

2019
NORTH SHORE WATER COMMISSION
ANNUAL REPORT

400 West Bender Road
Glendale, Wisconsin

Whitefish Bay - Glendale - Fox Point

NORTH SHORE WATER COMMISSION

January 10, 2020

2019 Pumpage Report

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

Whitefish Bay - Glendale - Fox Point, WI

ALL METERING	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	Total
Whitefish Bay	28.623	29.051	34.708	32.533	35.526	35.523	39.582	39.561	32.160	30.049	28.465	30.553	396.334
Glendale	43.201	41.749	44.359	42.184	44.287	51.100	56.508	53.976	47.584	44.198	40.430	41.345	550.921
Fox Point	15.117	14.210	16.763	15.282	16.937	17.902	22.367	22.556	17.064	15.564	14.108	14.488	202.358
Mequon	7.160	6.619	8.627	6.243	6.422	6.694	8.020	7.956	6.902	6.386	6.162	6.356	83.547
Member Pumpage	86.941	85.010	95.830	89.999	96.750	104.525	118.457	116.093	96.808	89.811	83.003	86.386	1,149.613
Total Pumpage	94.101	91.629	104.457	96.242	103.172	111.219	126.477	124.049	103.710	96.197	89.165	92.742	1,233.160

ALLOCATION % (MEMBERS)	Jan	Feb	Mar	Apr	Apr	June	Jul	Aug	Sep	Oct	Nov	Dec	Cumulative
Whitefish Bay	32.92%	34.17%	36.22%	36.15%	36.72%	33.99%	33.41%	34.08%	33.22%	33.46%	34.29%	35.37%	34.48%
Glendale	49.69%	49.11%	46.29%	46.87%	45.77%	48.89%	47.70%	46.49%	49.15%	49.21%	48.71%	47.86%	47.92%
Fox Point	17.39%	16.72%	17.49%	16.98%	17.51%	17.13%	18.88%	19.43%	17.63%	17.33%	17.00%	16.77%	17.60%

ALLOCATION % (ALL)	Jan	Feb	Mar	Apr	Apr	June	Jul	Aug	Sep	Oct	Nov	Dec	Cumulative
Whitefish Bay	30.42%	31.71%	33.23%	33.80%	34.43%	31.94%	31.30%	31.89%	31.01%	31.24%	31.92%	32.94%	32.14%
Glendale	45.91%	45.56%	42.47%	43.83%	42.93%	45.95%	44.68%	43.51%	45.88%	45.95%	45.34%	44.58%	44.68%
Fox Point	16.06%	15.51%	16.05%	15.88%	16.42%	16.10%	17.68%	18.18%	16.45%	16.18%	15.82%	15.62%	16.41%
Mequon	7.61%	7.22%	8.26%	6.49%	6.22%	6.02%	6.34%	6.41%	6.66%	6.64%	6.91%	6.85%	6.78%

STATISTICS	Max Day	Ave Day	Min Day
Whitefish Bay	1.659	1.086	0.590
Glendale	2.503	1.509	1.051
Fox Point	1.253	0.555	0.172
Mequon	1.293	0.229	0.175
Combined	5.342	3.379	2.317

NORTH SHORE WATER COMMISSION

January 21, 2020

2019 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)	\$50.10	\$49.65	\$48.33	\$58.15	\$51.18	\$59.96	\$62.15	\$63.04	\$58.57	\$52.82	\$51.58	\$54.01	\$54.96
Energy (KWH per MG)	2,089	2,034	1,894	2,033	1,905	1,795	1,698	1,833	1,887	1,934	2,007	1,931	1,920
Energy (\$/MG)	\$184.65	\$185.11	\$165.61	\$184.86	\$168.01	\$162.55	\$150.81	\$158.42	\$170.76	\$177.34	\$184.35	\$173.58	\$172.17
Energy (\$/KWH)	\$0.0884	\$0.0910	\$0.0874	\$0.0909	\$0.0882	\$0.0906	\$0.0888	\$0.0864	\$0.0905	\$0.0917	\$0.0919	\$0.0899	\$0.0897

PHYSICAL CHARACTERISTICS	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	AVE
Average Pressure (PSI)	81.7	81.4	81.3	81.5	82.9	81.5	81.7	82.0	81.6	82.0	81.9	81.9	81.8
Average Water Temp (F)	34.1	32.5	34.1	39.0	44.2	49.9	47.7	54.3	48.4	46.8	39.4	36.4	42.2

WATER QUALITY	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	AVE
Ave. Raw Turbidity (NTU)	12.8	10.0	5.0	7.9	1.3	0.8	1.2	1.8	1.6	4.1	5.9	10.3	5.2
Ave. Filter Effluent Turbidity (NTU)	0.04	0.05	0.05	0.05	0.05	0.06	0.06	0.06	0.06	0.06	0.06	0.08	0.06
Ave. Raw MPN Index (Total Coliform)	12.5	4.5	0.3	2.1	8.2	5.0	35.3	29.9	90.7	57.9	12.0	26.6	23.8
Ave. Raw pH	8.18	8.20	8.21	8.26	8.26	8.18	8.17	8.29	8.19	8.09	8.24	8.23	8.21
Ave. Tap pH	7.91	7.96	8.01	8.01	8.05	8.03	8.00	8.05	8.04	7.95	7.99	7.98	8.00
Ave. Tap Hardness (mg/L)	138	139	137	137	137	136	135	135	135	136	138	140	137
Ave. Tap Alkalinity (mg/L)	116	113	112	111	112	112	111	113	112	114	114	119	113
Ave. Tap Fluoride Res. (mg/L)	0.72	0.73	0.73	0.73	0.75	0.74	0.76	0.74	0.74	0.76	0.75	0.76	0.74
Ave. Tap Recative Phosphate Res. (mg/L)	0.78	0.77	0.77	0.74	0.68	0.72	0.68	0.65	0.65	0.68	0.63	0.66	0.70
Ave. Tap Total Chlorine Res. (mg/L)	2.57	2.63	2.66	3.30	2.66	2.73	2.79	2.86	2.87	2.85	2.85	2.88	2.80

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	