

2018
NORTH SHORE WATER COMMISSION
ANNUAL REPORT

400 West Bender Road
Glendale, Wisconsin

Whitefish Bay - Glendale - Fox Point

NORTH SHORE WATER COMMISSION

January 7, 2019

2018 Pumpage Report

Whitefish Bay - Glendale - Fox Point, WI

All values are in units of million gallon (MG) unless noted otherwise.

ALL METERING	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	Total
Whitefish Bay	31.171	26.770	27.106	27.122	31.116	34.559	40.830	38.945	32.214	28.366	26.768	28.011	372.978
Glendale	46.208	40.537	45.304	40.972	50.124	52.515	62.632	59.832	51.756	45.451	42.695	42.277	580.303
Fox Point	16.188	13.683	13.742	14.231	16.886	18.264	22.571	20.997	15.704	15.804	13.756	14.635	196.461
Mequon	6.840	5.945	6.633	6.470	7.350	7.633	8.514	8.471	6.880	6.502	6.439	7.009	84.686
Member Pumpage	93.567	80.990	86.152	82.325	98.126	105.338	126.033	119.774	99.674	89.621	83.219	84.923	1,149.742
Total Pumpage	100.407	86.935	92.785	88.795	105.476	112.971	134.547	128.245	106.554	96.123	89.658	91.932	1,234.428

ALLOCATION % (MEMBERS)	Jan	Feb	Mar	Apr	Apr	June	Jul	Aug	Sep	Oct	Nov	Dec	Cumulative
Whitefish Bay	33.31%	33.05%	31.46%	32.95%	31.71%	32.81%	32.40%	32.52%	32.32%	31.65%	32.17%	32.98%	32.44%
Glendale	49.38%	50.05%	52.59%	49.77%	51.08%	49.85%	49.69%	49.95%	51.93%	50.71%	51.30%	49.78%	50.47%
Fox Point	17.30%	16.89%	15.95%	17.29%	17.21%	17.34%	17.91%	17.53%	15.76%	17.63%	16.53%	17.23%	17.09%

ALLOCATION % (ALL)	Jan	Feb	Mar	Apr	Apr	June	Jul	Aug	Sep	Oct	Nov	Dec	Cumulative
Whitefish Bay	31.04%	30.79%	29.21%	30.54%	29.50%	30.59%	30.35%	30.37%	30.23%	29.51%	29.86%	30.47%	30.21%
Glendale	46.02%	46.63%	48.83%	46.14%	47.52%	46.49%	46.55%	46.65%	48.57%	47.28%	47.62%	45.99%	47.01%
Fox Point	16.12%	15.74%	14.81%	16.03%	16.01%	16.17%	16.78%	16.37%	14.74%	16.44%	15.34%	15.92%	15.92%
Mequon	6.81%	6.84%	7.15%	7.29%	6.97%	6.76%	6.33%	6.61%	6.46%	6.76%	7.18%	7.62%	6.86%

STATISTICS	Max Day	Ave Day	Min Day
Whitefish Bay	1.764	1.022	0.416
Glendale	2.463	1.590	1.119
Fox Point	1.230	0.539	0.316
Mequon	0.378	0.231	0.155
Combined	5.432	3.382	2.633

NORTH SHORE WATER COMMISSION

January 7, 2019

2018 Summary of Operations

Whitefish Bay - Glendale - Fox Point

VARIABLE COSTS	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	AVE
Chemicals (\$/MG)	\$51.92	\$48.00	\$55.21	\$51.65	\$51.18	\$57.98	\$57.06	\$57.11	\$57.86	\$55.68	\$51.67	\$52.25	\$53.96
Energy (KWH per MG)	2,052	2,099	2,117	2,120	2,083	2,037	2,005	2,078	2,167	2,192	2,149	2,153	2,104
Energy (\$/MG)	\$176.19	\$187.31	\$183.29	\$186.13	\$175.58	\$169.38	\$149.10	\$166.81	\$183.96	\$189.45	\$186.11	\$185.79	\$178.26
Energy (\$/KWH)	\$0.0859	\$0.0892	\$0.0866	\$0.0878	\$0.0843	\$0.0832	\$0.0744	\$0.0803	\$0.0849	\$0.0864	\$0.0866	\$0.0863	\$0.0847

PHYSICAL CHARACTERISTICS	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	AVE
Average Pressure (PSI)	82.9	82.8	82.9	82.9	82.9	83.1	83.1	83.3	83.1	82.7	82.3	82.0	82.8
Average Water Temp (F)	32.6	32.7	35.7	37.5	44.2	54.0	53.6	56.5	57.1	52.5	43.9	36.8	44.8

WATER QUALITY	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	AVE
Ave. Raw Turbidity (NTU)	5.8	3.1	10.1	12.6	1.3	0.9	0.9	1.0	1.2	1.2	4.3	11.7	4.5
Ave. Filter Effluent Turbidity (NTU)	0.04	0.04	0.05	0.05	0.05	0.05	0.05	0.04	0.03	0.03	0.04	0.04	0.04
Ave. Raw MPN Index (Total Coliform)	4.1	9.2	9.3	2.3	8.2	43.4	24.1	123.5	47.8	47.4	23.5	30.4	31.1
Ave. Raw pH	8.23	8.23	8.20	8.20	8.26	8.39	8.29	8.25	8.26	8.20	8.21	8.19	8.24
Ave. Tap pH	8.00	8.08	7.92	7.93	8.05	8.11	8.01	8.03	8.04	8.04	8.02	7.90	8.01
Ave. Tap Hardness (mg/L)	138	139	138	136	137	136	136	136	137	139	141	140	138
Ave. Tap Alkalinity (mg/L)	114	114	112	110	112	112	111	109	110	112	112	111	112
Ave. Tap Fluoride Res. (mg/L)	0.77	0.77	0.74	0.75	0.75	0.82	0.77	0.76	0.73	0.72	0.73	0.72	0.75
Ave. Tap Recative Phosphate Res. (mg/L)	0.74	0.76	0.98	0.69	0.68	0.69	0.68	0.66	0.68	0.70	0.71	0.70	0.72
Ave. Tap Total Chlorine Res. (mg/L)	2.79	2.72	2.72	2.58	2.66	2.69	2.70	2.63	2.71	2.47	2.47	2.48	2.64

CHEMICALS APPLIED (PPM)	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	AVE
Sodium Hypochlorite (active lbs)	3.468	3.308	3.442	3.308	3.440	3.627	3.659	3.644	3.609	3.584	3.279	3.228	3.466
Aqua Ammonia (active lbs)	0.755	0.751	0.802	0.740	0.735	0.745	0.758	0.765	0.766	0.730	0.724	0.725	0.750
Fluoride (active lbs)	0.632	0.619	0.588	0.649	0.645	0.689	0.697	0.693	0.646	0.627	0.620	0.616	0.643
Alum (scale lbs)	15.723	8.577	19.678	16.939	8.588	10.944	9.062	9.698	10.534	9.205	13.663	21.878	12.874
Phosphates (active lbs)	0.814	0.815	0.814	0.791	0.793	0.795	0.816	0.800	0.800	0.814	0.826	0.822	0.808
Polymer - Coagulant Aid (scale lbs)	0.920	0.960	1.168	0.924	0.942	1.055	0.966	1.046	1.017	0.987	0.747	0.728	0.955
Polymer - Mussel Control (scale lbs)	0.002	0.000	0.000	0.004	0.379	0.794	0.794	0.739	0.841	0.751	0.365	0.000	0.389

CHEMICALS APPLIED (LBS)	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
Sodium Hypochlorite (active lbs)	2,908	2,401	2,667	2,453	3,030	3,421	4,110	3,902	3,211	2,877	2,454	2,478	35,912
Aqua Ammonia (active lbs)	633	545	622	549	647	703	852	819	682	586	542	557	7,737
Fluoride (active lbs)	530	449	455	481	568	650	783	742	575	503	464	473	6,673
Alum (scale lbs)	13,182	6,226	15,246	12,559	7,564	10,324	10,181	10,385	9,372	7,388	10,229	16,794	129,450
Phosphates (active lbs)	682	592	630	586	699	750	917	856	712	653	618	631	8,326
Polymer - Coagulant Aid (scale lbs)	771	697	905	685	830	995	1,085	1,120	905	792	559	559	9,903
Polymer - Mussel Control (scale lbs)	2	0	0	3	334	749	892	791	748	603	273	0	4,395

CHEMICAL COST (\$/MG)	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	AVE
Sodium Hypochlorite	16.81	16.09	16.82	16.18	16.90	17.78	17.90	17.85	17.66	17.53	16.04	15.79	\$16.95
Aqua Ammonia	7.97	7.92	8.46	7.80	7.75	7.86	8.00	8.07	8.08	7.70	7.63	7.65	\$7.91
Fluoride	5.60	5.48	5.21	5.75	4.69	4.77	4.82	4.79	4.47	4.34	4.29	4.26	\$4.87
Alum	7.22	3.94	9.04	7.78	4.53	5.79	4.80	5.13	5.58	4.87	7.23	11.58	\$6.46
Phosphates	9.32	9.36	9.34	9.08	8.69	8.71	8.95	8.76	8.77	8.92	9.05	9.01	\$9.00
Polymer - Coagulant Aid	4.99	5.21	6.34	5.01	5.12	5.73	5.24	5.68	5.52	5.36	4.05	3.95	\$5.18
Polymer - Mussel Control	0.02	0.00	0.00	0.04	3.51	7.35	7.35	6.83	7.79	6.96	3.38	0.00	\$3.60
	\$51.92	\$48.00	\$55.21	\$51.65	\$51.18	\$57.98	\$57.06	\$57.12	\$57.86	\$55.68	\$51.67	\$52.25	