

SUPPORTING INFORMATION

Atmospheric Concentrations of PCB-11 Near the Great Lakes Have Not Decreased Since 2004

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Table S1. List of PCB congeners measured, those from mixed GC peaks (*yes*), the percent of that congener detected out of 1830 measured samples (*% det*), and the overall regression coefficient of determination using eq. 1 (r^2 in %). Congeners from mixed GC peaks or with *% det* or $r^2 < 70\%$ were excluded from subsequent analysis. The congeners in red are discussed in the main text.

<u>Congener</u>	<u>mix GC</u>	<u>% det</u>	<u>r^2</u>	<u>Congener</u>	<u>mix GC</u>	<u>% det</u>	<u>r^2</u>
4+10	yes	--	--	53		95	78.5
5+8	yes	--	--	56+60	Yes	--	--
6		91	60.7	64		100	80.9
7+9	yes	--	--	66		99	81.0
11		93	51.3	70+76	Yes	--	--
12		72	32.2	74		97	80.8
13		45	29.3	77		49	61.1
15+17	yes	--	--	81		100	68.3
16		88	71.4	83		70	72.5
18		100	74.2	84+92	Yes	--	--
19		82	70.8	85		94	79.5
22		100	75.5	87		100	79.7
26		98	73.2	89		97	61.1
28		89	74.3	91		96	78.7
31		89	72.5	95		100	79.7
32		88	74.4	97		98	79.9
33		100	75.0	99		99	79.7
37		97	70.8	100		65	59.5
41+71	yes	--	--	101		100	80.3
42		98	78.7	105+132+153	yes	--	--
45		96	78.3	110		100	80.7
47		99	77.7	114		95	61.5
48		99	77.5	118		98	79.7
49		100	79.8	119		50	57.7
52		100	79.4	123+149	yes	--	--

<u>Congener</u>	<u>mix GC</u>	<u>% det</u>	<u>r²</u>
126		29	46.7
128		50	64.6
131		64	51.0
135+144	yes	--	--
138+163	yes	--	--
156		33	48.6
167		40	19.2
169		31	36.9
170+190	yes	--	--
171+202	yes	--	--
172		16	32.5
174		67	74.3
180		82	73.6
194		18	34.9
199		14	29.8
201		43	51.8
205		5	22.2
206		34	10.5
207		14	15.3
Total PCBs*		100	79.8

*Includes all listed congeners

Table S2. Results for the multiple linear regression fit of eq. 1 to the atmospheric concentrations (in pg/m³) of various PCBs measured at six sites about the North American Great Lakes. The errors are all standard errors from the regression. Negative halving times are actually doubling times. When the regression parameter is not significant, the probability level is given ($P =$).

cong.	N	% det	r ²	const (a ₀)	sin(zt) (a ₁)	cos(zt) (a ₂)	max date	pop (a ₃)	date (–a ₄ X 10 ⁴)	t _{1/2}
16	1617	88	71.4	3.65 ± 0.62	-0.240 ± 0.027	-0.618 ± 0.027	7/21 ± 2.4	0.0973 ± 0.0017	1.32 ± 0.15	14.4 ± 1.6
18	1826	100	74.0	5.66 ± 0.52	-0.224 ± 0.023	-0.572 ± 0.023	7/21 ± 2.2	0.0907 ± 0.0014	1.49 ± 0.13	12.7 ± 1.1
19	1496	82	70.8	5.96 ± 0.64	-0.260 ± 0.028	-0.720 ± 0.029	7/19 ± 2.1	0.0954 ± 0.0017	2.17 ± 0.16	8.7 ± 0.6
22	1829	100	75.5	5.23 ± 0.52	-0.258 ± 0.023	-0.759 ± 0.023	7/18 ± 1.6	0.0877 ± 0.0014	1.71 ± 0.13	11.1 ± 0.8
26	1794	98	73.2	4.56 ± 0.51	-0.277 ± 0.022	-0.717 ± 0.023	7/21 ± 1.7	0.0804 ± 0.0013	1.60 ± 0.13	11.9 ± 1.0
28	1620	89	74.3	4.54 ± 0.57	-0.285 ± 0.025	-0.756 ± 0.025	7/21 ± 1.8	0.0914 ± 0.0016	1.28 ± 0.14	14.8 ± 1.6
31	1621	89	72.5	3.84 ± 0.61	-0.280 ± 0.026	-0.694 ± 0.027	7/22 ± 2.0	0.0960 ± 0.0017	1.22 ± 0.15	15.6 ± 1.9
32	1619	88	74.3	3.16 ± 0.57	-0.262 ± 0.025	-0.685 ± 0.025	7/21 ± 2.0	0.0942 ± 0.0016	1.28 ± 0.14	14.8 ± 1.6
33	1828	100	74.9	9.67 ± 0.55	-0.303 ± 0.024	-0.661 ± 0.025	7/24 ± 1.9	0.0946 ± 0.0015	2.66 ± 0.14	7.1 ± 0.4
37	1773	97	70.8	1.61 ± 0.57	-0.325 ± 0.025	-0.733 ± 0.025	7/24 ± 1.8	0.0859 ± 0.0015	0.79 ± 0.14	24.0 ± 4.3
42	1801	98	78.7	4.81 ± 0.52	-0.340 ± 0.023	-0.750 ± 0.023	7/24 ± 1.6	0.0981 ± 0.0014	1.83 ± 0.13	10.4 ± 0.7
45	1761	96	78.3	4.15 ± 0.54	-0.314 ± 0.023	-0.768 ± 0.024	7/22 ± 1.6	0.1004 ± 0.0014	1.75 ± 0.13	10.8 ± 0.8
47	1815	99	77.7	2.81 ± 0.48	-0.253 ± 0.021	-0.712 ± 0.021	7/19 ± 1.6	0.0890 ± 0.0013	1.25 ± 0.12	15.2 ± 1.5
48	1806	99	77.5	2.19 ± 0.50	-0.306 ± 0.022	-0.715 ± 0.022	7/23 ± 1.6	0.0915 ± 0.0013	1.16 ± 0.12	16.4 ± 1.7
49	1829	100	79.8	5.40 ± 0.50	-0.340 ± 0.022	-0.804 ± 0.022	7/23 ± 1.5	0.0957 ± 0.0013	1.75 ± 0.12	10.8 ± 0.7
52	1830	100	79.4	6.73 ± 0.50	-0.337 ± 0.022	-0.782 ± 0.022	7/23 ± 1.5	0.0968 ± 0.0013	1.82 ± 0.13	10.4 ± 0.7
53	1742	95	78.5	4.53 ± 0.53	-0.318 ± 0.023	-0.807 ± 0.023	7/21 ± 1.5	0.0962 ± 0.0014	1.84 ± 0.13	10.3 ± 0.7
64	1822	100	80.9	3.59 ± 0.48	-0.338 ± 0.021	-0.810 ± 0.021	7/23 ± 1.4	0.0957 ± 0.0013	1.40 ± 0.12	13.6 ± 1.2
66	1817	99	81.0	3.99 ± 0.51	-0.352 ± 0.022	-0.867 ± 0.022	7/22 ± 1.4	0.1017 ± 0.0013	1.51 ± 0.13	12.6 ± 1.1
74	1781	97	80.8	2.60 ± 0.52	-0.369 ± 0.023	-0.891 ± 0.023	7/23 ± 1.4	0.1035 ± 0.0014	1.26 ± 0.13	15.1 ± 1.6
83	1278	70	72.5	P = 0.045	-0.377 ± 0.030	-0.797 ± 0.031	7/25 ± 2.0	0.1031 ± 0.0019	1.34 ± 0.18	14.2 ± 1.9
85	1723	94	79.5	2.20 ± 0.59	-0.392 ± 0.026	-0.892 ± 0.026	7/24 ± 1.5	0.1118 ± 0.0015	1.43 ± 0.15	13.3 ± 1.4
87	1829	100	79.7	3.83 ± 0.53	-0.371 ± 0.023	-0.825 ± 0.023	7/24 ± 1.5	0.1027 ± 0.0014	1.47 ± 0.13	12.9 ± 1.1
91	1765	96	78.7	2.74 ± 0.54	-0.385 ± 0.024	-0.841 ± 0.024	7/25 ± 1.5	0.1011 ± 0.0014	1.37 ± 0.13	13.9 ± 1.3
95	1830	100	79.7	7.51 ± 0.53	-0.384 ± 0.023	-0.866 ± 0.024	7/24 ± 1.4	0.1015 ± 0.0014	2.19 ± 0.13	8.7 ± 0.5
97	1787	98	79.9	6.20 ± 0.57	-0.425 ± 0.025	-0.923 ± 0.025	7/24 ± 1.4	0.1099 ± 0.0015	2.25 ± 0.14	8.4 ± 0.5
99	1813	99	79.8	6.12 ± 0.56	-0.401 ± 0.024	-0.855 ± 0.025	7/25 ± 1.5	0.1075 ± 0.0015	2.11 ± 0.14	9.0 ± 0.6
101	1829	100	80.3	6.64 ± 0.53	-0.400 ± 0.023	-0.864 ± 0.023	7/25 ± 1.4	0.1037 ± 0.0014	1.95 ± 0.13	9.7 ± 0.6
110	1827	100	80.7	6.33 ± 0.55	-0.422 ± 0.024	-0.924 ± 0.024	7/24 ± 1.4	0.1087 ± 0.0014	2.05 ± 0.14	9.3 ± 0.6
118	1802	98	79.7	6.67 ± 0.59	-0.409 ± 0.026	-0.900 ± 0.026	7/24 ± 1.5	0.1131 ± 0.0015	2.32 ± 0.15	8.2 ± 0.5
180	1505	82	73.8	P = 0.802	-0.255 ± 0.026	-0.703 ± 0.026	7/20 ± 2.0	0.0905 ± 0.0015	0.86 ± 0.15	22.1 ± 3.8
average	1745	95	77.1	4.59 ± 0.55	-0.328 ± 0.024	-0.778 ± 0.024	7/23 ± 1.7	0.0978 ± 0.0014	1.63 ± 0.14	12.6 ± 1.2
ΣPCB	1830	100	79.8	8.86 ± 0.48	-0.304 ± 0.021	-0.691 ± 0.021	7/23 ± 1.6	0.0948 ± 0.0013	1.63 ± 0.12	11.6 ± 0.9
11	1691	92	51.4	P = 0.404	-0.330 ± 0.032	-1.085 ± 0.033	7/17 ± 1.6	0.0492 ± 0.0019	P = 0.931	--
100	1183	65	59.5	-4.28 ± 0.69	-0.186 ± 0.029	-0.537 ± 0.030	7/20 ± 3.0	0.0661 ± 0.0018	P = 0.130	--
11/ΣPCB	1691	92	43.0	-7.56 ± 0.61	P = 0.118	-0.421 ± 0.027	7/7 ± 3.6	-0.0471 ± 0.0016	-1.45 ± 0.15	-13.1 ± 1.3
100/ΣPCB	1183	65	31.8	-13.5 ± 0.6	0.128 ± 0.026	0.167 ± 0.026	2/10 ± 7.1	-0.0277 ± 0.0018	-1.94 ± 0.15	-9.8 ± 0.8