

Supplementary information

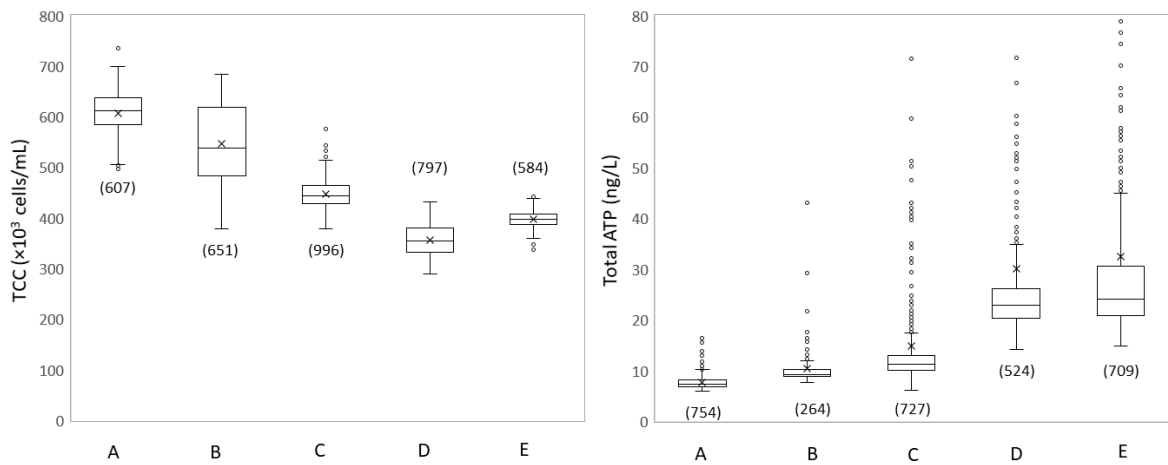


Figure S1: Range of FCM total cell concentrations (**Left**; TCC) and total ATP concentrations (**right**) at the treatment effluent (A) and four locations over water transport (B to D) and distribution (E) trajectory. Box plots show the first, second (median) and third quartiles, whiskers show the data range, circles show outlier values, and a cross (x) indicates the mean value. The number of measurements are shown between brackets. For ATP data, outliers for locations B (1 outlier), C (5 outliers), D (11 outliers) and E (12 outliers) up to 700 ng/L are out of scale.

Table S1. Statistical results of datasets of microbiological parameters at the studied locations described in Figure 1. t and p values are calculated based on a two-samples t-test assuming unequal standard deviations and indicated if differences between two consecutive locations are significant. The table shows that the differences are significant for all parameters and locations, except for total and intracellular ATP between locations D and E, which is highlighted in bold.

	Locations	A	B	C	D	E
TCC	Mean	606274	552158	449960	364053	398870
	Stdev	41501	78612	32234	38547	17603
	N	504	732	1030	885	598
	t	n.a.	15,7	33,2	52,4	-23,4
	p	n.a.	0,00	0,00	0,00	0,00
ICC	Mean	40511	14598	32340	62621	70331
	Stdev	10844	4865	6557	11826	12613
	N	499	674	1037	889	597
	t	n.a.	49,7	-64,1	-67,9	-11,8
	p	n.a.	0,00	0,00	0,00	0,00
Total ATP	Mean	7,56	9,57	14,75	30,01	32,46
	Stdev	1,31	1,28	25,47	46,28	52,63
	N	754	260	727	524	709
	t	n.a.	-21,7	-5,4	-6,8	-0,87
	p	n.a.	0,00	0,00	0,00	0,39
Intracellular ATP	Mean	0,58	4,22	11,38	19,60	21,36
	Stdev	1,12	1,06	25,57	27,86	34,98
	N	754	260	710	521	698
	t	n.a.	-47,1	-7,4	-5,3	-0,98
	p	n.a.	0,00	0,00	0,00	0,33

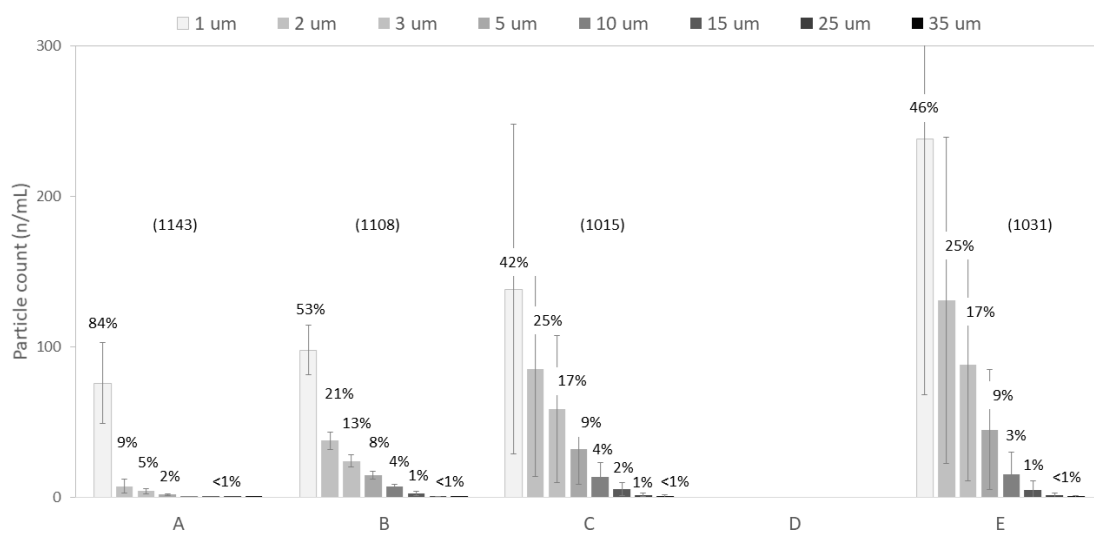


Figure S2. Average particle counts per particle size (1 to 35 μm) at the treatment effluent (A) and three locations over water transport (B and C) and distribution (E) trajectory. The number of measurements are shown between brackets. Error bars indicate the standard variation over all measurements. The percentage of particles of each particle size compared to the total number is indicated above each bar. Data of location D is not available due to instrument failure.

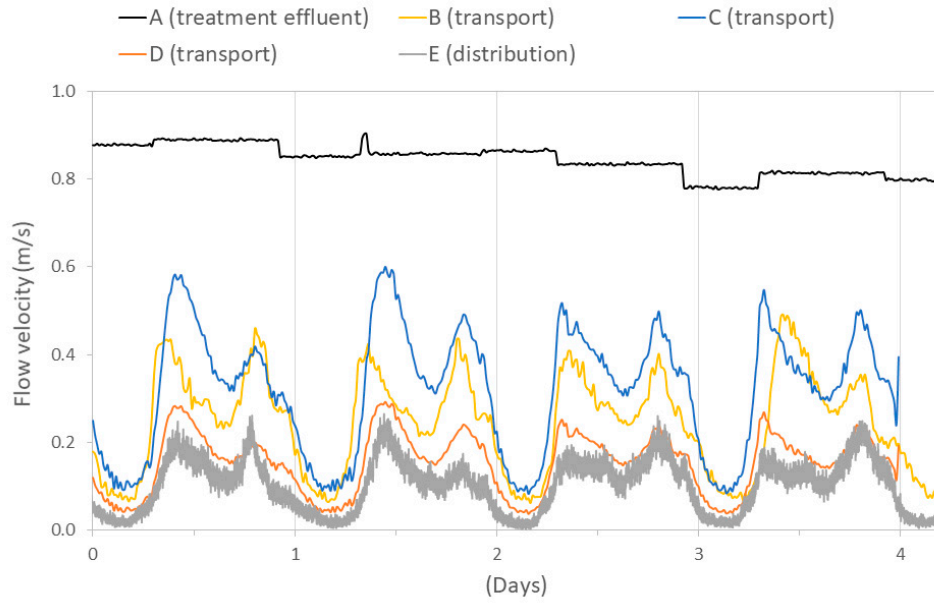


Figure S3. Variation of flow velocities over 4 days at the treatment effluent (A) and four locations over water transport (B to D) and distribution (E) trajectory. For comparison purposes, the data collected in different periods from all sampling locations have been overlaid.

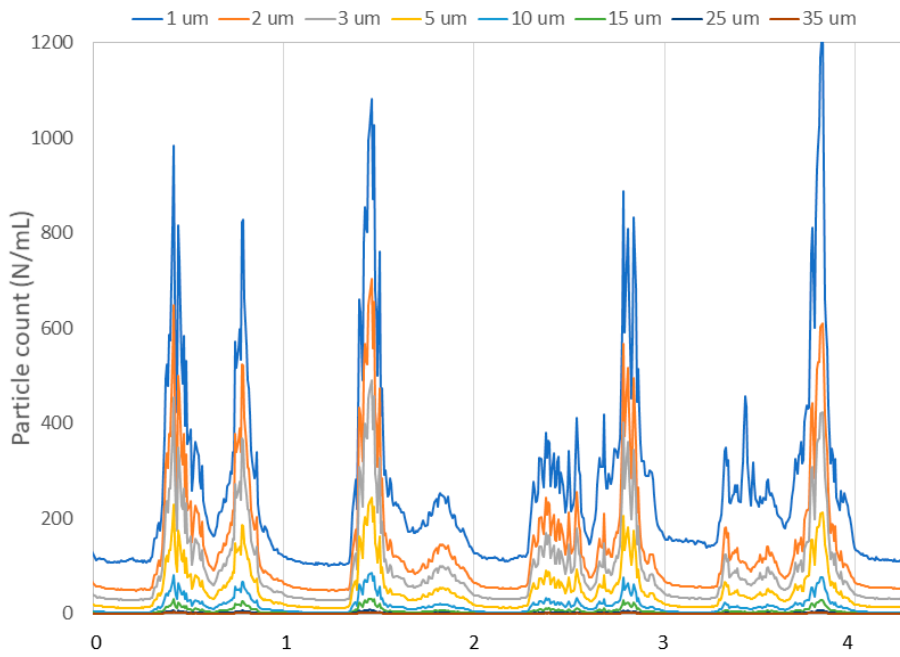


Figure S4. Variations over 4 days of particle counts of 8 different particle sizes at the distribution location E.

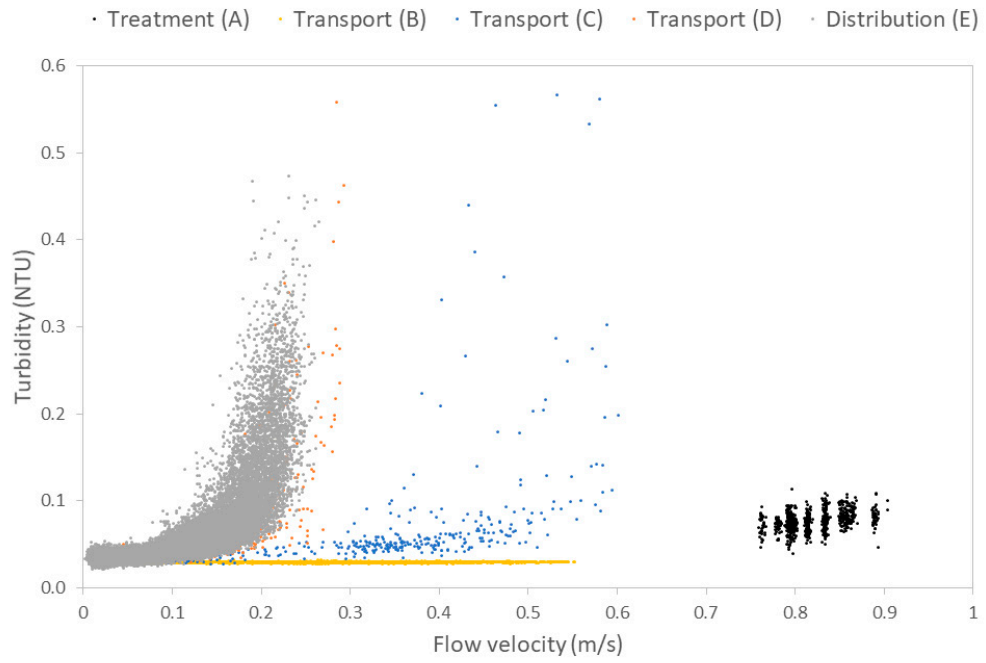


Figure S5. Correlation between flow velocity and turbidity at sampling locations A to E.

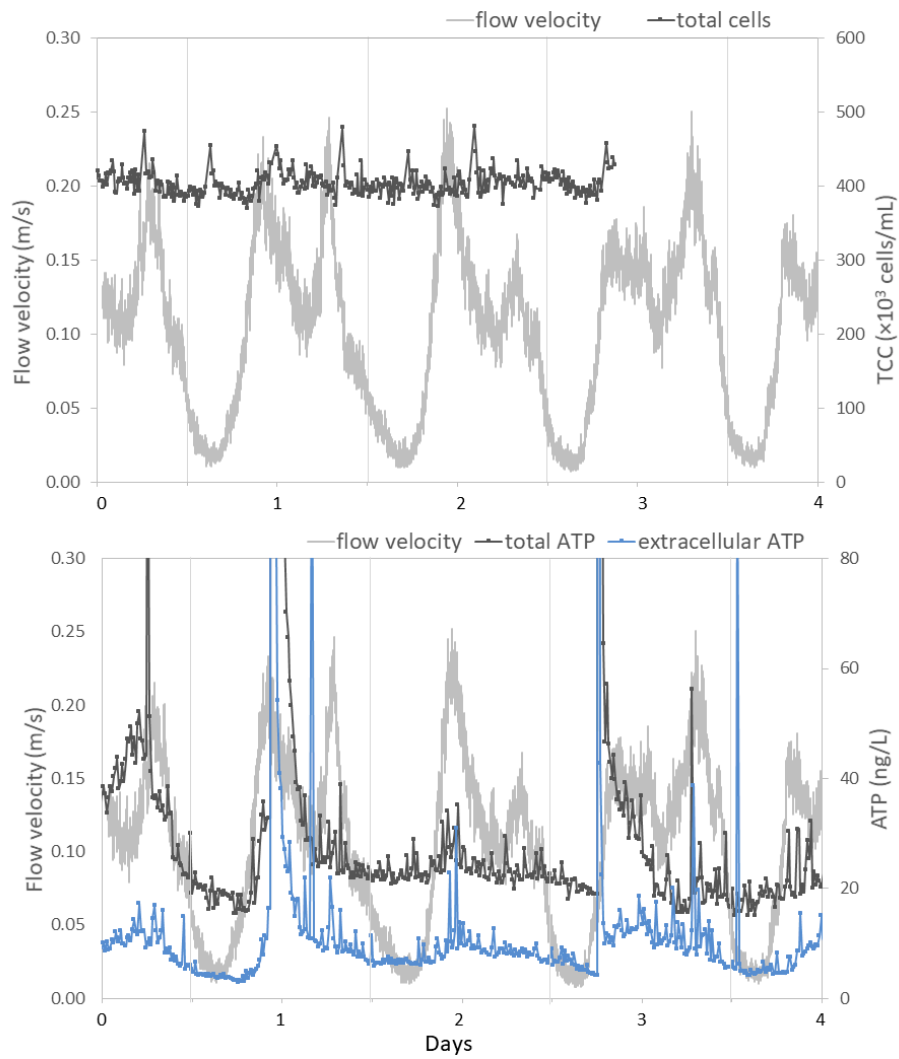


Figure S6. Variations over 4 days of flow velocity, compared to FCM intact cells (ICC, **top figure**) intracellular ATP (**bottom figure**) at distribution location E. For comparison purposes, the flow velocity data shown on the top and bottom figure is identical. Flow velocity data is presented as moving averages. Vertical lines indicate the time at 0:00 of each day. 16 ATP data points up to 700 ng/L are out of scale.

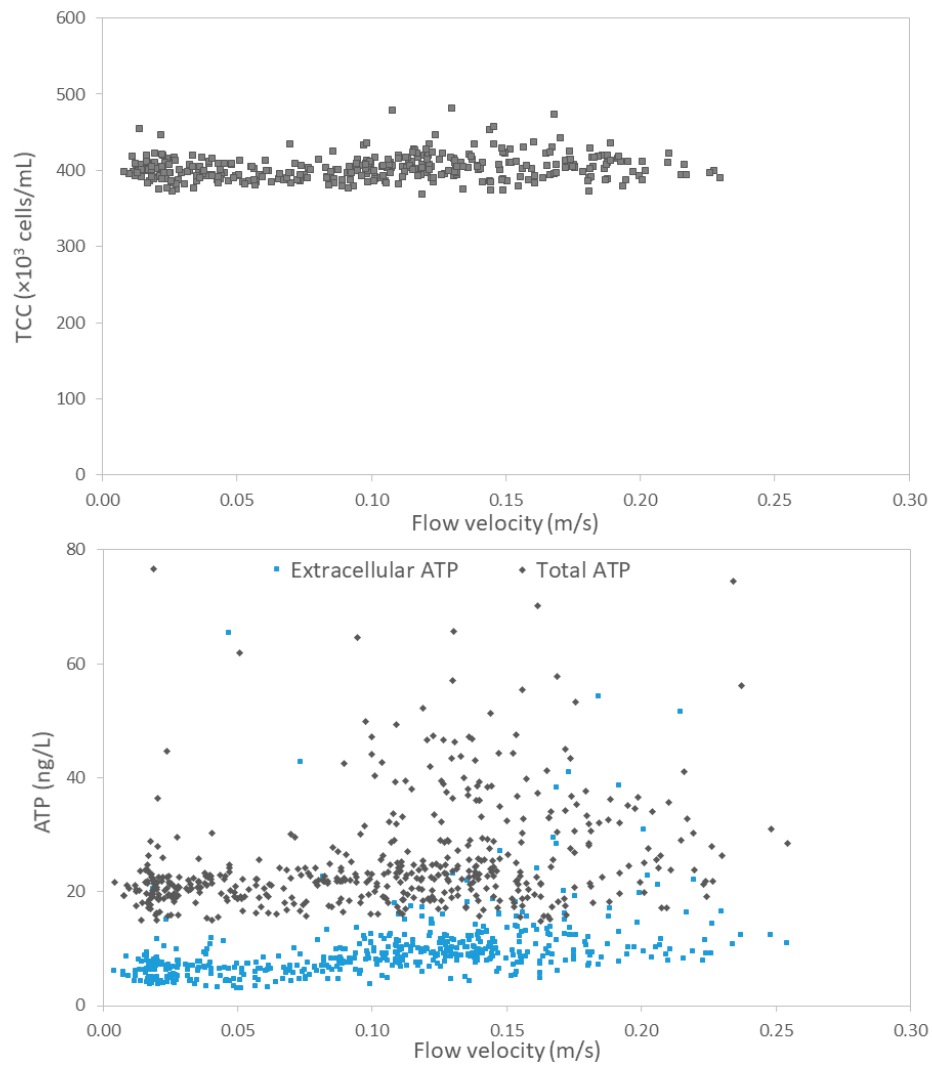


Figure S7. Correlation between flow velocity and with FCM total cells (TCC, **top figure**) and with total ATP and extracellular ATP.