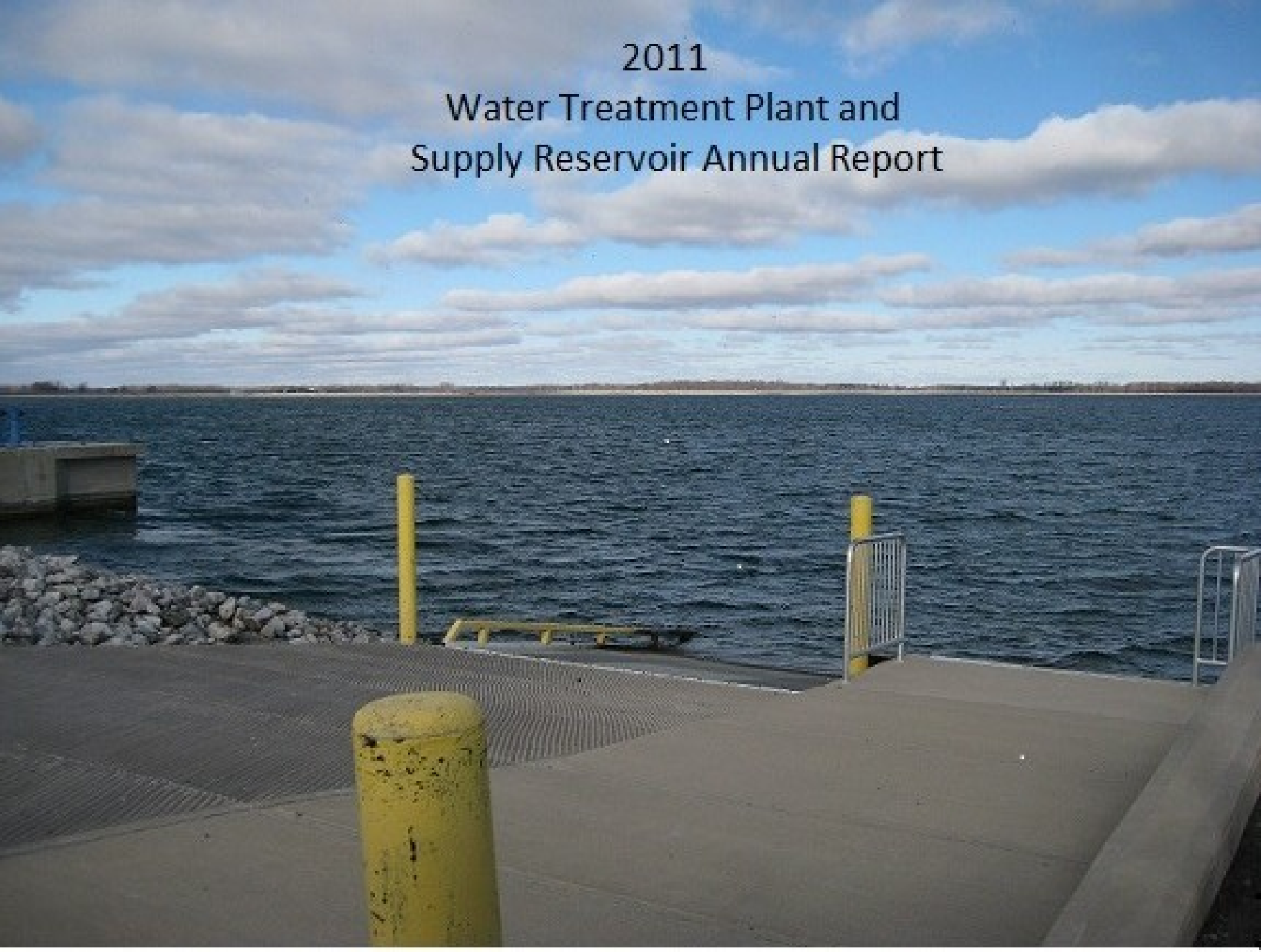


2011
Water Treatment Plant and
Supply Reservoir Annual Report

ANNUAL REPORT FOR 2011

The annual report of operations of the Water Treatment Plant and Supply Reservoir for the year ending December 31, 2011 is respectfully submitted herewith.

The City of Findlay Water Treatment Plant is responsible to provide the citizens of Findlay and the surrounding area with an uninterruptible supply of safe, clean and pleasant tasting drinking water at a reasonable rate.

The water treatment plant is very fortunate to have an outstanding supply of raw water in both quantity and quality. We are also very blessed with a dedicated and well educated staff which helps ensure that we are delivering the highest quality of water possible.

The following is a list of the current water treatment and supply reservoir employees.

Water Treatment Plant Employees

Name	**Position**	**Year Hired**
Jeff Newcomer	Superintendent, Class IV	1984
Paul Brown	Supervisor, Class III	1986
Larry Snodgrass	Operator, Class I	1985
Rick Parker	Operator, Class III	2001
Rob Householder	Operator, Class I	2004
Mark Burkholder Jr.	Operator, Class I, Class II OIT	2010
Dan Bond	Operator, Class I, Class II OIT	2010
Randy Zacharias Sr.	Operator, Class I	2011

Brett Young	Lab Tech II, Class III	2000
Tim Couch	Lab Tech I, Class III	2003
Dean Hoge	Assistant Operator	1989
Tim Foust	Assistant Operator	2000
Brian Egts	Maintenance Mechanic II	1990
Chip Flanagan	Maintenance Mechanic II	2000
Brad Eblen	Maintenance Mechanic I	1991
Marina Vielhaber Zachea	Administrative Asst.	2003

Supply Reservoir

Rich Cap	Maintenance Mechanic I	2001

2011 has been a busy year for the water treatment plant and supply reservoir. Below is a partial list of items that were accomplished in addition to the routine maintenance and lab testing that we do on a daily basis.

Maintenance items

- Replaced actuator on #2 high service pump
- Installed level transmitter on the soda ash storage bin
- Completed filter sand rebuild
- Replace control actuators on SCU 1 and SCU 2
- Replaced shaft on isolation valve in re-carbonation basin
- Repaired HSP #3
- Replaced sludge draw off valve
- Replaced ladder in pre-treatment basin
- Hauled 1,008 loads of lime sludge to drying beds or fields

Lab items

- Updated sample site plan
- Required bacteria samples increased 25% due to population increase. We now analyze 600 routine bacteria samples per year
- Tested 174 bacteria samples for other Public Water Supplies
- Tested 33 bacteria samples for private individuals
- Tested 51 samples for chemical analysis for other Public Water Supplies
- Answered rusty water complaints due to system flushing, and construction projects

Reservoir items

- Inspected #1 outlet structure for effectiveness of sodium permanganate
- Fixed shafts on sluice gates at outlet #2
- Fixed raw water pump #3 at station #3
- Treated reservoir #1 in June, August and October
- Treated reservoir #2 in June, July and September
- Purchased 300 ton of type c rip rap for reservoir dike
- Purchased 200 ton of gravel for top of reservoir

Other items

- Hired Tank Industry Consultants to inspect and evaluate the north and south water towers
- Completed concrete work on re-carbonation basins and painted
- Installed cathodic protection on diesel supply and return lines
- Replaced windows in chemical building with aluminum blanks
- Replaced heating system in chemical building
- Purchased new pick-up truck for maintenance

Goals for 2012

- Hire engineering consultant for clear well study
- Finish SCU #2 install
- Miscellaneous concrete work at treatment plant and supply reservoir
- Inspect 24” transmission main
- Inspect 16” water line at plant
- Place rip-rap at reservoir
- Inspect and get carbon feed system operational

I would like to thank all of the water department employees for their dedicated service to the City of Findlay this past year. I would also like to thank City Council and the Mayor and his administration for their continued confidence and support of me and my staff throughout the year.

Sincerely,

Jeff Newcomer
Superintendent
City of Findlay
Water Treatment Plant

City of Findlay Water Department
Drinking Water Consumer Confidence Report For 2010

Superintendent	Mayor	Service Director
Jeff Newcomer	Pete Sehnert	Bruce Hardy

Introduction

The following report has been prepared to provide information to you, the consumer, on the quality of our drinking water. Included within this report is general health information, water quality test results, how to participate in decisions concerning your drinking water and water system contacts.

Source water information and assessment

Our water source is surface water pumped from the Blanchard River into the Findlay Reservoir, which is located three miles southeast of the water treatment plant. For the purpose of source water assessments, in Ohio all surface waters are considered susceptible to contamination. By their nature, surface waters are readily accessible and can be contaminated by chemicals and pathogens, which may rapidly arrive at the public drinking water intake with little warning or time to prepare. The City of Findlay's drinking water source protection area contains potential contaminant sources such as agricultural runoff, industrial storm water, gas station runoff, home construction, animal feed lot runoff, gas lines and gas and oil wells, wastewater treatment discharges, cemeteries, airports, silage, farm machinery repair, pesticide/fertilizer/petroleum storage areas, pasture, closed and inactive landfills, roadways and railways, and one site being investigated by Ohio EPA's Division of Emergency and Remedial Response (Hobbs Dump) just outside the protection area in Seneca County.

We treat your water using lime/soda softening, coagulation, sedimentation, stabilization, fluoridation, disinfection, and filtration to remove or reduce harmful contaminants in the source water; however, no single treatment technique can address all potential contaminants. The potential for water quality impacts can be further decreased by implementing measures to protect the Blanchard River. Information that is more detailed is in the City of Findlay's Drinking Water Source Assessment Report, which can be obtained by calling the Findlay Water Department at 419-424-7193.

Sources of contamination to drinking water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include: (A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations and wildlife; (B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban storm water runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming; (C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban storm water runoff, and residential uses; (D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems; (E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, USEPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (1-800-426-4791).

Who needs to take special precautions?

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infection. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (1-800-426-4791).

About your drinking water

The EPA requires regular sampling to ensure drinking water safety. Our water department conducted sampling for bacteria, inorganic, synthetic organic, and volatile organic contaminants during 2010. Samples were collected for 51 different contaminants, most of which were not detected in the City of Findlay water supply. The Ohio EPA requires us to monitor for some contaminants less than once per year because the concentrations of these contaminants do not change frequently. The Ohio EPA also requires us to monitor for unregulated contaminants that have no current MCLs, treatment techniques or action levels. Some of our data, though accurate, are more than one year old.

Listed below is information on those contaminants that were found in the City of Findlay drinking water.

Contaminants (Units)	MCLG	MCL	Level Found	Range of Detections	Violation	Sample Year	Typical Source of Contaminants
Bacteriological							
Total Organic Carbon (ppm)	NA	TT	1.5	1.2 – 2.9	NO	2010	Naturally present in the environment.
The value reported under "Level Found" for Total Organic Carbon (TOC) is the lowest ratio between percentage of TOC actually removed to the percentage of TOC required to be removed. A value of greater than one (1) indicates that the water system is in compliance with TOC removal requirements. A value of less than one (1) indicates a violation of the TOC removal requirements.							
Turbidity (NTU)	NA	TT	0.15	0.03 – 0.15	NO	2010	Soil runoff.
Turbidity (% meeting standard)	NA	TT	100%	100% – 100%	NO	2010	
Turbidity is a measure of the cloudiness of water and is an indication of the effectiveness of our filtration system. The turbidity limit set by the EPA is 0.3 NTU in 95% of the daily samples and shall not exceed 1 NTU at any time. As reported above, the Findlay Water Department's highest recorded turbidity result for 2010 was 0.15 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%.							
Radioactive Contaminants							
Gross Alpha (pCi/L)	0	15	0.584	NA	NO	2006	Erosion of natural deposits.
Inorganic Contaminants							
Barium (ppm)	2	2	0.012	NA	NO	2010	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Copper (ppm)	1.3	AL=1.3	0.120	NA	NO	2010	Corrosion of household plumbing systems; Erosion of natural deposits.
	Zero out of 30 samples was found to have copper levels in excess of the Action Level of 1.3 ppm.						
Fluoride (ppm)	4	4	1.00	0.70 – 1.13	NO	2010	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Lead (ppb)	0	AL=15	<2.0	NA	NO	2010	Corrosion of household plumbing systems; Erosion of natural deposits.
	One out of 30 samples was found to have lead levels in excess of the Action Level of 15 ppb.						
Nitrate (ppm)	10	10	0.91	<0.10 – 0.91	NO	2010	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.
Synthetic Organic Contaminants including Pesticides and Herbicides							
Atrazine (ppb)	3	3	0.08	<0.05-0.24	NO	2010	Runoff from herbicide used on row crops.
Volatile Organic Contaminants							
Bromodichloromethane (ppb)	NA	NA	6.4	NA	NO	2010	By-product of drinking water chlorination.
Chloroform (ppb)	NA	NA	11.0	NA	NO	2010	By-product of drinking water chlorination.
Dibromochloromethane (ppb)	NA	NA	2.6	NA	NO	2010	By-product of drinking water chlorination.
Haloacetic Acids (HAA5) (ppb)	NA	60	20.8	10.7 – 30.5	NO	2010	By-product of drinking water chlorination.
Total Trihalomethane (TTHM) (ppb)	NA	80	52.6	26.5 – 75.3	NO	2010	By-product of drinking water chlorination.
Residual Disinfectants							

Total Chlorine (ppm)	MRDLG = 4	MRDL = 4	1.4	1.1 – 1.5	NO	2010	Water additive used to control microbes.

Lead Educational Information

If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. The City of Findlay Water Department is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to 2 minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at 800-426-4791 or at http://www.epa.gov/safewater/lead.

License to Operate (LTO) Information

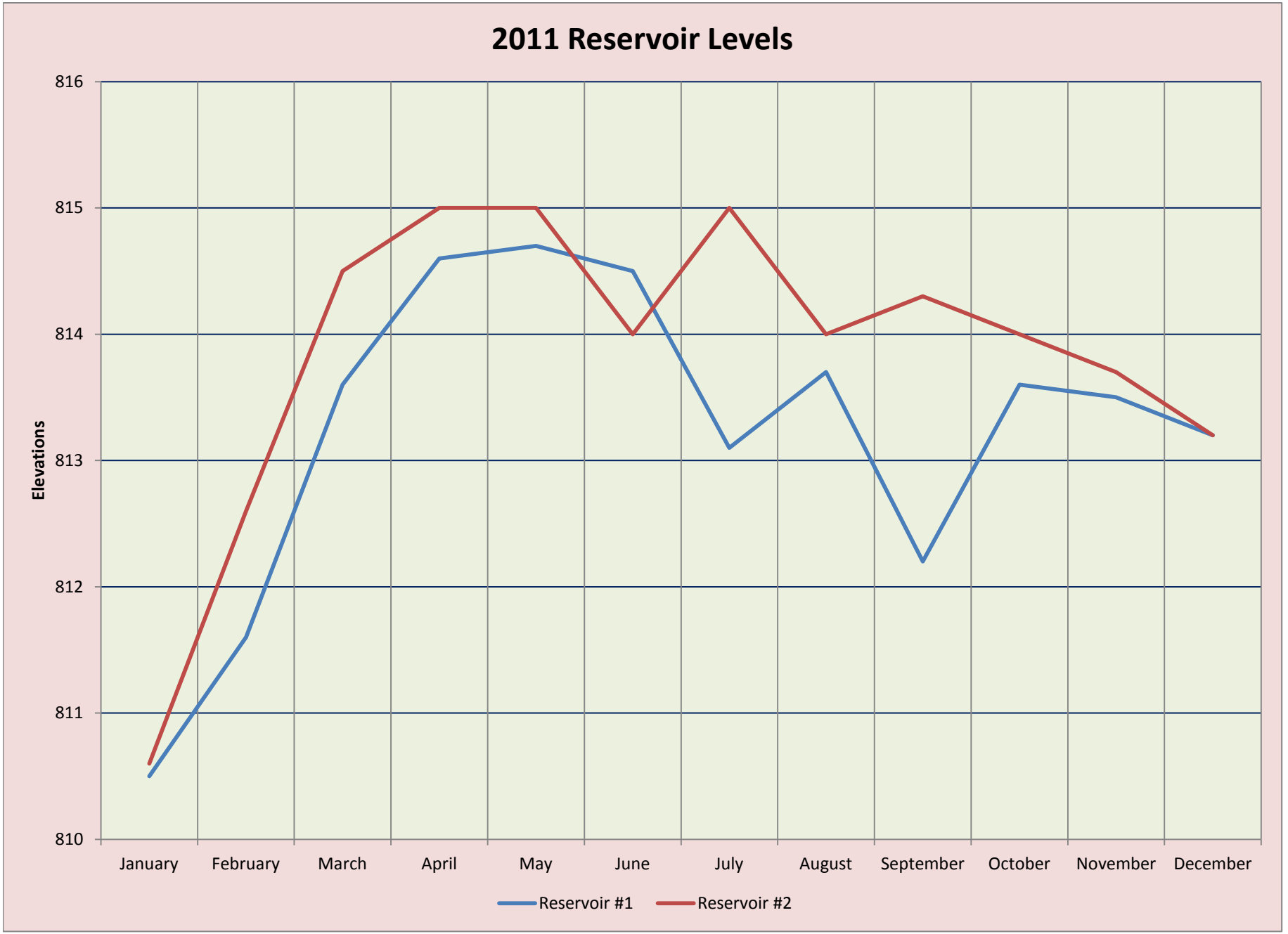
We have a current, unconditioned license to operate our water system.

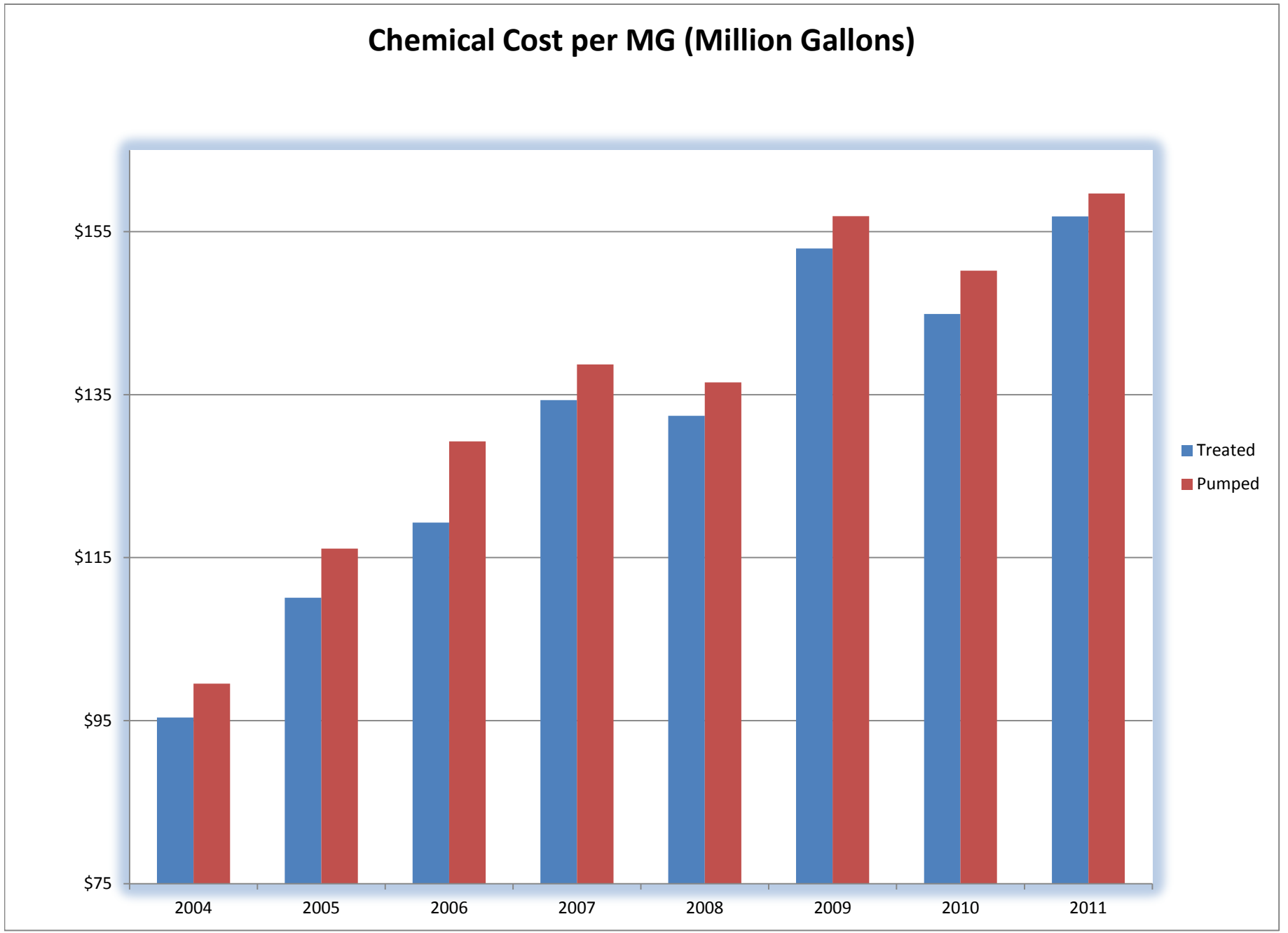
How do I participate in decisions concerning my drinking water?

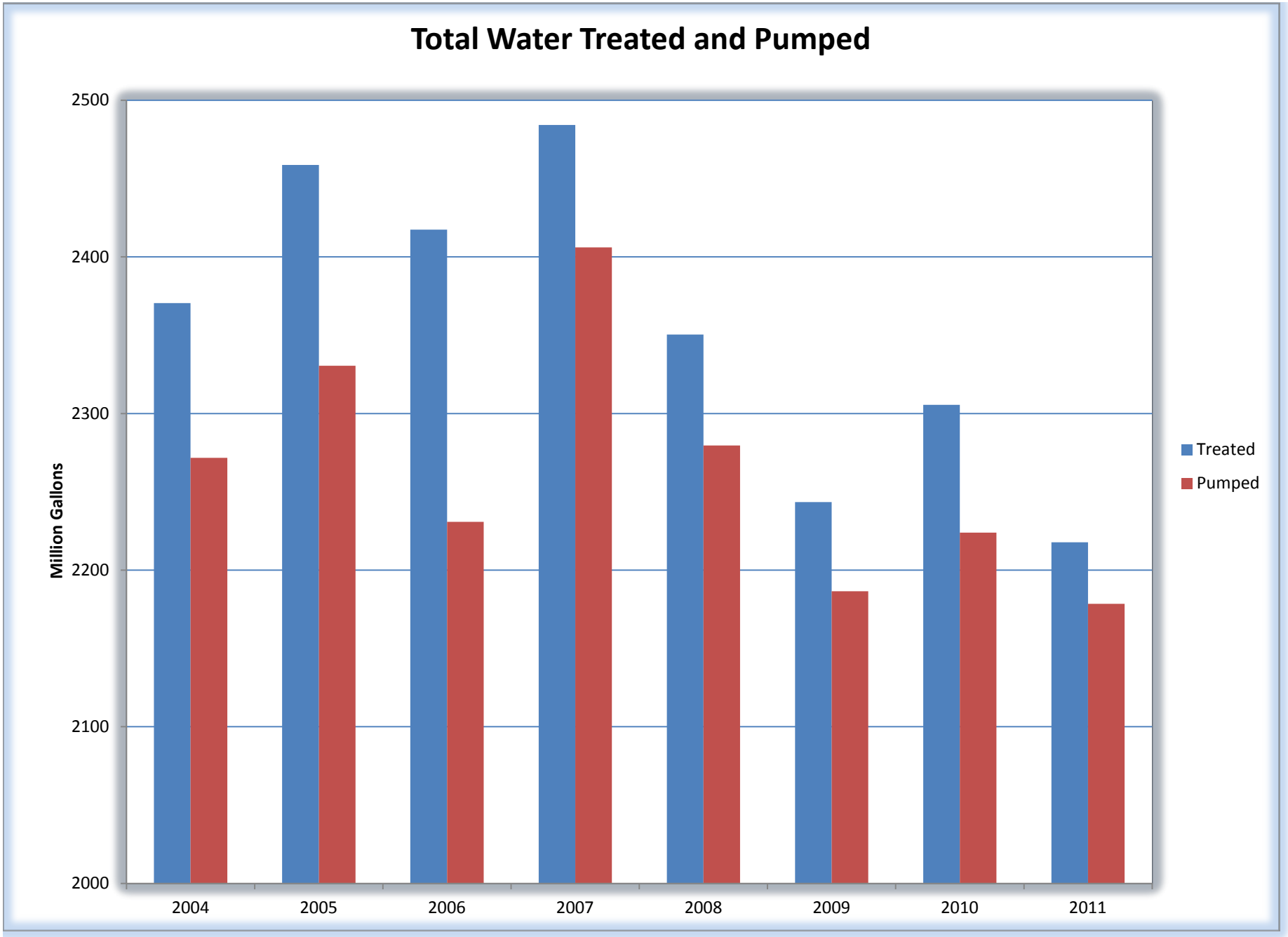
If you have any questions about this report or concerning your water utility, please contact Jeff Newcomer by calling (419) 424-7193 or by writing to 110 North Blanchard Street, Findlay, OH 45840. We want our valued customers to be informed about their water utility. You can attend regular public meetings on the first and third Tuesday of each month, at 7:30 p.m., in Council Chambers in the Municipal Building, at 318 Dorney Plaza.

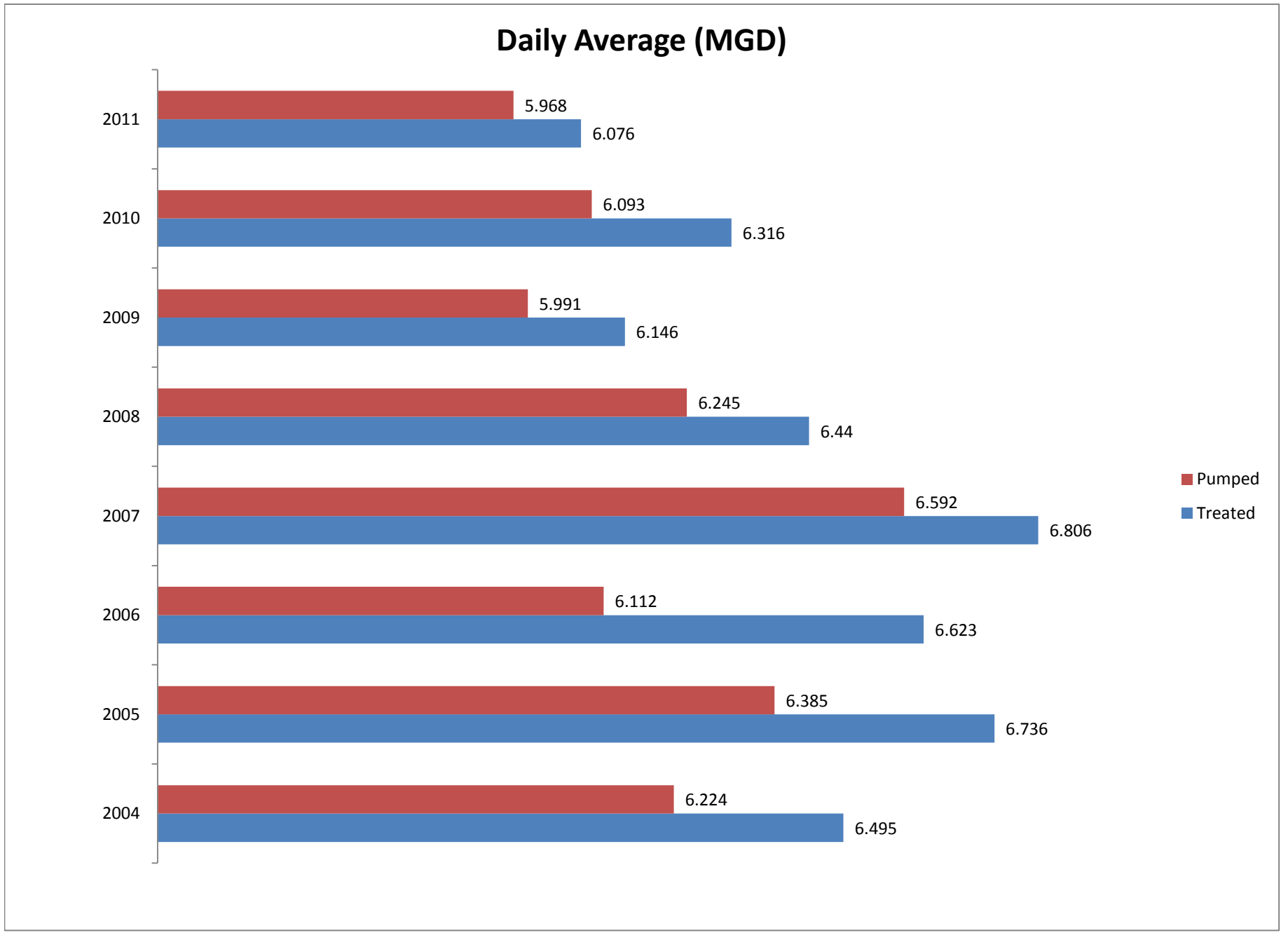
Definitions of some terms contained within this report

- Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.
- Maximum Contaminant level (MCL): The highest level of contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- Parts per Million (ppm) or Milligrams per Liter (mg/L) are units of measure for concentration of a contaminant. A part per million corresponds to one second in a little over 11.5 days.
- Parts per Billion (ppb) or Micrograms per Liter (µg/L) are units of measure for concentration of a contaminant. A part per billion corresponds to one second in 31.7 years.
- Picocuries per Liter (pCi/L): A measure of radioactivity.
- Nephelometric Turbidity Unit (NTU): A measure of water cloudiness.
- Not Applicable (NA)
- Action Level (AL): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- Treatment Technique (TT): A required process intended to reduce the level of a contaminant in drinking water.
- Maximum Residual Disinfectant Level Goal (MRDLG): The level of drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.
- Maximum Residual Disinfectant Level (MRDL): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.
- The “<“ symbol: A symbol which means less than. A result of <5 means that the lowest level that could be detected was 5 and the contaminant in that sample was not detected.


2011 Reservoir Levels
816
815
814
813
812
811
810
Elevations
January
February
March
April
May
June
July
August
September
October
November
December
Reservoir #1
Reservoir #2


Chemical Cost per MG (Million Gallons)
$155
$135
$115
$95
$75
2004
2005
2006
2007
2008
2009
2010
2011
Treated
Pumped


Total Water Treated and Pumped
Million Gallons
2500
2400
2300
2200
2100
2000
2004
2005
2006
2007
2008
2009
2010
2011
Treated
Pumped


Daily Average (MGD)
2011
5.968
6.076
2010
6.093
6.316
2009
5.991
6.146
2008
6.245
6.44
2007
6.592
6.806
2006
6.112
6.623
2005
6.385
6.736
2004
6.224
6.495
Pumped
Treated

WATER TREATMENT EXPENSES

	2008	2009	2010	2011
Wages	$ 854,863	$ 816,854	$ 805,733	$ 804,666
Retirement Settlements	$ 4,705		$ 113,112	
Benefits	$ 296,666	$ 338,486	$ 291,253	$ 347,446
Operating	$ 417,424	$ 384,748	$ 383,624	$ 377,501
Maintenance	$ 187,993	$ 115,276	$ 181,905	$ 219,071
Utilities	$ 239,140	$ 211,417	$ 211,290	$ 223,104
Capital	$ 39,918		$ 91,867	$ 19,257
Other	$ 100,554	$ 108,879	$ 80,512	$ 35,706
TOTAL	$ 2,141,263	$ 1,975,660	$ 2,159,296	$ 2,026,751

SUPPLY RESERVOIR EXPENSES

	2008	2009	2010	2011
Wages	$ 42,549	$ 42,907	$ 43,735	$ 45,490
Retirement Settlements				
Benefits	$ 18,397	$ 21,721	$ 21,787	$ 27,016
Operating	$ 34,238	$ 32,323	$ 74,212	$ 81,406
Maintenance	$ 18,509	$ 33,426	$ 119,290	$ 55,590
Utilities	$ 62,949	$ 70,291	$ 70,436	$ 90,709
Capital	$ 42,308	$ 9,316		
Other	$ 6,705	$ 7,161	$ 8,347	$ 7,005
TOTAL	$ 225,655	$ 217,145	$ 337,807	$ 307,216

2011 Chemical Report

Month	Water Pumped MG	Water Treated MG	Pounds Lime	Gallons Ferric Chloride	Pounds Soda Ash	Pounds Fluoride	Pounds Carbon Dioxide	Gallons Chlorine	Pounds Potassium Permanganate	Pounds Polymer	Gallons Sodium Permanganate	Total Monthly Chemical Cost monthly cost	Pumped Cost/MG	Treated Cost/MG
January	170.29	178.10	146224	1778	25290	5512	40154	3197	614	29	409			
cost/chemical			9797.01	1818.87	4764.89	1977.15	1375.27	1998.13	1418.34	58.87	2914.13	26122.65	153.40	146.67
February	158.90	166.03	131157	1705	23651	5123	37094	3289	0	27	507			
cost/chemical			8787.52	1744.19	4456.08	1837.62	1270.47	2055.63	0.00	54.00	3612.38	23817.88	149.89	143.46
March	174.23	178.82	145978	1770	25391	5364	39248	3335	0	29	548			
cost/chemical			9780.53	1810.68	4783.92	1924.07	1344.24	2084.38	0.00	58.87	3904.50	25691.18	147.46	143.67
April	168.39	173.06	129872	1721	24742	5174	39555	3296	0	28	530			
cost/chemical			8701.42	1760.56	4661.64	1855.91	1354.76	2060.00	0.00	56.84	3776.25	24227.38	143.88	139.99
May	180.49	180.31	157658	1838	25649	5934	44326	3337	0	29	697			
cost/chemical			10563.09	1880.25	4832.53	2128.53	1518.17	2085.63	0.00	58.87	4966.13	28033.17	155.32	155.47
June	193.58	201.59	165493	2094	29279	6902	47277	4567	0	32	830			
cost/chemical			11088.03	2142.13	5516.46	2475.75	1619.24	2854.38	0.00	64.96	5913.75	31674.69	163.63	157.12
July	218.78	224.05	200725	2330	32697	7689	51520	5502	44.8	36	926			
cost/chemical			13448.58	2383.56	6160.44	2758.04	1764.56	3438.75	103.49	73.08	6597.75	36728.24	167.88	163.93
August	203.14	210.25	171574	2180	30481	7176	48976	5748	0	40	1019			
cost/chemical			11495.46	2230.11	5742.93	2574.03	1677.43	3592.50	0.00	81.20	7260.38	34654.02	170.59	164.82
September	184.03	180.65	158957	2537	25615	6184	44148	4478	0	29	959			
cost/chemical			10650.12	2595.31	4826.12	2218.20	1512.07	2798.75	0.00	58.87	6832.88	31492.32	171.13	174.33
October	182.06	179.94	143846	2354	25458	6141	45959	3666	0	29	963			
cost/chemical			9637.68	2408.11	4796.54	2202.78	1574.10	2291.25	0.00	58.87	6861.38	29830.70	163.85	165.78
November	173.66	173.76	153603	2392	24547	5858	44273	3346	0	28	870			
cost/chemical			10291.40	2446.98	4624.90	2101.26	1516.35	2091.25	0.00	56.84	6198.75	29327.74	168.88	168.78
December	170.94	171.21	125104	2355	23768	5403	38508	3161	0	27	805			
cost/chemical			8381.97	2409.13	4478.13	1938.06	1318.90	1975.63	0.00	54.81	5735.63	26292.24	153.81	153.57
Totals	2178.49	2217.77	1830191	25054	316568	72460	521038	46922	659	363	9063			
Monthly Avg	181.54	184.81417	152516	2088	26381	6038	43420	3910	55	30.22	1812.60			
Max	218.78	224.05												
Min	158.9	166.03												
cost/gallon								0.625			7.125			
Cost/ton			134.00	537.00	376.82	717.40	68.50		4620.00	4060.00				
annual chemical cost			$ 122,623	$ 25,630	$ 59,645	$ 25,991	$ 17,846	$ 29,326	$ 1,522	$ 736	$ 64,574	$ 347,892		
cost/MG													$ 159.69	$ 156.87

	Water Treated						Water Pumped					
	2007	2008	2009	2010	2011		2007	2008	2009	2010	2011	
Treated MG	189.58	184.07	184.01	182.41	178.10	January	177.76	177.04	188.47	179.92	170.29	Pumped MG
Cost/MG	$ 117.44	$ 130.86	$ 148.48	$ 125.94	$ 146.67		$ 125.25	$ 136.06	$ 144.96	$ 127.68	$ 153.40	Cost/MG
Treated MG	186.28	176.9	167.21	164.31	166.03	February	177.41	171.52	169.05	163.58	158.90	Pumped MG
Cost/MG	$ 119.54	$ 119.56	$ 143.18	$ 133.15	$ 143.46		$ 125.52	$ 123.31	$ 141.62	$ 133.74	$ 149.89	Cost/MG
Treated MG	196.14	191.62	186.48	176.76	178.82	March	190.47	183.53	178.83	176.45	174.23	Pumped MG
Cost/MG	$ 119.52	$ 122.70	$ 155.03	$ 132.68	$ 143.67		$ 123.08	$ 128.11	$ 161.66	$ 132.92	$ 147.46	Cost/MG
Treated MG	185.53	190.54	181.67	180.74	173.06	April	182.9	180.36	165.20	175.91	168.39	Pumped MG
Cost/MG	$ 114.77	$ 117.64	$ 150.03	$ 139.04	$ 139.99		$ 116.39	$ 124.28	$ 164.98	$ 142.89	$ 143.88	Cost/MG
Treated MG	222.74	209.39	186.27	192.29	180.31	May	212.62	195.72	178.46	189.65	180.49	Pumped MG
Cost/MG	$ 122.76	$ 125.56	$ 161.92	$ 149.73	$ 155.47		$ 128.60	$ 134.33	$ 169.00	$ 151.81	$ 155.32	Cost/MG
Treated MG	260.54	210.38	192.69	201.60	201.59	June	250.7	198.62	185.62	187.93	193.58	Pumped MG
Cost/MG	$ 145.15	$ 132.12	$ 162.98	$ 147.75	$ 157.12		$ 150.85	$ 139.94	$ 169.19	$ 158.18	$ 163.63	Cost/MG
Treated MG	248.08	222.07	207.13	231.75	224.05	July	242.54	213.83	200.88	211.73	218.78	Pumped MG
Cost/MG	$ 152.82	$ 150.68	$ 169.26	$ 159.77	$ 163.93		$ 156.31	$ 156.49	$ 174.53	$ 174.87	$ 167.88	Cost/MG
Treated MG	224.92	224.92	211.1	232.57	210.25	August	222.78	222.06	202.26	208.02	203.14	Pumped MG
Cost/MG	$ 151.31	$ 149.33	$ 167.12	$ 145.62	$ 164.82		$ 152.77	$ 151.25	$ 174.42	$ 162.81	$ 170.59	Cost/MG
Treated MG	214.18	199.22	201.44	207.58	180.65	September	206.21	196.31	200.74	202.18	184.03	Pumped MG
Cost/MG	$ 155.17	$ 159.20	$ 157.76	$ 143.61	$ 174.33		$ 161.17	$ 161.56	$ 158.31	$ 147.45	$ 171.13	Cost/MG
Treated MG	203.44	187.93	182.24	189.39	179.94	October	196.02	187.60	178.75	188.56	184.03	Pumped MG
Cost/MG	$ 144.57	$ 138.24	$ 136.78	$ 135.32	$ 165.78		$ 150.04	$ 138.49	$ 139.45	$ 135.92	$ 163.85	Cost/MG
Treated MG	174.91	171.39	166.55	168.87	173.76	November	173.46	173.28	164.39	167.24	173.66	Pumped MG
Cost/MG	$ 129.71	$ 126.65	$ 141.51	$ 133.61	$ 168.78		$ 130.79	$ 125.26	$ 143.37	$ 134.92	$ 168.88	Cost/MG
Treated MG	177.97	182.02	176.62	177.30	171.21	December	173.22	179.73	173.90	172.75	170.94	Pumped MG
Cost/MG	$ 123.89	$ 106.96	$ 133.00	$ 125.79	$ 153.57		$ 127.89	$ 108.32	$ 135.08	$ 129.10	$ 153.81	Cost/MG
Treated MG	2484.31	2350.45	2243.41	2305.57	2217.77	yearly	2406.09	2279.6	2186.55	2223.92	2178.49	Pumped MG
Cost/MG	$ 134.34	$ 132.41	$ 152.94	$ 144.90	$ 156.87	comparison	$ 138.71	$ 136.52	$ 156.91	$ 150.22	$ 159.69	Cost/MG