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Global evaluation and calibration of a passive air sampler for gaseous mercury

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Section S1: Standard Operating Procedures

Figure S1.1: Standard operating procedures for passive air sampler (PAS) deployments

Written SOP with video SOP links:

STANDARD OPERATING PROCEDURE: GASEOUS MERCURY PASSIVE AIR SAMPLER

These passive air samplers (PASs) allow for the quantification of gaseous Hg concentrations in air through work that previously calibrated the sampler (McLagan et al. 2016, ES&T Lett., 3, 24-29). Please deploy the samplers according to the following standard operating procedure:

SOP – DEPLOYMENT

- Sampler deployment and takedown is a simple process and involves no handling of the actual diffusive body or sorbent of the samplers.
- Video links for the sampling procedure is available here and here and should be viewed by all assistants participating in the experiment before involvement.
- Samplers should be removed from **double sealed plastic bag** and Teflon tape removed (*conserve Teflon tape for reuse at end of deployment*) from the sampler.
- The solid storage cap should be removed and replaced with an open cap that has one of the black mesh screens
    - These are generally concave and the apex of the curve should face into the sampler.
- Solid caps should be reserved in a sealed plastic bag provided in the sampling package.
- The sampler should then be attached to the supporting structure, **open side facing down**

- Any unattached diffusive bodies can be removed from Teflon screw caps and screwed firmly into spare protective shield **or** the screw cap can be glue back in place using crazy glue (wearing gloves)

Horizontal support structure

- An "anchor" hose clamp or cable tie must first be wrapped around the horizontal support bar
- Then two cable ties go through the "anchor" hose clamp/cable tie and around the sampler
- First tighten two cable ties that are around the sampler then the "anchor" hose clamp/cable tie making sure the sampler opening is as level as possible (parallel to a flat horizontal surface – no angle).

Vertical support structure

- Two cable ties can be wrapped around the sampler and the vertical support structure and tightened to ensure the sampler opening is as level as possible (parallel to a flat horizontal surface – no angle).

- Please photograph samplers after initial deployment
- The exact time and date of deployment must be recorded as well as any relevant notes regarding deployment issues on the attached sampling schedule form

SOP – TAKEDOWN

- Cable ties should be cut off using a knife or pair of scissors or loosened using release tab if applicable to cable tie
    - be careful not to damage the protective shield.
- The open cap and mesh screen are to be removed and replaced with the solid cap **screwed extremely tightly** (This is extremely important as loose caps can lead to contamination).
- Samplers can be brought inside at this stage – wash hands before proceeding
- Once inside if you noticed any bugs or excessive dust have accumulated remove the cap wipe down with a Kimwipe (or available tissue paper) to remove and bugs dust accumulated on inside walls of protective shield, especially around the rim or shield and cap, replace the cap and tighten **extremely tight**
    - Gloves should be worn here if available (please note if not)
- Teflon tape should be wrapped twice around the edge of the cap and to ensure seal.
- **FINAL LABELLING:** On each sampler label write the location, time and date of the takedown (and deployment) and the sampling period for example:
    - Gunn Point, 11am 13/10/15 - 12pm 14/04/16, Month 1-6; (example of Red-tape sampler 6 month deployment sampler)
    - Cape Grim, 1pm 14/10/15 - 1pm 12/10/16, Month 1-12; (example of blue-tape sampler 3 month deployment sampler)
- Samplers can then be placed in **double sealable plastic bag** (double bag them),
    - Each double sealable plastic bag can hold nine samplers
- Double plastic bag containing samples should be placed within the sampling box and stored at room temperature in a mercury free environment (do not require cold storage – it is acceptable if available, but do not place close to heaters. Please be careful if monitoring mercury near a source site that the storage site is not contaminated).

SOP – FIELD BLANKS

There should be approximately 2 field blanks for every 10-20 samplers deployed
The field blanks provided should be split so half are opened during the initial deployment phase and half during the final takedown/retrieval phase.
The process should closely simulate actual sampling procedures
blanks caps must be changed from closed (storage) cap to open cap with mesh
held up to the supporting structure then immediately taken away for closing
Immediately change open cap to closed (storage) cap **tightened extremely tightly** and sealed with Teflon® tape as per regular samples.
Field blanks placed in **double sealable plastic bags** for storage and stored in a room temperature very low mercury environment (please be careful if monitoring mercury near a source site that the storage site is not contaminated).

Section S2: Sampling site information

Table S2.1: Sampling site information.

Site	Province/State	Country	Description	Latitude	Longitude	Weather station	Latitude	Longitude	Reference	Initial deployment	Final collection
Alert	Nunavut	Canada	Northern/ Arctic	82.4501	-62.5073	Alert A	82.4501	-62.5073	a	2-10-2015	30-06-2016
Little Fox Lake	Yukon	Canada	Northern/ Arctic	61.3500	-135.6300	Whitehorse A	60.7094	-135.0672	a	30-09-2015	2-10-2016
Kejimkujik	Nova Scotia	Canada	Rural	44.4328	-65.2056	Kejimkujik 1	44.40301	-65.2031	a	7-10-2015	11-10-2016
St Anicet	Quebec	Canada	Rural	45.1206	-74.2893	Montreal Intl Airport A	45.4697	-73.7449	a	24-09-2015	27-09-2016
Egbert	Ontario	Canada	Rural	44.2317	-79.7814	Egbert CS	44.2333	-79.7833	a	14-09-2015	30-09-2016
Ucluelet	British Columbia	Canada	Rural	48.9217	-125.5411	Tofino A	49.0822	-125.7725	a	30-09-2015	5-10-2016
Bronx	New York	USA	Urban	40.8680	-73.8781	NY Botanical Garden	40.8645	-73.8832	b	16-12-2015	15-12-2016
Grand Bay	Mississippi	USA	Rural	30.4125	-88.4036	Grand Bay	30.4125	-88.4036	b	15-12-2015	12-12-2016
Beltsville	Maryland	USA	Rural	39.0282	-76.8172	Beltsville	39.0302	-76.9315	b	12-12-2015	13-12-2016
Put-In-Bay	Ohio	USA	Rural	41.6582	-82.8271	South Bass Island	41.6261	-82.8414	b	14-12-2015	10-12-2016
Salt Lake City	Utah	USA	Urban	40.7116	-111.9609	SLC Intl Airport	40.7781	-111.9694	b	6-04-2016	5-04-2017
Mauna Loa	Hawaii	USA	High Altitude	19.5363	-155.5764	Mauna Loa Observatory	19.5363	-155.5764	b	3-02-2016	3-02-2017
Mount Lulin	Nantou County	Taiwan	High Altitude	23.4686	120.8736	Lulin Observatory	23.4686	120.8736	c	2015-12-23	27-12-2016
Xiamen	Fujian	China	Urban	24.6126	118.0581	Xiamen	24.6126	118.0581	d	15-10-2015	15-10-2016
Ningbo	Zhejiang	China	Urban	29.7510	121.8950	Ningbo	29.7510	121.8950	d	15-10-2015	15-10-2016
Hunter valley	New South Wales	Australia	Rural	-32.4777	151.1018	Singleton	-32.5695	151.1788	e	16-09-2015	3-11-2016
Sydney	New South Wales	Australia	Urban	-33.7738	151.1126	Observatory Hill, Sydney	33.8594	151.2048	e	9-03-2016	6-03-2017
Gunn Point	Northern Territory	Australia	Urban	-12.2490	131.0447	Darwin Airport	-12.4112	130.8775	e	7-10-2015	6-05-2017
Cape Grim	Tasmania	Australia	Urban	-40.6833	144.6900	Cape Grim	-40.6833	144.6900	e	4-11-2015	16-11-2016
Waldhof	Lower Saxony	Germany	Urban	52.8011	10.7564	Lüchow	52.9604	9.7931	f	17-06-2015	17-06-2016
Toronto	Ontario	Canada	Urban	43.7836	-79.1856	University of Toronto Scarborough	43.7836	-79.1856	g	16-04-2014	13-04-2015

References: a – Climate Services, Govt. of Canada (2017); b - National Oceanic and Atmospheric Administration (2017); c – G.R. Sheu (2010); d – Personal contact: H. Xiao (2017); e – Bureau of Meteorology, Govt. of Australia (2017); f - Deutscher Wetterdienst (2017); g – McLagan et al. (2016)

Table S2.2: Different deployments at each sampling location also showing deployment period in months. Only deployments with >25 % overall data coverage by active sampling instruments were considered for the active – passive gaseous Hg comparisons. For Toronto deployments see supplemental in McLagan et al. (2016).

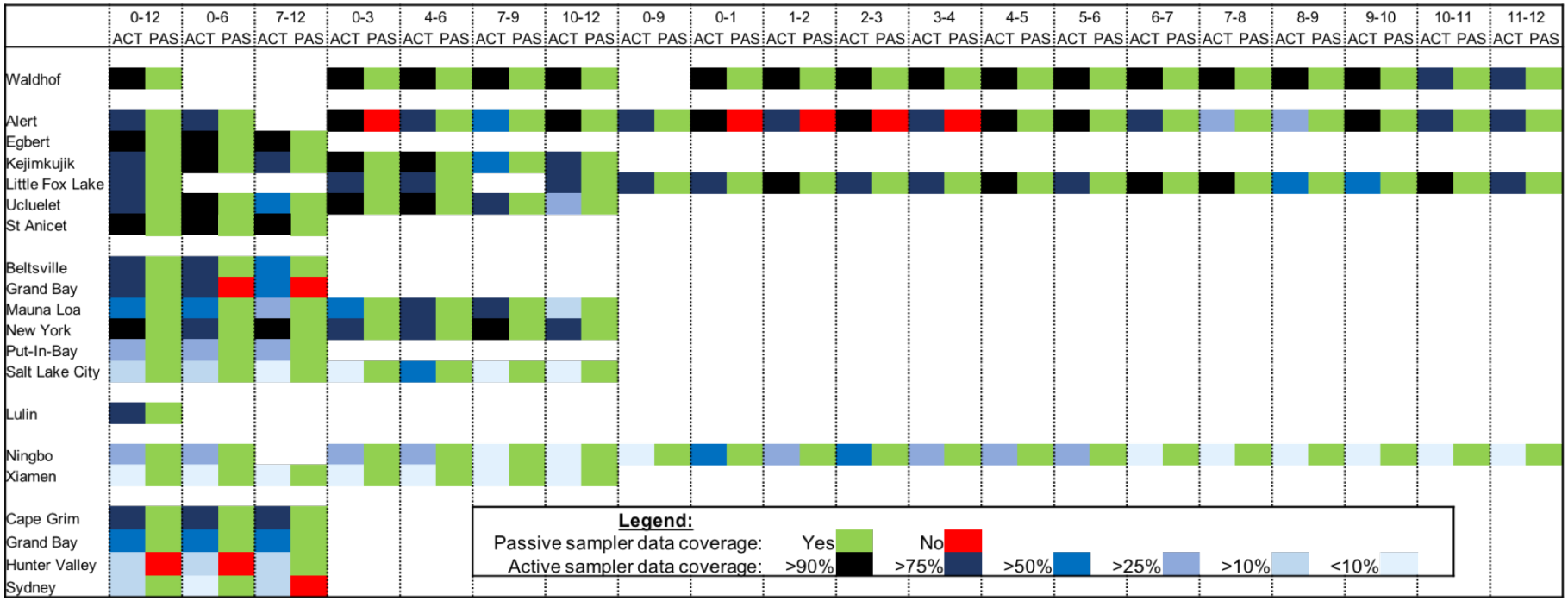

Table S2.3: Data for individual samplers deployed across all sites. Data only included if active instrument had >25% data coverage.

										Sampling rate (SR) used for calculation						
										Original SR: 0.1210 (m^3 day^{-1})		Recalibrated SR: 0.1354 (m^3 day^{-1})		Adjusted SR		
Site	Deployment period (months)	Blank adjusted mass of sorbed Hg (ng)	Deployment time (days)	Temp. (°C)	Wind speed (m s^{-1})	Uptake Rate (ng day^{-1})	Active Gaseous Hg Conc. (ng m^{-3})	C*t	Calculated Sampling rate (m^3 day^{-1})	Passive Gaseous Hg Conc. (ng m^{-3})	Active-Passive Relative % difference	Passive Gaseous Hg Conc. (ng m^{-3})	Active-Passive Relative % difference	Temp. & wind speed Adjusted SR (m^3 day^{-1})	Passive Gaseous Hg Conc. (ng m^{-3})	Active-Passive Relative % difference
Beltsville	0-6	37.2	183	9.6	1.7	0.2030	1.30	238.2	0.1560	1.68	28.9	1.50	15.2	0.1302	1.56	19.8
Beltsville	0-6	38.6	183	9.6	1.7	0.2109	1.30	238.2	0.1620	1.74	33.9	1.56	19.7	0.1302	1.62	24.5
Beltsville	0-6	37.4	183	9.6	1.7	0.2045	1.30	238.2	0.1571	1.69	29.8	1.51	16.0	0.1302	1.57	20.7
Beltsville	0-9	35.5	182	18.1	1.2	0.1951	1.20	217.9	0.1629	1.61	34.6	1.44	20.4	0.1367	1.43	19.2
Beltsville	0-9	33.4	182	18.1	1.2	0.1833	1.20	217.9	0.1531	1.51	26.5	1.35	13.1	0.1367	1.34	12.0
Beltsville	0-9	32.6	182	18.1	1.2	0.1792	1.20	217.9	0.1496	1.48	23.6	1.32	10.6	0.1367	1.31	9.5
Beltsville	0-12	71.2	365	13.8	1.4	0.1952	1.25	457.9	0.1556	1.61	28.5	1.44	14.9	0.1334	1.46	16.6
Beltsville	0-12	70.6	365	13.8	1.4	0.1933	1.25	457.9	0.1541	1.60	27.3	1.43	13.8	0.1334	1.45	15.5
Beltsville	0-12	72.0	365	13.8	1.4	0.1973	1.25	457.9	0.1573	1.63	29.9	1.46	16.2	0.1334	1.48	17.9
Grand Bay	0-12	78.9	363	20.1	2.8	0.2175	1.33	484.3	0.1630	1.80	34.7	1.61	20.4	0.1429	1.52	14.1
Grand Bay	0-12	76.5	363	20.1	2.8	0.2107	1.33	484.3	0.1579	1.74	30.5	1.56	16.7	0.1429	1.47	10.5
Grand Bay	0-12	76.4	363	20.1	2.8	0.2106	1.33	484.3	0.1578	1.74	30.4	1.56	16.6	0.1429	1.47	10.5
Put-In-Bay	0-6	71.8	361	11.4	6.1	0.1990	1.42	514.0	0.1398	1.64	15.5	1.47	3.2	0.1442	1.38	3.1
Put-In-Bay	0-6	70.1	361	11.4	6.1	0.1941	1.42	514.0	0.1363	1.60	12.6	1.43	0.7	0.1442	1.35	5.5
Put-In-Bay	0-6	71.4	361	11.4	6.1	0.1977	1.42	514.0	0.1388	1.63	14.7	1.46	2.5	0.1442	1.37	3.8
Put-In-Bay	0-9	37.7	183	6.0	6.5	0.2063	1.45	266.1	0.1419	1.70	17.2	1.52	4.8	0.1406	1.47	0.9
Put-In-Bay	0-9	38.6	183	6.0	6.5	0.2108	1.45	266.1	0.1449	1.74	19.7	1.56	7.1	0.1406	1.50	3.1
Put-In-Bay	0-9	38.2	183	6.0	6.5	0.2085	1.45	266.1	0.1434	1.72	18.5	1.54	5.9	0.1406	1.48	2.0
Put-In-Bay	0-12	34.9	178	16.3	5.7	0.1961	1.39	247.1	0.1413	1.62	16.7	1.45	4.4	0.1475	1.33	4.2
Put-In-Bay	0-12	34.8	178	16.3	5.7	0.1954	1.39	247.1	0.1408	1.61	16.3	1.44	4.0	0.1475	1.32	4.5
Put-In-Bay	0-12	35.9	178	16.3	5.7	0.2015	1.39	247.1	0.1452	1.66	19.9	1.49	7.3	0.1475	1.37	1.6
New York	0-3	20.3	92	4.5	1.9	0.2208	1.79	164.8	0.1232	1.82	1.8	1.63	9.0	0.1262	1.75	2.4
New York	0-3	17.9	92	4.5	1.9	0.1942	1.79	164.8	0.1084	1.60	10.4	1.43	19.9	0.1262	1.54	14.1
New York	0-3	19.9	92	4.5	1.9	0.2163	1.79	164.8	0.1208	1.79	0.2	1.60	10.8	0.1262	1.71	4.3
New York	4-6	20.8	91	14.2	1.5	0.2288	1.82	165.9	0.1255	1.89	3.7	1.69	7.3	0.1338	1.71	6.2
New York	4-6	20.2	91	14.2	1.5	0.2220	1.82	165.9	0.1218	1.83	0.6	1.64	10.0	0.1338	1.66	9.0
New York	4-6	21.0	91	14.2	1.5	0.2307	1.82	165.9	0.1266	1.91	4.6	1.70	6.5	0.1338	1.72	5.4
New York	7-9	22.5	96	24.5	1.1	0.2344	1.79	172.3	0.1307	1.94	7.9	1.73	3.5	0.1420	1.65	8.0
New York	7-9	23.3	96	24.5	1.1	0.2427	1.79	172.3	0.1353	2.01	11.8	1.79	0.1	0.1420	1.71	4.7
New York	7-9	21.3	96	24.5	1.1	0.2216	1.79	172.3	0.1235	1.83	2.0	1.64	8.8	0.1420	1.56	13.0
New York	10-12	17.7	86	17.4	1.2	0.2053	1.67	143.5	0.1230	1.70	1.6	1.52	9.1	0.1360	1.51	9.6
New York	10-12	15.8	86	17.4	1.2	0.1833	1.67	143.5	0.1099	1.51	9.2	1.35	18.8	0.1360	1.35	19.2
New York	10-12	16.9	86	17.4	1.2	0.1964	1.67	143.5	0.1177	1.62	2.8	1.45	13.0	0.1360	1.44	13.5
New York	0-6	42.3	183	9.3	1.7	0.2314	1.81	331.1	0.1279	1.91	5.6	1.71	5.5	0.1300	1.78	1.7
New York	0-6	43.2	183	9.3	1.7	0.2360	1.81	331.1	0.1304	1.95	7.7	1.74	3.7	0.1300	1.81	0.3
New York	0-6	40.5	183	9.3	1.7	0.2213	1.81	331.1	0.1223	1.83	1.0	1.63	9.7	0.1300	1.70	6.0
New York	7-12	40.1	182	18.7	1.2	0.2206	1.73	315.8	0.1271	1.82	5.0	1.63	6.1	0.1371	1.61	7.3
New York	7-12	39.7	182	18.7	1.2	0.2180	1.73	315.8	0.1256	1.80	3.8	1.61	7.2	0.1371	1.59	8.4
New York	7-12	38.1	182	18.7	1.2	0.2096	1.73	315.8	0.1208	1.73	0.2	1.55	10.7	0.1371	1.53	11.9
New York	0-12	82.2	365	14.0	1.4	0.2251	1.77	645.1	0.1273	1.86	5.2	1.66	5.9	0.1335	1.69	4.6
New York	0-12	81.8	365	14.0	1.4	0.2242	1.77	645.1	0.1268	1.85	4.8	1.66	6.3	0.1335	1.68	5.0
New York	0-12	78.9	365	14.0	1.4	0.2162	1.77	645.1	0.1223	1.79	1.1	1.60	9.6	0.1335	1.62	8.4
Egbert	0-7	45.6	220	2.7	3.3	0.2074	1.45	319.0	0.1430	1.71	18.2	1.53	5.7	0.1285	1.61	11.3
Egbert	0-7	45.6	220	2.7	3.3	0.2071	1.45	319.0	0.1429	1.71	18.0	1.53	5.5	0.1285	1.61	11.2
Egbert	0-7	44.3	220	2.7	3.3	0.2013	1.45	319.0	0.1388	1.66	14.7	1.49	2.6	0.1285	1.57	8.0
Egbert	8-12	31.1	152	17.5	2.7	0.2043	1.37	208.2	0.1491	1.69	23.2	1.51	10.2	0.1403	1.46	6.3
Egbert	8-12	31.8	152	17.5	2.7	0.2092	1.37	208.2	0.1527	1.73	26.2	1.55	12.8	0.1403	1.49	8.8
Egbert	8-12	30.8	152	17.5	2.7	0.2029	1.37	208.2	0.1481	1.68	22.4	1.50	9.4	0.1403	1.45	5.6
Egbert	0-12	75.4	372	9.0	3.0	0.2026	1.42	528.2	0.1427	1.67	17.9	1.50	5.4	0.1335	1.52	6.9

Site	Deployment period (months)	Blank adjusted mass of sorbed Hg (ng)	Deployment time (days)	Temp. (°C)	Wind speed ($m\ s^{-1}$)	Uptake Rate ($ng\ day^{-1}$)	Active Gaseous Hg Conc. ($ng\ m^{-3}$)	C*t	Calculated Sampling rate ($m^3\ day^{-1}$)	Sampling rate (SR) used for calculation: Original SR: 0.1210 ($m^3\ day^{-1}$) — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Original SR: 0.1210 — Active-Passive Relative % difference	Recalibrated SR: 0.1354 ($m^3\ day^{-1}$) — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Recalibrated SR: 0.1354 — Active-Passive Relative % difference	Adjusted SR — Temp. & wind speed Adjusted SR ($m^3\ day^{-1}$)	Adjusted SR — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Adjusted SR — Active-Passive Relative % difference
Egbert	0-12	77.2	372	9.0	3.0	0.2074	1.42	528.2	0.1461	1.71	20.7	1.53	7.9	0.1335	1.55	9.4
Egbert	0-12	77.2	372	9.0	3.0	0.2075	1.42	528.2	0.1461	1.71	20.7	1.53	7.9	0.1335	1.55	9.4
Kejimkujik	0-3	14.0	92	4.0	2.2	0.1519	1.21	111.1	0.1257	1.25	3.9	1.12	7.1	0.1266	1.20	0.7
Kejimkujik	0-3	14.3	92	4.0	2.2	0.1550	1.21	111.1	0.1283	1.28	6.0	1.15	5.2	0.1266	1.22	1.4
Kejimkujik	0-3	14.1	92	4.0	2.2	0.1528	1.21	111.1	0.1265	1.26	4.5	1.13	6.6	0.1266	1.21	0.1
Kejimkujik	4-6	16.9	96	-1.2	2.6	0.1761	1.33	127.8	0.1323	1.45	9.3	1.30	2.3	0.1232	1.43	7.3
Kejimkujik	4-6	17.0	96	-1.2	2.6	0.1774	1.33	127.8	0.1333	1.47	10.1	1.31	1.5	0.1232	1.44	8.2
Kejimkujik	4-6	17.1	96	-1.2	2.6	0.1784	1.33	127.8	0.1340	1.47	10.7	1.32	1.0	0.1232	1.45	8.7
Kejimkujik	7-9	14.9	92	11.8	2.4	0.1617	1.13	104.1	0.1428	1.34	18.0	1.19	5.5	0.1342	1.20	6.4
Kejimkujik	7-9	15.5	92	11.8	2.4	0.1685	1.13	104.1	0.1489	1.39	23.0	1.25	10.0	0.1342	1.26	10.9
Kejimkujik	7-9	14.6	92	11.8	2.4	0.1583	1.13	104.1	0.1399	1.31	15.5	1.17	3.3	0.1342	1.18	4.2
Kejimkujik	10-12	12.6	90	17.8	2.0	0.1398	1.01	91.3	0.1379	1.16	13.9	1.03	1.9	0.1386	1.01	0.5
Kejimkujik	10-12	12.4	90	17.8	2.0	0.1377	1.01	91.3	0.1358	1.14	12.2	1.02	0.3	0.1386	0.99	2.1
Kejimkujik	0-6	32.1	188	1.4	2.4	0.1710	1.27	238.3	0.1349	1.41	11.4	1.26	0.4	0.1249	1.37	8.0
Kejimkujik	0-6	30.3	188	1.4	2.4	0.1613	1.27	238.3	0.1272	1.33	5.1	1.19	6.0	0.1249	1.29	1.8
Kejimkujik	0-6	32.2	188	1.4	2.4	0.1711	1.27	238.3	0.1349	1.41	11.5	1.26	0.3	0.1249	1.37	8.0
Kejimkujik	7-12	27.8	182	14.8	2.2	0.1529	1.06	193.8	0.1436	1.26	18.6	1.13	6.1	0.1365	1.12	5.2
Kejimkujik	7-12	27.1	182	14.8	2.2	0.1487	1.06	193.8	0.1397	1.23	15.4	1.10	3.2	0.1365	1.09	2.3
Kejimkujik	7-12	27.2	182	14.8	2.2	0.1493	1.06	193.8	0.1402	1.23	15.9	1.10	3.6	0.1365	1.09	2.8
Kejimkujik	0-12	62.5	370	7.7	2.3	0.1688	1.18	436.0	0.1433	1.39	18.4	1.25	5.8	0.1303	1.30	9.9
Kejimkujik	0-12	61.0	370	7.7	2.3	0.1650	1.18	436.0	0.1400	1.36	15.7	1.22	3.4	0.1303	1.27	7.4
Kejimkujik	0-12	58.3	370	7.7	2.3	0.1576	1.18	436.0	0.1337	1.30	10.5	1.16	1.2	0.1303	1.21	2.6
Ningbo	0-1	11.1	31	18.5	2.3	0.3577	3.00	93.1	0.1191	2.96	1.6	2.64	12.0	0.1401	2.55	15.0
Ningbo	0-1	12.1	31	18.5	2.3	0.3911	3.00	93.1	0.1302	3.23	7.6	2.89	3.8	0.1401	2.79	7.0
Ningbo	0-1	10.9	31	18.5	2.3	0.3506	3.00	93.1	0.1167	2.90	3.6	2.59	13.8	0.1401	2.50	16.7
Ningbo	1-2	12.5	30	12.5	2.4	0.4150	3.51	105.3	0.1182	3.43	2.3	3.07	12.7	0.1350	3.07	12.4
Ningbo	1-2	12.2	30	12.5	2.4	0.4083	3.51	105.3	0.1163	3.37	3.9	3.02	14.1	0.1350	3.02	13.8
Ningbo	1-2	13.1	30	12.5	2.4	0.4360	3.51	105.3	0.1242	3.60	2.6	3.22	8.2	0.1350	3.23	8.0
Ningbo	2-3	13.2	31	8.9	2.4	0.4256	3.74	115.9	0.1139	3.52	5.9	3.14	15.9	0.1317	3.23	13.6
Ningbo	2-3	14.6	31	8.9	2.4	0.4706	3.74	115.9	0.1259	3.89	4.0	3.48	7.0	0.1317	3.57	4.4
Ningbo	2-3	14.5	31	8.9	2.4	0.4679	3.74	115.9	0.1252	3.87	3.4	3.46	7.5	0.1317	3.55	5.0
Ningbo	3-4	11.5	33	5.5	3.1	0.3485	2.72	89.9	0.1280	2.88	5.7	2.57	5.5	0.1305	2.67	2.0
Ningbo	3-4	11.6	33	5.5	3.1	0.3524	2.72	89.9	0.1294	2.91	6.9	2.60	4.4	0.1305	2.70	0.9
Ningbo	3-4	13.0	33	5.5	3.1	0.3943	2.72	89.9	0.1448	3.26	19.6	2.91	7.0	0.1305	3.02	10.9
Ningbo	4-5	9.0	27	8.5	3.1	0.3346	2.44	66.0	0.1369	2.76	13.1	2.47	1.2	0.1333	2.51	2.8
Ningbo	4-5	8.2	27	8.5	3.1	0.3032	2.44	66.0	0.1241	2.51	2.5	2.24	8.3	0.1333	2.28	6.9
Ningbo	4-5	8.6	27	8.5	3.1	0.3181	2.44	66.0	0.1302	2.63	7.6	2.35	3.8	0.1333	2.39	2.3
Ningbo	5-6	9.1	31	12.9	2.3	0.2925	2.44	75.7	0.1197	2.42	1.1	2.16	11.6	0.1351	2.17	11.4
Ningbo	5-6	9.0	31	12.9	2.3	0.2903	2.44	75.7	0.1188	2.40	1.8	2.14	12.2	0.1351	2.15	12.1
Ningbo	5-6	10.7	31	12.9	2.3	0.3457	2.44	75.7	0.1415	2.86	16.9	2.55	4.5	0.1351	2.56	4.7
Ningbo	0-3	41.4	92	13.3	2.4	0.4501	3.27	301.3	0.1374	3.72	13.6	3.33	1.5	0.1356	3.32	1.3
Ningbo	0-3	40.7	92	13.3	2.4	0.4429	3.27	301.3	0.1353	3.66	11.7	3.27	0.1	0.1356	3.27	0.3
Ningbo	0-3	40.5	92	13.3	2.4	0.4399	3.27	301.3	0.1343	3.63	11.0	3.25	0.8	0.1356	3.24	0.9
Ningbo	4-6	31.4	91	9.0	2.8	0.3452	2.49	226.7	0.1386	2.85	14.5	2.55	2.4	0.1330	2.60	4.2
Ningbo	4-6	31.9	91	9.0	2.8	0.3502	2.49	226.7	0.1406	2.89	16.1	2.59	3.9	0.1330	2.63	5.7
Ningbo	4-6	33.4	91	9.0	2.8	0.3674	2.49	226.7	0.1475	3.03	21.8	2.71	8.9	0.1330	2.76	10.9
Ningbo	0-6	72.8	183	11.1	2.6	0.3977	2.86	523.5	0.1390	3.29	14.9	2.94	2.7	0.1343	2.96	3.5
Ningbo	0-6	71.9	183	11.1	2.6	0.3927	2.86	523.5	0.1373	3.24	13.4	2.90	1.4	0.1343	2.92	2.2
Ningbo	0-6	70.4	183	11.1	2.6	0.3845	2.86	523.5	0.1344	3.18	11.0	2.84	0.7	0.1343	2.86	0.1
Ningbo	0-12	133.6	366	17.6	2.6	0.3650	2.83	1036	0.1290	3.02	6.5	2.70	4.7	0.1402	2.60	8.0
Ningbo	0-12	129.7	366	17.6	2.6	0.3544	2.83	1036	0.1252	2.93	3.4	2.62	7.5	0.1402	2.53	10.7
Ningbo	0-12	133.1	366	17.6	2.6	0.3637	2.83	1036	0.1285	3.00	6.2	2.69	5.1	0.1402	2.59	8.4

Site	Deployment period (months)	Blank adjusted mass of sorbed Hg (ng)	Deployment time (days)	Temp. (°C)	Wind speed (m s^{-1})	Uptake Rate (ng day^{-1})	Active Gaseous Hg Conc. (ng m^{-3})	C*t	Calculated Sampling rate (m^3 day^{-1})	Sampling rate (SR) used for calculation						
										Original SR: 0.1210 (m^3 day^{-1})		Recalibrated SR: 0.1354 (m^3 day^{-1})		Adjusted SR		
										Passive Gaseous Hg Conc. (ng m^{-3})	Active-Passive Relative % difference	Passive Gaseous Hg Conc. (ng m^{-3})	Active-Passive Relative % difference	Temp. & wind speed Adjusted SR (m^3 day^{-1})	Passive Gaseous Hg Conc. (ng m^{-3})	Active-Passive Relative % difference
Waldhof	0-1	6.4	30	17.9	2.6	0.2147	1.69	50.7	0.1271	1.77	5.0	1.59	6.1	0.1403	1.53	9.4
Waldhof	0-1	6.0	30	17.9	2.6	0.2010	1.69	50.7	0.1191	1.66	1.6	1.48	12.1	0.1403	1.43	15.1
Waldhof	1-2	6.4	31	19.2	2.9	0.2053	1.80	55.9	0.1138	1.70	5.9	1.52	15.9	0.1422	1.44	20.0
Waldhof	1-2	7.3	31	19.2	2.9	0.2347	1.80	55.9	0.1302	1.94	7.5	1.73	3.8	0.1422	1.65	8.5
Waldhof	1-2	7.0	31	19.2	2.9	0.2250	1.80	55.9	0.1248	1.86	3.1	1.66	7.8	0.1422	1.58	12.3
Waldhof	2-3	6.0	31	16.0	2.5	0.1922	1.74	54.1	0.1101	1.59	9.0	1.42	18.6	0.1383	1.39	20.3
Waldhof	2-3	6.2	31	16.0	2.5	0.2011	1.74	54.1	0.1153	1.66	4.8	1.49	14.8	0.1383	1.45	16.6
Waldhof	2-3	5.7	31	16.0	2.5	0.1851	1.74	54.1	0.1061	1.53	12.3	1.37	21.6	0.1383	1.34	23.3
Waldhof	3-4	6.2	32	9.9	2.2	0.1927	1.65	52.8	0.1168	1.59	3.5	1.42	13.7	0.1321	1.46	11.6
Waldhof	3-4	5.7	32	9.9	2.2	0.1782	1.65	52.8	0.1080	1.47	10.8	1.32	20.2	0.1321	1.35	18.2
Waldhof	3-4	5.7	32	9.9	2.2	0.1782	1.65	52.8	0.1080	1.47	10.8	1.32	20.2	0.1321	1.35	18.2
Waldhof	4-5	5.2	29	9.6	2.7	0.1777	1.77	51.4	0.1002	1.47	17.2	1.31	26.0	0.1333	1.33	24.8
Waldhof	4-5	7.1	29	9.6	2.7	0.2437	1.77	51.3	0.1377	2.01	13.7	1.80	1.7	0.1333	1.83	3.3
Waldhof	4-5	5.0	29	9.6	2.7	0.1723	1.77	51.4	0.0972	1.42	19.7	1.27	28.2	0.1333	1.29	27.1
Waldhof	5-6	4.7	30	5.9	4.1	0.1569	1.53	45.9	0.1027	1.30	15.2	1.16	24.2	0.1336	1.17	23.2
Waldhof	5-6	5.9	30	5.9	4.1	0.1975	1.53	45.9	0.1292	1.63	6.8	1.46	4.5	0.1336	1.48	3.3
Waldhof	5-6	5.3	30	5.9	4.1	0.1761	1.53	45.9	0.1152	1.45	4.8	1.30	14.9	0.1336	1.32	13.8
Waldhof	6-7	6.9	32	3.4	3.9	0.2143	1.56	49.8	0.1378	1.77	13.8	1.58	1.8	0.1309	1.64	5.2
Waldhof	7-8	6.2	30	3.4	3.7	0.2053	1.55	46.6	0.1322	1.70	9.2	1.52	2.4	0.1303	1.58	1.5
Waldhof	7-8	5.3	30	3.4	3.7	0.1752	1.55	46.6	0.1128	1.45	6.8	1.29	16.7	0.1303	1.35	13.4
Waldhof	7-8	6.8	30	3.4	3.7	0.2267	1.55	46.6	0.1459	1.87	20.5	1.67	7.8	0.1303	1.74	12.0
Waldhof	8-9	6.1	29	2.7	3.5	0.2105	1.74	50.4	0.1211	1.74	0.0	1.55	10.5	0.1291	1.63	6.2
Waldhof	8-9	5.9	29	2.7	3.5	0.2032	1.74	50.4	0.1169	1.68	3.4	1.50	13.7	0.1291	1.57	9.4
Waldhof	8-9	5.5	29	2.7	3.5	0.1911	1.74	50.4	0.1099	1.58	9.2	1.41	18.8	0.1291	1.48	14.8
Waldhof	9-10	7.0	32	8.0	2.8	0.2190	1.63	52.3	0.1340	1.81	10.7	1.62	1.0	0.1319	1.66	1.6
Waldhof	9-10	6.3	32	8.0	2.8	0.1954	1.63	52.3	0.1195	1.61	1.3	1.44	11.7	0.1319	1.48	9.4
Waldhof	9-10	7.3	32	8.0	2.8	0.2275	1.63	52.3	0.1391	1.88	15.0	1.68	2.8	0.1319	1.73	5.5
Waldhof	10-11	7.0	29	10.8	2.9	0.2407	1.56	45.3	0.1541	1.99	27.3	1.78	13.8	0.1347	1.79	14.3
Waldhof	10-11	6.6	29	10.8	2.9	0.2280	1.56	45.3	0.1459	1.88	20.6	1.68	7.8	0.1347	1.69	8.3
Waldhof	10-11	5.8	29	10.8	2.9	0.2002	1.56	45.3	0.1281	1.65	5.8	1.48	5.4	0.1347	1.49	4.9
Waldhof	11-12	6.8	31	17.6	2.8	0.2189	1.70	52.6	0.1290	1.81	6.5	1.62	4.7	0.1405	1.56	8.2
Waldhof	11-12	6.6	31	17.6	2.8	0.2122	1.70	52.6	0.1250	1.75	3.3	1.57	7.6	0.1405	1.51	11.0
Waldhof	0-3	20.1	92	17.7	2.6	0.2180	1.74	160.0	0.1254	1.80	3.6	1.61	7.4	0.1403	1.55	10.6
Waldhof	0-3	20.2	92	17.7	2.6	0.2194	1.74	160.0	0.1262	1.81	4.3	1.62	6.8	0.1403	1.56	10.0
Waldhof	0-3	19.5	92	17.7	2.6	0.2115	1.74	160.0	0.1216	1.75	0.5	1.56	10.2	0.1403	1.51	13.3
Waldhof	4-6	15.9	91	8.5	3.0	0.1748	1.65	150.4	0.1057	1.44	12.7	1.29	21.9	0.1330	1.31	20.5
Waldhof	4-6	18.2	91	8.5	3.0	0.1999	1.65	150.4	0.1209	1.65	0.1	1.48	10.7	0.1330	1.50	9.1
Waldhof	4-6	18.1	91	8.5	3.0	0.1991	1.65	150.4	0.1204	1.64	0.5	1.47	11.0	0.1330	1.50	9.4
Waldhof	7-9	21.2	91	3.2	3.7	0.2325	1.61	146.5	0.1444	1.92	19.3	1.72	6.7	0.1301	1.79	11.0
Waldhof	7-9	18.7	91	3.2	3.7	0.2059	1.61	146.5	0.1279	1.70	5.7	1.52	5.5	0.1301	1.58	1.7
Waldhof	7-9	21.5	91	3.2	3.7	0.2357	1.61	146.5	0.1464	1.95	21.0	1.74	8.2	0.1301	1.81	12.5
Waldhof	9-12	19.4	92	12.1	2.8	0.2109	1.63	150.4	0.1290	1.74	6.6	1.56	4.7	0.1357	1.55	4.9
Waldhof	9-12	18.4	92	12.1	2.8	0.1997	1.63	150.4	0.1222	1.65	0.9	1.48	9.7	0.1357	1.47	10.0
Waldhof	0-12	80.5	366	10.4	3.0	0.2199	1.67	611.3	0.1317	1.82	8.8	1.62	2.7	0.1348	1.63	2.3
Waldhof	0-12	82.1	366	10.4	3.0	0.2244	1.67	611.3	0.1343	1.85	11.0	1.66	0.8	0.1348	1.66	0.3
Waldhof	0-12	82.7	366	10.4	3.0	0.2260	1.67	611.3	0.1353	1.87	11.8	1.67	0.0	0.1348	1.68	0.4
Little Fox Lake	0-1	6.2	32	2.4	4.6	0.1950	1.33	42.6	0.1466	1.61	21.1	1.44	8.3	0.1320	1.48	11.1
Little Fox Lake	0-1	6.4	32	2.4	4.6	0.1992	1.33	42.6	0.1497	1.65	23.7	1.47	10.6	0.1320	1.51	13.5
Little Fox Lake	1-2	5.4	29	-6.8	5.0	0.1846	1.39	40.4	0.1325	1.53	9.5	1.36	2.1	0.1250	1.48	6.0
Little Fox Lake	1-2	5.4	29	-6.8	5.0	0.1852	1.39	40.4	0.1329	1.53	9.8	1.37	1.8	0.1250	1.48	6.4
Little Fox Lake	1-2	5.0	29	-6.8	5.0	0.1726	1.39	40.4	0.1239	1.43	2.3	1.28	8.5	0.1250	1.38	0.9

Site	Deployment period (months)	Blank adjusted mass of sorbed Hg (ng)	Deployment time (days)	Temp. (°C)	Wind speed ($m\ s^{-1}$)	Uptake Rate ($ng\ day^{-1}$)	Active Gaseous Hg Conc. ($ng\ m^{-3}$)	C*t	Calculated Sampling rate ($m^3\ day^{-1}$)	Sampling rate (SR) used for calculation: Original SR: 0.1210 ($m^3\ day^{-1}$) — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Original SR: 0.1210 — Active-Passive Relative % difference	Recalibrated SR: 0.1354 ($m^3\ day^{-1}$) — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Recalibrated SR: 0.1354 — Active-Passive Relative % difference	Adjusted SR — Temp. & wind speed Adjusted SR ($m^3\ day^{-1}$)	Adjusted SR — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Adjusted SR — Active-Passive Relative % difference
Little Fox Lake	2-3	4.9	27	-12.5	3.4	0.1806	1.46	39.5	0.1235	1.49	2.0	1.33	8.8	0.1153	1.57	7.1
Little Fox Lake	2-3	4.1	27	-12.5	3.4	0.1508	1.46	39.5	0.1031	1.25	14.8	1.11	23.8	0.1153	1.31	10.5
Little Fox Lake	2-3	4.4	27	-12.5	3.4	0.1636	1.46	39.5	0.1119	1.35	7.6	1.21	17.4	0.1153	1.42	3.0
Little Fox Lake	3-4	6.8	35	-6.0	4.7	0.1932	1.46	51.0	0.1325	1.60	9.5	1.43	2.1	0.1246	1.55	6.4
Little Fox Lake	3-4	6.7	35	-6.0	4.7	0.1927	1.46	51.0	0.1322	1.59	9.2	1.42	2.3	0.1246	1.55	6.1
Little Fox Lake	3-4	6.9	35	-6.0	4.7	0.1966	1.46	51.0	0.1348	1.62	11.4	1.45	0.4	0.1246	1.58	8.2
Little Fox Lake	4-5	5.5	26	-8.1	5.4	0.2113	1.52	39.4	0.1394	1.75	15.2	1.56	3.0	0.1247	1.69	11.8
Little Fox Lake	4-5	5.5	26	-8.1	5.4	0.2113	1.52	39.4	0.1394	1.75	15.2	1.56	3.0	0.1247	1.69	11.8
Little Fox Lake	4-5	5.4	26	-8.1	5.4	0.2078	1.52	39.4	0.1371	1.72	13.2	1.53	1.3	0.1247	1.67	9.9
Little Fox Lake	4-6	11.5	56	-4.4	4.3	0.2051	1.51	84.7	0.1356	1.69	12.0	1.52	0.2	0.1249	1.64	8.5
Little Fox Lake	4-6	11.7	56	-4.4	4.3	0.2081	1.51	84.7	0.1376	1.72	13.6	1.54	1.6	0.1249	1.67	10.1
Little Fox Lake	4-6	12.1	56	-4.4	4.3	0.2162	1.51	84.7	0.1429	1.79	18.1	1.60	5.6	0.1249	1.73	14.4
Little Fox Lake	6-7	7.8	35	5.0	4.8	0.2230	1.51	53.0	0.1472	1.84	21.7	1.65	8.8	0.1348	1.65	9.2
Little Fox Lake	6-7	7.4	35	5.0	4.8	0.2126	1.51	53.0	0.1404	1.76	16.0	1.57	3.7	0.1348	1.58	4.1
Little Fox Lake	6-7	8.3	35	5.0	4.8	0.2363	1.51	53.0	0.1561	1.95	28.9	1.75	15.3	0.1348	1.75	15.8
Little Fox Lake	7-8	5.7	28	10.2	3.7	0.2030	1.49	41.6	0.1365	1.68	12.8	1.50	0.9	0.1365	1.49	0.0
Little Fox Lake	7-8	5.9	28	10.2	3.7	0.2094	1.49	41.6	0.1409	1.73	16.4	1.55	4.1	0.1365	1.53	3.2
Little Fox Lake	7-8	5.7	28	10.2	3.7	0.2019	1.49	41.6	0.1358	1.67	12.2	1.49	0.3	0.1365	1.48	0.5
Little Fox Lake	8-9	6.1	28	13.2	3.8	0.2196	1.44	40.3	0.1524	1.81	25.9	1.62	12.6	0.1396	1.57	9.2
Little Fox Lake	8-9	5.7	28	13.2	3.8	0.2031	1.44	40.3	0.1409	1.68	16.4	1.50	4.1	0.1396	1.45	1.0
Little Fox Lake	8-9	5.7	28	13.2	3.8	0.2018	1.44	40.3	0.1401	1.67	15.7	1.49	3.5	0.1396	1.45	0.4
Little Fox Lake	9-10	7.3	35	14.4	3.4	0.2081	1.43	50.1	0.1453	1.72	20.1	1.54	7.4	0.1395	1.49	4.1
Little Fox Lake	9-10	6.8	35	14.4	3.4	0.1950	1.43	50.1	0.1362	1.61	12.5	1.44	0.6	0.1395	1.40	2.4
Little Fox Lake	9-10	7.1	35	14.4	3.4	0.2039	1.43	50.1	0.1424	1.68	17.7	1.51	5.2	0.1395	1.46	2.1
Little Fox Lake	10-11	5.9	28	7.5	3.6	0.2094	1.44	40.4	0.1450	1.73	19.8	1.55	7.1	0.1338	1.56	8.4
Little Fox Lake	10-11	5.7	28	7.5	3.6	0.2034	1.44	40.4	0.1408	1.68	16.4	1.50	4.0	0.1338	1.52	5.3
Little Fox Lake	10-11	5.5	28	7.5	3.6	0.1951	1.44	40.4	0.1351	1.61	11.6	1.44	0.2	0.1338	1.46	1.0
Little Fox Lake	11-12	6.4	35	14.9	4.0	0.1819	1.35	47.2	0.1350	1.50	11.5	1.34	0.3	0.1416	1.28	4.7
Little Fox Lake	11-12	6.3	35	14.9	4.0	0.1796	1.35	47.2	0.1332	1.48	10.0	1.33	1.6	0.1416	1.27	5.9
Little Fox Lake	11-12	5.8	35	14.9	4.0	0.1646	1.35	47.2	0.1221	1.36	0.9	1.22	9.8	0.1416	1.16	13.8
Little Fox Lake	0-4	23.0	123	-6.0	4.7	0.1866	1.41	173.4	0.1324	1.54	9.4	1.38	2.2	0.1246	1.50	6.3
Little Fox Lake	0-4	21.6	123	-6.0	4.7	0.1755	1.41	173.4	0.1245	1.45	2.9	1.30	8.0	0.1246	1.41	0.1
Little Fox Lake	0-6	35.0	179	-5.5	4.5	0.1954	1.44	258.2	0.1355	1.61	11.9	1.44	0.1	0.1247	1.57	8.7
Little Fox Lake	0-6	34.4	179	-5.5	4.5	0.1919	1.44	258.2	0.1331	1.59	9.9	1.42	1.7	0.1247	1.54	6.7
Little Fox Lake	0-6	36.8	179	-5.5	4.5	0.2053	1.44	258.2	0.1424	1.70	17.6	1.52	5.2	0.1247	1.65	14.2
Little Fox Lake	0-10	61.6	305	1.3	4.3	0.2021	1.45	443.5	0.1390	1.67	14.8	1.49	2.7	0.1300	1.55	6.9
Little Fox Lake	0-10	59.9	305	1.3	4.3	0.1964	1.45	443.5	0.1351	1.62	11.6	1.45	0.2	0.1300	1.51	3.9

Site	Deployment period (months)	Blank adjusted mass of sorbed Hg (ng)	Deployment time (days)	Temp. (°C)	Wind speed ($m\ s^{-1}$)	Uptake Rate ($ng\ day^{-1}$)	Active Gaseous Hg Conc. ($ng\ m^{-3}$)	C*t	Calculated Sampling rate ($m^3\ day^{-1}$)	Sampling rate (SR) used for calculation: Original SR: 0.1210 ($m^3\ day^{-1}$) — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Original SR: 0.1210 — Active-Passive Relative % difference	Recalibrated SR: 0.1354 ($m^3\ day^{-1}$) — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Recalibrated SR: 0.1354 — Active-Passive Relative % difference	Adjusted SR — Temp. & wind speed Adjusted SR ($m^3\ day^{-1}$)	Adjusted SR — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Adjusted SR — Active-Passive Relative % difference
Little Fox Lake	0-10	60.4	305	1.3	4.3	0.1981	1.45	443.5	0.1362	1.64	12.5	1.46	0.6	0.1300	1.52	4.8
Little Fox Lake	0-12	72.1	368	2.4	4.2	0.1958	1.44	528.6	0.1363	1.62	12.6	1.45	0.7	0.1310	1.49	4.1
Little Fox Lake	0-12	72.5	368	2.4	4.2	0.1970	1.44	528.6	0.1371	1.63	13.3	1.45	1.3	0.1310	1.50	4.7
Little Fox Lake	0-12	71.8	368	2.4	4.2	0.1952	1.44	528.6	0.1359	1.61	12.3	1.44	0.4	0.1310	1.49	3.7
Little Fox Lake	7-11	23.6	119	12.2	3.6	0.1986	1.46	173.8	0.1360	1.64	12.4	1.47	0.5	0.1381	1.44	1.5
Little Fox Lake	7-11	24.1	119	12.2	3.6	0.2022	1.46	173.8	0.1384	1.67	14.4	1.49	2.3	0.1381	1.46	0.3
Little Fox Lake	7-11	23.9	119	12.2	3.6	0.2008	1.46	173.8	0.1375	1.66	13.6	1.48	1.6	0.1381	1.45	0.4
Alert	4-5	4.4	26	-5.2	5.0	0.1708	1.48	38.4	0.1157	1.41	4.4	1.26	14.5	0.1263	1.35	8.4
Alert	4-5	4.8	26	-5.2	5.0	0.1835	1.48	38.4	0.1243	1.52	2.7	1.36	8.2	0.1263	1.45	1.6
Alert	4-5	4.3	26	-5.2	5.0	0.1670	1.48	38.4	0.1131	1.38	6.6	1.23	16.4	0.1263	1.32	10.5
Alert	5-6	3.9	32	-1.6	4.1	0.1211	0.92	29.3	0.1322	1.00	9.2	0.89	2.3	0.1271	0.95	4.0
Alert	6-7	3.6	30	5.0	4.6	0.1189	1.06	31.8	0.1120	0.98	7.4	0.88	17.2	0.1343	0.89	16.6
Alert	6-7	4.2	30	5.0	4.6	0.1407	1.06	31.8	0.1326	1.16	9.5	1.04	2.1	0.1343	1.05	1.3
Alert	6-7	3.4	30	5.0	4.6	0.1128	1.06	31.8	0.1063	0.93	12.2	0.83	21.4	0.1343	0.84	20.8
Alert	7-8	6.1	31	10.1	3.7	0.1978	1.22	37.9	0.1618	1.63	33.7	1.46	19.6	0.1362	1.45	18.8
Alert	7-8	6.2	31	10.1	3.7	0.2007	1.22	37.9	0.1642	1.66	35.7	1.48	21.3	0.1362	1.47	20.5
Alert	8-9	6.6	29	14.0	4.0	0.2273	1.70	49.4	0.1335	1.88	10.3	1.68	1.4	0.1407	1.62	5.1
Alert	8-9	6.5	29	14.0	4.0	0.2252	1.70	49.4	0.1323	1.86	9.3	1.66	2.3	0.1407	1.60	6.0
Alert	8-9	6.5	29	14.0	4.0	0.2239	1.70	49.4	0.1315	1.85	8.7	1.65	2.8	0.1407	1.59	6.5
Alert	9-10	7.9	32	15.3	3.0	0.2459	1.64	52.5	0.1499	2.03	23.8	1.82	10.7	0.1391	1.77	7.8
Alert	9-10	7.1	32	15.3	3.0	0.2224	1.64	52.5	0.1355	1.84	12.0	1.64	0.1	0.1391	1.60	2.6
Alert	9-10	7.8	32	15.3	3.0	0.2423	1.64	52.5	0.1477	2.00	22.0	1.79	9.1	0.1391	1.74	6.2
Alert	10-11	6.0	30	14.2	3.8	0.1993	1.60	48.1	0.1243	1.65	2.7	1.47	8.1	0.1405	1.42	11.5
Alert	10-11	6.4	30	14.2	3.8	0.2143	1.60	48.1	0.1337	1.77	10.5	1.58	1.2	0.1405	1.53	4.8
Alert	10-11	6.1	30	14.2	3.8	0.2025	1.60	48.1	0.1263	1.67	4.4	1.50	6.7	0.1405	1.44	10.1
Alert	11-12	6.2	33	7.2	3.7	0.1886	1.40	46.1	0.1352	1.56	11.7	1.39	0.2	0.1339	1.41	1.0
Alert	11-12	6.2	33	7.2	3.7	0.1871	1.40	46.1	0.1341	1.55	10.8	1.38	1.0	0.1339	1.40	0.2
Alert	11-12	6.2	33	7.2	3.7	0.1871	1.40	46.1	0.1340	1.55	10.7	1.38	1.0	0.1339	1.40	0.1
Alert	4-6	14.9	92	-5.1	4.6	0.1622	1.26	115.9	0.1288	1.34	6.4	1.20	4.9	0.1253	1.29	2.8
Alert	4-6	14.7	92	-5.1	4.6	0.1597	1.26	115.9	0.1267	1.32	4.7	1.18	6.4	0.1253	1.27	1.2
Alert	7-9	17.4	90	9.6	4.1	0.1938	1.22	109.8	0.1589	1.60	31.2	1.43	17.4	0.1370	1.41	15.9
Alert	7-9	17.5	90	9.6	4.1	0.1940	1.22	109.8	0.1590	1.60	31.3	1.43	17.4	0.1370	1.42	16.0
Alert	9-12	20.4	95	12.2	3.5	0.2145	1.55	147.4	0.1382	1.77	14.2	1.58	2.1	0.1377	1.56	0.4
Alert	9-12	19.6	95	12.2	3.5	0.2061	1.55	147.4	0.1328	1.70	9.7	1.52	1.9	0.1377	1.50	3.6
Alert	9-12	19.7	95	12.2	3.5	0.2078	1.55	147.4	0.1339	1.72	10.6	1.54	1.1	0.1377	1.51	2.7
Alert	0-6	30.2	182	-5.3	4.6	0.1658	1.29	234.6	0.1286	1.37	6.2	1.22	5.0	0.1250	1.33	2.9
Alert	0-6	30.4	182	-5.3	4.6	0.1669	1.29	234.6	0.1295	1.38	7.0	1.23	4.3	0.1250	1.34	3.6
Alert	0-9	47.6	272	-0.3	4.4	0.1752	1.26	343.2	0.1388	1.45	14.7	1.29	2.6	0.1290	1.36	7.6
Alert	0-9	47.4	272	-0.3	4.4	0.1744	1.26	343.2	0.1382	1.44	14.2	1.29	2.1	0.1290	1.35	7.1
Alert	0-9	48.4	272	-0.3	4.4	0.1780	1.26	343.2	0.1411	1.47	16.5	1.31	4.2	0.1290	1.38	9.4
Alert	0-12	67.0	367	2.9	4.2	0.1826	1.35	494.2	0.1356	1.51	12.0	1.35	0.2	0.1312	1.39	3.3
Alert	0-12	64.8	367	2.9	4.2	0.1766	1.35	494.2	0.1311	1.46	8.3	1.30	3.1	0.1312	1.35	0.1
Alert	0-12	70.6	367	2.9	4.2	0.1924	1.35	494.2	0.1429	1.59	18.0	1.42	5.5	0.1312	1.47	8.9
Salt Lake City	4-6	22.5	91	24.5	4.1	0.2467	1.67	151.8	0.1479	2.04	22.2	1.82	9.3	0.1506	1.64	1.8
Salt Lake City	4-6	20.1	91	24.5	4.1	0.2207	1.67	151.8	0.1323	1.82	9.3	1.63	2.3	0.1506	1.47	12.1
Salt Lake City	4-6	23.3	91	24.5	4.1	0.2561	1.67	151.8	0.1535	2.12	26.8	1.89	13.4	0.1506	1.70	1.9
Ucluelet	0-3	17.7	97	7.2	2.8	0.1826	1.27	123.1	0.1439	1.51	18.9	1.35	6.3	0.1313	1.39	9.6
Ucluelet	0-3	15.4	97	7.2	2.8	0.1586	1.27	123.1	0.1250	1.31	3.3	1.17	7.7	0.1313	1.21	4.8

Site	Deployment period (months)	Blank adjusted mass of sorbed Hg (ng)	Deployment time (days)	Temp. (°C)	Wind speed ($m\ s^{-1}$)	Uptake Rate ($ng\ day^{-1}$)	Active Gaseous Hg Conc. ($ng\ m^{-3}$)	C*t	Calculated Sampling rate ($m^3\ day^{-1}$)	Sampling rate (SR) used for calculation: Original SR: 0.1210 ($m^3\ day^{-1}$) — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Original SR: 0.1210 ($m^3\ day^{-1}$) — Active-Passive Relative % difference	Recalibrated SR: 0.1354 ($m^3\ day^{-1}$) — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Recalibrated SR: 0.1354 ($m^3\ day^{-1}$) — Active-Passive Relative % difference	Adjusted SR — Temp. & wind speed Adjusted SR ($m^3\ day^{-1}$)	Adjusted SR — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Adjusted SR — Active-Passive Relative % difference
Ucluelet	0-3	17.0	97	7.2	2.8	0.1748	1.27	123.1	0.1378	1.44	13.8	1.29	1.8	0.1313	1.33	4.9
Ucluelet	4-6	17.9	94	7.5	3.4	0.1903	1.36	127.6	0.1403	1.57	15.9	1.41	3.6	0.1333	1.43	5.3
Ucluelet	4-6	18.5	94	7.5	3.4	0.1964	1.36	127.6	0.1447	1.62	19.6	1.45	6.9	0.1333	1.47	8.6
Ucluelet	4-6	18.4	94	7.5	3.4	0.1957	1.36	127.6	0.1442	1.62	19.1	1.45	6.5	0.1333	1.47	8.2
Ucluelet	7-9	20.7	116	12.7	3.1	0.1788	1.32	153.0	0.1355	1.48	12.0	1.32	0.1	0.1370	1.30	1.1
Ucluelet	7-9	22.0	116	12.7	3.1	0.1895	1.32	153.0	0.1436	1.57	18.7	1.40	6.1	0.1370	1.38	4.8
Ucluelet	7-9	22.3	116	12.7	3.1	0.1921	1.32	153.0	0.1456	1.59	20.3	1.42	7.6	0.1370	1.40	6.2
Ucluelet	10-12	10.9	64	13.7	2.5	0.1699	1.18	75.2	0.1445	1.40	19.4	1.25	6.8	0.1363	1.25	6.1
Ucluelet	10-12	11.0	64	13.7	2.5	0.1722	1.18	75.2	0.1466	1.42	21.1	1.27	8.3	0.1363	1.26	7.6
Ucluelet	10-12	11.7	64	13.7	2.5	0.1833	1.18	75.2	0.1560	1.51	28.9	1.35	15.2	0.1363	1.35	14.5
Ucluelet	0-6	36.2	191	7.3	3.1	0.1893	1.31	250.6	0.1443	1.56	19.2	1.40	6.6	0.1323	1.43	9.1
Ucluelet	0-6	35.9	191	7.3	3.1	0.1882	1.31	250.6	0.1434	1.55	18.5	1.39	6.0	0.1323	1.42	8.4
Ucluelet	0-6	36.5	191	7.3	3.1	0.1913	1.31	250.6	0.1458	1.58	20.4	1.41	7.7	0.1323	1.45	10.2
Ucluelet	7-12	34.3	180	13.0	2.9	0.1907	1.29	232.3	0.1477	1.58	22.1	1.41	9.1	0.1368	1.39	8.0
Ucluelet	7-12	33.7	180	13.0	2.9	0.1870	1.29	232.3	0.1449	1.55	19.7	1.38	7.1	0.1368	1.37	6.0
Ucluelet	7-12	34.8	180	13.0	2.9	0.1933	1.29	232.3	0.1498	1.60	23.7	1.43	10.6	0.1368	1.41	9.5
Ucluelet	0-12	71.7	371	10.1	3.0	0.1933	1.30	483.8	0.1483	1.60	22.5	1.43	9.5	0.1345	1.44	10.3
Ucluelet	0-12	72.6	371	10.1	3.0	0.1957	1.30	483.8	0.1501	1.62	24.0	1.45	10.9	0.1345	1.46	11.6
Ucluelet	0-12	72.8	371	10.1	3.0	0.1962	1.30	483.8	0.1504	1.62	24.3	1.45	11.1	0.1345	1.46	11.9
Cape Grim	0-6	32.3	202	15.6	10.2	0.1599	0.88	177.6	0.1819	1.32	50.3	1.18	34.4	0.1596	1.00	13.9
Cape Grim	0-6	33.7	202	15.6	10.2	0.1667	0.88	177.6	0.1896	1.38	56.6	1.23	40.0	0.1596	1.04	18.7
Cape Grim	0-6	33.4	202	15.6	10.2	0.1651	0.88	177.6	0.1878	1.36	55.1	1.22	38.7	0.1596	1.03	17.6
Cape Grim	7-12	27.9	176	10.9	10.2	0.1586	0.88	155.7	0.1792	1.31	48.1	1.17	32.4	0.1554	1.02	15.4
Cape Grim	7-12	29.3	176	10.9	10.2	0.1663	0.88	155.7	0.1879	1.37	55.3	1.23	38.8	0.1554	1.07	21.0
Cape Grim	7-12	28.7	176	10.9	10.2	0.1630	0.88	155.7	0.1842	1.35	52.2	1.20	36.1	0.1554	1.05	18.6
Cape Grim	0-12	60.8	378	13.4	10.2	0.1608	0.88	333.4	0.1823	1.33	50.6	1.19	34.7	0.1576	1.02	15.6
Cape Grim	0-12	61.5	378	13.4	10.2	0.1627	0.88	333.4	0.1845	1.34	52.5	1.20	36.3	0.1576	1.03	17.1
Gunn Point	0-6	49.1	327	28.2	5.6	0.1501	0.98	320.4	0.1532	1.24	26.5	1.11	13.1	0.1581	0.95	3.1
Gunn Point	0-6	48.9	327	28.2	5.6	0.1496	0.98	320.4	0.1527	1.24	26.1	1.10	12.8	0.1581	0.95	3.4
Gunn Point	0-6	48.1	327	28.2	5.6	0.1471	0.98	320.4	0.1501	1.22	24.0	1.09	10.9	0.1581	0.93	5.1
Gunn Point	7-12	34.2	250	29.5	4.8	0.1369	0.95	237.0	0.1444	1.13	19.3	1.01	6.7	0.1568	0.87	7.9
Gunn Point	7-12	34.3	250	29.5	4.8	0.1374	0.95	237.0	0.1449	1.13	19.7	1.01	7.0	0.1568	0.88	7.6
Gunn Point	7-12	34.5	250	29.5	4.8	0.1381	0.95	237.0	0.1457	1.14	20.4	1.02	7.6	0.1568	0.88	7.1
Gunn Point	0-12	81.5	577	28.7	5.3	0.1412	0.97	557.5	0.1461	1.17	20.7	1.04	7.9	0.1575	0.90	7.2
Gunn Point	0-12	80.3	577	28.7	5.3	0.1392	0.97	557.5	0.1440	1.15	19.0	1.03	6.4	0.1575	0.88	8.6
Gunn Point	0-12	80.7	577	28.7	5.3	0.1399	0.97	557.5	0.1448	1.16	19.6	1.03	7.0	0.1575	0.89	8.1
St Anicet	0-6	31.4	167	0.8	4.8	0.1882	1.27	212.3	0.1480	1.55	26.3	1.39	9.4	0.1311	1.44	13.0
St Anicet	0-6	32.0	167	0.8	4.8	0.1916	1.27	212.3	0.1508	1.58	28.6	1.42	11.4	0.1311	1.46	15.1
St Anicet	0-6	32.7	167	0.8	4.8	0.1957	1.27	212.3	0.1539	1.62	31.2	1.45	13.7	0.1311	1.49	17.5
St Anicet	7-12	38.3	202	15.4	4.6	0.1896	1.16	233.5	0.1640	1.57	39.2	1.40	21.2	0.1437	1.32	13.8
St Anicet	7-12	39.1	202	15.4	4.6	0.1935	1.16	233.5	0.1674	1.60	41.7	1.43	23.6	0.1437	1.35	16.1
St Anicet	7-12	39.7	202	15.4	4.6	0.1965	1.16	233.5	0.1700	1.62	44.0	1.45	25.6	0.1437	1.37	17.9
St Anicet	0-12	70.1	369	8.8	4.7	0.1900	1.21	445.0	0.1575	1.57	32.2	1.40	16.4	0.1380	1.38	13.8
St Anicet	0-12	71.1	369	8.8	4.7	0.1927	1.21	445.0	0.1598	1.59	34.0	1.42	18.0	0.1380	1.40	15.4
St Anicet	0-12	70.5	369	8.8	4.7	0.1910	1.21	445.0	0.1584	1.58	32.8	1.41	17.0	0.1380	1.38	14.4
St Anicet	0-12	75.1	370	11.2	3.8	0.2029	1.58	584.6	0.1284	1.68	6.1	1.50	5.1	0.1375	1.48	6.6
St Anicet	0-12	75.7	370	11.2	3.8	0.2047	1.58	584.6	0.1296	1.69	7.0	1.51	4.3	0.1375	1.49	5.8
St Anicet	0-12	73.9	370	11.2	3.8	0.1998	1.58	584.6	0.1264	1.65	4.5	1.48	6.6	0.1375	1.45	8.1
Mauna Loa	0-3	8.9	91	8.9	4.3	0.0982	0.80	73.0	0.1225	0.81	1.2	0.73	9.5	0.1369	0.72	10.5

Site	Deployment period (months)	Blank adjusted mass of sorbed Hg (ng)	Deployment time (days)	Temp. (°C)	Wind speed ($m\ s^{-1}$)	Uptake Rate ($ng\ day^{-1}$)	Active Gaseous Hg Conc. ($ng\ m^{-3}$)	C*t	Calculated Sampling rate ($m^3\ day^{-1}$)	Sampling rate (SR) used for calculation: Original SR: 0.1210 ($m^3\ day^{-1}$) — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Original SR: 0.1210 — Active-Passive Relative % difference	Recalibrated SR: 0.1354 ($m^3\ day^{-1}$) — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Recalibrated SR: 0.1354 — Active-Passive Relative % difference	Adjusted SR — Temp. & wind speed Adjusted SR ($m^3\ day^{-1}$)	Adjusted SR — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Adjusted SR — Active-Passive Relative % difference
Mauna Loa	0-3	9.3	91	8.9	4.3	0.1026	0.80	73.0	0.1279	0.85	5.7	0.76	5.5	0.1369	0.75	6.5
Mauna Loa	0-3	9.0	91	8.9	4.3	0.0990	0.80	73.0	0.1234	0.82	2.0	0.73	8.8	0.1369	0.72	9.8
Mauna Loa	4-6	9.1	89	9.2	4.0	0.1019	0.84	74.6	0.1215	0.84	0.4	0.75	10.2	0.1362	0.75	10.8
Mauna Loa	4-6	9.3	89	9.2	4.0	0.1045	0.84	74.6	0.1246	0.86	2.9	0.77	8.0	0.1362	0.77	8.6
Mauna Loa	4-6	9.2	89	9.2	4.0	0.1035	0.84	74.6	0.1234	0.85	2.0	0.76	8.8	0.1362	0.76	9.4
Mauna Loa	7-9	9.6	91	8.9	3.2	0.1051	0.92	83.8	0.1141	0.87	5.8	0.78	15.7	0.1339	0.78	14.8
Mauna Loa	7-9	9.6	91	8.9	3.2	0.1052	0.92	83.8	0.1142	0.87	5.7	0.78	15.7	0.1339	0.79	14.7
Mauna Loa	7-9	9.5	91	8.9	3.2	0.1049	0.92	83.8	0.1138	0.87	5.9	0.77	15.9	0.1339	0.78	15.0
Mauna Loa	10-12	9.5	95	6.8	5.7	0.0996	0.89	84.5	0.1120	0.82	7.5	0.74	17.3	0.1391	0.72	19.5
Mauna Loa	10-12	9.1	95	6.8	5.7	0.0956	0.89	84.5	0.1075	0.79	11.2	0.71	20.6	0.1391	0.69	22.7
Mauna Loa	10-12	10.0	95	6.8	5.7	0.1052	0.89	84.5	0.1183	0.87	2.3	0.78	12.6	0.1391	0.76	14.9
Mauna Loa	0-6	19.3	180	9.0	4.1	0.1069	0.82	147.9	0.1301	0.88	7.5	0.79	3.9	0.1366	0.78	4.7
Mauna Loa	0-6	19.1	180	9.0	4.1	0.1063	0.82	147.9	0.1294	0.88	6.9	0.79	4.4	0.1366	0.78	5.3
Mauna Loa	0-6	18.4	180	9.0	4.1	0.1021	0.82	147.9	0.1243	0.84	2.7	0.75	8.2	0.1366	0.75	9.0
Mauna Loa	7-12	19.8	186	7.9	4.4	0.1067	0.92	170.2	0.1166	0.88	3.7	0.79	13.9	0.1363	0.78	14.4
Mauna Loa	7-12	20.2	186	7.9	4.4	0.1084	0.92	170.2	0.1184	0.90	2.2	0.80	12.5	0.1363	0.79	13.1
Mauna Loa	7-12	19.1	186	7.9	4.4	0.1026	0.92	170.2	0.1121	0.85	7.4	0.76	17.2	0.1363	0.75	17.8
Mauna Loa	0-12	38.6	366	8.5	4.2	0.1055	0.86	316.2	0.1222	0.87	0.9	0.78	9.7	0.1365	0.77	10.5
Mauna Loa	0-12	37.6	366	8.5	4.2	0.1028	0.86	316.2	0.1190	0.85	1.7	0.76	12.1	0.1365	0.75	12.8
Mauna Loa	0-12	36.4	366	8.5	4.2	0.0994	0.86	316.2	0.1150	0.82	5.0	0.73	15.0	0.1365	0.73	15.7
Toronto	0-0.25	1.8	7	8.5	2.1		1.63	11.4	0.1540	2.07	27.2	1.85	13.8	0.1305	1.92	18.0
Toronto	0.25-0.5	3.4	14	6.9	1.9		1.60	22.4	0.1537	2.03	27.0	1.82	13.5	0.1284	1.92	19.7
Toronto	0.5-0.75	5.1	21	6.9	2.1		1.56	32.7	0.1558	2.01	28.7	1.79	15.1	0.1290	1.88	20.7
Toronto	0.75-1	6.9	28	7.4	2.1		1.56	43.7	0.1575	2.03	30.1	1.82	16.4	0.1296	1.90	21.5
Toronto	1-1.25	8.1	35	8.8	2.1		1.56	54.6	0.1492	1.92	23.3	1.72	10.2	0.1306	1.78	14.2
Toronto	1.25-1.5	9.9	42	9.4	2.0		1.57	65.8	0.1510	1.95	24.7	1.75	11.5	0.1309	1.81	15.3
Toronto	1-.5-1.75	11.0	49	10.7	2.0		1.57	76.8	0.1432	1.85	18.3	1.66	5.8	0.1320	1.70	8.5
Toronto	1.75-2	12.5	56	11.6	1.9		1.57	87.8	0.1423	1.84	17.5	1.65	5.1	0.1327	1.68	7.2
Toronto	2-2.25	13.4	63	12.3	1.9		1.55	97.6	0.1377	1.76	13.8	1.58	1.7	0.1334	1.60	3.2
Toronto	2.25-2.5	15.5	70	12.8	1.9		1.55	108.6	0.1424	1.82	17.6	1.63	5.2	0.1337	1.65	6.5
Toronto	2.5-2.75	17.5	77	13.4	1.8		1.56	119.8	0.1457	1.87	20.3	1.67	7.6	0.1341	1.69	8.6
Toronto	2.75-3	18.9	85	15.7	1.8		1.63	138.6	0.1361	1.83	12.4	1.64	0.5	0.1361	1.63	0.0
Toronto	3-4	24.5	115	15.7	1.8		1.64	188.5	0.1301	1.76	7.5	1.58	3.9	0.1361	1.57	4.4
Toronto	3-4	24.8	115	15.7	1.8		1.64	188.5	0.1317	1.78	8.8	1.59	2.7	0.1361	1.59	3.3
Toronto	3-4	24.8	115	15.7	1.8		1.64	188.5	0.1318	1.78	8.9	1.60	2.7	0.1361	1.59	3.2
Toronto	4-5	30.7	148	16.7	1.7		1.70	250.9	0.1222	1.71	1.0	1.53	9.7	0.1368	1.51	10.7
Toronto	4-5	31.1	148	16.7	1.7		1.70	250.9	0.1239	1.74	2.3	1.55	8.5	0.1368	1.54	9.4
Toronto	4-5	30.8	148	16.7	1.7		1.70	250.9	0.1228	1.72	1.4	1.54	9.3	0.1368	1.52	10.2
Toronto	5-6	38.0	182	16.5	1.7		1.70	308.6	0.1233	1.73	1.8	1.54	8.9	0.1366	1.53	9.8
Toronto	5-6	36.4	182	16.5	1.7		1.70	308.6	0.1180	1.65	2.6	1.48	12.9	0.1366	1.46	13.7
Toronto	5-6	37.5	182	16.5	1.7		1.70	308.6	0.1215	1.70	0.4	1.52	10.2	0.1366	1.51	11.1
Toronto	6-7	43.6	210	15.6	1.7		1.72	360.8	0.1209	1.72	0.1	1.53	10.7	0.1358	1.53	11.0
Toronto	6-7	40.7	210	15.6	1.7		1.72	360.8	0.1127	1.60	6.9	1.43	16.7	0.1358	1.43	17.0
Toronto	6-7	40.9	210	15.6	1.7		1.72	360.8	0.1133	1.61	6.4	1.44	16.3	0.1358	1.43	16.6
Toronto	7-8	48.1	238	14.0	1.8		1.69	402.3	0.1195	1.67	1.3	1.49	11.7	0.1345	1.50	11.2
Toronto	7-8	46.1	238	14.0	1.8		1.69	402.3	0.1145	1.60	5.4	1.43	15.4	0.1345	1.44	14.9
Toronto	7-8	45.5	238	14.0	1.8		1.69	402.3	0.1130	1.58	6.6	1.41	16.5	0.1345	1.42	16.0

Site	Deployment period (months)	Blank adjusted mass of sorbed Hg (ng)	Deployment time (days)	Temp. (°C)	Wind speed ($m\ s^{-1}$)	Uptake Rate ($ng\ day^{-1}$)	Active Gaseous Hg Conc. ($ng\ m^{-3}$)	C*t	Calculated Sampling rate ($m^3\ day^{-1}$)	Sampling rate (SR) used for calculation: Original SR: 0.1210 ($m^3\ day^{-1}$) — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Original SR: 0.1210 — Active-Passive Relative % difference	Recalibrated SR: 0.1354 ($m^3\ day^{-1}$) — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Recalibrated SR: 0.1354 — Active-Passive Relative % difference	Adjusted SR — Temp. & wind speed Adjusted SR ($m^3\ day^{-1}$)	Adjusted SR — Passive Gaseous Hg Conc. ($ng\ m^{-3}$)	Adjusted SR — Active-Passive Relative % difference
Toronto	8-9	53.8	272	12.3	1.8		1.67	453.2	0.1188	1.63	1.9	1.46	12.3	0.1330	1.49	10.7
Toronto	8-9	54.2	272	12.3	1.8		1.67	453.2	0.1196	1.65	1.2	1.47	11.6	0.1330	1.50	10.1
Toronto	8-9	52.9	272	12.3	1.8		1.67	453.2	0.1167	1.61	3.6	1.44	13.8	0.1330	1.46	12.3
Toronto	9-10	60.2	301	10.4	1.8		1.65	497.5	0.1210	1.65	0.0	1.48	10.6	0.1314	1.52	7.9
Toronto	9-10	57.6	301	10.4	1.8		1.65	497.5	0.1157	1.58	4.4	1.41	14.5	0.1314	1.46	12.0
Toronto	9-10	60.9	301	10.4	1.8		1.65	497.5	0.1224	1.67	1.1	1.49	9.6	0.1314	1.54	6.8
Toronto	10-11	64.3	328	8.6	1.9		1.65	540.6	0.1190	1.62	1.7	1.45	12.1	0.1299	1.51	8.4
Toronto	10-11	65.6	328	8.6	1.9		1.65	540.6	0.1214	1.65	0.3	1.48	10.3	0.1299	1.54	6.5
Toronto	10-11	65.0	328	8.6	1.9		1.65	540.6	0.1203	1.64	0.6	1.46	11.1	0.1299	1.53	7.4
Toronto	11-12	74.7	363	7.6	1.9		1.65	598.2	0.1249	1.70	3.2	1.52	7.7	0.1291	1.59	3.2

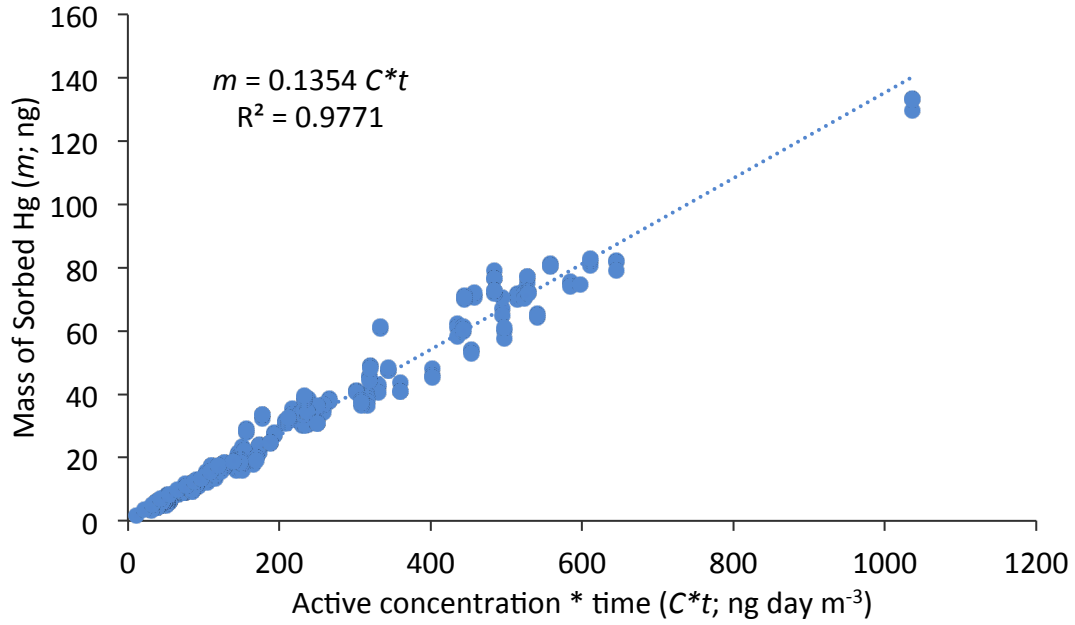

Figure S2.1: Mass of sorbed Hg plotted against the active concentration multiplied by time. The slope of this relationship represents the *recalibrated sampling rate* (*SR*).

Table 2.4: Concentration of Hg in field blanks at each site. Mass of Hg per gram of activated carbon (HGR-AC)

Site	Number of field blanks	Hg concentration (ng g^{-1})
Beltsville	2	0.77
Grand Bay	1	7.34
Put-In-Bay	2	6.43
New York	2	0.96
Mauna Loa	2	0.52
Salt Lake City	2	8.99
Egbert	1	0.95
Kejimkujik	2	0.95
St Anicet	2	2.46
Ucluelet	2	1.61
Little Fox Lake	4	0.89
Alert	6	0.90
Ningbo	4	0.50
Xiamen	3	2.06
Mt Lulin	1	0.76
Waldhof	5	1.55
Cape Grim	3	1.94
Gunn Point	2	1.26
Sydney	2	0.92
Hunter Valley	2	0.99
Total/mean	50	1.83

Section S3: Active – Passive concentration intercomparison by deployment length.

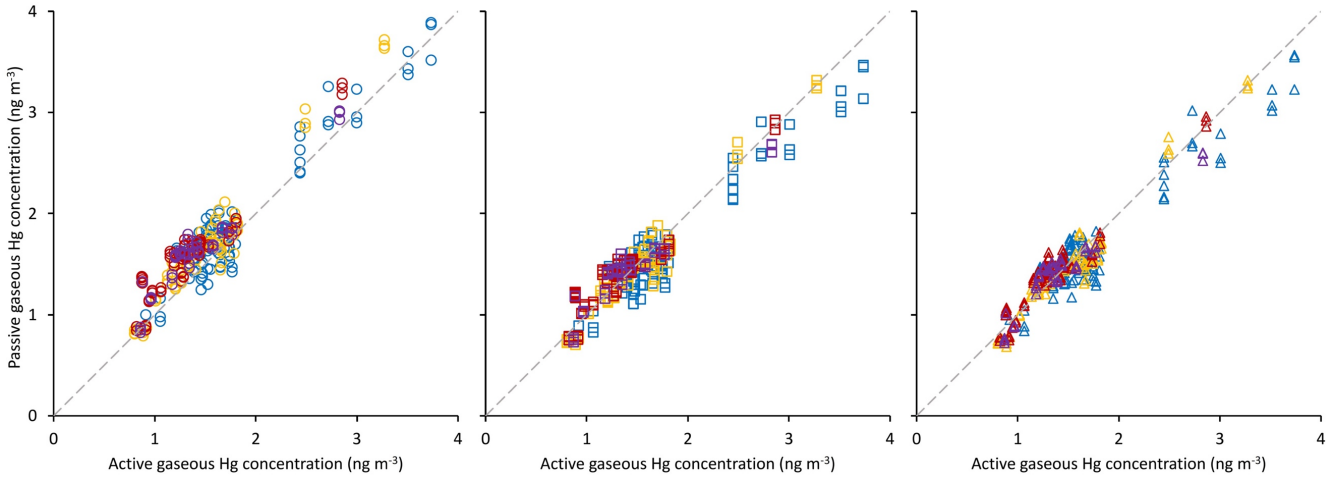

Figure S3.2: Comparison of active (x-axis) and passive (y-axis) gaseous Hg concentrations derived from the original sampling rate (*SR*; circles in Panel A), recalibrated *SR* (squares in Panel B), and adjusted *SR* (triangles in Panel C). In this figure data is colour-coded by deployment length: blue – 1-month deployments; yellow – 3 month deployments; red – 6 month deployments; purple – 12 month deployments. There was no significant effect of deployment length on the MND of samples for either the recalibrated SR (p = 0.082) or the adjusted SR (p = 0.298). Nine month deployments were not considered in this analysis as there were only two deployments of this length at Alert and Little Fox Lake.

Section S4: Site specific graphs of active – passive concentration comparisons.

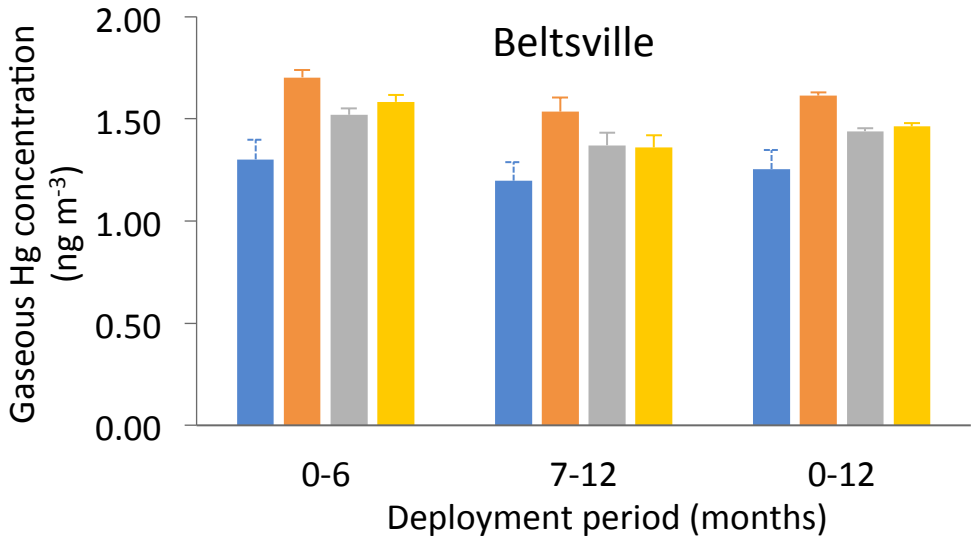

Figure S4.1: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Beltsville. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

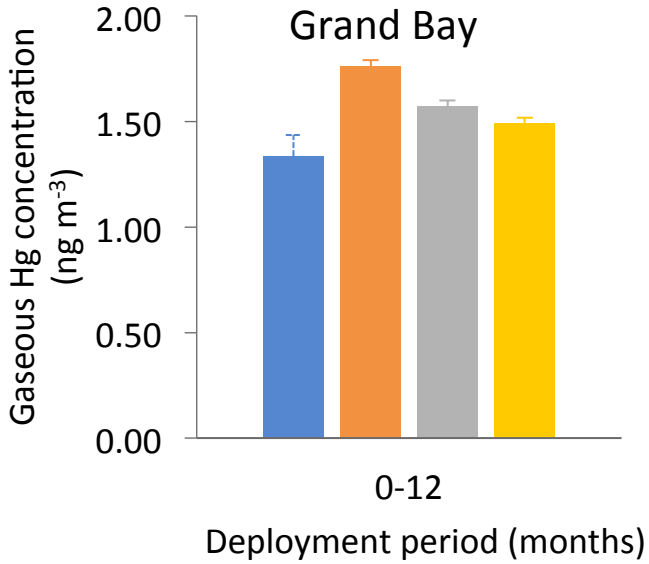

Figure S4.2: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Grand Bay. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

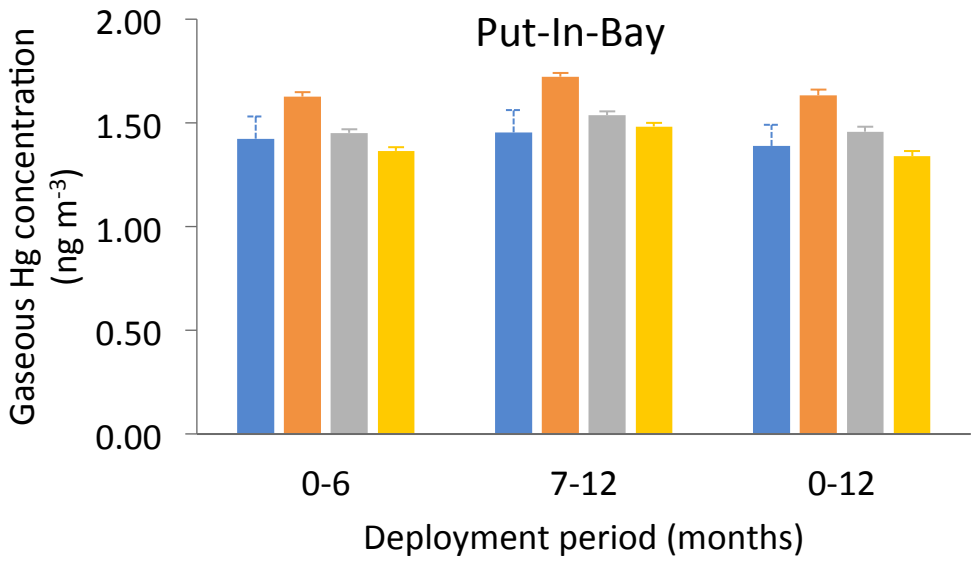

Figure S4.3: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Put-In-Bay. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

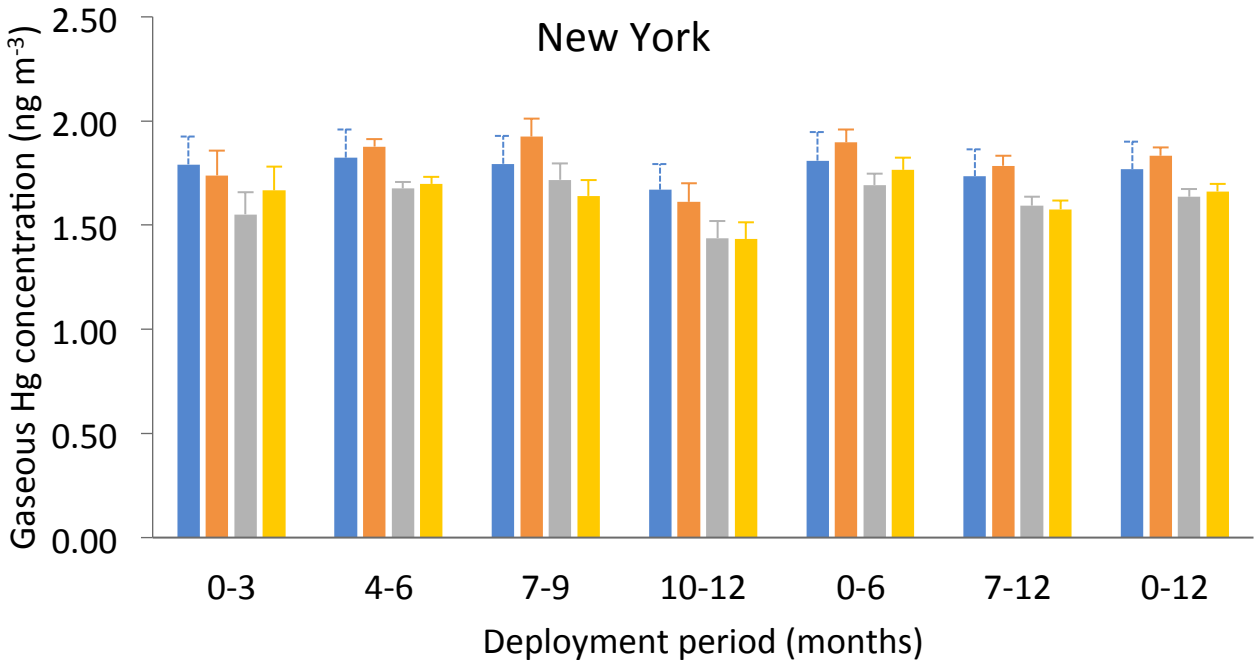

Figure S4.4: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at New York. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

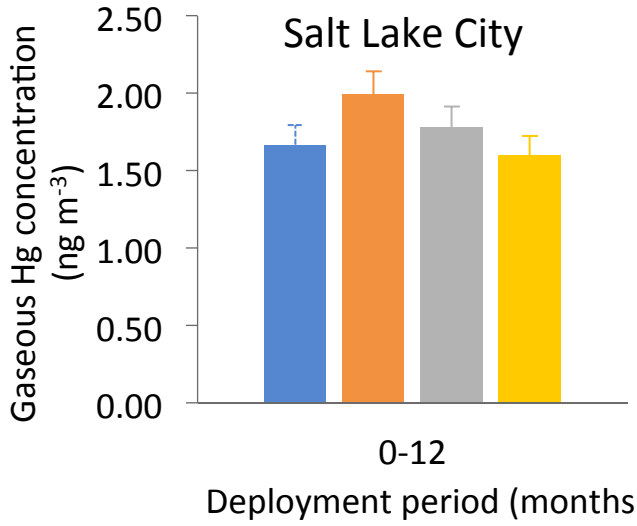

Figure S4.5: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Salt Lake City. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

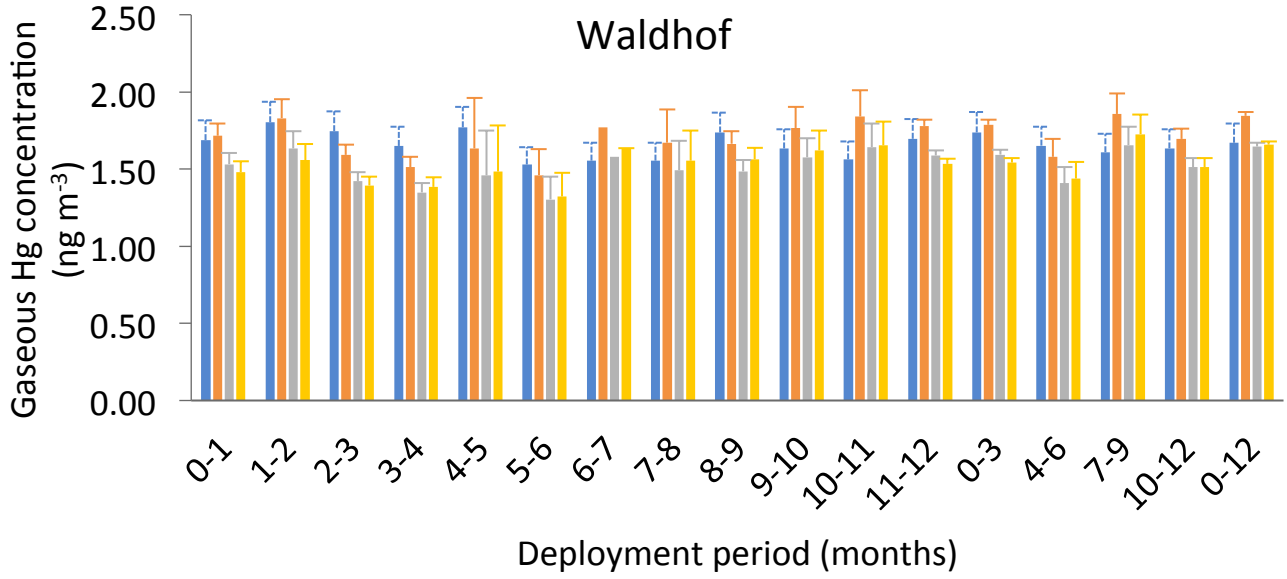

Figure S4.6: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Waldhof. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

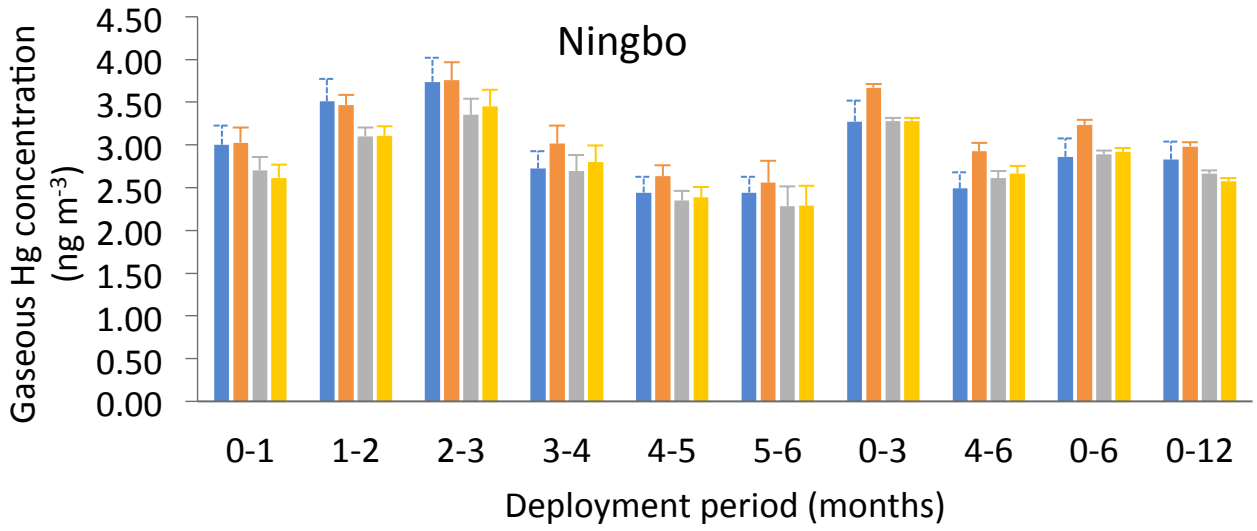

Figure S4.7: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Ningbo. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

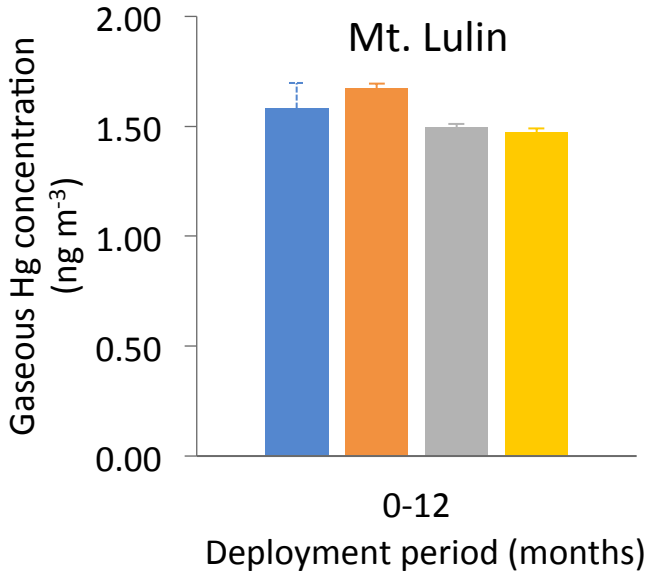

Figure S4.8: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Mt. Lulin. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

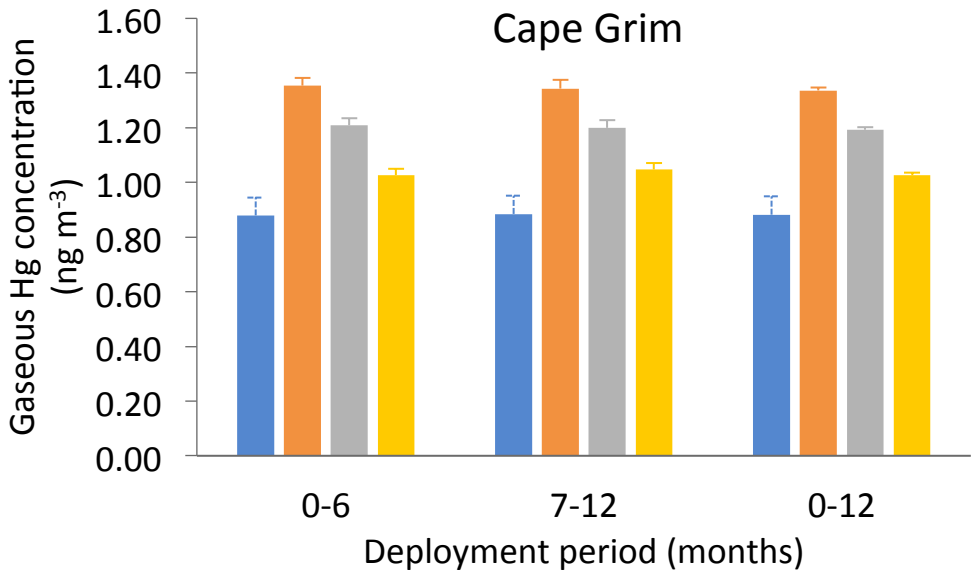

Figure S4.9: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Cape Grim. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

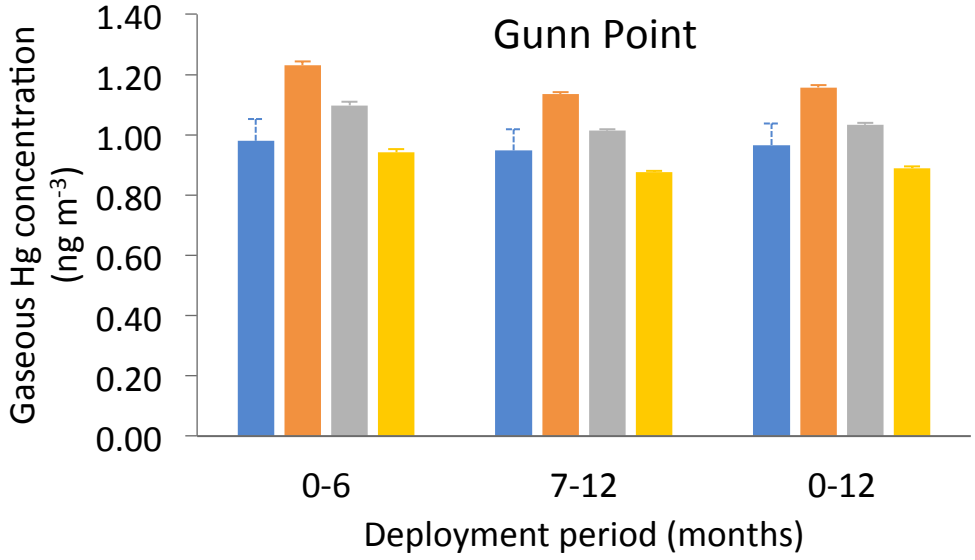

Figure S4.10: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Gunn Point. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

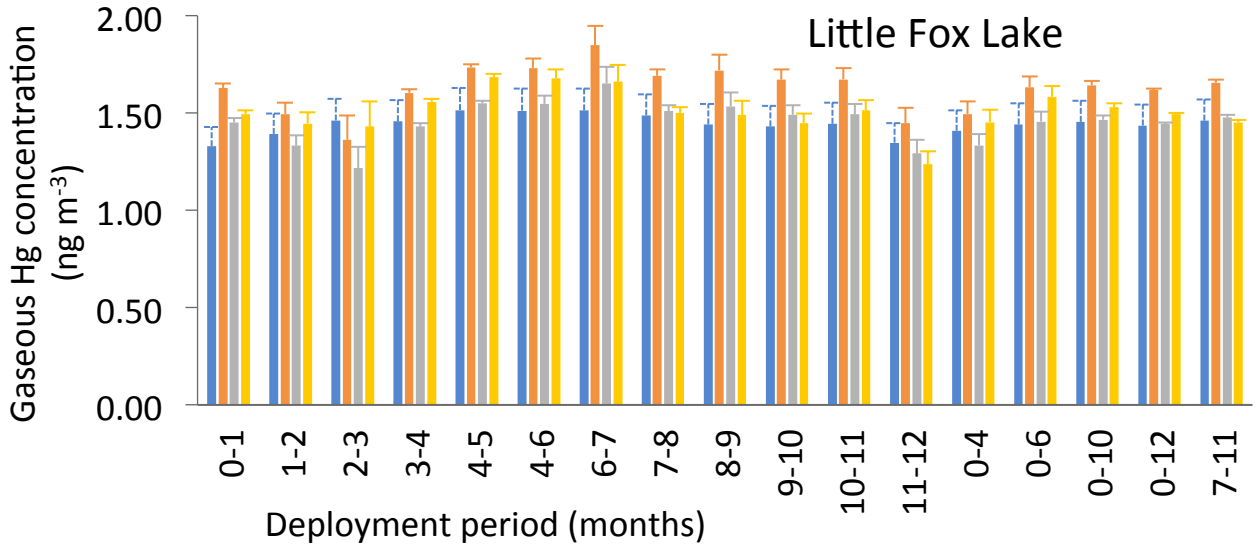

Figure S4.11: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Little Fox Lake. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

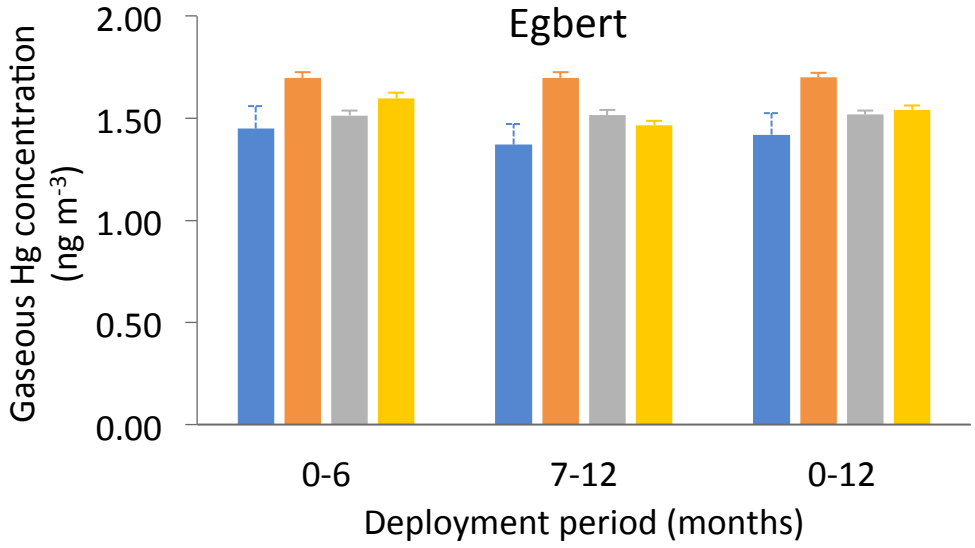

Figure S4.12: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Egbert. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

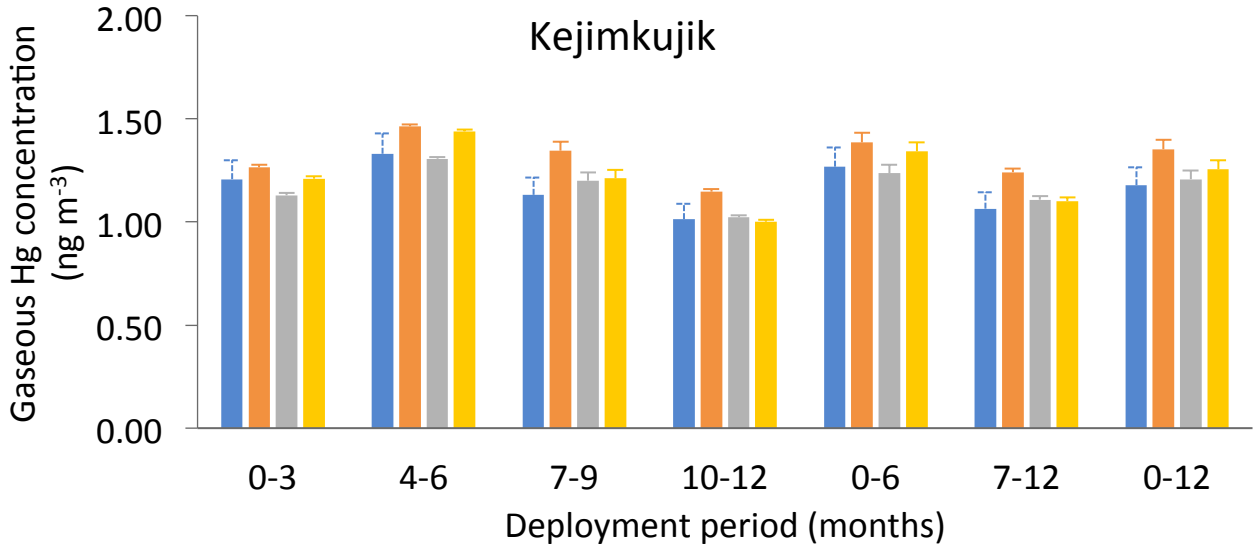

Figure S4.13: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Kejimkujik. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

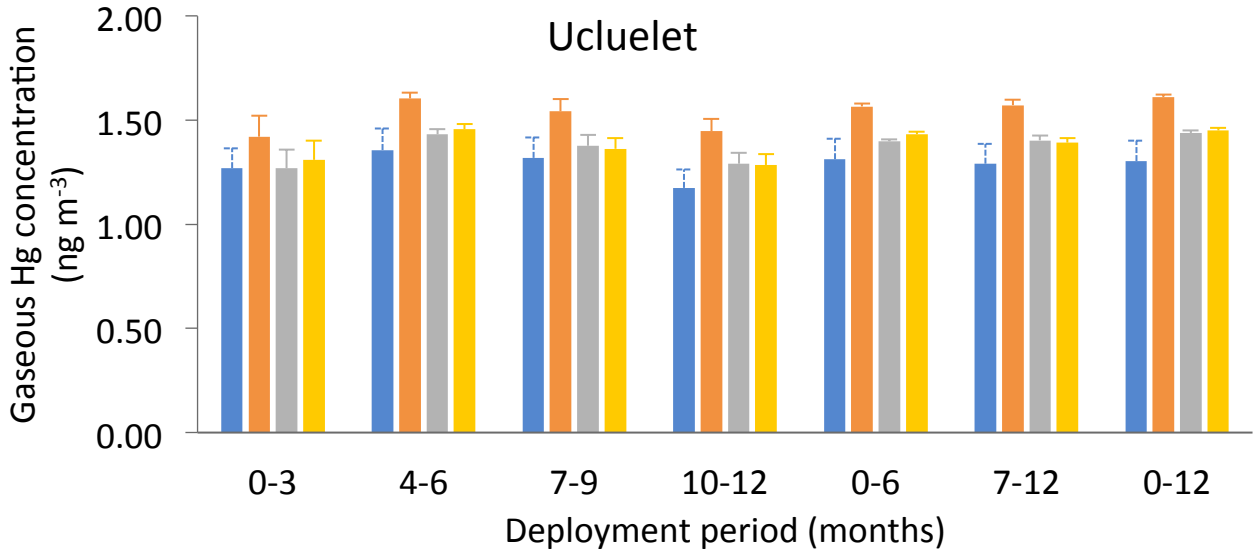

Figure S4.14: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Ucluelet. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

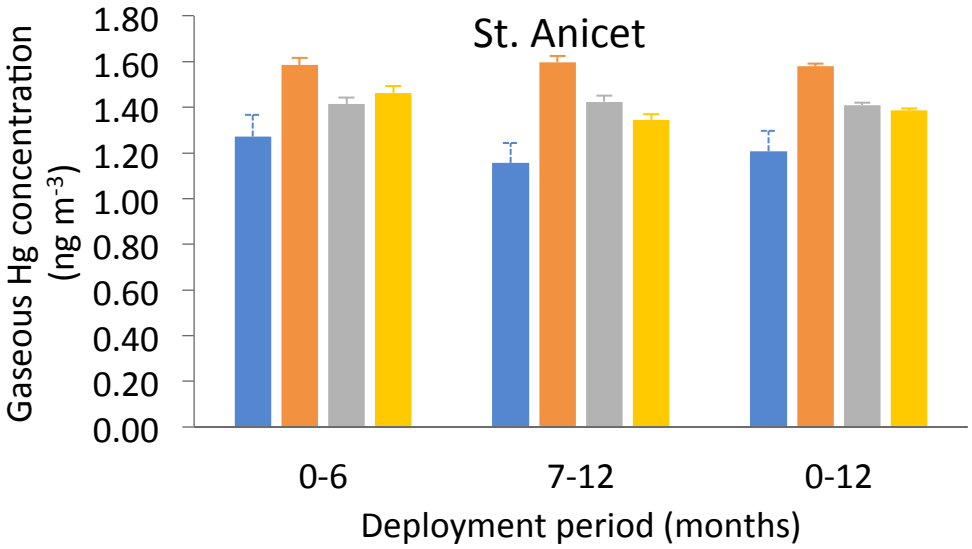

Figure S4.15: Comparison of active concentrations (blue bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at St. Anicet. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

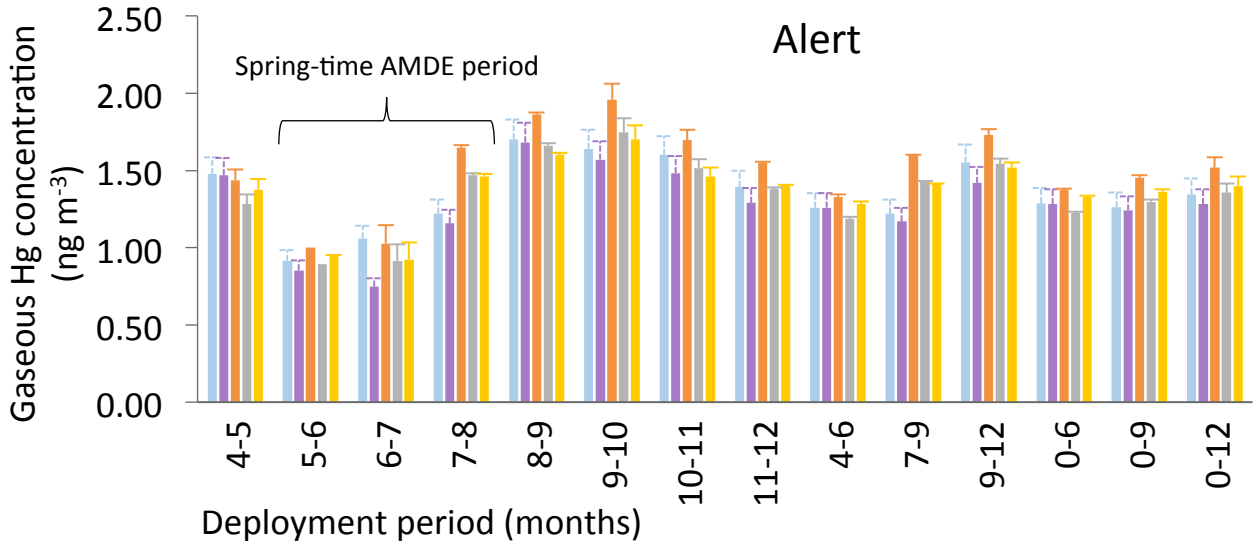

Figure S4.16: Comparison of active concentrations of TGM (light blue bars) and GEM (Purple Bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Alert. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

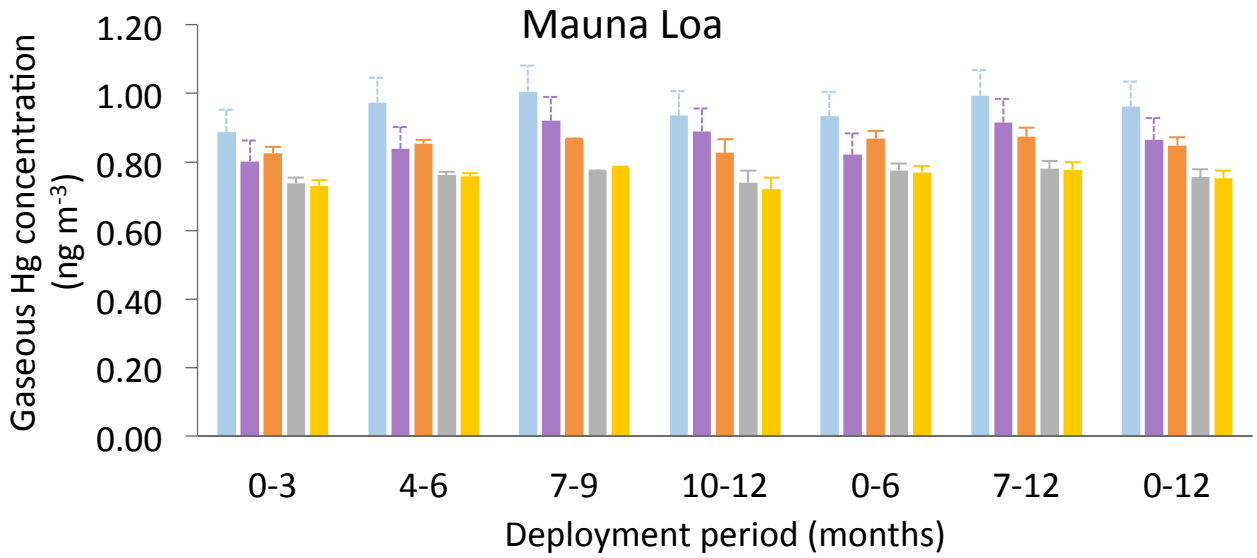

Figure S4.17: Comparison of active concentrations of TGM (light blue bars) and GEM (Purple Bars) against passive concentrations derived from the *original SR* (orange bars), *recalibrated SR* (grey bars), *adjusted SR* (yellow bars) at Mauna Loa. Error bars for active concentration based on the mean of the Tekran 2537 series uncertainty (7.5 %), for passive concentrations based on 1 standard deviation of replicates.

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