Supplementary information:

Carbon dioxide dynamics in an agricultural headwater stream driven by hydrology and primary production

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Table S1. Catchment characteristics, land-use distribution and water chemistry for ten stream sites located around the city of Uppsala in a radius of 10 km (Osterman 2018)

Site	Catchment area (km^2)	Agriculture (%)	Forest (%)	Urban (%)	NO_3-N[b] (mg L^{-1})	PO_4-P[b] (mg L^{-1})	DOC[b] (mg L^{-1})	Temp[c] (°C)	pH[c] (-)	EC[c] (µS cm^{-1})	CO_2-C[c] (mg L^{-1})
1	25	52	45	2	0.3	0.05	6.6	11.8	7.6	594	2.8
2	200	42	56	1	1.6	0.02	7.9	11.5	7.4	552	4.5
3[a]	11	86	8	6	0.7	0.07	10.0	10.5	7.9	1129	2.7
4	14	56	44	0	0.7	0.10	10.8	9.8	7.9	610	3.1
5	21	46	45	5	2.7	0.04	5.7	11.4	7.9	892	2.9
6	780	35	59	2	0.4	0.01	14.6	16.4	7.8	483	2.2
7	105	30	62	6	0.2	0.02	10.9	14.0	7.8	678	3.0
8	23	39	59	0	0.6	0.24	15.6	11.9	7.7	810	4.3
9	740	35	63	1	0.3	0.02	13.8	16.4	7.9	585	1.8
10	210	39	57	1	0.1	0.01	12.4	14.2	7.4	719	4.6
Median	**65**	**41**	**57**	**2**	**0.5**	**0.03**	**10.9**	**11.9**	**7.8**	**644**	**3.0**

[a]The SBM catchment
[b]Median values based on eight sampling occasions during June-November 2017
[c]Based on one sampling occasion, June 21 2018

Figure S1. The v-notch weir at the outlet of the SBM catchment at the four different periods with exact photo date within brackets; A) Autumn (December 12), B) Snowmelt (April 6), C) Spring (May 4), and D) Dry period (August 7)
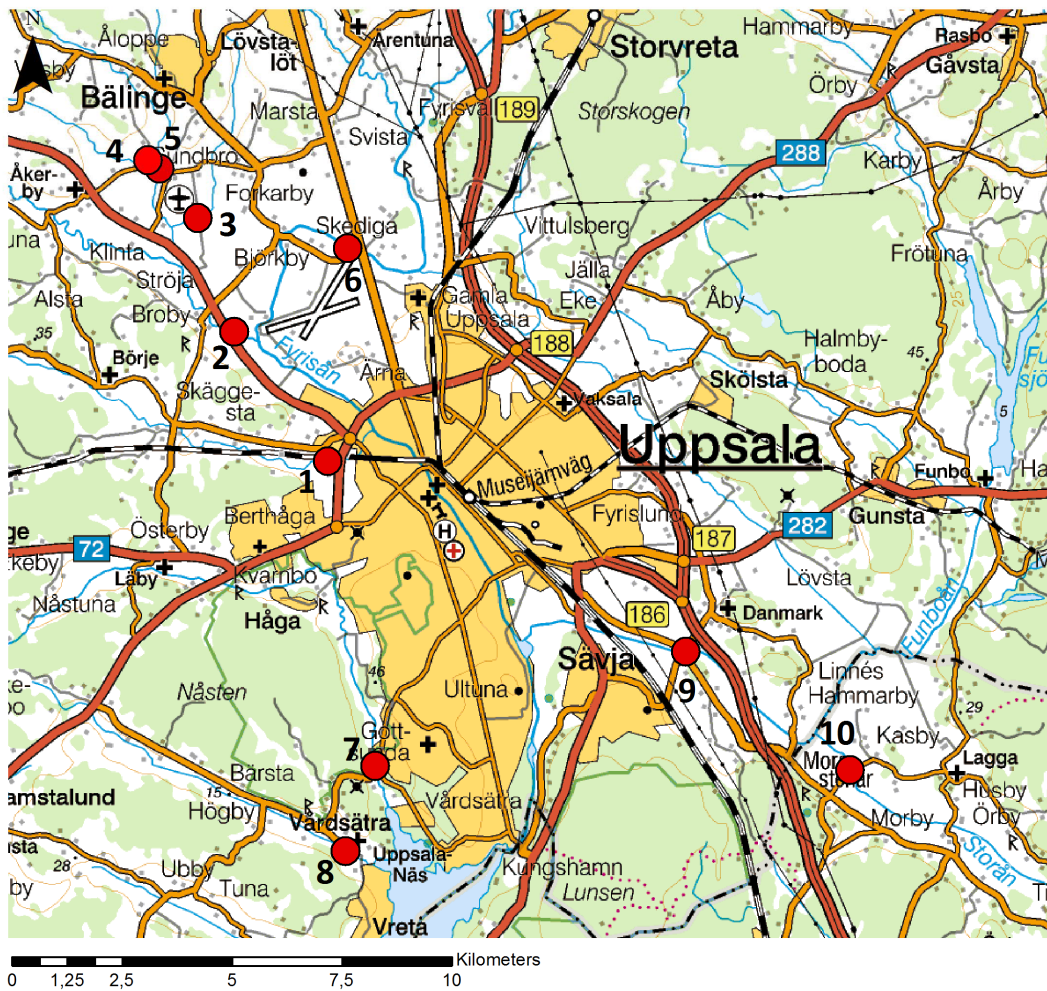
Figure S2. Locations (red dots) of the 10 sampled stream sites located around the city of Uppsala, Sweden. Site 3 denote the outlet of the SBM catchment. The map was made using material from GSD-Översiktskartan raster (©Swedish Land Survey, 2010)
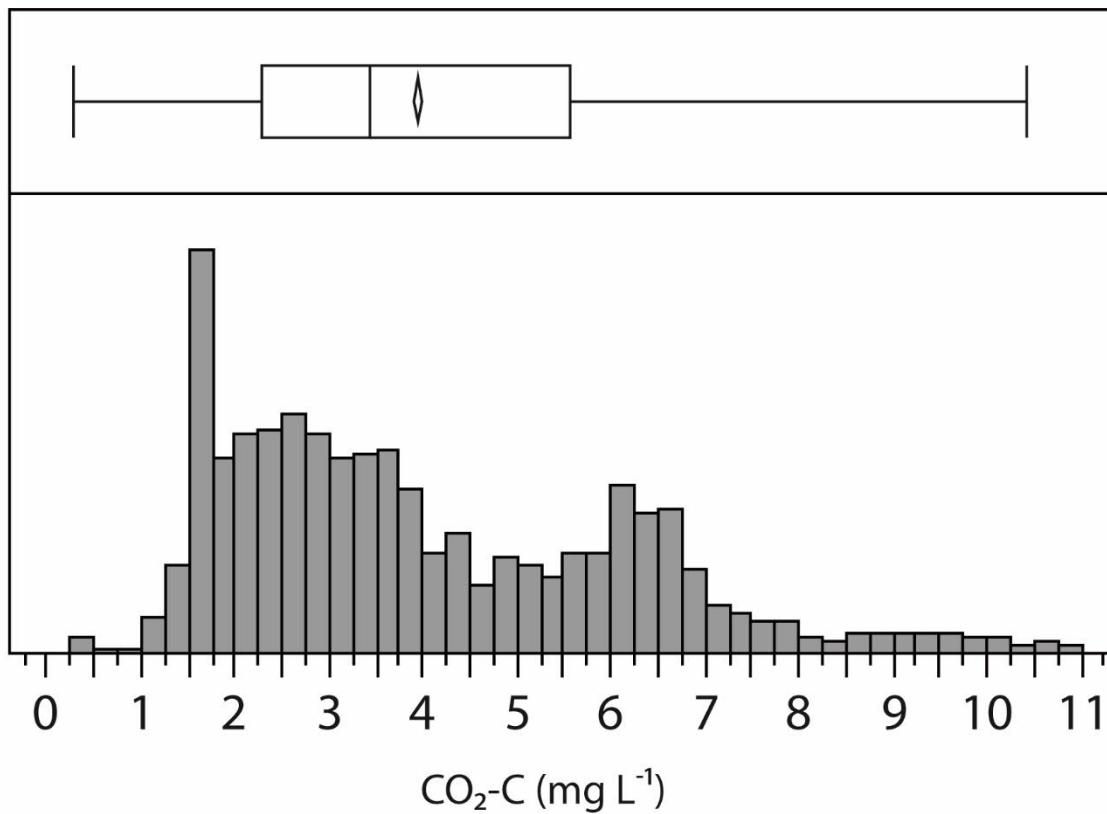
Figure S3. Distribution in stream CO₂ concentration data for the study period (n = 6713). Upper boxplot shows mean (diamond), median (line), IQR (box), 10th and 90th percentiles (whiskers).