

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

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	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 20, 2021

2019 Summary of Operations

Whitefish Bay - Glendale - Fox Point

<i>VARIABLE COSTS</i>	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
<i>PHYSICAL CHARACTERISTICS</i>	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
<i>WATER QUALITY</i>	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
<i>CHEMICALS APPLIED (PPM)</i>	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	AVE
Sodium Hypochlorite (active lbs)	3.207	3.124	3.135	3.910	3.440	3.526	3.717	3.754	3.849	3.803	3.676	3.680	3.568
Aqua Ammonia (active lbs)	0.712	0.709	0.718	0.902	0.735	0.732	0.782	0.797	0.798	0.764	0.746	0.748	0.762
Fluoride (active lbs)	0.608	0.617	0.607	0.598	0.645	0.622	0.621	0.573	0.591	0.617	0.616	0.607	0.610
Alum (scale lbs)	16.098	13.792	10.751	16.520	8.588	7.439	9.043	9.052	7.094	10.623	11.684	13.968	11.221
Phosphates (active lbs)	0.826	0.817	0.820	0.827	0.793	0.832	0.752	0.757	0.746	0.713	0.672	0.741	0.775
Polymer - Coagulant Aid (scale lbs)	0.818	0.742	0.730	0.772	0.942	0.880	0.913	1.083	0.759	0.777	0.708	0.763	0.824
Polymer - Mussel Control (scale lbs)	0.010	0.004	0.000	0.000	0.379	0.922	0.903	0.880	0.697	0.001	0.000	0.000	0.316
<i>CHEMICALS APPLIED (LBS)</i>	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	TOTAL
Sodium Hypochlorite (active lbs)	2,520	2,390	2,735	3,142	3,041	3,274	3,925	3,889	3,333	3,055	2,737	2,850	36,891
Aqua Ammonia (active lbs)	559	543	626	725	663	679	826	826	691	614	556	579	7,887
Fluoride (active lbs)	478	472	529	480	545	578	656	593	512	496	459	470	6,268
Alum (scale lbs)	12,649	10,552	9,377	13,276	7,382	6,908	9,550	9,376	6,143	8,533	8,699	10,817	113,262
Phosphates (active lbs)	649	625	716	665	713	773	794	784	646	572	501	574	8,012
Polymer - Coagulant Aid (scale lbs)	643	568	637	620	708	817	964	1,122	657	624	527	591	8,478
Polymer - Mussel Control (scale lbs)	8	3	0	0	232	856	954	911	604	1	0	0	3,569

CHEMICAL COST (\$/MG)	Jan	Feb	Mar	Apr	May	June	Jul	Aug	Sep	Oct	Nov	Dec	AVE
Sodium Hypochlorite	15.69	16.43	16.84	21.03	18.99	18.96	19.99	20.17	20.69	20.46	19.75	19.77	\$19.06
Aqua Ammonia	8.09	8.10	8.20	10.30	8.80	8.36	9.30	9.11	9.11	8.73	8.53	8.55	\$8.77
Fluoride	4.21	4.27	4.20	4.13	4.37	4.30	4.29	4.02	4.19	4.37	4.36	4.30	\$4.25
Alum	8.52	7.82	6.13	9.42	4.89	4.24	5.08	5.09	3.99	5.97	6.57	7.87	\$6.30
Phosphates	9.05	8.96	8.99	9.07	9.07	9.12	8.48	8.81	8.67	8.29	7.82	8.62	\$8.75
Polymer - Coagulant Aid	4.44	4.03	3.96	4.19	4.46	5.66	5.87	6.97	4.88	5.00	4.55	4.91	\$4.91
Polymer - Mussel Control	0.09	0.04	0.00	0.00	2.50	9.31	9.13	8.89	7.05	0.01	0.00	0.00	\$3.08
	\$50.10	\$49.65	\$48.33	\$58.15	\$53.07	\$59.96	\$62.15	\$63.04	\$58.57	\$52.82	\$51.58	\$54.01	