398	0.0247	0.0194	0.0766	0.706	0.271	0.0368	0.0173	0.0270	0.0204
PCB-16	38444-78-9	µg/kg	0.126	0.0911	0.0777	0.232	1.51	0.924	0.155	0.0662	0.123	0.0882
PCB-17	37680-66-3	µg/kg	0.35	0.279	0.226	0.477	2.08	4.26	0.442	0.215	0.351	0.239
PCB-18/30	PCB-18/30	µg/kg	0.421	0.307	0.26	0.705	3.6	2.84	0.523	0.22	0.362	0.265
PCB-19	38444-73-4	µg/kg	0.502	0.414	0.384	0.481	1.38	3.37	0.443	0.382	0.521	0.369
PCB-20/28	PCB-20/28	µg/kg	1.45	1	1.03	3.13	8.17	9.82	2.37	1.01	1.28	1.09
PCB-21/33	PCB-21/33	µg/kg	0.272	0.23	0.251	0.734	2.48	2.2	0.539	0.199	0.329	0.267
PCB-22	38444-85-8	µg/kg	0.298	0.214	0.232	0.674	2.37	1.64	0.463	0.221	0.292	0.252
PCB-23	55720-44-0	µg/kg	< 0.00106 U	< 0.00211 U	< 0.00330 U	< 0.00220 U	< 0.0156 U	< 0.00966 U	< 0.00372 U	< 0.00192 U	< 0.00243 U	< 0.00200 U
PCB-24	55702-45-9	µg/kg	0.00665	0.00480	0.00405 JN	0.0122	0.0841	0.0574	0.00892	0.00445	0.00456	0.00397
PCB-25	55712-37-3	µg/kg	0.105	0.0743	0.0697	0.154	0.501	0.644	0.117	0.0704	0.0940	0.0756
PCB-26/29	PCB-26/29	µg/kg	0.234	0.163	0.128	0.405	1.17	1.9	0.309	0.149	0.194	0.156
PCB-27	38444-76-7	µg/kg	0.0808	0.0623	0.0571	0.111	0.502	1.5	0.0938	0.0519	0.0788	0.0545
PCB-31	16606-02-3	µg/kg	0.802	0.576	0.567	1.58	5.11	4.37	1.16	0.594	0.737	0.598
PCB-32	38444-77-8	µg/kg	0.194	0.135	0.126	0.306	1.64	1.47	0.229	0.108	0.185	0.14
PCB-34	37680-68-5	µg/kg	0.00898	0.00769	0.00725	0.00959	0.0292	0.0476	0.0102	0.00433	0.00850	0.00574
PCB-35	37680-69-6	µg/kg	0.00270	< 0.00207 U	< 0.00330 U	< 0.00200 U	0.0188	< 0.0105 U	< 0.00365 U	< 0.00208 U	< 0.00238 U	< 0.00202 U
PCB-36	38444-87-0	µg/kg	< 0.000939 U	< 0.00189 U	0.0687	< 0.00189 U	< 0.0137 U	< 0.00972 U	< 0.00333 U	< 0.00193 U	< 0.00225 U	< 0.00185 U
PCB-37	38444-90-5	µg/kg	0.0955	0.0632	0.0784	0.147	0.698	0.52	0.133	0.0800	0.112	0.0796
PCB-38	53555-66-1	µg/kg	0.00171 JN	< 0.00206 U	< 0.00333 U	0.00487 JN	< 0.0148 U	< 0.00956 U	< 0.00364 U	< 0.00189 U	0.00267 J	0.00257 JN

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 4 SMB011 PDI-TF-SMB011 8/21/18	Sitewide 4 SMB012 PDI-TF-SMB012 9/5/18	Sitewide 4 SMB013 PDI-TF-SMB013 9/10/18	Sitewide 4 SMB014 PDI-TF-SMB014 8/21/18	Sitewide 4 SMB015 PDI-TF-SMB015 8/21/18	Sitewide 4 SMB016 PDI-TF-SMB016 9/10/18	Sitewide 4 SMB017 PDI-TF-SMB017 9/5/18	Sitewide 4 SMB018 PDI-TF-SMB018 9/10/18	Sitewide 4 SMB019 PDI-TF-SMB019 9/6/18	Sitewide 4 SMB020 PDI-TF-SMB020 8/21/18
Chemical	CAS	Units										
PCB-39	38444-88-1	µg/kg	0.0103	0.0101	0.00958	0.0199	0.0460	0.0894	0.0148	0.00791	0.0134	0.0117
PCB-40/41/71	PCB-40/41/71	µg/kg	0.716	0.615	0.641	1.17	2.98	3.89	0.838	0.499	0.968	0.849
PCB-42	36559-22-5	µg/kg	0.501	0.383	0.408	0.788	1.66	1.74	0.538	0.428	0.567	0.52
PCB-43	70362-46-8	µg/kg	0.0775	0.0848	0.0834	0.144	0.34	0.797	0.139	0.0525	0.102	0.0805
PCB-44/47/65	PCB-44/47/65	µg/kg	3.18	2.58	2.73	4.7	7.79	25.6	3.78	2.57	3.49	3.37
PCB-45/51	PCB-45/51	µg/kg	0.441	0.363	0.338	0.442	1.33	2.31	0.374	0.309	0.533	0.404
PCB-46	41464-47-5	µg/kg	0.0677	0.0546	0.0481	0.0822	0.308	0.231	0.0490	0.0411	0.0800	0.0555
PCB-48	70362-47-9	µg/kg	0.31	0.262	0.267	0.554	1.35	2.57	0.412	0.191	0.376	0.333
PCB-49/69	PCB-49/69	µg/kg	2.09	1.67	1.8	3.3	4.98	8.38	2.63	1.73	2.23	2.18
PCB-50/53	PCB-50/53	µg/kg	0.358	0.291	0.296	0.341	1.05	3.18	0.278	0.26	0.461	0.364
PCB-52	35693-99-3	µg/kg	3.42	2.66	2.73	5.06	8.06	11.8	4.3	2.56	3.41	3.38
PCB-54	15968-05-5	µg/kg	0.0872	0.0903	0.0883	0.0712	0.119	1.02	0.0824	0.0836	0.116	0.0871
PCB-55	74338-24-2	µg/kg	0.0390 JN	< 0.0119 U	< 0.0145 U	< 0.00522 U	< 0.00917 U	< 0.00737 U	< 0.00954 U	< 0.00641 U	< 0.00304 U	< 0.00156 U
PCB-56	41464-43-1	µg/kg	0.613	0.485	0.521	0.623	1.19	0.96	0.525	0.458	0.743	0.613
PCB-57	70424-67-8	µg/kg	0.0103 JN	< 0.0109 U	< 0.0134 U	0.0252	0.0358	0.0852	0.0220	0.00960	0.0162	0.0141
PCB-58	41464-49-7	µg/kg	0.0155	0.0146	0.0186	0.0185	0.0195	0.0422	0.0179	0.0121	0.0234	0.0156
PCB-59/62/75	PCB-59/62/75	µg/kg	0.228	0.185	0.203	0.394	0.713	0.995	0.281	0.181	0.245	0.232
PCB-60	33025-41-1	µg/kg	0.537	0.431	0.595	1.01	1.06	1.39	0.841	0.561	0.647	0.595
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg	3.23	2.89	3.3	6.01	7.04	9.66	5.72	3.17	3.96	3.75
PCB-63	74472-34-7	µg/kg	0.128	0.116	0.144	0.295	0.297	0.609	0.272	0.144	0.173	0.164
PCB-64	52663-58-8	µg/kg	0.966	0.787	0.87	1.74	3.06	3.42	1.27	0.867	1.07	1.04
PCB-66	32598-10-0	µg/kg	2.44 J	2.3	2.91	4.82	4.88	8	5.02	2.82	3.24	3.29
PCB-67	73575-53-8	µg/kg	0.0526	0.0446	0.0495	0.0947	0.161	0.253	0.0777	0.0404	0.0626	0.0593
PCB-68	73575-52-7	µg/kg	0.0576	0.0456	0.0503	0.0715	0.0871	0.332	0.0773	0.0480	0.0639	0.0628
PCB-72	41464-42-0	µg/kg	0.0642	0.0564	0.0599	0.0996	0.102	0.313	0.0905	0.0485	0.0722	0.0722
PCB-73	74338-23-1	µg/kg	0.0431 JN	0.0526	0.0568	< 0.000833 U	< 0.000475 U	0.188	0.0740	0.0188	0.0647	< 0.000401 U
PCB-77	32598-13-3	µg/kg	0.144	0.0955	0.109	0.14	0.217	0.285	0.2	0.114	0.135	0.125
PCB-78	70362-49-1	µg/kg	< 0.00258 U	< 0.0118 U	< 0.0140 U	< 0.00502 U	< 0.00894 U	< 0.00747 U	< 0.00942 U	< 0.00650 U	< 0.00310 U	< 0.00151 U
PCB-79	41464-48-6	µg/kg	0.0730	0.0365	0.0492 JN	0.0867	0.0929	0.155	0.0642	0.105	0.0790	0.0654
PCB-80	33284-52-5	µg/kg	< 0.00237 U	< 0.0106 U	< 0.0124 U	< 0.00453 U	< 0.00836 U	< 0.00656 U	< 0.00847 U	< 0.00571 U	< 0.00286 U	< 0.00140 U
PCB-81	70362-50-4	µg/kg	0.00735	< 0.0107 U	< 0.0129 U	0.00913 JN	0.0115 JN	0.0121 JN	0.00968	0.00611 JN	0.00773	0.00696
PCB-82	52663-62-4	µg/kg	0.331	0.216	0.272	0.532	0.691	0.522	0.327	0.322	0.458	0.438
PCB-83/99	PCB-83/99	µg/kg	5.11	4.01	4.95	8.79	8.07	24.8	9.46	5.94	6.39	6.5
PCB-84	52663-60-2	µg/kg	0.704	0.482	0.503	0.931	1.27	1.25	0.678	0.515	0.794	0.726
PCB-85/116/117	PCB-85/116/117	µg/kg	1.26	1.01	1.26	2.58	2.24	3.15	2.33	1.47	1.64	1.73
PCB-86/87/97/108/119/125	PCB-86/87/97/ C	µg/kg	3.08 J	2.42	2.79	5.33 J	5.82 J	8.29	4.63	3.19	4.01	4.11 J
PCB-88/91	PCB-88/91	µg/kg	0.882	0.598	0.646	1.08	1.4	1.95	0.912	0.774	0.978	0.984
PCB-89	73575-57-2	µg/kg	0.0216	0.0198	0.0182	0.0270	0.0464	0.0897	0.0184	0.0115	0.0309	0.0269
PCB-90/101/113	PCB-90/101/113	µg/kg	6.9	5.14	5.9	11.7	11.9	28.1	10	6.6	7.93	8.66
PCB-92	52663-61-3	µg/kg	1.48	1.14	1.22	2.45	2.33	5.19	2.09	1.4	1.58	1.79
PCB-93/95/98/100/102	PCB-93/95/98/ C	µg/kg	3.86	2.73	2.89	5.61	6.98	16.7	4.55	3.1	4.17	4.66
PCB-94	73575-55-0	µg/kg	0.0359	0.0250	0.0221	0.0273	0.0614	0.831	0.0224	0.0166	0.0446	0.0413
PCB-96	73575-54-9	µg/kg	0.0333	0.0294	0.0253	0.0310	0.0585	0.204	0.0279	0.0152	0.0379	0.0345
PCB-103	60145-21-3	µg/kg	0.14	0.102	0.113	0.153	0.177	0.658	0.115	0.102	0.156	0.161
PCB-104	56558-16-8	µg/kg	0.0123	0.0110	0.00979	0.00870	0.0124	0.0904	0.00639	0.00724	0.0159	0.0154
PCB-105	32598-14-4	µg/kg	1.87 J	1.52	1.99	4.15	3.38	5.39 J	4.53	2.19	2.35	2.81
PCB-106	70424-69-0	µg/kg	< 0.00982 U	< 0.0118 U	< 0.0158 U	< 0.0185 U	< 0.0246 U	< 0.0247 U	< 0.0202 U	< 0.00551 U	< 0.0123 U	< 0.0149 U
PCB-107/124	PCB-107/124	µg/kg	0.202	0.144	0.169	0.343	0.348	0.421	0.392	0.235	0.226	0.251
PCB-109	74472-35-8	µg/kg	0.617	0.456	0.628	1.07	0.957	2.25	1.34	0.745	0.721	0.857
PCB-110/115	PCB-110/115	µg/kg	5.62	4.08	4.65	9.26	10.1	12.9	7.63	5.9	6.35	6.93
PCB-111	39635-32-0	µg/kg	0.0161	0.0109	0.0122	0.0188	0.0107	0.158	0.0144	0.00991	0.0139 JN	0.0160
PCB-112	74472-36-9	µg/kg	< 0.00236 U	< 0.00452 U	< 0.00279 U	< 0.00223 U	< 0.00275 U	< 0.00539 U	< 0.00193 U	< 0.00318 U	< 0.00247 U	< 0.00261 U
PCB-114	74472-37-0	µg/kg	0.133	0.104	0.148	0.296	0.223	0.516	0.351	0.16	0.178	0.193
PCB-118	31508-00-6	µg/kg	5.28	4.36	5.87	12.7	9.68	18	14.2	6.94	6.66	8.27
PCB-120	68194-12-7	µg/kg	0.0663	0.0503	0.0552	0.0820	0.0655	0.276	0.0750	0.0558	0.0654	0.0689

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 4 SMB011 PDI-TF-SMB011 8/21/18	Sitewide 4 SMB012 PDI-TF-SMB012 9/5/18	Sitewide 4 SMB013 PDI-TF-SMB013 9/10/18	Sitewide 4 SMB014 PDI-TF-SMB014 8/21/18	Sitewide 4 SMB015 PDI-TF-SMB015 8/21/18	Sitewide 4 SMB016 PDI-TF-SMB016 9/10/18	Sitewide 4 SMB017 PDI-TF-SMB017 9/5/18	Sitewide 4 SMB018 PDI-TF-SMB018 9/10/18	Sitewide 4 SMB019 PDI-TF-SMB019 9/6/18	Sitewide 4 SMB020 PDI-TF-SMB020 8/21/18
Chemical	CAS	Units										
PCB-121	56558-18-0	µg/kg	0.0138	0.0118	0.0117	0.0170	0.0147	0.0866	0.0121	0.00897	0.0122	0.0178
PCB-122	76842-07-4	µg/kg	0.0514	0.0303 JN	0.0355	0.0603	0.0842	0.0493	0.0696	0.0300	0.0517	0.0522
PCB-123	65510-44-3	µg/kg	0.12	0.0778	0.0975 JN	0.201	0.155	0.262 JN	0.243	0.137 JN	0.129	0.139
PCB-126	57465-28-8	µg/kg	0.0137 JN	0.0177 JN	0.0202 JN	0.0450 JN	0.0247 JN	0.0318 JN	0.0331 JN	0.00718 JN	0.0189 JN	0.0227 JN
PCB-127	39635-33-1	µg/kg	0.0118	0.0142	0.0225	0.0411	0.0285	0.0822	0.0477	0.0236	0.0218	0.0281
PCB-128/166	PCB-128/166	µg/kg	1.45	1.33	1.82	4.2	3.31	7.74 J	3.57	2.36	1.78	2.88
PCB-129/138/160/163	PCB-129/138/ C	µg/kg	12.2	10	14	30.5	24.8	92.9	30.5	17.6	14.5	20.4
PCB-130	52663-66-8	µg/kg	0.628	0.462	0.61	1.29	1.14	3.16	1.29	0.852	0.736	0.897
PCB-131	61798-70-7	µg/kg	0.0487	0.0334	0.0450	0.112	0.115	0.163	0.0859	0.0749	0.0656	0.0754
PCB-132	38380-05-1	µg/kg	1.85	1.24	1.52	3.06	3.64	10.7	2.35	2.33	2.02	2.41
PCB-133	35694-04-3	µg/kg	0.282	0.23	0.287	0.533	0.425	3.71	0.518	0.307	0.298	0.373
PCB-134/143	PCB-134/143	µg/kg	0.3	0.224	0.274	0.484	0.594	2.37	0.494	0.37	0.367	0.389
PCB-135/151/154	PCB-135/151/154	µg/kg	3.49	2.71	3.19	6.25	6.04	39.7	4.69	3.32	3.76	4.38
PCB-136	38411-22-2	µg/kg	0.666	0.557	0.569	0.919	1.16	6.31	0.741	0.527	0.75	0.77
PCB-137	35694-06-5	µg/kg	0.402	0.373	0.575	1.33	0.995	2.69	1.58	0.822	0.668	0.853
PCB-139/140	PCB-139/140	µg/kg	0.172	0.157	0.198	0.434	0.325	0.672	0.412	0.283	0.216	0.296
PCB-141	52712-04-6	µg/kg	1.52	1.25	1.6	3.49	3.32	17.1	2.6	1.61	1.61	2.25
PCB-142	41411-61-4	µg/kg	< 0.0156 U	< 0.00820 U	< 0.00695 U	< 0.0220 U	< 0.0226 U	< 0.0315 U	< 0.0183 U	< 0.0141 U	< 0.0199 U	< 0.0226 U
PCB-144	68194-14-9	µg/kg	0.321	0.237	0.307	0.711	0.694	4.03	0.557	0.344	0.391	0.441
PCB-145	74472-40-5	µg/kg	0.00146 JN	0.00225 JN	0.00206 JN	< 0.00190 U	< 0.000607 U	0.0545	0.00162 JN	0.00149 JN	0.00209 JN	0.00205 J
PCB-146	51908-16-8	µg/kg	2.33 J	2.06	2.84	5.16	4.26	24.4	5.5	3.02	2.9	3.76
PCB-147/149	PCB-147/149	µg/kg	7.24	4.48	5.87	11	13.5	75	9.27	8.26	7.84	9.02
PCB-148	74472-41-6	µg/kg	0.0491	0.0383	0.0465	0.0617	0.0568	0.42	0.0433	0.0415	0.0558	0.0575
PCB-150	68194-08-1	µg/kg	0.0303	0.0209	0.0256	0.0285	0.0343	0.147	0.0218	0.0215	0.0358	0.0372
PCB-152	68194-09-2	µg/kg	0.0112	0.0101	0.00825	0.0107	0.0151	0.238	0.0106	0.00573	0.0134	0.0149
PCB-153/168	PCB-153/168	µg/kg	12.8	11.3	15.4	31.2	25.4	113	33.7	16.4	15.8	21.2
PCB-155	33979-03-2	µg/kg	0.0158	0.0132	0.0139	0.0162	0.0126	0.0672	0.0156	0.0113	0.0133	0.0232
PCB-156/157	PCB-156/157	µg/kg	0.989	0.761	1.03	2.66	1.86	5.44	3.15	1.49	1.13	1.71
PCB-158	74472-42-7	µg/kg	0.896	0.732	1	2.44	1.85	6.48	1.91	1.24	1.03	1.49
PCB-159	39635-35-3	µg/kg	< 0.0106 U	0.0531	0.0728	0.133	0.148	< 0.0234 U	0.0936	< 0.0105 U	0.0805	0.0950
PCB-161	74472-43-8	µg/kg	< 0.0110 U	< 0.00598 U	< 0.00485 U	< 0.0153 U	< 0.0155 U	< 0.0227 U	< 0.0133 U	< 0.0101 U	< 0.0139 U	< 0.0156 U
PCB-162	39635-34-2	µg/kg	0.0422	0.0282	0.0292	0.0883	0.0598	0.0890 JN	0.0908	0.0450	0.0372	0.0514
PCB-164	74472-45-0	µg/kg	0.568	0.416	0.479	1.01	0.971	4.2	0.94	0.67	0.524	0.739
PCB-165	74472-46-1	µg/kg	< 0.0125 U	0.0102	0.0136	0.0196	< 0.0178 U	0.377	0.0174	< 0.0112 U	< 0.0163 U	< 0.0180 U
PCB-167	52663-72-6	µg/kg	0.448	0.32	0.434	1.12	0.848	2.01	1.25	0.623	0.501	0.719
PCB-169	32774-16-6	µg/kg	< 0.0125 U	< 0.0161 U	< 0.0225 U	< 0.0388 U	< 0.0244 U	< 0.192 U	< 0.0312 U	< 0.0116 U	< 0.0208 U	< 0.0189 U
PCB-170	35065-30-6	µg/kg	2.16	1.54	2.17	5.21	4.2	28.7	4.39	2	2.24	3.34
PCB-171/173	PCB-171/173	µg/kg	0.736	0.513	0.642	1.64	1.39	10.6	1.12	0.653	0.658	1.13
PCB-172	52663-74-8	µg/kg	0.488	0.306	0.402	1.03	0.877	7.79	0.79	0.431	0.443	0.633
PCB-174	38411-25-5	µg/kg	1.62	0.873	1.18	2.6	2.98	44.8	1.63	1.18	1.46	1.97
PCB-175	40186-70-7	µg/kg	0.103	0.0711	0.0898	0.218	0.195	1.83	0.151	0.0844	0.0965	0.142
PCB-176	52663-65-7	µg/kg	0.202	0.116	0.155	0.308	0.379	5.52	0.174	0.154	0.193	0.234
PCB-177	52663-70-4	µg/kg	1.34	0.674	0.923	2.31	2.34	24.1	1.55	1.03	1.11	1.44
PCB-178	52663-67-9	µg/kg	0.795	0.537	0.701	1.45	1.34	14	1.05	0.643	0.687	0.945
PCB-179	52663-64-6	µg/kg	0.907	0.626	0.678	1.18	1.45	17.9	0.752	0.598	0.746	0.945
PCB-180/193	PCB-180/193	µg/kg	7.12	5.02	6.77	17.1	13.9	121 J	14.3	6.34	7.04	10.6
PCB-181	74472-47-2	µg/kg	0.0264	0.0234	0.0279	0.0560	0.0395	0.187	0.0664	0.0417	0.0280	0.0392
PCB-182	60145-23-5	µg/kg	0.0251 JN	0.0204	< 0.000566 U	0.0444	< 0.000643 U	< 0.00232 U	0.0325	< 0.00119 U	0.0286	0.0380 JN
PCB-183/185	PCB-183/185	µg/kg	2.03	1.45	1.85	4.56	4.11	38	3.39	1.73	1.94	2.88
PCB-184	74472-48-3	µg/kg	0.0130	0.0116	0.0155	0.0125	0.0110	0.0344	0.0157	0.0115	0.0112	0.0204
PCB-186	74472-49-4	µg/kg	< 0.000265 U	< 0.000430 U	< 0.000454 U	< 0.00161 U	< 0.000507 U	< 0.00191 U	< 0.000239 U	< 0.000978 U	< 0.000360 U	< 0.000507 U
PCB-187	52663-68-0	µg/kg	4.24 J	3.53	5.44	10.4	10.2	71.6 J	10.4	5.24	5.16	7.27
PCB-188	74487-85-7	µg/kg	0.0158	0.00967 JN	0.0143	0.0199	0.0162	0.19	0.0191	0.0110	0.0132	0.0169
PCB-189	39635-31-9	µg/kg	0.0708	0.0490	0.0671	0.141	0.119	0.818	0.155	0.0660	0.0625	0.1
PCB-190	41411-64-7	µg/kg	0.583	0.385	0.472	1.16	0.985	9.28	1.03	0.507	0.471	0.741

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 4 SMB011 PDI-TF-SMB011 8/21/18	Sitewide 4 SMB012 PDI-TF-SMB012 9/5/18	Sitewide 4 SMB013 PDI-TF-SMB013 9/10/18	Sitewide 4 SMB014 PDI-TF-SMB014 8/21/18	Sitewide 4 SMB015 PDI-TF-SMB015 8/21/18	Sitewide 4 SMB016 PDI-TF-SMB016 9/10/18	Sitewide 4 SMB017 PDI-TF-SMB017 9/5/18	Sitewide 4 SMB018 PDI-TF-SMB018 9/10/18	Sitewide 4 SMB019 PDI-TF-SMB019 9/6/18	Sitewide 4 SMB020 PDI-TF-SMB020 8/21/18
Chemical	CAS	Units										
PCB-191	74472-50-7	µg/kg	0.0986	0.0652	0.0947	0.226	0.187	1.65	0.205	0.0996	0.0907	0.144
PCB-192	74472-51-8	µg/kg	< 0.000297 U	< 0.000515 U	< 0.000518 U	< 0.00175 U	< 0.000575 U	< 0.00225 U	< 0.000287 U	< 0.00116 U	< 0.000420 U	< 0.000583 U
PCB-194	35694-08-7	µg/kg	0.818	0.637	0.876	2.22	1.94	27.3	2.1	0.697	0.8 J	1.37
PCB-195	52663-78-2	µg/kg	0.438	0.29	0.363	0.96	0.784	11.6	0.788	0.361	0.419	0.568
PCB-196	42740-50-1	µg/kg	0.53	0.324	0.478	1.17	0.953	16.5	1.09	0.448	0.571	0.712
PCB-197/200	PCB-197/200	µg/kg	0.129 J	0.0864	0.119	0.258	0.239	4.37 J	0.194	0.107	0.127	0.171
PCB-198/199	PCB-198/199	µg/kg	1.35	0.744	1.09	2.72	2.43	35.8	2.51	1.12	1.34	1.61
PCB-201	40186-71-8	µg/kg	0.157	0.0921	0.124	0.293	0.253	4.88	0.251	0.115	0.136	0.2
PCB-202	2136-99-4	µg/kg	0.395	0.295	0.367	0.808	0.72	8.27	0.681	0.33	0.408	0.556
PCB-203	52663-76-0	µg/kg	0.913	0.551	0.792	2.11	1.65	19.5	1.63	0.756	0.921	1.2
PCB-204	74472-52-9	µg/kg	0.00174 JN	0.00109 JN	0.00126 JN	0.00246 JN	0.00184 J	< 0.000439 U	0.00168 J	0.00118 JN	0.000957 JN	0.00266 J
PCB-205	74472-53-0	µg/kg	0.0469	0.0298	0.0415	0.12	0.0913	1.13	0.0834	0.0388	0.0444	0.0627
PCB-206	40186-72-9	µg/kg	0.33	0.216	0.325	0.945	0.57	5.21	0.877	0.32	0.363	0.562
PCB-207	52663-79-3	µg/kg	0.0479	0.0360	0.0469	0.116	0.0769	1.04	0.141	0.0448	0.0526	0.0750
PCB-208	52663-77-1	µg/kg	0.147	0.0904	0.141	0.297	0.216	1.61	0.311	0.138	0.16	0.224
PCB-209	2051-24-3	µg/kg	0.136	0.0976	0.164	0.236	0.158	0.308	0.262	0.165	0.151	0.17
Total PCBs	(a) T_PCBcg (PDI)	µg/kg	140	108	135	280	303	1220	257	149	158	191
Pesticides												
2,4-DDD	53-19-0	µg/kg	3.31	2.19	2.50	1.40	2.75	2.32	1.65	2.05	3.46	2.36
2,4-DDE	3424-82-6	µg/kg	0.761	0.747	0.651	0.460	0.609	0.598	0.376	0.440	0.851	0.690
2,4-DDT	789-02-6	µg/kg	0.863	0.790	0.838	0.334	0.695	0.987	0.614	0.675	0.732	0.902
4,4'-DDD	72-54-8	µg/kg	13.7	10.9	12.0	7.80	11.2	11.7	7.58	11.1	13.7	11.4
4,4'-DDE	72-55-9	µg/kg	66.8	53.5	56.1	46.3	53.2	51.6	48.9	46.7	56.8	64.8
4,4'-DDT	50-29-3	µg/kg	4.19	3.54	4.82	3.57	3.66	6.26	6.36	4.28	3.31	6.99
DDx	(a) T_DDx (PDI)	µg/kg	89.6	71.7	76.9	59.9	72.1	73.5	65.5	65.2	78.9	87.1
alpha-Chlordane	5103-71-9	µg/kg	1.32	1.32	1.07	0.837	1.19	1.62	1.12	0.921	1.13	1.09
cis-Nonachlor	5103-73-1	µg/kg	1.61	1.31	1.42	1.27	1.29	1.70	1.50	1.26	1.28	1.65
Oxychlordane	27304-13-8	µg/kg	0.834	0.605	0.574	0.411 J	0.517	0.862	0.530	0.503	0.562	0.671
trans-Chlordane	5103-74-2	µg/kg	0.465 J	0.489	0.365 J	0.258 J	0.403 J	0.552	0.381 J	0.279 J	0.396 J	0.333 J
trans-Nonachlor	39765-80-5	µg/kg	4.11	3.35	3.99	3.35	3.24	4.54	4.00	3.29	3.31	4.81
Total Chlordanes	(a) T_Clrndn (PDI)	µg/kg	8.34	7.07	7.42	6.13	6.64	9.27	7.53	6.25	6.68	8.55
Aldrin	309-00-2	µg/kg	0.017 J	0.013 JN	0.011 J	0.008 J	0.014 JN	0.014 J	0.011 JN	0.010 J	0.018 JN	0.010 JN
Dieldrin	60-57-1	µg/kg	2.21	1.32	0.952	0.856	1.58	1.77	1.08	0.860	1.28	0.967
Metals												
Arsenic	7440-38-2	mg/kg	0.32	0.30	0.23	0.17	0.20	0.36	0.21	0.18	0.20	0.32
Mercury	7439-97-6	mg/kg	0.145 J	0.082 J	0.120 J	0.116 J	0.106 J	0.148 J	0.115 J	0.086 J	0.116 J	0.125 J
Semivolatile Organics												
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg	1.55	1.24	0.968	0.858	1.31	1.59	1.09	0.893	1.18	0.967
Pentachlorophenol	(c) 87-86-5	µg/kg	< 1000 U	< 1000 U	< 1000 U	< 990 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 990 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)												
PBDE-7	171977-44-9	µg/kg	0.00445 JN	0.00308 JN	0.00449 J	0.00206 JN	0.00487 J	0.00548 JN	0.00237 J	0.00205 J	0.00376 J	0.00239 J
PBDE-8/11	PBDE-8/11	µg/kg	0.00389 J	0.00299 J	0.00541 JN	0.00209 J	0.00553 J	0.00587 J	0.00221 J	0.00186 JN	0.00390 J	0.00275 J
PBDE-10	51930-04-2	µg/kg	< 0.000216 U	< 0.00131 U	< 0.000813 U	< 0.000830 U	< 0.000709 U	< 0.000650 U	< 0.00129 U	< 0.000750 U	< 0.000555 U	< 0.000389 U
PBDE-12/13	PBDE-12/13	µg/kg	0.00827 JN	0.00859 JN	0.0186 JN	0.00109 J	0.00318 J	0.00256 JN	0.00664 JN	0.00112 J	0.0134 JN	0.00161 J
PBDE-15	2050-47-7	µg/kg	0.0205	0.0184	0.0166	0.0124 J	0.0221	0.0448	0.0163	0.0110 J	0.0160	0.0127 J
PBDE-17/25	PBDE-17/25	µg/kg	0.155	0.124 JN	0.175 JN	0.0928 JN	0.176 JN	0.159	0.0899 JN	0.0890	0.185 JN	0.133 JN
PBDE-28/33	PBDE-28/33	µg/kg	0.365	0.335	0.477	0.511	0.443	0.814	0.538	0.405	0.366	0.456
PBDE-30	155999-95-4	µg/kg	< 0.00279 U	< 0.00417 U	< 0.00227 U	< 0.00359 U	< 0.00523 U	< 0.00370 U	< 0.00406 U	< 0.00574 U	< 0.00277 U	< 0.00336 U
PBDE-32	189084-60-4	µg/kg	< 0.00217 U	< 0.00333 U	< 0.00182 U	< 0.00272 U	< 0.00401 U	< 0.00299 U	< 0.00324 U	< 0.00464 U	< 0.00220 U	< 0.00258 U
PBDE-35	147217-80-9	µg/kg	0.00701 JN	0.00688 J	0.00969 JN	0.00436 JN	0.00839 JN	0.0130 J	0.00987 JN	0.00609 JN	0.00549 JN	0.00807 JN
PBDE-37	147217-81-0	µg/kg	0.0127	0.00815 J	0.0116 J	0.0103 J	0.0127 J	0.0169 J	0.0116 J	0.00867 J	0.0102 J	0.0154 J
PBDE-047	5436-43-1	µg/kg	18	17.8	23.4	32.2	19.7 J	52.7 J	33	20.2	14.3	30.8
PBDE-49	243982-82-3	µg/kg	1.23	0.717	1.27	1.01	1.31	1.16	0.88	0.831	1.17	1.16
PBDE-51	189084-57-9	µg/kg	0.0629	0.0396	0.0530	0.0375	0.0677	0.0436	0.0274	0.0340	0.0656	0.0631

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 4 SMB011 PDI-TF-SMB011 8/21/18	Sitewide 4 SMB012 PDI-TF-SMB012 9/5/18	Sitewide 4 SMB013 PDI-TF-SMB013 9/10/18	Sitewide 4 SMB014 PDI-TF-SMB014 8/21/18	Sitewide 4 SMB015 PDI-TF-SMB015 8/21/18	Sitewide 4 SMB016 PDI-TF-SMB016 9/10/18	Sitewide 4 SMB017 PDI-TF-SMB017 9/5/18	Sitewide 4 SMB018 PDI-TF-SMB018 9/10/18	Sitewide 4 SMB019 PDI-TF-SMB019 9/6/18	Sitewide 4 SMB020 PDI-TF-SMB020 8/21/18
Chemical	CAS	Units										
PBDE-66	189084-61-5	µg/kg	0.269	0.19	0.331	0.328	0.463	0.494	0.319	0.161	0.26	0.503
PBDE-71	189084-62-6	µg/kg	0.0480	0.0337 JN	0.0434	0.0259 JN	0.0575	0.0290 JN	0.0395	0.0305	0.0624	0.0449
PBDE-75	189084-63-7	µg/kg	0.0267	0.0228	0.0308	0.0197	0.0289	0.0451	0.0298	0.0235 JN	0.0225	0.0435
PBDE-77	93703-48-1	µg/kg	0.00452 J	< 0.000147 U	< 0.000136 U	0.00607 JN	0.00466 JN	0.00680 JN	< 0.000149 U	0.00414 JN	0.00401 J	0.00638 JN
PBDE-79	PBDE-79	µg/kg	0.0337 JN	0.0249 JN	0.0285 JN	0.0350 JN	0.0343 JN	0.0234 JN	0.0371 JN	0.0168 JN	0.0320 JN	0.0557 JN
PBDE-85	182346-21-0	µg/kg	< 0.00210 U	< 0.00451 U	< 0.00399 U	< 0.00542 U	< 0.00842 U	< 0.00407 U	< 0.00637 U	< 0.00495 U	< 0.00381 U	< 0.00752 U
PBDE-099	60348-60-9	µg/kg	6.85	3.7	7.04	5.18	8.15	12.5	8.81	3.1	5.52	10.3
PBDE-100	189084-64-8	µg/kg	3.76	3.01	4.56	5.75	4.68	8.93	6.23	4.42	3.32	6.54
PBDE-105	373594-78-6	µg/kg	< 0.00279 U	< 0.00550 U	< 0.00491 U	< 0.00674 U	< 0.0108 U	< 0.00513 U	< 0.00777 U	< 0.00623 U	< 0.00460 U	< 0.00968 U
PBDE-116	189084-65-9	µg/kg	< 0.00433 U	< 0.00733 U	< 0.00664 U	< 0.00854 U	< 0.0138 U	< 0.00667 U	< 0.0104 U	< 0.00810 U	< 0.00618 U	< 0.0124 U
PBDE-119/120	PBDE-119/120	µg/kg	0.0920	0.1	0.117	0.199	0.151	0.263	0.301	0.136	0.0775	0.202
PBDE-126	366791-32-4	µg/kg	0.00892	< 0.00431 U	0.0122 J	0.0205	0.0155	0.0142 J	0.0181	0.0260	0.00906 J	0.0170
PBDE-128	182677-28-7	µg/kg	0.00502 JN	0.00412 JN	0.00440 JN	0.00941 J	0.00733 JN	0.0125 JN	0.0151 JN	0.00416 JN	0.00546 JN	0.00698 JN
PBDE-138/166	PBDE-138/166	µg/kg	0.00134 J	0.000816 JN	0.00146 J	0.00113 J	< 0.000499 U	0.00479 J	0.00261 JN	0.000212 JN	0.000545 JN	0.00126 JN
PBDE-140	243982-83-4	µg/kg	0.0142	0.00909 J	0.0191 J	0.0114 J	0.0183	0.0366 J	0.0238 J	0.00892 J	0.00989 J	0.0193
PBDE-153	68631-49-2	µg/kg	0.987	0.883	1.42 J	1.76	1.28	5.36 J	2.62 J	0.792	0.806	2.02
PBDE-154	207122-15-4	µg/kg	0.974	0.692	1.29 J	1.46 J	1.21	3.12 J	2.23 J	1.09 J	0.702 J	1.7
PBDE-155	35854-94-5	µg/kg	0.114	0.0474	0.114 J	0.181 J	0.133	0.0831 J	0.186 J	0.17 J	0.0750 J	0.143
PBDE-181	189084-67-1	µg/kg	0.000221 JN	< 0.000147 U	< 0.000136 U	< 0.000273 U	< 0.000174 U	0.000581 JN	0.00161 J	0.000493 J	0.000555 JN	< 0.000537 U
PBDE-183	207122-16-5	µg/kg	0.0110	0.00602 JN	0.00838 JN	0.0114 JN	0.0136 JN	0.0427	0.0262	0.00737 JN	0.00701 JN	0.00816 J
PBDE-190	189084-68-2	µg/kg	0.000235 JN	0.000227 JN	0.000248 JN	< 0.000166 U	< 0.000238 U	< 0.000480 U	0.00115 JN	< 0.000144 U	0.000186 JN	0.000967 JN
PBDE-203	337513-72-1	µg/kg	0.00178 JN	0.000440 JN	0.00111 JN	0.00288 JN	0.00241 JN	0.00194 J	0.00449 J	0.00148 JN	< 0.000146 U	0.00312 JN
PBDE-206	63387-28-0	µg/kg	0.00344 JN	0.00279 JN	< 0.000818 U	< 0.00174 U	< 0.00174 U	0.00347 JN	0.00253 JN	0.00350 JN	0.00220 J+	< 0.00189 U
PBDE-207	437701-79-6	µg/kg	0.00308 JN	0.00295 JN	< 0.00272 U	< 0.00280 U	< 0.00102 U	0.00374 JN	0.00891 JN	0.00308 JN	0.00270 JN	0.00349 JN
PBDE-208	437701-78-5	µg/kg	0.00345 JN	0.00195 JN	< 0.00312 U	< 0.00372 U	< 0.00269 U	0.00617 JN	0.00770 J	0.00404 JN	0.00244 JN	< 0.000718 U
PBDE-209	1163-19-5	µg/kg	0.0641 JN	0.0403 J+	< 0.0162 U	< 0.0387 U	< 0.0400 U	0.125 JN	0.0537 J+	0.0480 JN	0.0509 JN	0.0538 J+
Total PBDE	(a) T. PBDE (PDI)	µg/kg	33.1	27.8	40.5	48.9	38	86.1	55.6	31.6	27.1	54.3

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 4 SMB011 PDI-TF-SMB011 8/21/18	Sitewide 4 SMB012 PDI-TF-SMB012 9/5/18	Sitewide 4 SMB013 PDI-TF-SMB013 9/10/18	Sitewide 4 SMB014 PDI-TF-SMB014 8/21/18	Sitewide 4 SMB015 PDI-TF-SMB015 8/21/18	Sitewide 4 SMB016 PDI-TF-SMB016 9/10/18	Sitewide 4 SMB017 PDI-TF-SMB017 9/5/18	Sitewide 4 SMB018 PDI-TF-SMB018 9/10/18	Sitewide 4 SMB019 PDI-TF-SMB019 9/6/18	Sitewide 4 SMB020 PDI-TF-SMB020 8/21/18
Chemical	CAS	Units										
Physical Parameters												
Lipids	LIPID	%	6.99	5.77	4.30	3.86	6.84	6.45	4.67	4.04	5.73	4.13
Total Solids@104C	TSOLID	%	27.9	28.5	27.3	26.4	29.0	28.5	26.2	25.0	26.5	26.1

Notes:**Qualifiers:**

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
 JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 U = Not detected at detection limit shown.
 UJ = Not detected; sample detection limit is estimated.
 R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
 The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
 Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
 There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location	Sample ID	Sample Date	Sitewide 4 SMB021	Sitewide 4 SMB022	Sitewide 4 SMB023	Sitewide 4 SMB024	Sitewide 4 SMB025	Sitewide 4 SMB026	Sitewide 4 SMB027	Sitewide 4 SMB028	Sitewide 3 SMB029	Sitewide 3 SMB030
Chemical	CAS	Units			PDI-TF-SMB021 8/21/18	PDI-TF-SMB022 8/21/18	PDI-TF-SMB023 8/21/18	PDI-TF-SMB024 8/21/18	PDI-TF-SMB025 8/21/18	PDI-TF-SMB026 9/6/18	PDI-TF-SMB027 9/6/18	PDI-TF-SMB028 8/21/18	PDI-TF-SMB029 8/20/18	PDI-TF-SMB030 8/20/18
Dioxins and Furans														
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg			0.000691 J	0.000132 J	0.000325 JN	0.000944 J	0.000323 J	0.000401 JN	0.000146 J	0.0000831 J	0.000497 J	0.000167 JN
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg			< 0.0000722 U	< 0.0000739 U	< 0.0000730 U	0.000334 JN	< 0.0000708 U	0.0000770 JN	< 0.0000744 U	< 0.0000742 U	< 0.0000700 U	< 0.0000697 U
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg			< 0.0000722 U	< 0.0000739 U	< 0.0000730 U	< 0.0000734 U	< 0.0000708 U	< 0.0000725 U	< 0.0000744 U	< 0.0000742 U	< 0.0000700 U	< 0.0000697 U
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg			0.000223 JN	< 0.0000777 U	0.0000916 JN	0.000148 J	0.0000990 J	0.000125 JN	0.000107 JN	0.000130 JN	0.000145 J	0.0000790 JN
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg			0.000758 J	0.000179 J	0.000238 J	0.00623	0.000361 J	0.000219 JN	0.000156 J	0.000146 J	0.000226 JN	0.000183 J
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg			0.00100 J	0.000259 JN	0.000469 J	0.00162	0.000557 JN	0.00109 JN	0.000422 J	0.000404 J	0.000415 J	0.000244 JN
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg			0.000178 JN	< 0.0000739 U	< 0.0000730 U	0.00116 J	0.0000994 JN	< 0.0000725 U	< 0.0000744 U	< 0.0000742 U	0.0000865 J	0.0000719 J
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg			0.000108 J	< 0.0000762 U	< 0.0000730 U	0.0000850 J	< 0.0000708 U	< 0.00194 U	< 0.0000744 U	< 0.0000742 U	< 0.0000700 U	< 0.0000697 U
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg			< 0.0000722 U	< 0.0000739 U	< 0.0000730 U	< 0.0000734 U	< 0.0000708 U	< 0.0000725 U	< 0.0000744 U	< 0.0000742 U	< 0.0000700 U	< 0.0000697 U
1,2,3,7,8-PeCDD	40321-76-4	µg/kg			0.000895 J	0.000431 J	0.000361 JN	0.00111 J	0.000578 J	0.000764 J	0.000440 J	0.000524 J	0.000585 J	0.000332 J
1,2,3,7,8-PeCDF	57117-41-6	µg/kg			0.000748 J	0.000281 JN	0.000685 J	0.00123 J	0.000413 J	0.000745 J	0.000398 J	0.000492 J	0.000633 J	0.000770 J
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg			< 0.0000722 U	< 0.0000739 U	< 0.0000730 U	0.000387 J	0.0000740 JN	< 0.0000725 U	< 0.0000744 U	< 0.0000742 U	< 0.0000700 U	< 0.0000697 U
2,3,4,7,8-PeCDF	57117-31-4	µg/kg			0.00107 J	0.000612 J	0.000898 J	0.00826	0.000918 J	0.000846 J	0.000610 J	0.000781 J	0.000798 J	0.000834 J
2,3,7,8-TCDD	1746-01-6	µg/kg			0.000483	0.000289 J	0.000261 J	0.000966	0.000334	0.000339	0.000317	0.000350	0.000352	0.000240 JN
2,3,7,8-TCDF	51207-31-9	µg/kg			0.00197	0.00227	0.00197	0.00176	0.00132	0.00294	0.00236	0.00195	0.00245	0.00294
OCDD	3268-87-9	µg/kg			0.000560 J+	0.000174 JN	0.000213 J+	0.00536	0.000380 J+	0.00185 J	0.000191 JN	0.000203 JN	0.000618 JN	0.000329 JN
OCDF	39001-02-0	µg/kg			< 0.0000722 U	< 0.0000739 U	< 0.0000730 U	0.000635 J	< 0.0000708 U	0.000260 J	< 0.0000744 U	< 0.0000742 U	< 0.0000700 U	< 0.0000697 U
TCDD-TEQ (a)	T_DF_TEQ (PDI)	µg/kg			0.00216	0.00119	0.0012	0.00575	0.00146	0.00192	0.00126	0.00139	0.00154	0.0012
TCDD-TEQ (EMPC=half) (b)	T_DF_TEQ(E_0.5)	µg/kg			0.00212	0.00116	0.000999	0.00574	0.00141	0.00177	0.00125	0.00138	0.00152	0.00104
TCDD-TEQ (EMPC=0) (b)	T_DF_TEQ(E_0)	µg/kg			0.00211	0.00115	0.000819	0.00574	0.00138	0.00167	0.00125	0.00137	0.00151	0.000925
Polychlorinated Biphenyls (PCBs)														
PCB-1	2051-60-7	µg/kg			0.00399	0.00583	0.00484	0.00610	0.00393	0.00541	0.00556	0.00317	0.00439	0.00469
PCB-2	2051-61-8	µg/kg			0.00156 J	0.00152 J	0.00152 J	0.00133 JN	0.000876 J+	0.00168 J+	0.00177 JN	0.000791 J+	0.00115 J	0.00100 JN
PCB-3	2051-62-9	µg/kg			0.00148 J+	0.00222 J	0.00218 J	0.00261 J	0.00155 J+	0.00311 J+	0.00347 JN	0.00153 J+	0.00160 J+	0.00198 J
PCB-4	13029-08-8	µg/kg			0.14	0.242	0.184	0.212	0.141	0.195	0.205	0.129	0.141	0.145
PCB-5	16605-91-7	µg/kg			0.00114 J	0.00170 JN	0.00170 J	0.00245 J	0.00156 J	< 0.00202 U	< 0.00312 U	0.00111 JN	0.000972 J	0.00100 J
PCB-6	25569-80-6	µg/kg			0.0195	0.0289	0.0234	0.0343	0.0206	0.0404	0.0246	0.0163	0.0164	0.0174
PCB-7	33284-50-3	µg/kg			0.00356	0.00667	0.00470	0.00699	0.00454	0.00695	0.00495	0.00287 J	0.00293 JN	0.00335
PCB-8	34883-43-7	µg/kg			0.0871	0.126	0.102	0.138	0.0906	0.186	0.115	0.0759	0.0754	0.0831
PCB-9	34883-39-1	µg/kg			0.00543	0.00988	0.00701	0.00968	0.00615	0.0116	0.00850	0.00473	0.00499	0.00505
PCB-10	33146-45-1	µg/kg			0.00800	0.0191	0.0112	0.0122	0.0101	0.0110	0.0107	0.00718	0.00621 JN	0.00875
PCB-11	2050-67-1	µg/kg			0.0664	0.184	0.0885	0.0550	0.0302	0.0834	0.0787	0.0478	0.0536	0.0473
PCB-12/13	PCB-12/13	µg/kg			0.00325	0.00682	0.00368	0.00324	0.00221 J	0.00587	0.00370	0.00236 J	0.00279 J	0.00242 JN
PCB-14	34883-41-5	µg/kg			< 0.000523 U	< 0.000752 U	< 0.000637 U	< 0.000548 U	< 0.000714 U	< 0.00183 U	< 0.00283 U	< 0.000605 U	< 0.000500 U	< 0.000672 U
PCB-15	2050-68-2	µg/kg			0.0210	0.0397	0.0291	0.0276	0.0191	0.0521	0.0289	0.0173	0.0308	0.0221
PCB-16	38444-78-9	µg/kg			0.109	0.111	0.129	0.149	0.0943	0.336	0.145	0.0790	0.0751	0.0731
PCB-17	37680-66-3	µg/kg			0.237	0.322	0.298	0.331	0.215	0.753	0.357	0.208	0.175	0.179
PCB-18/30	PCB-18/30	µg/kg			0.325	0.358	0.388	0.412	0.268	1.34	0.411	0.263	0.252	0.226
PCB-19	38444-73-4	µg/kg			0.342	0.605	0.481	0.513	0.388	0.493	0.561	0.36	0.365	0.341 J
PCB-20/28	PCB-20/28	µg/kg			1.49	1.26	1.55	1.59	1.12	7	1.28	1.11	0.98	0.828
PCB-21/33	PCB-21/33	µg/kg			0.378	0.207	0.336	0.371	0.272	1.01	0.339	0.255	0.192	0.202
PCB-22	38444-85-8	µg/kg			0.328	0.293	0.322	0.367	0.246	1.01	0.308	0.236	0.182	0.174
PCB-23	55720-44-0	µg/kg			< 0.00136 U	< 0.00286 U	< 0.00173 U	< 0.00296 U	< 0.00179 U	< 0.00637 U	< 0.00330 U	< 0.00103 U	< 0.00114 U	< 0.00121 U
PCB-24	55702-45-9	µg/kg			0.00462	0.00673	0.00529 JN	0.00695	0.00443	0.0181	0.00630	0.00391	0.00347	0.00293 JN
PCB-25	55712-37-3	µg/kg			0.0828	0.105	0.0895	0.108	0.0680	0.156	0.101	0.0739	0.0517	0.0519
PCB-26/29	PCB-26/29	µg/kg			0.207	0.221	0.226	0.245	0.156	0.705	0.206	0.158	0.135	0.118
PCB-27	38444-76-7	µg/kg			0.0535	0.0663	0.0671	0.0745	0.0519	0.157	0.0818	0.0445	0.0420	0.0401
PCB-31	16606-02-3	µg/kg			0.733	0.811	0.849	0.94	0.576	2.34	0.816	0.6	0.463	0.444
PCB-32	38444-77-8	µg/kg			0.161	0.152	0.182	0.179	0.12	0.538	0.19	0.14	0.12	0.122
PCB-34	37680-68-5	µg/kg			0.00765	0.00827	0.00813	0.00875	0.00577	0.0189	0.00832	0.00541	0.00453	0.00387
PCB-35	37680-69-6	µg/kg			0.00483	< 0.00289 U	0.00422	0.00340 JN	0.00238 J	< 0.00620 U	< 0.00322 U	< 0.00104 U	< 0.00104 U	< 0.00111 U
PCB-36	38444-87-0	µg/kg			< 0.00119 U	< 0.00265 U	< 0.00151 U	< 0.00259 U	< 0.00157 U	< 0.00575 U	< 0.00298 U	< 0.000954 U	0.0589	0.0632
PCB-37	38444-90-5	µg/kg			0.0763	0.118	0.101	0.101	0.0822	0.267	0.101	0.0616	0.0796	0.0651
PCB-38	53555-66-1	µg/kg			0.00351 JN	0.00291 JN	0.00296 JN	0.00345 JN	0.00234 J	0.00812	< 0.00315 U	0.00205 J	0.00174 J	0.00197 JN

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 4 SMB021 PDI-TF-SMB021 8/21/18	Sitewide 4 SMB022 PDI-TF-SMB022 8/21/18	Sitewide 4 SMB023 PDI-TF-SMB023 8/21/18	Sitewide 4 SMB024 PDI-TF-SMB024 8/21/18	Sitewide 4 SMB025 PDI-TF-SMB025 8/21/18	Sitewide 4 SMB026 PDI-TF-SMB026 9/6/18	Sitewide 4 SMB027 PDI-TF-SMB027 9/6/18	Sitewide 4 SMB028 PDI-TF-SMB028 8/21/18	Sitewide 3 SMB029 PDI-TF-SMB029 8/20/18	Sitewide 3 SMB030 PDI-TF-SMB030 8/20/18
PCB-39	38444-88-1	µg/kg		0.0154	0.00883	0.0113	0.0119	0.00833	0.0489	0.0113	0.0105 JN	0.00722	0.00838
PCB-40/41/71	PCB-40/41/71	µg/kg		0.879	0.54	0.782	0.765	0.53	2.55	0.896	0.743	0.616	0.618
PCB-42	36559-22-5	µg/kg		0.56	0.478	0.541	0.533	0.36	1.55	0.544	0.487	0.437	0.385
PCB-43	70362-46-8	µg/kg		0.106	0.0705	0.0942	0.0935	0.0701	0.333	0.0979	0.0627	0.0623	0.0628
PCB-44/47/65	PCB-44/47/65	µg/kg		3.52	3.1	3.43	3.31	2.56	8.17	3.31	2.85	2.62	2.52
PCB-45/51	PCB-45/51	µg/kg		0.346	0.486	0.403	0.411	0.308	0.685	0.536	0.327	0.254	0.265
PCB-46	41464-47-5	µg/kg		0.0533	0.0615	0.0533	0.0623	0.0418	0.105	0.0780	0.0513	0.0411	0.0405
PCB-48	70362-47-9	µg/kg		0.393	0.232	0.321	0.316	0.237	1.5	0.334	0.279	0.231	0.243
PCB-49/69	PCB-49/69	µg/kg		2.39	2.05	2.41	2.24	1.68	6.49	2.26	1.95	1.8	1.76
PCB-50/53	PCB-50/53	µg/kg		0.285	0.287	0.301	0.307	0.262	0.431	0.395	0.322	0.231	0.218
PCB-52	35693-99-3	µg/kg		3.52	2.84	3.39	3.41	2.53	8.79	3.24	2.96	2.66	2.56
PCB-54	15968-05-5	µg/kg		0.0658	0.119	0.0862	0.0903	0.0777	0.0959	0.115	0.0697	0.0585	0.0662
PCB-55	74338-24-2	µg/kg		< 0.00325 U	< 0.00202 U	< 0.00991 U	< 0.00828 U	< 0.00271 U	< 0.0141 U	< 0.0115 U	< 0.00254 U	< 0.00710 U	< 0.0121 U
PCB-56	41464-43-1	µg/kg		0.588	0.6	0.575	0.532	0.351	1.68	0.705	0.568	0.454	0.428
PCB-57	70424-67-8	µg/kg		0.0133	0.0105	0.0150	0.0134	0.0103	0.0583	0.0120	0.0110	0.0106	< 0.0113 U
PCB-58	41464-49-7	µg/kg		0.0184	0.0138	0.0153	0.0163	0.0120	0.0239 JN	0.0152	0.0126	0.00975	< 0.0118 U
PCB-59/62/75	PCB-59/62/75	µg/kg		0.252	0.205	0.257	0.238	0.182	0.746	0.231	0.204	0.187	0.171
PCB-60	33025-41-1	µg/kg		0.733	0.446	0.962	0.604	0.479	3.7	0.569	0.676	0.652	0.722
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg		3.98	3.33	4.34	3.74	2.74	13.9	3.65	3.39	2.97	3.06
PCB-63	74472-34-7	µg/kg		0.2	0.134	0.2	0.166	0.144	0.577	0.134	0.157	0.159	0.168
PCB-64	52663-58-8	µg/kg		1.14	0.887	1.16	1.07	0.783	3.69	1.02	0.953	0.922	0.845
PCB-66	32598-10-0	µg/kg		3.69	2.32	3.97	3.01	2.51	14.1	2.68	3.04	2.95	3.18
PCB-67	73575-53-8	µg/kg		0.0552	0.0610	0.0591	0.0561	0.0458	0.207	0.0565	0.0507	0.0417	0.0312
PCB-68	73575-52-7	µg/kg		0.0625	0.0615	0.0492	0.0556	0.0568	0.0527	0.0503	0.0465	0.0422	0.0328
PCB-72	41464-42-0	µg/kg		0.0761	0.0651	0.0670	0.0658	0.0683	0.116	0.0599	0.0570	0.0480	0.0439
PCB-73	74338-23-1	µg/kg		< 0.000152 U	< 0.000514 U	< 0.000320 U	< 0.000115 U	< 0.000310 U	0.128	0.0641	< 0.000152 U	< 0.000243 U	< 0.000288 U
PCB-77	32598-13-3	µg/kg		0.126	0.145	0.136	0.132	0.0902	0.419	0.114	0.103	0.105	0.11
PCB-78	70362-49-1	µg/kg		< 0.00317 U	< 0.00196 U	< 0.00966 U	< 0.00807 U	< 0.00265 U	< 0.0140 U	< 0.0114 U	< 0.00246 U	< 0.00683 U	< 0.0117 U
PCB-79	41464-48-6	µg/kg		0.116	0.0504	0.0453	0.0523	0.0427	0.0456	0.0514	0.0410	0.0426	0.0312
PCB-80	33284-52-5	µg/kg		< 0.00296 U	< 0.00180 U	< 0.00904 U	< 0.00755 U	< 0.00247 U	< 0.0124 U	< 0.0101 U	< 0.00227 U	< 0.00617 U	< 0.0105 U
PCB-81	70362-50-4	µg/kg		0.00741	0.00661	< 0.00936 U	< 0.00767 U	0.00537 JN	0.0231	< 0.0105 U	0.00550	< 0.00626 U	< 0.0108 U
PCB-82	52663-62-4	µg/kg		0.348	0.3	0.277	0.333	0.273	0.311	0.346	0.293	0.291	0.178
PCB-83/99	PCB-83/99	µg/kg		7.74	4.03	5.52	5.38	5.75	7.69	4.67	4.55	4.78	3.86
PCB-84	52663-60-2	µg/kg		0.567	0.679	0.54	0.638	0.529	0.55	0.698	0.498	0.513	0.335
PCB-85/116/117	PCB-85/116/117	µg/kg		2.04	1.01	1.5	1.42	1.27	2.19	1.16	1.28	1.34	1.12
PCB-86/87/97/108/119/125	PCB-86/87/97/ C	µg/kg		3.91 J	2.96 J	3.08 J	3.27 J	3.12 J	3.95	3.18	2.74 J	2.8 J	1.93 J
PCB-88/91	PCB-88/91	µg/kg		0.8	0.822	0.734	0.787	0.688	0.784	0.828	0.673	0.695	0.42
PCB-89	73575-57-2	µg/kg		0.0233	0.0193 JN	0.0188	0.0201	0.0157	0.0351	0.0256	0.0187	0.0175	0.0156
PCB-90/101/113	PCB-90/101/113	µg/kg		8.47	5.86	6.23	6.63	9.15	7.72	6.22	5.68	5.89	3.99
PCB-92	52663-61-3	µg/kg		1.78	1.22	1.35	1.39	1.71	1.62	1.27	1.17	1.23	0.866
PCB-93/95/98/100/102	PCB-93/95/98/ C	µg/kg		3.73	3.42	3.13	3.5	4.5	3.51	3.39	3.13	2.91	1.99
PCB-94	73575-55-0	µg/kg		0.0253	0.0364	0.0264	0.0274	0.0222	0.0226	0.0339	0.0206	0.0150	0.0137
PCB-96	73575-54-9	µg/kg		0.0337	0.0279	0.0277	0.0261	0.0236	0.0420	0.0326	0.0227	0.0212	0.0207
PCB-103	60145-21-3	µg/kg		0.125	0.15	0.127	0.132	0.151	0.112	0.132	0.117	0.11	0.0801
PCB-104	56558-16-8	µg/kg		0.00838	0.0186	0.00953	0.0106 JN	0.00958	0.00886	0.0125	0.00718	0.00456	0.00631
PCB-105	32598-14-4	µg/kg		3.05	1.65	2.31	2.43	2.41	3.54	1.73	2	2.03	1.82
PCB-106	70424-69-0	µg/kg		< 0.0156 U	< 0.00588 U	< 0.0128 U	< 0.0137 U	< 0.0105 U	< 0.0162 U	< 0.00982 U	< 0.00890 U	< 0.00866 U	< 0.00833 U
PCB-107/124	PCB-107/124	µg/kg		0.229	0.181	0.182	0.21	0.175	0.223	0.168	0.18	0.158	0.135
PCB-109	74472-35-8	µg/kg		0.925	0.55	0.652	0.725	0.7	0.787	0.47	0.635	0.545	0.466
PCB-110/115	PCB-110/115	µg/kg		6.56	4.94	4.98	5.43	5.55	6.3	5.1	4.55	4.59	3.03
PCB-111	39635-32-0	µg/kg		0.0148	0.0107	0.0133	0.0147	0.0192	0.0148	0.0127	0.0132	0.0105	0.0102
PCB-112	74472-36-9	µg/kg		< 0.000925 U	< 0.00115 U	< 0.00253 U	< 0.00231 U	< 0.00373 U	< 0.00296 U	< 0.00331 U	< 0.00186 U	< 0.000799 U	< 0.00169 U
PCB-114	74472-37-0	µg/kg		0.213	0.119	0.163	0.169	0.183	0.25	0.116	0.149	0.156	0.146
PCB-118	31508-00-6	µg/kg		9.22	4.88	6.49	6.91	7.03	8.73	4.82	5.75	5.7	5.2
PCB-120	68194-12-7	µg/kg		0.0734	0.0507	0.0584	0.0585	0.0856	0.0624	0.0517	0.0543	0.0495	0.0394

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 4 SMB021 PDI-TF-SMB021 8/21/18	Sitewide 4 SMB022 PDI-TF-SMB022 8/21/18	Sitewide 4 SMB023 PDI-TF-SMB023 8/21/18	Sitewide 4 SMB024 PDI-TF-SMB024 8/21/18	Sitewide 4 SMB025 PDI-TF-SMB025 8/21/18	Sitewide 4 SMB026 PDI-TF-SMB026 9/6/18	Sitewide 4 SMB027 PDI-TF-SMB027 9/6/18	Sitewide 4 SMB028 PDI-TF-SMB028 8/21/18	Sitewide 3 SMB029 PDI-TF-SMB029 8/20/18	Sitewide 3 SMB030 PDI-TF-SMB030 8/20/18
Chemical	CAS	Units										
PCB-121	56558-18-0	µg/kg	0.0131	0.0124	0.0119	0.0125 JN	0.0162	0.0126	0.0105	0.0123	0.0106	0.00903
PCB-122	76842-07-4	µg/kg	0.0490	0.0477	0.0378	0.0418	0.0376	0.0406	0.0403	0.0378	0.0301	0.0237
PCB-123	65510-44-3	µg/kg	0.144	0.0958	0.104	0.112	0.123	0.147	0.0834	0.106	0.0960	0.0876
PCB-126	57465-28-8	µg/kg	0.0220 JN	0.0131 JN	0.0315 JN	0.0233 JN	0.0559 JN	0.0234 JN	0.0250 JN	0.0158 JN	0.0340 JN	0.0180 JN
PCB-127	39635-33-1	µg/kg	0.0172	0.0131	0.0151	0.0194	0.0227	0.0263	0.0175	0.0198	0.0138	0.0113
PCB-128/166	PCB-128/166	µg/kg	3.35	1.48	2.02	2.15	4.71	2.32	1.59	1.86	1.72	1.28
PCB-129/138/160/163	PCB-129/138/ C	µg/kg	24.3	11.7	14.9	15.7	44.6	18.3	12.5	14.2	11.7	9.24
PCB-130	52663-66-8	µg/kg	0.888	0.593	0.608	0.73	1.37	0.604	0.571	0.601	0.577	0.379
PCB-131	61798-70-7	µg/kg	0.0594	0.0580	0.0508	0.0636	0.102	0.0357	0.0524	0.0510	0.0409	0.0277 JN
PCB-132	38380-05-1	µg/kg	1.83	1.81	1.54	1.86	4.91	1.18	1.65	1.48	1.32	0.779
PCB-133	35694-04-3	µg/kg	0.444	0.243	0.314	0.325	0.704	0.355	0.259	0.296	0.246	0.22
PCB-134/143	PCB-134/143	µg/kg	0.338	0.295	0.259	0.331	0.762	0.214	0.284	0.256	0.228	0.138
PCB-135/151/154	PCB-135/151/154	µg/kg	4.33	3.11	3.3	3.46	13.9	3.35	3.25	2.9	2.84	1.91
PCB-136	38411-22-2	µg/kg	0.76	0.567	0.568	0.606	1.82	0.578	0.623	0.503	0.496	0.329
PCB-137	35694-06-5	µg/kg	0.917	0.397	0.573	0.658	0.726	0.629	0.401	0.541	0.559	0.447
PCB-139/140	PCB-139/140	µg/kg	0.353	0.164	0.226	0.256	0.302	0.251	0.182	0.218	0.181	0.146
PCB-141	52712-04-6	µg/kg	2.25	1.48	1.53	1.7	7.46	1.7	1.44	1.44	1.29	0.951
PCB-142	41411-61-4	µg/kg	< 0.0187 U	< 0.0120 U	< 0.00667 U	< 0.0168 U	< 0.0344 U	< 0.0106 U	< 0.0196 U	< 0.0132 U	< 0.00921 U	< 0.00944 U
PCB-144	68194-14-9	µg/kg	0.362	0.306	0.296	0.345	1.5	0.276	0.301	0.293	0.297	0.179
PCB-145	74472-40-5	µg/kg	0.00213 J	0.00216 JN	< 0.000285 U	0.00152 JN	< 0.000381 U	0.00137 JN	0.00157 JN	0.00101 JN	< 0.0000898 U	0.000735 J
PCB-146	51908-16-8	µg/kg	4.09	2.5	2.84	2.97	8.67	3.44	2.57	2.7	2.31	1.91
PCB-147/149	PCB-147/149	µg/kg	6.61	6.78	5.78	7.14	25.4	4.38	6.15	5.99	4.67	2.83
PCB-148	74472-41-6	µg/kg	0.0479	0.0379	0.0458	0.0479	0.0731	0.0419	0.0432	0.0476	0.0415	0.0280 JN
PCB-150	68194-08-1	µg/kg	0.0230	0.0299	0.0252	0.0270	0.0367	0.0179	0.0298	0.0222	0.0222	0.0138
PCB-152	68194-09-2	µg/kg	0.0142	0.00944	0.00914	0.00872	0.0104 JN	0.0102	0.00971	0.00692	0.00624	0.00548
PCB-153/168	PCB-153/168	µg/kg	25.9	13.2	15.9	16.3	58.4	19.7	13.4	14.4	12.2	10.8
PCB-155	33979-03-2	µg/kg	0.0228	0.0122	0.0180	0.0164	0.0187	0.0157	0.0138	0.0178	0.0153	0.0136
PCB-156/157	PCB-156/157	µg/kg	1.83	0.875	1.15	1.34	2.29	1.38	0.85	1.07	1.11	0.936
PCB-158	74472-42-7	µg/kg	1.76	0.807	1.09	1.18	3.04	1.25	0.845	0.998	0.939	0.707
PCB-159	39635-35-3	µg/kg	0.0662	0.0808	0.0650	0.0677	0.528	0.0470	0.0678	0.0623	0.0516	0.0272
PCB-161	74472-43-8	µg/kg	< 0.0128 U	< 0.00827 U	< 0.00458 U	< 0.0115 U	< 0.0236 U	< 0.00708 U	< 0.0131 U	< 0.00913 U	< 0.00641 U	< 0.00657 U
PCB-162	39635-34-2	µg/kg	0.0680	0.0274	0.0428	0.0374	0.0663 JN	0.0495	0.0334	0.0399	0.0330	0.0312
PCB-164	74472-45-0	µg/kg	0.752	0.51	0.498	0.571	1.6	0.535	0.467	0.553	0.43	0.296
PCB-165	74472-46-1	µg/kg	0.0196	0.0108	0.0145	< 0.0132 U	< 0.0270 U	0.0135	< 0.0156 U	< 0.0106 U	0.0118	0.0121
PCB-167	52663-72-6	µg/kg	0.682	0.404	0.456	0.538	1.11	0.519	0.352	0.432	0.453	0.366
PCB-169	32774-16-6	µg/kg	< 0.0228 U	< 0.0137 U	< 0.0133 U	< 0.0138 U	< 0.0869 U	< 0.0242 U	< 0.0248 U	< 0.0138 U	< 0.0136 U	< 0.0140 U
PCB-170	35065-30-6	µg/kg	3.92	2.13	2.56	2.58	13.1	2.72	2.02	2.38	2.12	1.72
PCB-171/173	PCB-171/173	µg/kg	1.3	0.638	0.801	0.736	4.21	0.782	0.643	0.693	0.708	0.489
PCB-172	52663-74-8	µg/kg	0.747	0.431	0.486	0.45	2.68	0.507	0.424	0.415	0.468	0.345
PCB-174	38411-25-5	µg/kg	1.29	1.42	1.12	1.25	8.98	0.843	1.2	1.16	1.24	0.658
PCB-175	40186-70-7	µg/kg	0.133	0.0910	0.0933	0.0993	0.643	0.0876	0.0845	0.0893	0.0946	0.0637
PCB-176	52663-65-7	µg/kg	0.159	0.174	0.153	0.165	1.12	0.0983	0.158	0.133	0.147	0.0753
PCB-177	52663-70-4	µg/kg	1.37	1.03	1.02	1.1	7.25	0.788	0.962	0.944	1.13	0.646
PCB-178	52663-67-9	µg/kg	1.13	0.639	0.765	0.719	4.09	0.787	0.672	0.649	0.687	0.499
PCB-179	52663-64-6	µg/kg	0.89	0.664	0.677	0.669	4.07	0.589	0.679	0.541	0.625	0.372
PCB-180/193	PCB-180/193	µg/kg	12.8	7.24	7.88	8.25	48.5	8.65	6.46	7.66	6.88	5.55
PCB-181	74472-47-2	µg/kg	0.0500	0.0225	0.0315	0.0273	0.0629	0.0381	0.0264	0.0291	0.0351	0.0269
PCB-182	60145-23-5	µg/kg	0.0347	< 0.000357 U	0.0313	0.0229	< 0.000620 U	< 0.000577 U	< 0.000652 U	0.0245	0.0287	0.0171 JN
PCB-183/185	PCB-183/185	µg/kg	3.38	1.84	2.2	2.09	14	2.19	1.84	1.85	1.89	1.37
PCB-184	74472-48-3	µg/kg	0.0203	0.00991	0.0173	0.0139	0.0189	0.0157	0.0143	0.0139	0.0141	0.0115
PCB-186	74472-49-4	µg/kg	< 0.000319 U	< 0.000284 U	< 0.000427 U	< 0.000254 U	< 0.000489 U	< 0.000475 U	< 0.000537 U	< 0.000485 U	< 0.000270 U	< 0.000218 U
PCB-187	52663-68-0	µg/kg	8.62	5.27	5.75	5.23	36.9	6.34	5.1	4.92	4.99	3.34
PCB-188	74487-85-7	µg/kg	0.0156	0.0140	0.0160	0.0154	0.0265	0.0118	0.0116	0.0141	0.0125	0.00943
PCB-189	39635-31-9	µg/kg	0.123	0.0622	0.0741	0.0808	0.36	0.0797	0.0597	0.0689	0.0653	0.0554
PCB-190	41411-64-7	µg/kg	0.891	0.486	0.558	0.534	3.24	0.628	0.456	0.486	0.506	0.393

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 4 SMB021 PDI-TF-SMB021 8/21/18	Sitewide 4 SMB022 PDI-TF-SMB022 8/21/18	Sitewide 4 SMB023 PDI-TF-SMB023 8/21/18	Sitewide 4 SMB024 PDI-TF-SMB024 8/21/18	Sitewide 4 SMB025 PDI-TF-SMB025 8/21/18	Sitewide 4 SMB026 PDI-TF-SMB026 9/6/18	Sitewide 4 SMB027 PDI-TF-SMB027 9/6/18	Sitewide 4 SMB028 PDI-TF-SMB028 8/21/18	Sitewide 3 SMB029 PDI-TF-SMB029 8/20/18	Sitewide 3 SMB030 PDI-TF-SMB030 8/20/18
Chemical	CAS	Units										
PCB-191	74472-50-7	µg/kg	0.174	0.0900	0.106	0.101	0.611	0.112	0.0837	0.0898	0.102	0.0741
PCB-192	74472-51-8	µg/kg	< 0.000361 U	< 0.000326 U	< 0.000484 U	< 0.000288 U	< 0.000554 U	< 0.000549 U	< 0.000620 U	< 0.000557 U	< 0.000294 U	< 0.000237 U
PCB-194	35694-08-7	µg/kg	2.09	1.02	1.19	1.14	7.45	0.935 J	0.997	1.1	0.889	0.75
PCB-195	52663-78-2	µg/kg	0.781	0.399	0.48	0.468	3.14	0.531	0.397	0.433	0.389	0.319
PCB-196	42740-50-1	µg/kg	0.91	0.427	0.521	0.541	3.48	0.595	0.471	0.475	0.513	0.413
PCB-197/200	PCB-197/200	µg/kg	0.153	0.113	0.12	0.13	0.856	0.109	0.118	0.111	0.119	0.0768
PCB-198/199	PCB-198/199	µg/kg	2.4	1.1	1.26	1.35	7.42	1.35	1.2	1.15	1.21	0.899
PCB-201	40186-71-8	µg/kg	0.202	0.113	0.131	0.144	0.873	0.126	0.119	0.125	0.139	0.0994
PCB-202	2136-99-4	µg/kg	0.846	0.364	0.462	0.45	1.99	0.469	0.4	0.421	0.374	0.298 J
PCB-203	52663-76-0	µg/kg	1.83	0.736	1.02	0.985	5.16	1.11	0.856	0.839	0.848	0.687
PCB-204	74472-52-9	µg/kg	0.00146 J	0.000939 JN	0.00185 J	0.00177 JN	0.00248 J	0.00174 J	0.00168 J	0.00167 J	0.00139 J	0.00187 JN
PCB-205	74472-53-0	µg/kg	0.0833	0.0453	0.0569	0.0525	0.347	0.0521	0.0487	0.0512	0.0440	0.0392
PCB-206	40186-72-9	µg/kg	1.11	0.349	0.479	0.441	1.37	0.44	0.414	0.462	0.379	0.342
PCB-207	52663-79-3	µg/kg	0.11	0.0466	0.0615	0.0587	0.2	0.0615	0.0554	0.0655	0.0491	0.0494
PCB-208	52663-77-1	µg/kg	0.359	0.153	0.166	0.184	0.394	0.169	0.165	0.172	0.149	0.125
PCB-209	2051-24-3	µg/kg	0.27	0.128	0.208	0.183	0.251	0.195	0.196	0.209	0.191	0.164 J
Total PCBs	(a) T PCBcg (PDI)	µg/kg	209	132	151	156	431	228	136	136	126	101
Pesticides												
2,4-DDD	53-19-0	µg/kg	2.39	2.80	2.87	2.09	1.66	2.69	3.73	3.04	2.29	2.48
2,4-DDE	3424-82-6	µg/kg	0.836	0.701	0.605	0.569	0.518	0.730	0.846	0.636	0.469	0.530
2,4-DDT	789-02-6	µg/kg	0.795	0.706	0.879	0.795	0.532	0.982	0.867	0.950	0.845	0.897
4,4'-DDD	72-54-8	µg/kg	13.8	9.70	11.6	11.0	9.60	12.2	15.6	14.7	13.0	10.6
4,4'-DDE	72-55-9	µg/kg	68.2	51.3	59.0	58.6	52.6	55.8	56.6	57.5	49.8	39.1
4,4'-DDT	50-29-3	µg/kg	8.07	3.80	5.70	8.91	5.89	9.39	5.11	6.66	6.85	7.19
DDx	(a) T DDx (PDI)	µg/kg	94.1	69	80.7	82	70.8	81.8	82.8	83.5	73.3	60.8
alpha-Chlordane	5103-71-9	µg/kg	1.34	1.39	1.40	1.39	0.964	7.12	1.33	1.04	1.19	0.986
cis-Nonachlor	5103-73-1	µg/kg	2.25	1.42	1.59	2.19	1.49	3.26	1.34	1.62	1.46	1.22
Oxychlordane	27304-13-8	µg/kg	0.987	0.562	0.604	0.902	0.531	1.87	0.662	0.689	0.561	0.527
trans-Chlordane	5103-74-2	µg/kg	0.441 J	0.536	0.466	0.445 J	0.320 J	3.95	0.469 J	0.330 J	0.358 J	0.300 J
trans-Nonachlor	39765-80-5	µg/kg	5.97	3.59	4.26	5.54	3.81	9.06	3.46	4.34	3.95	3.32
Total Chlordanes	(a) T Clrdn (PDI)	µg/kg	11	7.5	8.32	10.5	7.12	25.3	7.26	8.02	7.52	6.35
Aldrin	309-00-2	µg/kg	0.011 J	0.017 J	0.020 J	0.013 J	0.011 J	0.029 J	0.017 J	0.018 J	0.013 J	0.014 J
Dieldrin	60-57-1	µg/kg	1.43	2.05	1.59	1.70	1.14	1.49	1.71	1.18	1.20	1.12
Metals												
Arsenic	7440-38-2	mg/kg	0.26	0.28	0.29	0.28	0.22	0.26	0.23	0.21	0.20	0.19
Mercury	7439-97-6	mg/kg	0.190 J	0.139 J	0.160 J	0.137 J	0.118 J	0.151 J	0.142 J	0.118 J	0.118 J	0.112 J
Semivolatile Organics												
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg	1.35	1.66	1.46	1.64	1.13	1.57	1.57	1.20	1.26	1.26
Pentachlorophenol	(c) 87-86-5	µg/kg	< 1000 U	< 1000 U	< 970 U	< 1000 U	< 1000 U	< 990 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)												
PBDE-7	171977-44-9	µg/kg	0.00289 J	0.00408 J	0.00469 J	0.00348 J	0.00291 J	0.00392 J	0.00411 J	0.00261 J	0.00242 J	0.00315 J
PBDE-8/11	PBDE-8/11	µg/kg	0.00355 JN	0.00403 J	0.00371 J	0.00356 J	0.00276 J	0.00370 J	0.00474 J	0.00296 J	0.00269 J	0.00358 J
PBDE-10	51930-04-2	µg/kg	< 0.000498 U	< 0.000363 U	< 0.000488 U	< 0.000382 U	< 0.000509 U	< 0.000496 U	< 0.000570 U	< 0.000429 U	< 0.000404 U	< 0.000791 U
PBDE-12/13	PBDE-12/13	µg/kg	0.00150 JN	0.00181 J	0.00190 JN	0.00178 J	0.00131 J	0.00820 JN	0.00989 JN	0.00153 J	0.00126 JN	0.00109 JN
PBDE-15	2050-47-7	µg/kg	0.0189	0.0173	0.0178	0.0206	0.0127 J	0.0169	0.0207	0.0147 J	0.0130 J	0.0142
PBDE-17/25	PBDE-17/25	µg/kg	0.117 JN	0.143 JN	0.134 JN	0.153 JN	0.102 JN	0.15 JN	0.177 JN	0.131 JN	0.0954 JN	0.101 JN
PBDE-28/33	PBDE-28/33	µg/kg	0.608	0.326	0.483	0.541	0.441	0.539	0.399	0.443	0.393	0.417
PBDE-30	155999-95-4	µg/kg	< 0.00339 U	< 0.00266 U	< 0.00303 U	< 0.00332 U	< 0.00268 U	< 0.00441 U	< 0.00294 U	< 0.00347 U	< 0.00200 U	< 0.00335 U
PBDE-32	189084-60-4	µg/kg	< 0.00260 U	< 0.00204 U	< 0.00232 U	< 0.00255 U	< 0.00206 U	< 0.00349 U	< 0.00234 U	< 0.00263 U	< 0.00156 U	< 0.00262 U
PBDE-35	147217-80-9	µg/kg	0.0124 JN	0.00571 JN	0.00662 JN	0.00972 JN	0.00632 JN	0.103 JN	0.00898 JN	0.00631 JN	0.00760 JN	0.00682 JN
PBDE-37	147217-81-0	µg/kg	0.0112 J	0.0101 J	0.00845 J	0.0139 J	0.00995 JN	0.0112 JN	0.00917 J	0.0113 J	0.00789 J	0.00846 JN
PBDE-047	5436-43-1	µg/kg	31.8	15.2 J	25.7	32.1	30.3	25.6	16	26.1	23.5	19.7
PBDE-49	243982-82-3	µg/kg	0.97	1.17	0.939	1.28	1.02	0.911	1.52	0.985	0.625	0.604
PBDE-51	189084-57-9	µg/kg	0.0521	0.0473	0.0358	0.0470	0.0346	0.0326	0.0588	0.0423	0.0244	0.0224

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location Sample ID Sample Date	Sitewide 4 SMB021 PDI-TF-SMB021 8/21/18	Sitewide 4 SMB022 PDI-TF-SMB022 8/21/18	Sitewide 4 SMB023 PDI-TF-SMB023 8/21/18	Sitewide 4 SMB024 PDI-TF-SMB024 8/21/18	Sitewide 4 SMB025 PDI-TF-SMB025 8/21/18	Sitewide 4 SMB026 PDI-TF-SMB026 9/6/18	Sitewide 4 SMB027 PDI-TF-SMB027 9/6/18	Sitewide 4 SMB028 PDI-TF-SMB028 8/21/18	Sitewide 3 SMB029 PDI-TF-SMB029 8/20/18	Sitewide 3 SMB030 PDI-TF-SMB030 8/20/18
Chemical	CAS	Units										
PBDE-66	189084-61-5	µg/kg	0.263	0.208	0.234	0.298	0.288	0.215	0.257	0.23	0.205	0.215
PBDE-71	189084-62-6	µg/kg	0.0206	0.0321	0.0248	0.0347	0.0282	0.0426	0.0436	0.0253	0.0200 JN	0.0304
PBDE-75	189084-63-7	µg/kg	0.0270	0.0250	0.0205	0.0255	0.0247	0.0223	0.0214	0.0197	0.0200	0.0173
PBDE-77	93703-48-1	µg/kg	0.00459 JN	0.00356 JN	0.00414 JN	0.00751 JN	0.00592 JN	0.00335 JN	0.00416 JN	0.00380 J	0.00379 J	0.00347 J
PBDE-79	PBDE-79	µg/kg	0.0236 JN	0.0251 JN	0.0207 JN	0.0404 JN	0.0304 JN	0.0312 JN	0.0214 JN	0.0335 JN	0.0296 JN	0.0249 JN
PBDE-85	182346-21-0	µg/kg	< 0.00462 U	< 0.00330 U	< 0.00310 U	< 0.00414 U	< 0.00495 U	< 0.00434 U	< 0.00455 U	< 0.00276 U	< 0.00355 U	< 0.00431 U
PBDE-099	60348-60-9	µg/kg	3.87	5.23	3.07	5.66	6.01	3.2	3.72	3.86	3.1	2.78
PBDE-100	189084-64-8	µg/kg	4.76	3.61	4.25	5.86	5.65	3.82	2.99	4.44	4.15	3.18
PBDE-105	373594-78-6	µg/kg	< 0.00594 U	< 0.00425 U	< 0.00400 U	< 0.00533 U	< 0.00638 U	< 0.00524 U	< 0.00555 U	< 0.00343 U	< 0.00461 U	< 0.00560 U
PBDE-116	189084-65-9	µg/kg	< 0.00758 U	< 0.00542 U	< 0.00510 U	< 0.00680 U	< 0.00813 U	< 0.00704 U	< 0.00740 U	< 0.00435 U	< 0.00577 U	< 0.00700 U
PBDE-119/120	PBDE-119/120	µg/kg	0.141	0.0935	0.117	0.211	0.178	0.117	0.0756	0.103	0.107	0.121
PBDE-126	366791-32-4	µg/kg	0.00821 J	0.0127 J	0.0156	0.0240	0.0195	0.0107 J	0.00787 J	0.0178	0.0140 J	0.00940 J
PBDE-128	182677-28-7	µg/kg	0.00712 JN	0.00458 JN	0.00469 JN	0.0103 JN	0.00740 JN	0.00426 JN	0.00386 JN	0.00555 JN	0.00574 JN	0.00465 JN
PBDE-138/166	PBDE-138/166	µg/kg	0.000633 JN	0.000994 JN	0.000684 J+	0.00227 J+	0.00184 JN	0.00217 JN	0.000660 JN	0.000989 J+	0.000928 JN	0.000946 J+
PBDE-140	243982-83-4	µg/kg	0.00993 J	0.0113 J	0.00605 J	0.0129 J	0.0139 J	0.0246 J	0.0113 J	0.00996 J	0.00720 J	0.00658 J
PBDE-153	68631-49-2	µg/kg	1.63	0.864	1.24	1.65	1.57	1.76 J	0.893	1.16	0.999	0.943
PBDE-154	207122-15-4	µg/kg	0.998	0.909	0.975	1.56	1.43 J	1.27 J	0.766 J	1.05	1.03	0.773
PBDE-155	35854-94-5	µg/kg	0.0724	0.104	0.126	0.214	0.16 J	0.0807 J	0.0911 J	0.143	0.118	0.0849
PBDE-181	189084-67-1	µg/kg	< 0.000165 U	< 0.000287 U	< 0.000202 U	0.000856 JN	< 0.000957 U	0.000227 JN	0.000157 JN	< 0.000148 U	< 0.000264 U	< 0.000187 U
PBDE-183	207122-16-5	µg/kg	0.00646 J	0.00904 JN	0.00405 JN	0.0168	0.0243	0.00784 J	0.00988 JN	0.00828 JN	0.00668 J	0.00491 J
PBDE-190	189084-68-2	µg/kg	< 0.000179 U	< 0.000157 U	< 0.000184 U	< 0.000495 U	< 0.00149 U	< 0.000145 U	< 0.000149 U	< 0.000185 U	< 0.000243 U	< 0.000295 U
PBDE-203	337513-72-1	µg/kg	< 0.00105 U	0.00278 JN	< 0.00114 U	0.00338 J+	0.00287 JN	0.00121 JN	0.00188 JN	< 0.000992 U	0.00186 JN	0.00207 JN
PBDE-206	63387-28-0	µg/kg	< 0.00106 U	< 0.00228 U	< 0.000439 U	< 0.00227 U	< 0.000662 U	0.00124 JN	0.00278 JN	< 0.00165 U	< 0.00117 U	< 0.000478 U
PBDE-207	437701-79-6	µg/kg	0.00342 J+	0.00365 JN	< 0.000551 U	0.00405 J+	< 0.00197 U	0.00347 JN	0.00104 J+	< 0.000990 U	< 0.00163 U	0.00327 JN
PBDE-208	437701-78-5	µg/kg	< 0.00316 U	< 0.00279 U	< 0.000577 U	0.00699 JN	< 0.00388 U	0.00143 JN	0.00386 JN	< 0.00159 U	< 0.00139 U	0.00717 JN
PBDE-209	1163-19-5	µg/kg	< 0.0147 U	< 0.0388 U	< 0.0176 U	< 0.0278 U	< 0.0274 U	0.0327 J+	0.0473 J+	< 0.0228 U	< 0.0333 U	< 0.0326 U
Total PBDE	(a) T. PBDE (PDI)	µg/kg	45.5	28.1	37.5	49.8	47.4	38	27.2	38.9	34.5	29.1

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 4 SMB021 8/21/18	Sitewide 4 SMB022 8/21/18	Sitewide 4 SMB023 8/21/18	Sitewide 4 SMB024 8/21/18	Sitewide 4 SMB025 8/21/18	Sitewide 4 SMB026 9/6/18	Sitewide 4 SMB027 9/6/18	Sitewide 4 SMB028 8/21/18	Sitewide 3 SMB029 8/20/18	Sitewide 3 SMB030 8/20/18
Chemical	CAS	Units										
Physical Parameters												
Lipids	LIPID	%	5.99	7.76	6.83	6.54	5.05	6.38	6.19	4.86	5.20	5.54
Total Solids@104C	TSOLID	%	28.0	29.0	28.6	28.8	26.9	27.1	27.4	26.8	26.8	28.1

Notes:**Qualifiers:**

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
 JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 U = Not detected at detection limit shown.
 UJ = Not detected; sample detection limit is estimated.
 R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
 The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
 Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
 There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location	Sample ID	Sample Date	Sitewide 3 SMB031	Sitewide 3 SMB032	Sitewide 3 SMB033	Sitewide 3 SMB034	Sitewide 3 SMB035	Sitewide 3 SMB036	Sitewide 3 SMB037	Sitewide 3 SMB038	Sitewide 3 SMB039	Sitewide 3 SMB040
Chemical	CAS	Units	PDI-TF-SMB031	PDI-TF-SMB032	PDI-TF-SMB033	PDI-TF-SMB034	PDI-TF-SMB035	PDI-TF-SMB036	PDI-TF-SMB037	PDI-TF-SMB038	PDI-TF-SMB039	PDI-TF-SMB040		
Dioxins and Furans														
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg	0.000334 J	0.0000948 JN	0.000336 JN	0.000137 J	0.0000829 JN	0.000271 JN	0.0000879 JN	0.000155 J	0.000123 JN	0.00490		
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg	0.0000987 JN	< 0.0000730 U	< 0.0000699 U	< 0.0000731 U	< 0.0000721 U	0.0000748 JN	< 0.0000751 U	< 0.0000735 U	< 0.0000725 U	0.000683 J		
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg	< 0.0000727 U	< 0.0000730 U	< 0.0000699 U	< 0.0000731 U	< 0.0000721 U	< 0.0000694 U	< 0.0000751 U	< 0.0000735 U	< 0.0000725 U	< 0.0000741 U		
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg	0.000111 JN	< 0.0000730 U	0.000113 JN	< 0.000126 U	< 0.0000721 U	0.000190 J	< 0.0000751 U	< 0.0000735 U	< 0.0000725 U	0.000209 J		
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg	0.000183 JN	< 0.0000730 U	0.000197 J	0.000149 J	< 0.0000909 U	0.000454 J	0.000368 JN	0.0000938 J	0.000439 J	0.00127 J		
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg	0.000690 J	0.000119 J	0.000534 J	0.000333 J	0.000213 J	0.000600 J	0.000240 J	0.000317 J	0.000234 J	0.00159		
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg	0.000148 J	< 0.0000730 U	0.0000918 J	0.0000780 J	< 0.0000898 U	0.000180 J	0.000115 JN	< 0.0000735 U	0.000127 J	0.000425 J		
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg	< 0.0000727 U	< 0.0000730 U	< 0.0000699 U	< 0.000122 U	< 0.0000721 U	< 0.0000997 U	< 0.0000751 U	< 0.0000735 U	< 0.0000725 U	0.000402 J		
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg	< 0.0000727 U	< 0.0000730 U	< 0.0000699 U	< 0.0000731 U	< 0.000115 U	< 0.0000694 U	< 0.0000751 U	< 0.0000735 U	< 0.0000725 U	< 0.0000741 U		
1,2,3,7,8-PeCDD	40321-76-4	µg/kg	0.000613 J	0.000216 JN	0.000756 J	0.000345 J	0.000308 JN	0.000717 J	0.000383 J	0.000383 J	0.000356 J	0.000625 J		
1,2,3,7,8-PeCDF	57117-41-6	µg/kg	0.000654 JN	0.000352 J	0.000557 J	0.000883 J	0.000310 J	0.00155	0.00151	0.000316 J	0.00181	0.00130 J		
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg	< 0.0000727 U	< 0.0000730 U	< 0.0000699 U	< 0.0000731 U	< 0.0000943 U	0.0000766 J	< 0.0000751 U	< 0.0000735 U	< 0.0000725 U	0.000178 J		
2,3,4,7,8-PeCDF	57117-31-4	µg/kg	0.000781 J	0.000511 J	0.000728 J	0.000949 J	0.000455 J	0.00161	0.00132 JN	0.000480 J	0.00155	0.00114 J		
2,3,7,8-TCDD	1746-01-6	µg/kg	0.000359	0.000173 J	0.000296	0.000283 JN	0.000308 JN	0.000368	0.000288 J	0.000259 J	0.000289 J	0.000282 J		
2,3,7,8-TCDF	51207-31-9	µg/kg	0.00215	0.00181	0.00185	0.00348	0.00225	0.00548	0.00488	0.00227	0.00768	0.00208		
OCDD	3268-87-9	µg/kg	0.000406 JN	0.000125 JN	0.000249 JN	0.000149 J+	0.000185 J+	0.000392 J+	0.000251 J	0.000156 J+	0.000252 J+	0.0142		
OCDF	39001-02-0	µg/kg	< 0.0000727 U	< 0.0000827 U	< 0.0000699 U	< 0.0000731 U	0.0000902 JN	0.0000882 J	< 0.0000751 U	< 0.0000735 U	< 0.0000725 U	0.0000821 J		
TCDD-TEQ (a)	T_DF_TEQ (PDI)	µg/kg	0.00156	0.00075	0.00157	0.00135	0.00101	0.00232	0.00168	0.00107	0.00202	0.00197		
TCDD-TEQ (EMPC=half) (b)	T_DF_TEQ(E_0.5)	µg/kg	0.00152	0.000638	0.00156	0.0012	0.000854	0.00232	0.00143	0.00107	0.00202	0.00197		
TCDD-TEQ (EMPC=0) (b)	T_DF_TEQ(E_0)	µg/kg	0.00151	0.00053	0.00155	0.00106	0.0007	0.00231	0.00123	0.00107	0.00201	0.00196		
Polychlorinated Biphenyls (PCBs)														
PCB-1	2051-60-7	µg/kg	0.00523	0.00414	0.00599	0.00736	0.00714	0.00552	0.00543	0.00742	0.00747	0.00553		
PCB-2	2051-61-8	µg/kg	0.00125 J+	0.000950 J	0.00165 J+	0.00264 J	0.00136 J+	0.00166 J	0.00172 J+	0.00129 J	0.00160 J	0.00111 J		
PCB-3	2051-62-9	µg/kg	0.00259 JN	0.00174 J+	0.00336 J+	0.00387	0.00303 J+	0.00226 J	0.00306 JN	0.00264 J	0.00299	0.00210 J		
PCB-4	13029-08-8	µg/kg	0.165	0.134	0.211	0.187	0.254	0.161	0.165	0.304	0.219	0.279		
PCB-5	16605-91-7	µg/kg	< 0.00277 U	0.000814 J	< 0.00232 U	< 0.00334 U	< 0.00291 U	0.00154 J	< 0.00440 U	0.00153 J	0.00178 JN	0.00114 JN		
PCB-6	25569-80-6	µg/kg	0.0181	0.0130	0.0226	0.0360	0.0206	0.0237	0.0224	0.0223	0.0321	0.0206		
PCB-7	33284-50-3	µg/kg	0.00358	0.00315 JN	0.00459 JN	0.00522 JN	0.00414	0.00439	0.00451 JN	0.00507	0.00534	0.00431		
PCB-8	34883-43-7	µg/kg	0.0756	0.0580	0.0888	0.15	0.0813	0.107	0.0863	0.0969	0.116	0.0866		
PCB-9	34883-39-1	µg/kg	0.00555 JN	0.00441	0.00594	0.00864	0.00652	0.00697	0.00680 JN	0.00764	0.00894	0.00598		
PCB-10	33146-45-1	µg/kg	0.0121	0.00723	0.0153	0.0125	0.0150	0.00912	0.00898	0.0217	0.0135	0.0231		
PCB-11	2050-67-1	µg/kg	0.0916	0.0542	0.0611	0.0590	0.106	0.0673	0.0416	0.133	0.169	0.111		
PCB-12/13	PCB-12/13	µg/kg	< 0.00259 U	0.00217 J	0.00455	0.00370 JN	0.00422	0.00370	< 0.00415 U	0.00445	0.00573	0.00468		
PCB-14	34883-41-5	µg/kg	< 0.00258 U	< 0.000456 U	< 0.00210 U	< 0.00304 U	< 0.00271 U	< 0.000639 U	< 0.00399 U	< 0.000693 U	< 0.000909 U	< 0.000872 U		
PCB-15	2050-68-2	µg/kg	0.0180	0.0820	0.0290	0.0243	0.0271	0.0231	0.0190	0.0301	0.0384	0.0239		
PCB-16	38444-78-9	µg/kg	0.0810	0.0655	0.0869	0.178	0.0902	0.0999	0.102	0.0979	0.118	0.0752		
PCB-17	37680-66-3	µg/kg	0.298	0.182	0.279	0.539	0.316	0.237	0.258	0.33	0.319	0.266		
PCB-18/30	PCB-18/30	µg/kg	0.277	0.212	0.29	0.637	0.28	0.317	0.297	0.334	0.376	0.252		
PCB-19	38444-73-4	µg/kg	0.544	0.365	0.586	0.552	0.758	0.408	0.416	0.843	0.53	0.805		
PCB-20/28	PCB-20/28	µg/kg	1.04	1.15	1.02	2.11	1.17	1.2	0.919	1.07	1.35	0.885		
PCB-21/33	PCB-21/33	µg/kg	0.216	0.116	0.229	0.596	0.193	0.271	0.218	0.174	0.221	0.166		
PCB-22	38444-85-8	µg/kg	0.21	0.149	0.197	0.469	0.266	0.257	0.206	0.26	0.308	0.181		
PCB-23	55720-44-0	µg/kg	< 0.00172 U	< 0.00155 U	< 0.00228 U	< 0.00580 U	< 0.00151 U	< 0.00220 U	< 0.00138 U	0.00111 JN	< 0.00271 U	< 0.00103 U		
PCB-24	55702-45-9	µg/kg	0.00477 JN	0.00366	0.00412	0.00570 JN	0.00514	0.00463	0.00582	0.00781 JN	0.00618	0.00391		
PCB-25	55712-37-3	µg/kg	0.0814	0.0534	0.0712	0.129	0.0989	0.0749	0.0663	0.1	0.104	0.0816		
PCB-26/29	PCB-26/29	µg/kg	0.167	0.114	0.154	0.32	0.193	0.159	0.131	0.194	0.205	0.167		
PCB-27	38444-76-7	µg/kg	0.0758	0.0388	0.0743	0.0928	0.0772	0.0544	0.0621	0.0752	0.0699	0.0715		
PCB-31	16606-02-3	µg/kg	0.594	0.411	0.535	1.23	0.712	0.64	0.454	0.709	0.753	0.517		
PCB-32	38444-77-8	µg/kg	0.157	0.0822	0.17	0.336	0.157	0.198	0.22	0.145	0.274	0.134		
PCB-34	37680-68-5	µg/kg	0.00736	0.00436	0.00576	0.0114	0.00625	0.00609	0.00632	0.00821	0.00910	0.00589		
PCB-35	37680-69-6	µg/kg	< 0.00186 U	< 0.00155 U	< 0.00222 U	< 0.00611 U	< 0.00164 U	< 0.00200 U	< 0.00135 U	< 0.000498 U	< 0.00274 U	< 0.00104 U		
PCB-36	38444-87-0	µg/kg	< 0.00173 U	< 0.00144 U	< 0.00206 U	< 0.00566 U	< 0.00152 U	< 0.00189 U	< 0.00125 U	< 0.000469 U	< 0.00251 U	< 0.000953 U		
PCB-37	38444-90-5	µg/kg	0.0701	0.446	0.0775	0.114	0.111	0.0807	0.0734	0.0909	0.116	0.0614		
PCB-38	53555-66-1	µg/kg	< 0.00170 U	< 0.00147 U	< 0.00217 U	< 0.00559 U	0.00172 J	0.00325 JN	0.00334	0.00250 JN	0.00357	0.00256 J		

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 3 SMB031 PDI-TF-SMB031 9/13/18	Sitewide 3 SMB032 PDI-TF-SMB032 8/20/18	Sitewide 3 SMB033 PDI-TF-SMB033 9/6/18	Sitewide 3 SMB034 PDI-TF-SMB034 9/11/18	Sitewide 3 SMB035 PDI-TF-SMB035 9/11/18	Sitewide 3 SMB036 PDI-TF-SMB036 8/20/18	Sitewide 3 SMB037 PDI-TF-SMB037 9/6/18	Sitewide 3 SMB038 PDI-TF-SMB038 8/20/18	Sitewide 3 SMB039 PDI-TF-SMB039 8/20/18	Sitewide 3 SMB040 PDI-TF-SMB040 8/20/18
PCB-39	38444-88-1	µg/kg		0.00972	0.00485	0.00822	0.0183	0.0100	0.0165	0.0148	0.00848	0.0206	0.00862 JN
PCB-40/41/71	PCB-40/41/71	µg/kg		0.604	0.375	0.689	1.27	0.566	1.21	1.3	0.604	1.58	0.599
PCB-42	36559-22-5	µg/kg		0.406	0.327	0.401	0.799	0.481	0.716	0.754	0.516	1.08	0.377
PCB-43	70362-46-8	µg/kg		0.0739	0.0383	0.0729	0.147	0.0792	0.122	0.131	0.0805	0.167	0.0687
PCB-44/47/65	PCB-44/47/65	µg/kg		3.1	2.11	3.13	4.61	3.59	3.8	4	3.68	5.86	3.55
PCB-45/51	PCB-45/51	µg/kg		0.494	0.297	0.483	0.596	0.561	0.412	0.518	0.6	0.684	0.482
PCB-46	41464-47-5	µg/kg		0.0503	0.0368	0.0546	0.0829	0.0584	0.0637	0.0928	0.0649	0.106	0.0471
PCB-48	70362-47-9	µg/kg		0.232	0.138	0.246	0.521	0.238	0.446	0.441	0.246	0.568	0.22
PCB-49/69	PCB-49/69	µg/kg		1.92	1.37	1.95	3.23	2.25	2.81	2.72	2.34	4.18	2.26
PCB-50/53	PCB-50/53	µg/kg		0.332	0.193	0.403	0.398	0.335	0.338	0.414	0.332	0.442	0.346
PCB-52	35693-99-3	µg/kg		2.94	2.1	2.77	4.93	3.37	4.22	4.03	3.18	6.33	4.08
PCB-54	15968-05-5	µg/kg		0.13	0.0756	0.137	0.115	0.159	0.0730	0.0823	0.162	0.102	0.152
PCB-55	74338-24-2	µg/kg		< 0.00346 U	< 0.00589 U	< 0.00823 U	< 0.00847 U	< 0.00449 U	< 0.00543 U	< 0.0143 U	< 0.00786 U	< 0.0156 U	< 0.00176 U
PCB-56	41464-43-1	µg/kg		0.475	0.367	0.422	0.961	0.639	0.923	0.89	0.624	1.38	0.433
PCB-57	70424-67-8	µg/kg		0.00877	0.00943	0.0110 JN	0.0179	0.0114	0.0142	0.0140	0.00869	0.0219	0.0133
PCB-58	41464-49-7	µg/kg		0.0147	0.00878 JN	0.0126	0.0139 JN	0.0169	0.0135	0.0188	0.0149	0.0174 JN	0.0223
PCB-59/62/75	PCB-59/62/75	µg/kg		0.19	0.139	0.195	0.326	0.212	0.268	0.277	0.23	0.377	0.195
PCB-60	33025-41-1	µg/kg		0.517	0.485	0.553	1.25	0.5	1.38	1.16	0.456	1.88	0.497
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg		3.52	2.6	3.07	5.04	3.96	4.79	4.06	3.47	6.37	3.9
PCB-63	74472-34-7	µg/kg		0.15	0.139	0.145	0.239	0.147	0.266	0.222	0.132	0.357	0.148
PCB-64	52663-58-8	µg/kg		0.83	0.657	0.818	1.73	0.957	1.73	1.58	0.937	2.51	0.83
PCB-66	32598-10-0	µg/kg		3.06	2.43	2.64	4.97	3	5.25	4.63	2.43	7.17	2.75
PCB-67	73575-53-8	µg/kg		0.0539	0.0365	0.0467	0.0729	0.0568	0.0569	0.0519	0.0533	0.0777	0.0635
PCB-68	73575-52-7	µg/kg		0.0595	0.0332	0.0566	0.0465	0.0690	0.0361	0.0420	0.0651	0.0597	0.0633
PCB-72	41464-42-0	µg/kg		0.0617	0.0350	0.0610	0.0597	0.0641	0.0516	0.0676	0.0645	0.0800	0.0751
PCB-73	74338-23-1	µg/kg		0.0209	0.0420	0.0623	0.0434	0.0309	< 0.000319 U	0.0748	< 0.00101 U	< 0.000163 U	< 0.000221 U
PCB-77	32598-13-3	µg/kg		0.125	0.187	0.111	0.208	0.138	0.194	0.154	0.135	0.265	0.1
PCB-78	70362-49-1	µg/kg		< 0.00350 U	< 0.00563 U	< 0.00815 U	< 0.00848 U	< 0.00455 U	< 0.00523 U	< 0.0142 U	< 0.00756 U	< 0.0151 U	< 0.00170 U
PCB-79	41464-48-6	µg/kg		0.133	0.0284	0.0507 JN	0.0496	0.0978	0.0414	0.0446 JN	0.0589	0.0765	0.0811
PCB-80	33284-52-5	µg/kg		< 0.00308 U	< 0.00515 U	< 0.00720 U	< 0.00765 U	< 0.00400 U	< 0.00472 U	< 0.0125 U	< 0.00683 U	< 0.0139 U	< 0.00157 U
PCB-81	70362-50-4	µg/kg		0.00876 JN	0.0108	< 0.00767 U	0.00869 JN	0.00813 JN	0.0105	< 0.0137 U	< 0.00704 U	< 0.0133 U	0.00580 JN
PCB-82	52663-62-4	µg/kg		0.84	0.207	0.297	0.358	0.627	0.321	0.364	0.355	0.464	0.405
PCB-83/99	PCB-83/99	µg/kg		11.3	2.88	5.31	5.36	7.07	4.85	6.33	5.03	7.44	10.7
PCB-84	52663-60-2	µg/kg		1.02	0.489	0.688	0.677	1.25	0.552	0.627	0.858	0.827	0.811
PCB-85/116/117	PCB-85/116/117	µg/kg		2.94	0.745	1.28	1.57	1.89	1.55	1.74	1.23	2.22	2.88
PCB-86/87/97/108/119/125	PCB-86/87/97/ C	µg/kg		8.78	1.86 J	3.02	3.55	5.84	2.87 J	3.36	3.46 J	4.71 J	6.39 J
PCB-88/91	PCB-88/91	µg/kg		1.18	0.532	0.86	0.855	1.22	0.667	0.702	1.03	1.08	1.09
PCB-89	73575-57-2	µg/kg		0.0227	0.0125	0.0234	0.0308	0.0216	0.0331	0.0384	0.0223	0.0432	0.0213
PCB-90/101/113	PCB-90/101/113	µg/kg		15.8	3.78	6.32	6.7	10.4	5.66	6.3	7.39	9.14	13.1
PCB-92	52663-61-3	µg/kg		2.63	0.765	1.38	1.45	1.97	1.15	1.31	1.54	1.78	2.76
PCB-93/95/98/100/102	PCB-93/95/98/ C	µg/kg		5.52	2.18	4.45	3.4	5.25	2.92	3.1	4.34	4.54	6.44
PCB-94	73575-55-0	µg/kg		0.0272	0.0204	0.0303	0.0303	0.0377	0.0264	0.0284	0.0454	0.0395	0.0320
PCB-96	73575-54-9	µg/kg		0.0314	0.0205	0.0331	0.0380	0.0351	0.0321	0.0352	0.0379	0.0441	0.0338
PCB-103	60145-21-3	µg/kg		0.159	0.0909	0.139	0.134	0.176	0.0977	0.105	0.198	0.161	0.168
PCB-104	56558-16-8	µg/kg		0.0140	0.0104	0.0134	0.0149	0.0195	0.00622	0.00761	0.0218	0.0148	0.0182
PCB-105	32598-14-4	µg/kg		6.22	1.15	1.97	2.36	3.51	2.47	2.83	1.84	3.67	5.49
PCB-106	70424-69-0	µg/kg		< 0.00980 U	< 0.00559 U	< 0.0102 U	< 0.00723 U	< 0.0109 U	< 0.00760 U	< 0.0179 U	< 0.0126 U	< 0.0151 U	< 0.0203 U
PCB-107/124	PCB-107/124	µg/kg		0.471	0.11	0.166	0.196	0.353	0.194	0.174	0.198	0.244	0.324
PCB-109	74472-35-8	µg/kg		1.35	0.365	0.548	0.564	0.881	0.557	0.612	0.542	0.857	1.24
PCB-110/115	PCB-110/115	µg/kg		13.1	3.01	6.38	5.54	9.23	4.72	4.9	5.94	7.28	11.7
PCB-111	39635-32-0	µg/kg		0.0111	0.00657	0.0160	0.00920 JN	0.0139 JN	0.00983	0.0122	0.0146 JN	0.0159	0.0161
PCB-112	74472-36-9	µg/kg		< 0.00389 U	< 0.00114 U	< 0.00283 U	< 0.00378 U	< 0.00457 U	< 0.00115 U	< 0.00418 U	< 0.00380 U	< 0.00267 U	< 0.00430 U
PCB-114	74472-37-0	µg/kg		0.425	0.106	0.155	0.157	0.231	0.189	0.211	0.123	0.272	0.364
PCB-118	31508-00-6	µg/kg		17.2	3.43	6.1	6.18	9.59	6.2	7.61	5.41	9.21	15
PCB-120	68194-12-7	µg/kg		0.0568	0.0266	0.0638	0.0459	0.0594	0.0392	0.0504	0.0645	0.0638	0.0680

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 3 SMB031 PDI-TF-SMB031 9/13/18	Sitewide 3 SMB032 PDI-TF-SMB032 8/20/18	Sitewide 3 SMB033 PDI-TF-SMB033 9/6/18	Sitewide 3 SMB034 PDI-TF-SMB034 9/11/18	Sitewide 3 SMB035 PDI-TF-SMB035 9/11/18	Sitewide 3 SMB036 PDI-TF-SMB036 8/20/18	Sitewide 3 SMB037 PDI-TF-SMB037 9/6/18	Sitewide 3 SMB038 PDI-TF-SMB038 8/20/18	Sitewide 3 SMB039 PDI-TF-SMB039 8/20/18	Sitewide 3 SMB040 PDI-TF-SMB040 8/20/18
PCB-121	56558-18-0	µg/kg		0.0133	0.00619	0.0159	0.0126	0.0153	0.00986 JN	0.0122	0.0190 JN	0.0147	0.0183
PCB-122	76842-07-4	µg/kg		0.0941 JN	0.0235	0.0360	0.0351	0.0818	0.0426 JN	0.0328	0.0501	0.0672	0.0573
PCB-123	65510-44-3	µg/kg		0.3 JN	0.0628	0.0998	0.117 JN	0.162 JN	0.115	0.12	0.103	0.165	0.166
PCB-126	57465-28-8	µg/kg		0.0139 JN	0.00911 JN	0.0485 JN	0.0100 JN	0.0149 JN	0.0236 JN	< 0.0234 U	0.0161 JN	0.0283 JN	0.0451 JN
PCB-127	39635-33-1	µg/kg		0.0558	0.00835	0.0248	0.0144	0.0272	0.0160	0.0264	0.0141	0.0219	0.0481
PCB-128/166	PCB-128/166	µg/kg		6.04	0.796	2.39	1.57	2.86	1.58	2.08	1.76	2.35	5.07
PCB-129/138/160/163	PCB-129/138/ C	µg/kg		39.9	5.93	20.2	11.7	22	11.9	15.6	15.2	17.7	34.5
PCB-130	52663-66-8	µg/kg		1.91	0.311	0.776	0.517	1.02	0.482	0.539	0.727	0.723	1.15
PCB-131	61798-70-7	µg/kg		0.221	0.0305	0.0593	0.0444	0.141	0.0389	0.0386	0.0789	0.0612	0.0909
PCB-132	38380-05-1	µg/kg		5.93	0.894	1.96	1.53	3.77	1.2	1.2	2.35	1.9	2.59
PCB-133	35694-04-3	µg/kg		0.522	0.132	0.381	0.244	0.36	0.255	0.295	0.331	0.344	0.543
PCB-134/143	PCB-134/143	µg/kg		0.917	0.147	0.35	0.247	0.577	0.203	0.217	0.382	0.319	0.479
PCB-135/151/154	PCB-135/151/154	µg/kg		6.09	1.69	4.54	2.99	4.73	2.68	2.87	4.53	3.69	6.95
PCB-136	38411-22-2	µg/kg		1.35	0.355	0.755	0.577	1.09	0.497	0.526	0.878	0.736	1.07
PCB-137	35694-06-5	µg/kg		2.21	0.28	0.659	0.463	0.836	0.501	0.669	0.481	0.742	1.51
PCB-139/140	PCB-139/140	µg/kg		0.664	0.0878	0.256	0.169	0.289	0.167	0.244	0.205	0.265	0.546
PCB-141	52712-04-6	µg/kg		4.39	0.721	1.96	1.45	2.59	1.47	1.62	2.01	2.11	3.46
PCB-142	41411-61-4	µg/kg		< 0.0239 U	< 0.00761 U	< 0.0228 U	< 0.0239 U	< 0.0144 U	< 0.00900 U	< 0.0136 U	< 0.0145 U	< 0.0152 U	< 0.0113 U
PCB-144	68194-14-9	µg/kg		0.84	0.179	0.397	0.306	0.558	0.285	0.265	0.473	0.356	0.515
PCB-145	74472-40-5	µg/kg		0.00466 JN	0.000864 JN	0.00133 JN	0.00198 J	0.00460 JN	0.00152 JN	< 0.00110 U	0.00238 JN	0.00152 J	0.00199 J
PCB-146	51908-16-8	µg/kg		5.35	1.22	4.2	2.47	3.68	2.36	2.82	3.2	3.3	5.74
PCB-147/149	PCB-147/149	µg/kg		16.3	3.29	7.99	5.44	11.1	4.26	4.51	9.06	6.82	10.5
PCB-148	74472-41-6	µg/kg		0.0602	0.0229 JN	0.0515	0.0429	0.0512	0.0314	0.0391	0.0564	0.0497	0.0598
PCB-150	68194-08-1	µg/kg		0.0384	0.0190	0.0276	0.0260	0.0408	0.0177	0.0200	0.0443	0.0310	0.0244
PCB-152	68194-09-2	µg/kg		0.0190	0.00536 JN	0.0102	0.0108	0.0148	0.00797	0.00872	0.0148	0.0141	0.0177
PCB-153/168	PCB-153/168	µg/kg		34	6.27	20.6	12.6	22.8	14.6	16.8	17.9	20.1	32.2
PCB-155	33979-03-2	µg/kg		0.0166	0.00860	0.0167	0.0143	0.0165	0.0131	0.0158	0.0187	0.0159	0.0203
PCB-156/157	PCB-156/157	µg/kg		4.13	0.625	1.22	0.906	1.94	1.17	1.4	1.11	1.48	3.26
PCB-158	74472-42-7	µg/kg		3.32	0.411	1.25	0.88	1.72	0.938	1.23	1.07	1.32	2.6
PCB-159	39635-35-3	µg/kg		< 0.0178 U	0.0319	0.0833	< 0.0168 U	< 0.0107 U	0.0516	0.0559	0.0955	0.0735	0.102
PCB-161	74472-43-8	µg/kg		< 0.0173 U	< 0.00538 U	< 0.0152 U	< 0.0157 U	< 0.0104 U	< 0.00626 U	< 0.00905 U	< 0.0101 U	< 0.0105 U	< 0.00777 U
PCB-162	39635-34-2	µg/kg		0.0972	0.0196	0.0477	0.0228	0.0362 JN	0.0398	0.0404	0.0287	0.0431	0.0860
PCB-164	74472-45-0	µg/kg		1.41	0.259	0.764	0.459	0.898	0.42	0.45	0.644	0.611	1.34
PCB-165	74472-46-1	µg/kg		< 0.0191 U	< 0.00596 U	< 0.0181 U	< 0.0190 U	0.0119	0.0109	< 0.0108 U	0.0153	0.0145	0.0206
PCB-167	52663-72-6	µg/kg		1.35	0.256	0.602	0.358	0.787	0.478	0.456	0.517	0.537	0.937
PCB-169	32774-16-6	µg/kg		< 0.0206 U	< 0.00561 U	< 0.0466 U	< 0.0211 U	< 0.0183 U	< 0.0233 U	< 0.0201 U	< 0.0274 U	< 0.0156 U	< 0.0229 U
PCB-170	35065-30-6	µg/kg		4.26	0.913	3.08	1.92	3.72	2.82	2.59	3	3.07	5.07
PCB-171/173	PCB-171/173	µg/kg		1.36	0.326	0.892	0.599	1.12	0.763	0.722	0.966	0.912	1.45
PCB-172	52663-74-8	µg/kg		0.82	0.215	0.59	0.402	0.735	0.537	0.47	0.655	0.596	0.897
PCB-174	38411-25-5	µg/kg		2.3	0.714	1.47	1.11	2.15	1.13	0.913	2.12	1.47	1.95
PCB-175	40186-70-7	µg/kg		0.166	0.0480	0.112	0.0804	0.151	0.101	0.0817	0.143	0.119	0.149
PCB-176	52663-65-7	µg/kg		0.249	0.0953	0.171	0.136	0.288	0.142	0.116	0.276	0.174	0.18
PCB-177	52663-70-4	µg/kg		1.78	0.59	1.23	0.846	1.79	1.06	0.758	1.8	1.16	1.6
PCB-178	52663-67-9	µg/kg		1.05	0.308	0.957	0.63	0.993	0.69	0.685	0.952	0.815	1.29
PCB-179	52663-64-6	µg/kg		0.944	0.366	0.776	0.599	1.05	0.598	0.54	1.07	0.746	1.05
PCB-180/193	PCB-180/193	µg/kg		12	3.48	11.2	6.09	11.8	9.45	7.91	10.5	10	14.6
PCB-181	74472-47-2	µg/kg		0.0799	0.0166	0.0358	0.0284	0.0416	0.0380	0.0499	0.0307	0.0507	0.0718
PCB-182	60145-23-5	µg/kg		< 0.000717 U	0.0122	< 0.000657 U	< 0.000621 U	< 0.000709 U	0.0254	< 0.00127 U	0.0329	0.0264 JN	< 0.000799 U
PCB-183/185	PCB-183/185	µg/kg		3.34	0.92	2.53	1.78	3.1	2.18	1.98	2.92	2.46	3.58
PCB-184	74472-48-3	µg/kg		0.0166	0.00800 JN	0.0132	0.0125	0.0124	0.0135	0.0170	0.0134	0.0141	0.0162
PCB-186	74472-49-4	µg/kg		< 0.000590 U	< 0.000239 U	< 0.000541 U	< 0.000508 U	< 0.000583 U	< 0.000271 U	< 0.00104 U	< 0.00152 U	< 0.000454 U	< 0.000635 U
PCB-187	52663-68-0	µg/kg		8.83	2.53	9.66	4.82	7.83	4.99	4.97	7.13	6.14	15.3
PCB-188	74487-85-7	µg/kg		0.0191	0.00522	0.0145	0.0115	0.0156	0.0109	0.0120	0.0196	0.0154	0.0173
PCB-189	39635-31-9	µg/kg		0.145	0.0318	0.0987	0.0560	0.123	0.0892	0.0738	0.0955	0.0930	0.165
PCB-190	41411-64-7	µg/kg		0.836	0.238	0.679	0.418	0.834	0.584	0.533	0.708	0.612	1.06

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 3 SMB031 PDI-TF-SMB031 9/13/18	Sitewide 3 SMB032 PDI-TF-SMB032 8/20/18	Sitewide 3 SMB033 PDI-TF-SMB033 9/6/18	Sitewide 3 SMB034 PDI-TF-SMB034 9/11/18	Sitewide 3 SMB035 PDI-TF-SMB035 9/11/18	Sitewide 3 SMB036 PDI-TF-SMB036 8/20/18	Sitewide 3 SMB037 PDI-TF-SMB037 9/6/18	Sitewide 3 SMB038 PDI-TF-SMB038 8/20/18	Sitewide 3 SMB039 PDI-TF-SMB039 8/20/18	Sitewide 3 SMB040 PDI-TF-SMB040 8/20/18
Chemical	CAS	Units										
PCB-191	74472-50-7	µg/kg	0.188	0.0461	0.141	0.0865	0.178	0.125	0.109	0.141	0.136	0.2
PCB-192	74472-51-8	µg/kg	< 0.000698 U	< 0.000257 U	< 0.000625 U	< 0.000601 U	< 0.000689 U	< 0.000295 U	< 0.00120 U	< 0.00165 U	< 0.000522 U	< 0.000730 U
PCB-194	35694-08-7	µg/kg	1.39	0.365	1.37	0.783	1.41	1.29	1.14	1.24	1.5	2.18
PCB-195	52663-78-2	µg/kg	0.65	0.147	0.663	0.342	0.694	0.524	0.454	0.513	0.549	0.834
PCB-196	42740-50-1	µg/kg	0.915	0.22	0.853	0.435	0.835	0.671	0.541	0.705	0.65	0.851
PCB-197/200	PCB-197/200	µg/kg	0.18	0.0579	0.152	0.104	0.181	0.127	0.107	0.171	0.137	0.167
PCB-198/199	PCB-198/199	µg/kg	2.86	0.549	2.79	1.14	1.88	1.42	1.17	1.68	1.48	2.25
PCB-201	40186-71-8	µg/kg	0.233	0.0648	0.189	0.108	0.186	0.15	0.116	0.176	0.153	0.183
PCB-202	2136-99-4	µg/kg	0.921	0.159	0.827	0.33	0.505	0.414	0.419	0.475	0.466	0.692
PCB-203	52663-76-0	µg/kg	1.61	0.361	1.5	0.751	1.17	1.06	0.912	1.14	1.01	1.46
PCB-204	74472-52-9	µg/kg	0.00345 JN	0.000769 JN	0.00234 JN	0.00150 JN	0.00135 JN	0.00192 J	0.00198 JN	0.00186 JN	0.00202 JN	0.00197 JN
PCB-205	74472-53-0	µg/kg	0.0738	0.0174	0.0736	0.0418	0.0659	0.0607	0.0515	0.0602	0.0610	0.0946
PCB-206	40186-72-9	µg/kg	4.5	0.148	3.53	0.339	0.51	0.483	0.407	0.502	0.445	0.752
PCB-207	52663-79-3	µg/kg	0.27	0.0202	0.229	0.0526	0.0661	0.0698	0.0588	0.0611	0.0646	0.0903
PCB-208	52663-77-1	µg/kg	2.01	0.0693	1.87	0.135	0.231	0.177	0.148	0.242	0.164	0.265
PCB-209	2051-24-3	µg/kg	1.69	0.0808	1.84	0.134	0.203	0.238	0.217	0.326	0.191	0.32
Total PCBs	(a) T_PCBcg (PDI)	µg/kg	306	77.1	183	148	214	147	155	169	203	279
Pesticides												
2,4-DDD	53-19-0	µg/kg	2.11	2.44	2.49	4.42	3.77	5.46	6.01	2.92	10.9	3.15
2,4-DDE	3424-82-6	µg/kg	0.452	0.441	0.645	1.02	0.681	1.87	1.27	0.773	1.76	0.867
2,4-DDT	789-02-6	µg/kg	0.541	0.716	6.36	1.77	1.03	8.34	1.79	0.830	4.43	2.66
4,4'-DDD	72-54-8	µg/kg	9.20	8.99	10.4	16.2	13.6	25.7	25.8	10.8	39.6	21.1
4,4'-DDE	72-55-9	µg/kg	49.3	30.3	62.3	54.8	57.5	64.4	60.0	64.4	84.1	60.1
4,4'-DDT	50-29-3	µg/kg	4.98	3.45	10.4 J	9.10	5.77	32.2	12.1	4.80	47.4	42.4
DDx	(a) T_DDx (PDI)	µg/kg	66.6	46.3	92.6	87.3	82.4	138	107	84.5	188	130
alpha-Chlordane	5103-71-9	µg/kg	1.19	0.913	0.977	1.54	1.41	1.63	1.31	1.55	1.52	1.52
cis-Nonachlor	5103-73-1	µg/kg	1.34	0.861	1.28	1.51	1.60	1.40	1.55	1.50	1.62	1.71
Oxychlordane	27304-13-8	µg/kg	0.709	0.322 J	0.602	0.702	0.631	0.781	0.898	0.664	0.736	0.879
trans-Chlordane	5103-74-2	µg/kg	0.429 J	0.323 J	0.316 J	0.506	0.479	0.550	0.417 J	0.580	0.574	0.482
trans-Nonachlor	39765-80-5	µg/kg	3.63	2.23	3.33	3.98	3.97	3.69	4.02	3.95	4.11	4.71
Total Chlordanes	(a) T_Clrndn (PDI)	µg/kg	7.3	4.65	6.51	8.24	8.09	8.05	8.2	8.24	8.56	9.3
Aldrin	309-00-2	µg/kg	0.009 J	0.013 J	0.010 JN	0.018 J	0.017 JN	0.022 J	0.017 JN	0.015 J	0.023 JN	0.010 JN
Dieldrin	60-57-1	µg/kg	1.28	1.15	1.18	1.67	1.69	1.60	1.27	2.17	2.19	1.79
Metals												
Arsenic	7440-38-2	mg/kg	0.22	0.20	0.18	0.22	0.25	0.18	0.21	0.29	0.32	0.24
Mercury	7439-97-6	mg/kg	0.098 J	0.107 J	0.147 J	0.090 J	0.112 J	0.113 J	0.136 J	0.110 J	0.122 J	0.175 J
Semivolatile Organics												
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg	1.50	1.07	1.51	1.71	1.64	1.74	1.56	1.79	2.28	1.77
Pentachlorophenol	(c) 87-86-5	µg/kg	< 1000 U	< 990 U	< 990 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 990 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)												
PBDE-7	171977-44-9	µg/kg	0.00300 JN	0.00277 J	0.00243 JN	0.00446 J	0.00483 J	0.00423 J	0.00354 J	0.00382 J	0.00574 J	0.00331 J
PBDE-8/11	PBDE-8/11	µg/kg	0.00288 J	0.00232 J	0.00242 J	0.00429 J	0.00411 J	0.00470 J	0.00364 J	0.00408 J	0.00429 J	0.00312 J
PBDE-10	51930-04-2	µg/kg	< 0.000290 U	< 0.000454 U	< 0.000468 U	< 0.000822 U	< 0.000349 U	< 0.000266 U	< 0.00144 U	< 0.000725 U	< 0.000514 U	< 0.000459 U
PBDE-12/13	PBDE-12/13	µg/kg	0.00128 J	0.00129 J	0.00975 JN	0.00167 J	0.00181 JN	0.00229 J	0.00630 JN	0.00165 J	0.00184 J	0.00145 J
PBDE-15	2050-47-7	µg/kg	0.0171	0.0119 J	0.0160	0.0197	0.0211	0.0190	0.0162	0.0194	0.0189	0.0172
PBDE-17/25	PBDE-17/25	µg/kg	0.127	0.106 JN	0.1 JN	0.177	0.176	0.158 JN	0.14 JN	0.161 JN	0.172 JN	0.114 JN
PBDE-28/33	PBDE-28/33	µg/kg	0.457	0.252	0.57	0.511	0.45	0.446	0.503	0.443	0.46	0.418
PBDE-30	155999-95-4	µg/kg	< 0.00353 U	< 0.00195 U	< 0.00381 U	< 0.00392 U	< 0.00196 U	< 0.00392 U	< 0.00493 U	< 0.00399 U	< 0.00306 U	< 0.00331 U
PBDE-32	189084-60-4	µg/kg	< 0.00285 U	< 0.00153 U	< 0.00302 U	< 0.00301 U	< 0.00162 U	< 0.00298 U	< 0.00390 U	< 0.00302 U	< 0.00232 U	< 0.00251 U
PBDE-35	147217-80-9	µg/kg	0.00604 JN	0.00415 JN	0.00781 JN	0.00968 JN	0.00640 JN	0.0123 JN	0.0105 JN	0.00825 JN	0.00852 JN	0.00952 JN
PBDE-37	147217-81-0	µg/kg	0.00986 J	0.00691 J	0.0117 J	0.0119 J	0.0131 J	0.0109 J	0.0101 J	0.0119 J	0.0107 J	0.0102 J
PBDE-047	5436-43-1	µg/kg	22.7	11.9	27.5	21.6	17.8	17.7	23.6	21.2	25.1	25.2
PBDE-49	243982-82-3	µg/kg	1.06	0.655	1.32	1.02	1.29	1.02	0.989	1.46	1.23	1.03
PBDE-51	189084-57-9	µg/kg	0.0373	0.0282	0.0479	0.0388	0.0552	0.0373	0.0457	0.0562	0.0458	0.0356

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 3 SMB031 PDI-TF-SMB031 9/13/18	Sitewide 3 SMB032 PDI-TF-SMB032 8/20/18	Sitewide 3 SMB033 PDI-TF-SMB033 9/6/18	Sitewide 3 SMB034 PDI-TF-SMB034 9/11/18	Sitewide 3 SMB035 PDI-TF-SMB035 9/11/18	Sitewide 3 SMB036 PDI-TF-SMB036 8/20/18	Sitewide 3 SMB037 PDI-TF-SMB037 9/6/18	Sitewide 3 SMB038 PDI-TF-SMB038 8/20/18	Sitewide 3 SMB039 PDI-TF-SMB039 8/20/18	Sitewide 3 SMB040 PDI-TF-SMB040 8/20/18
Chemical	CAS	Units										
PBDE-66	189084-61-5	µg/kg	0.325	0.143	0.439	0.215	0.255	0.243	0.304	0.332	0.271	0.294
PBDE-71	189084-62-6	µg/kg	0.0364	0.0179	0.0358	0.0531	0.0361	0.0351	0.0530	0.0551	0.0327	0.0248
PBDE-75	189084-63-7	µg/kg	0.0273	0.0176	0.0360	0.0245	0.0259	0.0199	0.0254	0.0341	0.0328	0.0239
PBDE-77	93703-48-1	µg/kg	< 0.000145 U	0.00262 J	0.00551 J	< 0.000146 U	0.00452 JN	0.00263 JN	0.00377 JN	0.00430 JN	0.00430 J	0.00468 JN
PBDE-79	PBDE-79	µg/kg	0.0223	0.0190 JN	0.0432 JN	0.0188 JN	0.0163 J+	0.0348 JN	0.0552 JN	0.0219 JN	0.0241 JN	0.0383 JN
PBDE-85	182346-21-0	µg/kg	< 0.00480 U	< 0.00338 U	< 0.00636 U	< 0.00486 U	< 0.00287 UJ	< 0.00289 U	< 0.00481 U	< 0.00739 U	< 0.00429 U	< 0.00343 U
PBDE-099	60348-60-9	µg/kg	6.22	3.12	8.03	3.1	6.88 J	3.36	3.91	7.71	4.38	4.64
PBDE-100	189084-64-8	µg/kg	4.6	2.53	5.72	3.41	3.94 J	2.98	4.37	4.82	3.84	3.56
PBDE-105	373594-78-6	µg/kg	< 0.00605 U	< 0.00439 U	< 0.00768 U	< 0.00575 U	< 0.00380 UJ	< 0.00360 U	< 0.00581 U	< 0.00920 U	< 0.00533 U	< 0.00427 U
PBDE-116	189084-65-9	µg/kg	< 0.00786 U	< 0.00549 U	< 0.0103 U	< 0.00779 U	< 0.00543 UJ	< 0.00456 U	< 0.00780 U	< 0.0117 U	< 0.00676 U	< 0.00542 U
PBDE-119/120	PBDE-119/120	µg/kg	0.127	0.0600	0.161	0.129	0.0775 J	0.0941	0.125	0.106	0.117	0.0971
PBDE-126	366791-32-4	µg/kg	0.00890 J	0.00810 J	0.0158	0.0122 J	0.0117 J	0.00813 J	0.00885 J	0.0126 J	0.0108 J	0.00527 J
PBDE-128	182677-28-7	µg/kg	0.00447 JN	0.00242 JN	0.00659 JN	0.00659 JN	0.00479 JN	0.00618 JN	< 0.00284 U	0.00517 JN	0.00510 JN	0.00500 JN
PBDE-138/166	PBDE-138/166	µg/kg	0.000772 JN	0.000909 JN	0.00394 J	0.00137 JN	0.00168 J	0.00174 JN	0.00128 JN	0.00232 JN	0.00167 JN	0.00128 J+
PBDE-140	243982-83-4	µg/kg	0.0142 J	0.00617 J	0.0334 J	0.00674 J	0.0126 JN	0.00875 J	0.00884 J	0.0153	0.0105 J	0.0108 J
PBDE-153	68631-49-2	µg/kg	1.37	0.521	2.56 J	0.859	1.06	0.913	1.34	1.16	1.09	1.11
PBDE-154	207122-15-4	µg/kg	1.14	0.532 J	2.29 J	0.785 J	0.878 J	0.733	1.04	1.15	0.927	0.762
PBDE-155	35854-94-5	µg/kg	0.0867	0.0677 J	0.124 J	0.0856 J	0.107 J	0.0688	0.0847	0.108	0.0897	0.0457
PBDE-181	189084-67-1	µg/kg	< 0.000159 U	< 0.000146 U	0.00122 JN	0.000659 JN	0.000715 JN	0.00113 JN	0.000225 JN	< 0.000166 U	< 0.000145 U	< 0.000314 U
PBDE-183	207122-16-5	µg/kg	0.00517 J	0.00407 J	0.0160	0.00482 JN	0.0104 J	0.00906 J	0.00900 JN	0.00975 JN	0.00693 J	0.00916 JN
PBDE-190	189084-68-2	µg/kg	< 0.000233 U	0.000530 JN	0.000911 JN	< 0.000225 U	< 0.000156 U	0.000710 JN	< 0.000249 U	< 0.000206 U	< 0.000145 U	< 0.000148 U
PBDE-203	337513-72-1	µg/kg	0.000911 JN	< 0.00122 U	0.00223 JN	0.00122 J	0.00839 J	0.00273 J+	0.00217 JN	0.00183 JN	0.00161 JN	0.00179 JN
PBDE-206	63387-28-0	µg/kg	< 0.000583 U	< 0.00165 U	< 0.00115 U	0.00310 JN	0.0393 JN	0.00433 J+	0.00139 J+	< 0.000902 U	< 0.000307 U	< 0.00350 U
PBDE-207	437701-79-6	µg/kg	0.00337 J+	< 0.00302 U	0.00400 JN	0.00796 J+	0.0558 JN	0.00385 JN	0.00149 JN	< 0.00236 U	< 0.00130 U	< 0.00270 U
PBDE-208	437701-78-5	µg/kg	< 0.00129 U	< 0.00270 U	0.00545 JN	0.0103 JN	0.0437 JN	< 0.00134 U	0.00143 JN	< 0.000685 U	< 0.000427 U	< 0.00343 U
PBDE-209	1163-19-5	µg/kg	0.0292 JN	0.0467 JN	0.0414 JN	0.0996 JN	1.13	0.0597 J+	0.0348 JN	< 0.0225 U	< 0.0141 U	0.0718 J+
Total PBDE	(a) T. PBDE (PDI)	µg/kg	38.4	20.1	49.2	32.2	34.4	28	36.7	38.9	37.9	37.6

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 3 SMB031 PDI-TF-SMB031 9/13/18	Sitewide 3 SMB032 PDI-TF-SMB032 8/20/18	Sitewide 3 SMB033 PDI-TF-SMB033 9/6/18	Sitewide 3 SMB034 PDI-TF-SMB034 9/11/18	Sitewide 3 SMB035 PDI-TF-SMB035 9/11/18	Sitewide 3 SMB036 PDI-TF-SMB036 8/20/18	Sitewide 3 SMB037 PDI-TF-SMB037 9/6/18	Sitewide 3 SMB038 PDI-TF-SMB038 8/20/18	Sitewide 3 SMB039 PDI-TF-SMB039 8/20/18	Sitewide 3 SMB040 PDI-TF-SMB040 8/20/18
Chemical	CAS	Units										
Physical Parameters												
Lipids	LIPID	%	5.29	4.83	5.68	5.83	6.23	6.21	5.77	7.67	8.77	6.53
Total Solids@104C	TSOLID	%	27.4	28.8	26.2	26.9	27.9	28.4	28.4	28.2	30.4	29.2

Notes:**Qualifiers:**

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
 JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 U = Not detected at detection limit shown.
 UJ = Not detected; sample detection limit is estimated.
 R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
 The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
 Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
 There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location	Sitewide 3 SMB041	Sitewide 3 SMB042	Sitewide 3 SMB043	Sitewide 3 SMB044	Sitewide 3 SMB045	Sitewide 3 SMB046	Sitewide 3 SMB047	Sitewide 3 SMB048	Sitewide 3 SMB049	Sitewide 3 SMB050
		Sample ID	PDI-TF-SMB041	PDI-TF-SMB042	PDI-TF-SMB043	PDI-TF-SMB044	PDI-TF-SMB045	PDI-TF-SMB046	PDI-TF-SMB047	PDI-TF-SMB048	PDI-TF-SMB049	PDI-TF-SMB050
		Sample Date	9/6/18	8/20/18	8/20/18	8/20/18	9/7/18	8/18/18	9/7/18	8/23/18	8/18/18	8/23/18
Chemical	CAS	Units										
Dioxins and Furans												
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg	0.000363 J	0.000162 JN	0.000295 JN	0.000353 JN	0.000103 J	0.000125 JN	0.000190 JN	0.000450 JN	0.000482 J	< 0.000172 U
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg	0.0000837 JN	< 0.0000718 U	0.000139 J	0.000128 JN	< 0.0000737 U	< 0.0000720 U	0.000234 JN	0.000105 J	< 0.0000724 U	0.000208 JN
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg	< 0.0000731 U	< 0.0000718 U	< 0.0000702 U	< 0.0000728 U	< 0.0000737 U	< 0.0000720 U	0.000184 JN	< 0.0000909 U	< 0.0000724 U	0.0000984 JN
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg	0.000173 JN	< 0.0000718 U	0.000205 J	0.000104 JN	0.000100 J	< 0.0000720 U	0.0000886 JN	0.000278 JN	0.000213 J	< 0.0000731 U
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg	0.00106 J	0.00143 J	0.000321 J	0.000299 J	0.00168	< 0.0000720 U	0.0219	0.00130 J	0.000217 JN	0.0287
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg	0.000481 J	0.000339 J	0.000917 J	0.000344 J	0.000404 JN	0.000203 JN	0.000315 J	0.00241	0.00108 J	0.000341 J
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg	0.000302 J	0.000327 J	0.000261 J	0.000224 J	0.000304 J	< 0.0000720 U	0.00491	0.000221 J	0.0000924 J	0.00510
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg	< 0.00164 U	< 0.000102 U	0.000183 J	0.000130 J	< 0.0000737 U	< 0.0000720 U	< 0.0000716 U	0.000216 JN	< 0.000228 U	< 0.0000731 U
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg	< 0.0000731 U	< 0.0000718 U	< 0.0000702 U	< 0.0000728 U	< 0.0000737 U	< 0.0000720 U	0.000144 J	< 0.0000869 U	< 0.0000724 U	0.000204 J
1,2,3,7,8-PeCDD	40321-76-4	µg/kg	0.000657 JN	0.000491 J	0.00311	0.000514 J	0.000468 JN	0.000252 J	0.000553 J	0.00369	0.000808 J	0.000423 J
1,2,3,7,8-PeCDF	57117-41-6	µg/kg	0.00293	0.00548	0.000648 J	0.000258 JN	0.00395	0.000226 JN	0.0366	0.00104 J	0.000465 J	0.0672
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg	< 0.0000731 U	< 0.0000718 U	0.000177 J	0.000289 JN	< 0.0000737 U	< 0.0000720 U	0.000467 J	0.000122 JN	< 0.0000724 U	0.000413 J
2,3,4,7,8-PeCDF	57117-31-4	µg/kg	0.000230	0.000430	0.00177	0.000997 J	0.00432	0.000311 JN	0.0963	0.00649	0.00145 J	0.0724
2,3,7,8-TCDD	1746-01-6	µg/kg	0.000353	0.000303	0.000608	0.000254 J	0.000455	0.000258 J	0.000306 JN	0.000686	0.000391 JN	0.000325 JN
2,3,7,8-TCDF	51207-31-9	µg/kg	0.000899	0.0165	0.00163	0.00136	0.00725	0.00120	0.0477	0.000946	0.00143	0.0696
OCDD	3268-87-9	µg/kg	0.000261 J	0.000176 JN	0.000415 JN	0.000433 JN	0.000213 J	0.0000947 JN	0.000239 JN	0.00120 J	0.000757 J	0.000304 JN
OCDF	39001-02-0	µg/kg	< 0.0000731 U	< 0.0000718 U	< 0.0000702 U	< 0.0000728 U	< 0.0000737 U	< 0.0000720 U	< 0.0000716 U	< 0.0000869 U	< 0.0000724 U	< 0.0000731 U
TCDD-TEQ (a)	T_DF_TEQ (PDI)	µg/kg	0.00298	0.00411	0.00465	0.00136	0.00332	0.000755	0.0384	0.00691	0.00197	0.0349
TCDD-TEQ (EMPC=half) (b)	T_DF_TEQ(E 0.5)	µg/kg	0.00255	0.00411	0.00464	0.00132	0.00304	0.000677	0.0384	0.00686	0.00195	0.0349
TCDD-TEQ (EMPC=0) (b)	T_DF_TEQ(E 0)	µg/kg	0.00222	0.00411	0.00464	0.0013	0.0028	0.00063	0.0384	0.00684	0.00193	0.0349
Polychlorinated Biphenyls (PCBs)												
PCB-1	2051-60-7	µg/kg	0.00923	0.00706	0.0112	0.0371	0.00775	0.00527	0.257	0.00498	0.0116	0.0306
PCB-2	2051-61-8	µg/kg	0.00179 J+	0.00121 J	0.000908 J+	0.00154 J	0.00154 J+	0.00111	0.00392	0.000912 JN	0.00139	0.00118 J
PCB-3	2051-62-9	µg/kg	0.00391 J+	0.00268 J	0.00423	0.0109	0.00367 J+	0.00238 J+	0.0509	0.00266 JN	0.00354	0.00653
PCB-4	13029-08-8	µg/kg	0.237	0.17	1.36	4.52	0.184	0.189	3.15	0.151	0.255	0.338
PCB-5	16605-91-7	µg/kg	< 0.00285 U	0.00146 J	< 0.000922 U	< 0.00116 U	< 0.00267 U	0.000949	0.0112	< 0.00164 U	0.00104	0.00357
PCB-6	25569-80-6	µg/kg	0.0737	0.0259	0.0233	0.0495	0.0285	0.0134	0.902	0.0142	0.0263	0.212
PCB-7	33284-50-3	µg/kg	0.00663	0.00425 JN	0.00593	0.0164	0.00501	0.00287	0.0318	0.00340 J	0.00365	0.0132
PCB-8	34883-43-7	µg/kg	0.165	0.0993	0.0761	0.12	0.105	0.0610	2.85	0.0687	0.0984	0.363
PCB-9	34883-39-1	µg/kg	0.0114	0.00693	0.00562	0.0114	0.00741	0.00441	0.0769	0.00424 JN	0.00607	0.0215
PCB-10	33146-45-1	µg/kg	0.0130	0.00837	0.152	0.473	0.0110	0.0113	0.158	0.0102	0.0109	0.0198
PCB-11	2050-67-1	µg/kg	0.0830	0.0598	0.0489	0.0656	0.0431	0.0953	0.0103 J+	0.0270	0.0786	0.00785 J+
PCB-12/13	PCB-12/13	µg/kg	0.00772	0.00325	0.00782	0.0251	0.00384 JN	0.00240	0.0553	0.00228 JN	0.00273	0.0113
PCB-14	34883-41-5	µg/kg	< 0.00259 U	< 0.000565 U	< 0.000834 U	< 0.00106 U	< 0.00245 U	< 0.000225 U	< 0.00456 U	< 0.00153 U	< 0.000498 U	< 0.00230 U
PCB-15	2050-68-2	µg/kg	0.0313	0.0205	0.0280	0.0536	0.0196	0.0243	0.131	0.0116	0.0304	0.0220
PCB-16	38444-78-9	µg/kg	0.197	0.0998	0.0469	0.0772	0.112	0.0551	0.559	0.0525	0.0810	0.379
PCB-17	37680-66-3	µg/kg	0.472	0.229	0.491	2.27	0.336	0.183	4.54	0.14	0.239	0.993
PCB-18/30	PCB-18/30	µg/kg	0.6	0.324	0.186	0.502	0.365	0.174	2.04	0.151	0.244	1.5
PCB-19	38444-73-4	µg/kg	0.614	0.357	4.47	19	0.489	0.5	3.22	0.388	0.499	0.502
PCB-20/28	PCB-20/28	µg/kg	1.84	1.38	0.614	1.45	1.43	0.619	7.6	0.426	0.775	5.89
PCB-21/33	PCB-21/33	µg/kg	0.294	0.212	0.116	0.281	0.223	0.104	0.657	0.105	0.144	0.513
PCB-22	38444-85-8	µg/kg	0.42	0.287	0.102	0.17	0.288	0.138	1.06	0.101	0.17	0.701
PCB-23	55720-44-0	µg/kg	0.00142 J	< 0.00189 U	< 0.00129 U	< 0.00283 U	< 0.00215 U	0.000575 J	< 0.0132 U	< 0.00103 U	0.000576 J	< 0.00325 U
PCB-24	55702-45-9	µg/kg	0.00878	0.00559 JN	0.00745	0.0323	0.00880	0.00253	0.0406 JN	0.00246 J	0.00317	0.0206
PCB-25	55712-37-3	µg/kg	0.238	0.0781	0.0687	0.469	0.103	0.0557	1.42	0.0328	0.0646	0.566
PCB-26/29	PCB-26/29	µg/kg	0.397	0.157	0.0898	0.283	0.194	0.105	2.5	0.0648	0.133	0.79
PCB-27	38444-76-7	µg/kg	0.105	0.0694	0.254	1.33	0.0747	0.0419	1.36	0.0387	0.0535	0.267
PCB-31	16606-02-3	µg/kg	1.07	0.523	0.271	0.598	0.668	0.386	3.95	0.214	0.464	1.77
PCB-32	38444-77-8	µg/kg	0.412	0.399	0.205	0.804	0.31	0.0896	3.44	0.0728	0.13	1.52
PCB-34	37680-68-5	µg/kg	0.0132	0.00812	0.00557	0.0296	0.00938	0.00461	0.105	0.00251 J	0.00507	0.0416
PCB-35	37680-69-6	µg/kg	< 0.00127 U	< 0.00173 U	< 0.00128 U	< 0.00258 U	< 0.00211 U	< 0.000483 U	< 0.0129 U	0.00163 JN	< 0.000543 U	0.0716 JN
PCB-36	38444-87-0	µg/kg	< 0.00118 U	< 0.00163 U	< 0.00119 U	< 0.00243 U	< 0.00192 U	< 0.000441 U	< 0.0123 U	< 0.000944 U	< 0.000516 U	< 0.00301 U
PCB-37	38444-90-5	µg/kg	0.129	0.102	0.0429	0.0754	0.0906	0.0583	0.207	0.0370	0.0730	0.329
PCB-38	53555-66-1	µg/kg	0.00652	0.00777	0.00292 JN	0.0397	0.00580 JN	0.00123	0.0208	< 0.000983 U	0.00123	0.0418

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 3 SMB041 PDI-TF-SMB041 9/6/18	Sitewide 3 SMB042 PDI-TF-SMB042 8/20/18	Sitewide 3 SMB043 PDI-TF-SMB043 8/20/18	Sitewide 3 SMB044 PDI-TF-SMB044 8/20/18	Sitewide 3 SMB045 PDI-TF-SMB045 9/7/18	Sitewide 3 SMB046 PDI-TF-SMB046 8/18/18	Sitewide 3 SMB047 PDI-TF-SMB047 9/7/18	Sitewide 3 SMB048 PDI-TF-SMB048 8/23/18	Sitewide 3 SMB049 PDI-TF-SMB049 8/18/18	Sitewide 3 SMB050 PDI-TF-SMB050 8/23/18
Chemical	CAS	Units										
PCB-39	38444-88-1	µg/kg	0.0267	0.0400	0.00498	0.0114	0.0267	0.00437	0.0908	0.00360 JN	0.00515	0.201
PCB-40/41/71	PCB-40/41/71	µg/kg	2.24	3.36	0.45	1.75	2.31	0.37	11	0.288	0.513	18.6
PCB-42	36559-22-5	µg/kg	1.46	2.18	0.229	0.695	1.46	0.322	6.09	0.19	0.374	12.5
PCB-43	70362-46-8	µg/kg	0.228	0.367	0.0512	0.188	0.282	0.0462	0.87	0.0275	0.0502	1.48
PCB-44/47/65	PCB-44/47/65	µg/kg	7.54	10.1	8.36	121	7.68	2.67	30	1.66	2.88	56.2
PCB-45/51	PCB-45/51	µg/kg	0.957	0.851	0.863	6.27	0.914	0.397	3.53	0.197	0.403	3.61
PCB-46	41464-47-5	µg/kg	0.17	0.153	0.0375	0.118	0.158	0.0357	0.786	0.0228	0.0450	0.744
PCB-48	70362-47-9	µg/kg	0.72	1.23	0.148	0.382	0.784	0.143	2.84	0.102	0.179	5.75
PCB-49/69	PCB-49/69	µg/kg	5.26	7.93	2.01	17.1	5.5	1.57	18.8	0.852	1.82	40.4
PCB-50/53	PCB-50/53	µg/kg	0.652	0.597	0.564	4.43	0.598	0.225	2.47	0.179	0.287	2.82
PCB-52	35693-99-3	µg/kg	7.9	11.7	2.08	6.56	8.14	2.06	29.3	1.22	2.65	60
PCB-54	15968-05-5	µg/kg	0.126	0.0641	0.803	4.22	0.11	0.107	0.182	0.0722	0.101	0.0733
PCB-55	74338-24-2	µg/kg	< 0.00350 U	< 0.0154 U	< 0.00429 U	< 0.0200 U	< 0.0166 U	< 0.000842 U	< 0.0151 U	< 0.00257 U	< 0.00126 U	< 0.0443 U
PCB-56	41464-43-1	µg/kg	1.74	2.32	0.202	0.42	1.59	0.351	3.38	0.172	0.387	3.77
PCB-57	70424-67-8	µg/kg	0.0326	0.0438 JN	0.0133	0.158	0.0258	0.00662	0.0987	0.00526	0.00769	0.197
PCB-58	41464-49-7	µg/kg	0.0222	0.0205	< 0.00411 U	< 0.0195 U	0.0196	0.0209	0.0733	0.0138	0.0120	0.0842
PCB-59/62/75	PCB-59/62/75	µg/kg	0.502	0.696	0.271	3.27	0.52	0.147	1.92	0.0948	0.167	3.31
PCB-60	33025-41-1	µg/kg	2.29	4.94	0.416	0.341	2.57	0.285	7.44	0.255	0.388	28
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg	7.18	11	2.02	3.3	7.54	2.25	22.4	1.33	2.59	64.2
PCB-63	74472-34-7	µg/kg	0.412	0.828	0.132	0.362	0.503	0.0876	1.67	0.0770	0.118	5.8
PCB-64	52663-58-8	µg/kg	3.22	5.56	0.527	0.672	3.13	0.562	11.9	0.36	0.742	28.6
PCB-66	32598-10-0	µg/kg	8.56	17.3	2.22	4.26	10.4	1.65	33.9	1.39	2.04	111
PCB-67	73575-53-8	µg/kg	0.105	0.122	0.0236	0.15	0.104	0.0356	0.286	0.0188	0.0430	0.382
PCB-68	73575-52-7	µg/kg	0.0685	0.0393	0.195	2.7	0.0591	0.0553	0.215	0.0434	0.0543	0.154
PCB-72	41464-42-0	µg/kg	0.0895	0.0921	0.0656	0.32	0.0935	0.0528	0.294	0.0360	0.0533	0.312
PCB-73	74338-23-1	µg/kg	0.13	< 0.000204 U	0.126	1.86	0.126	0.0252	0.347	< 0.000360 U	< 0.0000724 U	< 0.000378 U
PCB-77	32598-13-3	µg/kg	0.344	0.486	0.0772	0.0948	0.313	0.0956	0.504	0.0456	0.132	2.74
PCB-78	70362-49-1	µg/kg	< 0.00347 U	< 0.0148 U	< 0.00410 U	< 0.0193 U	< 0.0164 U	< 0.000790 U	< 0.0154 U	< 0.00247 U	< 0.00119 U	< 0.0437 U
PCB-79	41464-48-6	µg/kg	0.0837	0.0933	0.0301	0.267	0.0930	0.0386	0.337	0.0345 JN	0.0406	0.56
PCB-80	33284-52-5	µg/kg	< 0.00306 U	< 0.0134 U	< 0.00376 U	< 0.0174 U	< 0.0147 U	< 0.000729 U	< 0.0142 U	< 0.00223 U	< 0.00108 U	< 0.0398 U
PCB-81	70362-50-4	µg/kg	0.0173	0.0241	0.00370	< 0.0181 U	0.0186	0.00424 JN	0.0316	< 0.00233 U	0.00616 JN	0.19
PCB-82	52663-62-4	µg/kg	0.653	0.665	0.121	0.589	0.629	0.267	2.36	0.157	0.3	3.83
PCB-83/99	PCB-83/99	µg/kg	8.21	10.7	6.25	68	9.52	4.58	22.1	3.51	4.92	54.5
PCB-84	52663-60-2	µg/kg	1.16	0.949	0.263	2.22	1.15	0.566	3.93	0.286	0.647	4.97
PCB-85/116/117	PCB-85/116/117	µg/kg	2.25	4	1.12	4.75	2.74	1.05	6.98	0.832	1.27	17.5
PCB-86/87/97/108/119/125	PCB-86/87/97/ C	µg/kg	5.51	6.41 J	2.04 J	17.3	5.86	2.73	15.5 J	1.69 J	2.96	28.9 J
PCB-88/91	PCB-88/91	µg/kg	1.36	1.27	0.532	9.26	1.27	0.799	3.86	0.437	0.804	6.07
PCB-89	73575-57-2	µg/kg	0.0581	0.0841	0.0105	0.0540	0.0628	0.0147	0.297	0.00877	0.0167	0.497
PCB-90/101/113	PCB-90/101/113	µg/kg	10.3	11.3	5.94	64.9	10.8	6.35	24.6	3.9	6.31	43.8
PCB-92	52663-61-3	µg/kg	1.92	2.2	1.14	13.9	2	1.26	4.17	0.803	1.29	7.15
PCB-93/95/98/100/102	PCB-93/95/98/ C	µg/kg	5.25	4.59	4.05	74.7	5.08	3.25	13.5	1.94	3.37	18.4
PCB-94	73575-55-0	µg/kg	0.0464	0.0288	0.0385	0.926	0.0451	0.0327	0.127	0.0153	0.0316	0.131
PCB-96	73575-54-9	µg/kg	0.0547	0.0611	0.0377	0.342	0.0583	0.0299	0.184	0.0136	0.0310	0.242
PCB-103	60145-21-3	µg/kg	0.203	0.118	0.28	7.8	0.174	0.187	0.294	0.103	0.159	0.298
PCB-104	56558-16-8	µg/kg	0.0173	0.00684	0.0442 JN	0.703	0.0158	0.0169	0.0252	0.00518 JN	0.0142	0.0108
PCB-105	32598-14-4	µg/kg	3.79	6.62	1.74	4.33	4.34	1.63	9.81	1.4	1.88	29.2
PCB-106	70424-69-0	µg/kg	< 0.0214 U	< 0.0222 U	< 0.0104 U	0.0638	< 0.0212 U	< 0.00686 U	< 0.00451 U	< 0.00716 U	< 0.00755 U	< 0.0749 U
PCB-107/124	PCB-107/124	µg/kg	0.287	0.388	0.137	0.453	0.287	0.166	0.493	0.0919	0.163	0.877
PCB-109	74472-35-8	µg/kg	0.812	1.15	0.583	1.62	0.97	0.535	2.17	0.426	0.565	5.93
PCB-110/115	PCB-110/115	µg/kg	8.26	9.65	2.77	13.8	8.45	4.52	22.7	2.8	5.08	38.8
PCB-111	39635-32-0	µg/kg	0.0134 JN	0.0122 JN	0.0311	0.256	0.0210	0.0167	0.0242	0.0170	0.0169	0.0290
PCB-112	74472-36-9	µg/kg	< 0.00296 U	< 0.00205 U	< 0.00190 U	3.33	< 0.00398 U	< 0.00182 U	< 0.00688 U	< 0.000977 U	< 0.00177 U	< 0.00636 U
PCB-114	74472-37-0	µg/kg	0.275	0.482	0.151	0.188 JN	0.345	0.12	0.796	0.114	0.148	2.98
PCB-118	31508-00-6	µg/kg	8.81	14.1	5.86	18.9	10.6	5.03	22.1	4.47	6.25	55.1
PCB-120	68194-12-7	µg/kg	0.0555	0.0515	0.0855	0.634	0.0739	0.0625	0.0921	0.0602	0.0653	0.139

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 3 SMB041 PDI-TF-SMB041 9/6/18	Sitewide 3 SMB042 PDI-TF-SMB042 8/20/18	Sitewide 3 SMB043 PDI-TF-SMB043 8/20/18	Sitewide 3 SMB044 PDI-TF-SMB044 8/20/18	Sitewide 3 SMB045 PDI-TF-SMB045 9/7/18	Sitewide 3 SMB046 PDI-TF-SMB046 8/18/18	Sitewide 3 SMB047 PDI-TF-SMB047 9/7/18	Sitewide 3 SMB048 PDI-TF-SMB048 8/23/18	Sitewide 3 SMB049 PDI-TF-SMB049 8/18/18	Sitewide 3 SMB050 PDI-TF-SMB050 8/23/18
Chemical	CAS	Units										
PCB-121	56558-18-0	µg/kg	0.0173	0.00963	0.0671	1.69	0.0138	0.0198	0.0175	0.0159	0.0162	0.0129
PCB-122	76842-07-4	µg/kg	0.0651	0.0759	0.0256	0.0803	0.0680	0.0358	0.144	0.0220	0.0395	0.412
PCB-123	65510-44-3	µg/kg	0.179	0.341	0.109	0.404	0.203	0.0789 JN	0.495	0.0827	0.106 JN	1.67
PCB-126	57465-28-8	µg/kg	0.0365 JN	0.0266 JN	0.0309 JN	0.0892 JN	0.0277 JN	0.0164 JN	0.0388 JN	0.00832 JN	0.0823 JN	0.147 JN
PCB-127	39635-33-1	µg/kg	< 0.0239 U	< 0.0227 U	0.0184	0.196	< 0.0241 U	0.0122	0.0359	0.0157	0.0173	< 0.0792 U
PCB-128/166	PCB-128/166	µg/kg	2.18	2.48	1.51	14	2.34	1.47 J	3.08	1.64	1.73	5.57
PCB-129/138/160/163	PCB-129/138/ C	µg/kg	19.3	17.5	26.9	293	18.8	13.1	23.3	14	15.7	59.2
PCB-130	52663-66-8	µg/kg	0.779	0.683	0.825	8.4	0.748	0.615	1.17	0.571	0.66	1.82
PCB-131	61798-70-7	µg/kg	0.0684	0.0437	0.0338	1.06	0.0661	0.0605	0.151	0.0296	0.0498	0.163
PCB-132	38380-05-1	µg/kg	2.39	1.37	1.28	32.5	2.19	1.92	3.83	1.26	1.63	4.22
PCB-133	35694-04-3	µg/kg	0.321	0.33	0.662	6.18	0.371	0.313	0.406	0.32	0.326	0.789
PCB-134/143	PCB-134/143	µg/kg	0.428	0.255	0.339	8.03	0.373	0.306	0.645	0.216	0.273	0.743
PCB-135/151/154	PCB-135/151/154	µg/kg	4.61	3.45	5.06	109	4.3	3.82	6.01	3.06	4.12	11.2
PCB-136	38411-22-2	µg/kg	0.811	0.574	0.733	13.6	0.883	0.783	1.32	0.467	0.671	1.49
PCB-137	35694-06-5	µg/kg	0.579	0.847	0.776	6.38	0.675	0.45	1.15	0.455	0.544	1.99
PCB-139/140	PCB-139/140	µg/kg	0.231	0.268	0.228	2.35	0.245	0.186	0.394	0.156	0.171	0.572
PCB-141	52712-04-6	µg/kg	2.81	2.09	2.47	63.5	2.32	1.68	3.23	1.53	1.87	7.51 J
PCB-142	41411-61-4	µg/kg	< 0.0258 U	< 0.0115 U	< 0.00837 U	< 0.111 U	< 0.0267 U	< 0.00501 U	0.0340	< 0.0204 U	< 0.0121 U	< 0.0461 U
PCB-144	68194-14-9	µg/kg	0.494	0.34	0.447	12.9	0.423	0.39	0.696	0.302	0.393	1.14
PCB-145	74472-40-5	µg/kg	0.00178 JN	0.00202 JN	0.00226 J	0.0375	< 0.000364 U	0.00151 JN	0.00690	0.000667 J	0.000974	0.00623
PCB-146	51908-16-8	µg/kg	3.52	3.22	6.43	60.1	4.21	2.75	4.27	3.52	3.19	10.1
PCB-147/149	PCB-147/149	µg/kg	9.49	4.5	8	198	7.9	7.69	12.7	6.2	6.4	15.4
PCB-148	74472-41-6	µg/kg	0.0593	0.0374	0.103	1.55	0.0572	0.0683	0.0680	0.0561	0.0565	0.0593
PCB-150	68194-08-1	µg/kg	0.0457	0.0165	0.0403	1.19	0.0359	0.0495	0.0484	0.0260	0.0309	0.0279
PCB-152	68194-09-2	µg/kg	0.0168	0.00901	0.0211	0.676	0.0133	0.0172	0.0228	0.00781	0.0102	0.0178
PCB-153/168	PCB-153/168	µg/kg	20.4	18.9	42	595	22.4	15.5	24.2	17.7	18.2	70.2
PCB-155	33979-03-2	µg/kg	0.0202	0.0122	0.0696	1.63	0.0164 JN	0.0204	0.0165	0.0162	0.0160	0.0163
PCB-156/157	PCB-156/157	µg/kg	1.35	1.76	2.56	24.8	1.32	1.02	1.88	1.08	1.4	4.4
PCB-158	74472-42-7	µg/kg	1.36	1.42	1.46	25.1	1.32	0.983	1.78	0.977	1.17	3.64
PCB-159	39635-35-3	µg/kg	0.154	0.0560	0.172	5.36	0.0965	0.0851	< 0.0146 U	0.114	< 0.00830 U	< 0.0333 U
PCB-161	74472-43-8	µg/kg	< 0.0172 U	< 0.00803 U	< 0.00592 U	< 0.0770 U	< 0.0195 U	< 0.00348 U	< 0.0139 U	< 0.0136 U	< 0.00797 U	< 0.0326 U
PCB-162	39635-34-2	µg/kg	0.0408 JN	0.0517	0.0650	0.431	0.0371	0.0323	0.0564	0.0250	0.0375	0.0975
PCB-164	74472-45-0	µg/kg	0.785	0.596	0.848	13.8	0.661	0.548	0.901	0.521	0.595	1.76
PCB-165	74472-46-1	µg/kg	< 0.0205 U	0.0127 JN	0.0396	0.462	< 0.0219 U	0.0172	0.0164	0.0160	0.0148	< 0.0380 U
PCB-167	52663-72-6	µg/kg	0.559	0.613	1.2	11.9	0.551	0.473	0.75	0.524	0.628	1.77
PCB-169	32774-16-6	µg/kg	< 0.0478 U	< 0.0216 U	< 0.0514 U	< 1.43 U	< 0.0342 U	< 0.00770 U	< 0.0414 U	< 0.0221 U	< 0.0180 U	< 0.0475 U
PCB-170	35065-30-6	µg/kg	4.44	3.1	10.5	166	3.39	3.06	3.69	3.81	4.33	12.5
PCB-171/173	PCB-171/173	µg/kg	1.37	0.929	2	51.2	0.953	1.05	1.17	1.1	1.39	4.87
PCB-172	52663-74-8	µg/kg	0.836	0.611	1.86	36.5	0.62	0.648	0.729	0.741	0.944	3.28
PCB-174	38411-25-5	µg/kg	2.88	1.08	3.47	125	1.53	2.19	2.58	2.03	2.1	5.96
PCB-175	40186-70-7	µg/kg	0.18	0.12	0.38	7.71	0.126	0.158	0.169	0.162	0.183	0.577
PCB-176	52663-65-7	µg/kg	0.35	0.115	0.251	13.9	0.21	0.278	0.329	0.226	0.229	0.555
PCB-177	52663-70-4	µg/kg	1.95	1.09	4.52	94.7	1.22	2.04	1.72	1.65	2.1	4.67
PCB-178	52663-67-9	µg/kg	1.1	0.824	2.47	39	0.964	1	1.06	0.97	1.25	3.89
PCB-179	52663-64-6	µg/kg	1.06	0.635	1.28	34.4	0.928	1.02	1.13	0.791	0.954	2.26
PCB-180/193	PCB-180/193	µg/kg	13.6	10.1	41.5	494	11	9.95	11	13.3	14.4	44
PCB-181	74472-47-2	µg/kg	0.0617	0.0867	0.0817	1.26	0.112	0.0341	0.801	0.0313	0.0435	1.16
PCB-182	60145-23-5	µg/kg	< 0.000625 U	0.0283 JN	0.0714	0.494	0.0271	0.0254	0.0332	< 0.000666 U	0.0308	< 0.00110 U
PCB-183/185	PCB-183/185	µg/kg	3.64	2.57	7.53	146	2.76	2.98	3.39	3	3.82	14.2
PCB-184	74472-48-3	µg/kg	0.0133	0.0133	0.0135	0.0848	0.0155	0.0163	0.0208	0.0117	0.0130	0.0293
PCB-186	74472-49-4	µg/kg	< 0.000515 U	< 0.000485 U	< 0.000255 U	< 0.00287 U	< 0.000456 U	< 0.000238 U	0.00888	< 0.000574 U	< 0.000129 U	< 0.000882 UJ
PCB-187	52663-68-0	µg/kg	8.37	5.79	21.6	390	8.44	6.37 J	8.41	8.81	9.25	34.4
PCB-188	74487-85-7	µg/kg	0.0147	0.0116	0.0636	0.573	0.0164	0.0208	0.0183	0.0221	0.0192	0.0217
PCB-189	39635-31-9	µg/kg	0.133	0.0954	0.386	6.68	0.106	0.103	0.119	0.13	0.149	0.388
PCB-190	41411-64-7	µg/kg	0.985	0.685	2.38	42.9	0.757	0.682	0.933	0.775	1.15	4.81

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 3 SMB041 PDI-TF-SMB041 9/6/18	Sitewide 3 SMB042 PDI-TF-SMB042 8/20/18	Sitewide 3 SMB043 PDI-TF-SMB043 8/20/18	Sitewide 3 SMB044 PDI-TF-SMB044 8/20/18	Sitewide 3 SMB045 PDI-TF-SMB045 9/7/18	Sitewide 3 SMB046 PDI-TF-SMB046 8/18/18	Sitewide 3 SMB047 PDI-TF-SMB047 9/7/18	Sitewide 3 SMB048 PDI-TF-SMB048 8/23/18	Sitewide 3 SMB049 PDI-TF-SMB049 8/18/18	Sitewide 3 SMB050 PDI-TF-SMB050 8/23/18
Chemical	CAS	Units										
PCB-191	74472-50-7	µg/kg	0.198	0.143	0.514	8.54	0.154	0.145	0.167	0.176	0.226	0.907
PCB-192	74472-51-8	µg/kg	< 0.000595 U	< 0.000527 U	< 0.000274 U	< 0.00313 U	< 0.000547 U	< 0.000259 U	0.00191 JN	< 0.000626 U	< 0.000142 U	< 0.00101 U
PCB-194	35694-08-7	µg/kg	2.24	1.32	6.2	107	1.26 J	1.04	1.68	1.61	1.96	4.23 J
PCB-195	52663-78-2	µg/kg	0.934	0.575	2.49	43.5	0.721	0.632	0.861	0.847	0.931	2.99
PCB-196	42740-50-1	µg/kg	1.1	0.708	3.21	57.3	0.847	0.903	0.921	1.17	1.29	3.53
PCB-197/200	PCB-197/200	µg/kg	0.227	0.124	0.43	10.2	0.17	0.198 J	0.285	0.198	0.211 J	0.643
PCB-198/199	PCB-198/199	µg/kg	2.19	1.46	6.22	101	1.82	2	2.12	2.22	2.79	7.97
PCB-201	40186-71-8	µg/kg	0.233	0.154	0.722	11.4	0.172	0.232	0.231	0.248	0.259	0.691
PCB-202	2136-99-4	µg/kg	0.558	0.453	1.45	15.3	0.518	0.453	0.617	0.521	0.609	1.43
PCB-203	52663-76-0	µg/kg	1.52	1.16	3.37	61.1	1.34	1.35	1.74	1.48	2.06	5.87
PCB-204	74472-52-9	µg/kg	0.00211 J	0.00318	0.00305	0.0194	0.00416 JN	0.00194	0.0271	0.00126 J	0.00186	0.0386
PCB-205	74472-53-0	µg/kg	0.102	0.0680	0.229	5.13	0.0703	0.0702	0.101	0.0821	0.11	0.303
PCB-206	40186-72-9	µg/kg	0.539	0.49	0.972	13.7	0.529	0.384	1.05	0.444	0.654	1.63
PCB-207	52663-79-3	µg/kg	0.0768	0.0677	0.178	2.03	0.0829	0.0530	0.28	0.0712	0.0876	0.311
PCB-208	52663-77-1	µg/kg	0.174	0.151	0.318	2.19	0.179	0.145	0.394	0.164	0.207	0.493
PCB-209	2051-24-3	µg/kg	0.179	0.208	0.177	0.333	0.259	0.146	0.826	0.19	0.177	0.938
Total PCBs	(a) T_PCBcg (PDI)	µg/kg	243	258	295	4130	239	144	529	136	170	1160
Pesticides												
2,4-DDD	53-19-0	µg/kg	10.5	12.8	0.861	2.16	20.1	1.73	58.2	0.903 J	1.81	59.9 J
2,4-DDE	3424-82-6	µg/kg	1.98	3.66	0.294	0.441	3.71	0.454	8.99	0.264 J	0.749	18.0 J
2,4-DDT	789-02-6	µg/kg	7.74	6.77	0.857	0.728	13.2	0.600	32.4	0.363 J	1.27	78.8 J
4,4'-DDD	72-54-8	µg/kg	43.0	53.3	5.08	7.64	59.5	6.22	185	5.15 J	9.17	306 J
4,4'-DDE	72-55-9	µg/kg	90.3	117	39.4	53.2	131	50.9	287	42.1 J	60.7	1380 J
4,4'-DDT	50-29-3	µg/kg	54.6	56.8	10.2	5.47	48.0	3.74	187	6.07 J	11.2	696 J
DDx	(a) T_DDx (PDI)	µg/kg	208	250	56.7	69.6	276	63.6	759	54.9	84.9	2540
alpha-Chlordane	5103-71-9	µg/kg	1.64	1.21	0.913	1.02	1.47	0.993	1.43	0.665 J	1.64	1.06 J
cis-Nonachlor	5103-73-1	µg/kg	1.56	1.29	1.31	1.23	1.73	1.34	1.66	1.05 J	1.86	1.24 J
Oxychlordane	27304-13-8	µg/kg	0.831	0.617	0.654	0.400 J	0.763	0.412	0.734	0.336 J	0.971	0.492 J
trans-Chlordane	5103-74-2	µg/kg	0.617	0.399 J	0.253 J	0.364 J	0.543	0.379	0.533	0.245 J	0.552	0.398 J
trans-Nonachlor	39765-80-5	µg/kg	4.29	3.56	3.64	3.21	4.49	3.35	4.25	2.67 J	5.24	3.35 J
Total Chlordanes	(a) T_Clrndn (PDI)	µg/kg	8.94	7.08	6.77	6.22	9	6.47	8.61	4.97	10.3	6.54
Aldrin	309-00-2	µg/kg	0.029 J	0.012 J	0.010 J	0.012 JN	0.027 JN	0.016 J	0.027 JN	0.009 JN	0.017 JN	0.016 J
Dieldrin	60-57-1	µg/kg	2.17	1.68	0.951	1.28	1.64	1.26	1.58	0.773 J	1.87	1.11 J
Metals												
Arsenic	7440-38-2	mg/kg	0.24	0.18	0.17	0.23	0.22	0.23	0.23	0.15	0.19	0.18
Mercury	7439-97-6	mg/kg	0.110 J	0.097 J	0.157 J	0.137 J	0.109 J	0.093 J	0.134 J	0.085 J	0.122 J	0.132 J
Semivolatile Organics												
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg	< 20000 U	< 20000 U	< 20000 U	< 20000 U	210 J	< 20000 U	< 20000 U	310 J	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg	2.27	2.10	1.18	1.12	2.13	1.14	3.35	0.779 J	1.71	7.19 J
Pentachlorophenol	(c) 87-86-5	µg/kg	< 990 U	< 990 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)												
PBDE-7	171977-44-9	µg/kg	0.00491 J	0.00313 J	0.00171 JN	0.00267 J	0.00310 J	0.00349 J	0.00366 J	0.00227 J	0.00372 J	0.00273 J
PBDE-8/11	PBDE-8/11	µg/kg	0.00462 J	0.00304 J	0.00229 J	0.00310 J	0.00382 J	0.00275 JN	0.00332 J	0.00208 JN	0.00365 JN	0.00254 J
PBDE-10	51930-04-2	µg/kg	< 0.000379 U	< 0.000333 U	< 0.000268 U	< 0.000460 U	< 0.000904 U	< 0.000444 U	< 0.000608 U	< 0.000454 U	< 0.000145 U	< 0.000514 U
PBDE-12/13	PBDE-12/13	µg/kg	0.0145 JN	0.00141 J	0.00101 JN	0.00200 JN	0.00722 JN	0.0223 JN	0.0117 JN	0.00814 JN	0.0214 JN	0.0123 JN
PBDE-15	2050-47-7	µg/kg	0.0227	0.0149	0.0126 J	0.0127 J	0.0165	0.0127 J	0.0164	0.00944 J	0.0199	0.0120 J
PBDE-17/25	PBDE-17/25	µg/kg	0.188 JN	0.112 JN	0.0623 JN	0.103 JN	0.149 JN	0.109 JN	0.152 JN	0.0821 JN	0.133 JN	0.0989 JN
PBDE-28/33	PBDE-28/33	µg/kg	0.55	0.445	0.35	0.374	0.492	0.318	0.407	0.259	0.41	0.335
PBDE-30	155999-95-4	µg/kg	< 0.00278 U	< 0.00209 U	< 0.00271 U	< 0.00154 U	< 0.00386 U	< 0.00247 U	< 0.00310 U	< 0.00275 U	< 0.00328 U	< 0.00146 U
PBDE-32	189084-60-4	µg/kg	< 0.00221 U	< 0.00164 U	< 0.00212 U	< 0.00117 U	< 0.00308 U	< 0.00200 U	< 0.00246 U	< 0.00216 U	< 0.00238 U	< 0.00115 U
PBDE-35	147217-80-9	µg/kg	0.0115 JN	0.00801 JN	0.00726 JN	0.00601 J	0.00916 JN	0.00428 JN	0.00820 JN	0.00550 JN	0.00623 JN	0.00555 JN
PBDE-37	147217-81-0	µg/kg	0.0122 J	0.00883 J	0.00801 J	0.0150 JN	0.0109 J	0.00917 J	0.00954 J	0.00665 J	0.0125 J	0.00690 J
PBDE-047	5436-43-1	µg/kg	22.1	24.4	21.7	24.1	24	17.2	22.2	14.5	18.1	18.9
PBDE-49	243982-82-3	µg/kg	1.13	0.595	0.564	1.38	1.02	1.09	1.24	0.548	1.54	0.57
PBDE-51	189084-57-9	µg/kg	0.0517	0.0216	0.0161	0.0411	0.0458	0.0454	0.0570	0.0296	0.0595	0.0277

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 3 SMB041 PDI-TF-SMB041 9/6/18	Sitewide 3 SMB042 PDI-TF-SMB042 8/20/18	Sitewide 3 SMB043 PDI-TF-SMB043 8/20/18	Sitewide 3 SMB044 PDI-TF-SMB044 8/20/18	Sitewide 3 SMB045 PDI-TF-SMB045 9/7/18	Sitewide 3 SMB046 PDI-TF-SMB046 8/18/18	Sitewide 3 SMB047 PDI-TF-SMB047 9/7/18	Sitewide 3 SMB048 PDI-TF-SMB048 8/23/18	Sitewide 3 SMB049 PDI-TF-SMB049 8/18/18	Sitewide 3 SMB050 PDI-TF-SMB050 8/23/18
Chemical	CAS	Units										
PBDE-66	189084-61-5	µg/kg	0.25	0.278	0.251	0.232	0.261	0.297	0.234	0.179	0.272	0.195
PBDE-71	189084-62-6	µg/kg	0.0322	0.0145	0.0155	0.0206	0.0411	0.0444	0.0676	0.0331	0.0607	0.0332
PBDE-75	189084-63-7	µg/kg	0.0293	0.0235	0.0171	0.0282	0.0262	0.0248	0.0261	0.0148 J	0.0243	0.0187
PBDE-77	93703-48-1	µg/kg	0.00427 JN	0.00299 J	0.00321 JN	0.00493 J	0.00326 JN	0.00372 JN	0.00289 J	< 0.000174 U	0.00395 J	< 0.000150 U
PBDE-79	PBDE-79	µg/kg	0.0225 JN	0.0277 JN	0.0237 JN	0.0197 JN	0.0312 JN	0.0338 JN	0.0287 JN	0.0269 JN	0.0300 JN	0.0242 JN
PBDE-85	182346-21-0	µg/kg	< 0.00249 U	< 0.00231 U	< 0.00447 U	< 0.00336 U	< 0.00547 U	< 0.00486 U	< 0.00380 U	< 0.00397 U	< 0.00262 U	< 0.00415 U
PBDE-099	60348-60-9	µg/kg	4.66	3.79	5.86	5.47	5.46	5.9	4.27	4.44	6.14	3.88
PBDE-100	189084-64-8	µg/kg	4.11	3.58	3.3	5.4	4.47	4.18	3.94	3.72	3.95	4.22
PBDE-105	373594-78-6	µg/kg	< 0.00303 U	< 0.00301 U	< 0.00581 U	< 0.00418 U	< 0.00666 U	< 0.00651 U	< 0.00460 U	< 0.00523 U	< 0.00366 U	< 0.00547 U
PBDE-116	189084-65-9	µg/kg	< 0.00404 U	< 0.00376 U	< 0.00726 U	< 0.00530 U	< 0.00888 U	< 0.00818 U	< 0.00618 U	< 0.00579 U	< 0.00480 U	< 0.00604 U
PBDE-119/120	PBDE-119/120	µg/kg	0.0994	0.109	0.0993	0.101	0.101 JN	0.0577	0.0852	0.0656	0.0880	0.0808
PBDE-126	366791-32-4	µg/kg	0.0125 J	0.00599 J	0.00963 JN	0.0210	0.0136 J	0.0150	0.0144	0.0120 J	0.00883 J	0.0153
PBDE-128	182677-28-7	µg/kg	0.00371 JN	0.00491 JN	0.00564 JN	0.00362 JN	0.00404 JN	0.00347 JN	< 0.000419 U	0.00464 JN	0.00831 JN	0.00531 JN
PBDE-138/166	PBDE-138/166	µg/kg	0.00112 J	0.000817 J+	0.00188 JN	0.00166 JN	0.000800 J	0.000917 JN	0.000618 J+	< 0.00106 U	0.00196 JN	0.00122 JN
PBDE-140	243982-83-4	µg/kg	0.0102 J	0.00637 J	0.0153 J	0.00995 J	0.0134 J	0.0103 J	0.00757 J	0.0117 J	0.0142 J	0.00907 J
PBDE-153	68631-49-2	µg/kg	0.975	1.06	1.13	1.15	1.34	0.906	0.721	0.851	1.12 J	0.988
PBDE-154	207122-15-4	µg/kg	0.922 J	0.818	0.865 J	1.21	1.1 J	0.827 J	0.84	0.715	0.932 J	1
PBDE-155	35854-94-5	µg/kg	0.115 J	0.0534	0.0744 J	0.174	0.114 J	0.112 J	0.124	0.0876	0.0702 J	0.103
PBDE-181	189084-67-1	µg/kg	0.000465 J	0.000991 JN	< 0.000177 U	< 0.000160 U	0.000276 JN	0.000447 JN	< 0.000143 U	< 0.000174 U	0.000899 J	< 0.00124 U
PBDE-183	207122-16-5	µg/kg	0.00903 J	0.00540 JN	0.0119 J	0.00673 JN	0.00660 J	0.00706 JN	0.00497 JN	0.00767 J	0.0124 J	0.00719 JN
PBDE-190	189084-68-2	µg/kg	0.000359 JN	0.000595 JN	0.00111 JN	< 0.000243 U	0.000288 JN	0.000692 JN	< 0.000143 U	< 0.000191 U	< 0.000161 U	< 0.000255 U
PBDE-203	337513-72-1	µg/kg	0.00293 JN	< 0.000601 U	0.00281 J+	0.00210 J+	0.00176 JN	0.00120 JN	0.000370 J	< 0.00109 U	0.00226 JN	< 0.000209 U
PBDE-206	63387-28-0	µg/kg	0.00124 JN	< 0.000651 U	< 0.00189 U	< 0.00245 U	0.00190 JN	0.00241 JN	0.00143 JN	< 0.00188 U	< 0.00115 U	< 0.000524 U
PBDE-207	437701-79-6	µg/kg	0.00461 JN	0.00362 JN	< 0.00242 U	0.00419 JN	0.00226 JN	0.00139 JN	0.00243 JN	< 0.00120 U	0.00209 JN	< 0.000637 U
PBDE-208	437701-78-5	µg/kg	0.00361 J	< 0.00385 U	< 0.000512 U	< 0.00297 U	0.00355 JN	0.00273 JN	0.00375 JN	< 0.00293 U	0.000622 JN	< 0.000777 U
PBDE-209	1163-19-5	µg/kg	0.0460 JN	< 0.0281 U	< 0.0320 U	0.0651 JN	0.0554 J+	0.0208 J+	0.0326 JN	< 0.0183 U	0.0193 J+	< 0.0205 U
Total PBDE	(a) T. PBDE (PDI)	µg/kg	35.4	35.4	34.4	40	38.8	31.3	34.5	25.6	33.1	30.6

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 3 SMB041 PDI-TF-SMB041 9/6/18	Sitewide 3 SMB042 PDI-TF-SMB042 8/20/18	Sitewide 3 SMB043 PDI-TF-SMB043 8/20/18	Sitewide 3 SMB044 PDI-TF-SMB044 8/20/18	Sitewide 3 SMB045 PDI-TF-SMB045 9/7/18	Sitewide 3 SMB046 PDI-TF-SMB046 8/18/18	Sitewide 3 SMB047 PDI-TF-SMB047 9/7/18	Sitewide 3 SMB048 PDI-TF-SMB048 8/23/18	Sitewide 3 SMB049 PDI-TF-SMB049 8/18/18	Sitewide 3 SMB050 PDI-TF-SMB050 8/23/18
Chemical	CAS	Units										
Physical Parameters												
Lipids	LIPID	%	7.76	5.78	4.68	5.26	6.05	5.35	5.16	3.57	5.93	3.68
Total Solids@104C	TSOLID	%	27.5	27.7	26.3	26.3	27.8	26.5	26.0	25.6	27.8	25.5

Notes:**Qualifiers:**

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
 JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 U = Not detected at detection limit shown.
 UJ = Not detected; sample detection limit is estimated.
 R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
 The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
 Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
 There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location Sample ID Sample Date	Sitewide 2 SMB051 PDI-TF-SMB051 8/22/18	Sitewide 2 SMB052 PDI-TF-SMB052 8/18/18	Sitewide 2 SMB053 PDI-TF-SMB053 8/22/18	Sitewide 2 SMB054 PDI-TF-SMB054 8/23/18	Sitewide SIL SMB055 PDI-TF-SMB055 8/22/18	Sitewide SIL SMB056 PDI-TF-SMB056 8/22/18	Sitewide 2 SMB057 PDI-TF-SMB057 8/17/18	Sitewide SIL SMB058 PDI-TF-SMB058 8/22/18	Sitewide 2 SMB059 PDI-TF-SMB059 9/6/18	Sitewide SIL SMB060 PDI-TF-SMB060 9/7/18
Chemical	CAS	Units										
Dioxins and Furans												
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg	0.00288 JN	0.000223 J	0.000168 J	0.00140 J	0.00145 JN	0.000380 JN	0.000217 J	< 0.000142 U	0.0000887 JN	0.00725
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg	0.000512 J	< 0.0000715 U	0.000102 J	0.000133 J	0.000103 JN	< 0.0000868 U	< 0.0000744 U	< 0.0000724 U	< 0.0000717 U	0.000706 J
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg	< 0.0000848 U	< 0.0000715 U	< 0.0000663 U	< 0.0000728 U	< 0.0000732 U	< 0.0000868 U	< 0.0000744 U	< 0.0000724 U	< 0.0000717 U	< 0.0000696 U
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg	0.00107 JN	< 0.0000715 U	0.000138 J	0.000431 J	0.000186 J	0.000131 JN	< 0.0000744 U	0.000119 J	< 0.0000717 U	0.000509 J
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg	0.00519	0.00423	0.000125 J	0.000758 J	0.000645 J	0.000171 JN	0.000101 JN	< 0.0000724 U	0.000196 J	0.000957 J
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg	0.0104	0.000296 JN	0.000440 J	0.00150	0.00202	0.000708 J	0.000177 JN	0.000422 JN	0.000268 J	0.00274
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg	0.00153 J	0.000661 J	0.0000804 JN	0.000449 J	0.000180 JN	< 0.000153 U	< 0.0000744 U	< 0.0000724 U	0.0000773 JN	0.000263 JN
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg	0.000608 J	< 0.0000715 U	< 0.0000663 U	0.000394 J	0.000186 J	< 0.0000868 U	< 0.0000744 U	< 0.0000770 U	< 0.0000717 U	0.000436 J
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg	0.000198 J	< 0.0000715 U	< 0.0000663 U	< 0.0000728 U	< 0.0000736 U	< 0.000180 U	< 0.0000744 U	< 0.0000724 U	< 0.0000717 U	< 0.0000696 U
1,2,3,7,8-PeCDD	40321-76-4	µg/kg	0.00927	0.000304 JN	0.000432 J	0.00169	0.000782 JN	0.000919 J	0.000266 JN	0.000579 J	0.000505 JN	0.00125 JN
1,2,3,7,8-PeCDF	57117-41-6	µg/kg	0.0100	0.00759	0.000271 J	0.00190	0.000397 J	0.000310 JN	0.000465 JN	0.000145 J	0.000418 J	0.000614 J
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg	0.000838 J	< 0.0000715 U	< 0.0000663 U	0.000199 J	0.000165 JN	< 0.000161 U	< 0.0000744 U	< 0.0000724 U	< 0.0000717 U	0.000151 J
2,3,4,7,8-PeCDF	57117-31-4	µg/kg	0.0252	0.00304	0.000451 J	0.00151	0.00128 J	0.000695 JN	0.000455 J	0.000370 JN	0.00115 J	0.00148
2,3,7,8-TCDD	1746-01-6	µg/kg	0.00144	0.000252 J	0.000382	0.000518	0.000306	0.000467	0.000219 J	0.000323	0.000302	0.000596
2,3,7,8-TCDF	51207-31-9	µg/kg	0.00455	0.0108	0.00195	0.00393	0.00101	0.00100	0.00217	0.000712	0.00673	0.00194
OCDD	3268-87-9	µg/kg	0.00356	0.000167 J	< 0.000128 U	0.000995 J	0.000595 JN	0.000346 JN	0.000298 JN	0.000572 J	0.000200 J	0.0185
OCDF	39001-02-0	µg/kg	0.000129 JN	< 0.0000715 U	< 0.0000975 U	< 0.0000728 U	< 0.0000732 U	0.000114 JN	< 0.0000744 U	< 0.0000724 U	< 0.0000717 U	0.000305 JN
TCDD-TEQ (a) T_DF_TEQ (PDI)		µg/kg	0.021	0.0033	0.00124	0.0035	0.00194	0.00182	0.000886	0.00115	0.0019	0.0031
TCDD-TEQ (EMPC=half) (b) T_DF_TEQ(E 0.5)		µg/kg	0.021	0.00312	0.00123	0.0035	0.0015	0.00166	0.000708	0.00105	0.00163	0.00244
TCDD-TEQ (EMPC=0) (b) T_DF_TEQ(E 0)		µg/kg	0.0209	0.00296	0.00123	0.0035	0.00111	0.00156	0.000575	0.00099	0.00138	0.00182
Polychlorinated Biphenyls (PCBs)												
PCB-1	2051-60-7	µg/kg	0.00853	0.00491	0.0384	0.00485	0.00456	0.00617	0.00884	0.00423 JN	0.0798	0.0702
PCB-2	2051-61-8	µg/kg	0.000780 JN	0.000877 J+	0.00508	0.000951 JN	0.00111 J+	0.00116 J	0.00103	0.000888 JN	0.00252 JN	0.00525
PCB-3	2051-62-9	µg/kg	0.00239 JN	0.00206 J+	0.0387	0.00169 JN	0.00245 JN	0.00223 JN	0.00260 J+	0.00139 J+	0.00857	0.0211
PCB-4	13029-08-8	µg/kg	0.15	0.119	0.698	0.125	0.145	0.244	0.183	0.148	0.937	1.1
PCB-5	16605-91-7	µg/kg	< 0.00144 U	0.000967 JN	0.00239	< 0.00166 U	< 0.00396 U	< 0.00128 U	0.00131	< 0.00136 U	0.00476 JN	< 0.00352 U
PCB-6	25569-80-6	µg/kg	0.0157	0.0203	0.149	0.0207	0.0113	0.0114	0.0267	0.00880	0.153	0.0364
PCB-7	33284-50-3	µg/kg	0.00224 J	0.00309	0.0108	0.00332	< 0.00367 U	0.00308 JN	0.00570	0.00206 J	0.0125	0.00919
PCB-8	34883-43-7	µg/kg	0.0637	0.0934	0.364	0.0809	0.0552	0.0545	0.1	0.0406	0.467	0.148
PCB-9	34883-39-1	µg/kg	0.00476	0.00509	0.0231	0.00579	0.00458	0.00417 JN	0.00727	0.00294 JN	0.0391	0.0105
PCB-10	33146-45-1	µg/kg	0.00915	0.00564	0.0248	0.00571	0.00880	0.00918	0.0121	0.00670	0.0482	0.0547
PCB-11	2050-67-1	µg/kg	0.0157	0.0604	0.387	0.0415	0.0479	0.0418	0.0594	0.0270	0.0884	0.0393
PCB-12/13	PCB-12/13	µg/kg	< 0.00136 U	0.00206	0.0174	0.00311 JN	< 0.00373 U	0.00240 JN	0.00311	0.00235 J	0.0109	0.0116
PCB-14	34883-41-5	µg/kg	< 0.00135 U	< 0.000208 U	0.000342 J	< 0.00154 U	< 0.00365 U	< 0.00119 U	0.000178 J	< 0.00121 U	< 0.00213 U	< 0.00325 U
PCB-15	2050-68-2	µg/kg	0.00725	0.0219	0.204	0.0180	0.0163	0.0179	0.0386	0.0119	0.191	0.0617
PCB-16	38444-78-9	µg/kg	0.0481	0.129	0.204	0.0993	0.0451	0.0393	0.0995	0.0390	0.75	0.0908
PCB-17	37680-66-3	µg/kg	0.144	0.248	0.977	0.213	0.187	0.291	0.236	0.293	1.18	1.49
PCB-18/30	PCB-18/30	µg/kg	0.145	0.389	1.07	0.305	0.137	0.14	0.36	0.137	3.12	0.311
PCB-19	38444-73-4	µg/kg	0.33	0.283	0.582	0.268	0.429	0.682	0.317	0.5	1.17	3.6
PCB-20/28	PCB-20/28	µg/kg	0.429	1.53	3.9	0.797	0.492	0.464	1.19	0.441	13.2	1.34
PCB-21/33	PCB-21/33	µg/kg	0.0910	0.274	0.466	0.178	0.0914	0.102	0.196	0.0939	0.918	0.316
PCB-22	38444-85-8	µg/kg	0.0745	0.257	0.565	0.164	0.0892	0.0707	0.237	0.0786	3.11	0.162
PCB-23	55720-44-0	µg/kg	< 0.000919 U	0.000795	< 0.00320 U	< 0.00114 U	< 0.00142 U	< 0.000721 U	0.00103	< 0.000896 U	< 0.00146 U	< 0.00207 U
PCB-24	55702-45-9	µg/kg	0.00170 J	0.00441	0.0147	0.00558	0.00273 JN	0.00317 J	0.00585	0.00282 J	0.118	0.00878
PCB-25	55712-37-3	µg/kg	0.0271	0.0749	0.201	0.0472	0.0419	0.0453	0.0651	0.0438	0.316	0.137
PCB-26/29	PCB-26/29	µg/kg	0.0628	0.164	0.571	0.119	0.0708	0.0668	0.16	0.0623	1.36	0.131
PCB-27	38444-76-7	µg/kg	0.0362	0.0583	0.209	0.0478	0.0446	0.0656	0.0626	0.0599	0.442	0.321
PCB-31	16606-02-3	µg/kg	0.165	0.59	1.55	0.391	0.249	0.207	0.564	0.22	5.14	0.411
PCB-32	38444-77-8	µg/kg	0.0742	0.331	1.07	0.137	0.0803	0.122	0.205	0.119	2.77	0.749
PCB-34	37680-68-5	µg/kg	0.00218 J	0.00743	0.0294	0.00580	0.00246 J	0.00279 JN	0.00613	0.00291	0.0301	0.00791
PCB-35	37680-69-6	µg/kg	< 0.000902 U	< 0.000731 U	< 0.00323 U	< 0.00112 U	< 0.00147 U	< 0.000717 U	< 0.000531 U	0.000958 JN	< 0.00142 U	< 0.00202 U
PCB-36	38444-87-0	µg/kg	< 0.000845 U	< 0.000667 U	< 0.00302 U	0.0630 JN	< 0.00133 U	< 0.000648 U	< 0.000515 U	0.0561 JN	< 0.00132 U	< 0.00191 U
PCB-37	38444-90-5	µg/kg	0.0247	0.0763	0.307	0.0692	0.0450	0.0473	0.0685	0.0327	0.478	0.0660
PCB-38	53555-66-1	µg/kg	0.00121 JN	0.00486	0.00953	0.00254 J	< 0.00132 U	0.00233 J	0.00164	0.00105 JN	< 0.00139 U	0.00382 JN

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Reach Segment Location Sample ID Sample Date	Sitewide 2 SMB051 PDI-TF-SMB051 8/22/18	Sitewide 2 SMB052 PDI-TF-SMB052 8/18/18	Sitewide 2 SMB053 PDI-TF-SMB053 8/22/18	Sitewide 2 SMB054 PDI-TF-SMB054 8/23/18	Sitewide SIL SMB055 PDI-TF-SMB055 8/22/18	Sitewide SIL SMB056 PDI-TF-SMB056 8/22/18	Sitewide 2 SMB057 PDI-TF-SMB057 8/17/18	Sitewide SIL SMB058 PDI-TF-SMB058 8/22/18	Sitewide 2 SMB059 PDI-TF-SMB059 9/6/18	Sitewide SIL SMB060 PDI-TF-SMB060 9/7/18
		Units										
PCB-39	38444-88-1	µg/kg	0.00306 J	0.0279	0.0296	0.00946 JN	0.00303 JN	0.00310 J	0.00735	0.00391	0.0423	0.00850
PCB-40/41/71	PCB-40/41/71	µg/kg	0.208	2.99	3.05	0.687	0.227	0.369	0.499	0.252	4.12	1.01
PCB-42	36559-22-5	µg/kg	0.146	1.81	1.86	0.403	0.185	0.217	0.368	0.189	2.49	0.491
PCB-43	70362-46-8	µg/kg	0.0230	0.267	0.327	0.0647	0.0157 JN	0.0220	0.0694	0.0210	0.384	0.0656
PCB-44/47/65	PCB-44/47/65	µg/kg	1.55	7.87	9.98	2.61	1.96	3.52	3.08	2.53	19.7	8.56
PCB-45/51	PCB-45/51	µg/kg	0.208	0.746	0.982	0.299	0.282	0.653	0.262	0.461	1.61	3.22
PCB-46	41464-47-5	µg/kg	0.0211	0.162	0.206	0.0473	0.0244	0.0308	0.0396	0.0275	0.318	0.125
PCB-48	70362-47-9	µg/kg	0.0820	0.998	0.783	0.249	0.0765	0.0823	0.207	0.0791	1.25	0.227
PCB-49/69	PCB-49/69	µg/kg	0.898	5.36	8.16	1.86	1.2	1.97	1.73	1.38	14.4	4.19
PCB-50/53	PCB-50/53	µg/kg	0.178	0.629	0.839	0.238	0.238	0.497	0.212	0.363	1.23	1.98
PCB-52	35693-99-3	µg/kg	1.27	8.26	12.8	3.21	1.69	2.31	3.83	1.76	48.2	4.51
PCB-54	15968-05-5	µg/kg	0.0752	0.0545	0.0781	0.0476	0.0897	0.159	0.0407	0.124	0.114	0.911
PCB-55	74338-24-2	µg/kg	< 0.00618 U	< 0.00312 U	0.0539	< 0.00583 U	< 0.00392 U	< 0.00507 U	0.0498	< 0.00252 U	< 0.0167 U	< 0.00349 U
PCB-56	41464-43-1	µg/kg	0.106	1.09	2.04	0.357	0.168	0.156	0.384	0.161	3.76	0.404
PCB-57	70424-67-8	µg/kg	< 0.00563 U	0.0220	0.0426	0.0134	0.00429 JN	0.00606	0.00779	0.00536	0.0431	0.00812
PCB-58	41464-49-7	µg/kg	< 0.00570 U	0.0182	0.0319	< 0.00563 U	0.0124	0.0312	0.00873	0.0210	0.0513	0.0577
PCB-59/62/75	PCB-59/62/75	µg/kg	0.0855	0.565	0.764	0.165	0.103	0.148	0.154	0.125	0.779	0.358
PCB-60	33025-41-1	µg/kg	0.247	2.81	3.18	0.594	0.187	0.213	0.471	0.145	3.31	0.361
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg	1.41	7.83	13.4	3.16	1.78	2.09	3.67	1.5	39.3	3.09
PCB-63	74472-34-7	µg/kg	0.0921	0.482	0.671	0.175	0.0817	0.116	0.142	0.0758	0.711	0.149
PCB-64	52663-58-8	µg/kg	0.305	3.84	4.65	0.934	0.354	0.389	0.816	0.327	7.41	0.878
PCB-66	32598-10-0	µg/kg	1.58	9.88	13.6 J	3.42	1.55	2.01	2.93	1.34	18.5	2.64
PCB-67	73575-53-8	µg/kg	0.0165	0.0705	0.111	0.0332	0.0166	0.0193	0.0314	0.0178	0.171	0.0327
PCB-68	73575-52-7	µg/kg	0.0314	0.0522	0.0863	0.0449	0.0605	0.0999	0.0508	0.0676	0.0903	0.132
PCB-72	41464-42-0	µg/kg	0.0340	0.0900	0.146	0.0506	0.0573	0.0884	0.0469	0.0669	0.124	0.118
PCB-73	74338-23-1	µg/kg	< 0.000471 U	< 0.0000834 U	< 0.0000663 U	< 0.000799 U	0.0227 JN	0.0532	0.0407	< 0.000435 U	0.314	0.162
PCB-77	32598-13-3	µg/kg	0.0485	0.203	0.396	0.163	0.0676	0.0892	0.107	0.0563	0.383	0.0985
PCB-78	70362-49-1	µg/kg	< 0.00595 U	< 0.00293 U	< 0.00635 U	< 0.00575 U	< 0.00399 U	< 0.00491 U	< 0.00782 U	< 0.00253 U	< 0.0165 U	< 0.00356 U
PCB-79	41464-48-6	µg/kg	0.0208 JN	0.0751	0.0933	0.0629	0.0414	0.0564	0.159	0.0394	1.08	0.0618
PCB-80	33284-52-5	µg/kg	< 0.00537 U	< 0.00270 U	< 0.00581 U	< 0.00524 U	< 0.00358 U	< 0.00463 U	< 0.00732 U	< 0.00230 U	< 0.0146 U	0.00393
PCB-81	70362-50-4	µg/kg	< 0.00561 U	0.00886 JN	0.0226	0.00607 JN	0.00387 JN	< 0.00481 U	0.00669 JN	0.00301 JN	0.0266 JN	0.00606 JN
PCB-82	52663-62-4	µg/kg	0.0868	0.699	0.751	0.299	0.177	0.22	0.404	0.184	7.51	0.279
PCB-83/99	PCB-83/99	µg/kg	4.05	9.88	13.3	8.61	4.26	7.24	7.51	4.61	81.2	8.55
PCB-84	52663-60-2	µg/kg	0.182	1.03	1.27	0.546	0.418	0.544	0.763	0.436	11.7	0.713
PCB-85/116/117	PCB-85/116/117	µg/kg	0.971	3.08	4.59	2.26	0.827	1.31	2.18	0.902	21.7	1.47
PCB-86/87/97/108/119/125	PCB-86/87/97/ C	µg/kg	1.34 J	6.03	6.66 J	4.32 J	2.13	3.16 J	5.1 J	2.29 J	71.1	3.91
PCB-88/91	PCB-88/91	µg/kg	0.28	1.26	1.5	0.811	0.619	0.94	0.85	0.735	10.8	1.2
PCB-89	73575-57-2	µg/kg	0.00566	0.0790	0.0726	0.0244	0.00534 JN	0.00549	0.0177	0.00734 JN	0.235	0.0187
PCB-90/101/113	PCB-90/101/113	µg/kg	3.88	10.6	12.9	9.5	5.43	9.81	9.81	6.52	115	12.9
PCB-92	52663-61-3	µg/kg	0.823	2	2.91	1.97	1.19	2.05	1.8	1.43	19.4	2.46
PCB-93/95/98/100/102	PCB-93/95/98/ C	µg/kg	1.74	4.77	6.59	3.8	2.81	4.83	4.07	3.33	50.5	6.74
PCB-94	73575-55-0	µg/kg	0.0119 JN	0.0369	0.0399	0.0201	0.0147	0.0252	0.0182	0.0217	0.141	0.1
PCB-96	73575-54-9	µg/kg	0.0153	0.0601	0.0633	0.0283	0.0136	0.0302	0.0186	0.0208	0.162	0.0820
PCB-103	60145-21-3	µg/kg	0.0761	0.138	0.17	0.132	0.147	0.286	0.0906	0.195	0.467	0.396
PCB-104	56558-16-8	µg/kg	0.00543 JN	0.00616 JN	0.00903	0.00568 JN	0.00742	0.0134	0.00495	0.0106	0.0162	0.0636
PCB-105	32598-14-4	µg/kg	1.8	4.2	7.01	3.43	1.38	2.3	3.61	1.44	37.6	2.07
PCB-106	70424-69-0	µg/kg	< 0.0164 U	< 0.0193 U	< 0.0183 U	< 0.0170 U	< 0.00897 U	< 0.0100 U	< 0.0147 U	< 0.0142 U	< 0.109 U	< 0.0124 U
PCB-107/124	PCB-107/124	µg/kg	0.0937	0.241	0.399	0.224	0.14	0.186	0.326	0.132	3.45	0.206
PCB-109	74472-35-8	µg/kg	0.496	1.01	1.4	1.01	0.583	0.965	0.864	0.532	7.32	0.836
PCB-110/115	PCB-110/115	µg/kg	2.41	8.55	11	7.66	4.06	5.64	8.36	4.2	107	7.22
PCB-111	39635-32-0	µg/kg	0.0155	0.0123	0.0174	0.0139 JN	0.0170	0.0331	0.0107 JN	0.0199	< 0.0196 U	0.0359
PCB-112	74472-36-9	µg/kg	< 0.00176 U	< 0.00484 U	< 0.00138 U	< 0.00198 U	< 0.00218 U	< 0.00301 U	< 0.00321 U	< 0.00309 U	< 0.0192 U	< 0.00473 U
PCB-114	74472-37-0	µg/kg	0.156	0.311	0.541	0.253	0.111	0.186	0.284	0.105	2.59	0.158
PCB-118	31508-00-6	µg/kg	6.47	10.4	17.6	10.5	5.11	8.54	10.9	5.18	98.4	7.42
PCB-120	68194-12-7	µg/kg	0.0605	0.0621	0.0805	0.0664	0.0691	0.146	0.0335	0.0818	0.0986	0.135

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 2 SMB051 PDI-TF-SMB051 8/22/18	Sitewide 2 SMB052 PDI-TF-SMB052 8/18/18	Sitewide 2 SMB053 PDI-TF-SMB053 8/22/18	Sitewide 2 SMB054 PDI-TF-SMB054 8/23/18	Sitewide SIL SMB055 PDI-TF-SMB055 8/22/18	Sitewide SIL SMB056 PDI-TF-SMB056 8/22/18	Sitewide 2 SMB057 PDI-TF-SMB057 8/17/18	Sitewide SIL SMB058 PDI-TF-SMB058 8/22/18	Sitewide 2 SMB059 PDI-TF-SMB059 9/6/18	Sitewide SIL SMB060 PDI-TF-SMB060 9/7/18
PCB-121	56558-18-0	µg/kg		0.0134 JN	0.0143	0.0129	0.0127	0.0121	0.0232	0.00930	0.0159	< 0.0198 U	0.0347
PCB-122	76842-07-4	µg/kg		< 0.0195 U	0.0428 JN	0.0753	0.0249	0.0203	0.0309	0.0518 JN	0.0174	0.672	0.0447
PCB-123	65510-44-3	µg/kg		0.0984	0.192 JN	0.372	0.165	0.0845 JN	0.145 JN	0.19 JN	0.0918 JN	1.44	0.0992
PCB-126	57465-28-8	µg/kg		< 0.0179 U	0.0255 JN	0.0333 JN	0.0242 JN	0.0191 JN	0.0302 JN	0.0170 JN	0.0167 JN	< 0.138 U	0.0552 JN
PCB-127	39635-33-1	µg/kg		0.0307	0.0218	0.0208 JN	0.0348	0.0154 JN	0.0327	0.0280	0.0182	0.298	0.0323
PCB-128/166	PCB-128/166	µg/kg		2.81	2.49	2.8	2.76	2.07	4.11	2.26	2.74	26.1	4.53
PCB-129/138/160/163	PCB-129/138/ C	µg/kg		29.3	22.1	21.9	21.9	16.9	38.7	22	21.5	157	51
PCB-130	52663-66-8	µg/kg		0.786	0.736	0.89	0.957	0.782	1.51	0.81	0.909	8.14	1.25
PCB-131	61798-70-7	µg/kg		0.0274	0.0568	0.0658	0.0595	0.0550	0.0840	0.0706	0.0516	1.06	0.112
PCB-132	38380-05-1	µg/kg		0.969	1.97	2.15	1.72	2.01	3.32	1.91	2.22	25.1	4.29
PCB-133	35694-04-3	µg/kg		0.516	0.388	0.405	0.403	0.399	0.762	0.286	0.444	1.71	0.814
PCB-134/143	PCB-134/143	µg/kg		0.194	0.345	0.382	0.327	0.339	0.57	0.365	0.374	3.79	0.724
PCB-135/151/154	PCB-135/151/154	µg/kg		4.49	4.38	4.37	4.27	4.45	9.37	3.04	5.56	20.7	12
PCB-136	38411-22-2	µg/kg		0.463	0.765	0.771	0.739	0.612	1.13	0.566	0.781	5.32	2.09
PCB-137	35694-06-5	µg/kg		0.646	0.695	0.928	0.969	0.486	0.978	0.982	0.49	8.87	0.756
PCB-139/140	PCB-139/140	µg/kg		0.194	0.289	0.336	0.322	0.224	0.349	0.292	0.24	2.73	0.385
PCB-141	52712-04-6	µg/kg		2.62	3.04	2.61	2.01	1.74	4.04	1.56	2.34	16.5	6.96
PCB-142	41411-61-4	µg/kg		< 0.0213 U	< 0.0191 U	< 0.0286 U	< 0.0133 U	< 0.0273 U	< 0.0173 U	< 0.0198 U	< 0.0266 U	< 0.0483 U	< 0.0243 U
PCB-144	68194-14-9	µg/kg		0.374	0.432	0.442	0.429	0.438	0.946	0.332	0.529	3.02	1.22
PCB-145	74472-40-5	µg/kg		< 0.000525 U	0.00227 JN	0.00157	0.00108 JN	< 0.000345 U	0.000913 JN	< 0.000395 U	0.00194 J	0.0198	< 0.000272 U
PCB-146	51908-16-8	µg/kg		6.21	3.94	3.68	3.91	3.94	8.39	3.2	4.65	20.6	8.7
PCB-147/149	PCB-147/149	µg/kg		5.9	7.28	7.88	6.64	8.89	16.4	7.05	10.8	58.3	17.1
PCB-148	74472-41-6	µg/kg		0.0513	0.0506 JN	0.0462	0.0475	0.0676	0.103	0.0346	0.0799	0.135	0.11
PCB-150	68194-08-1	µg/kg		0.0176 JN	0.0270	0.0236	0.0294	0.0298	0.0517	0.0176	0.0425	0.104	0.0508
PCB-152	68194-09-2	µg/kg		0.00516	0.0125	0.0112	0.00954	0.00432	0.00864 JN	0.00826 JN	0.00733 JN	0.0711	0.0362
PCB-153/168	PCB-153/168	µg/kg		40.3	25.4	22.4	21.4	19.1	45	16.2	22.2	114	64.8
PCB-155	33979-03-2	µg/kg		0.0158	0.0207	0.0161	0.0133	0.0135 JN	0.0212	0.00844	0.0149	0.0218	0.0207
PCB-156/157	PCB-156/157	µg/kg		2.34	1.54	1.95	2.04	1.13	2.44	1.75	1.31	16.4	3.07
PCB-158	74472-42-7	µg/kg		1.91	1.58	1.8	1.44	1.1	2.24	1.24	1.3	14.4	3.75
PCB-159	39635-35-3	µg/kg		0.131	0.0821	0.0909	< 0.00960 U	< 0.0198 U	0.247	0.0494	0.144	0.224	< 0.0179 U
PCB-161	74472-43-8	µg/kg		< 0.0142 U	< 0.0133 U	< 0.0194 U	< 0.00938 U	< 0.0198 U	< 0.0120 U	< 0.0136 U	< 0.0190 U	< 0.0322 U	< 0.0170 U
PCB-162	39635-34-2	µg/kg		0.0459	< 0.0120 U	0.0719	0.0689	0.0347	0.0738	0.0503	0.0454	0.398	0.0644
PCB-164	74472-45-0	µg/kg		0.935	0.748	0.84	0.774	0.719	1.36	0.726	0.846	5.26	1.48
PCB-165	74472-46-1	µg/kg		< 0.0165 U	0.0166	< 0.0232 U	0.0137	< 0.0221 U	0.0304	< 0.0159 U	< 0.0213 U	< 0.0383 U	0.0339
PCB-167	52663-72-6	µg/kg		1.05	0.644	0.721	0.802	0.511	1.14	0.614	0.622	5.56	1.09
PCB-169	32774-16-6	µg/kg		< 0.0466 U	< 0.0134 U	< 0.0261 U	< 0.0146 U	< 0.0231 U	< 0.0460 U	< 0.0132 U	< 0.0221 U	< 0.0582 U	< 0.0723 U
PCB-170	35065-30-6	µg/kg		8.89	4.1	3.6	3.1 J	3.2	9.46	2.03	4.36	11.4	17.3
PCB-171/173	PCB-171/173	µg/kg		1.99	1.28	1.16	1.29	0.965	2.24	0.574	1.3	3.31	5.25
PCB-172	52663-74-8	µg/kg		1.62	0.791	0.743	0.874	0.639	1.78	0.383	0.88	1.75	2.8
PCB-174	38411-25-5	µg/kg		2.61	1.83	1.92	2.19	1.98	4.85	0.989	2.7	4.51	5.44
PCB-175	40186-70-7	µg/kg		0.286	0.144	0.14	0.193	0.138	0.364	0.0754	0.198	0.36	0.52
PCB-176	52663-65-7	µg/kg		< 0.000660 U	0.192	0.215	0.262	0.248	0.515	0.0967	0.296	0.566	0.682
PCB-177	52663-70-4	µg/kg		2.68	1.31	1.44	2.08	1.68	4.63	0.766	1.99	4.08	3.96
PCB-178	52663-67-9	µg/kg		2.03	1.1	1.11	1.31	1.03	2.6	0.602	1.35	2.19	3.3
PCB-179	52663-64-6	µg/kg		0.982	0.904	0.96	1.17	0.921	1.98	0.436	1.26	1.91	3.04
PCB-180/193	PCB-180/193	µg/kg		31.8	13	11.8	10.7	10.5	29.9	6.17	14	23.7	49.3
PCB-181	74472-47-2	µg/kg		0.0607	0.125	0.0452	0.0734	0.0299	0.0654	0.0350	0.0306	0.288	0.0900
PCB-182	60145-23-5	µg/kg		< 0.000808 U	0.0300	0.0370	< 0.000966 U	< 0.000465 U	< 0.000750 U	< 0.000535 U	0.0394	0.0895	< 0.000483 U
PCB-183/185	PCB-183/185	µg/kg		6.54	3.41	3.2	3.63	2.83	7.15	1.55	3.67	6.9	13.7
PCB-184	74472-48-3	µg/kg		0.0155	0.0229	0.0181 JN	0.0176 JN	0.00980	0.0132 JN	0.00874	0.00896	0.0256	0.0137
PCB-186	74472-49-4	µg/kg		< 0.000697 U	< 0.000523 U	< 0.000541 UJ	< 0.000773 U	< 0.000384 U	< 0.000615 U	< 0.000437 U	< 0.000266 U	< 0.000856 U	< 0.000401 U
PCB-187	52663-68-0	µg/kg		19.6	8.89	8.77	11	9.5	24.2	5.47	13.5	18.7	23.6
PCB-188	74487-85-7	µg/kg		0.0229	0.0182 JN	0.0155	0.0192	0.0191	0.0378	0.00953	0.0287	0.0326	0.0277
PCB-189	39635-31-9	µg/kg		0.341	0.126	0.145	0.114	0.108	0.313	0.0650	0.144	0.37	0.475
PCB-190	41411-64-7	µg/kg		2.08	0.968	0.99	1.16	0.797	2.29	0.496	1.12	2.07	3.73

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 2 SMB051 PDI-TF-SMB051 8/22/18	Sitewide 2 SMB052 PDI-TF-SMB052 8/18/18	Sitewide 2 SMB053 PDI-TF-SMB053 8/22/18	Sitewide 2 SMB054 PDI-TF-SMB054 8/23/18	Sitewide SIL SMB055 PDI-TF-SMB055 8/22/18	Sitewide SIL SMB056 PDI-TF-SMB056 8/22/18	Sitewide 2 SMB057 PDI-TF-SMB057 8/17/18	Sitewide SIL SMB058 PDI-TF-SMB058 8/22/18	Sitewide 2 SMB059 PDI-TF-SMB059 9/6/18	Sitewide SIL SMB060 PDI-TF-SMB060 9/7/18
PCB-191	74472-50-7	µg/kg		0.436	0.193	0.169	0.211	0.148	0.393	0.106	0.2	0.428	0.754
PCB-192	74472-51-8	µg/kg		< 0.000760 U	< 0.000574 U	< 0.000602 UJ	< 0.000882 U	< 0.000460 U	0.0232 JN	< 0.000507 U	< 0.000325 U	< 0.000989 U	< 0.000468 U
PCB-194	35694-08-7	µg/kg		3.81 J	1.48	1.87	0.813 J	1.43	3.38 J	0.792	1.89 J	2.76	7.9
PCB-195	52663-78-2	µg/kg		2.23	0.725	0.787	0.551	0.623	1.93	0.38	0.989	1.13	3.34
PCB-196	42740-50-1	µg/kg		3.22	0.861	0.942	0.833 J	0.734	2.47	0.525	1.16	1.3	4.18
PCB-197/200	PCB-197/200	µg/kg		0.429	0.157	0.172	0.182	0.198	0.499	0.0824	0.259	0.268	0.598
PCB-198/199	PCB-198/199	µg/kg		6.17	1.72	2.22	2.28	1.91	5.67	1.1	2.6	3.38	6.11
PCB-201	40186-71-8	µg/kg		0.633	0.164	0.187	0.246	0.205	0.524	0.0871	0.252	0.308	0.62
PCB-202	2136-99-4	µg/kg		1.25	0.56	0.634	0.488	0.554	1.28	0.268	0.753	0.922	1.55
PCB-203	52663-76-0	µg/kg		4.15	1.41	1.73	1.54	1.29	3.67	0.744	1.78	2.19	5.23
PCB-204	74472-52-9	µg/kg		0.00324 JN	0.00482	0.00229 JN	0.00173 JN	0.000855 JN	0.00268 JN	0.000689 JN	0.00117 J	0.00286 JN	0.00210 JN
PCB-205	74472-53-0	µg/kg		0.185	0.0779	0.0978	0.0668	0.0780	0.195	0.0375	0.1	0.125	0.376
PCB-206	40186-72-9	µg/kg		1.33	0.579	0.648	0.472	0.582	0.851	0.32	0.527	1.03	1.33
PCB-207	52663-79-3	µg/kg		0.201	0.103	0.0814	0.0618	0.0735	0.125	0.0409	0.0746	0.133	0.198
PCB-208	52663-77-1	µg/kg		0.381	0.178	0.245	0.169	0.25	0.299	0.11	0.178	0.347	0.352
PCB-209	2051-24-3	µg/kg		0.257	0.287	0.228	0.197	0.229	0.246	0.133	0.142	0.282	0.245
Total PCBs	(a) T_PCBcg (PDI)	µg/kg		244	252	305	199	151	324	171	184	1470	454
Pesticides													
2,4-DDD	53-19-0	µg/kg		0.495 J	11.1	1.91	2.76 J	0.459	0.447	1.62	0.349 J	3.29	0.938
2,4-DDE	3424-82-6	µg/kg		0.164 J	5.72	0.720	0.535 J	0.161 J	0.137 J	0.327	0.127 J	0.880	0.342
2,4-DDT	789-02-6	µg/kg		0.274 J	53.9	0.477	1.21 J	0.305	0.414	0.496	0.246 J	1.26	0.382
4,4'-DDD	72-54-8	µg/kg		3.38 J	53.7	12.0	10.3 J	4.25	4.87	6.05	2.91 J	13.9	6.08
4,4'-DDE	72-55-9	µg/kg		30.1 J	169	63.9	39.9 J	30.1	38.2	32.6	24.4 J	66.4	33.7
4,4'-DDT	50-29-3	µg/kg		3.10 J	190	4.31	9.80 J	3.40	5.16	3.55	3.12 J	7.59	2.48
DDx	(a) T_DDx (PDI)	µg/kg		37.5	483	83.3	64.5	38.7	49.2	44.6	31.2	93.3	43.9
alpha-Chlordane	5103-71-9	µg/kg		1.02 J	1.38	1.57	0.964 J	0.838	0.670	0.862	0.536 J	1.42	1.13
cis-Nonachlor	5103-73-1	µg/kg		1.27 J	1.82	1.78	1.18 J	0.974	1.18	0.879	0.735 J	1.64	1.37
Oxychlordane	27304-13-8	µg/kg		0.552 J	0.853	0.995	0.459 J	0.481	0.480 J	0.425	0.365 J	0.831	0.752
trans-Chlordane	5103-74-2	µg/kg		0.259 J	0.469	0.490	0.320 J	0.231 J	0.181 J	0.301	0.140 J	0.514	0.341 J
trans-Nonachlor	39765-80-5	µg/kg		3.86 J	4.75	4.22	3.03 J	2.85	3.26	2.34	2.13 J	4.39	3.87
Total Chlordanes	(a) T_Clrndn (PDI)	µg/kg		6.96	9.27	9.06	5.95	5.37	5.77	4.81	3.91	8.8	7.46
Aldrin	309-00-2	µg/kg		0.011 JN	0.017 J	0.014 J	0.010 JN	0.007 J	0.008 JN	0.016 J	< 0.0045 UJ	0.021 J	0.007 JN
Dieldrin	60-57-1	µg/kg		1.00 J	1.23	2.18	1.27 J	0.996	0.934	1.07	0.668 J	1.77	1.42
Metals													
Arsenic	7440-38-2	mg/kg		0.21	0.31	0.27	0.17	0.15	0.15	0.17	0.16	0.18	0.18
Mercury	7439-97-6	mg/kg		0.151 J	0.120 J	0.171 J	0.100 J	0.100 J	0.100 J	0.072 J	0.075 J	0.122 J	0.157 J
Semivolatile Organics													
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg		< 20000 U	1400 J	< 20000 U	< 20000 U	< 20000 U	< 20000 UJ	< 20000 U	< 20000 U	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg		1.15 J	2.14	1.48	1.23 J	0.930	0.994	0.976	0.698 J	1.84	1.59
Pentachlorophenol	(c) 87-86-5	µg/kg		< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)													
PBDE-7	171977-44-9	µg/kg		0.00207 J	0.00282 J	0.00417 J	0.00373 J	0.00444 J	0.00260 JN	0.00211 J	0.00160 JN	0.00458 J	0.00531 J
PBDE-8/11	PBDE-8/11	µg/kg		0.00192 JN	0.00254 JN	0.00495 J	0.00324 J	0.00405 J	0.00282 J	0.00207 JN	0.00216 J	0.00506 J	0.00620 J
PBDE-10	51930-04-2	µg/kg		< 0.000428 U	< 0.000445 U	< 0.000133 U	< 0.000829 U	< 0.000513 U	< 0.000639 U	< 0.000499 U	< 0.000358 U	< 0.000374 U	< 0.000323 U
PBDE-12/13	PBDE-12/13	µg/kg		0.00693 JN	0.00851 JN	0.0113 JN	0.00721 JN	0.0181 JN	0.00686 JN	0.0130 JN	0.00904 JN	0.00936 JN	0.0368 JN
PBDE-15	2050-47-7	µg/kg		0.0107 J	0.0165	0.0311	0.0108 J	0.0128 J	0.0112 J	0.0102 J	0.00819 J	0.0178	0.0180
PBDE-17/25	PBDE-17/25	µg/kg		0.0664 JN	0.0967 JN	0.175	0.102 JN	0.105	0.0598 JN	0.0690 JN	0.0524 JN	0.19 JN	0.123 JN
PBDE-28/33	PBDE-28/33	µg/kg		0.322	0.455	0.59	0.358	0.405	0.364	0.285	0.297	0.614	0.546
PBDE-30	155999-95-4	µg/kg		< 0.00337 U	< 0.00328 U	< 0.00648 U	< 0.00342 U	< 0.00196 U	< 0.00360 U	< 0.00313 U	< 0.00196 U	< 0.00379 U	< 0.00448 U
PBDE-32	189084-60-4	µg/kg		< 0.00265 U	< 0.00265 U	< 0.00511 U	< 0.00269 U	< 0.00162 U	< 0.00290 U	< 0.00241 U	< 0.00154 U	< 0.00302 U	< 0.00355 U
PBDE-35	147217-80-9	µg/kg		0.00523 JN	0.00963 JN	0.0106 JN	0.00580 JN	0.00531 JN	0.00359 JN	0.00440 JN	0.00459 JN	0.0108 JN	0.00882 JN
PBDE-37	147217-81-0	µg/kg		0.00423 JN	0.0101 JN	0.0137 J	0.00682 JN	0.00737 J	0.00640 J	0.00590 JN	0.00556 J	0.0157 J	0.00936 J
PBDE-047	5436-43-1	µg/kg		16.3	29.8	29.2	17	17.2	18.7	13.3	14.4	25.8	21.1
PBDE-49	243982-82-3	µg/kg		0.316	0.82	1.47	0.51	0.541	0.629	0.476	0.641	2.41	0.759
PBDE-51	189084-57-9	µg/kg		0.0156 J	0.0332	0.0632	0.0289	0.0219	0.0275	0.0192	0.0222 JN	0.0638	0.0500

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 2 SMB051 PDI-TF-SMB051 8/22/18	Sitewide 2 SMB052 PDI-TF-SMB052 8/18/18	Sitewide 2 SMB053 PDI-TF-SMB053 8/22/18	Sitewide 2 SMB054 PDI-TF-SMB054 8/23/18	Sitewide SIL SMB055 PDI-TF-SMB055 8/22/18	Sitewide SIL SMB056 PDI-TF-SMB056 8/22/18	Sitewide 2 SMB057 PDI-TF-SMB057 8/17/18	Sitewide SIL SMB058 PDI-TF-SMB058 8/22/18	Sitewide 2 SMB059 PDI-TF-SMB059 9/6/18	Sitewide SIL SMB060 PDI-TF-SMB060 9/7/18
Chemical	CAS	Units										
PBDE-66	189084-61-5	µg/kg	0.152	0.316	0.283	0.235	0.131	0.169	0.139	0.112	0.429	0.165
PBDE-71	189084-62-6	µg/kg	0.0150 J	0.0355	0.0775	0.0366	0.0192	0.0302 JN	0.0150 JN	0.0231	0.0712	0.0279
PBDE-75	189084-63-7	µg/kg	0.0109 J	0.0215	0.0213	0.0186 JN	0.0187	0.0238	0.0161	0.0141 J	0.0356	0.0195
PBDE-77	93703-48-1	µg/kg	< 0.000170 U	0.00451 J	< 0.000133 U	< 0.000146 U	< 0.000146 U	< 0.000174 U	0.00274 J	< 0.000145 U	0.00473 J	0.00313 J
PBDE-79	PBDE-79	µg/kg	0.0306 JN	0.0287 JN	0.0732 JN	0.0398 JN	0.00908 JN	0.0330 JN	0.0254 JN	0.0239 JN	0.0227 JN	0.0238 JN
PBDE-85	182346-21-0	µg/kg	< 0.00534 U	< 0.00304 U	< 0.00782 U	< 0.00651 U	< 0.00272 UJ	< 0.00395 U	< 0.00431 U	< 0.00257 U	< 0.00568 U	< 0.00386 U
PBDE-099	60348-60-9	µg/kg	4.97	5.53	5.77	5.1	2.24	3.67	2.44	2	5.76	2.41
PBDE-100	189084-64-8	µg/kg	2.82	4.44	4.56	3.67	3.6 J	4.32	2.64	3.05	4.79	3.02
PBDE-105	373594-78-6	µg/kg	< 0.00705 U	< 0.00407 U	< 0.0106 U	< 0.00859 U	< 0.00360 UJ	< 0.00558 U	< 0.00547 U	< 0.00329 U	< 0.00692 U	< 0.00467 U
PBDE-116	189084-65-9	µg/kg	< 0.00779 U	< 0.00511 U	< 0.0133 U	< 0.00950 U	< 0.00516 UJ	< 0.00810 U	< 0.00678 U	< 0.00432 U	< 0.00923 U	< 0.00627 U
PBDE-119/120	PBDE-119/120	µg/kg	0.0620	0.0950	0.1	0.0875	0.0787 J	0.117	0.0674	0.0635	0.104	0.0895
PBDE-126	366791-32-4	µg/kg	0.00765 J	0.00879 J	0.0202 J+	0.0141 J	0.0167	0.0306	0.00918 J	0.0186	0.0130 J	0.00945 J
PBDE-128	182677-28-7	µg/kg	0.00495 JN	0.00153 JN	0.00725 JN	0.00991 JN	0.00332 J	0.00815 JN	0.00503 JN	0.00488 JN	0.00322 JN	0.00749 JN
PBDE-138/166	PBDE-138/166	µg/kg	0.00121 JN	< 0.000305 UJ	0.000997 JN	0.00149 J+	0.000615 JN	0.00203 JN	0.00166 JN	< 0.000976 U	0.000944 J	0.000956 J
PBDE-140	243982-83-4	µg/kg	0.0145 J	0.00119 JN	0.00868 JN	0.0146	0.00476 J	0.0110 J	0.00581 JN	0.00468 J	0.0153 J	0.00828 JN
PBDE-153	68631-49-2	µg/kg	1.22	1.51	1.61	1.05	0.531 J	0.884	0.575	0.558	1.02	1.02
PBDE-154	207122-15-4	µg/kg	0.715	0.941 J	1.17	0.814	0.745 J	1.19	0.557	0.774	1.11 J	0.771 J
PBDE-155	35854-94-5	µg/kg	0.0492	0.0644 J	0.0993	0.0795	0.126 J	0.224	0.0705	0.14	0.129 J	0.0804 J
PBDE-181	189084-67-1	µg/kg	< 0.000312 U	< 0.000143 U	0.000883 JN	0.00215 JN	< 0.000160 U	< 0.000996 U	0.000778 JN	< 0.000687 U	< 0.000143 U	< 0.000139 U
PBDE-183	207122-16-5	µg/kg	0.0114 J	0.00577 J	0.0103 J	0.0187	0.00565 J	0.0101 J	0.00634 JN	0.00670 JN	0.0118 J	0.00608 J
PBDE-190	189084-68-2	µg/kg	0.00112 JN	0.000665 JN	< 0.000399 U	0.00104 J	< 0.000247 U	0.000501 JN	0.000465 JN	0.000768 JN	< 0.000207 U	0.000400 JN
PBDE-203	337513-72-1	µg/kg	< 0.00221 U	0.000995 JN	0.00227 JN	< 0.00248 U	0.00107 JN	< 0.00199 U	0.00339 J	< 0.00243 U	0.00199 J	0.00195 JN
PBDE-206	63387-28-0	µg/kg	< 0.00108 U	0.00377 JN	< 0.000947 U	< 0.000650 U	< 0.000816 U	< 0.00212 U	< 0.000387 U	< 0.000820 U	0.00147 JN	0.00514 JN
PBDE-207	437701-79-6	µg/kg	< 0.00398 U	0.00230 JN	0.00302 JN	< 0.00134 U	0.00432 J+	< 0.00304 U	0.00516 JN	< 0.00290 U	0.00267 JN	0.00819 JN
PBDE-208	437701-78-5	µg/kg	< 0.00302 U	0.00131 JN	0.0147 JN	< 0.000963 U	0.00439 J+	< 0.00396 U	0.00103 JN	< 0.000893 U	0.00311 JN	0.00759 JN
PBDE-209	1163-19-5	µg/kg	< 0.0159 U	0.0308 JN	0.0505 J	< 0.0105 U	0.0299 JN	< 0.0539 U	0.0727 J+	< 0.0243 U	0.0432 JN	0.0791 J
Total PBDE	(a) T. PBDE (PDI)	µg/kg	27.1	44.3	45.5	29.2	25.9	30.6	20.8	22.3	42.7	30.4

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 2 SMB051 8/22/18	Sitewide 2 SMB052 8/18/18	Sitewide 2 SMB053 8/22/18	Sitewide 2 SMB054 8/23/18	Sitewide SIL SMB055 8/22/18	Sitewide SIL SMB056 8/22/18	Sitewide 2 SMB057 8/17/18	Sitewide SIL SMB058 8/22/18	Sitewide 2 SMB059 9/6/18	Sitewide SIL SMB060 9/7/18
Chemical	CAS	Units										
Physical Parameters												
Lipids	LIPID	%	4.16	4.50	9.08	5.28	4.72	4.11	4.89	3.28	6.50	7.03
Total Solids@104C	TSOLID	%	27.1	27.3	30.6	25.9	27.7	26.8	25.6	25.7	27.7	28.1

Notes:**Qualifiers:**

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
 JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 U = Not detected at detection limit shown.
 UJ = Not detected; sample detection limit is estimated.
 R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
 The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
 Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
 There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDX = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location Sample ID Sample Date	Sitewide SIL SMB061 PDI-TF-SMB061 9/11/18	Sitewide 2 SMB062 PDI-TF-SMB062 9/11/18	Sitewide SIL SMB063 PDI-TF-SMB063 8/13/18	Sitewide 2 SMB064 PDI-TF-SMB064 9/11/18	Sitewide 2 SMB065 PDI-TF-SMB065 8/23/18	Sitewide 2 SMB066 PDI-TF-SMB066 8/23/18	Sitewide 2 SMB067 PDI-TF-SMB067 8/17/18	Sitewide SIL SMB068 PDI-TF-SMB068 8/22/18	Sitewide 2 SMB069 PDI-TF-SMB069 8/23/18	Sitewide 2 SMB070 PDI-TF-SMB070 8/23/18
Chemical	CAS	Units										
Dioxins and Furans												
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg	0.000226 JN	0.000226 JN	0.000441 J	0.000250 JN	0.000271 J	0.000488 JN	< 0.0000713 U	0.000376 JN	< 0.000144 U	0.000184 J
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg	< 0.0000712 U	< 0.0000730 U	0.000104 J	0.000116 JN	< 0.0000723 U	< 0.0000734 U	< 0.0000713 U	< 0.0000718 U	< 0.0000732 U	< 0.0000700 U
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg	< 0.0000712 U	< 0.0000730 U	< 0.0000735 U	< 0.0000724 U	< 0.0000723 U	< 0.0000734 U	< 0.0000713 U	< 0.0000718 U	< 0.0000732 U	< 0.0000700 U
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg	0.000116 JN	< 0.000149 U	0.000142 JN	< 0.0000724 U	< 0.0000750 U	0.000223 JN	< 0.0000713 U	0.000149 JN	0.000137 JN	0.000135 J
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg	0.0000800 JN	0.000222 J	0.000191 J	0.000137 JN	0.0113	0.0000887 JN	< 0.0000713 U	0.000328 J	0.0000815 JN	0.000109 JN
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg	0.000355 J	0.000573 JN	0.000694 JN	0.000410 JN	0.000290 J	0.000758 J	0.000161 JN	0.000690 J	0.000270 J	0.000378 J
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg	0.000107 JN	0.000103 J	< 0.0000735 U	< 0.0000724 U	0.00192	0.0000771 JN	< 0.0000713 U	0.0000761 J	< 0.0000732 U	< 0.0000700 U
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg	< 0.0000712 U	< 0.000147 U	< 0.0000735 U	< 0.0000724 U	< 0.0000732 U	< 0.0000734 U	< 0.0000713 U	< 0.0000718 U	< 0.0000732 U	< 0.0000700 U
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg	< 0.0000712 U	< 0.0000730 U	< 0.0000735 U	< 0.0000850 U	< 0.0000723 U	< 0.0000734 U	< 0.0000713 U	< 0.0000718 U	< 0.0000732 U	< 0.0000700 U
1,2,3,7,8-PeCDD	40321-76-4	µg/kg	0.000499 JN	0.000905 J	0.000674 J	0.000535 JN	0.000637 J	0.000657 JN	0.000199 JN	0.00123 J	0.000471 JN	0.000398 J
1,2,3,7,8-PeCDF	57117-41-6	µg/kg	0.000204 J	0.000414 J	0.000237 JN	0.000410 JN	0.0126	0.000238 J	0.000129 J	0.000446 J	0.000174 J	0.000192 J
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg	< 0.0000712 U	0.0000805 JN	< 0.0000735 U	< 0.0000724 U	0.000285 J	< 0.0000734 U	< 0.0000713 U	< 0.0000718 U	< 0.0000732 U	< 0.0000700 U
2,3,4,7,8-PeCDF	57117-31-4	µg/kg	0.000408 J	0.000993 JN	0.000620 J	0.000423 JN	0.0555	0.000477 J	0.000328 J	0.00119 J	0.000454 J	0.000370 J
2,3,7,8-TCDD	1746-01-6	µg/kg	0.000383	0.000383	0.000387	0.000273 J	0.000633	0.000880	0.000255 JN	0.000549	0.000401	0.000248 J
2,3,7,8-TCDF	51207-31-9	µg/kg	0.000952	0.00169	0.00118	0.00169	0.00244	0.00230	0.00152	0.00161	0.00112	0.000954
OCDD	3268-87-9	µg/kg	< 0.000237 U	0.000419 JN	0.00142 J	0.000219 JN	0.00116 JN	0.000292 J	0.000170 JN	0.00147 JN	0.000278 JN	< 0.000105 U
OCDF	39001-02-0	µg/kg	< 0.0000712 U	< 0.0000730 U	0.0000873 JN	< 0.0000725 U	< 0.0000723 U	< 0.0000734 U	< 0.0000713 U	0.0000719 JN	< 0.0000732 U	0.0000861 JN
TCDD-TEQ (a)	T_DF_TEQ (PDI)	µg/kg	0.00118	0.00188	0.00148	0.00118	0.0199	0.00204	0.000728	0.00244	0.00118	0.000926
TCDD-TEQ (EMPC=half) (b)	T_DF_TEQ(E_0.5)	µg/kg	0.000892	0.00165	0.00142	0.00071	0.0199	0.00166	0.000382	0.00243	0.000917	0.000917
TCDD-TEQ (EMPC=0) (b)	T_DF_TEQ(E_0)	µg/kg	0.000642	0.0015	0.00139	0.000442	0.0199	0.00134	0.000254	0.00242	0.000681	0.000911
Polychlorinated Biphenyls (PCBs)												
PCB-1	2051-60-7	µg/kg	0.00862	0.0107	0.0139	0.0157	0.00835	0.0181	0.00807 J	0.0117	0.0117	0.00591
PCB-2	2051-61-8	µg/kg	0.00141 J	0.00198 J	0.00214	0.00211 J	0.00127 JN	0.00255 J	0.00160 JN	0.00184 J+	0.00183 J	0.00153 J+
PCB-3	2051-62-9	µg/kg	0.00408	0.00403	0.00478	0.00673	0.00290 J+	0.00825	0.00363 J	0.00418	0.00466 JN	0.00299 J+
PCB-4	13029-08-8	µg/kg	0.233	0.2	0.526	0.214	0.148	0.332	0.329	0.417	0.181	0.354
PCB-5	16605-91-7	µg/kg	< 0.00445 U	< 0.00261 U	0.00102	< 0.00404 U	< 0.00307 U	0.00527	< 0.00474 U	< 0.00325 U	0.00203 J	< 0.00250 U
PCB-6	25569-80-6	µg/kg	0.0205	0.0502	0.0209	0.0370	0.0545	0.113	0.0339	0.0205	0.0576	0.0206
PCB-7	33284-50-3	µg/kg	0.00487	0.00784 JN	0.00477	0.00770 JN	0.00717	0.0151	0.00631 J	0.00563	0.00763	0.00351 JN
PCB-8	34883-43-7	µg/kg	0.0909	0.194	0.112	0.138	0.221	0.49	0.124	0.0886	0.225	0.105
PCB-9	34883-39-1	µg/kg	0.00668	0.0125	0.00629	0.00984 JN	0.0132	0.0285	0.00958	0.00520 JN	0.0131	0.00534
PCB-10	33146-45-1	µg/kg	0.0151	0.0149	0.0245	0.0110	0.00822	0.0150	0.0175	0.0246	0.00779	0.0217
PCB-11	2050-67-1	µg/kg	0.0380	0.0535	0.0927	0.0864	0.00697 J+	0.147	0.172	0.0993	0.0548	0.107
PCB-12/13	PCB-12/13	µg/kg	< 0.00431 U	0.00412 JN	0.00525	0.00519	0.0200	0.0117	0.00752 JN	0.00524	0.00466	0.00298
PCB-14	34883-41-5	µg/kg	< 0.00419 U	< 0.00242 U	< 0.000219 U	< 0.00380 U	< 0.00279 U	< 0.00130 U	< 0.00430 U	< 0.00300 U	< 0.00127 U	< 0.00227 U
PCB-15	2050-68-2	µg/kg	0.0242	0.0341	0.0419	0.0372	0.0176	0.113	0.0383	0.0360	0.0435	0.0159
PCB-16	38444-78-9	µg/kg	0.0970	0.215	0.0608	0.163	0.592	0.722	0.0946	0.0726	0.256	0.0601
PCB-17	37680-66-3	µg/kg	0.593	0.556	0.656	0.406	1.43	1.24	0.284	0.582	0.457	0.22
PCB-18/30	PCB-18/30	µg/kg	0.34	0.679	0.228	0.465	1.53	2.43	0.317	0.218	0.76	0.225
PCB-19	38444-73-4	µg/kg	0.901	0.471	1.57	0.521	1.23	0.635	0.543	1.38	0.308	0.623
PCB-20/28	PCB-20/28	µg/kg	1.45	2.31	0.654	1.48	13.9	8.39	0.898	0.865	1.62	0.767
PCB-21/33	PCB-21/33	µg/kg	0.327	0.459	0.164	0.29	0.905	1.55	0.156	0.197	0.452	0.144
PCB-22	38444-85-8	µg/kg	0.206	0.441	0.0996	0.338	2.76	1.61	0.207	0.139	0.413	0.132
PCB-23	55720-44-0	µg/kg	< 0.00448 U	< 0.00288 U	< 0.000537 U	< 0.00191 U	< 0.0216 U	0.00632	< 0.00399 U	< 0.00228 U	< 0.00137 U	< 0.00123 U
PCB-24	55702-45-9	µg/kg	0.00862	0.0104	0.00450	0.0102	0.0876	0.0442	0.00521 JN	0.00437 JN	0.0108	0.00494 JN
PCB-25	55712-37-3	µg/kg	0.112	0.118	0.0746	0.112	1.25	0.287	0.0819	0.0867	0.116	0.0471
PCB-26/29	PCB-26/29	µg/kg	0.186	0.282	0.0937	0.234	0.429	0.933	0.164	0.104	0.262	0.105
PCB-27	38444-76-7	µg/kg	0.122	0.114	0.138	0.0806	1.3	0.243	0.0646	0.13	0.0762	0.0596
PCB-31	16606-02-3	µg/kg	0.624	1.04	0.277	0.866	1.38	3.82	0.563	0.39	1.05	0.336
PCB-32	38444-77-8	µg/kg	0.366	0.421	0.335	0.231	16.3	1.42	0.153	0.267	0.276	0.183
PCB-34	37680-68-5	µg/kg	0.0136	0.0112	0.00445	0.00960	0.0723	0.0310	0.00711 J	0.00367	0.00977	0.00472
PCB-35	37680-69-6	µg/kg	< 0.00448 U	< 0.00312 U	< 0.000480 U	0.00238 JN	< 0.0227 U	< 0.00104 U	< 0.00420 U	< 0.00237 U	< 0.00136 U	< 0.00130 U
PCB-36	38444-87-0	µg/kg	< 0.00408 U	< 0.00289 U	< 0.000474 U	< 0.00174 U	< 0.0210 U	< 0.000941 U	0.0772	< 0.00214 U	< 0.00123 U	< 0.00120 U
PCB-37	38444-90-5	µg/kg	0.0713	0.115	0.0469	0.129	1.03	0.417	0.0954	0.0790	0.148	0.0454
PCB-38	53555-66-1	µg/kg	< 0.00452 U	< 0.00285 U	0.00255	0.00338 JN	0.192	0.0108	< 0.00401 U	0.00355	0.00294 JN	0.00139 J

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide SIL SMB061 PDI-TF-SMB061 9/11/18	Sitewide 2 SMB062 PDI-TF-SMB062 9/11/18	Sitewide SIL SMB063 PDI-TF-SMB063 8/13/18	Sitewide 2 SMB064 PDI-TF-SMB064 9/11/18	Sitewide 2 SMB065 PDI-TF-SMB065 8/23/18	Sitewide 2 SMB066 PDI-TF-SMB066 8/23/18	Sitewide 2 SMB067 PDI-TF-SMB067 8/17/18	Sitewide SIL SMB068 PDI-TF-SMB068 8/22/18	Sitewide 2 SMB069 PDI-TF-SMB069 8/23/18	Sitewide 2 SMB070 PDI-TF-SMB070 8/23/18
PCB-39	38444-88-1	µg/kg		0.0122	0.0176	0.00505	0.0108	1.08	0.0530	0.00771 JN	0.00838	0.0123	0.00656 JN
PCB-40/41/71	PCB-40/41/71	µg/kg		0.962	1.26	0.552	0.659	127	4.09	0.506	0.832	0.867	0.416
PCB-42	36559-22-5	µg/kg		0.623	0.763	0.286	0.511	66.9	2.66	0.406	0.459	0.677	0.252
PCB-43	70362-46-8	µg/kg		0.103	0.138	0.0406	0.0855	7.57	0.371	0.0670 JN	0.0431 JN	0.0909	0.0520
PCB-44/47/65	PCB-44/47/65	µg/kg		6.2	7.08	5.78	4.02	217 J	13	2.91	6.05	3.82	2.19
PCB-45/51	PCB-45/51	µg/kg		1.08	0.989	1.34	0.654	36	1.56	0.452	1.34	0.536	0.256
PCB-46	41464-47-5	µg/kg		0.0935	0.0941	0.0559	0.0723	9.53	0.3	0.0578	0.0761	0.0971	0.0315
PCB-48	70362-47-9	µg/kg		0.327	0.478	0.135	0.267	31.6	1.66	0.202	0.208	0.351	0.155
PCB-49/69	PCB-49/69	µg/kg		4.38	4.47	2.76	2.59	147	9.24	2.04	3.06	2.5	1.5
PCB-50/53	PCB-50/53	µg/kg		0.803	0.606	0.909	0.344	30.5	1.06	0.274	0.942	0.365	0.234
PCB-52	35693-99-3	µg/kg		5.57	8.41	3.14	4.12	223 J	18.4	3.19	3.79	4.08	3.15
PCB-54	15968-05-5	µg/kg		0.238	0.118	0.377	0.123	0.268	0.0881	0.0943	0.327	0.0612	0.0812
PCB-55	74338-24-2	µg/kg		< 0.00933 U	< 0.00663 U	< 0.00120 U	< 0.00429 U	< 0.0525 U	< 0.00812 U	0.0475	< 0.00650 U	< 0.00984 U	< 0.00254 U
PCB-56	41464-43-1	µg/kg		0.509	0.833	0.228	0.647	29.7	2.38	0.42	0.481	0.717	0.275
PCB-57	70424-67-8	µg/kg		0.0102	0.0144	0.00798	0.0123 JN	0.355	0.0307	0.00929	0.00853	0.0149	< 0.00234 U
PCB-58	41464-49-7	µg/kg		0.0590	0.0227	0.0132 JN	0.0209	0.163	0.0232	0.0179	0.0347	0.0191	< 0.00246 U
PCB-59/62/75	PCB-59/62/75	µg/kg		0.356	0.377	0.23	0.236	16.9	0.889	0.183	0.263	0.253	0.123
PCB-60	33025-41-1	µg/kg		0.405	1.09	0.283	0.531	79.1	2.61	0.359	0.4	0.638	0.326
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg		5.36	7.6	2.54	4.55	119	16.8	2.92	3.78	4.73	2.55
PCB-63	74472-34-7	µg/kg		0.271	0.288	0.14	0.162	9.24	0.545	0.115	0.139	0.176	0.0929
PCB-64	52663-58-8	µg/kg		1.01	1.87	0.528	1.02	123	5.21	0.765	0.785	1.22	0.584
PCB-66	32598-10-0	µg/kg		4.91	6.25	2.38	3.2	201	12.8	2.05	3.4	3.64	1.89
PCB-67	73575-53-8	µg/kg		0.0459	0.0648	0.0235	0.0638	1.47	0.18	0.0507	0.0422	0.0618	0.0271
PCB-68	73575-52-7	µg/kg		0.165	0.0866	0.11	0.0742	0.194	0.0937	0.0578	0.112	0.0597	0.0370
PCB-72	41464-42-0	µg/kg		0.226	0.0966	0.102	0.0751	0.661	0.139	0.0560	0.0904	0.0553	0.0480
PCB-73	74338-23-1	µg/kg		0.13	0.0445	0.0567	0.0966	0.549	< 0.000245 U	0.0773	0.0884	< 0.000220 U	0.0233
PCB-77	32598-13-3	µg/kg		0.125	0.188	0.0803	0.14	2.63	0.384	0.118	0.137	0.153	0.0679
PCB-78	70362-49-1	µg/kg		< 0.00901 U	< 0.00673 U	< 0.00119 U	< 0.00414 U	< 0.0526 U	< 0.00786 U	< 0.00758 U	< 0.00662 U	< 0.00953 U	< 0.00254 U
PCB-79	41464-48-6	µg/kg		0.0842 JN	0.134	0.0520	0.0876 JN	1.84	0.192	0.129	0.0675	0.0735 JN	0.0507
PCB-80	33284-52-5	µg/kg		< 0.00798 U	< 0.00591 U	0.00247	< 0.00367 U	< 0.0474 U	< 0.00741 U	< 0.00679 U	< 0.00594 U	< 0.00899 U	< 0.00230 U
PCB-81	70362-50-4	µg/kg		< 0.00893 U	0.0118 JN	0.00400 JN	0.00778 JN	0.195 JN	0.0189 JN	0.00887 JN	0.00611 JN	< 0.00943 U	0.00274 JN
PCB-82	52663-62-4	µg/kg		0.383	0.801	0.231	0.478	18.2	1.51	0.407	0.413	0.474	0.31
PCB-83/99	PCB-83/99	µg/kg		12.7	18	10.1	8.53	86.6	17	6.27	7.79	6.62	6.55
PCB-84	52663-60-2	µg/kg		0.912	1.58	0.519	0.981	27	3.6	0.79	0.883	1.06	0.584
PCB-85/116/117	PCB-85/116/117	µg/kg		2.28	4.79	2.01	1.93	33.8	5.11	1.55	1.44	1.72	1.64
PCB-86/87/97/108/119/125	PCB-86/87/97/ C	µg/kg		5.03	10.4	3.64 J	5.54	78.6 J	14.9 J	4.35	4.35	4.82 J	4.33
PCB-88/91	PCB-88/91	µg/kg		1.28	1.98	1.15	1.27	22	3.26	0.999	1.4	1.17	0.751
PCB-89	73575-57-2	µg/kg		0.0263	0.0338	0.0128	0.0212	2.62	0.129	0.0257 JN	0.0239	0.0276	0.0168
PCB-90/101/113	PCB-90/101/113	µg/kg		12.7	21.9	11.1	11.9	106	26.8	10.7	11.7	9.62	12.9
PCB-92	52663-61-3	µg/kg		2.83	4.5	2.44	2.34	18.6	4.86	1.93	2.25	1.92	2.28
PCB-93/95/98/100/102	PCB-93/95/98/ C	µg/kg		5.91	10	5.28	5.22	78.2	16	5.06	6.58	5.21	5.25
PCB-94	73575-55-0	µg/kg		0.0484	0.0714	0.0471	0.0402	0.671	0.0772	0.0411	0.0811	0.0337	0.0194
PCB-96	73575-54-9	µg/kg		0.0618	0.0717	0.0566	0.0359	1.27	0.0966	0.0360 JN	0.0555	0.0314	0.0293
PCB-103	60145-21-3	µg/kg		0.316	0.257	0.355	0.217	0.705	0.271	0.181	0.331	0.173	0.113
PCB-104	56558-16-8	µg/kg		0.0202	0.0161	0.0285	0.0217	0.0166	0.0160	0.0187	0.0329	0.0129	0.00646 JN
PCB-105	32598-14-4	µg/kg		3.35	8.29	2.77	3.56	46.6	7.81	2.66	2.24	2.79	2.98
PCB-106	70424-69-0	µg/kg		< 0.0332 U	< 0.0158 U	< 0.00690 U	< 0.0222 U	< 0.0679 U	< 0.0269 U	< 0.0216 U	< 0.0164 U	< 0.00832 U	< 0.0167 U
PCB-107/124	PCB-107/124	µg/kg		0.249	0.641	0.181	0.335	1.88	0.621	0.243	0.241	0.252	0.248
PCB-109	74472-35-8	µg/kg		1.5	1.91	0.873	1.13	7.19	1.52	0.761	0.865	0.72	0.715
PCB-110/115	PCB-110/115	µg/kg		8.69	19	6.33	9.69	112	23.7	8.28	7.91	7.37	9.29
PCB-111	39635-32-0	µg/kg		0.0313	0.0251	0.0488	0.0199	0.0306 JN	0.0169 JN	0.0233	0.0269	0.0159	0.0152 JN
PCB-112	74472-36-9	µg/kg		< 0.00759 U	< 0.00409 U	< 0.00163 U	< 0.00758 U	< 0.0193 U	< 0.00510 U	< 0.00661 U	< 0.00542 U	< 0.00435 U	< 0.00323 U
PCB-114	74472-37-0	µg/kg		0.247	0.553	0.22	0.271	3.6	0.484	0.195	0.171	0.2	0.201
PCB-118	31508-00-6	µg/kg		13.4	25.6	10.3	11.3	83.8	21	8.45	7.56	8.38	9.43
PCB-120	68194-12-7	µg/kg		0.178	0.0941	0.164	0.0815	0.136	0.0714	0.0758	0.109	0.0623	0.0696

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide SIL SMB061 PDI-TF-SMB061 9/11/18	Sitewide 2 SMB062 PDI-TF-SMB062 9/11/18	Sitewide SIL SMB063 PDI-TF-SMB063 8/13/18	Sitewide 2 SMB064 PDI-TF-SMB064 9/11/18	Sitewide 2 SMB065 PDI-TF-SMB065 8/23/18	Sitewide 2 SMB066 PDI-TF-SMB066 8/23/18	Sitewide 2 SMB067 PDI-TF-SMB067 8/17/18	Sitewide SIL SMB068 PDI-TF-SMB068 8/22/18	Sitewide 2 SMB069 PDI-TF-SMB069 8/23/18	Sitewide 2 SMB070 PDI-TF-SMB070 8/23/18
PCB-121	56558-18-0	µg/kg		0.0246	0.0222	0.0366	0.0167	< 0.0198 U	0.0180	0.0160 JN	0.0216	0.0140	0.0123
PCB-122	76842-07-4	µg/kg		0.0558	0.0971	0.0313	0.0733	0.657	0.13	0.0618 JN	0.0546	0.0550	0.0337 J
PCB-123	65510-44-3	µg/kg		0.129 JN	0.364 JN	0.113 JN	0.204 JN	2.01 JN	0.384	0.146 JN	0.131 JN	0.162	0.159 JN
PCB-126	57465-28-8	µg/kg		0.0543 JN	0.0238 JN	0.0120 JN	0.0446 JN	0.128 JN	< 0.0346 U	0.153 JN	0.0427 JN	0.0177 JN	0.0475 JN
PCB-127	39635-33-1	µg/kg		0.0435	0.0749	0.0348	0.0438	0.0960	0.0465	0.0294	0.0245 JN	0.0269	0.0293
PCB-128/166	PCB-128/166	µg/kg		3.76	8.23	4.49	3.96	10.3	5.35	4.12	3.58	2.52	6.98
PCB-129/138/160/163	PCB-129/138/ C	µg/kg		30.8	60.3	46	30.8	81.2	41	41.6	37.1	19.7	78.2
PCB-130	52663-66-8	µg/kg		1.05	1.87	1.09	1.41	3.67	1.63	1.36	1.44	0.894	1.52
PCB-131	61798-70-7	µg/kg		0.0723	0.15	0.0641	0.118	0.388	0.196	0.11	0.115	0.0948	0.0792
PCB-132	38380-05-1	µg/kg		2.61	4.22	2.62	3.94	13.2	6.44	3.74	4.26	2.87	3.66
PCB-133	35694-04-3	µg/kg		0.685	0.935	0.877	0.566	1.15	0.615	0.714	0.613	0.387	0.792
PCB-134/143	PCB-134/143	µg/kg		0.466	0.83	0.497	0.617	2.13	0.99	0.559	0.765	0.474	0.594
PCB-135/151/154	PCB-135/151/154	µg/kg		6.07	10.3	9.49	7.08	19.4	9.68	9.45	8.47	5	16.3
PCB-136	38411-22-2	µg/kg		1.1	1.72	1.24	1.18	4.1	2.11	1.36	1.51	0.944	1.55
PCB-137	35694-06-5	µg/kg		1.27	2.67	1.05	1.38	4.15	1.47	0.759	0.714	0.769	0.786
PCB-139/140	PCB-139/140	µg/kg		0.476	0.81	0.491	0.412	1.03	0.522	0.3	0.368	0.272	0.345
PCB-141	52712-04-6	µg/kg		3.06	5.31	4.47	3.47	9.95 J	5.26	5.24	4.46	2.47	9.4
PCB-142	41411-61-4	µg/kg		< 0.0336 U	< 0.0110 U	< 0.0269 U	< 0.0439 U	< 0.101 U	< 0.0265 U	< 0.0770 U	< 0.0312 U	< 0.0194 U	< 0.00998 U
PCB-144	68194-14-9	µg/kg		0.519	0.848	0.733	0.701	2.33	1.11	0.934	0.942	0.567	1.12
PCB-145	74472-40-5	µg/kg		0.00385 JN	0.00204 J	< 0.0000735 U	< 0.000330 U	0.0171	0.00391 JN	< 0.000674 U	< 0.000557 U	0.000766 JN	< 0.000368 U
PCB-146	51908-16-8	µg/kg		6.51	9.19	8.84	6.14	14.1	6.79	8.45	6.96	3.83	13.9
PCB-147/149	PCB-147/149	µg/kg		9.69	14.1	12.5	14.8	43.1	18.9	16.2	17.4	10.4	16.3
PCB-148	74472-41-6	µg/kg		0.109	0.0991	0.128	0.0917	0.126	0.0737	0.0537	0.101	0.0619	0.0583
PCB-150	68194-08-1	µg/kg		0.0531	0.0527	0.0590	0.0630	0.0660	0.0531	0.0411	0.0700	0.0433	0.0245
PCB-152	68194-09-2	µg/kg		0.0242	0.0513	0.0301	0.0184	0.0381	0.0216 JN	0.0131	0.0232	0.0118	0.0125
PCB-153/168	PCB-153/168	µg/kg		39.1	56.9	49.5	31.3	73.9	39.1	44.3	41.1	20.6	82.3
PCB-155	33979-03-2	µg/kg		0.0236	0.0225	0.0302	0.0181	0.0191	0.0156	0.0153 JN	0.0183	0.0141	0.0161
PCB-156/157	PCB-156/157	µg/kg		2.37	5.17	3.52	2.3	6.91	2.82	2.55	2.28	1.42	3.79
PCB-158	74472-42-7	µg/kg		2.17	4.4	3.72	2.11	5.86	2.98	2.55	2.35	1.39	4.6
PCB-159	39635-35-3	µg/kg		0.101	< 0.00816 U	0.157	0.16	< 0.0710 U	0.212	< 0.0615 U	< 0.0226 U	0.122	< 0.00700 U
PCB-161	74472-43-8	µg/kg		< 0.0234 U	< 0.00790 U	< 0.0175 U	< 0.0306 U	< 0.0665 U	< 0.0184 U	< 0.0548 U	< 0.0226 U	< 0.0135 U	< 0.00656 U
PCB-162	39635-34-2	µg/kg		0.0647	0.16	0.0839	0.0520	0.122	0.0744	0.0713	0.0537	0.0472	0.0934
PCB-164	74472-45-0	µg/kg		0.829	1.95	1.16	1.1	3.22	1.57	1.63	1.53	0.761	2.64
PCB-165	74472-46-1	µg/kg		< 0.0278 U	0.0422	0.0388	< 0.0364 U	< 0.0803 U	< 0.0221 U	< 0.0651 U	0.0253	< 0.0162 U	0.0203
PCB-167	52663-72-6	µg/kg		0.866	1.73	1.25	0.895	2.4	1.15	1.2	1.03	0.623	1.83
PCB-169	32774-16-6	µg/kg		< 0.0593 U	< 0.0364 U	< 0.0417 U	< 0.0743 U	< 0.0878 U	< 0.0323 U	< 0.0818 U	< 0.0250 U	< 0.0230 U	< 0.0719 U
PCB-170	35065-30-6	µg/kg		5.14	7.53	14.8	3.95	10.4	6.88	9.39	9.43	3.28	19.5
PCB-171/173	PCB-171/173	µg/kg		1.52	2.4	4.74	1.22	3.5	1.83	2.39	2.68	0.908	5.43
PCB-172	52663-74-8	µg/kg		0.902	1.43	2.39	0.786	2.26	1.14	1.74	1.69	0.632	4.22
PCB-174	38411-25-5	µg/kg		1.76	2.41	3.68	2.6	8.43	3.68	4.07	4.86	1.99	5.37
PCB-175	40186-70-7	µg/kg		0.191	0.25	0.389	0.181	0.483	0.238	0.33	0.335	0.143	0.524
PCB-176	52663-65-7	µg/kg		0.232	0.263	0.424	0.342	0.896	0.472	0.405	0.514	0.253	0.385
PCB-177	52663-70-4	µg/kg		1.65	2.15	4.21	1.98	6.23	2.63	3.05	4.61	1.52	5.26
PCB-178	52663-67-9	µg/kg		1.4	2.15	2.95	1.28	3.18	1.59	1.96	1.99	0.931	4.11
PCB-179	52663-64-6	µg/kg		1.02	1.61	1.92	1.27	3.37	1.76	1.68	1.74	0.954	2.43
PCB-180/193	PCB-180/193	µg/kg		16.5	26.4	45.4	13.7	31.8	20.6	31.2	31	10.6	57.2
PCB-181	74472-47-2	µg/kg		0.0535	0.106	0.102	0.0467	0.835	0.0479	0.0530	0.0703	0.0280	0.0838
PCB-182	60145-23-5	µg/kg		0.0558	< 0.000767 U	0.0832	< 0.000704 U	< 0.00103 U	< 0.000580 U	0.0440 JN	< 0.000871 U	< 0.000283 U	< 0.000659 U
PCB-183/185	PCB-183/185	µg/kg		4.15	6.75	11.4	3.67	10.5	5.25	6.73	7.35	2.82	15.5
PCB-184	74472-48-3	µg/kg		0.0212	0.0223	0.0191	0.0162	0.0284	0.0160	0.0128 JN	0.0109	0.0134	0.0198
PCB-186	74472-49-4	µg/kg		< 0.000405 U	< 0.000631 U	< 0.000179 U	< 0.000565 U	< 0.000841 UJ	< 0.000475 U	< 0.00126 U	< 0.000719 U	< 0.000232 U	< 0.000539 U
PCB-187	52663-68-0	µg/kg		10.4	20.9	19.3	12.7	34.4	16.1	25.3	19.8	7.85	56.7
PCB-188	74487-85-7	µg/kg		0.0282	0.0425	0.0406	0.0301	0.0344	0.0240	0.0268	0.0299	0.0164 JN	0.0223
PCB-189	39635-31-9	µg/kg		0.17	0.256	0.461	0.128	0.372	0.203	0.346	0.326	0.108	0.727
PCB-190	41411-64-7	µg/kg		0.978	1.77	3.52	0.87	2.72	1.48	2.11	2.38	0.687	4.76

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide SIL SMB061 PDI-TF-SMB061 9/11/18	Sitewide 2 SMB062 PDI-TF-SMB062 9/11/18	Sitewide SIL SMB063 PDI-TF-SMB063 8/13/18	Sitewide 2 SMB064 PDI-TF-SMB064 9/11/18	Sitewide 2 SMB065 PDI-TF-SMB065 8/23/18	Sitewide 2 SMB066 PDI-TF-SMB066 8/23/18	Sitewide 2 SMB067 PDI-TF-SMB067 8/17/18	Sitewide SIL SMB068 PDI-TF-SMB068 8/22/18	Sitewide 2 SMB069 PDI-TF-SMB069 8/23/18	Sitewide 2 SMB070 PDI-TF-SMB070 8/23/18
Chemical	CAS	Units										
PCB-191	74472-50-7	µg/kg	0.242	0.365	0.71	0.182	0.534	0.272	0.419	0.476	0.139	0.881
PCB-192	74472-51-8	µg/kg	< 0.000462 U	< 0.000746 U	< 0.000205 U	< 0.000644 U	< 0.000995 U	< 0.000555 U	< 0.00149 U	< 0.000862 U	< 0.000271 U	< 0.000638 U
PCB-194	35694-08-7	µg/kg	2	4.46	6.3	1.75	4.94	2.34 J	4.79	3.88	1.19 J	8.84
PCB-195	52663-78-2	µg/kg	0.82	1.62	3.39	0.744	2.04	1.43	1.84	2.08	0.605	3.38
PCB-196	42740-50-1	µg/kg	1.18	2.43	4.16	0.987	2.45	1.9	2.05	2.34	0.871	3.73
PCB-197/200	PCB-197/200	µg/kg	0.197	0.469	0.479	0.258	0.678	0.406	0.332	0.39	0.197	0.471
PCB-198/199	PCB-198/199	µg/kg	2.17	7.85	5.26	2.44	6.61	3.95	4.53	4.11	1.92	9.59
PCB-201	40186-71-8	µg/kg	0.271	0.722	0.558	0.28	0.628	0.346	0.352	0.414	0.194	0.538
PCB-202	2136-99-4	µg/kg	0.693	2.05	1.18	0.694	1.47	0.947	0.991	0.857	0.548	1.59
PCB-203	52663-76-0	µg/kg	1.71	6.44	5.26	1.57	4.25	2.8	2.76	2.42	1.38	5.84
PCB-204	74472-52-9	µg/kg	0.00253 J	0.00445	0.00310	0.00133 J	0.0237 JN	0.00263 JN	0.00128 JN	0.00137 JN	0.00112 JN	0.00308
PCB-205	74472-53-0	µg/kg	0.0937	0.178	0.321	0.0844	0.27	0.142	0.226	0.177	0.0682	0.471
PCB-206	40186-72-9	µg/kg	0.557	6.81	1.21	0.601	1.81	0.863	0.787	0.731	0.496	1.54
PCB-207	52663-79-3	µg/kg	0.0841	0.878	0.178	0.0892	0.314	0.11	0.108	0.115	0.0692	0.167
PCB-208	52663-77-1	µg/kg	0.203	2.96	0.283	0.238	0.609	0.317	0.258	0.252	0.188	0.351
PCB-209	2051-24-3	µg/kg	0.192	1.39	0.241	0.264	0.867	0.295	0.234	0.183	0.21	0.268
Total PCBs	(a) T PCBcg (PDI)	µg/kg	283	489	385	265	2710	500	333	333	202	543
Pesticides												
2,4-DDD	53-19-0	µg/kg	1.11	1.17	0.944	2.31	37.9	2.79	1.51	0.680	2.06 J	0.589
2,4-DDE	3424-82-6	µg/kg	0.317	0.457	0.245	0.557	27.5	1.35	0.562	0.221 J	0.544 J	0.297
2,4-DDT	789-02-6	µg/kg	0.642	0.651	0.649 J	0.784	148	1.73	0.552	0.416	0.683 J	0.342
4,4'-DDD	72-54-8	µg/kg	6.25	6.89	4.87	7.51	304	17.5	6.40	4.91	8.60 J	4.61
4,4'-DDE	72-55-9	µg/kg	49.8	39.2	28.5	50.9	1160	71.3	52.9	30.7	48.5 J	43.0
4,4'-DDT	50-29-3	µg/kg	3.33	5.92	3.97 J	3.53	1570	15.0	4.16	3.28	3.83 J	5.70
DDx	(a) T DDx (PDI)	µg/kg	61.4	54.3	39.2	65.6	3250	110	66.1	40.2	64.2	54.5
alpha-Chlordane	5103-71-9	µg/kg	1.10	3.38	1.03	1.60	1.60	4.76	1.53	1.02	1.48 J	1.26
cis-Nonachlor	5103-73-1	µg/kg	1.61	3.24	1.44 J	1.67	2.73 J	2.41	1.49	0.949	1.40 J	1.50
Oxychlordane	27304-13-8	µg/kg	0.747	1.67	0.759	0.731	0.978 JN	2.69	0.750	0.656	0.749 J	0.846
trans-Chlordane	5103-74-2	µg/kg	0.313 J	0.868	0.264 J	0.556	0.650	2.23	0.566	0.289 J	0.609 J	0.393 J
trans-Nonachlor	39765-80-5	µg/kg	3.94	9.04	4.09	4.13	5.64	7.98	3.94	2.81	3.95 J	4.20
Total Chlordanes	(a) T Clrdn (PDI)	µg/kg	7.71	18.2	7.58	8.69	11.6	20.1	8.28	5.72	8.19	8.2
Aldrin	309-00-2	µg/kg	0.013 JN	0.016 J	< 0.0040 U	0.019 JN	0.018 JN	0.034 J	0.016 J	0.006 J	0.018 J	0.011 J
Dieldrin	60-57-1	µg/kg	1.06	1.65	1.18	1.89	1.36	4.83	2.09	1.55	1.46 J	1.62
Metals												
Arsenic	7440-38-2	mg/kg	0.25	0.20	0.21	0.24	0.50	0.24	0.25	0.21	0.23	0.20
Mercury	7439-97-6	mg/kg	0.138 J	0.196 J	0.141 J	0.122 J	0.128 J	0.114 J	0.147 J	0.097 J	0.079 J	0.175 J
Semivolatile Organics												
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg	620 J	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg	1.29	1.65	1.29	1.73	2.49	2.14	1.92	1.65	1.30 J	1.71
Pentachlorophenol	(c) 87-86-5	µg/kg	< 1000 U	< 1000 U	< 990 UJ	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)												
PBDE-7	171977-44-9	µg/kg	0.00553 JN	0.00390 J	0.00233 J	< 0.00161 U	0.00304 J	0.00646 J	0.00388 JN	0.00723 J	0.00281 JN	0.00556 J
PBDE-8/11	PBDE-8/11	µg/kg	0.00488 JN	0.00425 J	0.00289 JN	0.00487 J	0.00390 JN	0.00502 J	0.00353 J	0.00660 J	0.00247 JN	0.00541 J
PBDE-10	51930-04-2	µg/kg	< 0.000822 U	< 0.000521 U	< 0.000417 U	< 0.00168 U	< 0.000615 U	< 0.000355 U	< 0.000554 U	< 0.00101 U	< 0.000427 U	< 0.000686 U
PBDE-12/13	PBDE-12/13	µg/kg	0.0357 JN	0.0179 J	0.0115 JN	0.0411 JN	< 0.000395 U	0.0195 JN	0.0205 JN	0.00167 JN	0.0166 JN	0.00180 J
PBDE-15	2050-47-7	µg/kg	0.0168	0.0248	0.0110	0.0190	0.0106 J	0.0206	0.0200	0.0166	0.0135 J	0.0251
PBDE-17/25	PBDE-17/25	µg/kg	0.156 JN	0.145	0.0955	0.185 JN	0.0978	0.18 JN	0.139 JN	0.165	0.0971 JN	0.215
PBDE-28/33	PBDE-28/33	µg/kg	0.555	0.517	0.382	0.429	0.441	0.586	0.487	0.53	0.414	1.42
PBDE-30	155999-95-4	µg/kg	< 0.00223 U	< 0.00492 U	< 0.00121 U	< 0.00370 U	< 0.00288 U	< 0.00334 U	< 0.00255 U	< 0.00202 U	< 0.00226 U	< 0.00376 U
PBDE-32	189084-60-4	µg/kg	< 0.00179 U	< 0.00378 U	0.00145 J	< 0.00297 U	< 0.00231 U	< 0.00263 U	< 0.00206 U	< 0.00167 U	< 0.00182 U	< 0.00310 U
PBDE-35	147217-80-9	µg/kg	0.00842 JN	0.0205 JN	0.00649 JN	0.00795 JN	0.0111 JN	0.0149 JN	0.00796 JN	0.00732 JN	0.00561 JN	0.00956 JN
PBDE-37	147217-81-0	µg/kg	0.0107 J	0.00945 J	0.00776 J	0.0115 J	0.0106 J	0.0112 J	0.0124 J	0.0168 J	0.00762 J	0.0214
PBDE-047	5436-43-1	µg/kg	24.6	21.4	20.6	19.3	25.8	23.6	23.6	15	16	51.2
PBDE-49	243982-82-3	µg/kg	0.967	0.744	0.565	1.23	0.661	1.35	1.33	0.842	1.06	1.72 J
PBDE-51	189084-57-9	µg/kg	0.0494	0.0292	0.0284	0.0498	0.0361	0.0621	0.0525	0.0626	0.0456	0.0386 J

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide SIL SMB061 PDI-TF-SMB061 9/11/18	Sitewide 2 SMB062 PDI-TF-SMB062 9/11/18	Sitewide SIL SMB063 PDI-TF-SMB063 8/13/18	Sitewide 2 SMB064 PDI-TF-SMB064 9/11/18	Sitewide 2 SMB065 PDI-TF-SMB065 8/23/18	Sitewide 2 SMB066 PDI-TF-SMB066 8/23/18	Sitewide 2 SMB067 PDI-TF-SMB067 8/17/18	Sitewide SIL SMB068 PDI-TF-SMB068 8/22/18	Sitewide 2 SMB069 PDI-TF-SMB069 8/23/18	Sitewide 2 SMB070 PDI-TF-SMB070 8/23/18
Chemical	CAS	Units										
PBDE-66	189084-61-5	µg/kg	0.39	0.23	0.206	0.2	0.258	0.322	0.424	0.343	0.289	0.815 J
PBDE-71	189084-62-6	µg/kg	0.0349	0.0280	0.0132 JN	0.0394	0.0140 J	0.0496	0.0552	0.0346	0.0435	0.0333 J
PBDE-75	189084-63-7	µg/kg	0.0265	0.0150	0.0152	0.0288	0.0262	0.0297	0.0371	0.0268	0.0260	0.0438 J
PBDE-77	93703-48-1	µg/kg	< 0.000142 U	< 0.000146 U	0.00396 J	< 0.000145 U	0.00373 J	< 0.000147 U	0.00536 JN	0.00412 J	< 0.000146 U	0.00817 J
PBDE-79	PBDE-79	µg/kg	0.0321 JN	0.0254 JN	0.0339 JN	0.0312 JN	0.0265	0.0312 JN	0.0349 JN	0.0184	0.0283 JN	0.0227 J
PBDE-85	182346-21-0	µg/kg	< 0.00333 U	< 0.00273 U	< 0.00148 U	< 0.00333 U	< 0.00286 U	< 0.00642 U	0.00388 JN	< 0.00224 U	< 0.00332 U	< 0.00429 UJ
PBDE-099	60348-60-9	µg/kg	5.83	2.51	2.88	3.45	4.46	4.63	6.47	6.79	4.44	8 J
PBDE-100	189084-64-8	µg/kg	3.95	3.11	2.87	4.05	5.46	4.11	4.47	3.2	3.55	7.59 J
PBDE-105	373594-78-6	µg/kg	< 0.00410 U	< 0.00323 U	< 0.00196 U	< 0.00410 U	< 0.00352 U	< 0.00824 U	< 0.00504 U	< 0.00297 U	< 0.00469 U	< 0.00568 UJ
PBDE-116	189084-65-9	µg/kg	< 0.00554 U	< 0.00438 U	< 0.00305 U	< 0.00554 U	< 0.00476 U	< 0.0108 U	< 0.00633 U	< 0.00425 U	< 0.00681 U	< 0.00813 UJ
PBDE-119/120	PBDE-119/120	µg/kg	0.105	0.119	0.132	0.0751	0.128	0.0773	0.0919	0.106	0.0725	0.173 J
PBDE-126	366791-32-4	µg/kg	0.00860 JN	0.00930 J	0.0127	0.0123 J	0.0187	0.0139 J	0.0120 J	0.00974 J	0.0143 J	0.00916 J
PBDE-128	182677-28-7	µg/kg	0.00643 JN	0.00902 JN	0.0107 JN	0.00407 JN	0.00683 JN	0.00768 JN	0.00252 JN	0.0108 JN	0.00487 JN	0.00382 JN
PBDE-138/166	PBDE-138/166	µg/kg	0.000639 JN	0.000887 JN	0.000276 JN	0.000932 J+	0.000715 JN	0.00161 JN	0.00193 J	0.00102 J	0.00115 JN	0.00102 JN
PBDE-140	243982-83-4	µg/kg	0.0120 J	0.00900 J	0.00925	0.00716 J	0.0104 J	0.0119 J	0.0129 J	0.0171 J	0.00874 J	0.0127 JN
PBDE-153	68631-49-2	µg/kg	1.19	1.04	1.03	0.73	1.16	1	1.1	0.889	0.686	2.59 J
PBDE-154	207122-15-4	µg/kg	0.899	0.794 J	0.768 J	0.861	1.27 J	0.894	1.03 J	0.845 J	0.714	1.58 J
PBDE-155	35854-94-5	µg/kg	0.0900	0.0674 J	0.111 J	0.14	0.166 J	0.0964	0.0762 J	0.0737 J	0.106	0.0662 J
PBDE-181	189084-67-1	µg/kg	0.000370 JN	< 0.000156 U	0.000861 J	0.000817 JN	0.000967 J	< 0.000928 U	0.000282 JN	< 0.000144 U	< 0.000776 U	< 0.000140 U
PBDE-183	207122-16-5	µg/kg	0.0108 J	0.00779 J	0.0127	0.00628 J	0.0112 J	0.00949 J	0.00893 JN	0.0223	0.00771 J	0.00505 J
PBDE-190	189084-68-2	µg/kg	0.000546 JN	< 0.000227 U	< 0.00100 U	0.000225 J	< 0.000145 U	0.000254 JN	< 0.000273 U	0.000743 JN	0.00112 JN	< 0.000163 U
PBDE-203	337513-72-1	µg/kg	0.00296 JN	0.00161 JN	0.00236 J	0.00155 JN	0.00224 JN	< 0.00305 U	0.00187 JN	0.00476 JN	< 0.00243 U	0.00147 JN
PBDE-206	63387-28-0	µg/kg	0.00589 JN	< 0.000824 U	0.00313 JN	< 0.000811 U	< 0.00107 U	0.00521 JN	< 0.000496 U	0.00328 JN	< 0.00319 U	0.00175 JN
PBDE-207	437701-79-6	µg/kg	0.0178 JN	< 0.00124 U	0.00733 JN	< 0.00307 U	< 0.00204 U	0.00576 JN	0.00397 JN	0.00363 JN	< 0.00509 U	< 0.00287 U
PBDE-208	437701-78-5	µg/kg	0.0137 J+	0.00306 JN	0.00630 JN	< 0.00288 U	< 0.000275 U	< 0.00337 U	0.00180 J	0.00365 JN	< 0.00654 U	0.00174 JN
PBDE-209	1163-19-5	µg/kg	0.211 J+	< 0.0236 U	0.0549 JN	< 0.0452 U	< 0.0181 U	< 0.0575 U	0.0231 J+	0.0357 J+	< 0.0370 U	0.0551 J+
Total PBDE	(a) T. PBDE (PDI)	µg/kg	39.3	30.9	29.9	30.9	40.1	37.2	39.5	29.1	27.7	75.7

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide SIL SMB061 9/11/18	Sitewide 2 SMB062 9/11/18	Sitewide SIL SMB063 8/13/18	Sitewide 2 SMB064 9/11/18	Sitewide 2 SMB065 8/23/18	Sitewide 2 SMB066 8/23/18	Sitewide 2 SMB067 8/17/18	Sitewide SIL SMB068 8/22/18	Sitewide 2 SMB069 8/23/18	Sitewide 2 SMB070 8/23/18
Chemical	CAS	Units										
Physical Parameters												
Lipids	LIPID	%	4.42	6.18	5.35	6.19	5.02	7.34	7.37	6.78	3.27	6.81
Total Solids@104C	TSOLID	%	24.6	27.4	27.2	27.9	26.6	29.1	28.3	29.9	27.3	29.1

Notes:

Qualifiers:

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
- JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U = Not detected at detection limit shown.
- UJ = Not detected; sample detection limit is estimated.
- R = Rejected result.
- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 1 SMB071 PDI-TF-SMB071 9/8/18	Sitewide 1 SMB072 PDI-TF-SMB072 8/17/18	Sitewide SIL SMB073 PDI-TF-SMB073 8/13/18	Sitewide 1 SMB074 PDI-TF-SMB074 8/17/18	Sitewide 1 SMB075 PDI-TF-SMB075 8/17/18	Sitewide 1 SMB076 PDI-TF-SMB076 8/23/18	Sitewide 1 SMB077 PDI-TF-SMB077 8/17/18	Sitewide 1 SMB078 PDI-TF-SMB078 8/17/18	Sitewide 1 SMB079 PDI-TF-SMB079 8/17/18	Sitewide 1 SMB080 PDI-TF-SMB080 9/11/18
Dioxins and Furans													
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg		0.000113 JN	0.000215 J	0.000503 J	0.000402 J	0.000126 JN	0.000512 JN	0.00111 J	0.000177 J	< 0.0000724 U	0.000271 J
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg		< 0.0000705 U	< 0.0000711 U	0.0000891 JN	< 0.0000739 U	< 0.0000719 U	< 0.0000848 U	< 0.0000737 U	< 0.0000721 U	< 0.0000724 U	< 0.0000717 U
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg		< 0.0000705 U	< 0.0000711 U	< 0.0000723 U	< 0.0000739 U	< 0.0000719 U	< 0.0000848 U	< 0.0000737 U	< 0.0000721 U	< 0.0000724 U	< 0.0000717 U
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg		0.0000839 J	0.0000915 J	0.000332 J	0.0000868 JN	< 0.0000719 U	0.000161 JN	0.000229 J	0.0000945 JN	0.0000930 JN	0.000100 JN
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg		0.000112 J	0.000103 J	0.000407 J	0.0000985 J	< 0.0000719 U	< 0.0000859 U	0.000335 J	0.000134 J	< 0.0000724 U	0.0000796 JN
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg		0.000379 J	0.000375 J	0.00123 J	0.000427 J	0.000170 J	0.000789 J	0.00189	0.000591 J	0.000235 JN	0.000278 JN
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg		0.0000737 JN	< 0.0000711 U	0.000133 J	< 0.0000739 U	< 0.0000719 U	0.000115 JN	0.000111 J	0.0000747 J	< 0.0000724 U	< 0.0000717 U
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg		< 0.0000705 U	< 0.0000711 U	0.000177 JN	< 0.0000739 U	< 0.0000719 U	0.000155 J	0.0000780 JN	< 0.0000721 U	< 0.0000946 U	< 0.0000717 U
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg		< 0.0000705 U	< 0.0000711 U	< 0.0000723 U	< 0.0000739 U	< 0.0000719 U	0.000123 JN	< 0.0000737 U	< 0.0000721 U	< 0.0000724 U	< 0.0000717 U
1,2,3,7,8-PeCDD	40321-76-4	µg/kg		0.000955 J	0.000372 J	0.00135 J	0.000312 JN	0.000271 JN	0.000404 J	0.00108 J	0.000826 J	0.000301 JN	0.000621 JN
1,2,3,7,8-PeCDF	57117-41-6	µg/kg		0.000551 J	0.000138 J	0.000477 J	0.000137 J	0.000310 JN	0.000161 J	0.000382 J	0.000218 J	0.000142 JN	0.000289 JN
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg		< 0.0000705 U	< 0.0000711 U	0.000101 JN	< 0.0000739 U	< 0.0000719 U	< 0.0000848 U	0.0000908 J	< 0.0000721 U	< 0.0000724 U	< 0.0000717 U
2,3,4,7,8-PeCDF	57117-31-4	µg/kg		0.00261	0.000269 JN	0.00109 J	0.000593 J	0.000544 J	0.000376 J	0.00102 J	0.000651 J	0.000288 JN	0.000627 J
2,3,7,8-TCDD	1746-01-6	µg/kg		0.000840	0.000214 J	0.000558	0.000186 J	0.000259 JN	0.000229 JN	0.000473	0.000447	0.000219 JN	0.000940
2,3,7,8-TCDF	51207-31-9	µg/kg		0.00343	0.000692	0.00144	0.000724	0.00181	0.00108	0.000834	0.00104	0.00179	0.00116
OCDD	3268-87-9	µg/kg		0.000187 J	0.000177 J	0.000461 J	0.000724 J	0.0000827 J	0.000468 JN	0.00322	0.000375 J	0.000116 JN	0.000844 J
OCDF	39001-02-0	µg/kg		< 0.0000705 U	< 0.0000711 U	< 0.0000723 U	< 0.0000739 U	< 0.0000719 U	0.000105 JN	< 0.0000737 U	< 0.0000721 U	< 0.0000724 U	0.000177 JN
TCDD-TEQ (a)	T_DF_TEQ (PDI)	µg/kg		0.00301	0.000803	0.00264	0.000822	0.000905	0.001	0.00224	0.00167	0.000827	0.00193
TCDD-TEQ (EMPC=half) (b)	T_DF_TEQ(E 0.5)	µg/kg		0.003	0.000759	0.00262	0.000653	0.000497	0.000839	0.00224	0.00167	0.00033	0.00156
TCDD-TEQ (EMPC=0) (b)	T_DF_TEQ(E 0)	µg/kg		0.003	0.000718	0.00261	0.000497	0.000361	0.000724	0.00223	0.00166	0.000179	0.00125
Polychlorinated Biphenyls (PCBs)													
PCB-1	2051-60-7	µg/kg		0.253	0.00475	0.0108	0.00421	R	0.00400	0.0156	0.00791	0.00545	0.00942
PCB-2	2051-61-8	µg/kg		0.0150	0.00127	0.00263	0.00113	R	0.00122 J	0.00214	0.00160	0.00136	0.00118 J+
PCB-3	2051-62-9	µg/kg		0.0708	0.00326 JN	0.00267 J+	0.00296 J+	R	0.00301 JN	0.00457	0.00379 J+	0.00253 J+	0.00362 JN
PCB-4	13029-08-8	µg/kg		2.46	0.202	0.385	0.143	R	0.132	0.384	0.128	0.153	0.112
PCB-5	16605-91-7	µg/kg		0.0444	0.000569	0.00140	0.000537 J	R	< 0.00166 U	0.00903	0.00206	0.00112	< 0.00357 U
PCB-6	25569-80-6	µg/kg		1.14	0.0113	0.0223	0.0110	R	0.0162	0.23	0.0418	0.0200	0.0467
PCB-7	33284-50-3	µg/kg		0.151	0.00234	0.00519	0.00229	R	0.00300 J	0.0295	0.00588	0.00409	0.00693 JN
PCB-8	34883-43-7	µg/kg		3.83	0.0536	0.0962	0.0481	R	0.0636	0.841	0.143	0.0731	0.165
PCB-9	34883-39-1	µg/kg		0.257	0.00313	0.00641	0.00324	R	0.00548	0.0495	0.00901	0.00600	0.0106
PCB-10	33146-45-1	µg/kg		0.105	0.0121	0.0222	0.00807	R	0.00725	0.0211	0.00676	0.00888	0.00723
PCB-11	2050-67-1	µg/kg		0.0568	0.0862	0.126	0.0690	R	0.0843	0.0462	0.0750	0.23	0.0501
PCB-12/13	PCB-12/13	µg/kg		0.149	0.00315	0.00549	0.00290	R	0.00204 J	0.0109	0.00617	0.00390	0.00434 JN
PCB-14	34883-41-5	µg/kg		< 0.00343 U	< 0.000204 U	< 0.000265 U	< 0.000138 U	R	< 0.00155 U	0.000456 J	< 0.000253 U	0.000304 J	< 0.00332 U
PCB-15	2050-68-2	µg/kg		1.6	0.0159	0.0229	0.0147	R	0.0151	0.0811	0.0409	0.0284	0.0435
PCB-16	38444-78-9	µg/kg		2.33	0.0378	0.0505	0.0404	0.0287 J	0.0575	0.491	0.133	0.0711	0.129
PCB-17	37680-66-3	µg/kg		4.51	0.124	0.465	0.143	0.0705 J	0.192	0.828	0.309	0.245	0.307
PCB-18/30	PCB-18/30	µg/kg		7.4	0.125	0.186	0.143	0.0650 J	0.18	1.37	0.414	0.247	0.439
PCB-19	38444-73-4	µg/kg		1.41	0.394	0.882	0.316	R	0.324	0.395	0.238	0.411	0.213
PCB-20/28	PCB-20/28	µg/kg		30.3	0.372	0.886	0.454	0.414 J	0.654	2.01	1.3	0.953	1.29
PCB-21/33	PCB-21/33	µg/kg		5.9	0.0703	0.166	0.0775	0.0699 J	0.109	0.6	0.272	0.146	0.276
PCB-22	38444-85-8	µg/kg		4.75	0.0643	0.125	0.0918	0.116 J	0.147	0.433	0.241	0.221	0.219
PCB-23	55720-44-0	µg/kg		0.0178	< 0.000741 U	< 0.000792 U	< 0.00112 U	< 0.000403 UJ	< 0.00136 U	0.00143	< 0.00268 U	0.000909	< 0.00268 U
PCB-24	55702-45-9	µg/kg		0.115	0.00187	0.00313	0.00248 JN	0.00112 JN	0.00373	0.0146	0.00658	0.00348	0.00549
PCB-25	55712-37-3	µg/kg		1.27	0.0279	0.0622	0.0361	0.0362 J	0.0550	0.214	0.0847	0.0873	0.0780
PCB-26/29	PCB-26/29	µg/kg		3.58	0.0600	0.103	0.0784	0.0688 J	0.11	0.417	0.209	0.173	0.194
PCB-27	38444-76-7	µg/kg		0.754	0.0346	0.0962	0.0325	0.0165 J	0.0416	0.128	0.0629	0.0469	0.0577
PCB-31	16606-02-3	µg/kg		14	0.184	0.333	0.265	0.253 J	0.389	1.3	0.662	0.634	0.628
PCB-32	38444-77-8	µg/kg		2.9	0.0773	0.214	0.0713	0.0414 J	0.0964	0.635	0.214	0.128	0.19
PCB-34	37680-68-5	µg/kg		0.0767	0.00227	0.00525 JN	0.00313	0.00263 J	0.00400	0.0160	0.00637	0.00708	0.00863
PCB-35	37680-69-6	µg/kg		< 0.0103 U	0.000894	< 0.000670 U	< 0.00108 U	< 0.000401 UJ	< 0.00133 U	< 0.00106 U	0.00349	< 0.000632 U	< 0.00290 U
PCB-36	38444-87-0	µg/kg		< 0.00976 U	< 0.000649 U	< 0.000662 U	< 0.00102 U	< 0.000366 UJ	< 0.00125 U	< 0.00103 U	< 0.00239 U	< 0.000614 U	< 0.00270 U
PCB-37	38444-90-5	µg/kg		3.56	0.0305	0.0339	0.0355	0.0492	0.0584	0.115	0.0649	0.0827	0.113
PCB-38	53555-66-1	µg/kg		0.0175	0.000802 JN	0.00237	< 0.00111 U	0.000868 J	0.00198 JN	0.00260	0.00324	0.00250	< 0.00265 U

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 1 SMB071 PDI-TF-SMB071 9/8/18	Sitewide 1 SMB072 PDI-TF-SMB072 8/17/18	Sitewide SIL SMB073 PDI-TF-SMB073 8/13/18	Sitewide 1 SMB074 PDI-TF-SMB074 8/17/18	Sitewide 1 SMB075 PDI-TF-SMB075 8/17/18	Sitewide 1 SMB076 PDI-TF-SMB076 8/23/18	Sitewide 1 SMB077 PDI-TF-SMB077 8/17/18	Sitewide 1 SMB078 PDI-TF-SMB078 8/17/18	Sitewide 1 SMB079 PDI-TF-SMB079 8/17/18	Sitewide 1 SMB080 PDI-TF-SMB080 9/11/18
PCB-39	38444-88-1	µg/kg		0.103	0.00285	0.00546	0.00267 JN	0.00389 J	0.00559	0.0106	0.00805	0.00813	0.00811
PCB-40/41/71	PCB-40/41/71	µg/kg		6.99	0.181	0.487	0.19	0.451 J	0.365	0.935	0.643	0.584	0.517
PCB-42	36559-22-5	µg/kg		4.17	0.115	0.27	0.159	0.402 J	0.307	0.452	0.365	0.476	0.301
PCB-43	70362-46-8	µg/kg		0.697	0.0222	0.0418	0.0278	0.0513 J	0.0361	0.0665	0.0610	0.0805	0.0603
PCB-44/47/65	PCB-44/47/65	µg/kg		21.3	1.14	4.09	1.42	2.96 J	2.68	5.48	3.7	3.54	2.71
PCB-45/51	PCB-45/51	µg/kg		2.36	0.174	0.715	0.206	0.358 J	0.353	1.03	0.4	0.537	0.317
PCB-46	41464-47-5	µg/kg		0.508	0.0187	0.0389	0.0207	0.0393 J	0.0319	0.139	0.0506	0.0530	0.0493
PCB-48	70362-47-9	µg/kg		2.97	0.0731	0.14	0.0854	0.166 J	0.141	0.275	0.244	0.233	0.195
PCB-49/69	PCB-49/69	µg/kg		15.4	0.749	2.22	0.9	1.63 J	1.63	4.22	2.47	2.34	1.72
PCB-50/53	PCB-50/53	µg/kg		1.67	0.164	0.526	0.147	0.188 J	0.222	1.26	0.318	0.287	0.25
PCB-52	35693-99-3	µg/kg		28.4	1.17	2.81	1.44	2.24 J	2.53	5.6	3.74	3.13	2.75
PCB-54	15968-05-5	µg/kg		0.0995	0.0576	0.208	0.0591	0.111 J	0.0746	0.107	0.0481	0.0853	0.0409
PCB-55	74338-24-2	µg/kg		< 0.0353 U	0.0114 JN	< 0.00659 U	0.0173 JN	< 0.00452 UJ	< 0.00607 U	0.0624	0.0534	0.0527	< 0.00514 U
PCB-56	41464-43-1	µg/kg		5.11	0.112	0.238	0.168	0.496 J	0.331	0.315	0.371	0.538	0.284
PCB-57	70424-67-8	µg/kg		0.123	0.00310	0.00831	< 0.00420 U	0.00975 JN	0.00643	0.0153	0.00842	0.0132	0.00642
PCB-58	41464-49-7	µg/kg		0.0784	0.00744	0.0136 JN	0.00761 JN	< 0.00560 U	0.0231	0.0238	0.0152	0.0158	
PCB-59/62/75	PCB-59/62/75	µg/kg		1.68	0.0647	0.205	0.0826	0.165 J	0.137	0.229	0.204	0.208	0.148
PCB-60	33025-41-1	µg/kg		9.08	0.158	0.336	0.153	0.348 J	0.281	0.32	0.441	0.516	0.357
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg		39.3	1.2	2.7	1.39	3.04 J	2.51	2.64	3.09	3.57	2.99
PCB-63	74472-34-7	µg/kg		1.58	0.0530	0.136	0.0522	0.116 J	0.0818	0.126	0.143	0.14	0.133
PCB-64	52663-58-8	µg/kg		8.43	0.243	0.558	0.288	0.693 J	0.595	0.658	0.751	0.947	0.591
PCB-66	32598-10-0	µg/kg		37.6	0.946 J	2.42 J	1 J	2.17 J	1.66	2.43	2.63 J	2.71	2.8
PCB-67	73575-53-8	µg/kg		0.653	0.0142	0.0220	0.0178	0.0552 J	0.0368	0.0437	0.0352	0.0560	0.0308
PCB-68	73575-52-7	µg/kg		0.185	0.0238	0.0895	0.0286	0.0813 J	0.0470	0.161	0.0727	0.0635	0.0629
PCB-72	41464-42-0	µg/kg		0.278	0.0250	0.0926	0.0258 JN	0.0653 J	0.0413	0.147	0.0893	0.0629	0.0780
PCB-73	74338-23-1	µg/kg		0.311	0.0167	0.0520	0.0249	0.0266 J	< 0.000440 U	0.157	0.0563	0.0446	0.0165
PCB-77	32598-13-3	µg/kg		1.9	0.0439	0.0696	0.0537	0.116	0.0877	0.0828	0.0854	0.121	0.126
PCB-78	70362-49-1	µg/kg		< 0.0359 U	< 0.00116 U	< 0.00622 U	< 0.00444 U	< 0.00424 UJ	< 0.00584 U	< 0.00350 U	< 0.00257 U	< 0.00700 U	< 0.00521 U
PCB-79	41464-48-6	µg/kg		0.461	0.0186 JN	0.0466	0.0579 JN	0.0583 J	0.0577	0.105	0.0913	0.0545	0.0458
PCB-80	33284-52-5	µg/kg		< 0.0331 U	< 0.00108 U	< 0.00597 U	< 0.00404 U	< 0.00391 UJ	< 0.00528 U	< 0.00313 U	< 0.00237 U	< 0.00656 U	< 0.00458 U
PCB-81	70362-50-4	µg/kg		0.102	0.00221 JN	< 0.00513 U	< 0.00411 U	0.00501 JN	< 0.00535 U	0.00359 JN	0.00526 JN	0.00697 JN	0.00506 JN
PCB-82	52663-62-4	µg/kg		2.06	0.103	0.237	0.155	0.347 J	0.336	0.281	0.276	0.349	0.232
PCB-83/99	PCB-83/99	µg/kg		44.5	3.57	6.78	3.34	5.26 J	4.91	12.9	7.59	5.43	8.97
PCB-84	52663-60-2	µg/kg		3.43	0.222	0.506	0.325	0.693 J	0.638	0.606	0.512	0.756	0.466
PCB-85/116/117	PCB-85/116/117	µg/kg		12.1	0.92	1.38	0.797	1.25 J	1.31	1.56	1.68	1.45	1.97
PCB-86/87/97/108/119/125	PCB-86/87/97/ C	µg/kg		25.8	1.38 J	3 J	1.79 J	3.4 J	3.5 J	4.41	3.21 J	3.8 J	3.36
PCB-88/91	PCB-88/91	µg/kg		4.74	0.319	0.919	0.46	0.88 J	0.947	1.76	0.848	1.02	0.713
PCB-89	73575-57-2	µg/kg		0.14	0.00618	0.0122	0.00702	0.0150 J	0.0148 JN	0.0181 JN	0.0169	0.0212	0.0174
PCB-90/101/113	PCB-90/101/113	µg/kg		56.1	4	8.43	4.49	6.87 J	7.59	20.1	9.07	7.43	11.1
PCB-92	52663-61-3	µg/kg		11	0.842	1.83	0.861	1.36 J	1.48	5.2	1.99	1.43	2.77
PCB-93/95/98/100/102	PCB-93/95/98/ C	µg/kg		24.4	1.94	4.31	2.13	3.45 J	3.94	10.3	4.3	4.12	4.94
PCB-94	73575-55-0	µg/kg		0.0712	0.0136	0.0376	0.0142	0.0333 J	0.0299	0.102	0.0304	0.0424	0.0208
PCB-96	73575-54-9	µg/kg		0.128	0.0168	0.0358	0.0168	0.0268 J	0.0274	0.0791	0.0369	0.0342	0.0252
PCB-103	60145-21-3	µg/kg		0.3	0.0733	0.266	0.0975	0.164 J	0.17	1.02	0.256	0.184	0.213
PCB-104	56558-16-8	µg/kg		0.00917	0.00507	0.0172	0.00811	0.0181 J	0.0143	0.0155	0.00682	0.0177	0.00372 JN
PCB-105	32598-14-4	µg/kg		16.7	1.33	2.01	1.39	2.39	2.17	3.07	2.74	1.84	2.94
PCB-106	70424-69-0	µg/kg		< 0.0619 U	< 0.00627 U	< 0.00765 U	< 0.00750 U	< 0.0110 UJ	< 0.0118 U	< 0.0240 U	< 0.0124 U	< 0.00991 U	< 0.0195 U
PCB-107/124	PCB-107/124	µg/kg		1.47	0.0898	0.196	0.121	0.222 J	0.21	0.23	0.194	0.194	0.323
PCB-109	74472-35-8	µg/kg		4.39	0.335	0.771	0.445	0.765 J	0.556	1.16	0.855	0.514	1.02
PCB-110/115	PCB-110/115	µg/kg		51.5	2.59	5.48	2.93	5.37 J	5.91	8.39	5.55	6.05	6.23
PCB-111	39635-32-0	µg/kg		0.0431	0.00895 JN	0.0300	0.00898	0.0166 J	0.0109 JN	0.118	0.0422	0.0146	0.0437
PCB-112	74472-36-9	µg/kg		< 0.0134 U	< 0.00162 U	< 0.00302 U	< 0.00182 U	< 0.00187 UJ	< 0.00390 U	< 0.0115 U	< 0.00304 U	< 0.00442 U	< 0.00358 U
PCB-114	74472-37-0	µg/kg		1.06	0.104	0.146	0.113	0.185	0.156	0.127	0.217	0.138	0.234
PCB-118	31508-00-6	µg/kg		47.7	4.3	6.8	4.69	7.86	6.64	8.58	8.22	5.63	8.53
PCB-120	68194-12-7	µg/kg		0.171	0.0347	0.113	0.0370	0.0678 J	0.0465 JN	0.419	0.139	0.0514	0.185

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 1 SMB071 PDI-TF-SMB071 9/8/18	Sitewide 1 SMB072 PDI-TF-SMB072 8/17/18	Sitewide SIL SMB073 PDI-TF-SMB073 8/13/18	Sitewide 1 SMB074 PDI-TF-SMB074 8/17/18	Sitewide 1 SMB075 PDI-TF-SMB075 8/17/18	Sitewide 1 SMB076 PDI-TF-SMB076 8/23/18	Sitewide 1 SMB077 PDI-TF-SMB077 8/17/18	Sitewide 1 SMB078 PDI-TF-SMB078 8/17/18	Sitewide 1 SMB079 PDI-TF-SMB079 8/17/18	Sitewide 1 SMB080 PDI-TF-SMB080 9/11/18
PCB-121	56558-18-0	µg/kg		0.0247	0.00949	0.0248	0.0114	0.0151 J	0.0160	0.0884	0.0311	0.0164	0.0229
PCB-122	76842-07-4	µg/kg		0.245	0.0206	0.0346	0.0275	0.0486 J	0.0438	< 0.0286 U	0.0310	0.0483	0.0377
PCB-123	65510-44-3	µg/kg		0.963	0.0701	0.0993 JN	0.0901	0.143 JN	0.12	0.157 JN	0.115	0.0961 JN	0.212 JN
PCB-126	57465-28-8	µg/kg		0.185 JN	0.0138 JN	0.0245 JN	0.00901 JN	0.0166 JN	< 0.0142 U	0.191 JN	0.0240 JN	0.0217 JN	0.0461 JN
PCB-127	39635-33-1	µg/kg		0.181	0.0117	0.0247	0.0113	0.0226 J	0.0183	0.0328	0.0218	0.0157	0.0407
PCB-128/166	PCB-128/166	µg/kg		17.3	1.85	2.99	1.51	1.93	1.96	10.8	3.5	1.85	10.5
PCB-129/138/160/163	PCB-129/138/ C	µg/kg		125	21.7	24.5	14.2	16.2	18.6	147	35.1	17	107
PCB-130	52663-66-8	µg/kg		4.83	0.461	1.08	0.544	0.831	0.786	3.55	1.1	0.657	2.33
PCB-131	61798-70-7	µg/kg		0.358	0.0255	0.0703	0.0381	0.0887	0.0759	0.158	0.0620	0.0608	0.0884
PCB-132	38380-05-1	µg/kg		9.65	0.986	2.41	1.27	2.3	2.68	9.69	2.44	2.2	4.36
PCB-133	35694-04-3	µg/kg		1.75	0.311	0.64	0.265	0.348	0.334	3.27	0.987	0.28	1.78
PCB-134/143	PCB-134/143	µg/kg		1.79	0.171	0.432	0.209	0.375	0.425	1.64	0.445	0.339	0.802
PCB-135/151/154	PCB-135/151/154	µg/kg		23.7	4.13	6.5	2.97	3.86	4.99	42.2	9.75	3.82	28
PCB-136	38411-22-2	µg/kg		3.35	0.507	0.941	0.46	0.742	0.921	4.52	1.13	0.89	2
PCB-137	35694-06-5	µg/kg		6.46	0.463	0.84	0.456	0.769	0.577	1.09	0.792	0.5	0.994
PCB-139/140	PCB-139/140	µg/kg		1.66	0.159	0.365	0.136	0.231	0.221	0.876	0.415	0.197	0.533
PCB-141	52712-04-6	µg/kg		12.2	2.09	3.07	1.54	1.73	2.64	17.6	4.25	1.83	11.1
PCB-142	41411-61-4	µg/kg		< 0.0877 U	< 0.0165 U	< 0.0249 U	< 0.0164 U	< 0.0102 U	< 0.0310 U	< 0.127 U	< 0.0305 U	< 0.0196 U	< 0.0102 U
PCB-144	68194-14-9	µg/kg		2.19	0.33	0.615	0.315	0.437	0.593	2.94	0.692	0.364	1.55
PCB-145	74472-40-5	µg/kg		0.00900 JN	0.000680	< 0.0000723 U	0.000989 JN	0.00134 JN	< 0.000706 U	< 0.000881 U	< 0.000247 U	< 0.000332 U	< 0.000520 U
PCB-146	51908-16-8	µg/kg		19.6	3.4	5.61	2.75	3.31	3.42	31.4	8.64	3.29	22.1
PCB-147/149	PCB-147/149	µg/kg		36.2	4.51	9.2	5.24	8.01	11	58.9	11.4	8.68	24
PCB-148	74472-41-6	µg/kg		0.135	0.0232	0.0976	0.0351	0.0497	0.0513	0.539	0.161	0.0564	0.122
PCB-150	68194-08-1	µg/kg		0.0548	0.0130	0.0435	0.0198	0.0389	0.0493	0.238	0.0537	0.0442	0.0346 JN
PCB-152	68194-09-2	µg/kg		0.0775	0.00515 JN	0.0160	0.00573	0.0111	0.0103 JN	0.0288 JN	0.0156	0.0127	0.00969
PCB-153/168	PCB-153/168	µg/kg		110	26	28.8	15.9	17.2	18.9	187	40.2	18	132
PCB-155	33979-03-2	µg/kg		0.0228	0.0115	0.0196	0.0127	0.0166	0.0151	0.0430	0.0236	0.0164	0.0148
PCB-156/157	PCB-156/157	µg/kg		9.14	1.53	1.71	1.21	1.82	1.49	3.81	2.24	0.99	3.71
PCB-158	74472-42-7	µg/kg		8.25	1.36	1.91	0.965	1.2	1.36	6.7	2.45	1.08	5.31
PCB-159	39635-35-3	µg/kg		0.336	< 0.0108 U	0.114	< 0.0117 U	0.0781	0.128	1.1	< 0.0208 U	< 0.0134 U	< 0.00758 U
PCB-161	74472-43-8	µg/kg		< 0.0614 U	< 0.0115 U	< 0.0170 U	< 0.0114 U	< 0.00712 U	< 0.0206 U	< 0.0905 U	< 0.0214 U	< 0.0135 U	< 0.00734 U
PCB-162	39635-34-2	µg/kg		0.322	0.0421 JN	0.0610	0.0417	0.0467	0.0338	0.151	0.0859	0.0313	0.166
PCB-164	74472-45-0	µg/kg		4.43	0.643	0.991	0.454	0.642	0.828	4.76	1.24	0.63	4.01
PCB-165	74472-46-1	µg/kg		< 0.0721 U	< 0.0129 U	0.0333	< 0.0132 U	0.0142	< 0.0239 U	0.182	0.0495	< 0.0158 U	0.0521
PCB-167	52663-72-6	µg/kg		4.17	0.655	0.786	0.561	0.744	0.61	2.92	1.12	0.43	2.49
PCB-169	32774-16-6	µg/kg		< 0.144 U	< 0.0261 U	< 0.0324 U	< 0.0282 U	< 0.00807 U	< 0.0270 U	< 0.218 U	< 0.0678 U	< 0.0150 U	< 0.109 U
PCB-170	35065-30-6	µg/kg		14.6	5.18	6.06	3.39	2.9	3.86 J	33.5	9.76	2.92	29.1
PCB-171/173	PCB-171/173	µg/kg		4.03	1.45	1.89	0.952	0.89	1.27	8.88	3.08	0.837	8.21
PCB-172	52663-74-8	µg/kg		2.98	0.924	1.14	0.727	0.622	0.852	6.26	2.09	0.589	6.61
PCB-174	38411-25-5	µg/kg		6.82	1.44	2.63	1.63	1.86	2.93	19.3	3.63	1.73	11.4
PCB-175	40186-70-7	µg/kg		0.56	0.137	0.236	0.146	0.137	0.162	1.18	0.368	0.127	0.921
PCB-176	52663-65-7	µg/kg		0.59	0.136	0.298	0.172	0.229	0.349	1.81	0.356	0.208	0.807
PCB-177	52663-70-4	µg/kg		5.06	1.62	2.74	1.86	1.95	2.02	15.6	4.21	1.4	11
PCB-178	52663-67-9	µg/kg		4.45	1.09	1.69	0.952	0.937	1.21	10.2	3.17	0.918	8.89
PCB-179	52663-64-6	µg/kg		3.24	0.669	1.24	0.69	0.834	1.23	8.04	2.08	0.871	4.92
PCB-180/193	PCB-180/193	µg/kg		50.6	17.3	19.3	12.5	10.1	12.1 J	111	32.9	9.4	96.1
PCB-181	74472-47-2	µg/kg		0.223	0.0416	0.0513	0.0293	0.0437	0.0298	0.126	0.0618	0.0225	0.143
PCB-182	60145-23-5	µg/kg		< 0.000845 U	0.0231	0.0550	0.0256	< 0.000385 U	< 0.00116 U	< 0.00177 U	0.0808	< 0.000337 U	< 0.000947 U
PCB-183/185	PCB-183/185	µg/kg		14	3.85	5.02	2.79	2.66	3.48	27.6	8.36	2.48	25.8
PCB-184	74472-48-3	µg/kg		0.0301	0.0110	0.0146	0.0108	0.0110	0.0107	< 0.00129 U	0.0198	0.0136	0.0159
PCB-186	74472-49-4	µg/kg		< 0.000702 U	< 0.000391 U	< 0.000241 U	< 0.000332 U	< 0.000312 U	< 0.00100 U	< 0.00145 U	< 0.000381 U	< 0.000275 U	< 0.000780 U
PCB-187	52663-68-0	µg/kg		56.7	10.9	13.1	8.05	7.54	8.89	101	22.3	8.03	110
PCB-188	74487-85-7	µg/kg		0.0660	0.0101	0.0268	0.0142	0.0192	0.0180	0.152	0.0416	0.0138	0.0367
PCB-189	39635-31-9	µg/kg		0.48	0.19	0.182	0.13	0.11	0.12	1.09	0.344	0.0793	0.976
PCB-190	41411-64-7	µg/kg		3.46	1.37	1.48	0.915	0.668	1.12	8.74	2.69	0.603	8.32

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 1 SMB071 PDI-TF-SMB071 9/8/18	Sitewide 1 SMB072 PDI-TF-SMB072 8/17/18	Sitewide SIL SMB073 PDI-TF-SMB073 8/13/18	Sitewide 1 SMB074 PDI-TF-SMB074 8/17/18	Sitewide 1 SMB075 PDI-TF-SMB075 8/17/18	Sitewide 1 SMB076 PDI-TF-SMB076 8/23/18	Sitewide 1 SMB077 PDI-TF-SMB077 8/17/18	Sitewide 1 SMB078 PDI-TF-SMB078 8/17/18	Sitewide 1 SMB079 PDI-TF-SMB079 8/17/18	Sitewide 1 SMB080 PDI-TF-SMB080 9/11/18
Chemical	CAS	Units										
PCB-191	74472-50-7	µg/kg	0.649	0.232	0.297	0.173	0.144	0.224	1.47	0.481	0.147	1.38
PCB-192	74472-51-8	µg/kg	< 0.000819 U	< 0.000419 U	< 0.000251 U	< 0.000366 U	< 0.000339 U	< 0.00109 U	< 0.00171 U	< 0.000427 U	< 0.000319 U	< 0.000922 U
PCB-194	35694-08-7	µg/kg	9.19	2.19	2	1.59	0.939	1.05 J	19.8	4.37	1.18	13.5
PCB-195	52663-78-2	µg/kg	3.25	1.05	1.34	0.874	0.499	0.771	8.06	2.36	0.592	7.37
PCB-196	42740-50-1	µg/kg	4.96	1.08	1.58 JN	0.987	0.768	1.2	7.94	2.56	0.897	6.7
PCB-197/200	PCB-197/200	µg/kg	0.809	0.149	0.277	0.179	0.169	0.253	1.51	0.397	0.162 J	1.16
PCB-198/199	PCB-198/199	µg/kg	14.3	2.33	3.63	2.31	1.9	2.58	18.6	5.76	1.74	19.7
PCB-201	40186-71-8	µg/kg	1.15	0.169	0.352	0.219	0.206	0.236	1.63	0.537	0.161	1.4
PCB-202	2136-99-4	µg/kg	3.6	0.52	0.889	0.527	0.424	0.418	4.14	1.42	0.45	3.6
PCB-203	52663-76-0	µg/kg	9.3	1.83	2.74	1.59	1.15	2.01	11.6	4.2	1.16	11.2
PCB-204	74472-52-9	µg/kg	0.00710	0.00127 JN	0.00190	0.00116	0.00163	0.000959 JN	0.00299 JN	0.00239	0.00144 JN	0.00299 JN
PCB-205	74472-53-0	µg/kg	0.365	0.123	0.14	0.0932	0.0557	0.0758	0.938	0.282	0.0472	0.828
PCB-206	40186-72-9	µg/kg	4.5	0.542	0.85	0.51	0.387	0.351	2.33	1.07	0.326	2.15
PCB-207	52663-79-3	µg/kg	0.636	0.0677	0.119	0.0656	0.0516	0.0456	0.368	0.146	0.0491	0.328
PCB-208	52663-77-1	µg/kg	1.38	0.127	0.264	0.157	0.171	0.106	0.54	0.285	0.134	0.522
PCB-209	2051-24-3	µg/kg	0.929	0.14	0.228	0.155	0.179	0.0949	0.163	0.212	0.119	0.209
Total PCBs	(a) T_PCBcg (PDI)	µg/kg	1220	159	232	130	160	180	1100	321	166	834
Pesticides												
2,4-DDD	53-19-0	µg/kg	1.09	0.476	0.509	0.802	2.36	0.981 J	0.634	1.01	2.47	0.585
2,4-DDE	3424-82-6	µg/kg	0.456	0.164 J	0.175 J	0.228 J	0.553	0.290 J	0.168 J	0.348	0.630	0.223 J
2,4-DDT	789-02-6	µg/kg	1.02	0.166 J	0.334 J	0.286	0.883	0.433 J	0.282	0.353	0.833	0.256
4,4'-DDD	72-54-8	µg/kg	8.46 J	3.09	4.15	3.57	7.87	3.90 J	4.11	6.97	9.49	4.21
4,4'-DDE	72-55-9	µg/kg	48.1	23.8	27.8	31.2	43.4	30.1 J	29.6	49.5	59.7	29.9
4,4'-DDT	50-29-3	µg/kg	9.41 J	2.74	3.36 J	2.19	6.26	1.88 J	2.07	4.08	3.99	3.08
DDx	(a) T_DDx (PDI)	µg/kg	68.5	30.4	36.3	38.3	61.3	37.6	36.9	62.3	77.1	38.3
alpha-Chlordane	5103-71-9	µg/kg	3.51	0.835	3.88	0.788	1.37	1.05 J	1.06	1.38	1.66	1.26
cis-Nonachlor	5103-73-1	µg/kg	2.56	0.985	2.94 J	1.11	1.21	0.975 J	1.15	1.83	1.62	1.48
Oxychlordane	27304-13-8	µg/kg	2.14	0.464	2.28	0.522	0.509	0.481 J	0.580	0.963	0.853	0.857
trans-Chlordane	5103-74-2	µg/kg	1.24	0.267 J	0.968	0.256 J	0.534	0.365 J	0.360 J	0.421 J	0.587	0.403 J
trans-Nonachlor	39765-80-5	µg/kg	7.96	2.68	10.2	3.01	3.07	2.63 J	2.92	5.21	4.42	3.92
Total Chlordanes	(a) T_Clrndn (PDI)	µg/kg	17.4	5.23	20.3	5.69	6.69	5.5	6.07	9.8	9.14	7.92
Aldrin	309-00-2	µg/kg	0.022 JN	0.015 J	0.007 JN	0.012 JN	0.018 JN	0.009 JN	0.031 J	0.014 JN	0.013 JN	0.010 J
Dieldrin	60-57-1	µg/kg	4.35	1.11	1.37	1.18	1.94	1.61 J	1.22	1.63	2.36	1.26
Metals												
Arsenic	7440-38-2	mg/kg	0.18	0.14	0.15	0.16	0.28	0.22	0.12	0.20	0.29	0.15
Mercury	7439-97-6	mg/kg	0.091 J	0.186 J	0.102 J	0.106 J	0.109 J	0.089 J	0.0969 J	0.180 J	0.100 J	0.132 J
Semivolatile Organics												
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg	< 20000 U	790 J	< 20000 U	2300 J	< 20000 U	< 20000 U	< 20000 U	170 J	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg	1.42	1.13	1.54	1.13	1.70	1.50 J	1.14	1.60	2.12	1.12
Pentachlorophenol	(c) 87-86-5	µg/kg	< 1000 U	< 1000 U	< 990 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)												
PBDE-7	171977-44-9	µg/kg	0.00209 J	0.00244 J	0.00323 JN	0.00184 J	0.00328 JN	0.00319 JN	0.00256 J	0.00270 J	0.00418 JN	0.00151 JN
PBDE-8/11	PBDE-8/11	µg/kg	0.00261 J	0.00223 J	0.00407 J	0.00205 J	0.00308 JN	0.00286 J	0.00269 J	0.00226 J	0.00352 JN	0.00156 J
PBDE-10	51930-04-2	µg/kg	< 0.000411 U	< 0.000217 U	< 0.000145 U	< 0.000243 U	< 0.000512 U	< 0.000843 U	< 0.000648 U	< 0.000359 U	< 0.000859 U	< 0.000711 U
PBDE-12/13	PBDE-12/13	µg/kg	0.00671 JN	0.00285 JN	0.0108 JN	0.0267 JN	0.0193 JN	0.0212 JN	0.0205 JN	0.00811 JN	0.0286 JN	0.000754 JN
PBDE-15	2050-47-7	µg/kg	0.0137 J	0.0126	0.0140	0.0122	0.0167	0.0193	0.0122 J	0.0171	0.0215	0.0132 J
PBDE-17/25	PBDE-17/25	µg/kg	0.0880 JN	0.112	0.12	0.101	0.137 JN	0.127 JN	0.0816 JN	0.108	0.181 JN	0.0654
PBDE-28/33	PBDE-28/33	µg/kg	0.393	0.53	0.467	0.43	0.333	0.583	0.411	0.624	0.525	0.514
PBDE-30	155999-95-4	µg/kg	< 0.00247 U	< 0.00244 U	< 0.00145 U	< 0.00292 U	< 0.00340 U	< 0.00302 U	< 0.00344 U	< 0.00263 U	< 0.00505 U	< 0.00647 U
PBDE-32	189084-60-4	µg/kg	< 0.00196 U	< 0.00188 U	< 0.00112 U	< 0.00225 U	< 0.00246 U	< 0.00243 U	< 0.00278 U	< 0.00208 U	< 0.00408 U	< 0.00522 U
PBDE-35	147217-80-9	µg/kg	0.0147 JN	0.00566 JN	0.00988 JN	0.00557 JN	0.00502 JN	0.00612 JN	0.00809 J	0.0110 JN	0.00921 JN	0.00765 JN
PBDE-37	147217-81-0	µg/kg	0.0802 J	0.00865	0.00987	0.00912	0.00819 J	0.0112 J	0.0110 J	0.0110	0.0107 JN	0.00646 J
PBDE-047	5436-43-1	µg/kg	21.4	21.4	21.7	18.3	15.2	23	17.7	27.8	18.7	23.4
PBDE-49	243982-82-3	µg/kg	0.647	0.718	0.707	0.687	1.16	1.21	0.473	0.951	1.42	0.513
PBDE-51	189084-57-9	µg/kg	0.0207	0.0175	0.0322	0.0193	0.0495	0.0416	0.0228	0.0307	0.0566	0.0176

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 1 SMB071 PDI-TF-SMB071 9/8/18	Sitewide 1 SMB072 PDI-TF-SMB072 8/17/18	Sitewide SIL SMB073 PDI-TF-SMB073 8/13/18	Sitewide 1 SMB074 PDI-TF-SMB074 8/17/18	Sitewide 1 SMB075 PDI-TF-SMB075 8/17/18	Sitewide 1 SMB076 PDI-TF-SMB076 8/23/18	Sitewide 1 SMB077 PDI-TF-SMB077 8/17/18	Sitewide 1 SMB078 PDI-TF-SMB078 8/17/18	Sitewide 1 SMB079 PDI-TF-SMB079 8/17/18	Sitewide 1 SMB080 PDI-TF-SMB080 9/11/18
Chemical	CAS	Units										
PBDE-66	189084-61-5	µg/kg	0.172	0.318	0.188	0.182	0.182	0.391	0.276	0.25	0.417	0.213
PBDE-71	189084-62-6	µg/kg	0.0191	0.0209 JN	0.0173	0.0238	0.0474	0.0489	0.0190	0.0340	0.0595	0.0212
PBDE-75	189084-63-7	µg/kg	0.0157	0.0183	0.0151	0.0136 JN	0.0245	0.0347	0.0218	0.0203	0.0348	0.0166
PBDE-77	93703-48-1	µg/kg	0.00260 J	0.00367 JN	0.00496 JN	0.00567 JN	0.00404 JN	< 0.000170 U	0.00412 JN	0.00388 JN	0.00435 JN	< 0.000143 U
PBDE-79	PBDE-79	µg/kg	0.0238 JN	0.0596 JN	0.0464 JN	0.0453 JN	0.0219 JN	0.0417 JN	0.0232 JN	0.0459 JN	0.0418 JN	0.0129 J+
PBDE-85	182346-21-0	µg/kg	< 0.00199 U	< 0.00228 U	< 0.00148 U	< 0.00190 U	0.00368 J	< 0.00662 U	< 0.00424 U	< 0.00315 U	< 0.00482 U	< 0.00606 U
PBDE-099	60348-60-9	µg/kg	3.83	9.92	3.21	7.68	5.17	7.7	4.03	4.33	8.49	3.62
PBDE-100	189084-64-8	µg/kg	3.22	3.86	3.88	4.04	3.47	4.12	3.34	4.39	4.24	3.59
PBDE-105	373594-78-6	µg/kg	< 0.00241 U	< 0.00304 U	< 0.00197 U	< 0.00254 U	< 0.00434 U	< 0.00935 U	< 0.00569 U	< 0.00420 U	< 0.00646 U	< 0.00763 U
PBDE-116	189084-65-9	µg/kg	< 0.00323 U	< 0.00458 U	< 0.00304 U	< 0.00382 U	< 0.00570 U	< 0.0136 U	< 0.00714 U	< 0.00625 U	< 0.00811 U	< 0.00992 U
PBDE-119/120	PBDE-119/120	µg/kg	0.0769	0.0847	0.113	0.0844	0.0684	0.247	0.0706	0.117	0.0801	0.122
PBDE-126	366791-32-4	µg/kg	0.00991 J	0.00692 J	0.0159	0.0155	0.0111 J	0.0163 J	0.0127 J	0.0114	0.0172	< 0.00591 U
PBDE-128	182677-28-7	µg/kg	0.00550 JN	0.00653 JN	0.0119 JN	0.0123 J	0.00360 JN	0.00516 JN	0.00457 JN	0.0101 JN	0.00505 JN	0.00281 JN
PBDE-138/166	PBDE-138/166	µg/kg	0.00109 JN	0.0112 J	< 0.00109 U	0.00549 JN	0.00145 J	0.00294 JN	0.00209 JN	< 0.000416 U	0.00126 JN	0.00110 JN
PBDE-140	243982-83-4	µg/kg	0.00764 J	0.0400 J	0.0145 J	0.0203 J	0.0104 J	0.0192	0.000543 J	0.0153 J	0.0165 J	0.0109 J
PBDE-153	68631-49-2	µg/kg	0.914	1.87	1.12	1.38	0.848 J	1.28	0.763	1.19	1.22	1.47
PBDE-154	207122-15-4	µg/kg	0.694	1.24	1.1	1.12	0.751 J	1.04	0.725	1.03	0.957 J	0.808
PBDE-155	35854-94-5	µg/kg	0.0879	0.0574	0.166	0.126	0.0797 J	0.0904	0.0986	0.0886	0.1 J	0.0503
PBDE-181	189084-67-1	µg/kg	0.000413 JN	0.000262 JN	0.00141 J	0.000845 JN	0.000376 JN	< 0.000683 U	< 0.000203 U	0.000772 J	< 0.000155 U	0.000626 JN
PBDE-183	207122-16-5	µg/kg	0.00723 JN	0.0131	0.00972	0.0155	0.00730 JN	0.0116 J	0.00616 JN	0.00970	0.0141 J	0.00976 JN
PBDE-190	189084-68-2	µg/kg	0.000756 JN	0.000324 JN	< 0.00107 U	< 0.000541 U	< 0.000144 U	0.00119 JN	< 0.000319 U	0.000464 JN	< 0.000243 U	< 0.000245 U
PBDE-203	337513-72-1	µg/kg	0.00145 JN	0.00145 JN	0.00251 JN	0.00362 JN	0.00198 JN	< 0.00106 U	< 0.000147 U	0.00193 JN	0.00218 JN	0.000759 JN
PBDE-206	63387-28-0	µg/kg	0.00315 JN	0.00116 JN	0.000988 JN	0.000437 JN	0.00277 JN	< 0.000989 U	0.00471 JN	0.00153 JN	0.00732 JN	0.00288 JN
PBDE-207	437701-79-6	µg/kg	0.00411 JN	0.000961 JN	< 0.00202 U	0.00148 JN	0.00322 JN	< 0.00124 U	0.00180 JN	0.00315 JN	0.0134 JN	< 0.00203 U
PBDE-208	437701-78-5	µg/kg	0.00253 J	0.00208 JN	0.00335 JN	0.00289 J	0.00226 JN	< 0.00176 U	< 0.000575 U	0.00173 JN	0.0116 JN	0.00309 JN
PBDE-209	1163-19-5	µg/kg	0.0500 J+	< 0.0135 U	0.0197 J+	< 0.0116 U	0.0507 J+	< 0.0278 U	0.0184 J+	0.0220 JN	0.176	0.0492 J+
Total PBDE	(a) T. PBDE (PDI)	µg/kg	30.3	40.4	33	34.4	27.7	40.1	28.2	41.1	36.9	34.6

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 1 SMB071 PDI-TF-SMB071 9/8/18	Sitewide 1 SMB072 PDI-TF-SMB072 8/17/18	Sitewide SIL SMB073 PDI-TF-SMB073 8/13/18	Sitewide 1 SMB074 PDI-TF-SMB074 8/17/18	Sitewide 1 SMB075 PDI-TF-SMB075 8/17/18	Sitewide 1 SMB076 PDI-TF-SMB076 8/23/18	Sitewide 1 SMB077 PDI-TF-SMB077 8/17/18	Sitewide 1 SMB078 PDI-TF-SMB078 8/17/18	Sitewide 1 SMB079 PDI-TF-SMB079 8/17/18	Sitewide 1 SMB080 PDI-TF-SMB080 9/11/18
Chemical	CAS	Units										
Physical Parameters												
Lipids	LIPID	%	5.12	5.70	6.21	4.61	6.77	5.76	3.59	5.46	8.81	4.84
Total Solids@104C	TSOLID	%	26.7	27.5	27.8	28.8	29.8	27.1	24.3	26.6	29.9	27.6

Notes:**Qualifiers:**

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
 JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 U = Not detected at detection limit shown.
 UJ = Not detected; sample detection limit is estimated.
 R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
 The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
 Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
 There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

			Reach Segment Location	Sample ID	Sample Date	Sitewide 1 SMB081	Sitewide 1 SMB082	Sitewide 1 SMB083	Sitewide 1 SMB084	Sitewide 1 SMB085	Sitewide 1 SMB086	Sitewide 1 SMB087	Sitewide 1 SMB088	Sitewide 1 SMB089	Sitewide 1 SMB090
						PDI-TF-SMB081 8/23/18	PDI-TF-SMB082 9/8/18	PDI-TF-SMB083 8/23/18	PDI-TF-SMB084 8/17/18	PDI-TF-SMB085 8/18/18	PDI-TF-SMB086 8/18/18	PDI-TF-SMB087 8/18/18	PDI-TF-SMB088 8/18/18	PDI-TF-SMB089 8/18/18	PDI-TF-SMB090 8/18/18
Chemical	CAS	Units													
Dioxins and Furans															
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg				0.0000876 J	0.000180 JN	< 0.000119 U	0.000130 JN	0.0000799 J	0.000115 JN	0.000471 J	0.000282 J	0.000391 JN	0.000137 JN
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg				< 0.0000733 U	0.000118 J	< 0.0000842 U	< 0.0000700 U	< 0.0000736 U	< 0.0000740 U	< 0.0000734 U	0.0000909 J	< 0.0000722 U	< 0.0000729 U
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg				< 0.0000733 U	< 0.0000738 U	< 0.0000842 U	< 0.0000700 U	< 0.0000736 U	< 0.0000740 U	< 0.0000734 U	< 0.0000717 U	< 0.0000722 U	< 0.0000729 U
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg				< 0.0000733 U	0.0000958 J	< 0.0000842 U	< 0.0000700 U	< 0.0000754 U	0.0000898 JN	0.000236 JN	0.000117 JN	0.000239 J	< 0.0000729 U
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg				< 0.0000733 U	< 0.0000738 U	< 0.0000842 U	0.0000750 J	< 0.0000736 U	0.0000791 JN	0.000157 J	0.000134 J	0.000343 J	0.000105 JN
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg				0.000235 JN	0.000241 J	0.000219 JN	0.000290 J	0.000191 J	0.000370 J	0.000993 J	0.000567 JN	0.00108 J	0.000253 JN
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg				< 0.0000733 U	< 0.0000738 U	< 0.0000842 U	< 0.0000700 U	< 0.0000736 U	< 0.0000740 U	< 0.0000734 U	0.0000806 JN	0.000341 J	< 0.0000729 U
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg				< 0.0000733 U	< 0.0000738 U	< 0.0000842 U	< 0.0000700 U	< 0.0000772 U	< 0.0000740 U	< 0.000255 U	< 0.0000717 U	0.000170 JN	< 0.0000729 U
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg				< 0.0000733 U	< 0.0000739 U	< 0.0000842 U	< 0.0000700 U	< 0.0000736 U	< 0.0000740 U	< 0.0000734 U	< 0.0000717 U	< 0.0000722 U	< 0.0000729 U
1,2,3,7,8-PeCDD	40321-76-4	µg/kg				0.000309 J	0.000346 J	0.000354 J	0.000431 J	0.000361 J	0.000422 J	0.000841 J	0.000781 J	0.00101 JN	0.000258 JN
1,2,3,7,8-PeCDF	57117-41-6	µg/kg				0.000101 J	0.000195 JN	0.0000953 JN	0.0000805 J	0.000125 JN	0.000181 J	0.000123 J	0.000293 J	0.000493 J	0.0000950 JN
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg				< 0.0000733 U	< 0.0000738 U	< 0.0000842 U	< 0.0000700 U	< 0.0000736 U	< 0.0000740 U	< 0.0000734 U	< 0.0000717 U	0.000111 JN	< 0.0000729 U
2,3,4,7,8-PeCDF	57117-31-4	µg/kg				0.000273 J	0.000334 JN	0.000283 J	0.000499 JN	0.000419 J	0.000511 J	0.000285 J	0.000469 J	0.00103 J	0.000269 J
2,3,7,8-TCDD	1746-01-6	µg/kg				0.000271 JN	0.000299 J	0.000240 J	0.000365	0.000276 J	0.000368	0.000467	0.000314	0.000348 JN	0.000167 J
2,3,7,8-TCDF	51207-31-9	µg/kg				0.000600	0.000777	0.00104	0.00114	0.000749	0.000987	0.00107	0.000564 JN	0.000606	0.000759
OCDD	3268-87-9	µg/kg				< 0.000101 U	0.000459 JN	0.000278 JN	0.000271 J	0.000185 J	0.000317 JN	0.000393 J	0.00104 J	0.000197 J	0.000256 J
OCDF	39001-02-0	µg/kg				< 0.0000733 U	< 0.0000738 U	0.000160 JN	< 0.0000700 U	< 0.0000736 U	< 0.0000740 U	< 0.0000734 U	0.000107 J	< 0.0000722 U	< 0.0000729 U
TCDD-TEQ	(a) T_DF_TEQ (PDI)	µg/kg				0.000753	0.000869	0.000812	0.0011	0.000865	0.00111	0.00166	0.0014	0.00198	0.000625
TCDD-TEQ (EMPC=half)	(b) T_DF_TEQ(E_0.5)	µg/kg				0.00059	0.000808	0.000794	0.00102	0.000861	0.00109	0.00164	0.00135	0.00144	0.000453
TCDD-TEQ (EMPC=0)	(b) T_DF_TEQ(E_0)	µg/kg				0.000455	0.000758	0.000783	0.000949	0.000858	0.00108	0.00162	0.00132	0.000933	0.000324
Polychlorinated Biphenyls (PCBs)															
PCB-1	2051-60-7	µg/kg				0.00284 J	0.00306	0.00433	0.0629	0.00538	0.00532	0.00430	0.00271	0.00332	0.00440
PCB-2	2051-61-8	µg/kg				0.000951 JN	0.000903 JN	0.00117 JN	0.00589	0.000894	0.00160	0.000981	0.000925 J+	0.000988	0.000949
PCB-3	2051-62-9	µg/kg				0.00192 J+	0.00230 JN	0.00282 JN	0.0297	0.00267 J+	0.00258 J+	0.00220 J+	0.00226 J+	0.00205 J+	0.00171 J+
PCB-4	13029-08-8	µg/kg				0.0763	0.0845	0.111	0.17	0.114	0.0744	0.122	0.0874	0.0470	0.277
PCB-5	16605-91-7	µg/kg				< 0.00302 U	< 0.00182 U	< 0.00168 U	0.00272	0.00189	0.000894	0.000726	0.000314 JN	0.000578	0.000629 JN
PCB-6	25569-80-6	µg/kg				0.0132	0.00922	0.0149	0.0397	0.0338	0.0271	0.0135	0.00609	0.0102	0.0146
PCB-7	33284-50-3	µg/kg				< 0.00279 U	0.00167 J	0.00259 J	0.00795	0.00625	0.00379	0.00255	0.00123	0.00177	0.00279
PCB-8	34883-43-7	µg/kg				0.0478	0.0286	0.0532	0.126	0.153	0.0794	0.0486	0.0229	0.0364	0.0648
PCB-9	34883-39-1	µg/kg				0.00336 JN	0.00256 JN	0.00416	0.0114	0.0102	0.00621	0.00394	0.00193	0.00294	0.00415
PCB-10	33146-45-1	µg/kg				0.00494	0.00520	0.00612	0.0117	0.00567	0.00366	0.00696	0.00529	0.00252	0.0233
PCB-11	2050-67-1	µg/kg				0.0611	0.0774	0.0951	0.163	0.0879	0.112	0.121	0.0581	0.0716	0.111
PCB-12/13	PCB-12/13	µg/kg				< 0.00284 U	0.00184 JN	0.00223 J	0.0120	0.00256	0.00275	0.00217	0.00239	0.00154	0.00442
PCB-14	34883-41-5	µg/kg				< 0.00278 U	< 0.00166 U	< 0.00157 U	< 0.000235 U	< 0.000408 U	0.000196 JN	< 0.000239 U	< 0.000116 U	< 0.000221 U	< 0.000183 U
PCB-15	2050-68-2	µg/kg				0.0139	0.0108 JN	0.0204	0.0715	0.171	0.0186	0.0174	0.0115	0.0120	0.0149
PCB-16	38444-78-9	µg/kg				0.0414	0.0271	0.0530	0.0807	0.171	0.0519	0.0417	0.0167	0.0306	0.0400
PCB-17	37680-66-3	µg/kg				0.138	0.107	0.169	0.239	0.329	0.187	0.166	0.0968	0.0963	0.587
PCB-18/30	PCB-18/30	µg/kg				0.133	0.0991	0.169	0.28	0.473	0.179	0.148	0.0679	0.108	0.191
PCB-19	38444-73-4	µg/kg				0.224	0.242	0.314	0.313	0.258	0.18	0.378	0.341	0.125	1.26
PCB-20/28	PCB-20/28	µg/kg				0.577	0.311	0.61	0.87	1.41	0.634	0.633	0.291	0.497	0.723
PCB-21/33	PCB-21/33	µg/kg				0.0974	0.0537	0.0958	0.182	0.538	0.126	0.0922	0.0407	0.0832	0.18
PCB-22	38444-85-8	µg/kg				0.0848	0.0524	0.141	0.18	0.355	0.134	0.127	0.0347	0.0848	0.111
PCB-23	55720-44-0	µg/kg				< 0.000807 U	< 0.00115 U	< 0.00117 U	< 0.000953 U	0.00173	0.000543 J	0.000541 J	< 0.000448 U	0.000398 J	< 0.000562 U
PCB-24	55702-45-9	µg/kg				0.00245 J	0.00175 JN	0.00254 J	0.00494	0.00603	0.00319	0.00201	0.00106	0.00153	0.00257
PCB-25	55712-37-3	µg/kg				0.0410	0.0283	0.0532	0.0803	0.0954	0.0524	0.0530	0.0227	0.0278	0.104
PCB-26/29	PCB-26/29	µg/kg				0.0864	0.0607	0.109	0.153	0.228	0.116	0.111	0.0434	0.0715	0.116
PCB-27	38444-76-7	µg/kg				0.0354	0.0260	0.0324	0.0620	0.0509	0.0446	0.0396	0.0289	0.0252	0.156
PCB-31	16606-02-3	µg/kg				0.235	0.159	0.375	0.548	1.01	0.373	0.363	0.104	0.235	0.36
PCB-32	38444-77-8	µg/kg				0.0834	0.0573	0.0779	0.161	0.198	0.0988	0.0993	0.0599	0.0615	0.415
PCB-34	37680-68-5	µg/kg				0.00294	0.00134 J	0.00439	0.00545	0.00544	0.00482	0.00432	0.00123	0.00240	0.00462
PCB-35	37680-69-6	µg/kg				< 0.000838 U	< 0.00116 U	< 0.00115 U	0.00175 JN	< 0.000630 U	< 0.000333 U	< 0.000365 U	0.00214	< 0.000387 U	< 0.000499 U
PCB-36	38444-87-0	µg/kg				< 0.000757 U	< 0.00104 U	< 0.00108 U	< 0.000847 U	< 0.000600 U	< 0.000323 U	< 0.000333 U	< 0.000405 U	< 0.000353 U	< 0.000485 U
PCB-37	38444-90-5	µg/kg				0.0383	0.0307	0.0684	0.0660	0.516	0.0444	0.0482	0.0317	0.0275	0.0522
PCB-38	53555-66-1	µg/kg				0.00119 JN	< 0.00114 U	0.00152 J	0.00132	0.000976	0.00122 JN	0.00145	0.000527 JN	0.000558 J	0.00621

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 1 SMB081 PDI-TF-SMB081 8/23/18	Sitewide 1 SMB082 PDI-TF-SMB082 9/8/18	Sitewide 1 SMB083 PDI-TF-SMB083 8/23/18	Sitewide 1 SMB084 PDI-TF-SMB084 8/17/18	Sitewide 1 SMB085 PDI-TF-SMB085 8/18/18	Sitewide 1 SMB086 PDI-TF-SMB086 8/18/18	Sitewide 1 SMB087 PDI-TF-SMB087 8/18/18	Sitewide 1 SMB088 PDI-TF-SMB088 8/18/18	Sitewide 1 SMB089 PDI-TF-SMB089 8/18/18	Sitewide 1 SMB090 PDI-TF-SMB090 8/18/18
PCB-39	38444-88-1	µg/kg		0.00467	0.00194 J	0.00453	0.00776	0.00952	0.00441	0.00416	0.00177 JN	0.00324	0.0149
PCB-40/41/71	PCB-40/41/71	µg/kg		0.304	0.16	0.287	0.552	0.72	0.335	0.381	0.16	0.271	1.27
PCB-42	36559-22-5	µg/kg		0.189	0.11	0.275	0.35	0.418	0.214	0.292	0.0816	0.166	0.562
PCB-43	70362-46-8	µg/kg		0.0239	0.0212	0.0293	0.0560	0.0733	0.0310	0.0443	0.0148	0.0285	0.0832
PCB-44/47/65	PCB-44/47/65	µg/kg		2.32	1.3	2.09	2.69	2.4	1.45	3.17	1.78	1.57	11.8
PCB-45/51	PCB-45/51	µg/kg		0.234	0.187	0.312	0.374	0.357	0.185	0.435	0.188	0.148	1.59
PCB-46	41464-47-5	µg/kg		0.0261	0.0176	0.0305	0.0417	0.0616	0.0249	0.0286	0.0153	0.0158	0.0631
PCB-48	70362-47-9	µg/kg		0.11	0.0596	0.122	0.208	0.334	0.116	0.137	0.0526	0.114	0.373
PCB-49/69	PCB-49/69	µg/kg		1.29	0.765	1.33	1.78	1.55	0.968	1.89	0.762	0.973	7.73
PCB-50/53	PCB-50/53	µg/kg		0.206	0.15	0.178	0.361	0.252	0.181	0.242	0.231	0.136	1.32
PCB-52	35693-99-3	µg/kg		1.91	1.1	1.83	2.96	2.27	1.51	2.43	1.15	1.47	21.3
PCB-54	15968-05-5	µg/kg		0.0542	0.0579	0.0726	0.0581	0.0540	0.0403	0.107	0.0806	0.0427	0.467
PCB-55	74338-24-2	µg/kg		< 0.00367 U	< 0.00240 U	< 0.00747 U	0.0318 JN	< 0.00211 U	0.00779	< 0.000929 U	0.0145 JN	< 0.000722 U	< 0.00998 U
PCB-56	41464-43-1	µg/kg		0.17	0.11	0.311	0.439	0.169	0.282	0.3	0.0706	0.137	0.216
PCB-57	70424-67-8	µg/kg		0.00597 JN	0.00352 JN	< 0.00680 U	0.00760	0.00835	0.00529	0.00819	0.00603	0.00541	0.00968
PCB-58	41464-49-7	µg/kg		0.0111	0.00665	< 0.00689 U	0.0119 JN	0.00525	0.00951	0.0204	0.0122	0.00809	0.0311
PCB-59/62/75	PCB-59/62/75	µg/kg		0.107	0.0629	0.122	0.165	0.177	0.0936	0.162	0.0621	0.0908	0.314
PCB-60	33025-41-1	µg/kg		0.284	0.154	0.252	0.383	0.245	0.273	0.354	0.105	0.206	1.36
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg		2.25	1.12	2.06	2.84	2.1	1.9	2.54	1.16	1.57	9.34
PCB-63	74472-34-7	µg/kg		0.0977	0.0549	0.0799	0.0983	0.154	0.0837	0.106	0.0523	0.0719	0.349
PCB-64	52663-58-8	µg/kg		0.38	0.225	0.487	0.679	0.735	0.407	0.58	0.159	0.365	2.35
PCB-66	32598-10-0	µg/kg		1.9	0.972	1.46	1.89 J	1.67	1.25 J	1.89	0.835 J	1.27	6.99 J
PCB-67	73575-53-8	µg/kg		0.0250	0.0139	0.0328	0.0422	0.0369	0.0266	0.0346	0.0137	0.0187	0.0291
PCB-68	73575-52-7	µg/kg		0.0425	0.0317	0.0455	0.0504	0.0354	0.0364	0.0691	0.0531	0.0316	0.118
PCB-72	41464-42-0	µg/kg		0.0408	0.0256	0.0394	0.0476	0.0367	0.0361	0.0581	0.0309	0.0335	0.0726
PCB-73	74338-23-1	µg/kg		0.0281	0.0275	< 0.000507 U	0.0366	< 0.0000818 U	0.0124	0.0313	0.0300	0.0129	0.16
PCB-77	32598-13-3	µg/kg		0.0859	0.0494	0.0866	0.108	0.0626	0.0613	0.0831	0.0475	0.0574	0.0743
PCB-78	70362-49-1	µg/kg		< 0.00373 U	< 0.00231 U	< 0.00719 U	< 0.00166 U	< 0.00201 U	< 0.000900 U	< 0.000871 U	< 0.00260 U	< 0.000677 U	< 0.00950 U
PCB-79	41464-48-6	µg/kg		0.0439 JN	0.0170	0.0391 JN	0.0970 JN	0.0400	0.0325	0.0393	0.0310 JN	0.0258	0.367
PCB-80	33284-52-5	µg/kg		< 0.00335 U	< 0.00215 U	< 0.00650 U	< 0.00153 U	< 0.00182 U	0.000876	0.00159 JN	< 0.00237 U	0.000951	< 0.00873 U
PCB-81	70362-50-4	µg/kg		0.00510 JN	< 0.00216 U	< 0.00662 U	0.00491 JN	0.00247 JN	0.00339 JN	0.00365 JN	< 0.00242 U	0.00250 JN	0.0200 JN
PCB-82	52663-62-4	µg/kg		0.264	0.0672	0.224	0.359	0.124	0.22	0.211	0.155	0.166	1.53
PCB-83/99	PCB-83/99	µg/kg		6.38	2.72	3.63	4.94	4.1	3.4	4.78	3.92	4.02	65.2
PCB-84	52663-60-2	µg/kg		0.41	0.161	0.492	0.683	0.271	0.383	0.436	0.298	0.306	2.01
PCB-85/116/117	PCB-85/116/117	µg/kg		1.63	0.56	0.909	1.25	1.19	0.904	1.24	0.738	0.948	18.5
PCB-86/87/97/108/119/125	PCB-86/87/97/ C	µg/kg		3.32	0.996 J	2.37 J	3.41 J	1.71	1.96 J	2.72 J	1.85 J	1.92	45.4
PCB-88/91	PCB-88/91	µg/kg		0.641	0.251	0.71	0.902	0.431	0.471	0.736	0.521	0.427	4.92
PCB-89	73575-57-2	µg/kg		0.0111	0.00465 JN	0.0121	0.0184	0.00987	0.0122	0.0109	0.00678	0.00945 JN	0.173
PCB-90/101/113	PCB-90/101/113	µg/kg		7.45	2.55	5.2	9.41	4.16	4.3	6.35	4.98	4.53	113
PCB-92	52663-61-3	µg/kg		1.51	0.514	1.05	1.63	0.983	0.854	1.22	0.798	0.918	17.1
PCB-93/95/98/100/102	PCB-93/95/98/ C	µg/kg		3.15	1.28	2.73	4.75	2.14	2.12	3.02	2.36	2.29	33.1
PCB-94	73575-55-0	µg/kg		0.0205	0.00833	0.0275	0.0366	0.0164	0.0187	0.0267	0.0215	0.0107	0.148 JN
PCB-96	73575-54-9	µg/kg		0.0227	0.0163	0.0223	0.0295	0.0244	0.0173	0.0364	0.0212	0.0192	0.279
PCB-103	60145-21-3	µg/kg		0.124	0.0703	0.151	0.156	0.0973	0.0767	0.183	0.167	0.0861	0.776
PCB-104	56558-16-8	µg/kg		0.00890	0.00440	0.0153 JN	0.0109	0.00620	0.00555	0.0157	0.00737	0.00311	0.0587
PCB-105	32598-14-4	µg/kg		2.97	0.988	1.41	2.03	1.77	1.48	2.13	1.59	1.49	44.4
PCB-106	70424-69-0	µg/kg		< 0.0191 U	< 0.00760 U	< 0.00653 U	< 0.00820 U	< 0.00805 U	< 0.00436 U	< 0.0134 U	< 0.00749 U	< 0.0101 U	< 0.0187 U
PCB-107/124	PCB-107/124	µg/kg		0.228	0.0666	0.141	0.188	0.115	0.132	0.166	0.141	0.117	0.262
PCB-109	74472-35-8	µg/kg		0.81	0.336	0.425	0.522	0.443	0.458	0.601	0.491	0.494	6.2
PCB-110/115	PCB-110/115	µg/kg		5.51	1.64	4.04	6.54	3.06	3.4	4.55	2.74	3.3	86.8
PCB-111	39635-32-0	µg/kg		0.0104	0.0147	0.0134	0.0123 JN	0.0140	0.00944	0.0167 JN	0.0191	0.0123 JN	0.0166 JN
PCB-112	74472-36-9	µg/kg		< 0.00343 U	< 0.00183 U	< 0.00211 U	< 0.00158 U	< 0.000939 U	< 0.000521 U	< 0.00236 U	< 0.00169 U	< 0.00155 U	< 0.0127 U
PCB-114	74472-37-0	µg/kg		0.224	0.0916	0.112	0.145	0.136	0.105	0.161	0.134	0.128	2.71
PCB-118	31508-00-6	µg/kg		9.19	3.09	4.46	5.78	5.34	4.42	6.45	5.79	5.03	110
PCB-120	68194-12-7	µg/kg		0.0536	0.0434	0.0519 JN	0.0538	0.0520	0.0394	0.0604	0.0511	0.0467	0.0922

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 1 SMB081 PDI-TF-SMB081 8/23/18	Sitewide 1 SMB082 PDI-TF-SMB082 9/8/18	Sitewide 1 SMB083 PDI-TF-SMB083 8/23/18	Sitewide 1 SMB084 PDI-TF-SMB084 8/17/18	Sitewide 1 SMB085 PDI-TF-SMB085 8/18/18	Sitewide 1 SMB086 PDI-TF-SMB086 8/18/18	Sitewide 1 SMB087 PDI-TF-SMB087 8/18/18	Sitewide 1 SMB088 PDI-TF-SMB088 8/18/18	Sitewide 1 SMB089 PDI-TF-SMB089 8/18/18	Sitewide 1 SMB090 PDI-TF-SMB090 8/18/18
PCB-121	56558-18-0	µg/kg		0.0148	0.0121	0.0151 JN	0.0144	0.0133	0.00904	0.0213	0.0242	0.0148 JN	0.0801
PCB-122	76842-07-4	µg/kg		0.0470	0.0130	0.0399	0.0409	0.0197	0.0267	0.0398	0.0262	0.0229	< 0.0223 U
PCB-123	65510-44-3	µg/kg		0.156 JN	0.0528	0.0814	0.0999	0.0933 JN	0.0723 JN	0.104 JN	0.0816	0.0934 JN	0.497 JN
PCB-126	57465-28-8	µg/kg		0.0408 JN	0.0238 JN	0.0110 JN	0.0908 JN	0.0891 JN	0.0294 JN	0.0406 JN	0.0180 JN	0.0202 JN	1.02 JN
PCB-127	39635-33-1	µg/kg		0.0357	0.0139	0.0149	0.0173	0.0176	0.0128	0.0221	0.0174	0.0155	0.328
PCB-128/166	PCB-128/166	µg/kg		3.91	1.61	1.67	3.42	2.18	1.49	2.94	2.36	2.34	36.8
PCB-129/138/160/163	PCB-129/138/ C	µg/kg		33	12.9	15.8	31.1	19.4	12.2	30.1	32.1	21.2	344
PCB-130	52663-66-8	µg/kg		1.18	0.377	0.66	0.965	0.571	0.508	0.827	1.01	0.653	8.4
PCB-131	61798-70-7	µg/kg		0.0948	0.0201	0.0490	0.0843	0.0277	0.0461	0.0683	0.0621	0.0435	0.661
PCB-132	38380-05-1	µg/kg		2.04	0.607	1.8	4.1	0.961	1.22	2.14	1.6	1.34	21.6
PCB-133	35694-04-3	µg/kg		0.503	0.372	0.326	0.496	0.369	0.259	0.533	0.61	0.362	2.94
PCB-134/143	PCB-134/143	µg/kg		0.426	0.119	0.297	0.584	0.182	0.211	0.357	0.342	0.258	4.27
PCB-135/151/154	PCB-135/151/154	µg/kg		4.98	2.49	3.69	11.7	5.13	2.81	5.19	5.03	4.18	59.5
PCB-136	38411-22-2	µg/kg		0.754	0.341	0.625	1.79	0.508	0.43	0.754	0.734	0.614	13.4
PCB-137	35694-06-5	µg/kg		1.15	0.353	0.387	0.407	0.573	0.453	0.574	0.448	0.561	9.29
PCB-139/140	PCB-139/140	µg/kg		0.333	0.103	0.165	0.203	0.174	0.155	0.245	0.143	0.173	2.89
PCB-141	52712-04-6	µg/kg		3.02	1.08	1.87	5	2.12	1.32	3	2.69	2.08	46.2
PCB-142	41411-61-4	µg/kg		< 0.00687 U	< 0.00590 U	< 0.0106 U	< 0.0109 U	< 0.00300 U	< 0.00743 U	< 0.0195 U	< 0.0269 U	< 0.0143 U	< 0.0145 U
PCB-144	68194-14-9	µg/kg		0.572	0.199	0.381	0.936	0.323	0.267	0.528	0.86	0.356	7.39
PCB-145	74472-40-5	µg/kg		0.00181 JN	< 0.000456 U	0.00141 JN	< 0.0000700 U	< 0.000165 U	0.000830	< 0.000206 U	0.00141	0.000843 J	< 0.00116 U
PCB-146	51908-16-8	µg/kg		5.62	4.29	3.31	5.88	4	2.24	6.05	6.97	4.21	36.3
PCB-147/149	PCB-147/149	µg/kg		7.94	2.93	8.47	19	4.85	4.76	10.8	9.95	6.6	59.8
PCB-148	74472-41-6	µg/kg		0.0446	0.0243	0.0578	0.0558	0.0400	0.0313	0.0582	0.0488	0.0394	0.213
PCB-150	68194-08-1	µg/kg		0.0262	0.0129	0.0340	0.0385	0.0158	0.0194	0.0385	0.0379	0.0165	0.128
PCB-152	68194-09-2	µg/kg		0.0114	0.00694	0.00770	0.0108	0.00601	0.00749	0.0142	0.00749	0.00596	0.17
PCB-153/168	PCB-153/168	µg/kg		35.8	17.3	18.2	33.2	21	13.4	40.7	38.3	24.6	313
PCB-155	33979-03-2	µg/kg		0.0164	0.0138	0.0150	0.0204	0.0134	0.0139	0.0280	0.0201	0.0167	0.0481
PCB-156/157	PCB-156/157	µg/kg		2.64	0.948	1.06	1.55	1.5	1.06	2.24	3	1.37	26.4
PCB-158	74472-42-7	µg/kg		2.27	0.777	1.1	1.96	1.3	0.972	1.64	2.04	1.33	24.8
PCB-159	39635-35-3	µg/kg		< 0.00498 U	0.0543	0.114	< 0.00743 U	< 0.00206 U	0.0618	0.15	< 0.0193 U	< 0.0103 U	1.45
PCB-161	74472-43-8	µg/kg		< 0.00499 U	< 0.00422 U	< 0.00706 U	< 0.00765 U	< 0.00198 U	< 0.00513 U	< 0.0139 U	< 0.0186 U	< 0.00994 U	< 0.0103 U
PCB-162	39635-34-2	µg/kg		0.0710 JN	0.0232 JN	0.0261	0.0482	0.0523	0.0336	0.0472	0.0469	0.0391	0.372
PCB-164	74472-45-0	µg/kg		1.1	0.4	0.638	1.6	0.813	0.462	0.805	1.42	0.681	10.8
PCB-165	74472-46-1	µg/kg		0.0155	0.0350	0.0176	0.0140	0.0179	0.0129	0.0296	0.0360	0.0136 JN	0.0924
PCB-167	52663-72-6	µg/kg		1.13	0.379	0.478	0.83	0.658	0.46	0.92	1.26	0.607	6.2
PCB-169	32774-16-6	µg/kg		< 0.0259 U	< 0.0317 U	< 0.0201 U	< 0.0390 U	< 0.0326 U	< 0.0321 U	< 0.0538 U	< 0.0775 U	< 0.0202 U	< 0.359 U
PCB-170	35065-30-6	µg/kg		6.9	3.65	3.93	6.5	5.33	3.41	8.02	10.6	5.33	70.4
PCB-171/173	PCB-171/173	µg/kg		1.95	0.762	1.22	2.24	1.61	1.07	1.65	2.28	1.49	20.4
PCB-172	52663-74-8	µg/kg		1.45	0.702	0.879	1.58	1.27	0.746	1.62	2.5	1.11	12.6
PCB-174	38411-25-5	µg/kg		2.68	0.984	2.37	5.6	2.11	1.35	2.95	6.28	2.12	28.5
PCB-175	40186-70-7	µg/kg		0.288	0.13	0.185	0.264	0.212	0.14	0.31	0.594	0.214	2.66
PCB-176	52663-65-7	µg/kg		0.309	0.0824	0.249	0.451	0.154	0.152	0.252	0.542	0.193	3.04
PCB-177	52663-70-4	µg/kg		2.91	1.36	1.97	4.25	2.41	1.54	2.71	6.8	1.91	23.6
PCB-178	52663-67-9	µg/kg		1.71	1.08	1.18	2.46	1.76	0.953	2.13	2.97	1.52	15.4
PCB-179	52663-64-6	µg/kg		1.03	0.488	0.991	2.93	1.04	0.651	1.19	1.08	0.991	17.8
PCB-180/193	PCB-180/193	µg/kg		24.2	16.7	14.1	21.2	18.5	11.6	32.8	51.1	18.2	203
PCB-181	74472-47-2	µg/kg		0.0634	0.0250	0.0264	0.0350	0.0445	0.0301	0.0454	0.0653	0.0347	0.417
PCB-182	60145-23-5	µg/kg		< 0.000693 U	< 0.000695 U	< 0.000927 U	0.0489	< 0.000234 U	0.0193	< 0.000238 U	< 0.000240 U	< 0.000529 U	< 0.00198 U
PCB-183/185	PCB-183/185	µg/kg		5.89	2.68	3.48	6.32	4.62	2.75	5.85	9.71	4.37	54.8
PCB-184	74472-48-3	µg/kg		0.0139	0.0122	0.0135	0.0184	0.0127	0.0145	0.0196	0.00829	0.0181	< 0.00144 U
PCB-186	74472-49-4	µg/kg		< 0.000572 U	< 0.000588 U	< 0.000798 U	< 0.000270 U	< 0.000196 U	< 0.000268 U	< 0.000194 U	< 0.000198 U	< 0.000440 U	< 0.00162 U
PCB-187	52663-68-0	µg/kg		16.6	14.4	10.4	28.9	18.2	7.14	24.7	26.4 J	18.1	128
PCB-188	74487-85-7	µg/kg		0.0184	0.0164	0.0201	0.0193	0.0155	0.0134	0.0244	0.0437	0.0182	0.108
PCB-189	39635-31-9	µg/kg		0.269	0.139	0.132	0.217	0.199	0.125	0.325	0.539	0.166	2.62
PCB-190	41411-64-7	µg/kg		1.71	0.809	0.849	1.77	1.51	0.781	1.76	3.26	1.17	16.8

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 1 SMB081 PDI-TF-SMB081 8/23/18	Sitewide 1 SMB082 PDI-TF-SMB082 9/8/18	Sitewide 1 SMB083 PDI-TF-SMB083 8/23/18	Sitewide 1 SMB084 PDI-TF-SMB084 8/17/18	Sitewide 1 SMB085 PDI-TF-SMB085 8/18/18	Sitewide 1 SMB086 PDI-TF-SMB086 8/18/18	Sitewide 1 SMB087 PDI-TF-SMB087 8/18/18	Sitewide 1 SMB088 PDI-TF-SMB088 8/18/18	Sitewide 1 SMB089 PDI-TF-SMB089 8/18/18	Sitewide 1 SMB090 PDI-TF-SMB090 8/18/18
PCB-191	74472-50-7	µg/kg		0.385	0.202	0.198	0.318	0.282	0.164	0.435	0.698	0.276	3.11
PCB-192	74472-51-8	µg/kg		< 0.000686 U	< 0.000638 U	< 0.000871 U	< 0.000303 U	< 0.000216 U	< 0.000300 U	< 0.000230 U	< 0.000219 U	< 0.000483 U	< 0.00191 U
PCB-194	35694-08-7	µg/kg		2.8 J	2.2	1.52 J	2.79	1.95	1.41	4.7	6.06	2.65	37.4
PCB-195	52663-78-2	µg/kg		1.69	0.923	0.961	1.46	1.16	0.892	1.89	3.12	1.08	14
PCB-196	42740-50-1	µg/kg		2.1	1.33	1.4	1.52	1.46	1.15 JN	2.46	4.29	1.42	15
PCB-197/200	PCB-197/200	µg/kg		0.337	0.2	0.243	0.353	0.218 J	0.174 J	0.298	0.684 J	0.22	2.05
PCB-198/199	PCB-198/199	µg/kg		4.03	3.16	2.82	5.24	4.28	2.71	4.92	7.91	2.99	28.8
PCB-201	40186-71-8	µg/kg		0.429	0.3	0.29	0.333	0.323	0.241	0.395	0.951	0.285	2.64
PCB-202	2136-99-4	µg/kg		0.834	0.558	0.595	1.11	0.781	0.573	1.03	1.18	0.769	6.38
PCB-203	52663-76-0	µg/kg		2.54	1.32	1.81	2.94	2.41	1.71	2.33	3.88	1.85	19
PCB-204	74472-52-9	µg/kg		0.00183 JN	0.00139 JN	0.00110 JN	0.00143	0.00179	0.00171	0.00170 JN	0.00146 JN	0.00208 JN	0.00346 JN
PCB-205	74472-53-0	µg/kg		0.158	0.0799	0.0792	0.183	0.137	0.0889	0.154	0.272	0.111	1.55
PCB-206	40186-72-9	µg/kg		0.812	0.455	0.448	0.901	0.571	0.525	0.703	0.784	0.624	4.26
PCB-207	52663-79-3	µg/kg		0.11	0.0968	0.0647	0.0984	0.0765	0.0701	0.136	0.161	0.104	0.651
PCB-208	52663-77-1	µg/kg		0.229	0.176	0.146	0.333	0.178	0.187	0.207	0.234	0.201	0.842
PCB-209	2051-24-3	µg/kg		0.15	0.135	0.15	0.221	0.161	0.178	0.165	0.111	0.211	0.18
Total PCBs	(a) T PCBcg (PDI)	µg/kg		252	127	157	291	186	125	270	302	180	2400
Pesticides													
2,4-DDD	53-19-0	µg/kg		0.537	0.362	0.996 J	0.496	0.466	1.08	1.08	0.353	0.813	0.507
2,4-DDE	3424-82-6	µg/kg		0.209 J	0.172 J	0.304 J	0.134 J	0.201	0.452	0.424	0.105 J	0.285	0.217 J
2,4-DDT	789-02-6	µg/kg		0.259	0.230 J	0.418 J	0.188 J	0.243	0.494	0.565	0.214 J	0.564	0.363 J
4,4'-DDD	72-54-8	µg/kg		4.14	2.70	4.56 J	2.43	3.19	8.06	6.03	2.76	5.98	3.81 J
4,4'-DDE	72-55-9	µg/kg		36.0	25.5	39.1 J	28.7	32.3	54.8	55.4	26.3	52.1	31.3 J
4,4'-DDT	50-29-3	µg/kg		2.82	3.06	2.59 J	1.90	3.47	5.10	6.31	2.54	5.26	2.59 J
DDx	(a) T DDx (PDI)	µg/kg		44	32	48	33.8	39.9	70	69.8	32.3	65	38.8
alpha-Chlordane	5103-71-9	µg/kg		1.05	0.973	1.08 J	0.727	1.05	1.41	1.47	0.528	1.04	1.39
cis-Nonachlor	5103-73-1	µg/kg		1.54	1.22	1.23 J	0.865	1.51	1.48	1.65	0.901	1.72	1.10
Oxychlordane	27304-13-8	µg/kg		0.665	0.513	0.531 J	0.395 J	0.695	0.832	0.801	0.424 J	0.839	0.640
trans-Chlordane	5103-74-2	µg/kg		0.328 J	0.267 J	0.368 J	0.228 J	0.303	0.448 J	0.506	0.151 J	0.305	0.422 J
trans-Nonachlor	39765-80-5	µg/kg		4.25	3.35	3.16 J	2.42	3.97	4.26	4.60	2.60	4.63	3.13
Total Chlordanes	(a) T Clrdn (PDI)	µg/kg		7.83	6.32	6.37	4.64	7.53	8.43	9.03	4.6	8.53	6.68
Aldrin	309-00-2	µg/kg		0.009 JN	< 0.0117 U	0.006 JN	0.006 J	0.006 J	0.013 J	0.011 JN	0.008 J	0.014 JN	0.008 J
Dieldrin	60-57-1	µg/kg		1.13	0.988	1.52 J	0.921	1.15	1.70	1.70	0.732	1.27	1.43
Metals													
Arsenic	7440-38-2	mg/kg		0.18	0.19	0.24	0.21	0.20	0.14 J	0.26	0.14 J	0.19	0.18
Mercury	7439-97-6	mg/kg		0.133 J	0.155 J	0.097 J	0.101 J	0.107 J	0.162 J	0.174 J	0.093 J	0.185 J	0.096 J
Semivolatile Organics													
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg		< 20000 U	660 J	< 20000 U	< 20000 U	720 J	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg		1.26	1.13	1.39 J	0.911	1.17	1.98	1.78	0.858	1.50	1.42
Pentachlorophenol	(c) 87-86-5	µg/kg		< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 990 U	< 990 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)													
PBDE-7	171977-44-9	µg/kg		0.00302 J	0.00257 J	0.00245 J	0.00436 J	0.00156 JN	0.00507 J	0.00382 JN	0.00102 J	0.00480 JN	0.00222 JN
PBDE-8/11	PBDE-8/11	µg/kg		0.00293 J	0.00195 JN	0.00195 J	0.00287 J	0.00149 JN	0.00548 J	0.00253 J	0.00124 J	0.00475 J	0.00195 JN
PBDE-10	51930-04-2	µg/kg		< 0.000720 U	< 0.000608 U	< 0.000410 U	< 0.000200 U	< 0.000320 U	< 0.000399 U	< 0.000541 U	< 0.000143 U	< 0.000288 U	< 0.000399 U
PBDE-12/13	PBDE-12/13	µg/kg		0.00183 JN	0.00401 JN	0.0155 JN	0.0102 JN	0.00904 JN	0.0115 JN	0.0225 JN	0.00254 JN	0.00257 J	0.0701 JN
PBDE-15	2050-47-7	µg/kg		0.0168	0.0253	0.0142 J	0.0232	0.0150	0.0412	0.0281	0.0101	0.0374	0.0111 JN
PBDE-17/25	PBDE-17/25	µg/kg		0.149	0.13 JN	0.117 JN	0.142	0.0759 JN	0.179 JN	0.238 JN	0.0504	0.243 JN	0.0849 JN
PBDE-28/33	PBDE-28/33	µg/kg		0.588	1.55	0.437	0.894	0.49	0.62	2.45	0.592	2.92	0.449
PBDE-30	155999-95-4	µg/kg		< 0.00251 U	< 0.00448 U	< 0.00318 U	< 0.00314 U	< 0.00260 U	< 0.00303 U	< 0.00538 U	< 0.00219 U	< 0.00471 U	< 0.00123 U
PBDE-32	189084-60-4	µg/kg		< 0.00208 U	< 0.00362 U	< 0.00250 U	< 0.00248 U	< 0.00189 U	< 0.00234 U	< 0.00435 U	< 0.00168 U	< 0.00342 U	< 0.000949 U
PBDE-35	147217-80-9	µg/kg		0.00721 JN	0.0147 JN	0.00373 JN	0.0120 JN	0.00634 JN	0.00699 JN	0.0140 JN	0.00503 JN	0.0135 J	0.0167 JN
PBDE-37	147217-81-0	µg/kg		0.0117 J	0.0146 JN	0.0103 JN	0.0173	0.00893 J	0.0129 JN	0.0291	0.00881 JN	0.0200	0.0143 JN
PBDE-047	5436-43-1	µg/kg		24.9	84.8	19.1	22.6	30.2	20.9	97.1 J	32.4	101 J	23.7
PBDE-49	243982-82-3	µg/kg		0.962	1.09 J	1.06	1.43	0.974	1.76	2.35 J	0.6	2.16 J	0.61
PBDE-51	189084-57-9	µg/kg		0.0371	0.0197 J	0.0371	0.0737	0.0279	0.0584	0.107 J	0.0124	0.0380 J	0.0185

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 1 SMB081 PDI-TF-SMB081 8/23/18	Sitewide 1 SMB082 PDI-TF-SMB082 9/8/18	Sitewide 1 SMB083 PDI-TF-SMB083 8/23/18	Sitewide 1 SMB084 PDI-TF-SMB084 8/17/18	Sitewide 1 SMB085 PDI-TF-SMB085 8/18/18	Sitewide 1 SMB086 PDI-TF-SMB086 8/18/18	Sitewide 1 SMB087 PDI-TF-SMB087 8/18/18	Sitewide 1 SMB088 PDI-TF-SMB088 8/18/18	Sitewide 1 SMB089 PDI-TF-SMB089 8/18/18	Sitewide 1 SMB090 PDI-TF-SMB090 8/18/18
Chemical	CAS	Units										
PBDE-66	189084-61-5	µg/kg	0.336	0.921 J	0.269	0.586	0.396	0.348	1.95 J	0.279	1.06 J	0.215
PBDE-71	189084-62-6	µg/kg	0.0328	0.0288 J	0.0509	0.0526	0.0409	0.0613	0.0883 J	0.0187	0.0626 J	0.0191
PBDE-75	189084-63-7	µg/kg	0.0205	0.0521 J	0.0255 JN	0.0352	0.0240	0.0236	0.0971 J	0.0167	0.0895 J	0.0218
PBDE-77	93703-48-1	µg/kg	0.00392 JN	0.00348 JN	< 0.000168 U	0.00714 JN	0.00398 JN	0.00363 JN	0.0124 JN	0.00374 J	0.00897 J	0.00550 JN
PBDE-79	PBDE-79	µg/kg	0.0248	0.0451 JN	0.0415 JN	0.0501 JN	0.0381 JN	0.0309 JN	0.0729 JN	0.0569 JN	0.0479 JN	0.0279 JN
PBDE-85	182346-21-0	µg/kg	< 0.00204 UJ	0.0105 J	< 0.00600 U	< 0.00354 U	< 0.00283 U	< 0.00494 U	< 0.00791 UJ	< 0.00249 U	< 0.00551 U	< 0.00398 U
PBDE-099	60348-60-9	µg/kg	5.82 J	39.9 J	8.15	8.62	11.9	5.74	34.5 J	10.3	13.7	3.23
PBDE-100	189084-64-8	µg/kg	4.18 J	14.4	4.39	5	4.83	4.12	18.6	5.26	23.3 J	3.51
PBDE-105	373594-78-6	µg/kg	< 0.00270 UJ	< 0.00323 UJ	< 0.00791 U	< 0.00471 U	< 0.00395 U	< 0.00626 U	< 0.0106 UJ	< 0.00332 U	< 0.00768 U	< 0.00504 U
PBDE-116	189084-65-9	µg/kg	< 0.00386 UJ	< 0.00425 U	< 0.00875 U	< 0.00701 U	< 0.00518 U	< 0.00776 U	< 0.0133 UJ	< 0.00500 U	< 0.0101 U	< 0.00625 U
PBDE-119/120	PBDE-119/120	µg/kg	0.0983 J	0.206 J	0.0612	0.111	0.101	0.0945	0.28 J	0.0910	0.446	0.0718
PBDE-126	366791-32-4	µg/kg	0.00845 J	0.0167	0.0169	0.0174	0.00717 J	0.0115 J	0.0271	0.0113	0.0164	0.0107 J
PBDE-128	182677-28-7	µg/kg	0.00523 J	0.00400 JN	0.00295 JN	0.0107 JN	0.00721 JN	0.00725 JN	0.00714 JN	0.00512 JN	0.00649 JN	0.00436 JN
PBDE-138/166	PBDE-138/166	µg/kg	0.000563 JN	0.0317 J	0.00311 J+	0.00256 JN	0.00345 J	0.00420 JN	0.00567 JN	0.00360 JN	0.00210 JN	0.00101 J
PBDE-140	243982-83-4	µg/kg	0.00945 J	0.118 J	0.0184	0.0200 J	0.0260 J	0.0172 J	0.0691 J	0.0265 JN	0.0339 J	0.00571 J
PBDE-153	68631-49-2	µg/kg	1.23	9.46 J	1.16	1.31	2.29	1.3	8.52 J	2.18	8.05 J	1.04
PBDE-154	207122-15-4	µg/kg	0.836 J	5.55	0.994	1.14	1.38 J	1.01 J	5.15 J	1.5	5.77 J	0.741
PBDE-155	35854-94-5	µg/kg	0.0618 J	0.138 J	0.103	0.172	0.0559 J	0.0848 J	0.195 J	0.103	0.115 J	0.0769
PBDE-181	189084-67-1	µg/kg	< 0.000147 U	0.000827 JN	< 0.000485 U	0.000471 JN	0.000667 JN	0.00283 JN	0.000799 JN	0.000571 J	0.000678 JN	0.000750 JN
PBDE-183	207122-16-5	µg/kg	0.00614 J	0.0395	0.0137 J	0.0183	0.0123 J	0.0114 J	0.0201	0.0254	0.0138 JN	0.00474 JN
PBDE-190	189084-68-2	µg/kg	< 0.000172 U	0.00125 JN	0.000818 JN	< 0.000653 U	0.00148 JN	< 0.000209 U	< 0.000258 U	0.000608 JN	0.000218 JN	< 0.000175 U
PBDE-203	337513-72-1	µg/kg	0.000876 JN	< 0.000148 U	< 0.00346 U	0.00223 JN	0.00103 J	0.00603 J	0.00379 JN	0.00259 JN	0.00143 JN	0.00124 JN
PBDE-206	63387-28-0	µg/kg	< 0.000541 U	0.00327 JN	< 0.000643 U	0.00157 JN	< 0.000473 U	0.00436 JN	0.00225 J+	0.00140 JN	< 0.00120 U	0.00268 J+
PBDE-207	437701-79-6	µg/kg	< 0.00189 U	0.00372 JN	< 0.000831 U	0.00241 JN	0.00128 JN	0.00819 J	0.00214 JN	0.00192 JN	0.00449 JN	0.00152 JN
PBDE-208	437701-78-5	µg/kg	< 0.00106 U	0.00518 J	< 0.00369 U	0.000954 J	0.00185 JN	0.00949 JN	0.00367 JN	0.00217 JN	0.00315 JN	0.00284 JN
PBDE-209	1163-19-5	µg/kg	< 0.0185 U	0.0703 J+	< 0.0140 U	0.0879 JN	0.0275 J+	0.0985 JN	0.0272 J+	< 0.0142 U	0.0306 JN	0.0513 J+
Total PBDE	(a) T. PBDE (PDI)	µg/kg	39.4	159	36.1	42.5	53	36.6	172	53.6	159	34

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 1 SMB081 PDI-TF-SMB081 8/23/18	Sitewide 1 SMB082 PDI-TF-SMB082 9/8/18	Sitewide 1 SMB083 PDI-TF-SMB083 8/23/18	Sitewide 1 SMB084 PDI-TF-SMB084 8/17/18	Sitewide 1 SMB085 PDI-TF-SMB085 8/18/18	Sitewide 1 SMB086 PDI-TF-SMB086 8/18/18	Sitewide 1 SMB087 PDI-TF-SMB087 8/18/18	Sitewide 1 SMB088 PDI-TF-SMB088 8/18/18	Sitewide 1 SMB089 PDI-TF-SMB089 8/18/18	Sitewide 1 SMB090 PDI-TF-SMB090 8/18/18
Chemical	CAS	Units										
Physical Parameters												
Lipids	LIPID	%	4.50	5.02	5.68	7.15	5.46	6.85	6.17	3.96	5.18	5.34
Total Solids@104C	TSOLID	%	25.7	27.8	28.0	29.6	27.4	28.9	27.4	28.7	27.4	26.7

Notes:

Qualifiers:

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
- JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U = Not detected at detection limit shown.
- UJ = Not detected; sample detection limit is estimated.
- R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location Sample ID Sample Date	Sitewide 1 SMB091 PDI-TF-SMB091 8/18/18	Sitewide 1 SMB092 PDI-TF-SMB092 8/18/18	Sitewide 1 SMB093 PDI-TF-SMB093 8/18/18	Sitewide 1 SMB094 PDI-TF-SMB094 8/16/18	Sitewide 1 SMB095 PDI-TF-SMB095 8/23/18	Downtown SMB096 PDI-TF-SMB096 8/16/18	Downtown SMB097 PDI-TF-SMB097 8/16/18	Downtown SMB098 PDI-TF-SMB098 8/24/18	Downtown SMB099 PDI-TF-SMB099 8/16/18	Downtown SMB100 PDI-TF-SMB100 8/16/18
Chemical	CAS	Units										
Dioxins and Furans												
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg	0.000898 JN	0.000106 JN	0.000290 J	0.000975 J	< 0.0000898 U	0.0000964 JN	0.000158 JN	< 0.000173 U	0.000118 JN	0.000161 JN
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg	< 0.0000718 U	< 0.0000734 U	< 0.0000718 U	0.0000956 J	< 0.0000729 U	< 0.0000746 U	< 0.0000725 U	< 0.0000724 U	< 0.0000720 U	< 0.0000724 U
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg	< 0.0000718 U	< 0.0000734 U	< 0.0000718 U	< 0.0000711 U	< 0.0000729 U	< 0.0000746 U	< 0.0000725 U	< 0.0000724 U	< 0.0000720 U	< 0.0000724 U
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg	0.000278 J	< 0.0000734 U	< 0.0000718 U	0.000398 J	0.000123 J	0.0000999 JN	< 0.0000725 U	0.000135 JN	< 0.0000720 U	0.0000999 JN
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg	0.000191 J	< 0.0000734 U	< 0.0000718 U	0.000275 JN	< 0.0000729 U	< 0.0000746 U	< 0.0000725 U	0.0000949 JN	< 0.0000720 U	0.000126 JN
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg	0.00191	0.000332 J	0.000277 J	0.00406	0.000288 J	0.000192 JN	0.000140 JN	0.000326 J	0.000415 J	0.000343 JN
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg	0.0000934 J	< 0.0000734 U	< 0.0000718 U	0.000213 J	< 0.0000729 U	< 0.0000746 U	< 0.0000725 U	< 0.0000724 U	< 0.0000720 U	0.0000799 JN
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg	< 0.000177 U	< 0.0000734 U	< 0.0000718 U	0.000232 J	< 0.0000729 U	< 0.0000746 U	< 0.0000725 U	< 0.0000724 U	< 0.0000720 U	< 0.0000724 U
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg	< 0.0000718 U	< 0.0000734 U	< 0.0000718 U	< 0.0000711 U	< 0.0000729 U	< 0.0000746 U	< 0.0000725 U	< 0.0000724 U	< 0.0000720 U	< 0.0000724 U
1,2,3,7,8-PeCDD	40321-76-4	µg/kg	0.00108 J	0.000498 J	0.000344 JN	0.00243	0.000715 J	0.000347 JN	0.000227 J	0.000432 JN	0.000489 J	0.000590 J
1,2,3,7,8-PeCDF	57117-41-6	µg/kg	0.000773 J	0.000182 J	< 0.000115 U	0.000365 J	0.000130 JN	0.000128 JN	< 0.0000725 U	0.000212 JN	0.000125 J	0.000162 J
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg	< 0.0000718 U	< 0.0000734 U	< 0.0000718 U	0.000274 J	< 0.0000729 U	< 0.0000746 U	< 0.0000725 U	< 0.0000724 U	< 0.0000720 U	< 0.0000724 U
2,3,4,7,8-PeCDF	57117-31-4	µg/kg	0.00137 J	0.000443 J	0.000419 J	0.000702 J	0.000333 J	0.000212 JN	0.000248 J	0.000365 J	0.000288 J	0.000436 J
2,3,7,8-TCDD	1746-01-6	µg/kg	0.000344	0.000248 J	0.000235 JN	0.000510	0.000327 JN	0.000225 J	0.000167 J	0.000241 J	0.000348	0.000223 J
2,3,7,8-TCDF	51207-31-9	µg/kg	0.00104	0.00186	0.000404	0.000690	0.000822	0.000892	0.000533	0.000496	0.000866	0.000374
OCDD	3268-87-9	µg/kg	0.00341	0.000142 JN	0.000464 JN	0.000861 J	0.000152 JN	0.000226 JN	0.000112 JN	0.000291 JN	0.000193 JN	0.000236 J
OCDF	39001-02-0	µg/kg	< 0.0000718 U	< 0.0000734 U	< 0.000138 U	< 0.0000711 U	< 0.0000729 U	< 0.0000746 U	< 0.0000725 U	< 0.0000724 U	< 0.0000720 U	< 0.0000724 U
TCDD-TEQ (a)	T_DF_TEQ (PDI)	µg/kg	0.00223	0.00111	0.000779	0.00379	0.00127	0.000763	0.000541	0.000898	0.00106	0.00106
TCDD-TEQ (EMPC=half) (b)	T_DF_TEQ(E_0.5)	µg/kg	0.00222	0.00111	0.000369	0.00377	0.00127	0.000488	0.000529	0.000649	0.00106	0.001
TCDD-TEQ (EMPC=0) (b)	T_DF_TEQ(E_0)	µg/kg	0.00221	0.0011	0.000197	0.00376	0.00127	0.000314	0.000522	0.000433	0.00106	0.000986
Polychlorinated Biphenyls (PCBs)												
PCB-1	2051-60-7	µg/kg	0.00642	0.00691	0.00265	0.00227	0.00204 J	0.00323	0.00187	0.00184 J	0.00265	0.00189
PCB-2	2051-61-8	µg/kg	0.000877 J+	0.00145	0.000667 J+	0.000743 J+	0.000998 J	0.00117	0.000683 J+	0.000944 J	0.000857 J+	0.000689 JN
PCB-3	2051-62-9	µg/kg	0.00298	0.00331	0.00147 J+	0.00165 J+	0.00136 JN	0.00213 J+	0.00159 J+	0.00163 JN	0.00173 J+	0.00139 J+
PCB-4	13029-08-8	µg/kg	0.419	0.175	0.0759	0.0534	0.0305	0.0457	0.0433	0.0250	0.0412	0.0190
PCB-5	16605-91-7	µg/kg	< 0.000446 U	0.00125	0.000404 JN	0.000296 JN	< 0.00205 U	0.000586 J	< 0.000288 U	< 0.00153 U	0.000507 JN	0.000257 J
PCB-6	25569-80-6	µg/kg	0.00925	0.0194	0.00658	0.00632	0.0134	0.0135	0.00673	0.00676	0.00756	0.00495
PCB-7	33284-50-3	µg/kg	0.00191	0.00397	0.00121	0.00119	< 0.00186 U	0.00196	0.00119	< 0.00144 U	0.00156	0.000815
PCB-8	34883-43-7	µg/kg	0.0479	0.0794	0.0227	0.0233	0.0406	0.0407	0.0227	0.0225	0.0283	0.0154
PCB-9	34883-39-1	µg/kg	0.00278	0.00571	0.00174	0.00194	0.00368 JN	0.00356	0.00188	0.00175 J	0.00245	0.00127
PCB-10	33146-45-1	µg/kg	0.0344	0.00825	0.00447	0.00309	0.00202 J	0.00195	0.00314	0.00140 J	0.00184	0.000808
PCB-11	2050-67-1	µg/kg	0.0698	0.187	0.0395	0.0531	0.0836	0.12	0.0464	0.0644	0.0949	0.0382
PCB-12/13	PCB-12/13	µg/kg	0.00236	0.00370	0.000894	0.00190	< 0.00199 U	0.00432	0.00193 JN	0.00148 J	0.00155	0.00135
PCB-14	34883-41-5	µg/kg	< 0.000413 U	< 0.000373 U	< 0.000226 U	< 0.000111 U	< 0.00190 U	< 0.000169 U	< 0.000259 U	< 0.00144 U	< 0.000244 U	< 0.000117 U
PCB-15	2050-68-2	µg/kg	0.0183	0.0346	0.00761	0.00905	0.00930	0.0227	0.00688	0.00715	0.0136	0.00504
PCB-16	38444-78-9	µg/kg	0.0196	0.0833	0.0154	0.0252	0.0387	0.0373 JN	0.0294	0.0194	0.0272	0.0148
PCB-17	37680-66-3	µg/kg	0.21	0.234	0.0555	0.0799	0.116	0.109	0.0993	0.0487	0.0882	0.0368
PCB-18/30	PCB-18/30	µg/kg	0.0873	0.248	0.0522	0.0885	0.137	0.144	0.102	0.0629	0.0994	0.0522
PCB-19	38444-73-4	µg/kg	1.56	0.462	0.235	0.156	0.0665	0.0799	0.153	0.0387	0.104	0.0182
PCB-20/28	PCB-20/28	µg/kg	0.578	0.896	0.271	0.331	0.445	0.658	0.317	0.237	0.552	0.201
PCB-21/33	PCB-21/33	µg/kg	0.0703	0.136	0.0330	0.0562	0.0779	0.109	0.0468	0.0373	0.0909	0.0316
PCB-22	38444-85-8	µg/kg	0.0682	0.209	0.0467	0.0639	0.0885	0.111	0.0675	0.0403	0.115	0.0307
PCB-23	55720-44-0	µg/kg	< 0.000272 U	0.000800	< 0.000257 U	< 0.000457 U	< 0.00135 U	< 0.000753 U	0.000324 JN	< 0.000383 U	0.000452 J	< 0.000414 U
PCB-24	55702-45-9	µg/kg	0.00118	0.00353	0.000761	0.00163	0.00168 J	0.00169 JN	0.00205	0.000730 J	0.00141	0.000870
PCB-25	55712-37-3	µg/kg	0.0428	0.0779	0.0195	0.0252	0.0372	0.0425	0.0282	0.0177	0.0401	0.0123
PCB-26/29	PCB-26/29	µg/kg	0.0611	0.153	0.0389	0.0545	0.0863	0.103	0.0581	0.0448	0.0871	0.0319
PCB-27	38444-76-7	µg/kg	0.0821	0.0455	0.0182	0.0191	0.0287	0.0224 JN	0.0249	0.0147	0.0144	0.00968
PCB-31	16606-02-3	µg/kg	0.21	0.586	0.102	0.188	0.264	0.345	0.194	0.117	0.308	0.0872
PCB-32	38444-77-8	µg/kg	0.206	0.111	0.0421	0.0418	0.0508	0.0519	0.0389	0.0246	0.0478	0.0164
PCB-34	37680-68-5	µg/kg	0.00221	0.00615	0.00127	0.00186	0.00315	0.00327	0.00229	0.00158 JN	0.00322	0.000871 JN
PCB-35	37680-69-6	µg/kg	< 0.000271 U	< 0.000483 U	< 0.000255 U	0.000586 JN	< 0.00133 U	0.00123	0.000456 JN	< 0.000376 U	< 0.000292 U	0.000422 J
PCB-36	38444-87-0	µg/kg	< 0.000247 U	< 0.000459 U	< 0.000233 U	< 0.000407 U	0.0313 JN	< 0.000670 U	< 0.000172 U	< 0.000352 U	< 0.000281 U	< 0.000368 U
PCB-37	38444-90-5	µg/kg	0.0559	0.0914	0.0365	0.0277	0.0430	0.0570	0.0230	0.0257	0.0446	0.0146
PCB-38	53555-66-1	µg/kg	0.00236	0.00151	0.000535 J	0.000639 JN	< 0.00132 U	0.00114 JN	0.000786	0.000580 J	0.00123	< 0.000400 U

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 1 SMB091 PDI-TF-SMB091 8/18/18	Sitewide 1 SMB092 PDI-TF-SMB092 8/18/18	Sitewide 1 SMB093 PDI-TF-SMB093 8/18/18	Sitewide 1 SMB094 PDI-TF-SMB094 8/16/18	Sitewide 1 SMB095 PDI-TF-SMB095 8/23/18	Downtown SMB096 PDI-TF-SMB096 8/16/18	Downtown SMB097 PDI-TF-SMB097 8/16/18	Downtown SMB098 PDI-TF-SMB098 8/24/18	Downtown SMB099 PDI-TF-SMB099 8/16/18	Downtown SMB100 PDI-TF-SMB100 8/16/18
PCB-39	38444-88-1	µg/kg		0.00365	0.00605	0.00141	0.00201 JN	0.00327	0.00448	0.00239	0.00207 J	0.00473	0.00124 JN
PCB-40/41/71	PCB-40/41/71	µg/kg		0.406	0.522	0.137	0.136	0.204	0.267	0.13	0.112	0.333	0.0755
PCB-42	36559-22-5	µg/kg		0.286	0.476	0.101	0.11	0.18	0.193	0.117	0.0740	0.262	0.0537
PCB-43	70362-46-8	µg/kg		0.0214	0.0604	0.00961	0.0196	0.0239	0.0386	0.0203	0.0152	0.0340	0.0102
PCB-44/47/65	PCB-44/47/65	µg/kg		6.85	3.47	1.24	0.894	1.22	1.3	1	0.653	1.82	0.409
PCB-45/51	PCB-45/51	µg/kg		0.691	0.488	0.126	0.13	0.145	0.14	0.14	0.0453	0.204	0.0278
PCB-46	41464-47-5	µg/kg		0.0316	0.0498	0.0123	0.0141	0.0193	0.0191	0.0150	0.00739	0.0198	0.00521
PCB-48	70362-47-9	µg/kg		0.0885	0.216	0.0428	0.0613	0.0921	0.132	0.0601	0.0447	0.145	0.0352
PCB-49/69	PCB-49/69	µg/kg		2.53	2.12	0.607	0.587	0.844	0.924	0.636	0.424	1.19	0.276
PCB-50/53	PCB-50/53	µg/kg		0.54	0.264	0.131	0.0781	0.0969	0.0835	0.0865	0.0474	0.0938	0.0272
PCB-52	35693-99-3	µg/kg		2.55	3.03	0.941	0.982	1.31	1.54	0.974	0.914	1.72	0.507
PCB-54	15968-05-5	µg/kg		0.274	0.112	0.0446	0.0292	0.0174	0.0172	0.0308	0.00600	0.0329	0.00217
PCB-55	74338-24-2	µg/kg		< 0.00648 U	< 0.00336 U	< 0.000458 U	0.0131 JN	< 0.00816 U	0.0201 JN	0.0127 JN	< 0.00626 U	< 0.00338 U	0.0108 JN
PCB-56	41464-43-1	µg/kg		0.239	0.554	0.102	0.116	0.176	0.19	0.126	0.0639	0.273	0.0442
PCB-57	70424-67-8	µg/kg		0.00746	0.00918	0.00438	0.00290	< 0.00746 U	< 0.00505 U	0.00257	< 0.00570 U	0.00657	< 0.00186 U
PCB-58	41464-49-7	µg/kg		0.0627	0.0151	0.0105	0.00437 JN	< 0.00788 U	0.00689	0.00694	< 0.00577 U	0.0103	0.00305
PCB-59/62/75	PCB-59/62/75	µg/kg		0.216	0.202	0.0552	0.0537	0.0754	0.0943	0.0595	0.0397	0.115	0.0280
PCB-60	33025-41-1	µg/kg		0.423	0.393	0.183	0.122	0.186	0.255	0.116	0.12	0.319	0.0854
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg		2.64	3.21	1.16	0.924	1.45	1.7	0.955	0.879	2.32	0.543
PCB-63	74472-34-7	µg/kg		0.172	0.116	0.0634	0.0381	0.0596	0.0677	0.0380	0.0455	0.0999	0.0285
PCB-64	52663-58-8	µg/kg		0.547	0.861	0.197	0.22	0.347	0.385	0.224	0.161	0.52	0.115
PCB-66	32598-10-0	µg/kg		3.05	2.11	1.1	0.66 J	1.12	1.29 J	0.684 J	0.786	1.69	0.515 J
PCB-67	73575-53-8	µg/kg		0.0248	0.0581	0.0162	0.0136	0.0183	0.0197	0.0139	0.00897	0.0338	0.00664
PCB-68	73575-52-7	µg/kg		0.162	0.0635	0.0402	0.0204	0.0270	0.0232	0.0224	0.0196	0.0436	0.0124
PCB-72	41464-42-0	µg/kg		0.0720	0.0650	0.0275	0.0175	0.0255	0.0254	0.0194	0.0170	0.0429	0.0123
PCB-73	74338-23-1	µg/kg		0.0721	< 0.000136 U	0.0135	0.0127	< 0.000997 U	0.0161	0.0194 JN	< 0.000480 U	0.0217	0.00495
PCB-77	32598-13-3	µg/kg		0.134	0.142	0.0661	0.0565	0.0653	0.0725	0.0415	0.0411	0.0908	0.0318
PCB-78	70362-49-1	µg/kg		< 0.00607 U	< 0.00319 U	< 0.000430 U	< 0.00120 U	< 0.00804 U	< 0.00540 U	< 0.00139 U	< 0.00603 U	< 0.00314 U	< 0.00199 U
PCB-79	41464-48-6	µg/kg		0.0529	0.0484	0.0231	0.0177 JN	0.0254 JN	0.0487 JN	0.0196 JN	0.0177 JN	0.0352	0.0196 JN
PCB-80	33284-52-5	µg/kg		< 0.00560 U	< 0.00289 U	0.000805	< 0.00110 U	< 0.00733 U	< 0.00496 U	< 0.00130 U	< 0.00544 U	< 0.00302 U	< 0.00182 U
PCB-81	70362-50-4	µg/kg		0.00665 JN	0.00634 JN	0.00383 JN	0.00252	< 0.00742 U	< 0.00573 U	0.00211 JN	< 0.00585 U	0.00471 JN	0.00207 JN
PCB-82	52663-62-4	µg/kg		0.287	0.379	0.12	0.0975	0.16	0.15	0.125	0.0863	0.215	0.0638
PCB-83/99	PCB-83/99	µg/kg		8.12	5.35	3.02	1.98	2.9	3.25	2.25	2.59	4.23	1.72
PCB-84	52663-60-2	µg/kg		0.45	0.806	0.234	0.205	0.309	0.282	0.25	0.144	0.432	0.0936
PCB-85/116/117	PCB-85/116/117	µg/kg		1.64	1.36	0.672	0.506	0.771	0.882	0.517	0.656	1.06	0.45
PCB-86/87/97/108/119/125	PCB-86/87/97/108/119/125	µg/kg		3.66	3.53	1.57	1.14 J	1.74 J	1.66 J	1.32 J	1.69 J	2.23	0.728 J
PCB-88/91	PCB-88/91	µg/kg		1.65	1.02	0.438	0.287	0.412	0.389	0.359	0.21	0.586	0.14
PCB-89	73575-57-2	µg/kg		< 0.00975 U	0.0207	0.00425 JN	0.00451	0.00848	0.00927	0.00485 JN	0.00333 JN	0.0112	0.00258
PCB-90/101/113	PCB-90/101/113	µg/kg		12.7	7.31	4.54	2.56	3.67	3.84	3.21	9.27	5.06	1.64
PCB-92	52663-61-3	µg/kg		2.07	1.5	0.74	0.495	0.76	0.803	0.602	1.42	1.03	0.337
PCB-93/95/98/100/102	PCB-93/95/98/100/102	µg/kg		6.52	4.1	2.19	1.22	1.83	1.87	1.5	3.16	2.35	0.678
PCB-94	73575-55-0	µg/kg		0.0461	0.0452	0.0123	0.00898	0.0133	0.0109	0.0107	0.00402 JN	0.0201	0.00225
PCB-96	73575-54-9	µg/kg		0.0592	0.0385	0.0127	0.00952	0.00966	0.0125	0.0100	0.00495 JN	0.0172	0.00324
PCB-103	60145-21-3	µg/kg		0.487	0.211	0.117	0.0584	0.0787	0.0561	0.0849	0.0488	0.105	0.0256
PCB-104	56558-16-8	µg/kg		0.0247	0.0208	0.00447	0.00430	0.00463	0.00470	0.00535	0.000767 JN	0.00874	0.000412 J
PCB-105	32598-14-4	µg/kg		2.74	1.87	1.14	0.926	1.05	1.44	0.821	1.5	2.2	0.83
PCB-106	70424-69-0	µg/kg		< 0.0301 U	< 0.00671 U	< 0.00803 U	< 0.00462 U	< 0.00660 U	< 0.00756 U	< 0.00587 U	< 0.00711 U	< 0.00614 U	< 0.00929 U
PCB-107/124	PCB-107/124	µg/kg		0.182	0.199	0.0943	0.0783	0.109	0.111	0.0798	0.105	0.175	0.0529 JN
PCB-109	74472-35-8	µg/kg		0.829	0.555	0.386	0.278	0.341	0.405	0.288	0.38	0.627	0.242
PCB-110/115	PCB-110/115	µg/kg		6.04	6.07	2.61	1.97	3.01	3.32	2.21	3.44	3.84	1.25
PCB-111	39635-32-0	µg/kg		0.0382 JN	0.0181	0.0113	0.00583 JN	0.00659	0.00789	0.00920	0.00645	0.0120	0.00519
PCB-112	74472-36-9	µg/kg		< 0.00666 U	< 0.00225 U	< 0.000921 U	< 0.000949 U	< 0.00215 U	< 0.00170 U	< 0.00156 U	< 0.00129 U	< 0.00112 U	< 0.000571 U
PCB-114	74472-37-0	µg/kg		0.23	0.127	0.105	0.0741	0.0860	0.108	0.0632	0.129	0.175	0.0623
PCB-118	31508-00-6	µg/kg		9.71	5.58	4.26	3.08	3.47	4.26	2.57	5.15	6.85	2.61
PCB-120	68194-12-7	µg/kg		0.111	0.0743	0.0359	0.0240	0.0358	0.0339	0.0397	0.0357	0.0514	0.0220

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Sitewide 1 SMB091 PDI-TF-SMB091 8/18/18	Sitewide 1 SMB092 PDI-TF-SMB092 8/18/18	Sitewide 1 SMB093 PDI-TF-SMB093 8/18/18	Sitewide 1 SMB094 PDI-TF-SMB094 8/16/18	Sitewide 1 SMB095 PDI-TF-SMB095 8/23/18	Downtown SMB096 PDI-TF-SMB096 8/16/18	Downtown SMB097 PDI-TF-SMB097 8/16/18	Downtown SMB098 PDI-TF-SMB098 8/24/18	Downtown SMB099 PDI-TF-SMB099 8/16/18	Downtown SMB100 PDI-TF-SMB100 8/16/18
PCB-121	56558-18-0	µg/kg		0.0788	0.0193	0.0165	0.00622	0.00862	0.00708	0.0119	0.00740	0.0112	0.00351
PCB-122	76842-07-4	µg/kg		0.0515	0.0520	0.0210 JN	0.0181	0.0219	0.0218	0.0158	0.0109	0.0372	0.0120
PCB-123	65510-44-3	µg/kg		0.153 JN	0.0983 JN	0.0630 JN	0.0543	0.0676	0.0788	0.0458	0.0636	0.125 JN	0.0505
PCB-126	57465-28-8	µg/kg		0.118 JN	0.0686 JN	0.0483 JN	0.0132 JN	0.00912 JN	0.0217 JN	0.00774 JN	0.0384 JN	0.0350 JN	0.0144 JN
PCB-127	39635-33-1	µg/kg		0.0360	0.0141	0.0117	0.00756	0.0102	0.0103	0.00697 JN	0.0147	0.0180	< 0.00987 U
PCB-128/166	PCB-128/166	µg/kg		6.37	1.5	2.17	1.09	1.23	1.63	1.07	3.92	1.83 J	0.92
PCB-129/138/160/163	PCB-129/138/ C	µg/kg		77.6	12.6	24.3	10.3	10.4	13.1	10.3	51	15	7.45
PCB-130	52663-66-8	µg/kg		1.95	0.656	0.753	0.353	0.437	0.45	0.422	0.803	0.708	0.263
PCB-131	61798-70-7	µg/kg		0.127	0.0614	0.0477	0.0266	0.0287	0.0291	0.0310	0.0333	0.0515	0.0153
PCB-132	38380-05-1	µg/kg		5.46	1.97	1.59	0.925	1.03	0.985	1.07	1.31	1.54	0.428
PCB-133	35694-04-3	µg/kg		1.28	0.309	0.375	0.18	0.192	0.231	0.24	0.584	0.341	0.142
PCB-134/143	PCB-134/143	µg/kg		0.982	0.305	0.331	0.136	0.17	0.198	0.183	0.268	0.27	0.0835
PCB-135/151/154	PCB-135/151/154	µg/kg		18.2	4.11	4.68	2.13	2.55	3.3	2.77	14.1	3.1	1.18
PCB-136	38411-22-2	µg/kg		2.05	0.798	0.728	0.279	0.341	0.421	0.396	1.48	0.528	0.144
PCB-137	35694-06-5	µg/kg		0.967	0.446	0.403	0.269	0.317	0.329	0.26	0.319	0.633	0.281
PCB-139/140	PCB-139/140	µg/kg		0.334	0.187	0.133	0.0850	0.118	0.126	0.115	0.141	0.195	0.0842
PCB-141	52712-04-6	µg/kg		9.23	1.72	2.65	1.1	1.09	1.35	1.26	9.81	1.72	0.585
PCB-142	41411-61-4	µg/kg		< 0.0549 U	< 0.0108 U	< 0.0241 U	< 0.0131 U	< 0.00726 U	< 0.0102 U	< 0.0150 U	< 0.0107 U	< 0.0124 U	< 0.00270 U
PCB-144	68194-14-9	µg/kg		2.03	0.405	0.662	0.256	0.246	0.235	0.277	0.851	0.329	0.115
PCB-145	74472-40-5	µg/kg		< 0.000728 U	0.00175	< 0.000289 U	< 0.000205 U	0.00136 JN	< 0.000214 U	0.000703 JN	0.00103 JN	0.000693	< 0.000160 U
PCB-146	51908-16-8	µg/kg		15.1	2.74	4.78	1.94	2.07	2.51	2.3	8.45	3.21	1.42
PCB-147/149	PCB-147/149	µg/kg		33.5	6.88	10.5	4.29	4.75	5.17	4.89	6.58	6.36	2.01
PCB-148	74472-41-6	µg/kg		0.178	0.0746	0.0481	0.0229	0.0340	0.0243	0.0459	0.0275	0.0416	0.0143
PCB-150	68194-08-1	µg/kg		0.138	0.0437	0.0318	0.0146	0.0152	0.0127	0.0304	0.0134	0.0263	0.00638
PCB-152	68194-09-2	µg/kg		0.0265	0.0143	0.00461 JN	0.00322	0.00353	0.00550	0.00386	0.00318	0.00747	0.00181
PCB-153/168	PCB-153/168	µg/kg		96.9	14.3	29.8	11.5	11	14.1	12.1	69.5	17.9	8.27
PCB-155	33979-03-2	µg/kg		0.0622	0.0178	0.0143	0.00947	0.0133	0.0140	0.0138	0.0116	0.0229	0.00892
PCB-156/157	PCB-156/157	µg/kg		4.75	0.986	1.62	0.839	0.75	1.03	0.792	2.45	1.57	0.662
PCB-158	74472-42-7	µg/kg		4.16	0.951	1.49	0.702	0.694	0.943	0.716	3.1	1.18	0.528
PCB-159	39635-35-3	µg/kg		0.669	< 0.00747 U	< 0.0174 U	< 0.00892 U	< 0.00524 U	< 0.00694 U	< 0.00974 U	0.144	0.0983	< 0.00184 U
PCB-161	74472-43-8	µg/kg		< 0.0391 U	< 0.00717 U	< 0.0168 U	< 0.00919 U	< 0.00512 U	< 0.00715 U	< 0.0104 U	< 0.00711 U	< 0.00867 U	< 0.00189 U
PCB-162	39635-34-2	µg/kg		0.0755	0.0357	< 0.0152 U	0.0239	0.0244	0.0316	0.0206	0.0293	0.0477	0.0246
PCB-164	74472-45-0	µg/kg		2.55	0.569	0.891	0.341	0.404	0.59	0.404	1.88	0.614	0.238
PCB-165	74472-46-1	µg/kg		0.114	0.0146	0.0214	< 0.0105 U	0.00912	< 0.00818 U	0.0144	0.00945	0.0150	0.00500
PCB-167	52663-72-6	µg/kg		1.94	0.463	0.703	0.362	0.346	0.448	0.366	0.931	0.665	0.286
PCB-169	32774-16-6	µg/kg		< 0.188 U	< 0.0190 U	< 0.0243 U	< 0.0219 U	< 0.00926 U	< 0.0160 U	< 0.0193 U	< 0.0650 U	< 0.0282 U	< 0.0158 U
PCB-170	35065-30-6	µg/kg		20.6	2.59	7.13	3.06	2.23 J	3.44	3.09	15.6	3.72	1.73
PCB-171/173	PCB-171/173	µg/kg		5.18	0.978	1.87	0.882	0.903	1.12	0.979	3.98	1.14	0.525
PCB-172	52663-74-8	µg/kg		3.97	0.636	1.49	0.638	0.639	0.834	0.693	3.1	0.851	0.367
PCB-174	38411-25-5	µg/kg		12.9	2.1	4.44	1.56	1.79	1.63	2.05	2.93	2.16	0.615
PCB-175	40186-70-7	µg/kg		0.919	0.144	0.348	0.133	0.126	0.162	0.154	0.38	0.176	0.0688
PCB-176	52663-65-7	µg/kg		1.25	0.247	0.423	0.187	0.186	0.119	0.235	0.253	0.229	0.0581
PCB-177	52663-70-4	µg/kg		9.48	1.73	3.55	1.65	1.48	1.86	2.03	2.81	2.2	0.697
PCB-178	52663-67-9	µg/kg		5.3	0.968	1.97	0.842	0.988	1.07	1.06	3.69	1.16	0.513
PCB-179	52663-64-6	µg/kg		3.68	0.976	1.33	0.543	0.727	0.802	0.887	2.46	0.823	0.244
PCB-180/193	PCB-180/193	µg/kg		89.8	8.59	27.1	10.9	7.47 J	12.1	10.8	40.3	14.4	6.2
PCB-181	74472-47-2	µg/kg		0.0939	0.0303	0.0413	0.0191	0.0251	0.0262	0.0216	0.0452	0.0340	0.0186
PCB-182	60145-23-5	µg/kg		< 0.00114 U	0.0288	< 0.000559 U	0.0170	< 0.000999 U	0.0252	0.0267	< 0.000489 U	< 0.000275 U	0.0125
PCB-183/185	PCB-183/185	µg/kg		17.8	2.69	6.13	2.55	2.59	3.07	2.79	12.6	3.4	1.42
PCB-184	74472-48-3	µg/kg		0.0158 JN	0.0139	0.0122	0.00922	0.0207	0.0143	0.0123	0.0158	0.0224	0.00999
PCB-186	74472-49-4	µg/kg		< 0.000932 U	< 0.000263 U	< 0.000465 U	< 0.000221 U	< 0.000800 U	< 0.000243 U	< 0.000219 U	< 0.000422 U	< 0.000232 U	< 0.000182 U
PCB-187	52663-68-0	µg/kg		64.8	6.15	20.5	7.75	9.77	12.2	7.74	39.4	9.34 J	3.92
PCB-188	74487-85-7	µg/kg		0.111	0.0183	0.0237	0.0115	0.0115	0.0106	0.0181	0.0111	0.0225	0.00723
PCB-189	39635-31-9	µg/kg		0.852	0.0827	0.231	0.101	0.0604	0.124	0.0948	0.409	0.139	0.0592
PCB-190	41411-64-7	µg/kg		5.4	0.612	1.69	0.74	0.724	0.726	0.801	3.92	0.871	0.43

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 1 SMB091 PDI-TF-SMB091 8/18/18	Sitewide 1 SMB092 PDI-TF-SMB092 8/18/18	Sitewide 1 SMB093 PDI-TF-SMB093 8/18/18	Sitewide 1 SMB094 PDI-TF-SMB094 8/16/18	Sitewide 1 SMB095 PDI-TF-SMB095 8/23/18	Downtown SMB096 PDI-TF-SMB096 8/16/18	Downtown SMB097 PDI-TF-SMB097 8/16/18	Downtown SMB098 PDI-TF-SMB098 8/24/18	Downtown SMB099 PDI-TF-SMB099 8/16/18	Downtown SMB100 PDI-TF-SMB100 8/16/18
Chemical	CAS	Units										
PCB-191	74472-50-7	µg/kg	1.15	0.132	0.405	0.159	0.154	0.182	0.163	0.575	0.198	0.0920
PCB-192	74472-51-8	µg/kg	< 0.00110 U	< 0.000290 U	< 0.000511 U	< 0.000248 U	< 0.000913 U	< 0.000272 U	< 0.000242 U	< 0.000460 U	< 0.000246 U	< 0.000204 U
PCB-194	35694-08-7	µg/kg	13	0.838	2.96	1.59	0.608 J	1.68	1.51	4.39 J	1.47	0.785
PCB-195	52663-78-2	µg/kg	5.04	0.474	1.58	0.676	0.427	0.757	0.725	3.46	0.904	0.379
PCB-196	42740-50-1	µg/kg	6.47	0.773	2.3	0.936	0.633 J	1.1	0.92	3.23	1.31 JN	0.515
PCB-197/200	PCB-197/200	µg/kg	1.11	0.171 J	0.397	0.179 J	0.162	0.153	0.199 J	0.444	0.238 J	0.0815 J
PCB-198/199	PCB-198/199	µg/kg	12.1	1.89	4.21	2.18	2.01	2.92	2.1	8.22	3.37	1.2
PCB-201	40186-71-8	µg/kg	1.23	0.193	0.466	0.231	0.201	0.271	0.229	0.547	0.359	0.116
PCB-202	2136-99-4	µg/kg	2.33	0.437	0.847	0.443	0.408	0.595	0.489	1.64	0.694	0.341
PCB-203	52663-76-0	µg/kg	7.25	1.21	2.47	1.28	1.28	1.67	1.33	5.82	1.86	0.899
PCB-204	74472-52-9	µg/kg	0.00172 JN	0.00152	0.00131 JN	0.000921 JN	0.00203 JN	0.00128	0.00121	0.00262 JN	0.00210 JN	0.00115
PCB-205	74472-53-0	µg/kg	0.548	0.0536	0.135	0.0822	0.0467	0.0852	0.0791	0.329	0.0871	0.0428
PCB-206	40186-72-9	µg/kg	1.48	0.348	0.621	0.395	0.332	0.574	0.418	0.847	0.563	0.452
PCB-207	52663-79-3	µg/kg	0.3	0.0469	0.122	0.0770	0.0483	0.0779	0.0626	0.106	0.0974	0.0629
PCB-208	52663-77-1	µg/kg	0.359	0.142	0.207	0.15	0.135	0.182	0.15	0.218	0.241	0.159
PCB-209	2051-24-3	µg/kg	0.172	0.139	0.189	0.129	0.142	0.156	0.163	0.153	0.173	0.34
Total PCBs	(a) T_PCBcg (PDI)	µg/kg	666	151	214	99.1	105	131	105	375	155	62.1
Pesticides												
2,4-DDD	53-19-0	µg/kg	0.349	2.15	0.416	2.27	0.721 J	0.352	0.657	0.324	0.919	0.770
2,4-DDE	3424-82-6	µg/kg	0.216	0.758	0.142	0.655	0.269 J	0.157 J	0.203 J	0.114 J	0.406	0.369
2,4-DDT	789-02-6	µg/kg	0.128	0.667	0.185	0.924	0.361 J	0.225 J	0.280	0.173 J	0.444	0.547
4,4'-DDD	72-54-8	µg/kg	3.76	8.82	3.23	10.9	4.90 J	2.80	3.40	2.87	5.81	5.73
4,4'-DDE	72-55-9	µg/kg	37.7	60.1	31.4	68.9	47.1 J	35.4	33.7	31.8	62.3	54.6
4,4'-DDT	50-29-3	µg/kg	2.31	4.30	1.92	4.53	3.09 J	2.62	1.86	2.30	4.25	7.92
DDx	(a) T_DDx (PDI)	µg/kg	44.5	76.8	37.3	88.2	56.4	41.6	40.1	37.6	74.1	69.9
alpha-Chlordane	5103-71-9	µg/kg	0.601	1.58	0.585	1.56	1.15 J	0.721	0.703	0.688	1.30	1.32
cis-Nonachlor	5103-73-1	µg/kg	0.990	1.61	0.964	1.55	1.44 J	1.12	0.884	1.07	1.77	1.46
Oxychlordane	27304-13-8	µg/kg	0.448	0.770	0.431	0.796	0.583 J	0.570	0.406 J	0.487	0.809	0.929
trans-Chlordane	5103-74-2	µg/kg	0.185 J	0.578	0.181 J	0.502	0.391 J	0.208 J	0.226 J	0.189 J	0.435	0.419 J
trans-Nonachlor	39765-80-5	µg/kg	2.76	4.15	2.57	4.29	3.70 J	3.09	2.49	3.16	4.86	4.08
Total Chlordanes	(a) T_Clrndn (PDI)	µg/kg	4.98	8.69	4.73	8.7	7.26	5.71	4.71	5.59	9.17	8.21
Aldrin	309-00-2	µg/kg	0.007 JN	0.015 J	0.008 JN	0.022 JN	0.010 J	0.006 JN	0.006 JN	0.006 J	0.010 JN	0.010 JN
Dieldrin	60-57-1	µg/kg	0.859	2.26	0.834	1.97	1.33 J	1.22	0.992	0.819	1.18	1.66
Metals												
Arsenic	7440-38-2	mg/kg	0.09 J	0.29	0.12 J	0.15	0.17	0.20	0.11 J	0.15	0.25	0.18
Mercury	7439-97-6	mg/kg	0.124 J	0.098 J	0.105 J	0.120 J	0.139 J	0.143 J	0.133 J	0.123 J	0.138 J	0.099 J
Semivolatile Organics												
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg	1.02	1.93	0.970	1.97	1.33 J	0.829	0.939	0.958	1.31	1.91
Pentachlorophenol	(c) 87-86-5	µg/kg	< 1000 U	< 1000 U	< 1000 U	< 990 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)												
PBDE-7	171977-44-9	µg/kg	0.00147 JN	0.00386 J	0.00113 JN	0.00123 JN	0.00192 J	0.00222 J	0.00194 J	0.00144 JN	0.00218 J	0.00117 J
PBDE-8/11	PBDE-8/11	µg/kg	0.000998 JN	0.00301 J	0.00103 JN	0.00122 JN	0.00241 J	0.00182 J	0.00131 JN	0.00159 JN	0.00173 J	0.00109 J
PBDE-10	51930-04-2	µg/kg	< 0.000849 U	< 0.000553 U	< 0.000525 U	< 0.000259 U	< 0.000883 U	< 0.000228 U	< 0.000256 U	< 0.000705 U	< 0.000490 U	< 0.000268 U
PBDE-12/13	PBDE-12/13	µg/kg	0.0319 JN	0.0271 JN	0.00604 JN	0.00325 JN	0.00641 JN	0.00368 JN	0.00386 JN	0.00197 JN	0.0120 JN	0.00105 JN
PBDE-15	2050-47-7	µg/kg	0.00875 J	0.0210	0.00884 J	0.00975	0.0171	0.0192	0.00991	0.0353	0.0133 J	0.0102
PBDE-17/25	PBDE-17/25	µg/kg	0.0432 JN	0.144 JN	0.0465 JN	0.0578	0.113 JN	0.0945	0.0719	0.0554 JN	0.0921 JN	0.0421
PBDE-28/33	PBDE-28/33	µg/kg	0.255	0.443	0.271	0.226	0.444	0.464	0.282	0.414	0.53	0.308
PBDE-30	155999-95-4	µg/kg	< 0.00166 U	< 0.00346 U	< 0.00271 U	< 0.00149 U	< 0.00328 U	< 0.00291 U	< 0.00246 U	< 0.00381 U	< 0.00242 U	< 0.000960 U
PBDE-32	189084-60-4	µg/kg	< 0.00134 U	< 0.00251 U	< 0.00219 U	< 0.00117 U	< 0.00258 U	< 0.00230 U	< 0.00194 U	< 0.00307 U	< 0.00187 U	< 0.000759 U
PBDE-35	147217-80-9	µg/kg	0.00636 JN	0.00660 JN	0.00441 JN	0.00407 JN	0.00692 JN	0.0102 JN	0.00543 JN	0.00447 JN	0.00783 JN	0.00535 JN
PBDE-37	147217-81-0	µg/kg	0.00732 JN	0.0110 J	0.00700 J	0.00626 J	0.0108 JN	0.00962	0.00740 J	0.0193	0.0131 J	0.0103
PBDE-047	5436-43-1	µg/kg	15.8	18.1	14.7	14.3	19.9	21	16.1	24.2	27.4	17.3
PBDE-49	243982-82-3	µg/kg	0.394	1.64	0.452	0.516	0.743	0.876	0.639	0.828	1.12	0.416
PBDE-51	189084-57-9	µg/kg	0.0146	0.0695	0.0189	0.0162	0.0301	0.0250	0.0219	0.0181 JN	0.0403	0.0111

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Sitewide 1 SMB091 PDI-TF-SMB091 8/18/18	Sitewide 1 SMB092 PDI-TF-SMB092 8/18/18	Sitewide 1 SMB093 PDI-TF-SMB093 8/18/18	Sitewide 1 SMB094 PDI-TF-SMB094 8/18/18	Sitewide 1 SMB095 PDI-TF-SMB095 8/23/18	Downtown SMB096 PDI-TF-SMB096 8/16/18	Downtown SMB097 PDI-TF-SMB097 8/16/18	Downtown SMB098 PDI-TF-SMB098 8/24/18	Downtown SMB099 PDI-TF-SMB099 8/16/18	Downtown SMB100 PDI-TF-SMB100 8/16/18
Chemical	CAS	Units										
PBDE-66	189084-61-5	µg/kg	0.171	0.325	0.207	0.171	0.179	0.262	0.135	0.541	0.407	0.253
PBDE-71	189084-62-6	µg/kg	0.0149	0.0621	0.0257 JN	0.0215	0.0378	0.0308 JN	0.0243	0.0307	0.0366	0.0146
PBDE-75	189084-63-7	µg/kg	0.0165	0.0327	0.0238	0.0175	0.0235	0.0196	0.0166	0.0897	0.0296	0.0162
PBDE-77	93703-48-1	µg/kg	0.00340 JN	0.00412 JN	0.00271 JN	0.00283 JN	< 0.000146 U	0.00603 J	0.00286 JN	0.0190 JN	0.00445 JN	0.00938
PBDE-79	PBDE-79	µg/kg	0.0269 JN	0.0241 JN	0.0213 JN	0.0370 JN	0.0345 JN	0.0447 JN	0.0434 JN	0.0519 JN	0.0367 JN	0.0499 JN
PBDE-85	182346-21-0	µg/kg	< 0.00388 U	< 0.00238 U	< 0.00272 U	< 0.00196 U	< 0.00493 U	< 0.00188 U	< 0.00269 U	< 0.00555 U	< 0.00365 U	< 0.00227 U
PBDE-099	60348-60-9	µg/kg	4.27	6.29	8.88	7.61	4.17	5.09	4.68	22.8	8.67	5.27
PBDE-100	189084-64-8	µg/kg	3.68	4	4.1	4.03	4.27	3.7	4.17	8.99	5.55	3.57
PBDE-105	373594-78-6	µg/kg	< 0.00520 U	< 0.00331 U	< 0.00364 U	< 0.00260 U	< 0.00650 U	< 0.00250 U	< 0.00358 U	< 0.00783 U	< 0.00463 U	< 0.00301 U
PBDE-116	189084-65-9	µg/kg	< 0.00652 U	< 0.00435 U	< 0.00457 U	< 0.00387 U	< 0.00719 U	< 0.00372 U	< 0.00534 U	< 0.0114 U	< 0.00574 U	< 0.00449 U
PBDE-119/120	PBDE-119/120	µg/kg	0.0688	0.0829	0.0749	0.0666	0.0641	0.104	0.0753	0.324	0.0993	0.0845
PBDE-126	366791-32-4	µg/kg	0.0151	0.00980 J	0.0187	0.0121	0.0178	0.00749	0.0200	0.0782	0.0136 J	0.00765
PBDE-128	182677-28-7	µg/kg	0.00393 JN	0.00465 JN	0.00329 JN	0.00391 JN	0.00646 JN	0.00356 JN	< 0.000285 U	0.00584 JN	0.00678 JN	0.0124 JN
PBDE-138/166	PBDE-138/166	µg/kg	0.00136 J	0.00177 J	0.00386 J	0.00301 JN	< 0.00112 U	0.00207 JN	0.00255 JN	0.0433 J	0.00119 JN	0.00252 JN
PBDE-140	243982-83-4	µg/kg	0.0125 J	0.0128 J	0.0211 J	0.0147 J	0.00863 J	0.0118 J	0.00992 J	0.291 J	0.0206 J	0.0140 J
PBDE-153	68631-49-2	µg/kg	1.39	0.909	1.16 J	1.1 J	0.786	1.12	0.83	13.8 J	1.63	1.9
PBDE-154	207122-15-4	µg/kg	1.09 J	0.762	1.21 J	1.09 J	0.937	0.851	0.903	9.65 J	1.16 J	0.961
PBDE-155	35854-94-5	µg/kg	0.0922 J	0.0782	0.119 J	0.111 J	0.112	0.0631	0.151	0.379 J	0.114 J	0.0657
PBDE-181	189084-67-1	µg/kg	0.000289 JN	0.000454 JN	< 0.000151 U	0.00105 J	< 0.000296 U	0.000557 JN	0.000561 JN	< 0.00150 U	< 0.000144 U	0.00133 J
PBDE-183	207122-16-5	µg/kg	0.0164	0.00947 JN	0.0109 J	0.0112	0.00846 J	0.0110	0.00608 J	0.117	0.0153	0.0112
PBDE-190	189084-68-2	µg/kg	0.000609 JN	< 0.000152 U	< 0.000237 U	< 0.000402 U	< 0.000466 U	0.000382 J	0.000305 JN	< 0.00245 U	0.000938 JN	< 0.00159 U
PBDE-203	337513-72-1	µg/kg	0.00146 JN	0.00173 JN	0.00156 JN	0.00173 J	< 0.000991 U	0.00274 JN	0.00169 JN	< 0.00170 U	0.00482 J	0.00377 J
PBDE-206	63387-28-0	µg/kg	< 0.000720 U	0.00637 JN	0.00295 JN	0.00150 JN	< 0.000512 U	0.00209 JN	0.000467 J	< 0.00120 U	0.00414 J+	0.00122 JN
PBDE-207	437701-79-6	µg/kg	0.00152 JN	0.00429 JN	< 0.000592 U	0.00552 JN	< 0.000557 U	0.00331 JN	< 0.000842 U	< 0.00159 U	0.00457 JN	0.00368 JN
PBDE-208	437701-78-5	µg/kg	0.000672 JN	0.00360 JN	0.00294 JN	0.00589 J	< 0.00101 U	0.00403 JN	0.00174 JN	< 0.000414 U	0.00716 JN	0.00624 JN
PBDE-209	1163-19-5	µg/kg	0.0340 JN	0.0620 JN	0.0460 JN	0.0479 JN	< 0.0206 U	0.0320 JN	< 0.0140 U	< 0.0322 U	0.0863 J	0.0469 J+
Total PBDE	(a) T. PBDE (PDI)	µg/kg	27.5	33.2	31.5	29.5	31.9	33.9	28.2	82.8	47.1	30.4

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

			Reach Segment Location Sample ID Sample Date	Sitewide 1 SMB091 PDI-TF-SMB091 8/18/18	Sitewide 1 SMB092 PDI-TF-SMB092 8/18/18	Sitewide 1 SMB093 PDI-TF-SMB093 8/18/18	Sitewide 1 SMB094 PDI-TF-SMB094 8/16/18	Sitewide 1 SMB095 PDI-TF-SMB095 8/23/18	Downtown SMB096 PDI-TF-SMB096 8/16/18	Downtown SMB097 PDI-TF-SMB097 8/16/18	Downtown SMB098 PDI-TF-SMB098 8/24/18	Downtown SMB099 PDI-TF-SMB099 8/16/18	Downtown SMB100 PDI-TF-SMB100 8/16/18
Chemical	CAS	Units											
Physical Parameters													
Lipids	LIPID	%		4.56	7.75	5.12	4.75	5.19	5.61	4.06	4.14	4.64	3.98
Total Solids@104C	TSOLID	%		23.8	28.8	29.3	25.1	26.7	27.5	25.5	25.8	26.7	25.8

Notes:**Qualifiers:**

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
 JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 U = Not detected at detection limit shown.
 UJ = Not detected; sample detection limit is estimated.
 R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
 The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
 Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
 There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Downtown SMB101 PDI-TF-SMB101 8/16/18	Downtown SMB102 PDI-TF-SMB102 9/8/18	Downtown SMB103 PDI-TF-SMB103 8/16/18	Downtown SMB104 PDI-TF-SMB104 8/16/18	Downtown SMB105 PDI-TF-SMB105 8/16/18	Downtown SMB106 PDI-TF-SMB106 8/16/18	Downtown SMB107 PDI-TF-SMB107 8/16/18	Downtown SMB108 PDI-TF-SMB108 8/16/18	Downtown SMB109 PDI-TF-SMB109 8/24/18	Downtown SMB110 PDI-TF-SMB110 9/12/18
Chemical	CAS	Units										
Dioxins and Furans												
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg	0.000112 J	0.000198 JN	0.000210 J	0.000148 J	0.000715 J	0.0000795 JN	0.000485 J	0.000233 J	< 0.0000825 U	0.000710 J
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg	< 0.0000746 U	< 0.0000723 U	< 0.0000731 U	< 0.0000710 U	0.0000935 JN	< 0.0000704 U	0.0000885 JN	< 0.0000728 U	< 0.0000729 U	0.000110 JN
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg	< 0.0000746 U	< 0.0000723 U	< 0.0000731 U	< 0.0000710 U	< 0.0000727 U	< 0.0000704 U	< 0.0000700 U	< 0.0000823 U	< 0.0000729 U	< 0.0000723 U
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg	< 0.0000746 U	0.000115 JN	< 0.0000731 U	0.0000940 JN	0.000315 J	< 0.0000704 U	0.000165 J	0.0000981 J	0.000125 JN	0.000357 JN
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg	< 0.0000746 U	< 0.0000723 U	< 0.0000731 U	< 0.0000710 U	0.000495 JN	< 0.0000704 U	0.000138 JN	< 0.0000728 U	0.0000733 JN	0.000290 J
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg	0.000116 J	0.000387 JN	0.000152 JN	0.000273 JN	0.00119 J	0.000154 J	0.000604 J	0.000366 J	0.000299 JN	0.00123 J
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg	< 0.0000746 U	< 0.0000723 U	< 0.0000731 U	< 0.0000710 U	0.000158 J	< 0.0000704 U	0.000105 JN	< 0.0000728 U	< 0.0000729 U	0.000221 J
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg	< 0.0000746 U	< 0.000279 U	< 0.0000731 U	< 0.0000710 U	0.000185 JN	< 0.0000704 U	< 0.0000700 U	< 0.0000728 U	< 0.0000729 U	0.000129 J
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg	< 0.0000746 U	< 0.0000723 U	< 0.0000731 U	< 0.0000710 U	< 0.0000727 U	< 0.0000704 U	< 0.0000700 U	< 0.0000728 U	< 0.0000729 U	< 0.0000723 U
1,2,3,7,8-PeCDD	40321-76-4	µg/kg	0.000303 J	0.000480 JN	0.000386 J	0.000263 J	0.00234	0.000243 JN	0.000544 J	0.000382 JN	0.000517 JN	0.000884 J
1,2,3,7,8-PeCDF	57117-41-6	µg/kg	0.0000819 J	0.000136 JN	0.000120 J	0.000112 J	0.000564 J	0.0000993 J	0.000202 J	0.000149 JN	0.000121 JN	0.000272 J
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg	< 0.0000746 U	< 0.0000723 U	< 0.0000731 U	< 0.0000710 U	0.0000842 JN	< 0.0000704 U	< 0.0000700 U	< 0.0000728 U	< 0.0000729 U	0.0000750 J
2,3,4,7,8-PeCDF	57117-31-4	µg/kg	0.000207 J	0.000238 J	0.000361 J	0.000260 J	0.000957 JN	0.000204 JN	0.000366 J	0.000394 JN	0.000272 J	0.000453 JN
2,3,7,8-TCDD	1746-01-6	µg/kg	0.000243 JN	0.000300 JN	0.000274 J	0.000216 J	0.000601	0.000266 JN	0.000268 J	0.000254 J	0.000250 J	0.000450
2,3,7,8-TCDF	51207-31-9	µg/kg	0.000464	0.000762	0.000556	0.000640	0.000734	0.000479	0.000624	0.000920	0.000741	0.000766
OCDD	3268-87-9	µg/kg	0.000319 J	0.000150 J	0.000157 J	0.000211 J	0.00160 J	0.000147 J	0.000578 J	0.000242 J	0.000193 JN	0.000308 J+
OCDF	39001-02-0	µg/kg	< 0.0000746 U	< 0.0000723 U	< 0.0000731 U	< 0.0000710 U	< 0.0000727 U	< 0.0000704 U	< 0.0000700 U	< 0.0000728 U	< 0.0000729 U	< 0.0000723 U
TCDD-TEQ (a)	T_DF_TEQ (PDI)	µg/kg	0.000674	0.000998	0.000849	0.000666	0.00357	0.000641	0.0011	0.000903	0.00098	0.0018
TCDD-TEQ (EMPC=half) (b)	T_DF_TEQ(E_0.5)	µg/kg	0.000548	0.000688	0.000837	0.00064	0.00335	0.000199	0.00108	0.000586	0.000664	0.00169
TCDD-TEQ (EMPC=0) (b)	T_DF_TEQ(E_0)	µg/kg	0.000427	0.000448	0.00083	0.000626	0.00321	0.0000663	0.00107	0.000395	0.000406	0.00162
Polychlorinated Biphenyls (PCBs)												
PCB-1	2051-60-7	µg/kg	0.00237	0.00164 J	0.00178	0.00212	0.00252	0.00195	0.00283	0.00221	0.00202 J	0.00327
PCB-2	2051-61-8	µg/kg	0.000783 J+	0.000828 JN	0.000642 J+	0.00143	0.000846 J+	0.000836 J+	0.00148	0.000955 J+	0.00136 J	0.00246 J
PCB-3	2051-62-9	µg/kg	0.00154 J+	0.00134 J+	0.000976 J+	0.00181 J+	0.00134 J+	0.00175 JN	0.00190 J+	0.00151 J+	0.00173 JN	0.00240 JN
PCB-4	13029-08-8	µg/kg	0.0294	0.0488	0.0154	0.0267	0.0257	0.0181	0.0604	0.0365	0.0264	0.0346
PCB-5	16605-91-7	µg/kg	0.000329 J	< 0.00153 U	0.000269 J	0.000471 J	0.000371 J	0.000458 JN	0.00105 JN	0.000605 JN	< 0.00194 U	< 0.00319 U
PCB-6	25569-80-6	µg/kg	0.00777	0.0111 JN	0.00694	0.0176	0.0170	0.0135	0.0855	0.0341	0.0329	0.0278
PCB-7	33284-50-3	µg/kg	0.00119	0.00245 JN	0.00113	0.00193	0.00215	0.00242	0.00698	0.00363	0.00322 JN	0.00332 JN
PCB-8	34883-43-7	µg/kg	0.0231	0.0337	0.0179	0.0427	0.0452	0.0401	0.181	0.0615	0.0553	0.0775
PCB-9	34883-39-1	µg/kg	0.00205	0.00350 JN	0.00171	0.00367	0.00350	0.00720	0.0147	0.00671	0.00571	0.00689
PCB-10	33146-45-1	µg/kg	0.00114	0.00225 J	0.000637	0.00135	0.00147	0.000927	0.00230	0.00135	< 0.00174 U	< 0.00291 U
PCB-11	2050-67-1	µg/kg	0.0406	0.0882	0.0446	0.0861	0.0955	0.0582	0.118	0.0651	0.0841	0.204
PCB-12/13	PCB-12/13	µg/kg	0.000838	0.00202 J	0.000766	0.00331 JN	0.00154	0.00318 JN	0.00407	0.00233	0.00311 JN	< 0.00295 U
PCB-14	34883-41-5	µg/kg	< 0.000202 U	< 0.00139 U	< 0.0000933 U	< 0.000175 U	< 0.000109 U	< 0.000214 U	< 0.000221 U	< 0.000142 U	< 0.00181 U	< 0.00290 U
PCB-15	2050-68-2	µg/kg	0.00612	0.00832	0.00522	0.0114	0.00948	0.0377	0.0122	0.0129	0.0106	0.0122
PCB-16	38444-78-9	µg/kg	0.0190	0.0263	0.0126	0.0319	0.0243	0.0230 JN	0.0583	0.0336	0.0224	0.0709
PCB-17	37680-66-3	µg/kg	0.0610	0.0912	0.0367	0.112	0.105	0.0828	0.314	0.17	0.117	0.166
PCB-18/30	PCB-18/30	µg/kg	0.0718	0.0958	0.0464	0.123	0.0954	0.149	0.218	0.15	0.0959	0.23
PCB-19	38444-73-4	µg/kg	0.0465	0.0854	0.0113	0.0366	0.0268	0.0185	0.0725	0.0335	0.0249	0.0288
PCB-20/28	PCB-20/28	µg/kg	0.316	0.377	0.174	0.803	0.399	0.794	0.531	0.477	0.321	0.604
PCB-21/33	PCB-21/33	µg/kg	0.0428	0.0575	0.0255	0.0842	0.0409	0.0795	0.0841	0.0675	0.0435	0.148
PCB-22	38444-85-8	µg/kg	0.0625	0.0739	0.0293	0.121	0.0736	0.0838 JN	0.102	0.0818	0.0608	0.135
PCB-23	55720-44-0	µg/kg	0.000239 J	0.000403 JN	0.000168 J	0.000484 JN	0.000299 J	< 0.00101 U	< 0.00121 U	< 0.000790 U	< 0.000852 U	< 0.000899 U
PCB-24	55702-45-9	µg/kg	0.00111	0.00174 JN	0.000631	0.00351	0.00161	0.00180 JN	< 0.000119 U	0.00311	0.00165 J	0.00389 JN
PCB-25	55712-37-3	µg/kg	0.0251	0.0357	0.0143	0.0485	0.0288	0.0366	0.0605	0.0544	0.0329	0.0562
PCB-26/29	PCB-26/29	µg/kg	0.0617	0.0727	0.0333	0.115	0.0753	0.107	0.15	0.134	0.0789	0.124
PCB-27	38444-76-7	µg/kg	0.0162	0.0233	0.0113	0.0435	0.0310	0.0238 JN	0.0958	0.0581	0.0303	0.0342
PCB-31	16606-02-3	µg/kg	0.171	0.24	0.0854	0.296	0.201	0.33	0.377	0.308	0.197	0.395
PCB-32	38444-77-8	µg/kg	0.0308	0.0468	0.0163	0.0780	0.0477	0.0383	0.136	0.0569	0.0365	0.0858
PCB-34	37680-68-5	µg/kg	0.00235	0.00255 J	0.00129	0.00416	0.00261	0.00271 JN	0.00573	0.00469	0.00346	0.00428
PCB-35	37680-69-6	µg/kg	< 0.000186 U	< 0.000310 U	< 0.000138 U	0.00178	< 0.000254 U	< 0.000970 U	< 0.00108 U	0.000897	< 0.000847 U	< 0.000947 U
PCB-36	38444-87-0	µg/kg	< 0.000179 U	< 0.000278 U	< 0.000134 U	< 0.000197 U	< 0.000246 U	< 0.000900 U	< 0.00104 U	< 0.000702 U	< 0.000765 U	< 0.000876 U
PCB-37	38444-90-5	µg/kg	0.0214	0.0282	0.0157	0.0290	0.0309	0.105	0.0290	0.0240	0.0318	0.0494
PCB-38	53555-66-1	µg/kg	0.000510 J	0.000939 JN	0.000395 JN	0.00142	0.000478 J	< 0.000978 U	< 0.00114 U	0.000936 JN	< 0.000833 U	< 0.000865 U

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

			Reach Segment Location	Downtown	Downtown	Downtown	Downtown	Downtown	Downtown	Downtown	Downtown	Downtown	Downtown	Downtown
			Sample ID	SMB101	SMB102	SMB103	SMB104	SMB105	SMB106	SMB107	SMB108	SMB109	SMB110	SMB110
			Sample Date	PDI-TF-SMB101	PDI-TF-SMB102	PDI-TF-SMB103	PDI-TF-SMB104	PDI-TF-SMB105	PDI-TF-SMB106	PDI-TF-SMB107	PDI-TF-SMB108	PDI-TF-SMB109	PDI-TF-SMB110	PDI-TF-SMB110
			8/16/18	8/16/18	8/16/18	8/16/18	8/16/18	8/16/18	8/16/18	8/16/18	8/16/18	8/24/18	9/12/18	9/12/18
Chemical	CAS	Units												
PCB-39	38444-88-1	µg/kg		0.00188	0.00256 J	0.00148	0.00560	0.00247	0.00227 JN	0.00326	0.00317	0.00210 J	0.00615	
PCB-40/41/71	PCB-40/41/71	µg/kg		0.141	0.252	0.0979	0.334	0.166	0.141	0.209	0.193	0.129	0.374	
PCB-42	36559-22-5	µg/kg		0.128	0.172	0.0839	0.216	0.112	0.12	0.14	0.143	0.112	0.231	
PCB-43	70362-46-8	µg/kg		0.0174	0.0288	0.0133 JN	0.0483	0.0204	0.0260	0.0275	0.0360	0.0195	0.0445	
PCB-44/47/65	PCB-44/47/65	µg/kg		0.884	1.31	0.623	1.46	0.768	0.819	1	1.17	0.79	1.31	
PCB-45/51	PCB-45/51	µg/kg		0.0813	0.157	< 0.000205 U	0.106	0.0528	0.0512	0.0881	0.0795	0.0576	0.14	
PCB-46	41464-47-5	µg/kg		0.0102	0.0194	0.00563	0.0145	0.0105	0.00862	0.0182	0.0121	0.00878 JN	0.0315	
PCB-48	70362-47-9	µg/kg		0.0613	0.0946	0.0429	0.152	0.0659	0.0739	0.0885	0.0932	0.0554	0.151	
PCB-49/69	PCB-49/69	µg/kg		0.616	0.851	0.45	1.2	0.54	0.577	0.716	0.88	0.575	1.01	
PCB-50/53	PCB-50/53	µg/kg		0.0544	0.11	0.0330	0.104	0.0609	0.0566	0.12	0.105	0.0648	0.136	
PCB-52	35693-99-3	µg/kg		0.981	1.39	1.02	2.33	0.963	0.966	1.22	1.82	1.02	1.88	
PCB-54	15968-05-5	µg/kg		0.0100	0.0178	0.00103 JN	0.00487	0.00276	0.00183 JN	0.00411	0.00351	0.00522 JN	0.00328	
PCB-55	74338-24-2	µg/kg		< 0.000420 U	< 0.00301 U	0.0163	0.0408 JN	0.00607	0.0326	0.0137 JN	0.0192	< 0.00467 U	< 0.00247 U	
PCB-56	41464-43-1	µg/kg		0.138	0.211	0.0762	0.231	0.135	0.144	0.125	0.196	0.13	0.256	
PCB-57	70424-67-8	µg/kg		0.00380	0.00423 JN	0.00312	< 0.0106 U	0.00391	< 0.00583 U	0.00381	0.00578	< 0.00436 U	0.00441 JN	
PCB-58	41464-49-7	µg/kg		0.00494	0.00857 JN	0.00460	< 0.0111 U	0.00487	< 0.00614 U	0.00594	0.00911	0.00709	0.00775 JN	
PCB-59/62/75	PCB-59/62/75	µg/kg		0.0567	0.0790	0.0419	0.116	0.0579	0.0633	0.0720	0.0832	0.0544	0.0979	
PCB-60	33025-41-1	µg/kg		0.158	0.227	0.127	0.419	0.199	0.237	0.158	0.18	0.163	0.185	
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg		1.11	1.71	1.1	2.25	1.36	1.29	1.18	1.78	1.35	1.76	
PCB-63	74472-34-7	µg/kg		0.0495	0.0596	0.0499	0.0905	0.0717	0.0565	0.0517	0.0685	0.0519	0.0609	
PCB-64	52663-58-8	µg/kg		0.262	0.374	0.192	0.467	0.252	0.25	0.293	0.294	0.243	0.454	
PCB-66	32598-10-0	µg/kg		0.872	1.15	1	1.81 J	1.09 J	1.05 J	0.956 J	1.05 J	1.03	1.18	
PCB-67	73575-53-8	µg/kg		0.0170	0.0244	0.00797	0.0297	0.0145	0.0215	0.0156	0.0233	0.0148	0.0222	
PCB-68	73575-52-7	µg/kg		0.0258	0.0287	0.0239	0.0230	0.0216	0.0210	0.0228	0.0435	0.0231	0.0323	
PCB-72	41464-42-0	µg/kg		0.0271	0.0265	0.0237	0.0317	0.0236	0.0211	0.0254	0.0470	0.0243	0.0346	
PCB-73	74338-23-1	µg/kg		0.0103	0.0156 JN	< 0.000162 U	0.0205 JN	0.00373	0.0152	0.0114	0.0191	< 0.000303 U	0.0120	
PCB-77	32598-13-3	µg/kg		0.0484	0.0580	0.0365	0.0644	0.0557	0.0641	0.0359	0.0600	0.0598	0.0564	
PCB-78	70362-49-1	µg/kg		< 0.000390 U	< 0.00290 U	< 0.00313 U	< 0.0113 U	< 0.000919 U	< 0.00623 U	< 0.00330 U	< 0.00108 U	< 0.00452 U	< 0.00247 U	
PCB-79	41464-48-6	µg/kg		0.0341	0.0276	0.0422	0.0839 JN	0.0244	0.0390	0.0184 JN	0.0726 JN	0.0343 JN	0.0281	
PCB-80	33284-52-5	µg/kg		< 0.000374 U	< 0.00270 U	< 0.00293 U	< 0.0104 U	< 0.000845 U	< 0.00572 U	< 0.00307 U	< 0.000991 U	< 0.00426 U	< 0.00223 U	
PCB-81	70362-50-4	µg/kg		0.00233 JN	0.00395 JN	0.00319 JN	< 0.0112 U	0.00266 JN	< 0.00641 U	< 0.00306 U	0.00335 JN	< 0.00451 U	0.00372 JN	
PCB-82	52663-62-4	µg/kg		0.126	0.183	0.265	0.202	0.12	0.129	0.122	0.242	0.168	0.176	
PCB-83/99	PCB-83/99	µg/kg		2.4	3.14	4.91	5.83	3.32	2.77	3.24	4.43	4.2	2.76	
PCB-84	52663-60-2	µg/kg		0.24	0.352	0.316	0.268	0.219	0.196	0.237	0.387	0.304	0.395	
PCB-85/116/117	PCB-85/116/117	µg/kg		0.649	0.784	1.39	1.59	0.896	0.685	0.828	0.959	1.1	0.677	
PCB-86/87/97/108/119/125	PCB-86/87/97/108/119/125	µg/kg		1.48 J	2.06 J	3.42 J	2.55 J	1.35 J	1.43 J	1.35 J	2.45 J	2.27 J	1.74	
PCB-88/91	PCB-88/91	µg/kg		0.32	0.421	0.385	0.389	0.261	0.259	0.292	0.425	0.381	0.408	
PCB-89	73575-57-2	µg/kg		0.00561	0.0113 JN	0.00834	0.0101	0.00531	0.00427	0.00745	0.00849	0.00544	0.0127	
PCB-90/101/113	PCB-90/101/113	µg/kg		3.05	3.99	6.89	7.22	3.04	3.16	3.14	5.95	4.6	3.48	
PCB-92	52663-61-3	µg/kg		0.61	0.785	1.25	1.29	0.691	0.693	0.688	1.21	1.03	0.744	
PCB-93/95/98/100/102	PCB-93/95/98/100/102	µg/kg		1.39	1.82	2.34	2.43	1.5	1.22	1.43	2.22	1.9	2.01	
PCB-94	73575-55-0	µg/kg		0.00695	0.0152	0.00364	0.00668	0.00370	0.00439 JN	0.00616	0.00898	0.00520	0.00939	
PCB-96	73575-54-9	µg/kg		0.00797 JN	0.0110	0.00455 JN	0.00973	0.00532	0.00411	0.00789	0.00793	0.00623 JN	0.0131	
PCB-103	60145-21-3	µg/kg		0.0565	0.0805	0.0422	0.0637	0.0249	0.0540	0.0450	0.0768	0.0471	0.0672	
PCB-104	56558-16-8	µg/kg		0.00231 J	0.00394	0.00107 JN	0.00156	0.000481 J	0.000688 JN	0.000864	0.00139 JN	0.000752 JN	0.00159 J	
PCB-105	32598-14-4	µg/kg		0.942	1.18	2.33	2.45	1.54	1.19	1.14	1.79 J	2.07	1	
PCB-106	70424-69-0	µg/kg		< 0.00501 U	< 0.00834 U	< 0.0135 U	< 0.00718 U	< 0.00487 U	< 0.00931 U	< 0.00745 U	< 0.00823 U	< 0.0111 U	< 0.00383 U	
PCB-107/124	PCB-107/124	µg/kg		0.0937	0.119	0.165	0.169	0.121	0.104	0.0969	0.197	0.189	0.0998	
PCB-109	74472-35-8	µg/kg		0.325	0.345	0.805	0.644	0.549	0.377	0.356	0.588	0.584	0.312	
PCB-110/115	PCB-110/115	µg/kg		2.38	3.16	6.52	4.46	2.94	2.25	2.33	3.85	3.46	2.69	
PCB-111	39635-32-0	µg/kg		0.00767	0.00557 JN	0.00850 JN	0.0124	0.00731	0.00925	0.00849	0.0179	0.0104	0.00826	
PCB-112	74472-36-9	µg/kg		< 0.00138 U	< 0.000972 U	< 0.00179 U	< 0.00155 U	< 0.000525 U	< 0.00157 U	< 0.00118 U	< 0.00173 U	< 0.00238 U	< 0.00232 U	
PCB-114	74472-37-0	µg/kg		0.0742	0.0879	0.28	0.182	0.141	0.0877	0.0836	0.12	0.151	0.0753	
PCB-118	31508-00-6	µg/kg		3.03	3.57	9.91	7.42	5.5	3.64	3.45	5.19	6.73	3.19	
PCB-120	68194-12-7	µg/kg		0.0318	0.0292	0.0385 JN	0.0554	0.0322	0.0413	0.0391	0.0677	0.0431	0.0318	

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Downtown SMB101 PDI-TF-SMB101 8/16/18	Downtown SMB102 PDI-TF-SMB102 9/8/18	Downtown SMB103 PDI-TF-SMB103 8/16/18	Downtown SMB104 PDI-TF-SMB104 8/16/18	Downtown SMB105 PDI-TF-SMB105 8/16/18	Downtown SMB106 PDI-TF-SMB106 8/16/18	Downtown SMB107 PDI-TF-SMB107 8/16/18	Downtown SMB108 PDI-TF-SMB108 8/16/18	Downtown SMB109 PDI-TF-SMB109 8/24/18	Downtown SMB110 PDI-TF-SMB110 9/12/18
Chemical	CAS	Units										
PCB-121	56558-18-0	µg/kg	0.00528	0.00760 JN	0.00465 JN	0.00597	0.00354	0.00514	0.00597	0.00704	0.00457	0.00496 JN
PCB-122	76842-07-4	µg/kg	0.0182	0.0235	< 0.0159 U	0.0332	0.0197	0.0223	0.0194	0.0370	0.0354	0.0260
PCB-123	65510-44-3	µg/kg	0.0529 JN	0.0661	0.17 JN	0.121	0.0940 JN	0.0757	0.0626	0.108	0.121	0.0633 JN
PCB-126	57465-28-8	µg/kg	0.00736 JN	0.0104 JN	0.0219 JN	0.0253 JN	0.0275 JN	< 0.00983 U	0.0138 JN	0.0195 JN	0.0180 JN	0.00579 JN
PCB-127	39635-33-1	µg/kg	0.00970 JN	0.0144	0.0367	0.0241	0.0222	0.00996	0.0123	0.0136	0.0222	0.00800
PCB-128/166	PCB-128/166	µg/kg	1.19	1.25	2.33	3.03	1.68	1.15	1.29	1.5	2.2	1.01
PCB-129/138/160/163	PCB-129/138/ C	µg/kg	11.1	9.76	18.7	27.1	13	8.94	10.6	12.4	16.1	8.09
PCB-130	52663-66-8	µg/kg	0.412	0.442	0.637	0.728	0.542	0.439	0.389	0.62	0.723	0.351
PCB-131	61798-70-7	µg/kg	0.0305 JN	0.0410	0.0440	0.0471	0.0310	0.0276	0.0226	0.0524	0.0481	0.0334
PCB-132	38380-05-1	µg/kg	0.961	1.13	1.43	1.78	0.859	0.845	0.64	1.25	1.25	0.817
PCB-133	35694-04-3	µg/kg	0.184	0.202	0.271	0.365	0.258	0.203	0.208	0.294	0.275	0.173
PCB-134/143	PCB-134/143	µg/kg	0.173	0.196	0.253	0.291	0.171	0.153	0.123	0.242	0.25	0.179
PCB-135/151/154	PCB-135/151/154	µg/kg	2.04	2.18	3.43	6.06	2.69	1.85	1.9	2.89	2.94	2.02
PCB-136	38411-22-2	µg/kg	0.313	0.394	0.449	0.694	0.332	0.263	0.258	0.387	0.438	0.382
PCB-137	35694-06-5	µg/kg	0.31	0.315	1.09	0.592	0.676	0.37	0.36	0.497	0.711	0.301
PCB-139/140	PCB-139/140	µg/kg	0.11	0.133	0.208	0.225	0.162	0.105	0.132	0.152	0.197	0.112
PCB-141	52712-04-6	µg/kg	0.965	1.02	1.76	3.65	1.15	0.836	0.912	1.31	1.41	0.948
PCB-142	41411-61-4	µg/kg	< 0.0102 U	< 0.00644 U	< 0.00924 U	< 0.00550 U	< 0.00743 U	< 0.00631 U	< 0.00990 U	< 0.0166 U	< 0.0173 U	< 0.00946 U
PCB-144	68194-14-9	µg/kg	0.202	0.216	0.29	0.511	0.194	0.168	0.154	0.282	0.29	0.197
PCB-145	74472-40-5	µg/kg	0.000481 JN	< 0.000471 U	0.00139 JN	< 0.000180 U	0.000420 JN	< 0.000443 U	0.000574	0.000927	0.00108 JN	< 0.000639 U
PCB-146	51908-16-8	µg/kg	2	2.08	4.11	4.39	2.53	1.87	1.93	2.75 J	3.48	1.94
PCB-147/149	PCB-147/149	µg/kg	4.29	4.46	6.57	8.36	4.52	3.42	2.9	5.66	5.31	3.62
PCB-148	74472-41-6	µg/kg	0.0262	0.0296	0.0344	0.0244	0.0129	0.0217	0.0213	0.0300	0.0171 JN	0.0232 JN
PCB-150	68194-08-1	µg/kg	0.0135	0.0190	0.00787 JN	0.0130	0.00523	0.0114	0.00905	0.0165	0.0129	0.0145
PCB-152	68194-09-2	µg/kg	0.00260 JN	0.00436 JN	< 0.000194 U	0.00448	0.00277	0.00211	0.00290	0.00383	0.00398 JN	0.00464 JN
PCB-153/168	PCB-153/168	µg/kg	9.98	11.4	18.3	30.7	13.3	9.54	12	14.6	16.8	9.91
PCB-155	33979-03-2	µg/kg	0.0107	0.0178	0.0121	0.0114	0.0116	0.00974	0.0176	0.0110	0.0103	0.0147
PCB-156/157	PCB-156/157	µg/kg	0.626	0.75	2.16	1.94	1.39	0.829	0.872	1.12	1.41	0.656
PCB-158	74472-42-7	µg/kg	0.673	0.695	1.11	2.01	0.932	0.63	0.767	0.902	1.11	0.581
PCB-159	39635-35-3	µg/kg	< 0.00740 U	0.0614	< 0.00633 U	< 0.00375 U	0.0568	< 0.00430 U	< 0.00645 U	< 0.0113 U	0.0659	< 0.00663 U
PCB-161	74472-43-8	µg/kg	< 0.00714 U	< 0.00460 U	< 0.00637 U	< 0.00386 U	< 0.00513 U	< 0.00443 U	< 0.00688 U	< 0.0116 U	< 0.0120 U	< 0.00621 U
PCB-162	39635-34-2	µg/kg	0.0217	0.0190	0.0616	0.0651	0.0498	0.0345	0.0299	0.0495	0.0526	0.0171
PCB-164	74472-45-0	µg/kg	0.365	0.378	0.7	0.928	0.538	0.304	0.33	0.444	0.542	0.251
PCB-165	74472-46-1	µg/kg	< 0.00836 U	0.00967 JN	0.00844 JN	0.0114	0.00740	0.00948	< 0.00770 U	< 0.0133 U	< 0.0144 U	< 0.00750 U
PCB-167	52663-72-6	µg/kg	0.3	0.325	0.811	0.776	0.583	0.374	0.377	0.499	0.63	0.272
PCB-169	32774-16-6	µg/kg	< 0.00854 U	< 0.0152 U	< 0.0171 U	< 0.0339 U	< 0.0285 U	< 0.00650 U	< 0.0217 U	< 0.0198 U	< 0.0177 U	< 0.00954 U
PCB-170	35065-30-6	µg/kg	1.99	2.09 J	2.26	7.75	2.4	1.71	2.11	2.18	2.93	1.75
PCB-171/173	PCB-171/173	µg/kg	0.557	0.557	0.754	2.2	0.76	0.49	0.598	0.55	0.664	0.51
PCB-172	52663-74-8	µg/kg	0.415	0.412	0.537	1.68	0.62	0.376	0.436	0.51	0.549	0.385
PCB-174	38411-25-5	µg/kg	1.18	1.04	1.39	3.05	1.26	0.917	0.72	1.18	1.17	0.61
PCB-175	40186-70-7	µg/kg	0.0780	0.0907	0.0994	0.234	0.101	0.0647	0.0698	0.0852	0.0947	0.0588
PCB-176	52663-65-7	µg/kg	0.123	0.113	0.129	0.25	0.117 JN	0.0967	0.0780	0.128	0.124	0.0778
PCB-177	52663-70-4	µg/kg	0.914	1.05	1.03	2.72 J	1.17	0.912	0.75	1.04	1.12	0.595
PCB-178	52663-67-9	µg/kg	0.744	0.634	0.851	2.04	0.887	0.57	0.713	0.827	0.876	0.505
PCB-179	52663-64-6	µg/kg	0.532	0.481	0.734	1.44	0.76	0.426	0.462	0.606	0.584	0.387
PCB-180/193	PCB-180/193	µg/kg	6.44	7.08	8.87	24.7	9.61	5.88	7.49	7.11	9.84	5.93
PCB-181	74472-47-2	µg/kg	0.0174	0.0192	0.0394	0.0389	0.0417	0.0195	0.0226	0.0238	0.0307	0.0152
PCB-182	60145-23-5	µg/kg	0.0196	0.0167 JN	< 0.000415 U	0.0431	0.0314 JN	0.0191 JN	0.0205	0.0245	< 0.000511 U	< 0.000683 U
PCB-183/185	PCB-183/185	µg/kg	1.61	1.75	2.34	5.98	2.23	1.41	1.63	1.79	2.13	1.46
PCB-184	74472-48-3	µg/kg	0.0119	0.0225	0.0183	0.0145	0.0177 JN	0.0105	0.0207	0.0124	0.0126	0.0163
PCB-186	74472-49-4	µg/kg	< 0.000306 U	< 0.000538 U	< 0.000339 U	< 0.000334 U	< 0.00183 U	< 0.000304 U	< 0.000562 U	< 0.000198 U	< 0.000419 U	< 0.000559 U
PCB-187	52663-68-0	µg/kg	6.34	5.42	14	20.2	11.4	4.44	5.19	5.81	9	4.44
PCB-188	74487-85-7	µg/kg	0.00864	0.0112	0.0100	0.0120	0.00861 J	0.00943	0.0108	0.0135	0.00986	0.00729 JN
PCB-189	39635-31-9	µg/kg	0.0560	0.0695	0.0868	0.235	0.0788	0.0601	0.0678	0.0759	0.0998	0.0592
PCB-190	41411-64-7	µg/kg	0.453	0.398	0.729	2.11	0.807	0.444	0.529	0.471	0.66	0.451

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Downtown SMB101 PDI-TF-SMB101 8/16/18	Downtown SMB102 PDI-TF-SMB102 9/8/18	Downtown SMB103 PDI-TF-SMB103 8/16/18	Downtown SMB104 PDI-TF-SMB104 8/16/18	Downtown SMB105 PDI-TF-SMB105 8/16/18	Downtown SMB106 PDI-TF-SMB106 8/16/18	Downtown SMB107 PDI-TF-SMB107 8/16/18	Downtown SMB108 PDI-TF-SMB108 8/16/18	Downtown SMB109 PDI-TF-SMB109 8/24/18	Downtown SMB110 PDI-TF-SMB110 9/12/18
Chemical	CAS	Units										
PCB-191	74472-50-7	µg/kg	0.0861	0.0928	0.137	0.338	0.135	0.0770	0.0868	0.0879	0.116	0.0867
PCB-192	74472-51-8	µg/kg	< 0.000336 U	< 0.000583 U	< 0.000393 U	< 0.000374 U	< 0.00199 U	< 0.000341 U	< 0.000603 U	< 0.000222 U	< 0.000489 U	< 0.000661 U
PCB-194	35694-08-7	µg/kg	0.803	0.852	1.11	3.13	1.15	0.782	0.968	0.95	1.06 J	0.799 J
PCB-195	52663-78-2	µg/kg	0.392	0.392	0.585	1.69	0.696	0.34	0.478	0.356	0.591	0.47
PCB-196	42740-50-1	µg/kg	0.478	0.555	0.834	1.81	0.99	0.414	0.578	0.533	0.794	0.588
PCB-197/200	PCB-197/200	µg/kg	0.105	0.106	0.165	0.301	0.16	0.0926	0.0968	0.13 J	0.15	0.0950
PCB-198/199	PCB-198/199	µg/kg	1.22	1.35	2.51	5.07	2.56	1.27	1.42	1.8	1.95	1.22
PCB-201	40186-71-8	µg/kg	0.108	0.14	0.178	0.33	0.208	0.107	0.124	0.142	0.155	0.109
PCB-202	2136-99-4	µg/kg	0.36	0.369	0.627	1.02 J	0.591	0.368	0.495	0.506	0.514	0.308
PCB-203	52663-76-0	µg/kg	0.774	0.877	1.56	3.2	1.7	0.806	1.13	1.08	1.28	0.886
PCB-204	74472-52-9	µg/kg	0.000760 JN	0.000967 JN	0.00184 JN	0.00172 JN	< 0.00254 U	0.00133	0.00222 JN	0.00201	< 0.000471 U	0.000944 J
PCB-205	74472-53-0	µg/kg	0.0404	0.0415	0.0574	0.226	0.0683	0.0431	0.0505	0.0579	0.0651	0.0456
PCB-206	40186-72-9	µg/kg	0.31	0.351	0.537	0.832	0.534	0.341	0.408	0.48	0.521	0.29
PCB-207	52663-79-3	µg/kg	0.0500	0.0578	0.0846	0.101	0.0736	0.0502	0.0604	0.0662	0.0684	0.0416
PCB-208	52663-77-1	µg/kg	0.126	0.131	0.199	0.24	0.19	0.143	0.152	0.218	0.228	0.106
PCB-209	2051-24-3	µg/kg	0.143	0.153	0.245	0.218	0.179	0.156	0.187	0.219	0.333	0.146
Total PCBs	(a) T PCBcg (PDI)	µg/kg	87	96.4	155	239	117	81.9	91.8	118	131	86.4
Pesticides												
2,4-DDD	53-19-0	µg/kg	0.550	0.838	0.283	0.695	0.376	0.397	1.16	0.835	0.465 J	2.27
2,4-DDE	3424-82-6	µg/kg	0.257	0.342	0.187	0.302	0.204 J	0.260	0.405	0.598	0.362 J	0.641
2,4-DDT	789-02-6	µg/kg	0.293	0.813	0.186	0.269	0.264	0.216 J	0.455	0.384	0.131 J	0.680
4,4'-DDD	72-54-8	µg/kg	4.61	5.82	3.22	7.71	3.54	4.99	7.97	11.4	4.84 J	14.1
4,4'-DDE	72-55-9	µg/kg	47.6	52.8	41.7	83.0	37.7	75.6	62.2	123	69.4 J	64.8
4,4'-DDT	50-29-3	µg/kg	2.45	2.64	6.43	3.11	2.82	2.62	5.21	4.72	1.66 J	4.20
DDx	(a) T DDx (PDI)	µg/kg	55.8	63.3	52	95.1	44.9	84.1	77.4	141	76.9	86.7
alpha-Chlordane	5103-71-9	µg/kg	1.33	1.06	0.602	0.886	1.11	0.665	1.40	0.956	0.713 J	2.45
cis-Nonachlor	5103-73-1	µg/kg	1.29	1.29	1.11	1.43	1.47	1.30	1.74	1.84	1.16 J	2.24
Oxychlordane	27304-13-8	µg/kg	0.972	0.753	0.554	0.705	0.678	0.546	0.990	1.07	0.483 J	1.43
trans-Chlordane	5103-74-2	µg/kg	0.593	0.336 J	0.178 J	0.289 J	0.348 J	0.202 J	0.502	0.314 J	0.246 J	0.965
trans-Nonachlor	39765-80-5	µg/kg	3.73	4.00	3.21	3.84	4.16	3.59	5.23	5.57	3.14 J	6.27
Total Chlordanes	(a) T Clrdn (PDI)	µg/kg	7.92	7.44	5.65	7.15	7.77	6.3	9.86	9.75	5.74	13.4
Aldrin	309-00-2	µg/kg	0.009 J	0.006 JN	0.006 J	0.010 J	0.008 J	0.008 J	0.031 J	0.009 JN	0.005 JN	0.050 J
Dieldrin	60-57-1	µg/kg	0.954	1.17	0.733	1.27	1.19	0.991	1.86	1.18	0.796 J	4.17
Metals												
Arsenic	7440-38-2	mg/kg	0.16	0.13 J	0.19	0.14	0.16	0.12	0.17	0.13	0.13 J	0.15
Mercury	7439-97-6	mg/kg	0.117 J	0.138 J	0.157 J	0.116 J	0.205 J	0.176 J	0.293 J	0.135 J	0.133 J	0.362
Semivolatile Organics												
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	1500 J	< 20000 U	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg	1.21	1.51	0.963	1.40	1.35	0.881	1.91	1.37	0.884 J	3.56
Pentachlorophenol	(c) 87-86-5	µg/kg	< 1000 U	< 990 U	< 1000 U	< 1000 U	< 990 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)												
PBDE-7	171977-44-9	µg/kg	0.00130 J	0.000837 JN	0.000994 JN	0.00201 J	0.00122 JN	0.00121 J	0.00242 J	0.00128 JN	0.00161 JN	0.00375 JN
PBDE-8/11	PBDE-8/11	µg/kg	0.000980 JN	0.00104 J	0.000951 JN	0.00157 J	0.00139 JN	0.00127 J	0.00244 J	0.00145 J	0.00179 J	0.00541 J
PBDE-10	51930-04-2	µg/kg	< 0.000605 U	< 0.000504 U	< 0.000655 U	< 0.000301 U	< 0.000972 U	< 0.000141 U	< 0.000217 U	< 0.000414 U	< 0.000237 U	< 0.000650 U
PBDE-12/13	PBDE-12/13	µg/kg	0.00439 JN	0.00504 JN	0.00135 JN	0.00220 JN	0.00184 JN	0.00121 JN	0.00229 JN	0.00181 JN	0.00266 JN	0.00384 J
PBDE-15	2050-47-7	µg/kg	0.0114 J	0.0146	0.00891 J	0.0150	0.0116 J	0.00986	0.0204	0.0143	0.0102 J	0.0417
PBDE-17/25	PBDE-17/25	µg/kg	0.0593 JN	0.0662 JN	0.0433 JN	0.0821	0.0615 JN	0.0498	0.112	0.0630	0.0611 JN	0.224
PBDE-28/33	PBDE-28/33	µg/kg	0.325	0.583	0.282	0.484	0.335	0.289	0.677	0.392	0.285	0.624
PBDE-30	155999-95-4	µg/kg	< 0.00279 U	< 0.00250 U	< 0.00144 U	< 0.00210 U	< 0.00179 U	< 0.00246 U	< 0.00232 U	< 0.00171 U	< 0.00229 U	< 0.00609 U
PBDE-32	189084-60-4	µg/kg	< 0.00216 U	< 0.00202 U	< 0.00111 U	< 0.00166 U	< 0.00138 U	< 0.00192 U	< 0.00179 U	< 0.00135 U	< 0.00184 U	< 0.00467 U
PBDE-35	147217-80-9	µg/kg	0.0167 JN	0.00981 JN	0.00485 JN	0.00756 JN	0.00578 JN	0.00555 JN	0.00824 JN	0.00674 JN	0.00340 JN	0.0153 JN
PBDE-37	147217-81-0	µg/kg	0.00659 J	0.0118 JN	0.00733 J	0.0115	0.00623 J	0.00830 J	0.0131	0.00958	0.00635 J	0.0215
PBDE-047	5436-43-1	µg/kg	16.8	21.4	16.2	20.4	16	15.4	26.1	16.1	13.4	19.3
PBDE-49	243982-82-3	µg/kg	0.608	0.9	0.444	0.865	0.739	0.53	0.703	0.828	0.573	1.11
PBDE-51	189084-57-9	µg/kg	0.0215	0.0328	0.0187	0.0335	0.0161	0.0192	0.0278	0.0296	0.0267	0.0601

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Downtown SMB101 PDI-TF-SMB101 8/16/18	Downtown SMB102 PDI-TF-SMB102 9/8/18	Downtown SMB103 PDI-TF-SMB103 8/16/18	Downtown SMB104 PDI-TF-SMB104 8/16/18	Downtown SMB105 PDI-TF-SMB105 8/16/18	Downtown SMB106 PDI-TF-SMB106 8/16/18	Downtown SMB107 PDI-TF-SMB107 8/16/18	Downtown SMB108 PDI-TF-SMB108 8/16/18	Downtown SMB109 PDI-TF-SMB109 8/24/18	Downtown SMB110 PDI-TF-SMB110 9/12/18
Chemical	CAS	Units										
PBDE-66	189084-61-5	µg/kg	0.228	0.509	0.209	0.237	0.23	0.186	0.294	0.211	0.21	0.33
PBDE-71	189084-62-6	µg/kg	0.0279	0.0411	0.0185	0.0286	0.0232	0.0189	0.0281	0.0278	0.0243	0.0668
PBDE-75	189084-63-7	µg/kg	0.0232	0.0322	0.0188	0.0192	0.0176	0.0136	0.0228	0.0152	0.0179	0.0348
PBDE-77	93703-48-1	µg/kg	0.00458 J	0.00454 J	0.00243 JN	0.00535 JN	0.00320 JN	0.00414 JN	0.00638 J	0.00288 J	< 0.000146 U	< 0.000145 U
PBDE-79	PBDE-79	µg/kg	0.0362 JN	0.0249 JN	0.0287 JN	0.0491 JN	0.0320 JN	0.0469 JN	0.0719 JN	0.0402 JN	0.0273 JN	0.0211
PBDE-85	182346-21-0	µg/kg	< 0.00480 U	< 0.00418 U	< 0.00289 U	< 0.00235 U	< 0.00360 U	< 0.00225 U	< 0.00161 U	< 0.00238 U	< 0.00371 U	< 0.00410 U
PBDE-099	60348-60-9	µg/kg	4.33	11.7	5.52	3.37	3.91	3.87	7.4	4.15	4.52	9.01
PBDE-100	189084-64-8	µg/kg	3.99	5.17	3.56	3.9	3.13	3.21	5.04	3.03	3.06	4.5
PBDE-105	373594-78-6	µg/kg	< 0.00609 U	< 0.00514 U	< 0.00366 U	< 0.00313 U	< 0.00456 U	< 0.00298 U	< 0.00215 U	< 0.00317 U	< 0.00523 U	< 0.00485 U
PBDE-116	189084-65-9	µg/kg	< 0.00755 U	< 0.00675 U	< 0.00454 U	< 0.00467 U	< 0.00566 U	< 0.00463 U	< 0.00324 U	< 0.00472 U	< 0.00759 U	< 0.00657 U
PBDE-119/120	PBDE-119/120	µg/kg	0.0884	0.0902	0.0517	0.0842	0.0728	0.0705	0.0678	0.0650	0.0697	0.0962
PBDE-126	366791-32-4	µg/kg	0.0222	0.0149	0.00824 J	0.0148	0.00728 J	0.00748	0.0159	0.00755	0.00775 J	0.0120 J
PBDE-128	182677-28-7	µg/kg	0.0110 JN	0.00892 JN	0.00515 JN	0.00899 JN	0.00747 JN	0.00535 JN	0.00567 JN	0.00509 JN	0.00592 JN	0.00518 JN
PBDE-138/166	PBDE-138/166	µg/kg	0.00127 JN	0.00151 J	0.00211 J	< 0.000567 U	0.00129 JN	0.000913 JN	0.00134 J	0.000608 JN	0.00314 J+	0.00243 J
PBDE-140	243982-83-4	µg/kg	0.0122 J	0.0226 J	0.0118 J	0.0101 J	0.0124 JN	0.00743	0.0121 J	0.00800	0.0113 J	0.0142 J
PBDE-153	68631-49-2	µg/kg	0.846	1.67 J	1.16	0.976	0.997	0.827	1.5	0.747	0.786	1.15 J
PBDE-154	207122-15-4	µg/kg	0.956 J	1.26 J	0.774 J	0.871	0.745 J	0.736	1.04 J	0.595	0.667	0.996 J
PBDE-155	35854-94-5	µg/kg	0.176 J	0.114 J	0.0603 J	0.108	0.0532 J	0.0724	0.121 J	0.0659	0.0540	0.0765 J
PBDE-181	189084-67-1	µg/kg	< 0.000152 U	0.00133 J	< 0.000146 U	0.000367 J	0.000680 JN	0.000489 JN	< 0.000287 U	0.000432 JN	< 0.00173 U	0.000194 JN
PBDE-183	207122-16-5	µg/kg	0.0177	0.0263	0.00930 J	0.00583 J	0.00558 J	0.00722	0.0145	0.00924	0.0161	0.0222 JN
PBDE-190	189084-68-2	µg/kg	< 0.000246 U	< 0.00127 U	0.000705 J	0.000408 JN	0.000570 JN	0.000145 JN	< 0.000485 U	0.000196 JN	0.00222 JN	< 0.000152 U
PBDE-203	337513-72-1	µg/kg	0.000356 JN	0.00358 JN	0.00117 JN	0.000849 JN	0.00173 JN	0.00137 JN	0.00214 J	0.00133 JN	0.00509 J+	0.00365 JN
PBDE-206	63387-28-0	µg/kg	< 0.00155 U	< 0.000469 U	< 0.000923 U	0.000511 JN	< 0.00120 U	0.00196 J	0.000753 JN	0.00128 JN	0.00555 JN	0.00201 JN
PBDE-207	437701-79-6	µg/kg	0.00256 JN	0.00220 JN	0.00205 J	0.00141 JN	0.00276 JN	0.00301 JN	0.00293 JN	0.00119 JN	0.00958 J+	0.00354 JN
PBDE-208	437701-78-5	µg/kg	0.00723 JN	0.00231 JN	0.00355 J	0.000688 JN	0.00341 JN	0.00612 JN	0.00306 JN	0.00121 JN	< 0.00869 U	0.00720 J+
PBDE-209	1163-19-5	µg/kg	0.0261 JN	0.0287 JN	0.0358 JN	< 0.00843 U	0.0278 JN	0.0303 JN	< 0.0193 U	< 0.0157 U	0.11 J+	0.0257 JN
Total PBDE	(a) T. PBDE (PDI)	µg/kg	28.7	43.8	28.5	31.6	26.5	25.4	43.3	26.4	24	37.8

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Downtown SMB101 PDI-TF-SMB101 8/16/18	Downtown SMB102 PDI-TF-SMB102 9/8/18	Downtown SMB103 PDI-TF-SMB103 8/16/18	Downtown SMB104 PDI-TF-SMB104 8/16/18	Downtown SMB105 PDI-TF-SMB105 8/16/18	Downtown SMB106 PDI-TF-SMB106 8/16/18	Downtown SMB107 PDI-TF-SMB107 8/16/18	Downtown SMB108 PDI-TF-SMB108 8/16/18	Downtown SMB109 PDI-TF-SMB109 8/24/18	Downtown SMB110 PDI-TF-SMB110 9/12/18
Chemical	CAS	Units										
Physical Parameters												
Lipids	LIPID	%	4.00	3.84	3.93	4.70	5.05	4.12	6.06	4.97	4.64	8.57
Total Solids@104C	TSOLID	%	26.6	26.7	24.5	26.3	27.1	24.4	28.3	26.1	27.7	28.4

Notes:**Qualifiers:**

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
 JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 U = Not detected at detection limit shown.
 UJ = Not detected; sample detection limit is estimated.
 R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
 The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
 Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
 There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Downtown SMB111 PDI-TF-SMB111 8/16/18	Downtown SMB112 PDI-TF-SMB112 8/16/18	Downtown SMB113 PDI-TF-SMB113 9/8/18	Downtown SMB114 PDI-TF-SMB114 8/15/18	Downtown SMB115 PDI-TF-SMB115 8/15/18	Upriver SMB116 PDI-TF-SMB116 8/15/18	Upriver SMB117 PDI-TF-SMB117 9/9/18	Upriver SMB118 PDI-TF-SMB118 8/15/18	Upriver SMB119 PDI-TF-SMB119 8/24/18	Upriver SMB120 PDI-TF-SMB120 9/9/18
Chemical	CAS	Units										
Dioxins and Furans												
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg	0.000347 J	0.000133 J	0.000184 JN	0.000225 J	< 0.0000820 U	0.000141 JN	0.000701 J	0.000102 J	0.000167 JN	0.000241 J
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg	< 0.0000723 U	< 0.0000736 U	< 0.0000730 U	< 0.0000756 U	< 0.0000820 U	< 0.0000745 U	0.000396 JN	< 0.0000779 U	< 0.0000727 U	< 0.0000728 U
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg	< 0.0000723 U	< 0.0000736 U	< 0.0000730 U	< 0.0000756 U	< 0.0000820 U	< 0.0000745 U	0.000701 JN	< 0.0000779 U	< 0.0000727 U	< 0.0000728 U
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg	0.000231 J	0.000113 J	< 0.0000730 U	< 0.0000756 U	< 0.0000820 U	< 0.0000745 U	0.00488	< 0.0000779 U	0.000120 JN	< 0.000136 U
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg	0.000118 J	< 0.0000736 U	< 0.0000730 U	< 0.0000756 U	< 0.0000820 U	0.0000965 J	0.000434 JN	< 0.0000779 U	< 0.0000727 U	< 0.0000728 U
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg	0.000596 J	0.000336 J	0.000366 J	0.000247 J	0.000155 JN	0.000186 J	0.0308	0.000144 JN	0.000338 J	0.000252 J
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg	0.0000944 JN	< 0.0000736 U	< 0.0000730 U	< 0.0000756 U	< 0.0000820 U	< 0.0000745 U	0.000747 JN	< 0.0000779 U	< 0.0000727 U	< 0.0000728 U
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg	0.0000920 JN	< 0.0000736 U	< 0.0000730 U	< 0.0000756 U	< 0.0000820 U	< 0.0000745 U	0.00127 J	< 0.0000779 U	< 0.0000727 U	< 0.000139 U
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg	< 0.0000723 U	< 0.0000736 U	< 0.0000730 U	< 0.0000756 U	< 0.0000820 U	< 0.0000745 U	0.0000908 JN	< 0.0000779 U	< 0.0000727 U	< 0.0000728 U
1,2,3,7,8-PeCDD	40321-76-4	µg/kg	0.000538 J	0.000249 J	0.000318 J	0.000257 JN	0.000221 JN	0.000349 J	0.0734	0.000224 J	0.000356 J	0.000261 JN
1,2,3,7,8-PeCDF	57117-41-6	µg/kg	0.000148 J	0.0000901 JN	0.000114 JN	0.000104 J	< 0.0000820 U	0.000127 JN	0.000224 J	0.000103 JN	0.000120 JN	0.000127 J
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg	< 0.0000723 U	< 0.0000736 U	< 0.0000730 U	< 0.0000756 U	< 0.0000820 U	< 0.0000745 U	0.000581 JN	< 0.0000779 U	< 0.0000727 U	< 0.0000728 U
2,3,4,7,8-PeCDF	57117-31-4	µg/kg	0.000345 JN	0.000193 J	0.000331 J	0.000229 J	0.000228 JN	0.000314 J	0.00224	0.000230 J	0.000300 JN	0.000175 J
2,3,7,8-TCDD	1746-01-6	µg/kg	0.000353	0.000283 J	0.000177 J	0.000234 J	0.000150 JN	0.000282 J	0.0236	0.000233 JN	0.000202 JN	0.000183 J
2,3,7,8-TCDF	51207-31-9	µg/kg	0.000910	0.000601 JN	0.000769	0.000457	0.000378	0.000830	0.000113 J	0.000626	0.000511	0.000360
OCDD	3268-87-9	µg/kg	0.000158 J	0.000172 J	0.000430 J	0.000196 JN	0.000338 J+	0.000261 J+	0.000509 J	0.000357 J+	0.000320 J+	0.000438 J
OCDF	39001-02-0	µg/kg	< 0.0000723 U	< 0.0000736 U	< 0.0000730 U	< 0.0000756 U	< 0.0000820 U	< 0.0000745 U	0.000732 J	< 0.0000779 U	< 0.0000727 U	< 0.0000728 U
TCDD-TEQ (a) T_DF_TEQ (PDI)		µg/kg	0.00121	0.000703	0.000717	0.000639	0.000497	0.000845	0.102	0.000611	0.000754	0.000571
TCDD-TEQ (EMPC=half) (b) T_DF_TEQ(E 0.5)		µg/kg	0.00114	0.0007	0.000712	0.000507	0.000148	0.00084	0.101	0.000473	0.000542	0.000434
TCDD-TEQ (EMPC=0) (b) T_DF_TEQ(E 0)		µg/kg	0.00108	0.000696	0.000708	0.000378	0.0000379	0.000837	0.101	0.000357	0.000441	0.000303
Polychlorinated Biphenyls (PCBs)												
PCB-1	2051-60-7	µg/kg	0.00375	0.00149 J+	0.00160 J	0.00126 J+	0.00179	0.00112 J+	0.00144 JN	0.00209	0.00170 J+	0.000966 J+
PCB-2	2051-61-8	µg/kg	0.00208	0.000773 J+	0.00123 J+	0.000733 J+	0.000915 J+	0.000664 J+	0.000570 JN	0.000945 J+	0.000918 JN	0.00104 JN
PCB-3	2051-62-9	µg/kg	0.00247 J+	0.00124 JN	0.00140 JN	0.00213 J+	0.00197 J+	0.00153 JN	0.00116 J+	0.00174 J+	0.00163 J+	0.00129 JN
PCB-4	13029-08-8	µg/kg	0.0318	0.0216	0.0164	0.0123	0.0246	0.00908	0.00910	0.0148	0.0122	0.00654
PCB-5	16605-91-7	µg/kg	0.000652	0.000512 JN	< 0.00316 U	0.000326 JN	0.000382 J	< 0.000246 U	< 0.00296 U	0.000251 JN	< 0.00286 U	< 0.000818 U
PCB-6	25569-80-6	µg/kg	0.0177	0.0320	0.0168	0.0139	0.0334	0.00588	0.00840	0.0121	0.0153	0.00341
PCB-7	33284-50-3	µg/kg	0.00274	0.00225	< 0.00283 U	0.00133	0.00263	0.000830	< 0.00271 U	0.00121 JN	< 0.00265 U	0.000749 JN
PCB-8	34883-43-7	µg/kg	0.0535	0.0514	0.0393	0.0261	0.0556	0.0170	0.0164	0.0287	0.0262	0.0100
PCB-9	34883-39-1	µg/kg	0.00446	0.00520	0.00509 JN	0.00270	0.00585	0.00129 JN	0.00258 JN	0.00281 JN	0.00333 JN	0.00116 J
PCB-10	33146-45-1	µg/kg	0.00164	0.000872	< 0.00290 U	0.000632	0.000981	0.000393 JN	< 0.00256 U	0.000701	< 0.00259 U	< 0.000705 U
PCB-11	2050-67-1	µg/kg	0.214	0.0505	0.0851	0.0656	0.0451	0.0408	0.00741 J+	0.0762	0.0419	0.0390
PCB-12/13	PCB-12/13	µg/kg	0.00625	0.00213	< 0.00304 U	0.00107 JN	0.00117 JN	< 0.000225 U	< 0.00274 U	0.00105 JN	< 0.00269 U	< 0.000756 U
PCB-14	34883-41-5	µg/kg	0.000429 J	< 0.000186 U	< 0.00292 U	< 0.000152 U	< 0.000147 U	< 0.000219 U	< 0.00271 U	< 0.000190 U	< 0.00263 U	< 0.000747 U
PCB-15	2050-68-2	µg/kg	0.0170	0.00890	0.00562	0.00753	0.00738	0.00298	< 0.00310 U	0.00564	0.00519	0.00151 JN
PCB-16	38444-78-9	µg/kg	0.0604	0.0288	0.0235	0.0128	0.0227	0.0115	0.0158 JN	0.0201	0.0135	0.0121
PCB-17	37680-66-3	µg/kg	0.121	0.158	0.0841	0.0508	0.117	0.0461	0.0519	0.0635	0.0712	0.0337
PCB-18/30	PCB-18/30	µg/kg	0.195	0.118	0.0878	0.0551	0.0985	0.0438	0.0632	0.0861	0.0559	0.0468
PCB-19	38444-73-4	µg/kg	0.0282	0.0214	0.0298	0.00551	0.0132	0.00674	0.00983 JN	0.0134	0.00749 JN	0.00438 JN
PCB-20/28	PCB-20/28	µg/kg	0.54	0.315	0.277	0.21	0.308	0.197	0.272	0.378	0.172	0.131
PCB-21/33	PCB-21/33	µg/kg	0.117	0.0411	0.0489	0.0310	0.0461	0.0294	0.0432	0.0567	0.0229	0.0209
PCB-22	38444-85-8	µg/kg	0.112	0.0617	0.0571	0.0355	0.0611	0.0357	0.0530	0.0659	0.0313	0.0271
PCB-23	55720-44-0	µg/kg	< 0.00114 U	< 0.000725 U	< 0.000611 U	< 0.000349 U	0.000251 J	< 0.000368 U	< 0.000684 U	0.000342 JN	< 0.000823 U	< 0.000863 U
PCB-24	55702-45-9	µg/kg	0.00278	0.00224	0.00107 J	0.000996	0.00142	0.000707 JN	0.000683 JN	0.00143 JN	0.000863 J	0.000686 JN
PCB-25	55712-37-3	µg/kg	0.0477	0.0395	0.0282	0.0148	0.0337	0.0192	0.0167	0.0249	0.0190	0.00962
PCB-26/29	PCB-26/29	µg/kg	0.11	0.0945	0.0622	0.0394	0.0783	0.0454	0.0473	0.0703	0.0462	0.0230
PCB-27	38444-76-7	µg/kg	0.0270	0.0539	0.0244	0.00812	0.0272	0.0128	0.0168	0.0179	0.0160	0.00660 JN
PCB-31	16606-02-3	µg/kg	0.347	0.229	0.177	0.111	0.196	0.133	0.12	0.188	0.109	0.0776
PCB-32	38444-77-8	µg/kg	0.0651	0.0401	0.0358	0.0149	0.0326	0.0192	0.0237	0.0292	0.0198	0.00878
PCB-34	37680-68-5	µg/kg	0.00363	0.00457	0.00250 JN	0.00186	0.00334	0.00173 JN	0.00248 J	0.00231	0.00157 J	0.000993 J
PCB-35	37680-69-6	µg/kg	0.00179	< 0.000666 U	< 0.000597 U	< 0.000327 U	< 0.000206 U	< 0.000311 U	< 0.000691 U	< 0.000122 U	< 0.000855 U	< 0.000871 U
PCB-36	38444-87-0	µg/kg	< 0.000997 U	< 0.000635 U	< 0.000566 U	< 0.000302 U	< 0.000204 U	< 0.000307 U	< 0.000619 U	< 0.000114 U	< 0.000772 U	< 0.000781 U
PCB-37	38444-90-5	µg/kg	0.0348	0.0182	0.0248	0.0135	0.0184	0.0191	0.00574	0.0194	0.0151	0.0138
PCB-38	53555-66-1	µg/kg	0.00118 JN	0.000757 JN	< 0.000610 U	< 0.000330 U	0.000396 J	< 0.000331 U	< 0.000679 U	0.000672 JN	< 0.000766 U	< 0.000857 U

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location Sample ID Sample Date	Downtown SMB111 PDI-TF-SMB111 8/16/18	Downtown SMB112 PDI-TF-SMB112 8/16/18	Downtown SMB113 PDI-TF-SMB113 9/8/18	Downtown SMB114 PDI-TF-SMB114 8/15/18	Downtown SMB115 PDI-TF-SMB115 8/15/18	Upriver SMB116 PDI-TF-SMB116 8/15/18	Upriver SMB117 PDI-TF-SMB117 9/9/18	Upriver SMB118 PDI-TF-SMB118 8/15/18	Upriver SMB119 PDI-TF-SMB119 8/24/18	Upriver SMB120 PDI-TF-SMB120 9/9/18
PCB-39	38444-88-1	µg/kg		0.00507	0.00162 JN	0.00267 J	0.00103	0.00190	0.00242 JN	0.00338	0.00266	0.000804 J	0.00192 JN
PCB-40/41/71	PCB-40/41/71	µg/kg		0.346	0.108	0.165	0.0639	0.108	0.171	0.2	0.135	0.0495	0.109
PCB-42	36559-22-5	µg/kg		0.212	0.0823	0.115	0.0459	0.0875	0.123	0.14	0.11	0.0405	0.0682
PCB-43	70362-46-8	µg/kg		0.0407	0.0204	0.0190	0.0109	0.0182	0.0259 JN	0.0249	0.0179	0.00958	0.0109
PCB-44/47/65	PCB-44/47/65	µg/kg		1.34	0.62	0.797	0.401	0.539	1.48	0.674	0.651	0.292	0.476
PCB-45/51	PCB-45/51	µg/kg		0.107	0.0443	0.0802	0.0170	0.0388	0.0293	0.0495	0.0404	0.0214	0.0241
PCB-46	41464-47-5	µg/kg		0.0248	0.00746	0.0122	0.00314	0.00651	0.00628	0.0107	0.00820	0.00367	0.00504
PCB-48	70362-47-9	µg/kg		0.137	0.0451	0.0661	0.0295	0.0530	0.0677	0.0912	0.0658	0.0252	0.0437
PCB-49/69	PCB-49/69	µg/kg		1.02	0.44	0.556	0.29	0.397	1.15	0.51	0.503	0.213	0.339
PCB-50/53	PCB-50/53	µg/kg		0.101	0.0591	0.0796	0.0138	0.0400	0.0424	0.0433	0.0425	0.0243	0.0293
PCB-52	35693-99-3	µg/kg		1.77	0.703	0.905	0.531	0.649	5.12	0.88	1.21	0.372	0.838
PCB-54	15968-05-5	µg/kg		0.00301	0.00207	0.00796	0.000448 JN	0.00107	0.000837	0.00162 J	0.00148	0.000862 J	0.000904 J
PCB-55	74338-24-2	µg/kg		0.0169 JN	0.00907 JN	< 0.00262 U	< 0.00313 U	< 0.000515 U	< 0.0109 U	< 0.00251 U	< 0.00210 U	< 0.00301 U	< 0.00232 U
PCB-56	41464-43-1	µg/kg		0.22	0.111	0.137	0.0615	0.0867	0.355	0.111	0.0942	0.0491	0.0967
PCB-57	70424-67-8	µg/kg		0.00504 JN	0.00236	0.00306	< 0.00287 U	0.00259	< 0.0106 U	0.00275 J	0.00337	< 0.00280 U	< 0.00207 U
PCB-58	41464-49-7	µg/kg		0.00728 JN	0.00456	0.00496	< 0.00307 U	0.00432 JN	< 0.0111 U	0.00316	0.00456	< 0.00297 U	< 0.00217 U
PCB-59/62/75	PCB-59/62/75	µg/kg		0.102	0.0465	0.0548	0.0270	0.0414	0.0447	0.0501	0.0485	0.0218	0.0286
PCB-60	33025-41-1	µg/kg		0.219	0.0935	0.133	0.108	0.0896	0.384	0.171	0.114	0.0599	0.0856
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg		1.89	0.769	1.11	0.914	0.718	6.51	0.816	1.09	0.467	0.852
PCB-63	74472-34-7	µg/kg		0.0706	0.0332	0.0429	0.0371	0.0328	0.151	0.0435	0.0483	0.0251	0.0282
PCB-64	52663-58-8	µg/kg		0.449	0.174	0.239	0.132	0.169	0.594	0.286	0.221	0.0918	0.165
PCB-66	32598-10-0	µg/kg		1.36 J	0.544 J	0.819	0.707 J	0.573	3.54	0.87	0.887	0.412	0.538
PCB-67	73575-53-8	µg/kg		0.0228	0.0134	0.0152	0.00614	0.0114	0.0147 JN	0.0112	0.0116	0.00479	0.00684
PCB-68	73575-52-7	µg/kg		0.0301	0.0201	0.0243	0.0129	0.0159	0.0151	0.0179	0.0201	0.0101	0.00931
PCB-72	41464-42-0	µg/kg		0.0357	0.0232	0.0249	0.0126	0.0166	0.0175	0.0178	0.0228	0.0100	0.00940
PCB-73	74338-23-1	µg/kg		0.0155	0.0105	0.0151	< 0.0000756 U	< 0.0000820 U	< 0.0000809 U	< 0.000419 U	< 0.0000779 U	0.00348	< 0.000244 U
PCB-77	32598-13-3	µg/kg		0.0500	0.0307	0.0389	0.0228	0.0315	0.202	0.0183	0.0408	0.0258	0.0361
PCB-78	70362-49-1	µg/kg		< 0.00482 U	< 0.000713 U	< 0.00267 U	< 0.00306 U	< 0.000511 U	< 0.0103 U	< 0.00242 U	< 0.00211 U	< 0.00306 U	< 0.00223 U
PCB-79	41464-48-6	µg/kg		0.0253 JN	0.0188 JN	0.0246	0.0138 JN	0.0241	0.251	0.0226	0.0240	0.00938	0.0223
PCB-80	33284-52-5	µg/kg		< 0.00450 U	< 0.000665 U	< 0.00246 U	< 0.00278 U	< 0.000434 U	< 0.00989 U	< 0.00225 U	< 0.00195 U	< 0.00275 U	< 0.00207 U
PCB-81	70362-50-4	µg/kg		< 0.00425 U	0.00149 JN	0.00271 JN	< 0.00237 U	0.00180 JN	0.0103 JN	< 0.00217 U	0.00221 JN	< 0.00297 U	0.00301 JN
PCB-82	52663-62-4	µg/kg		0.179	0.113	0.132	0.0624	0.0826	1.28	0.126	0.112	0.0455	0.187
PCB-83/99	PCB-83/99	µg/kg		3.75	2.3	2.4	2.29	1.65	28.3	2.03	2.8	1.1	2.46
PCB-84	52663-60-2	µg/kg		0.327	0.17	0.236	0.0908	0.142	1.93	0.176	0.192	0.0817	0.398
PCB-85/116/117	PCB-85/116/117	µg/kg		1.06	0.526	0.589	0.574	0.459	7.6	0.632	0.823	0.258	0.678
PCB-86/87/97/108/119/125	PCB-86/87/97/125	µg/kg		1.77 J	1.19 J	1.42	0.863 J	0.919 J	15.7 J	1.26 J	1.5 J	0.533	1.74
PCB-88/91	PCB-88/91	µg/kg		0.381	0.228	0.296	0.126	0.174	1.57	0.222	0.225	0.0938	0.275
PCB-89	73575-57-2	µg/kg		0.0108	0.00367	0.00634 JN	0.00276	0.00376	0.0241	0.00695	0.00366	< 0.00113 U	0.00924
PCB-90/101/113	PCB-90/101/113	µg/kg		4.1	2.85	2.94	1.82	1.86	28.3	2.42	2.87	1.13	3.21
PCB-92	52663-61-3	µg/kg		0.852	0.607	0.588	0.38	0.404	5.24	0.486	0.642	0.233	0.591
PCB-93/95/98/100/102	PCB-93/95/98/102	µg/kg		1.78	0.981	1.27	0.604	0.815	11	0.93	1.18	0.469	1.57
PCB-94	73575-55-0	µg/kg		0.00648	0.00456	0.00821	0.00113 JN	0.00316	< 0.0131 U	0.00282 JN	< 0.00260 U	0.00120 JN	0.00514
PCB-96	73575-54-9	µg/kg		0.0109	0.00315	0.00720	0.00220	0.00330	0.0107	0.00559	0.00420 JN	0.00183 JN	0.00464
PCB-103	60145-21-3	µg/kg		0.0511	0.0394	0.0534	0.0168	0.0263	0.0727	0.0286	0.0214	0.0120	0.0187
PCB-104	56558-16-8	µg/kg		0.000782	0.000607	0.00203 JN	0.000190 JN	0.000919 JN	0.000281 JN	< 0.000496 U	0.000421 JN	< 0.000323 U	< 0.000299 U
PCB-105	32598-14-4	µg/kg		1.36	0.698	0.993	1.1	0.738	18.4	0.876	1.09	0.509	0.826
PCB-106	70424-69-0	µg/kg		< 0.00618 U	< 0.00386 U	< 0.00738 U	< 0.00512 U	< 0.00260 U	< 0.0567 U	< 0.00532 U	< 0.00821 U	< 0.00387 U	< 0.00524 U
PCB-107/124	PCB-107/124	µg/kg		0.135	0.0878	0.0886	0.0990	0.0708	1.58	0.0693	0.133	0.0477	0.0794
PCB-109	74472-35-8	µg/kg		0.424	0.289	0.343	0.365	0.244	4.75	0.247	0.388	0.176	0.207
PCB-110/115	PCB-110/115	µg/kg		3.07	1.97	2.16	1.3	1.5	24.7	1.99	2.29	0.842	2.72
PCB-111	39635-32-0	µg/kg		0.00950	0.0107	0.00709	0.00479 JN	0.00578	< 0.00850 U	0.00425	0.00940 JN	0.00330	0.00181 JN
PCB-112	74472-36-9	µg/kg		< 0.00132 U	< 0.000943 U	< 0.00125 U	< 0.000396 U	< 0.00119 U	< 0.00810 U	< 0.00154 U	< 0.00179 U	< 0.000775 U	< 0.00110 U
PCB-114	74472-37-0	µg/kg		0.0952	0.0465	0.0830	0.0862	0.0557	1.36	0.0638	0.0957	0.0421	0.0617
PCB-118	31508-00-6	µg/kg		4	2.24	3.42	3.56	2.43	65.7	2.71	4.13	1.71	2.45
PCB-120	68194-12-7	µg/kg		0.0417	0.0442	0.0322	0.0224	0.0256	0.0504	0.0252	0.0291	0.0144	0.0140

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

			Reach Segment Location	Downtown	Downtown	Downtown	Downtown	Downtown	Upriver	Upriver	Upriver	Upriver	Upriver
			Sample ID	SMB111	SMB112	SMB113	SMB114	SMB115	SMB116	SMB117	SMB118	SMB119	SMB120
			Sample Date	PDI-TF-SMB111	PDI-TF-SMB112	PDI-TF-SMB113	PDI-TF-SMB114	PDI-TF-SMB115	PDI-TF-SMB116	PDI-TF-SMB117	PDI-TF-SMB118	PDI-TF-SMB119	PDI-TF-SMB120
			8/16/18	8/16/18	8/16/18	9/8/18	8/15/18	8/15/18	8/15/18	9/9/18	8/15/18	8/24/18	9/9/18
Chemical	CAS	Units											
PCB-121	56558-18-0	µg/kg		0.00660	0.00337	0.00583	0.00243	0.00283	< 0.00894 U	0.00370	0.00274 JN	0.00152 J	0.00196 J
PCB-122	76842-07-4	µg/kg		0.0260	0.0167	0.0221	0.0180 JN	0.0166	0.32	0.0169 JN	0.0195	0.00968	0.0189
PCB-123	65510-44-3	µg/kg		0.0729	0.0482	0.0664	0.0564 JN	0.0456 JN	1.01 JN	0.0559	0.0885 JN	0.0387 JN	0.0498
PCB-126	57465-28-8	µg/kg		0.0110 JN	0.00852 JN	0.0149 JN	< 0.00466 U	0.00557 JN	0.0601 JN	0.0109 JN	< 0.00577 U	0.00610 JN	0.00668 JN
PCB-127	39635-33-1	µg/kg		0.0131	0.00640	0.0125	0.0121	0.00809	0.205	0.00968	0.0130 JN	0.00564 JN	0.0117 JN
PCB-128/166	PCB-128/166	µg/kg		1.3	0.954	1.04	0.853	0.799	10.4	0.983	1.33	0.523	0.582
PCB-129/138/160/163	PCB-129/138/ C	µg/kg		11	8.22	7.69	7.24	6.64	65.2	7.12	10.2	3.82	4.31
PCB-130	52663-66-8	µg/kg		0.461	0.419	0.389	0.333	0.284	3.83	0.324	0.425	0.199	0.238
PCB-131	61798-70-7	µg/kg		0.0318	0.0246	0.0299	0.0171	0.0190	0.308	0.0200	0.0294	0.0135	0.0220
PCB-132	38380-05-1	µg/kg		0.826	0.759	0.854	0.366	0.53	5.54	0.605	0.596	0.337	0.468
PCB-133	35694-04-3	µg/kg		0.214	0.166	0.163	0.134	0.122	1.08	0.128	0.175	0.0814	0.0863
PCB-134/143	PCB-134/143	µg/kg		0.159	0.134	0.139	0.0887	0.0961	1.29	0.104	0.132	0.0672	0.104
PCB-135/151/154	PCB-135/151/154	µg/kg		2.04	1.71	1.71	0.988	1.13	9.2	1.19	1.44	0.634	0.765
PCB-136	38411-22-2	µg/kg		0.329	0.237	0.306	0.137	0.182	1.86	0.164	0.19	0.107	0.154
PCB-137	35694-06-5	µg/kg		0.422	0.243	0.352	0.425	0.213	7.01	0.249	0.492	0.194	0.237
PCB-139/140	PCB-139/140	µg/kg		0.151	0.0773	0.0923	0.0866	0.0704	1.2	0.0902	0.124	0.0475	0.0680
PCB-141	52712-04-6	µg/kg		1.06	0.782	0.743	0.61	0.565	6.34	0.624	0.707	0.324	0.394
PCB-142	41411-61-4	µg/kg		< 0.00492 U	< 0.00888 U	< 0.00646 U	< 0.00328 U	< 0.00709 U	< 0.0156 U	< 0.00781 U	< 0.00549 U	< 0.00542 U	< 0.00435 U
PCB-144	68194-14-9	µg/kg		0.186	0.158	0.177	0.118	0.112	1.04	0.127	0.137	0.0619	0.0972
PCB-145	74472-40-5	µg/kg		0.000591	0.000394 J	0.000937 JN	0.000391 JN	0.000432 JN	0.00235	< 0.000516 U	0.000460 JN	< 0.000422 U	< 0.000388 U
PCB-146	51908-16-8	µg/kg		1.93	1.64	1.77	1.25	1.35	13.5	1.38	2.26	0.935	0.806
PCB-147/149	PCB-147/149	µg/kg		3.21	3.34	3.33	1.44	2.41	19.9	2.57	3.1	1.48	1.54
PCB-148	74472-41-6	µg/kg		0.0217	0.0162	0.0203	0.00894	0.0122	0.0248	0.0144 JN	0.0114	0.00684 JN	0.00675
PCB-150	68194-08-1	µg/kg		0.00994	0.00880	0.0132	0.00357	0.00529	0.0145	0.00552 JN	0.00475	0.00270 J	0.00326
PCB-152	68194-09-2	µg/kg		0.00394	0.00218	0.00272 J	0.00131	0.00164	0.0118	0.00226 J	0.00165	0.000731 JN	0.00240 J
PCB-153/168	PCB-153/168	µg/kg		11.9	8.81	8.85	7.66	6.78	59.1	6.88	9.93	4.57	4.85
PCB-155	33979-03-2	µg/kg		0.0197	0.00533	0.0146	0.00958	0.00820	0.00709	0.00915	0.00944	0.00490	0.00711
PCB-156/157	PCB-156/157	µg/kg		0.922	0.54	0.672	0.832	0.54	12.8	0.563	0.944	0.366	0.442
PCB-158	74472-42-7	µg/kg		0.809	0.507	0.539	0.585	0.42	5.98	0.459	0.622	0.256	0.327
PCB-159	39635-35-3	µg/kg		< 0.00321 U	< 0.00579 U	0.0455	< 0.00232 U	< 0.00482 U	< 0.0104 U	0.0335	0.0309	< 0.00393 U	< 0.00288 U
PCB-161	74472-43-8	µg/kg		< 0.00342 U	< 0.00618 U	< 0.00453 U	< 0.00224 U	< 0.00461 U	< 0.0106 U	< 0.00559 U	< 0.00392 U	< 0.00393 U	< 0.00311 U
PCB-162	39635-34-2	µg/kg		0.0316	0.0295	0.0264	0.0320	0.0215	0.398	0.0190 JN	0.0379	0.0106	0.0140
PCB-164	74472-45-0	µg/kg		0.326	0.259	0.249	0.208	0.241	3.02	0.24	0.333	0.133	0.14
PCB-165	74472-46-1	µg/kg		0.00873	< 0.00691 U	0.00871	0.00493	< 0.00535 U	0.0152	< 0.00631 U	0.00582 JN	< 0.00439 U	< 0.00351 U
PCB-167	52663-72-6	µg/kg		0.387	0.281	0.308	0.306	0.256	4.27	0.251	0.421	0.161	0.185
PCB-169	32774-16-6	µg/kg		< 0.0202 U	< 0.0134 U	< 0.0164 U	< 0.00528 U	< 0.00742 U	< 0.0280 U	< 0.00572 U	< 0.0119 U	< 0.00474 U	< 0.00540 U
PCB-170	35065-30-6	µg/kg		2.01	1.63	1.36	1.57	1.22	7.84	1.06	1.34	0.663	0.602
PCB-171/173	PCB-171/173	µg/kg		0.606	0.537	0.398	0.444	0.342	1.93	0.299	0.437	0.169	0.181
PCB-172	52663-74-8	µg/kg		0.412	0.416	0.297	0.306	0.266	1.51	0.222	0.372	0.158	0.138
PCB-174	38411-25-5	µg/kg		0.704	1.11	0.852	0.497	0.643	2.78	0.547	0.714	0.32	0.258
PCB-175	40186-70-7	µg/kg		0.0734	0.0718	0.0633	0.0554	0.0494	0.252	0.0427	0.0548	0.0263 JN	0.0296
PCB-176	52663-65-7	µg/kg		0.0865	0.114	0.114	0.0495	0.0748	0.238	0.0589	0.0630	0.0327	0.0311
PCB-177	52663-70-4	µg/kg		0.826	1.1	0.678	0.574	0.691	3	0.517	0.599	0.304	0.295
PCB-178	52663-67-9	µg/kg		0.632	0.649	0.472	0.391	0.433	1.63	0.347	0.551	0.223	0.214
PCB-179	52663-64-6	µg/kg		0.463	0.506	0.429	0.219	0.353	0.965	0.244	0.303	0.154	0.137
PCB-180/193	PCB-180/193	µg/kg		6.52	5.43	4.77	5.17	4.49	24.5	3.29	4.73	2.63	2.21
PCB-181	74472-47-2	µg/kg		0.0227	0.0175	0.0157	0.0190	0.0150 J	0.217	0.0121	0.0253	0.0102	0.0101
PCB-182	60145-23-5	µg/kg		0.0199	0.0194	0.0144	0.0123	< 0.000888 U	< 0.000438 U	< 0.000762 U	0.0148 JN	< 0.000482 U	0.00584 JN
PCB-183/185	PCB-183/185	µg/kg		1.56	1.53	1.19	1.25	1.04	5.27	0.873	1.21	0.545	0.561
PCB-184	74472-48-3	µg/kg		0.0223	0.00690	0.0181	0.0135	0.0115 J	0.0154	0.0118	0.0129 JN	0.0101	0.0126
PCB-186	74472-49-4	µg/kg		< 0.000262 U	< 0.000143 U	< 0.000331 U	< 0.0000756 U	< 0.000749 U	< 0.000377 U	< 0.000645 U	< 0.000335 U	< 0.000398 U	< 0.000360 U
PCB-187	52663-68-0	µg/kg		4.1	4.66	4.19	2.96	3.88	20.8	3.47	6.43	2.24	1.72
PCB-188	74487-85-7	µg/kg		0.00967	0.00921	0.0106	0.00597	0.00782 JN	0.0144	0.00546 JN	0.00637	0.00395	0.00272 JN
PCB-189	39635-31-9	µg/kg		0.0584	0.0469	0.0456	0.0474	0.0438	0.345	0.0338	0.0425	0.0258	0.0240
PCB-190	41411-64-7	µg/kg		0.508	0.427	0.327	0.408	0.28	2.03	0.22	0.465	0.156	0.145

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Downtown	Downtown	Downtown	Downtown	Downtown	Upriver	Upriver	Upriver	Upriver	Upriver
			SMB111 PDI-TF-SMB111 8/16/18	SMB112 PDI-TF-SMB112 8/16/18	SMB113 PDI-TF-SMB113 9/8/18	SMB114 PDI-TF-SMB114 8/15/18	SMB115 PDI-TF-SMB115 8/15/18	SMB116 PDI-TF-SMB116 8/15/18	SMB117 PDI-TF-SMB117 9/9/18	SMB118 PDI-TF-SMB118 8/15/18	SMB119 PDI-TF-SMB119 8/24/18	SMB120 PDI-TF-SMB120 9/9/18
Chemical	CAS	Units										
PCB-191	74472-50-7	µg/kg	0.0871	0.0699	0.0656	0.0813	0.0561	0.396	0.0453	0.0792	0.0313	0.0278
PCB-192	74472-51-8	µg/kg	0.000587	< 0.000158 U	< 0.000386 U	< 0.0000824 U	< 0.000802 U	< 0.000393 U	< 0.000699 U	< 0.000389 U	< 0.000478 U	< 0.000390 U
PCB-194	35694-08-7	µg/kg	0.863	0.725	0.796	0.588	0.6	3.4	0.513	0.542 J	0.312	0.229
PCB-195	52663-78-2	µg/kg	0.431	0.354	0.279	0.34	0.263	1.24	0.199	0.333	0.142	0.109
PCB-196	42740-50-1	µg/kg	0.502	0.459	0.426	0.441	0.338	1.56 JN	0.263	0.422	0.169	0.15
PCB-197/200	PCB-197/200	µg/kg	0.0926	0.114 J	0.0934	0.0674	0.0818	0.238	0.0613	0.0813 JN	0.0383 J	0.0318
PCB-198/199	PCB-198/199	µg/kg	1.22	1.36	0.991	1	1.01	4.25	0.769	1.1	0.508	0.461
PCB-201	40186-71-8	µg/kg	0.112	0.111	0.112	0.0956	0.0932	0.352	0.0694 JN	0.0833	0.0474	0.0454
PCB-202	2136-99-4	µg/kg	0.426	0.382	0.295	0.245	0.294	0.749	0.201	0.297	0.151	0.14
PCB-203	52663-76-0	µg/kg	0.905	0.875	0.577	0.72	0.609	2.36	0.467	0.833	0.297	0.289
PCB-204	74472-52-9	µg/kg	0.00162	0.00145 JN	0.00112 J	0.00127 JN	0.00171 JN	0.00186	< 0.000557 U	0.00164 JN	0.000657 JN	0.000663 JN
PCB-205	74472-53-0	µg/kg	0.0479	0.0396	0.0328	0.0333	0.0339	0.143	0.0261	0.0334	0.0170	0.0128
PCB-206	40186-72-9	µg/kg	0.425	0.322	0.27	0.267	0.285	0.722	0.203	0.292	0.155	0.127
PCB-207	52663-79-3	µg/kg	0.0571	0.0498	0.0507	0.0392	0.0411	0.111	0.0365	0.0426	0.0238	0.0207
PCB-208	52663-77-1	µg/kg	0.163	0.143	0.122	0.0900	0.123	0.206	0.0916	0.123	0.0669	0.0591
PCB-209	2051-24-3	µg/kg	0.217	0.142	0.122	0.159	0.142	0.142	0.128	0.207	0.0823	0.102
Total PCBs	(a) T PCBcg (PDI)	µg/kg	97.3	72.7	72.9	59.6	57.3	563	58.8	80.8	34.4	46.1
Pesticides												
2,4-DDD	53-19-0	µg/kg	2.41	0.757	0.853	0.271	0.629	0.314	0.455	0.462	0.330	0.301
2,4-DDE	3424-82-6	µg/kg	0.560	0.403	0.293	0.156 J	0.270	0.118 J	0.188 J	0.216 J	0.163 J	0.126 J
2,4-DDT	789-02-6	µg/kg	0.890	0.276	0.382	0.130 J	0.201 JN	0.067 J	0.234	0.242 J	0.119 J	0.113 J
4,4'-DDD	72-54-8	µg/kg	13.0	7.09	5.69	2.77	4.80	2.79	3.89	5.32	3.02	2.56
4,4'-DDE	72-55-9	µg/kg	89.9	94.1	53.0	37.9	48.2	30.0	42.3	69.4	33.3	29.9
4,4'-DDT	50-29-3	µg/kg	5.85	1.35	2.45	1.96 J	1.39 J	0.911 J	2.64	4.01 J	1.36	1.59
DDx	(a) T DDx (PDI)	µg/kg	113	104	62.7	43.2	55.5	34.2	49.7	79.7	38.3	34.6
alpha-Chlordane	5103-71-9	µg/kg	2.45	0.632	0.916	1.45	0.803	0.438	1.02	3.85	1.32	0.587
cis-Nonachlor	5103-73-1	µg/kg	2.57	1.05	1.22	1.26 J	1.19 J	0.821 J	1.75	5.87 J	2.24	1.00
Oxychlordane	27304-13-8	µg/kg	1.33	0.462 J	0.558	0.802	0.697	0.333 J	1.03	2.67	1.10	0.497
trans-Chlordane	5103-74-2	µg/kg	0.988	0.256 J	0.332 J	0.405 J	0.265 J	0.139 J	0.263 J	1.07	0.246 J	0.151 J
trans-Nonachlor	39765-80-5	µg/kg	7.28	2.61	3.54	3.83	3.46	2.14	5.58	18.6	6.92	2.99
Total Chlordanes	(a) T Clrdn (PDI)	µg/kg	14.6	5.01	6.57	7.75	6.42	3.87	9.64	32.1	11.8	5.23
Aldrin	309-00-2	µg/kg	0.145 J	0.006 JN	0.017 J	0.006 JN	< 0.0043 U	< 0.0043 U	< 0.0061 U	0.011 JN	0.006 J	0.006 JN
Dieldrin	60-57-1	µg/kg	3.94	0.711	0.965	2.67	0.757	0.582	0.649	2.36	0.763	0.683
Metals												
Arsenic	7440-38-2	mg/kg	0.14 J	0.08 J	0.10 J	0.11 J	0.12	0.12	0.09 J	0.11 J	0.11 J	0.10 J
Mercury	7439-97-6	mg/kg	0.349 J	0.101 J	0.155 J	0.134 J	0.0982 J	0.161 J	0.0981 J	0.224 J	0.149 J	0.129 J
Semivolatile Organics												
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg	3.39	0.759	1.20	0.790	0.846	0.650	0.840	1.13	0.651	0.694
Pentachlorophenol	(c) 87-86-5	µg/kg	140 J	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)												
PBDE-7	171977-44-9	µg/kg	0.00418 J	0.000892 JN	0.00101 J	0.000744 J	0.000996 JN	0.000618 J	0.000929 JN	0.000932 JN	0.00195 JN	0.000689 JN
PBDE-8/11	PBDE-8/11	µg/kg	0.00503 J	0.000790 J	0.00136 JN	0.000669 J	0.000805 J	0.000548 JN	0.000644 J	0.000967 J	0.00123 J	0.000798 J
PBDE-10	51930-04-2	µg/kg	< 0.000293 U	< 0.000246 U	< 0.000477 U	< 0.000179 U	< 0.000439 U	< 0.000149 U	< 0.000434 U	< 0.000281 U	< 0.000702 U	< 0.000535 U
PBDE-12/13	PBDE-12/13	µg/kg	0.00391 JN	0.000914 JN	0.00225 JN	0.000668 J+	0.00114 JN	0.000726 JN	0.000784 JN	0.000991 JN	0.000607 JN	0.00118 JN
PBDE-15	2050-47-7	µg/kg	0.0369	0.0103	0.0128 J	0.00752 J	0.00914	0.00591 J	0.00922 J	0.0122	0.0102 J	0.00796 J
PBDE-17/25	PBDE-17/25	µg/kg	0.197	0.0545	0.0587 JN	0.0473	0.0543	0.0364	0.0570 JN	0.0583	0.0616	0.0394 JN
PBDE-28/33	PBDE-28/33	µg/kg	0.79	0.272	0.546	0.275	0.215	0.157	0.323	0.398	0.218	0.243
PBDE-30	155999-95-4	µg/kg	< 0.00366 U	< 0.00189 U	< 0.00299 U	< 0.00117 U	< 0.00181 U	< 0.000854 U	< 0.00381 U	< 0.00382 U	< 0.00288 U	< 0.00143 U
PBDE-32	189084-60-4	µg/kg	< 0.00282 U	< 0.00145 U	< 0.00242 U	< 0.000905 U	< 0.00141 U	< 0.000669 U	< 0.00308 U	< 0.00296 U	< 0.00238 U	< 0.00116 U
PBDE-35	147217-80-9	µg/kg	0.0151 JN	0.00391 JN	0.00829 JN	0.00719 JN	0.00588 JN	0.00232 J	0.00531 JN	0.0148 JN	0.0150 JN	0.00304 JN
PBDE-37	147217-81-0	µg/kg	0.0226	0.00629 J	0.0114 J	0.00604 J	0.00690 J	0.00469 J	0.00837 J	0.00876 J	0.00592 J	0.00497 J
PBDE-047	5436-43-1	µg/kg	28	8.29	19.8	14.1	11.8	9.47	14	17.8	9.83	12.2
PBDE-49	243982-82-3	µg/kg	1.24	0.528	0.834	0.436	0.464	0.311	0.582	0.524	0.292	0.5
PBDE-51	189084-57-9	µg/kg	0.0509	0.0238	0.0375	0.0112	0.0181	0.0126	0.0342	0.0158	0.0184	0.0176

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

			Reach Segment Location	Downtown	Downtown	Downtown	Downtown	Downtown	Upriver	Upriver	Upriver	Upriver	Upriver
			Sample ID	SMB111	SMB112	SMB113	SMB114	SMB115	SMB116	SMB117	SMB118	SMB119	SMB120
			Sample Date	PDI-TF-SMB111 8/16/18	PDI-TF-SMB112 8/16/18	PDI-TF-SMB113 9/8/18	PDI-TF-SMB114 8/15/18	PDI-TF-SMB115 8/15/18	PDI-TF-SMB116 8/15/18	PDI-TF-SMB117 9/9/18	PDI-TF-SMB118 8/15/18	PDI-TF-SMB119 8/24/18	PDI-TF-SMB120 9/9/18
Chemical	CAS	Units											
PBDE-66	189084-61-5	µg/kg		0.342	0.127	0.487	0.144	0.193	0.109	0.306	0.2	0.152	0.18
PBDE-71	189084-62-6	µg/kg		0.0504	0.0175	0.0322	0.0169	0.0195	0.0124	0.0326	0.0212	0.0191	0.0180
PBDE-75	189084-63-7	µg/kg		0.0253	0.0124	0.0329	0.0107	0.0123	0.00812	0.0222	0.0157	0.0130 J	0.0142 J
PBDE-77	93703-48-1	µg/kg		0.00600 JN	0.00152 J	0.00340 JN	0.00267 JN	0.00368 J	0.00174 JN	0.00931 J	0.00216 JN	0.00302 J	0.00265 JN
PBDE-79	PBDE-79	µg/kg		0.0726 JN	0.0262	0.0253 JN	0.0373 JN	0.0404 JN	0.0247 JN	0.0257 JN	0.0459 JN	0.00900 J+	0.0227 JN
PBDE-85	182346-21-0	µg/kg		0.00368 J	< 0.00173 U	< 0.00646 U	< 0.00179 U	< 0.00234 U	< 0.00162 U	< 0.00767 U	< 0.00421 U	< 0.00274 U	< 0.00276 U
PBDE-099	60348-60-9	µg/kg		7.72	2.54	9.66	3.57	6.14	3.43	6.24	7.07	4.07	4.97
PBDE-100	189084-64-8	µg/kg		5.2	2.07	5.17	2.81	3.06	2.06	3.87	4.08	2.43	3.06
PBDE-105	373594-78-6	µg/kg		< 0.00339 U	< 0.00231 U	< 0.00794 U	< 0.00236 U	< 0.00309 U	< 0.00214 U	< 0.00942 U	< 0.00555 U	< 0.00363 U	< 0.00339 U
PBDE-116	189084-65-9	µg/kg		< 0.00510 U	< 0.00348 U	< 0.0104 U	< 0.00358 U	< 0.00482 U	< 0.00334 U	< 0.0124 U	< 0.00841 U	< 0.00519 U	< 0.00446 U
PBDE-119/120	PBDE-119/120	µg/kg		0.0927	0.0374	0.101	0.0580	0.0491	0.0363	0.269	0.0874	0.0459	0.0458
PBDE-126	366791-32-4	µg/kg		0.0184	0.00630 J	0.0163	0.00694 J	0.00784 J	0.00378 J	0.0322	0.0128	0.00355 J	0.00904 J
PBDE-128	182677-28-7	µg/kg		0.00544 JN	0.00182 J	0.00684 JN	0.00304 J	0.00454 JN	0.00319 JN	0.0165 JN	0.0118 JN	0.00431 J	0.00436 JN
PBDE-138/166	PBDE-138/166	µg/kg		0.00321 JN	0.000402 JN	0.00277 J	< 0.00153 U	0.00119 JN	0.000651 JN	0.00267 JN	0.00178 J	0.000404 JN	0.000745 J+
PBDE-140	243982-83-4	µg/kg		0.0139	0.00584 J	0.0292 J	0.00788 J	0.0115	0.00695 J	0.163	0.0179	0.00642 J	0.00898 J
PBDE-153	68631-49-2	µg/kg		1.45	0.401	1.8 J	0.834	0.968	0.639 J	6.39	1.41	0.662	0.739
PBDE-154	207122-15-4	µg/kg		1.11	0.46 J	1.44 J	0.652	0.662	0.417 J	2.79	1.05	0.502 J	0.566
PBDE-155	35854-94-5	µg/kg		0.155	0.0507 J	0.129 J	0.0479	0.0665	0.0342 J	0.24	0.105	0.0311 J	0.0478
PBDE-181	189084-67-1	µg/kg		0.000457 JN	< 0.000147 U	0.000446 JN	< 0.000151 U	0.000590 JN	0.000149 JN	< 0.00306 U	0.00213 JN	< 0.000145 U	0.000168 JN
PBDE-183	207122-16-5	µg/kg		0.0220	0.00393 JN	0.0405	0.00442 J	0.00761 J	0.00597 J	0.756	0.0287	0.00893 J	0.00671 JN
PBDE-190	189084-68-2	µg/kg		0.000307 JN	< 0.000147 U	0.000765 JN	0.000256 JN	0.000675 JN	< 0.000149 U	0.00858 JN	0.000372 JN	< 0.000184 U	0.000177 J
PBDE-203	337513-72-1	µg/kg		0.00266 JN	0.000964 JN	0.00288 JN	0.000668 JN	0.000769 JN	0.00113 JN	0.00383 JN	0.00575 JN	0.00118 JN	0.00154 JN
PBDE-206	63387-28-0	µg/kg		0.000372 JN	0.00220 JN	0.00750 J	< 0.000505 U	< 0.000380 U	0.00112 JN	0.00204 JN	0.000593 JN	< 0.000618 U	0.00167 JN
PBDE-207	437701-79-6	µg/kg		0.00227 JN	0.00233 JN	0.0102 JN	< 0.00200 U	0.00402 JN	< 0.000978 U	0.00310 JN	0.00578 JN	< 0.000658 U	0.00301 JN
PBDE-208	437701-78-5	µg/kg		0.00327 JN	0.00211 JN	0.00973 JN	< 0.00129 U	0.00404 JN	0.00317 J+	0.00255 J	< 0.000558 U	0.00399 JN	0.00114 JN
PBDE-209	1163-19-5	µg/kg		< 0.0102 U	0.0231 J+	0.142 J	0.00922 JN	0.0182 JN	0.0164 JN	0.0495 J+	0.0100 JN	0.0586 JN	0.0314 J+
Total PBDE	(a) T. PBDE (PDI)	µg/kg		46.7	15	40.5	23.1	23.9	16.8	36.3	33	18.5	22.8

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Downtown SMB111 PDI-TF-SMB111 8/16/18	Downtown SMB112 PDI-TF-SMB112 8/16/18	Downtown SMB113 PDI-TF-SMB113 9/8/18	Downtown SMB114 PDI-TF-SMB114 8/15/18	Downtown SMB115 PDI-TF-SMB115 8/15/18	Upriver SMB116 PDI-TF-SMB116 8/15/18	Upriver SMB117 PDI-TF-SMB117 9/9/18	Upriver SMB118 PDI-TF-SMB118 8/15/18	Upriver SMB119 PDI-TF-SMB119 8/24/18	Upriver SMB120 PDI-TF-SMB120 9/9/18
Chemical	CAS	Units										
Physical Parameters												
Lipids	LIPID	%	8.23	2.79	4.20	3.86	3.64	3.37	2.59	4.56	3.34	3.19
Total Solids@104C	TSOLID	%	30.1	25.7	25.9	25.8	24.8	23.8	24.6	26.7	23.4	24.9

Notes:**Qualifiers:**

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
 JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 U = Not detected at detection limit shown.
 UJ = Not detected; sample detection limit is estimated.
 R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
 The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
 Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
 There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Upriver SMB121 PDI-TF-SMB121 8/14/18	Upriver SMB122 PDI-TF-SMB122 8/14/18	Upriver SMB123 PDI-TF-SMB123 8/14/18	Upriver SMB124 PDI-TF-SMB124 8/14/18	Upriver SMB125 PDI-TF-SMB125 8/14/18	Upriver SMB126 PDI-TF-SMB126 8/14/18	Upriver SMB127 PDI-TF-SMB127 8/14/18	Upriver SMB128 PDI-TF-SMB128 8/24/18	Upriver SMB129 PDI-TF-SMB129 8/24/18	Upriver SMB130 PDI-TF-SMB130 9/12/18
Chemical	CAS	Units										
Dioxins and Furans												
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg	0.0000717 J	0.0000845 JN	0.000444 J	0.000453 J	0.000137 J	< 0.0000731 U	0.0000912 JN	< 0.0000721 U	< 0.000116 U	0.000556 J
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg	< 0.0000699 U	< 0.0000699 U	0.0000877 JN	0.0000924 JN	0.0000945 JN	< 0.0000731 U	< 0.0000769 U	< 0.0000721 U	< 0.0000721 U	0.0000774 JN
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg	< 0.0000699 U	< 0.0000699 U	< 0.0000730 U	< 0.0000719 U	< 0.0000719 U	< 0.0000731 U	< 0.0000769 U	< 0.0000721 U	< 0.0000721 U	< 0.0000716 U
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg	< 0.0000699 U	< 0.0000699 U	0.000137 JN	< 0.0000719 U	0.000110 JN	< 0.0000731 U	< 0.0000769 U	< 0.0000721 U	< 0.0000721 U	0.000143 JN
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg	< 0.0000699 U	< 0.0000699 U	0.0000976 J	0.0000898 JN	< 0.0000719 U	< 0.0000731 U	< 0.0000769 U	< 0.0000721 U	< 0.0000721 U	0.000164 J
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg	0.000138 JN	0.0000961 JN	0.000544 J	0.000235 JN	0.000179 J	0.000149 JN	0.000137 J	0.0000869 J	0.000204 JN	0.00108 J
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg	< 0.0000699 U	< 0.0000699 U	0.0000858 J	< 0.0000719 U	0.0000806 J	< 0.0000731 U	< 0.0000769 U	< 0.0000721 U	< 0.0000721 U	0.000149 J
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg	< 0.0000699 U	< 0.0000699 U	< 0.0000730 U	< 0.0000719 U	< 0.000200 U	< 0.0000731 U	< 0.0000769 U	< 0.0000721 U	< 0.0000721 U	0.000120 JN
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg	< 0.0000699 U	< 0.0000699 U	< 0.0000730 U	< 0.0000719 U	0.0000763 JN	< 0.0000731 U	< 0.0000769 U	< 0.0000721 U	< 0.0000721 U	< 0.0000744 U
1,2,3,7,8-PeCDD	40321-76-4	µg/kg	0.000277 JN	0.000193 J	0.000310 J	0.000237 J	0.000227 JN	0.000383 JN	0.000295 J	0.000301 JN	0.000333 J	0.000618 J
1,2,3,7,8-PeCDF	57117-41-6	µg/kg	0.0000907 JN	< 0.0000699 U	0.000133 J	< 0.0000719 U	0.0000874 JN	0.0000847 JN	< 0.0000769 U	0.0000921 JN	0.000131 JN	0.000168 JN
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg	< 0.0000699 U	< 0.0000699 U	< 0.0000730 U	< 0.0000719 U	< 0.0000719 U	< 0.0000731 U	< 0.0000769 U	< 0.0000721 U	< 0.0000721 U	< 0.0000716 U
2,3,4,7,8-PeCDF	57117-31-4	µg/kg	0.000196 JN	0.000141 J	0.000236 J	0.000180 JN	0.000169 JN	0.000234 J	0.0000957 JN	0.000146 JN	0.000242 JN	0.000552 J
2,3,7,8-TCDD	1746-01-6	µg/kg	0.000312 JN	0.000180 J	0.000185 JN	0.000202 J	0.000186 J	0.000347	0.000180 JN	0.000219 JN	0.000314 JN	0.000449
2,3,7,8-TCDF	51207-31-9	µg/kg	0.000624	0.000357 JN	0.000509	0.000315 JN	0.000255 J	0.000473	0.000303 JN	0.000397	0.000588	0.00104
OCDD	3268-87-9	µg/kg	< 0.0000699 U	0.000166 J+	0.000505 J	0.00247 J	0.000444 J	0.000116 JN	0.000241 JN	0.000157 JN	0.000294 JN	0.000288 JN
OCDF	39001-02-0	µg/kg	< 0.0000699 U	< 0.0000699 U	< 0.0000730 U	< 0.0000719 U	0.000125 JN	< 0.0000731 U	< 0.0000769 U	< 0.0000721 U	< 0.0000721 U	< 0.0000716 U
TCDD-TEQ (a)	T_DF_TEQ (PDI)	µg/kg	0.000731	0.000465	0.000716	0.000567	0.000549	0.000869	0.000553	0.000619	0.000806	0.00152
TCDD-TEQ (EMPC=half) (b)	T_DF_TEQ(E 0.5)	µg/kg	0.000514	0.000456	0.000606	0.000503	0.000352	0.000656	0.000399	0.000199	0.000742	0.00149
TCDD-TEQ (EMPC=0) (b)	T_DF_TEQ(E 0)	µg/kg	0.000375	0.000451	0.000513	0.000476	0.000239	0.000465	0.000309	0.0000484	0.000706	0.00148
Polychlorinated Biphenyls (PCBs)												
PCB-1	2051-60-7	µg/kg	0.00189	0.00155	0.00204	0.00295	0.00149	0.00193	0.00173	0.00302 JN	0.00324	0.00396
PCB-2	2051-61-8	µg/kg	0.000819 J+	0.000628 J+	0.00114	0.000884 J+	0.000719 JN	0.000816 JN	0.000800 J+	0.000739 J	0.00123 J	0.00233 J
PCB-3	2051-62-9	µg/kg	0.00123 J+	0.00107 J+	0.00116 J+	0.00155 J+	0.00101 J+	0.00158 J+	0.00142 J+	0.00102 JN	0.00200 JN	0.00229 J+
PCB-4	13029-08-8	µg/kg	0.0141	0.00922	0.0167	0.0151	0.00825	0.0121	0.0106	0.0176	0.0174	0.0339
PCB-5	16605-91-7	µg/kg	0.000299 J	< 0.000145 U	0.000287 JN	0.000191 JN	< 0.000153 U	< 0.000213 U	< 0.000216 U	< 0.00162 U	< 0.00159 U	< 0.00175 U
PCB-6	25569-80-6	µg/kg	0.00698	0.00329	0.0104	0.00403	0.00247	0.00419	0.00307	0.00390	0.00528 JN	0.0100 JN
PCB-7	33284-50-3	µg/kg	0.00110	0.000544 J	0.00116 JN	0.000725	0.000457 JN	0.000749	0.000548 J	< 0.00141 U	0.00152 JN	0.00200 JN
PCB-8	34883-43-7	µg/kg	0.0232	0.0108	0.0273	0.0141	0.00823	0.0153	0.0111	0.0126	0.0174	0.0367
PCB-9	34883-39-1	µg/kg	0.00383	0.000955	0.00237	0.00126	0.000590 JN	0.00119	0.000788	< 0.00136 U	< 0.00142 U	0.00274 JN
PCB-10	33146-45-1	µg/kg	0.000605	0.000398 J	0.000870 JN	0.000725	0.000363 JN	0.000484 J	0.000487 J	< 0.00139 U	< 0.00144 U	0.00184 JN
PCB-11	2050-67-1	µg/kg	0.0532	0.0523	0.147	0.0613	0.0518	0.0851	0.0890	0.0886	0.119	0.216
PCB-12/13	PCB-12/13	µg/kg	0.00105 JN	0.000698 JN	0.00166 JN	0.000766 JN	0.000680 JN	0.00124	0.000924 JN	< 0.00149 U	< 0.00149 U	0.00334 JN
PCB-14	34883-41-5	µg/kg	< 0.0000981 U	< 0.000136 U	< 0.000236 U	< 0.000121 U	< 0.000141 U	< 0.000190 U	< 0.000192 U	< 0.00145 U	< 0.00149 U	< 0.00159 U
PCB-15	2050-68-2	µg/kg	0.00620	0.00346	0.00640	0.00391	0.00242	0.0241	0.00354	0.00548	0.00562	0.0115
PCB-16	38444-78-9	µg/kg	0.0380	0.00807	0.0152	0.0122	0.00652	0.0102	0.00775	0.00862	0.0131 JN	0.0437
PCB-17	37680-66-3	µg/kg	0.0964	0.0206	0.0395	0.0212	0.0110	0.0259	0.0148	0.0147	0.0231	0.0981
PCB-18/30	PCB-18/30	µg/kg	0.213	0.0313	0.0579	0.0390	0.0216	0.0421	0.0258	0.0283	0.0400	0.153
PCB-19	38444-73-4	µg/kg	0.0176	0.00450	0.0108	0.00692	0.00296	0.00514	0.00426	0.00563 JN	0.00832	0.0571
PCB-20/28	PCB-20/28	µg/kg	1.47	0.135	0.257	0.146	0.0747	0.401	0.0978	0.0990	0.161	0.448
PCB-21/33	PCB-21/33	µg/kg	0.217	0.0185	0.0387	0.0213	0.0114	0.0468	0.0156	0.0146	0.0271	0.109
PCB-22	38444-85-8	µg/kg	0.198	0.0227	0.0489	0.0224	0.0122	0.0455	0.0171	0.0159	0.0304	0.102
PCB-23	55720-44-0	µg/kg	0.00123 J	< 0.000216 U	< 0.000341 U	< 0.000141 U	< 0.000133 U	< 0.000459 U	< 0.000193 U	< 0.000425 U	< 0.000469 U	< 0.00102 U
PCB-24	55702-45-9	µg/kg	0.00220 J	0.000465 JN	0.00102 JN	0.000507 JN	0.000370 JN	0.000507 JN	0.000427 JN	0.000354 JN	0.000701 JN	0.00189 JN
PCB-25	55712-37-3	µg/kg	0.0618	0.00958	0.0244	0.00903	0.00403	0.0152	0.00571	0.00546	0.00999	0.0344
PCB-26/29	PCB-26/29	µg/kg	0.223	0.0235	0.0536	0.0234	0.0102	0.0442	0.0138	0.0146	0.0232	0.0756
PCB-27	38444-76-7	µg/kg	0.0159	0.00568	0.0124	0.00420	0.00234	0.00428	0.00275	0.00331	0.00484	0.0175
PCB-31	16606-02-3	µg/kg	0.517	0.0694	0.161	0.0679	0.0333	0.151	0.0494	0.0438	0.0767	0.281
PCB-32	38444-77-8	µg/kg	0.0544	0.00932	0.0208	0.00872	0.00425	0.0141	0.00646	0.00643	0.0138	0.0498
PCB-34	37680-68-5	µg/kg	0.00465 JN	0.000824	0.00188 JN	0.000640 JN	0.000381 J	0.00137	0.000408 J	0.000480 JN	0.000674 JN	0.00351
PCB-35	37680-69-6	µg/kg	0.00220 JN	< 0.000199 U	< 0.000288 U	< 0.000126 U	< 0.000125 U	0.000426 J	< 0.000164 U	< 0.000441 U	0.000597 JN	< 0.00107 U
PCB-36	38444-87-0	µg/kg	< 0.000773 U	< 0.000186 U	< 0.000285 U	< 0.000125 U	< 0.000115 U	< 0.000384 U	< 0.000162 U	< 0.000431 U	< 0.000991 U	< 0.000991 U
PCB-37	38444-90-5	µg/kg	0.0687	0.0115	0.0156	0.0118	0.00551	0.0639	0.00677	0.0116	0.0152	0.0426
PCB-38	53555-66-1	µg/kg	< 0.000845 U	< 0.000204 U	< 0.000306 U	0.000279 J	< 0.000126 U	< 0.000413 U	< 0.000174 U	< 0.000426 U	0.000487 JN	< 0.000979 U

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Chemical	CAS	Units	Reach Segment Location	Upriver	Upriver	Upriver	Upriver	Upriver	Upriver	Upriver	Upriver	Upriver	Upriver
			Sample ID	SMB121 PDI-TF-SMB121 8/14/18	SMB122 PDI-TF-SMB122 8/14/18	SMB123 PDI-TF-SMB123 8/14/18	SMB124 PDI-TF-SMB124 8/14/18	SMB125 PDI-TF-SMB125 8/14/18	SMB126 PDI-TF-SMB126 8/14/18	SMB127 PDI-TF-SMB127 8/14/18	SMB128 PDI-TF-SMB128 8/24/18	SMB129 PDI-TF-SMB129 8/24/18	SMB130 PDI-TF-SMB130 9/12/18
Chemical	CAS	Units											
PCB-39	38444-88-1	µg/kg		0.00708 J	0.000942	0.00180	0.00118	0.000462 J	0.00212	0.000737 JN	0.00102 J	0.00159 J	0.00560
PCB-40/41/71	PCB-40/41/71	µg/kg		0.37	0.0505	0.0973	0.0750	0.0296	0.108	0.0352	0.0380	0.0763	0.337
PCB-42	36559-22-5	µg/kg		0.292	0.0472	0.0735	0.0602	0.0204	0.0987	0.0279	0.0276	0.0610	0.219
PCB-43	70362-46-8	µg/kg		0.0504	0.00590 JN	0.0120	0.00910	0.00419	0.0165	0.00468	0.00475	0.00960	0.0395
PCB-44/47/65	PCB-44/47/65	µg/kg		1.54	0.249	0.433	0.372	0.151	0.866	0.197	0.179	0.362	1.22
PCB-45/51	PCB-45/51	µg/kg		0.112	0.0153	0.0323	0.0240	0.00851	0.0236	0.0104	0.0119	0.0242	0.13
PCB-46	41464-47-5	µg/kg		0.0207	0.00311	0.00628	0.00445	0.00211	0.00390	0.00241	0.00297	0.00508 JN	0.0295
PCB-48	70362-47-9	µg/kg		0.191	0.0219	0.0392	0.0337	0.0128	0.0564	0.0171	0.0206	0.0358	0.139
PCB-49/69	PCB-49/69	µg/kg		1.12	0.187	0.331	0.28	0.105	0.709	0.138	0.128	0.261	0.947
PCB-50/53	PCB-50/53	µg/kg		0.0828	0.0177	0.0313	0.0208	0.00825	0.0237	0.0107	0.00981	0.0253 JN	0.129
PCB-52	35693-99-3	µg/kg		2.54	0.332	0.597	0.473	0.196	1.13	0.258	0.236	0.449	1.79
PCB-54	15968-05-5	µg/kg		0.00327 JN	0.000448 J	0.00153	0.00119	0.000295 JN	0.000637	0.000322 J	0.000588 J	0.00144 J	0.0132
PCB-55	74338-24-2	µg/kg		< 0.00654 U	< 0.000519 U	< 0.00137 U	< 0.00284 U	< 0.000502 U	< 0.00366 U	< 0.00107 U	< 0.00259 U	< 0.00200 U	< 0.00239 U
PCB-56	41464-43-1	µg/kg		0.141	0.0513	0.0941	0.0530	0.0213	0.164	0.0225	0.0239	0.0553	0.286
PCB-57	70424-67-8	µg/kg		0.00764	0.00144	0.00164 JN	< 0.00263 U	0.000684 JN	0.00538 JN	< 0.00104 U	< 0.00238 U	0.00220 J	0.00430
PCB-58	41464-49-7	µg/kg		< 0.00625 U	0.00161 JN	0.00223 JN	0.00269	0.000917	0.00849	< 0.00109 U	< 0.00247 U	< 0.00184 U	0.00612
PCB-59/62/75	PCB-59/62/75	µg/kg		0.112	0.0178	0.0331	0.0248	0.0110	0.0510	0.0150	0.0129	0.0252	0.0918
PCB-60	33025-41-1	µg/kg		0.174	0.0781	0.0890	0.0947	0.0434	0.297	0.0469	0.0522	0.0833	0.199
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg		1.85	0.711	0.767	0.646	0.32	2.76	0.354	0.377	0.642	1.97
PCB-63	74472-34-7	µg/kg		0.0786	0.0336	0.0300	0.0327	0.0174	0.14	0.0175	0.0212	0.0330	0.0628
PCB-64	52663-58-8	µg/kg		0.57	0.0908	0.158	0.131	0.0468	0.235	0.0667	0.0613	0.119	0.447
PCB-66	32598-10-0	µg/kg		1.18	0.591	0.54 J	0.609	0.299 J	2.3 J	0.293 J	0.36	0.542	1.18
PCB-67	73575-53-8	µg/kg		0.0326	0.00571	0.00894	0.00588	0.00289	0.0205	0.00371	0.00345	0.00640	0.0258
PCB-68	73575-52-7	µg/kg		0.0245	0.0103	0.0133	0.0132	0.00662	0.0409	0.00677	0.00917	0.0141	0.0312
PCB-72	41464-42-0	µg/kg		0.0290	0.00933	0.0137	0.0119	0.00561	0.0554	0.00678	0.00727	0.0115	0.0388
PCB-73	74338-23-1	µg/kg		< 0.0000699 U	< 0.0000699 U	< 0.0000730 U	< 0.0000719 U	< 0.0000719 U	< 0.0000993 U	< 0.0000872 U	< 0.000186 U	< 0.000287 U	0.00908
PCB-77	32598-13-3	µg/kg		0.0510	0.0295	0.0296	0.0296	0.0128	0.0539	0.0121	0.0212	0.0290	0.0562
PCB-78	70362-49-1	µg/kg		< 0.00658 U	< 0.000522 U	< 0.00129 U	< 0.00282 U	< 0.000492 U	< 0.00346 U	< 0.00101 U	< 0.00260 U	< 0.00192 U	< 0.00239 U
PCB-79	41464-48-6	µg/kg		0.0692	0.0147	0.0116	0.0230	0.00553 JN	0.166	0.00601	0.00687	0.0113	0.0432
PCB-80	33284-52-5	µg/kg		< 0.00560 U	< 0.000484 U	< 0.00124 U	< 0.00240 U	< 0.000447 U	< 0.00332 U	< 0.000969 U	< 0.00236 U	< 0.00174 U	< 0.00216 U
PCB-81	70362-50-4	µg/kg		< 0.00591 U	0.00140 JN	0.00147 JN	< 0.00248 U	0.000631 JN	0.00347 JN	< 0.000852 U	< 0.00257 U	0.00208 JN	0.00350 JN
PCB-82	52663-62-4	µg/kg		0.253	0.0549	0.0717	0.0879	0.0232	0.279	0.0308	0.0297	0.0592	0.284
PCB-83/99	PCB-83/99	µg/kg		3.69	1.8	1.25	1.43	0.763	11.6	0.891	0.904	1.34	3.35
PCB-84	52663-60-2	µg/kg		0.5	0.0755	0.122	0.117	0.0384	0.179	0.0485	0.0474	0.106	0.546
PCB-85/116/117	PCB-85/116/117	µg/kg		1.11	0.434	0.334	0.434	0.207	3.1	0.239	0.261	0.387	0.874
PCB-86/87/97/108/119/125	PCB-86/87/97/108/119/125	µg/kg		2.59 J	0.69 J	0.654 J	0.863 J	0.287 J	5.58 J	0.344 J	0.373 J	0.646 J	2.39
PCB-88/91	PCB-88/91	µg/kg		0.49	0.104	0.131	0.151	0.0449	0.309	0.0578	0.0536	0.11	0.508
PCB-89	73575-57-2	µg/kg		0.00858	0.00217	0.00312	0.00307 JN	0.00113	0.00413 JN	0.00128	< 0.00109 U	0.00301 JN	0.0162
PCB-90/101/113	PCB-90/101/113	µg/kg		5.17	1.29	1.39	1.61	0.607	12.8	0.788	0.707	1.28	4.48
PCB-92	52663-61-3	µg/kg		0.968	0.246	0.274	0.3	0.122	1.92	0.157	0.136	0.265	0.915
PCB-93/95/98/100/102	PCB-93/95/98/100/102	µg/kg		2.51	0.471	0.6	0.65	0.246	2.37	0.306	0.271	0.595	2.47
PCB-94	73575-55-0	µg/kg		0.00686	0.00145 JN	0.00283	0.00261 J	0.000763 JN	< 0.00216 U	0.000717	< 0.00106 U	0.00196 JN	0.0131
PCB-96	73575-54-9	µg/kg		0.00906	0.00142	0.00273	0.00272 JN	0.00106	0.00362	0.00110 JN	0.00118 JN	0.00270 J	0.0140
PCB-103	60145-21-3	µg/kg		0.0389	0.0111	0.0148	0.0163	0.00594	0.0493	0.00582	0.00602	0.0116	0.0694
PCB-104	56558-16-8	µg/kg		0.000994 JN	0.000147 JN	0.000381 J	0.000490 JN	0.000124 JN	0.000231 J	< 0.000202 U	< 0.000231 U	< 0.000369 U	0.00307 JN
PCB-105	32598-14-4	µg/kg		1.63	1.03	0.487 J	0.676	0.36	7.02	0.397	0.525	0.667	1.49
PCB-106	70424-69-0	µg/kg		< 0.00514 U	< 0.00683 U	< 0.00494 U	< 0.00704 U	< 0.00196 U	< 0.0254 U	< 0.00264 U	< 0.00341 U	< 0.00581 U	< 0.00484 U
PCB-107/124	PCB-107/124	µg/kg		0.172	0.111	0.0555	0.0595 JN	0.0289	0.706	0.0319	0.0389	0.0554	0.152
PCB-109	74472-35-8	µg/kg		0.465	0.352	0.16	0.229	0.14	1.75	0.119	0.166	0.245	0.373
PCB-110/115	PCB-110/115	µg/kg		4.27	0.93	1.09	1.31	0.437	2.85	0.559	0.543	1.04	3.74
PCB-111	39635-32-0	µg/kg		0.00678 JN	0.00312	0.00352 JN	0.00318 JN	0.00191 JN	0.0109	0.00239	0.00194 JN	0.00389	0.00655
PCB-112	74472-36-9	µg/kg		< 0.00220 U	< 0.000194 U	< 0.000577 U	< 0.00117 U	< 0.000308 U	< 0.00134 U	< 0.000391 U	< 0.000764 U	< 0.00112 U	< 0.00255 U
PCB-114	74472-37-0	µg/kg		0.121	0.106	0.0367	0.0729	0.0332	0.559	0.0328	0.0559	0.0782	0.102
PCB-118	31508-00-6	µg/kg		5.52	3.77	1.58	2.77	1.26	19.9	1.29	2	2.43	4.15
PCB-120	68194-12-7	µg/kg		0.0316	0.0133	0.0147	0.0139	0.00859	0.0547	0.0103	0.00938	0.0180	0.0309

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Upriver SMB121 PDI-TF-SMB121 8/14/18	Upriver SMB122 PDI-TF-SMB122 8/14/18	Upriver SMB123 PDI-TF-SMB123 8/14/18	Upriver SMB124 PDI-TF-SMB124 8/14/18	Upriver SMB125 PDI-TF-SMB125 8/14/18	Upriver SMB126 PDI-TF-SMB126 8/14/18	Upriver SMB127 PDI-TF-SMB127 8/14/18	Upriver SMB128 PDI-TF-SMB128 8/24/18	Upriver SMB129 PDI-TF-SMB129 8/24/18	Upriver SMB130 PDI-TF-SMB130 9/12/18
Chemical	CAS	Units										
PCB-121	56558-18-0	µg/kg	0.00263	0.00164	0.00204	0.00283 JN	0.00116	0.00452	0.00155	0.00127 J	0.00273 JN	0.00521
PCB-122	76842-07-4	µg/kg	0.0364	0.0139	0.00901 JN	0.00910	0.00597	0.147	< 0.00294 U	0.00567 JN	0.00858 JN	0.0396
PCB-123	65510-44-3	µg/kg	0.102 JN	0.0728 JN	0.0312 JN	0.0587 JN	0.0230 JN	0.335 JN	0.0270 JN	0.0454	0.0578	0.0837 JN
PCB-126	57465-28-8	µg/kg	0.00866 JN	< 0.00693 U	0.00491 JN	0.00489 JN	0.00191 JN	< 0.0237 U	0.00338 JN	0.00568 JN	0.00642 JN	0.00695 JN
PCB-127	39635-33-1	µg/kg	0.0150	0.0118	< 0.00494 U	0.00798 JN	0.00524	0.0733	0.00486	0.00704	0.00912	0.0120
PCB-128/166	PCB-128/166	µg/kg	1.33	0.549	0.476	0.759	0.271	4.94	0.402	0.436	0.568	1.18
PCB-129/138/160/163	PCB-129/138/ C	µg/kg	10.3	5.73	3.54	5.4	2.24	30	3.02	3.23	4.54	8.2
PCB-130	52663-66-8	µg/kg	0.51	0.326	0.18	0.227	0.0962	1.96	0.119	0.125	0.186	0.43
PCB-131	61798-70-7	µg/kg	0.0466	0.0146	0.0135	0.0205	0.00494	0.232	0.00765	0.00864	0.00878	0.0509
PCB-132	38380-05-1	µg/kg	1.15	0.302	0.34	0.495	0.112	1.19	0.195	0.16	0.289	1.28
PCB-133	35694-04-3	µg/kg	0.169	0.103	0.0713	0.0946	0.0452	0.47	0.0616	0.0608	0.0970	0.186
PCB-134/143	PCB-134/143	µg/kg	0.207	0.0631	0.0616	0.0881	0.0249	0.956	0.0338	0.0397	0.0640	0.236
PCB-135/151/154	PCB-135/151/154	µg/kg	1.69	0.622	0.639	0.828	0.313	3.2	0.439	0.355	0.616	1.98
PCB-136	38411-22-2	µg/kg	0.306	0.0954	0.107	0.129	0.0429	0.334	0.0618	0.0473	0.104	0.462
PCB-137	35694-06-5	µg/kg	0.471	0.416	0.17	0.236	0.139	2.56	0.153	0.187	0.279	0.399
PCB-139/140	PCB-139/140	µg/kg	0.141	0.0670	0.0440	0.0623	0.0256	0.491	0.0415	0.0405	0.0539	0.139
PCB-141	52712-04-6	µg/kg	1.06	0.326	0.347	0.427	0.148	3.29	0.234	0.215	0.32	0.88
PCB-142	41411-61-4	µg/kg	< 0.00643 U	< 0.00242 U	< 0.00475 U	< 0.00411 U	< 0.00197 U	< 0.00669 U	< 0.00121 U	< 0.00475 U	< 0.00622 U	< 0.0139 U
PCB-144	68194-14-9	µg/kg	0.202	0.0893	0.0658	0.0968	0.0322	0.718	0.0417	0.0460	0.0625	0.221
PCB-145	74472-40-5	µg/kg	0.000804	< 0.0000699 U	< 0.000226 U	0.000383 J	0.000129 JN	0.000728 JN	0.000285 JN	0.000393 JN	< 0.000448 U	0.00251 JN
PCB-146	51908-16-8	µg/kg	1.83	1.25	0.697	1.21	0.463	4.8	0.613	0.701	1.07	1.81
PCB-147/149	PCB-147/149	µg/kg	4.31	1.48	1.32	1.99	0.523	9.18	0.893	0.767	1.22	4.06
PCB-148	74472-41-6	µg/kg	0.0118	0.00589	0.00592	0.00847	0.00319	0.0168	0.00407	0.00288 JN	0.00587	0.0317
PCB-150	68194-08-1	µg/kg	0.00767	0.00276	0.00299	0.00459	0.00160	0.0110	0.00166	0.00129 J	0.00272 J	0.0162
PCB-152	68194-09-2	µg/kg	0.00256	0.000628	0.000942 JN	0.00125	0.000507 JN	0.00267	0.000625 JN	0.000438 JN	0.00121 J	0.00401
PCB-153/168	PCB-153/168	µg/kg	10.3	5.9	3.97	5.72	2.47	26.4	3.62	3.61	5	8.59
PCB-155	33979-03-2	µg/kg	0.00638	0.00781	0.00646	0.00973	0.00481	0.0150	0.00768	0.00763 JN	0.00958	0.0145
PCB-156/157	PCB-156/157	µg/kg	1.06	0.889	0.307	0.585	0.263	5.11	0.302	0.423	0.634	0.743
PCB-158	74472-42-7	µg/kg	0.806	0.369	0.252	0.388	0.163	3.01	0.228	0.239	0.319	0.639
PCB-159	39635-35-3	µg/kg	< 0.00437 U	< 0.00160 U	0.0148	0.0229	< 0.00140 U	0.0664	< 0.000805 U	< 0.00365 U	0.0148	< 0.00975 U
PCB-161	74472-43-8	µg/kg	< 0.00419 U	< 0.00173 U	< 0.00325 U	< 0.00268 U	< 0.00135 U	< 0.00457 U	< 0.000826 U	< 0.00340 U	< 0.00415 U	< 0.00914 U
PCB-162	39635-34-2	µg/kg	0.0336	0.0233	0.0122	0.0181	0.0125	0.147	0.0128	0.0164	0.0196	0.0203
PCB-164	74472-45-0	µg/kg	0.459	0.168	0.12	0.18	0.0644	1.49	0.0908	0.107	0.139	0.28
PCB-165	74472-46-1	µg/kg	< 0.00486 U	0.00267	< 0.00377 U	0.00333	0.00166	0.00971	0.00254	< 0.00381 U	< 0.00481 U	< 0.0110 U
PCB-167	52663-72-6	µg/kg	0.491	0.34	0.141	0.258	0.114	1.54	0.123	0.177	0.267	0.296
PCB-169	32774-16-6	µg/kg	< 0.00730 U	< 0.00752 U	< 0.00366 U	< 0.00552 U	< 0.00191 U	< 0.00977 U	< 0.00300 U	< 0.00384 U	< 0.00500 U	< 0.0113 U
PCB-170	35065-30-6	µg/kg	1.55	0.836	0.585	0.9	0.387	3.62	0.538	0.549	0.688	1.08
PCB-171/173	PCB-171/173	µg/kg	0.402	0.206	0.175	0.258	0.104	0.828	0.155	0.124	0.182	0.357
PCB-172	52663-74-8	µg/kg	0.307	0.179	0.134	0.205	0.0894	0.57	0.118	0.107	0.161	0.255
PCB-174	38411-25-5	µg/kg	0.838	0.387	0.342	0.511	0.146	1.48	0.234	0.184	0.271	0.64
PCB-175	40186-70-7	µg/kg	0.0584	0.0365	0.0247	0.0433	0.0166	0.114	0.0201	0.0200	0.0286	0.0534
PCB-176	52663-65-7	µg/kg	0.0875	0.0391	0.0385	0.0646	0.0166	0.133	0.0252	0.0199	0.0323 JN	0.0972
PCB-177	52663-70-4	µg/kg	0.812	0.482	0.351	0.421	0.187	1.33	0.256	0.175	0.261	0.574
PCB-178	52663-67-9	µg/kg	0.437	0.252	0.207	0.322	0.134	0.669	0.184	0.148	0.261	0.407
PCB-179	52663-64-6	µg/kg	0.338	0.15	0.164	0.213	0.0608	0.319	0.113	0.0564	0.155	0.391
PCB-180/193	PCB-180/193	µg/kg	4.87	3.28	2.05	3.18	1.64	8.78	1.99	2.11	2.93	3.48
PCB-181	74472-47-2	µg/kg	0.0209	0.0161	0.00747 JN	0.0124 JN	0.00668	0.0895	0.00772	0.00970	0.0139	0.0155
PCB-182	60145-23-5	µg/kg	< 0.000689 U	< 0.000655 U	< 0.000174 U	0.0107 JN	< 0.000129 U	0.0241	< 0.000156 U	0.00289	< 0.000803 U	< 0.000599 U
PCB-183/185	PCB-183/185	µg/kg	1.16	0.685	0.501	0.784	0.334	2.01	0.43	0.388	0.547	0.994
PCB-184	74472-48-3	µg/kg	0.00977 J	0.0113 J	0.00923	0.0151 JN	0.00575	0.0208	0.0111	0.00936	0.0114	0.0161
PCB-186	74472-49-4	µg/kg	< 0.000581 U	< 0.000553 U	< 0.000150 U	< 0.000301 U	< 0.000106 U	< 0.000258 U	< 0.000134 U	< 0.000310 U	< 0.000692 U	< 0.000490 U
PCB-187	52663-68-0	µg/kg	3.55	2.09	1.55	3.3	1.06	4.9	1.58	1.56	2.64	2.97
PCB-188	74487-85-7	µg/kg	0.00557 J	0.00426 JN	0.00277	0.00364	0.00205	0.00998	0.00239	0.00328	0.00501 JN	0.00717
PCB-189	39635-31-9	µg/kg	0.0596	0.0394	0.0194	0.0287	0.0152	0.144	0.0188	0.0261	0.0360	0.0399
PCB-190	41411-64-7	µg/kg	0.36	0.217	0.156	0.244	0.119	0.719	0.149	0.179	0.217	0.281

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Upriver SMB121 PDI-TF-SMB121 8/14/18	Upriver SMB122 PDI-TF-SMB122 8/14/18	Upriver SMB123 PDI-TF-SMB123 8/14/18	Upriver SMB124 PDI-TF-SMB124 8/14/18	Upriver SMB125 PDI-TF-SMB125 8/14/18	Upriver SMB126 PDI-TF-SMB126 8/14/18	Upriver SMB127 PDI-TF-SMB127 8/14/18	Upriver SMB128 PDI-TF-SMB128 8/24/18	Upriver SMB129 PDI-TF-SMB129 8/24/18	Upriver SMB130 PDI-TF-SMB130 9/12/18
Chemical	CAS	Units										
PCB-191	74472-50-7	µg/kg	0.0707	0.0443	0.0275	0.0482	0.0226	0.153	0.0269	0.0321	0.0399	0.0509
PCB-192	74472-51-8	µg/kg	< 0.000622 U	< 0.000592 U	< 0.000156 U	< 0.000349 U	< 0.000121 U	< 0.000269 U	< 0.000140 U	< 0.000379 U	< 0.000755 U	< 0.000580 U
PCB-194	35694-08-7	µg/kg	0.6 J	0.348 J	0.216 J	0.435	0.166 J	0.639 J	0.188	0.243 J	0.247 J	0.502
PCB-195	52663-78-2	µg/kg	0.287	0.17	0.132	0.182	0.0803	0.376	0.124	0.154	0.163	0.204
PCB-196	42740-50-1	µg/kg	0.371	0.223	0.164 JN	0.248	0.112	0.448	0.152 JN	0.181	0.24	0.245
PCB-197/200	PCB-197/200	µg/kg	0.0849	0.0456	0.0406	0.0592 JN	0.0183 J	0.0816	0.0329	0.0291	0.0450	0.0656
PCB-198/199	PCB-198/199	µg/kg	1.02	0.589	0.52	0.574	0.316	1.13	0.457	0.375	0.604	0.638
PCB-201	40186-71-8	µg/kg	0.0893	0.0596	0.0462	0.0565	0.0333	0.124	0.0434	0.0331	0.0599	0.0715
PCB-202	2136-99-4	µg/kg	0.257	0.159	0.137	0.196	0.0786	0.339	0.118	0.12	0.149	0.227
PCB-203	52663-76-0	µg/kg	0.671	0.367	0.327	0.445	0.187	0.737	0.311	0.305	0.377	0.468
PCB-204	74472-52-9	µg/kg	0.00100 JN	0.000803 JN	0.000928 JN	0.000672 JN	0.000510 JN	0.00178	0.000920	< 0.000325 U	0.000733 J	0.000925 JN
PCB-205	74472-53-0	µg/kg	0.0381	0.0202	0.0153	0.0209	0.00880	0.0361	0.0139	0.0137	0.0151	0.0243
PCB-206	40186-72-9	µg/kg	0.313	0.169	0.133	0.166	0.0693	0.272	0.117	0.109	0.132	0.192
PCB-207	52663-79-3	µg/kg	0.0375	0.0256	0.0199	0.0279	0.00880 J	0.0489	0.0185	0.0213	0.0203	0.0292
PCB-208	52663-77-1	µg/kg	0.107	0.0726	0.0566	0.0709	0.0308	0.108	0.0435	0.0479	0.0623	0.0833
PCB-209	2051-24-3	µg/kg	0.135	0.115	0.0981	0.111	0.0635	0.143	0.0885	0.0829	0.1	0.15
Total PCBs	(a) T PCBcg (PDI)	µg/kg	99.5	45.1	33.9	46.8	19.4	215	25.6	26.6	39.5	84.2
Pesticides												
2,4-DDD	53-19-0	µg/kg	0.828	0.314	0.563	0.311	0.135 J	0.365	0.159 J	0.128 J	0.304 J	1.84
2,4-DDE	3424-82-6	µg/kg	0.286	0.082 J	0.163 J	0.105 J	0.045 J	0.132 J	0.046 J	0.047 J	0.127 J	0.573
2,4-DDT	789-02-6	µg/kg	0.487 J	0.162 J	0.205 J	0.204 J	0.079 J	0.312 J	0.104 J	0.081 J+	0.228 J	0.817
4,4'-DDD	72-54-8	µg/kg	6.55	2.42	4.23	2.36	1.06	4.37	1.19	1.13 J	2.60 J	11.4
4,4'-DDE	72-55-9	µg/kg	66.9	30.1	31.7	31.1	13.9	51.7	17.2	18.1 J	26.1 J	52.5
4,4'-DDT	50-29-3	µg/kg	4.83 J	1.55 J	1.29 J	2.05 J	0.921 J	4.08 J	1.67 J	1.40 J	2.32 J	5.30
DDx	(a) T DDx (PDI)	µg/kg	79.9	34.6	38.2	36.1	16.1	61	20.4	20.9	31.7	72.4
alpha-Chlordane	5103-71-9	µg/kg	1.38	0.412	0.749	0.481	0.282 J	1.19	0.512	0.396 J	0.540 J	1.93
cis-Nonachlor	5103-73-1	µg/kg	2.72 J	0.786 J	0.817 J	0.823 J	0.439 J	2.10 J	0.884 J	0.766 J	0.912 J	2.02
Oxychlordane	27304-13-8	µg/kg	1.66	0.397 J	0.582	0.451	0.218 J	0.835	0.496	0.279 J	0.475 J	1.25
trans-Chlordane	5103-74-2	µg/kg	0.344 J	0.111 J	0.264 J	0.119 J	0.075 J	0.262 J	0.102 J	0.090 J	0.143 J	0.730
trans-Nonachlor	39765-80-5	µg/kg	8.30	2.24	2.32	2.70	1.26	6.54	3.29	2.00 J	3.07 J	5.86
Total Chlordanes	(a) T Clrdn (PDI)	µg/kg	14.4	3.95	4.73	4.57	2.27	10.9	5.28	3.53	5.14	11.8
Aldrin	309-00-2	µg/kg	< 0.0044 U	< 0.0041 U	0.013 J	0.005 J	< 0.0042 U	< 0.0044 U	< 0.0047 U	< 0.0046 UJ	< 0.0046 UJ	0.019 J
Dieldrin	60-57-1	µg/kg	2.70	0.568	1.12	0.747	0.479	0.711	0.597	0.734 J	1.20 J	2.29
Metals												
Arsenic	7440-38-2	mg/kg	0.08 J	0.09 J	0.09 J	0.10 J	0.15	0.18	0.14	0.13 J	0.15	0.10 J
Mercury	7439-97-6	mg/kg	0.095 J	0.106 J	0.132 J	0.111 J	0.127 J	0.342 J	0.112 J	0.130 J	0.204 J	0.468
Semivolatile Organics												
Bis(2-ethylhexyl)phthalate	(c) 117-81-7	µg/kg	< 20000 U	880 J	< 20000 U	640 J	580 J	< 20000 U	720 J	580 J	< 20000 U	< 20000 U
Hexachlorobenzene	118-74-1	µg/kg	0.897	0.866	1.65	1.14	0.699	1.12	0.787	1.01 J	1.32 J	4.32
Pentachlorophenol	(c) 87-86-5	µg/kg	< 1000 U	< 1000 U	< 1000 U	< 990 U	< 1000 U	< 990 U	< 990 U	< 1000 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)												
PBDE-7	171977-44-9	µg/kg	0.00106 J	0.000708 J	0.00177 J	0.000583 J	0.000388 JN	0.000408 J	0.000431 J	0.000856 J	0.000936 JN	0.00239 JN
PBDE-8/11	PBDE-8/11	µg/kg	0.000587 JN	0.000579 JN	0.00143 J	0.000385 JN	0.000348 JN	0.000427 JN	0.000409 J	0.000615 JN	0.000829 J	0.00311 JN
PBDE-10	51930-04-2	µg/kg	< 0.000398 U	< 0.000232 U	< 0.000345 U	< 0.000269 U	< 0.000189 U	< 0.000199 U	< 0.000305 U	< 0.000305 U	< 0.000431 U	< 0.000427 U
PBDE-12/13	PBDE-12/13	µg/kg	0.00143 JN	0.000632 JN	0.00110 JN	0.000576 JN	0.000394 JN	0.000646 JN	0.000459 JN	0.000578 JN	0.00104 JN	0.00207 J
PBDE-15	2050-47-7	µg/kg	0.0113	0.00753	0.0109	0.00694 J	0.00446 J	0.00742	0.00484 J	0.00737 J	0.0121 J	0.0304
PBDE-17/25	PBDE-17/25	µg/kg	0.0682	0.0526	0.0817	0.0405	0.0276	0.0488	0.0333	0.0334 JN	0.0377 JN	0.167
PBDE-28/33	PBDE-28/33	µg/kg	0.402	0.253	0.312	0.447	0.179	0.507	0.23	0.213	0.291	0.623
PBDE-30	155999-95-4	µg/kg	< 0.00191 U	< 0.00117 U	< 0.00200 U	< 0.00223 U	< 0.000959 U	< 0.00101 U	< 0.000974 U	< 0.00125 U	< 0.00255 U	< 0.00518 U
PBDE-32	189084-60-4	µg/kg	< 0.00150 U	< 0.000915 U	< 0.00155 U	< 0.00173 U	< 0.000743 U	< 0.000780 U	< 0.000755 U	< 0.000989 U	< 0.00200 U	< 0.00397 U
PBDE-35	147217-80-9	µg/kg	0.0120 JN	0.00315 JN	0.00510 JN	0.00486 JN	0.00198 J	0.0117 JN	0.00498 JN	0.00420 JN	0.00450 JN	0.0135 JN
PBDE-37	147217-81-0	µg/kg	0.00996	0.00582 J	0.00697 J	0.00551 J	0.00291 J	0.00572 J	0.00445 J	0.00451 JN	0.0115 JN	0.0220
PBDE-047	5436-43-1	µg/kg	19.8	14.9	10.8	14.7	7.12	24.3	10.4	12.3	14.9	23.4
PBDE-49	243982-82-3	µg/kg	0.747	0.52	0.392	0.414	0.174	0.384	0.278	0.281	0.494	0.979
PBDE-51	189084-57-9	µg/kg	0.0282	0.0199	0.0192	0.0180	0.00795	0.0154	0.00679 J	0.0104 J	0.0189	0.0575

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Upriver SMB121 PDI-TF-SMB121 8/14/18	Upriver SMB122 PDI-TF-SMB122 8/14/18	Upriver SMB123 PDI-TF-SMB123 8/14/18	Upriver SMB124 PDI-TF-SMB124 8/14/18	Upriver SMB125 PDI-TF-SMB125 8/14/18	Upriver SMB126 PDI-TF-SMB126 8/14/18	Upriver SMB127 PDI-TF-SMB127 8/14/18	Upriver SMB128 PDI-TF-SMB128 8/24/18	Upriver SMB129 PDI-TF-SMB129 8/24/18	Upriver SMB130 PDI-TF-SMB130 9/12/18
Chemical	CAS	Units										
PBDE-66	189084-61-5	µg/kg	0.255	0.194	0.132	0.203	0.107	0.144	0.168	0.199	0.484	0.376
PBDE-71	189084-62-6	µg/kg	0.0258	0.0208	0.0203	0.0152	0.00699 JN	0.0125	0.00977	0.0119 J	0.0340 JN	0.0397
PBDE-75	189084-63-7	µg/kg	0.0216 JN	0.0135	0.0112	0.0126	0.00733	0.0114 JN	0.00902	0.0102 J	0.0455	0.0287
PBDE-77	93703-48-1	µg/kg	0.00374 J	0.00303 JN	0.00148 J	0.00245 J	0.00202 JN	0.00281 JN	0.00292 J	< 0.000144 U	< 0.000144 U	< 0.000143 U
PBDE-79	PBDE-79	µg/kg	0.0585 JN	0.0423 JN	0.0395 JN	0.0355 JN	0.0248 JN	0.0493 JN	0.0408 JN	0.0272 JN	0.0383 JN	0.0201
PBDE-85	182346-21-0	µg/kg	< 0.00510 U	< 0.00227 U	< 0.00207 U	< 0.00279 U	< 0.00136 U	< 0.00167 U	< 0.00181 U	< 0.00258 U	0.0132 J	< 0.00374 U
PBDE-099	60348-60-9	µg/kg	8.28	5.42	3.27	5.83	2.93	3.62	4.59	4.79	18	7.97
PBDE-100	189084-64-8	µg/kg	5.13	3.58	2.24	3.5	1.45	4.56	2.41	2.29	5.59	4.71
PBDE-105	373594-78-6	µg/kg	< 0.00674 U	< 0.00300 U	< 0.00273 U	< 0.00368 U	< 0.00179 U	< 0.00219 U	< 0.00239 U	< 0.00331 U	< 0.0135 U	< 0.00442 U
PBDE-116	189084-65-9	µg/kg	< 0.0105 U	< 0.00468 U	< 0.00414 U	< 0.00558 U	< 0.00272 U	< 0.00333 U	< 0.00362 U	< 0.00434 U	< 0.0149 U	< 0.00598 U
PBDE-119/120	PBDE-119/120	µg/kg	0.141	0.0506	0.0428	0.0570	0.0359	0.0702	0.0478	0.0434	0.0816	0.0996
PBDE-126	366791-32-4	µg/kg	0.0248	0.00941	0.00616 J	0.0123	0.00240 J	0.00799	0.00547 J	0.00338 J	0.0245	0.0134 J
PBDE-128	182677-28-7	µg/kg	0.0202 JN	0.00374 JN	0.00415 JN	0.00405 JN	0.00245 JN	0.00340 JN	0.00525 JN	0.00380 JN	0.00507 JN	0.00610 JN
PBDE-138/166	PBDE-138/166	µg/kg	0.00176 J	0.000906 JN	0.00105 J	0.000860 J	0.000444 J	0.000291 JN	< 0.00150 U	0.00185 JN	0.0249	0.00179 J
PBDE-140	243982-83-4	µg/kg	0.0272	0.00950	0.00771	0.0102 J	0.00469 J	0.00672 JN	0.0107 J	0.0114 J	0.124	0.0144 J
PBDE-153	68631-49-2	µg/kg	1.86	0.88	0.56	0.918 J	0.624	1.2	0.839	0.845	4.96	1.16
PBDE-154	207122-15-4	µg/kg	1.65	0.783	0.508	0.764 J	0.343 J	0.987 J	0.617	0.542	3.22	0.994 J
PBDE-155	35854-94-5	µg/kg	0.198	0.0779	0.0504	0.0892 J	0.0159 J	0.0729 J	0.0385 J	0.0293	0.149	0.0863 J
PBDE-181	189084-67-1	µg/kg	0.00126 JN	0.000269 JN	0.000577 JN	0.000366 JN	0.000270 JN	0.000260 JN	0.000633 J	< 0.000873 U	< 0.000624 U	< 0.000143 U
PBDE-183	207122-16-5	µg/kg	0.0264	0.00845	0.00657 J	0.0104	0.00367 J	0.00349 J	0.00621 J	0.00739 JN	0.0788	0.0333
PBDE-190	189084-68-2	µg/kg	< 0.00187 U	0.000260 J	< 0.000146 U	0.000420 JN	0.000331 JN	< 0.000146 U	0.000174 JN	< 0.000216 U	0.00203 JN	0.000784 JN
PBDE-203	337513-72-1	µg/kg	0.00360 JN	0.00141 J	0.000746 JN	0.00213 JN	0.000501 JN	0.000528 JN	0.000650 JN	< 0.00341 U	< 0.00199 U	0.00213 JN
PBDE-206	63387-28-0	µg/kg	< 0.000250 U	0.00248 J+	0.00118 JN	0.00331 JN	0.00115 JN	0.000588 JN	0.000923 JN	< 0.00317 U	< 0.000705 U	0.00166 JN
PBDE-207	437701-79-6	µg/kg	< 0.00228 U	0.00252 JN	0.00259 JN	0.00733 J+	0.00381 JN	< 0.00135 U	< 0.00152 U	< 0.00325 U	0.00547 JN	< 0.00226 U
PBDE-208	437701-78-5	µg/kg	< 0.00139 U	0.00389 JN	0.00322 JN	0.00611 JN	0.00354 JN	< 0.00134 U	0.00203 JN	< 0.00447 U	< 0.000640 U	0.00202 JN
PBDE-209	1163-19-5	µg/kg	0.0143 JN	0.0214 JN	0.0196 JN	0.0995 JN	0.0328 J+	0.0106 JN	0.00984 J+	< 0.0477 U	< 0.0252 U	0.0295 J+
Total PBDE	(a) T. PBDE (PDI)	µg/kg	38.8	26.9	18.6	27.2	13.1	36	19.8	21.7	48.7	40.9

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Upriver SMB121 PDI-TF-SMB121 8/14/18	Upriver SMB122 PDI-TF-SMB122 8/14/18	Upriver SMB123 PDI-TF-SMB123 8/14/18	Upriver SMB124 PDI-TF-SMB124 8/14/18	Upriver SMB125 PDI-TF-SMB125 8/14/18	Upriver SMB126 PDI-TF-SMB126 8/14/18	Upriver SMB127 PDI-TF-SMB127 8/14/18	Upriver SMB128 PDI-TF-SMB128 8/24/18	Upriver SMB129 PDI-TF-SMB129 8/24/18	Upriver SMB130 PDI-TF-SMB130 9/12/18
Chemical	CAS	Units										
Physical Parameters												
Lipids	LIPID	%	4.20	3.86	4.78	5.27	3.56	3.90	4.52	6.12	5.13	7.86
Total Solids@104C	TSOLID	%	26.2	26.5	25.4	27.7	24.5	25.9	25.6	27.1	25.7	30.2

Notes:**Qualifiers:**

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
 JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
 U = Not detected at detection limit shown.
 UJ = Not detected; sample detection limit is estimated.
 R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
 The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
 Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
 There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location	Upriver	Upriver	Upriver	Upriver	Upriver
		Sample ID	SMB131	SMB132	SMB133	SMB134	SMB135
		Sample Date	PDI-TF-SMB131	PDI-TF-SMB132	PDI-TF-SMB133	PDI-TF-SMB134	PDI-TF-SMB135
Chemical	CAS	Units	8/14/18	9/9/18	9/12/18	8/14/18	8/14/18
Dioxins and Furans							
1,2,3,4,6,7,8-HpCDD	35822-46-9	µg/kg	0.000189 JN	0.000771 J	0.0000893 JN	0.000150 JN	0.000142 JN
1,2,3,4,6,7,8-HpCDF	67562-39-4	µg/kg	< 0.0000794 U	0.000153 JN	< 0.0000733 U	< 0.0000811 U	< 0.0000702 U
1,2,3,4,7,8,9-HpCDF	55673-89-7	µg/kg	< 0.0000794 U	< 0.0000698 U	< 0.0000733 U	< 0.0000811 U	< 0.0000702 U
1,2,3,4,7,8-HxCDD	39227-28-6	µg/kg	0.0000940 JN	0.000173 J	< 0.0000733 U	0.0000850 JN	< 0.0000702 U
1,2,3,4,7,8-HxCDF	70648-26-9	µg/kg	< 0.0000794 U	0.000134 J	< 0.0000733 U	0.000170 J	0.000106 JN
1,2,3,6,7,8-HxCDD	57653-85-7	µg/kg	0.000316 JN	0.000597 JN	0.000309 JN	0.000334 JN	0.000283 JN
1,2,3,6,7,8-HxCDF	57117-44-9	µg/kg	< 0.0000794 U	< 0.0000698 U	< 0.0000733 U	0.000106 JN	< 0.0000702 U
1,2,3,7,8,9-HxCDD	19408-74-3	µg/kg	< 0.0000794 U	< 0.000671 U	< 0.0000733 U	< 0.0000811 U	< 0.0000702 U
1,2,3,7,8,9-HxCDF	72918-21-9	µg/kg	< 0.0000794 U	< 0.0000698 U	< 0.0000733 U	< 0.0000811 U	< 0.0000702 U
1,2,3,7,8-PeCDD	40321-76-4	µg/kg	0.000371 J	0.000464 JN	0.000669 J	0.00114 J	0.000346 JN
1,2,3,7,8-PeCDF	57117-41-6	µg/kg	0.0000872 J	0.000180 J	0.000214 JN	0.000238 J	0.000173 J
2,3,4,6,7,8-HxCDF	60851-34-5	µg/kg	< 0.0000794 U	< 0.0000698 U	< 0.0000733 U	< 0.0000811 U	< 0.0000702 U
2,3,4,7,8-PeCDF	57117-31-4	µg/kg	0.000165 J	0.000253 J	0.000398 J	0.000651 JN	0.000323 J
2,3,7,8-TCDD	1746-01-6	µg/kg	0.000304 J	0.000220 J	0.000232 J	0.000305 J	0.000185 JN
2,3,7,8-TCDF	51207-31-9	µg/kg	0.000376	0.000746 J	0.000522	0.000410 JN	0.000636
OCDD	3268-87-9	µg/kg	0.000216 JN	0.000816 J	0.000140 JN	0.000469 J	0.000250 J+
OCDF	39001-02-0	µg/kg	< 0.0000794 U	< 0.0000698 U	< 0.0000733 U	< 0.0000811 U	< 0.0000702 U
TCDD-TEQ (a)	T_DF_TEQ (PDI)	µg/kg	0.000812	0.000973	0.00111	0.00176	0.000741
TCDD-TEQ (EMPC=half)	(b) T_DF_TEQ(E 0.5)	µg/kg	0.000781	0.000647	0.00109	0.00161	0.000339
TCDD-TEQ (EMPC=0)	(b) T_DF_TEQ(E 0)	µg/kg	0.000765	0.000415	0.00107	0.00151	0.000166
Polychlorinated Biphenyls (PCBs)							
PCB-1	2051-60-7	µg/kg	0.00365	0.00293	0.00249 J	0.00220	0.00303
PCB-2	2051-61-8	µg/kg	0.00115	0.00133 J+	0.00102 J+	0.000983 JN	0.000933 J+
PCB-3	2051-62-9	µg/kg	0.00119 J+	0.00168 JN	0.00131 JN	0.00221 J+	0.00152 J+
PCB-4	13029-08-8	µg/kg	0.0205	0.0194	0.0124	0.0121	0.0159
PCB-5	16605-91-7	µg/kg	0.000295 J	< 0.00356 U	< 0.00271 U	< 0.000263 U	< 0.000173 U
PCB-6	25569-80-6	µg/kg	0.00568	0.00618	0.00380 JN	0.00361	0.00423
PCB-7	33284-50-3	µg/kg	0.000949	< 0.00320 U	< 0.00246 U	0.000703	0.000782
PCB-8	34883-43-7	µg/kg	0.0204	0.0226	0.0122	0.0134	0.0142
PCB-9	34883-39-1	µg/kg	0.00147	< 0.00314 U	< 0.00238 U	0.000858	0.000928
PCB-10	33146-45-1	µg/kg	0.000902	< 0.00327 U	< 0.00247 U	0.000526 J	0.000724
PCB-11	2050-67-1	µg/kg	0.0846	0.18	0.0887	0.0884	0.107
PCB-12/13	PCB-12/13	µg/kg	0.00110 JN	< 0.00343 U	< 0.00250 U	< 0.000241 U	0.00124 JN
PCB-14	34883-41-5	µg/kg	< 0.000124 U	< 0.00329 U	< 0.00246 U	< 0.000235 U	< 0.000162 U
PCB-15	2050-68-2	µg/kg	0.00505	0.00818	< 0.00300 U	0.00362	0.00543
PCB-16	38444-78-9	µg/kg	0.0141	0.0198	0.00766 JN	0.00831	0.0102
PCB-17	37680-66-3	µg/kg	0.0336	0.0428	0.0158	0.0151	0.0207
PCB-18/30	PCB-18/30	µg/kg	0.0536	0.0679	0.0311	0.0281	0.0398
PCB-19	38444-73-4	µg/kg	0.00820 JN	0.0123	0.00601 J+	0.00430	0.00608
PCB-20/28	PCB-20/28	µg/kg	0.192	0.252	0.126	0.13	0.186
PCB-21/33	PCB-21/33	µg/kg	0.0366	0.0536	0.0181	0.0164	0.0216
PCB-22	38444-85-8	µg/kg	0.0355	0.0460	0.0182	0.0182	0.0219
PCB-23	55720-44-0	µg/kg	< 0.000716 U	< 0.000937 U	< 0.000639 U	< 0.000191 U	< 0.000202 U
PCB-24	55702-45-9	µg/kg	0.000786 JN	0.000976 J	0.000444 JN	0.000413 JN	0.000614 JN
PCB-25	55712-37-3	µg/kg	0.0101	0.0144	0.00657	0.00718	0.00774
PCB-26/29	PCB-26/29	µg/kg	0.0258	0.0380	0.0166	0.0178	0.0229
PCB-27	38444-76-7	µg/kg	0.00601	0.00853	0.00355	0.00317	0.00427
PCB-31	16606-02-3	µg/kg	0.0957	0.133	0.0532	0.0551	0.0726
PCB-32	38444-77-8	µg/kg	0.0177	0.0196	0.00703	0.00756	0.0101
PCB-34	37680-68-5	µg/kg	0.000933 JN	0.00169 JN	< 0.000642 U	0.000645 JN	0.000807
PCB-35	37680-69-6	µg/kg	< 0.000687 U	< 0.000916 U	< 0.000673 U	< 0.000162 U	< 0.000187 U
PCB-36	38444-87-0	µg/kg	< 0.000629 U	< 0.000868 U	< 0.000622 U	< 0.000160 U	< 0.000175 U
PCB-37	38444-90-5	µg/kg	0.0117	0.0227	0.0140	0.00829	0.0108
PCB-38	53555-66-1	µg/kg	< 0.000658 U	< 0.000937 U	< 0.000615 U	0.000237 JN	0.000411 JN

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location	Upriver	Upriver	Upriver	Upriver	Upriver
		Sample ID	SMB131	SMB132	SMB133	SMB134	SMB135
		Sample Date	PDI-TF-SMB131	PDI-TF-SMB132	PDI-TF-SMB133	PDI-TF-SMB134	PDI-TF-SMB135
		8/14/18	8/14/18	9/9/18	9/12/18	8/14/18	8/14/18
Chemical	CAS	Units					
PCB-39	38444-88-1	µg/kg	0.00121 JN	0.00205 J	0.00101 J	0.00106	0.00127
PCB-40/41/71	PCB-40/41/71	µg/kg	0.0960	0.128	0.0552	0.0545	0.0749
PCB-42	36559-22-5	µg/kg	0.0664	0.0747	0.0368	0.0383	0.0551
PCB-43	70362-46-8	µg/kg	0.0126	0.0180	0.00788 JN	0.00678	0.0103
PCB-44/47/65	PCB-44/47/65	µg/kg	0.393	0.544	0.261	0.31	0.64
PCB-45/51	PCB-45/51	µg/kg	0.0280	0.0344	0.0144	0.0195	0.0204
PCB-46	41464-47-5	µg/kg	0.00618	0.00799	0.00331	0.00346	0.00346
PCB-48	70362-47-9	µg/kg	0.0442	0.0581	0.0227	0.0235	0.0327
PCB-49/69	PCB-49/69	µg/kg	0.31	0.449	0.177	0.202	0.382
PCB-50/53	PCB-50/53	µg/kg	0.0257	0.0307	0.0175	0.0199	0.0204
PCB-52	35693-99-3	µg/kg	0.675	0.963	0.357	0.358	0.627
PCB-54	15968-05-5	µg/kg	0.000850	0.00144 J	< 0.000523 U	0.000596 JN	0.000547 J
PCB-55	74338-24-2	µg/kg	< 0.000421 U	< 0.000997 U	< 0.00301 U	< 0.00209 U	< 0.000500 U
PCB-56	41464-43-1	µg/kg	0.0647	0.0734	0.0345	0.0330	0.0427
PCB-57	70424-67-8	µg/kg	0.00156	0.00220 JN	< 0.00278 U	< 0.00204 U	0.00209
PCB-58	41464-49-7	µg/kg	0.00195	0.00268 J	< 0.00291 U	< 0.00214 U	0.00226
PCB-59/62/75	PCB-59/62/75	µg/kg	0.0298	0.0389	0.0177	0.0217	0.0388
PCB-60	33025-41-1	µg/kg	0.108	0.123	0.0678	0.0712	0.16
PCB-61/70/74/76	PCB-61/70/74/76	µg/kg	0.77	1	0.582	0.6	0.931
PCB-63	74472-34-7	µg/kg	0.0308	0.0378	0.0350	0.0411	0.0543
PCB-64	52663-58-8	µg/kg	0.172	0.202	0.0784	0.0827	0.148
PCB-66	32598-10-0	µg/kg	0.6	0.765	0.565	0.559 J	0.919
PCB-67	73575-53-8	µg/kg	0.00696	0.00891	0.00557 JN	0.00483	0.00547 JN
PCB-68	73575-52-7	µg/kg	0.0119	0.0132	0.0136	0.0146	0.0192
PCB-72	41464-42-0	µg/kg	0.0108	0.0162	0.00894 JN	0.0118	0.0220
PCB-73	74338-23-1	µg/kg	< 0.0000960 U	0.0138	0.00289 JN	< 0.0000819 U	< 0.0000702 U
PCB-77	32598-13-3	µg/kg	0.0283	0.0325	0.0310	0.0230	0.0241
PCB-78	70362-49-1	µg/kg	< 0.000417 U	< 0.00101 U	< 0.00301 U	< 0.00198 U	< 0.000503 U
PCB-79	41464-48-6	µg/kg	0.0122	0.0118	0.00840	0.00885	0.0118 JN
PCB-80	33284-52-5	µg/kg	0.000605 JN	< 0.000936 U	< 0.00272 U	< 0.00190 U	0.00104
PCB-81	70362-50-4	µg/kg	0.00156 JN	0.00110 JN	< 0.00287 U	< 0.00164 U	0.00139 JN
PCB-82	52663-62-4	µg/kg	0.0806	0.0479	0.0349	0.0306	0.0593
PCB-83/99	PCB-83/99	µg/kg	1.44	2.34	1.38	1.43	3.56
PCB-84	52663-60-2	µg/kg	0.113	0.105	0.0714	0.0661	0.109
PCB-85/116/117	PCB-85/116/117	µg/kg	0.478	0.651	0.348	0.408	0.945
PCB-86/87/97/108/119/125	PCB-86/87/97/ C	µg/kg	0.876 J	0.906	0.459	0.416 J	1.03 J
PCB-88/91	PCB-88/91	µg/kg	0.135	0.127	0.0734	0.0751	0.17
PCB-89	73575-57-2	µg/kg	0.00407	0.00405	< 0.00144 U	0.00156	0.00233 J
PCB-90/101/113	PCB-90/101/113	µg/kg	1.68	2.04	0.984	0.988	2.32
PCB-92	52663-61-3	µg/kg	0.33	0.448	0.2	0.195	0.583
PCB-93/95/98/100/102	PCB-93/95/98/ C	µg/kg	0.673	0.854	0.428	0.417	0.918
PCB-94	73575-55-0	µg/kg	0.00165	0.00181 JN	< 0.00147 U	0.00185 JN	0.00227 JN
PCB-96	73575-54-9	µg/kg	0.00252	0.00538	0.00167 J	0.00219	0.00317
PCB-103	60145-21-3	µg/kg	0.0106	0.0240	0.0103	0.0119	0.0295
PCB-104	56558-16-8	µg/kg	< 0.000208 U	0.000749 J	< 0.000444 U	0.000345 JN	0.000464 J
PCB-105	32598-14-4	µg/kg	0.77	1.17	0.884	0.649	1.41
PCB-106	70424-69-0	µg/kg	< 0.00246 U	< 0.00658 U	< 0.00333 U	< 0.00475 U	< 0.00745 U
PCB-107/124	PCB-107/124	µg/kg	0.0642	0.0787	0.0471	0.0428	0.0634
PCB-109	74472-35-8	µg/kg	0.194	0.316	0.358	0.401	0.378
PCB-110/115	PCB-110/115	µg/kg	1.46	1.39	0.674	0.596	1.55
PCB-111	39635-32-0	µg/kg	0.00324	0.00416	0.00337 JN	0.00535	0.0114
PCB-112	74472-36-9	µg/kg	< 0.000498 U	< 0.000822 U	< 0.000985 U	< 0.000275 U	< 0.00107 U
PCB-114	74472-37-0	µg/kg	0.0585	0.0959	0.128	0.143	0.125
PCB-118	31508-00-6	µg/kg	2.42	3.63	4.08	3.7	4.39
PCB-120	68194-12-7	µg/kg	0.0131	0.0186	0.0153	0.0203	0.0310

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location	Upriver	Upriver	Upriver	Upriver	Upriver
		Sample ID	SMB131	SMB132	SMB133	SMB134	SMB135
		Sample Date	PDI-TF-SMB131 8/14/18	PDI-TF-SMB132 9/9/18	PDI-TF-SMB133 9/12/18	PDI-TF-SMB134 8/14/18	PDI-TF-SMB135 8/14/18
Chemical	CAS	Units					
PCB-121	56558-18-0	µg/kg	0.00194	0.00318	0.00200 J	0.00213	0.00694
PCB-122	76842-07-4	µg/kg	0.00893	0.0112	0.00499 JN	< 0.00529 U	0.0137
PCB-123	65510-44-3	µg/kg	0.0459 JN	0.0562	0.0898 JN	0.0858 JN	0.0671 JN
PCB-126	57465-28-8	µg/kg	0.00480 JN	0.00929 JN	0.00461 JN	0.00580 JN	< 0.00631 U
PCB-127	39635-33-1	µg/kg	0.00697	0.0144	0.0137	0.0173	0.0132 JN
PCB-128/166	PCB-128/166	µg/kg	0.597	0.929	0.595	0.523	1.61
PCB-129/138/160/163	PCB-129/138/ C	µg/kg	4.66	6.57	5.14	4.97	11.6
PCB-130	52663-66-8	µg/kg	0.175	0.216	0.216	0.193	0.313
PCB-131	61798-70-7	µg/kg	0.0143	0.0126	0.00809 JN	0.00944	0.0207
PCB-132	38380-05-1	µg/kg	0.361	0.232	0.22	0.192	0.613
PCB-133	35694-04-3	µg/kg	0.0765	0.114	0.107	0.128	0.21
PCB-134/143	PCB-134/143	µg/kg	0.0656	0.0625	0.0473	0.0415	0.109
PCB-135/151/154	PCB-135/151/154	µg/kg	0.604	0.878	0.578	0.531	1.85
PCB-136	38411-22-2	µg/kg	0.0941	0.137	0.0864	0.0844	0.237
PCB-137	35694-06-5	µg/kg	0.21	0.391	0.532	0.635	0.505
PCB-139/140	PCB-139/140	µg/kg	0.0609	0.0914	0.0456	0.0543	0.159
PCB-141	52712-04-6	µg/kg	0.413	0.529	0.272	0.242	0.819
PCB-142	41411-61-4	µg/kg	< 0.00216 U	< 0.00329 U	< 0.00496 U	< 0.00220 U	< 0.00706 U
PCB-144	68194-14-9	µg/kg	0.0674	0.0817	0.0667	0.0523	0.167
PCB-145	74472-40-5	µg/kg	< 0.000255 U	< 0.000749 U	< 0.000371 U	< 0.000143 U	< 0.000111 U
PCB-146	51908-16-8	µg/kg	0.81	1.27	1.63	1.64	2.27
PCB-147/149	PCB-147/149	µg/kg	1.21	1.04	1.02	0.852	2.95
PCB-148	74472-41-6	µg/kg	0.00460	0.00811	0.00615 JN	0.00530	0.0206
PCB-150	68194-08-1	µg/kg	0.00215	0.00367	0.00315	0.00251 JN	0.00847
PCB-152	68194-09-2	µg/kg	0.00110 JN	0.00226 J	0.000737 JN	0.000957 JN	0.00264 JN
PCB-153/168	PCB-153/168	µg/kg	4.62	7.54	6.26	7.13	13.1
PCB-155	33979-03-2	µg/kg	0.00858	0.0107	0.00866	0.00869	0.0184
PCB-156/157	PCB-156/157	µg/kg	0.461	0.769	0.892	1.05	1.08
PCB-158	74472-42-7	µg/kg	0.345	0.527	0.305	0.287	0.869
PCB-159	39635-35-3	µg/kg	0.0132	0.0164	< 0.00347 U	0.0109	0.0389
PCB-161	74472-43-8	µg/kg	< 0.00141 U	< 0.00230 U	< 0.00326 U	< 0.00151 U	< 0.00504 U
PCB-162	39635-34-2	µg/kg	0.0190	0.0291	0.0190	0.0371	0.0338
PCB-164	74472-45-0	µg/kg	0.146	0.188	0.106	0.0954	0.252
PCB-165	74472-46-1	µg/kg	0.00255	0.00397 JN	< 0.00393 U	0.00531	0.00830
PCB-167	52663-72-6	µg/kg	0.194	0.271	0.379	0.439	0.319
PCB-169	32774-16-6	µg/kg	< 0.00508 U	< 0.00890 U	< 0.00561 U	< 0.00399 U	< 0.0117 U
PCB-170	35065-30-6	µg/kg	0.682	1.11	0.793	0.719	1.88
PCB-171/173	PCB-171/173	µg/kg	0.195	0.266	0.182	0.177	0.672
PCB-172	52663-74-8	µg/kg	0.154	0.199	0.184	0.155	0.398
PCB-174	38411-25-5	µg/kg	0.283	0.261	0.296	0.235	0.936
PCB-175	40186-70-7	µg/kg	0.0266	0.0307	0.0376	0.0338	0.0831
PCB-176	52663-65-7	µg/kg	0.0291	0.0258	0.0311	0.0255	0.103
PCB-177	52663-70-4	µg/kg	0.227	0.271	0.386	0.389	0.672
PCB-178	52663-67-9	µg/kg	0.22	0.302	0.274	0.272	0.646
PCB-179	52663-64-6	µg/kg	0.136	0.161	0.119	0.109	0.407
PCB-180/193	PCB-180/193	µg/kg	2.39	3.82	3.92	4.02	6.35
PCB-181	74472-47-2	µg/kg	0.00833	0.0149	0.0150	0.0228	0.0211
PCB-182	60145-23-5	µg/kg	0.00772 JN	< 0.000735 U	< 0.000472 U	< 0.000226 U	0.0196 JN
PCB-183/185	PCB-183/185	µg/kg	0.544	0.755	0.665	0.613	1.78
PCB-184	74472-48-3	µg/kg	0.0122	0.0124	0.0103	0.0115	0.0215 JN
PCB-186	74472-49-4	µg/kg	< 0.000358 U	< 0.000611 U	< 0.000386 U	< 0.000195 U	< 0.000223 U
PCB-187	52663-68-0	µg/kg	1.97	2.48	3.47	2.69	5.56
PCB-188	74487-85-7	µg/kg	0.00351 JN	0.00411 JN	0.00452	0.00499	0.00918
PCB-189	39635-31-9	µg/kg	0.0221	0.0417	0.0429	0.0400	0.0514
PCB-190	41411-64-7	µg/kg	0.183	0.285	0.221	0.22	0.546

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

Reach Segment Location Sample ID Sample Date			Upriver SMB131 PDI-TF-SMB131 8/14/18	Upriver SMB132 PDI-TF-SMB132 9/9/18	Upriver SMB133 PDI-TF-SMB133 9/12/18	Upriver SMB134 PDI-TF-SMB134 8/14/18	Upriver SMB135 PDI-TF-SMB135 8/14/18
Chemical	CAS	Units					
PCB-191	74472-50-7	µg/kg	0.0345 JN	0.0493	0.0539	0.0486	0.0999
PCB-192	74472-51-8	µg/kg	< 0.000415 U	< 0.000712 U	< 0.000457 U	< 0.000203 U	< 0.000259 U
PCB-194	35694-08-7	µg/kg	0.314 J	0.433 J	0.53	0.312 J	0.777 J
PCB-195	52663-78-2	µg/kg	0.138	0.206	0.179	0.164	0.396
PCB-196	42740-50-1	µg/kg	0.189	0.244	0.282	0.225	0.543
PCB-197/200	PCB-197/200	µg/kg	0.0328	0.0399	0.0445	0.0379	0.11
PCB-198/199	PCB-198/199	µg/kg	0.413	0.506	0.735	0.578	1.03
PCB-201	40186-71-8	µg/kg	0.0360	0.0509	0.0829	0.0793	0.109
PCB-202	2136-99-4	µg/kg	0.139	0.201	0.174	0.165	0.325
PCB-203	52663-76-0	µg/kg	0.348	0.429	0.315	0.309	0.81
PCB-204	74472-52-9	µg/kg	0.00123 JN	0.000630 J	0.000898 JN	0.000956	0.00116 JN
PCB-205	74472-53-0	µg/kg	0.0143	0.0222	0.0174	0.0140	0.0371
PCB-206	40186-72-9	µg/kg	0.133	0.197	0.128	0.113	0.266
PCB-207	52663-79-3	µg/kg	0.0217	0.0337	0.0294	0.0294	0.0464
PCB-208	52663-77-1	µg/kg	0.0508	0.0726	0.0664	0.0560	0.0917
PCB-209	2051-24-3	µg/kg	0.0812	0.124	0.0928	0.0928	0.13
Total PCBs (a)	T_PCBCg (PDI)	µg/kg	39.4	54.6	45.1	43.9	86.8
Pesticides							
2,4-DDD	53-19-0	µg/kg	0.590	0.503	0.336	0.193 J	0.249
2,4-DDE	3424-82-6	µg/kg	0.145 J	0.158 J	0.080 J	0.088 J	0.180 J
2,4-DDT	789-02-6	µg/kg	0.389 J	0.359	0.195 J	0.147 J	0.232 J
4,4'-DDD	72-54-8	µg/kg	3.31	3.19	2.15	1.65	2.89
4,4'-DDE	72-55-9	µg/kg	25.4	24.1	27.8	25.0	46.7
4,4'-DDT	50-29-3	µg/kg	2.66 J	3.02	1.74	1.64 J	3.17 J
DDx (a)	T_DDx (PDI)	µg/kg	32.5	31.3	32.3	28.7	53.4
alpha-Chlordane	5103-71-9	µg/kg	1.20	1.28	0.369 J	0.411 J	0.677
cis-Nonachlor	5103-73-1	µg/kg	2.04 J	1.22	0.691	0.787 J	1.21 J
Oxychlordane	27304-13-8	µg/kg	1.02	0.617	0.259 J	0.298 J	0.629
trans-Chlordane	5103-74-2	µg/kg	0.327 J	0.391 J	0.089 J	0.084 J	0.136 J
trans-Nonachlor	39765-80-5	µg/kg	6.16	3.68	1.99	2.04	3.44
Total Chlordanes (a)	T_Clrndn (PDI)	µg/kg	10.7	7.19	3.4	3.62	6.09
Aldrin	309-00-2	µg/kg	< 0.0049 U	0.019 J	< 0.0046 U	< 0.0049 U	< 0.0045 U
Dieldrin	60-57-1	µg/kg	1.43	1.45	0.660	0.552	0.783
Metals							
Arsenic	7440-38-2	mg/kg	0.08 J	0.16	0.18	0.18	0.29
Mercury	7439-97-6	mg/kg	0.113 J	0.139 J	0.128 J	0.145 J	0.137 J
Semivolatile Organics							
Bis(2-ethylhexyl)phthalate (c)	117-81-7	µg/kg	1100 J	< 20000 U	< 20000 U	930 J	820 J
Hexachlorobenzene	118-74-1	µg/kg	1.60	2.15	0.829	1.06	1.39
Pentachlorophenol (c)	87-86-5	µg/kg	< 990 U	< 1000 U	< 1000 U	< 1000 U	< 1000 U
Polybrominated Diphenyl Ethers (PBDEs)							
PBDE-7	171977-44-9	µg/kg	0.00672 J	0.00129 J	0.00112 JN	0.000527 JN	0.000910 JN
PBDE-8/11	PBDE-8/11	µg/kg	0.00157 J	0.00115 J	0.000635 JN	0.000460 JN	0.000653 JN
PBDE-10	51930-04-2	µg/kg	< 0.000237 U	< 0.000872 U	< 0.000572 U	< 0.000266 U	< 0.000324 U
PBDE-12/13	PBDE-12/13	µg/kg	0.00119 JN	0.00122 JN	< 0.000387 U	0.000671 JN	0.000661 JN
PBDE-15	2050-47-7	µg/kg	0.00972	0.0144	0.00565 J	0.00502 J	0.00900
PBDE-17/25	PBDE-17/25	µg/kg	0.0739	0.0727 JN	0.0462	0.0410	0.0541
PBDE-28/33	PBDE-28/33	µg/kg	0.41	0.367	0.318	0.259	0.518
PBDE-30	155999-95-4	µg/kg	< 0.00168 U	< 0.00202 U	< 0.00247 U	< 0.000960 U	< 0.00139 U
PBDE-32	189084-60-4	µg/kg	< 0.00130 U	< 0.00160 U	< 0.00190 U	< 0.000744 U	< 0.00109 U
PBDE-35	147217-80-9	µg/kg	0.00919 JN	0.00918 JN	0.00525 JN	0.00393 JN	0.00686 JN
PBDE-37	147217-81-0	µg/kg	0.00663 J	0.0108 J	0.00665 J	0.00426 JN	0.00656 J
PBDE-047	5436-43-1	µg/kg	15.7	18.6	16	10.8	23.8
PBDE-49	243982-82-3	µg/kg	0.418	0.316	0.535	0.274	0.582
PBDE-51	189084-57-9	µg/kg	0.0199	0.0165	0.0267	0.0120	0.0215

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

		Reach Segment Location Sample ID Sample Date	Upriver SMB131 PDI-TF-SMB131 8/14/18	Upriver SMB132 PDI-TF-SMB132 9/9/18	Upriver SMB133 PDI-TF-SMB133 9/12/18	Upriver SMB134 PDI-TF-SMB134 8/14/18	Upriver SMB135 PDI-TF-SMB135 8/14/18
Chemical	CAS	Units					
PBDE-66	189084-61-5	µg/kg	0.216	0.154	0.566	0.153	0.306
PBDE-71	189084-62-6	µg/kg	0.0126 JN	0.0185	0.0297	0.00874	0.0217 JN
PBDE-75	189084-63-7	µg/kg	0.0152	0.0153	0.0205	0.0112	0.0161
PBDE-77	93703-48-1	µg/kg	0.00383 JN	0.00291 JN	< 0.000147 U	0.00162 J	0.00458 J
PBDE-79	PBDE-79	µg/kg	0.0429 JN	0.0276 JN	0.0307 JN	0.0396 JN	0.0443 JN
PBDE-85	182346-21-0	µg/kg	< 0.00217 U	< 0.00332 U	< 0.00426 U	< 0.00246 U	< 0.00188 U
PBDE-099	60348-60-9	µg/kg	5.47	2.97	7.39	4.14	3.82
PBDE-100	189084-64-8	µg/kg	2.71	2.39	3.74	2.11	4.01
PBDE-105	373594-78-6	µg/kg	< 0.00285 U	< 0.00401 U	< 0.00504 U	< 0.00324 U	< 0.00248 U
PBDE-116	189084-65-9	µg/kg	< 0.00432 U	< 0.00539 U	< 0.00683 U	< 0.00491 U	< 0.00387 U
PBDE-119/120	PBDE-119/120	µg/kg	0.0622	0.0581	0.105	0.0625	0.0839
PBDE-126	366791-32-4	µg/kg	0.00926 JN	0.00392 J	0.00902 J	0.00465 JN	0.00925
PBDE-128	182677-28-7	µg/kg	< 0.0631 U	0.00375 JN	0.00483 JN	0.00446 JN	0.00489 JN
PBDE-138/166	PBDE-138/166	µg/kg	< 0.0121 U	0.00108 JN	0.000679 JN	0.00130 JN	0.000531 J
PBDE-140	243982-83-4	µg/kg	0.0130 J	0.00670 J	0.0182 J	0.0128	0.00672 J
PBDE-153	68631-49-2	µg/kg	0.991	0.916	1.31 J	1.02	1.19
PBDE-154	207122-15-4	µg/kg	0.679	0.457	1.01 J	0.674	0.812
PBDE-155	35854-94-5	µg/kg	0.0846	0.0294	0.0709 J	0.0325	0.0768
PBDE-181	189084-67-1	µg/kg	0.000363 JN	0.000742 J	0.000617 JN	0.000421 J	0.000488 JN
PBDE-183	207122-16-5	µg/kg	0.0129	0.00673 JN	0.00942 JN	0.00746 J	0.00588 JN
PBDE-190	189084-68-2	µg/kg	< 0.000526 U	0.000141 JN	< 0.000235 U	0.000322 JN	< 0.000140 U
PBDE-203	337513-72-1	µg/kg	0.00199 JN	0.000891 JN	0.00121 JN	0.00177 J	0.00119 JN
PBDE-206	63387-28-0	µg/kg	0.000700 JN	< 0.000864 U	0.00191 JN	0.00112 JN	0.00153 JN
PBDE-207	437701-79-6	µg/kg	< 0.00114 U	0.00208 JN	0.00407 JN	0.00253 JN	< 0.00218 U
PBDE-208	437701-78-5	µg/kg	< 0.00104 U	0.000926 JN	0.00491 J+	0.00232 JN	< 0.000649 U
PBDE-209	1163-19-5	µg/kg	0.00986 JN	0.0190 J+	0.0742 J+	0.0146 J+	0.0210 JN
Total PBDE	(a) T_PBDE (PDI)	µg/kg	27	26.5	31.4	19.7	35.4

Table A.5a-1. Chemical Results for 2018 PDI Smallmouth Bass Whole Body Samples

			Reach Segment Location Sample ID Sample Date	Upriver SMB131 PDI-TF-SMB131 8/14/18	Upriver SMB132 PDI-TF-SMB132 9/9/18	Upriver SMB133 PDI-TF-SMB133 9/12/18	Upriver SMB134 PDI-TF-SMB134 8/14/18	Upriver SMB135 PDI-TF-SMB135 8/14/18
Chemical	CAS	Units						
Physical Parameters								
Lipids	LIPID	%		7.01	6.38	4.57	4.56	5.18
Total Solids@104C	TSOLID	%		28.4	26.9	26.6	25.9	26.4

Notes:

Qualifiers:

- J = The chemical was positively identified; however, the associated numerical value is an estimated concentration.
- JN = The analyte was tentatively identified; the associated numerical value is the approximate concentration of the analyte in the sample.
- U = Not detected at detection limit shown.
- UJ = Not detected; sample detection limit is estimated.
- R = Rejected result.

- a. Totals and TEQs were calculated using EPA Region 10's 12/12/2017 data summation rules for the PDI, with clarifications in AECOM's 8/31/2018 memorandum. See Appendix C.3.
- b. Alternate TCDD-TEQ calculated based on data summing rules provided in Appendix E.
- c. Quantitation limits are elevated due to matrix interference.
The MDLs reported by the laboratory for BEHP and PCP are 120 µg/kg and 76 µg/kg.
Results reported as detected between the quantitation limit and MDL are shown are with a 'J' qualifier.
There were no reported detections for PCP between the MDL of 76 µg/kg and the quantitation limit of 1000 µg/kg.

Acronyms:

µg/kg = microgram per kilogram
 BEHP = bis(2-ethylhexyl)phthalate
 CAS_RN = Chemical Abstracts Service Registry Number
 DDx = dichlorodiphenyltrichloroethane and its derivatives
 EMPC = estimated maximum possible concentration
 EPA = U.S. Environmental Protection Agency
 HpCDD = heptachlorodibenzo-p-dioxin
 HpCDF = heptachlorodibenzofuran
 HxCDD = hexachlorodibenzo-p-dioxin
 HxCDF = hexachlorodibenzofuran
 MDL = method detection limit
 mg/kg = milligram per kilogram
 OCDD = octachlorodibenzodioxin
 OCDF = octachlorodibenzofuran
 PBDE = polybrominated diphenyl ethers
 PCB = polychlorinated biphenyl
 PCP = pentachlorophenol
 PDI = Pre-Remedial Design Investigation
 PeCDD = pentachlorodibenzo-p-dioxin
 PeCDF = pentachlorodibenzofuran
 QL = quantitation limit
 TCDD = tetrachlorodibenzo-p-dioxin
 TCDF = tetrachlorodibenzofuran
 TEQ = toxicity equivalence