

Supplementary Materials



Figure S1. The DWTP Nová Ves: A—13N filter, B—FC BactoSense fitting under the 13N filter, C—Detail of the connection to the water feed in automatic mode.

Table S1. The list of monitored physico-chemical and microbiology indicators in water samples.

Water sample	Laboratory results	Flow cytometry results
Raw water	temperature (°C), colour (mg/L Pt), turbidity (NTU), pH (-), acidity (mmol/L), alkalinity (mmol/L), COD _{Mn} (mg/L), total count of organisms per mL, live organisms per mL, abiosestion (%), HPC at 22°C and 36°C	turbidity (NTU), TCC ² per mL, ICC ³ per mL, DCC ⁴ per mL, HNAC ⁵ per mL, LNAC ⁶ per mL, HNAP ⁷ (%)
RWW ⁸ 13N filter	(CFU ¹ per mL)	

¹ Colony-Forming Units; ² Total Cell Count (live and dead) per mL; ³ Intact Cell Count (intact or live) per mL; ⁴ Dead Cell count per mL; ⁵ High Nucleic Acid Count per mL; ⁶ Low Nucleic Acid Count per mL; ⁷ High Nucleic Acid Percentage HNAP=HNAC/ICC; ⁸ Recirculation Wash Water.

Table S2. The 1st stage – microbiology analysis: laboratory and FCM.

Water sample	Date	Time	Laboratory results					Flow cytometry results							
			colour mg/L Pt	turbidity NTU	total count of live org. org. per mL	abiosestion %	HPC ¹ 22°C CFU ² per mL	HPC ¹ 36°C CFU ² per mL	TCC ³ per mL	ICC ⁴ per mL	DCC ⁵ per mL	HNAC ⁶ per mL	LNAC ⁷ per mL	HNAP ⁸ %	
RWW ⁹	14.8.19	14:22	80	9.5	112	40	4	> 300	121	1,012,855	295,933	716,922	254,044	41,888	99.14
		16:20	58	6.2	150	86	3	> 300	93	614,544	217,588	396,955	193,511	24,077	99.11
		18:22	58	5.9	184	94	2	> 300	119	777,263	266,095	511,168	237,444	28,651	99.11
	15.8.19	14:22	67	6.7	178	66	1	> 300	131	1,116,861	391,903	724,958	359,259	32,643	99.08
		15:20	65	0.7	254	122	1	> 300	147	1,273,966	343,809	930,157	310,687	33,121	99.10
		16:22	63	8.2	144	50	1	> 300	125	1,104,279	373,007	731,271	334,927	38,080	99.10
	18.8.19	14:10	5.3	2.9	432	288	3	140	52	683,211	325,477	357,733	302,166	23,311	99.07
		16:10	4.1	2.3	576	504	3	135	14	488,955	158,833	330,122	144,355	14,477	99.09
		18:10	6.2	2.9	216	168	3	180	40	440,011	144,900	295,111	133,322	11,577	99.08
	19.8.19	12:00	8.2	14.2	720	432	3	> 300	100	1,467,822	560,400	907,422	512,511	47,888	99.09
		13:00	6.3	7.3	552	456	3	> 300	60	994,655	376,777	617,877	338,811	37,966	99.10
		14:00	6.3	7.2	456	408	2	> 300	28	749,133	218,522	530,611	200,911	17,611	99.08
13N filter	15.8.19	6:22	1.7	0.2	2	0	< 1	50	8	213,744	130,844	82,900	117,900	12,944	99.10
	16.8.19	6:22	3.3	0.2	4	0	< 1	-	-	778,244	685,477	92,766	611,944	73,533	99.11
	19.8.19	4:10	3.3	0.1	4	4	< 1	-	-	707,944	630,304	77,640	562,322	67,981	99.11
	21.8.19	5:10	3.1	0.1	6	0	< 1	-	-	551,133	508,577	42,555	446,466	62,111	99.12

¹ Laboratory cultivation analyses – Heterotrophic Plate Count method (HPC) at 22°C and 36°C; ² Colony-Forming Units; ³ Total Cell Count (live and dead) per mL; ⁴ Intact Cell Count (intact or live) per mL; ⁵ Dead Cell count per mL; ⁶ High Nucleic Acid Count per mL; ⁷ Low Nucleic Acid Count per mL; ⁸ High Nucleic Acid Percentage HNAP=HNAC/ICC; ⁹ Recirculation Wash Water.

Table S3. Laboratory analysis of the raw water DWTP Nová Ves.

No. sample	Date	Time	T	Colour 1	Turbidity 2	pH 3	COD _{Mn} 4	Total count of org. 5	Live organisms 5	Dead organisms 5
			°C	mg/L Pt	NTU	-	mg/L	org/mL	org/mL	org/mL
19354	09.08.2019	6:15	10.0	15.6	1.5	7.10	2.7	56	44	12
19408	10.08.2019	6:13	10.1	15.8	1.6	7.10	2.8	96	72	24
19463	11.08.2019	18:00	10.1	13.6	2.0	7.10	3.0	108	68	40
19467	12.08.2019	6:10	10.1	13.2	1.8	7.10	2.9	120	68	52
19747	13.08.2019	21:25	9.9	14.1	1.8	7.10	2.8	92	60	32
19781	14.08.2019	6:06	9.9	14.1	1.7	7.10	2.8	100	64	36
19893	15.08.2019	6:12	9.8	12.9	1.4	7.10	3.0	72	44	28
19999	16.08.2019	6:10	9.9	13.6	1.5	7.10	3.1	116	72	44
20045	17.08.2019	6:15	9.9	16.1	1.9	7.10	3.0	100	64	36
20108	18.08.2019	17:15	9.9	16.5	1.3	7.20	3.1	68	44	24
20117	19.08.2019	6:07	9.9	17.3	1.6	7.15	3.0	58	48	10
20420	20.08.2019	19:30	9.9	16.1	2.0	7.20	3.0	88	64	24
20423	21.08.2019	6:19	9.9	15.4	1.5	7.20	2.8	104	72	32
20557	22.08.2019	6:08	9.8	14.8	1.5	7.25	3.0	64	48	16
20615	23.08.2019	6:15	9.8	14.3	1.2	7.05	3.0	56	40	16
average of values			9.9	14.9	1.6	7.13	2.9	87	58	28
29101	27.11.2019	6:07	9.6	22.7	2.3	7.45	3.1	496	448	48
29221	28.11.2019	6:04	9.5	24.0	2.2	7.45	3.3	528	464	64
29336	29.11.2019	6:09	9.4	22.5	2.7	7.40	3.0	392	376	16
29391	30.11.2019	6:12	9.2	21.8	3.4	7.45	3.2	352	320	32
29400	01.12.2019	16:45	9.0	17.7	3.0	7.50	3.2	456	384	72
29404	02.12.2019	6:14	9.0	16.5	2.8	7.50	3.6	560	464	96
29531	03.12.2019	6:05	8.8	16.7	2.3	7.50	3.3	360	304	56
29736	04.12.2019	6:06	8.6	18.3	2.4	7.40	3.0	432	392	40
29916	05.12.2019	6:15	8.4	18.0	2.2	7.45	3.1	592	488	104
30028	06.12.2019	6:15	8.2	17.9	2.6	7.40	2.8	520	408	112
30073	07.12.2019	6:13	7.9	17.7	2.3	7.45	3.1	544	448	96
30082	08.12.2019	17:30	7.8	19.2	2.1	7.40	3.2	512	440	72
30086	09.12.2019	6:23	7.8	18.0	2.0	7.40	3.0	576	528	48
30333	11.12.2019	6:11	7.2	20.8	2.0	7.40	3.0	488	432	56
30522	12.12.2019	6:11	7.0	18.0	2.2	7.40	3.3	312	272	40
30632	13.12.2019	6:05	7.0	20.6	2.0	7.40	3.0	368	304	64
30683	14.12.2019	6:18	6.9	19.4	2.1	7.40	3.1	384	336	48
30746	15.12.2019	17:10	6.8	16.2	2.3	7.45	3.4	504	432	72
30750	16.12.2019	6:13	6.8	16.6	2.2	7.45	3.0	720	672	48
30812	17.12.2019	6:09	6.7	18.8	2.4	7.45	3.1	536	512	24
30921	18.12.2019	6:10	6.8	18.8	2.0	7.45	3.1	776	704	72
average of values			8.0	19.1	2.4	7.4	3.1	496	435	61

¹ ČSN EN ISO 7887 Water quality – Examination and determination of colour; ² ČSN EN 27888 Water quality. Determination of electrical conductivity; ³ ČSN ISO 10523 Water quality – Determination of pH; ⁴ ČSN EN ISO 8467 Water quality. Determination of permanganate index; ⁵ ČSN 75 7712 Water quality – Biological analysis – Determination of bioseston.