City of Findlay

Water Treatment Plant

&

Supply Reservoir

2017 Annual Report

CITY OF FINDLAY

Annual Report for 2017

The annual report of the operations of the Water Treatment Plant and Supply Reservoir for the year ending December 31,2017 is respectfully submitted herewith.

The City of Findlay Water Treatment Plant provides the citizens of Findlay and the surrounding area with high quality, pleasant tasting drinking water that meets or exceeds the parameters set by the Ohio EPA. The consumer costs have not increased on water since 2011.

The raw water supply for the City of Findlay is one of the most outstanding in the state of Ohio. The Water Department spends a great deal of time and resources monitoring the water quality in the reservoir. The quality of water is the primary focus of the treatment plant.

The following list highlights just a few of the changes within the Water Treatment Plant and Supply Reservoir in 2017.

1) Jeff Newcomer retired as Superintendent of the Water Department after serving the City of Findlay for 33 years
2) Rob Householder retired after 13 years of service as an Operator
3) Completed the study on the transfer line at the Reservoir
4) Painted the 60" raw water pipe at the Reservoir Pump Stations 2 & 3
5) Completed the concrete work at the low head dam area by Pump Station 1
6) Approval from ODNR to utilize the old intake line as the Reservoir's overflow
7) The retaining wall around the clear well at the WTP was completed
8) The front of the clear well was modified with a stone retaining wall
9) The bike path was cleared and brush cut back to ensure better visibility
10) New feed point was added to SCU#2 for better chemical application point
11) A decant line was added to drain off excess water from spent lime holding basin
12) A drone was purchased in conjunction with the Police Department for algae study

The City of Findlay is blessed with a very dedicated and well-educated staff who work diligently to ensure that the water quality is of the highest caliber. The following is the list of the current staff of the Water Treatment Plant and Supply Reservoir.

Water Treatment Plant Employees

Name:	Position	Year Hired
Jason Phillips	Superintendent, Class III	2017
Brett Young	Supervisor, Class III	2000
Tim Foust	Operator, Class I	2000
Tim Couch	Operator, Class III	2003
Jeremy Carter	Operator, Class III	2013
Dan Ward	Operator, Class II	2015
Ray Stelmaszak	Operator, Class I	2016
Mat Otto	Operator, Class I	2017
Rick Parker	Lab Tech I, Class III	2001
Dean Hoge	Assistant Operator	1989
Brian Egts	Maintenance Mechanic III	1990
Brad Eblen	Maintenance Mechanic I	1991
Randy Zacharias Sr.	Maintenance Mechanic II	2011
Jennifer Niederkohr	Administrative Asst.	2011

Supply Reservoir

Rich Cap	Maintenance Mechanic I	2001

Two valued staff members of the Water Treatment Plant retired after many great years of service to the City of Findlay in 2017. Fortunately, both were replaced in a timely manner which ensured that operations within the department continued without interruption. The new Superintendent, Jason Phillips, came to the city with over 21 years of utility experience and Mat Otto brings experience in the water industry as well. The following is a breakdown of just some of the accomplishments that occurred in 2017 by the Treatment Plant and Supply Reservoir personnel. Compliments go out to the staff on their determination and creativity in accomplishing so much.

Lab Items:

- Tested 293 additional bacteria samples for other public water systems, private individuals, new mains, new fire lines, and customer concerns
- Collected 52 samples for algae analysis
- Collected 27 QPCR samples for HAB screening
- Collected 24 samples for microcystin analysis
- Collected 13 LT2 samples for study
- Collected 16 copper tap samples due to copper treatment at reservoir
- Completed all weekly, monthly, and annual quality control checks on analytical equipment as well as verifications of all inline meters throughout the Treatment Plant

Maintenance Items:

- ❖ Installed new chemical feed tube in SCU#2
- ❖ Installed drain cover in SCU#2
- ❖ Installed new furnace in Lab
- ❖ Worked with Sewer Department on clearing bike path brush
- ❖ Worked on roof assessment for replacement time line
- ❖ Repaired Pump #3 motor
- ❖ Hauled 1130 loads of lime to drying beds

Reservoir Items:

- Treated reservoir #1 with 3500Lbs and reservoir#2 with 9000Lbs copper sulfate
- Treated reservoirs #1 with 5700lbs and reservoir#2 with 2450lbs of algaecide
- Worked with lab on sampling and algae control
- Monitored river water quality and filled reservoirs
- Compiled sonde data to trend algae growth
- Repaired reservoir house for new tenant
- Ran electric in barn and put LED lights up in shop area

Goals for 2018

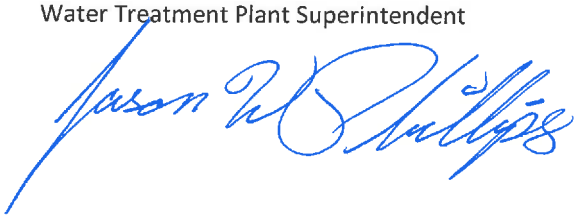
- Complete rehab of transfer line between Reservoir 1 and 2
- Increase sewer capacity behind Treatment Plant
- Repair concrete by solids contact units
- Replace lime silo piping
- Finalize distribution assessment
- Utilize drone to optimize the chemical application in the reservoirs
- Upgrade the treatment plant SCADA system
- Replace hypochlorite tanks
- Begin the planning for new raw water line
- Assess the treatment plant to begin a phased approach to improvements to the facility

It is a great honor to work with the dedicated staff of the Water Department. Their continued commitment to the City of Findlay and to water quality is greatly appreciated as well as their countless hours of service. None of this would be possible without the support of City Council and the Mayor and her administration. Continued confidence in the Water Department makes it a pleasure to serve the City of Findlay.

Respectfully Submitted

Jason W. Phillips

Water Treatment Plant Superintendent



Divisions: *Reservoir*
Treatment
Distribution
Utility Billing

WATER DEPARTMENT
Superintendent Jason Phillips

FINANCIAL VISION

BUDGET		2015 actual	2016 actual	2017 projection	Original 2017 request	2018 request	$ change from 2017 request to 2018 request	% change from 2017 request to 2018 request
Supply Reservoir	Personal Services	$ 78,100	$ 79,062	$ 85,284	$ 106,533	$ 100,122	$ (6,411)	-6.02%
	Other	$ 195,403	$ 207,311	$ 308,997	$ 335,420	$ 416,499	$ 81,079	24.17%
Water Treatment	Personal Services	$ 938,305	$ 997,925	$ 1,120,013	$ 1,125,528	$ 1,194,231	$ 68,703	6.10%
	Other	$ 821,862	$ 928,159	$ 1,023,995	$ 1,097,759	$ 1,268,027	$ 170,268	15.51%
Water Distribution	Personal Services	$ 879,662	$ 906,707	$ 1,040,385	$ 1,067,043	$ 1,130,203	$ 63,160	5.92%
	Other	$ 421,540	$ 402,806	$ 446,941	$ 518,296	$ 546,608	$ 28,312	5.46%
Utility Billing	Personal Services	$ 631,317	$ 577,449	$ 643,543	$ 644,656	$ 755,417	$ 110,761	17.18%
	Other	$ 176,439	$ 137,043	$ 206,548	$ 216,740	$ 225,109	$ 8,369	3.86%

BUDGET HIGHLIGHTS

- Went live with new utility billing software
- Proposed 2% wage increase
- Additional maintenance/operator in Water Treatment
- Additional chemical for algae control
- Continued working on LED conversion for lighting
- Added additional ventilation to shop

WATER FUND EXPENSES

STAFFING	2014	2015	2016	2017	2018
Reservoir	1	1	1	1	1
Water Treatment	13	13	14	14	15
Water Distribution	13	13	14	14	14
Utility Billing	10	10	9	9	9

KPI

KPIs	2015	2016	2017 (YTD)
Unaccounted for water in system	17.8%	20.4%	20.3%
Target	*18%*	*18%*	*18%*
Identify/Reduce Lead Service Lines			64 lines
Target (reduce 10%/year)			*<= 74 lines*

OPERATIONS AND SERVICES

2017 CAPITAL IMPROVEMENT HIGHLIGHTS

- WD - Purchased Kubota Mini excavator
- WT - Shared cost of a drone with Police Dept. for reservoir monitoring
- WT - completed the clearwell retaining wall

2017 ACHIEVEMENTS

- Replaced front retaining wall by clearwell
- Repaired concrete at reservoir
- Painted pipes inside PS2&3
- Implemented new billing software
- Continued to replace lead service lines and update service line information
- Replaced waterlines in troubled areas
- Got approval from ODNR on overflow for reservoir
- Continued monitoring of reservoir for algae
- Began testing of sediment removal

2018 OBJECTIVES

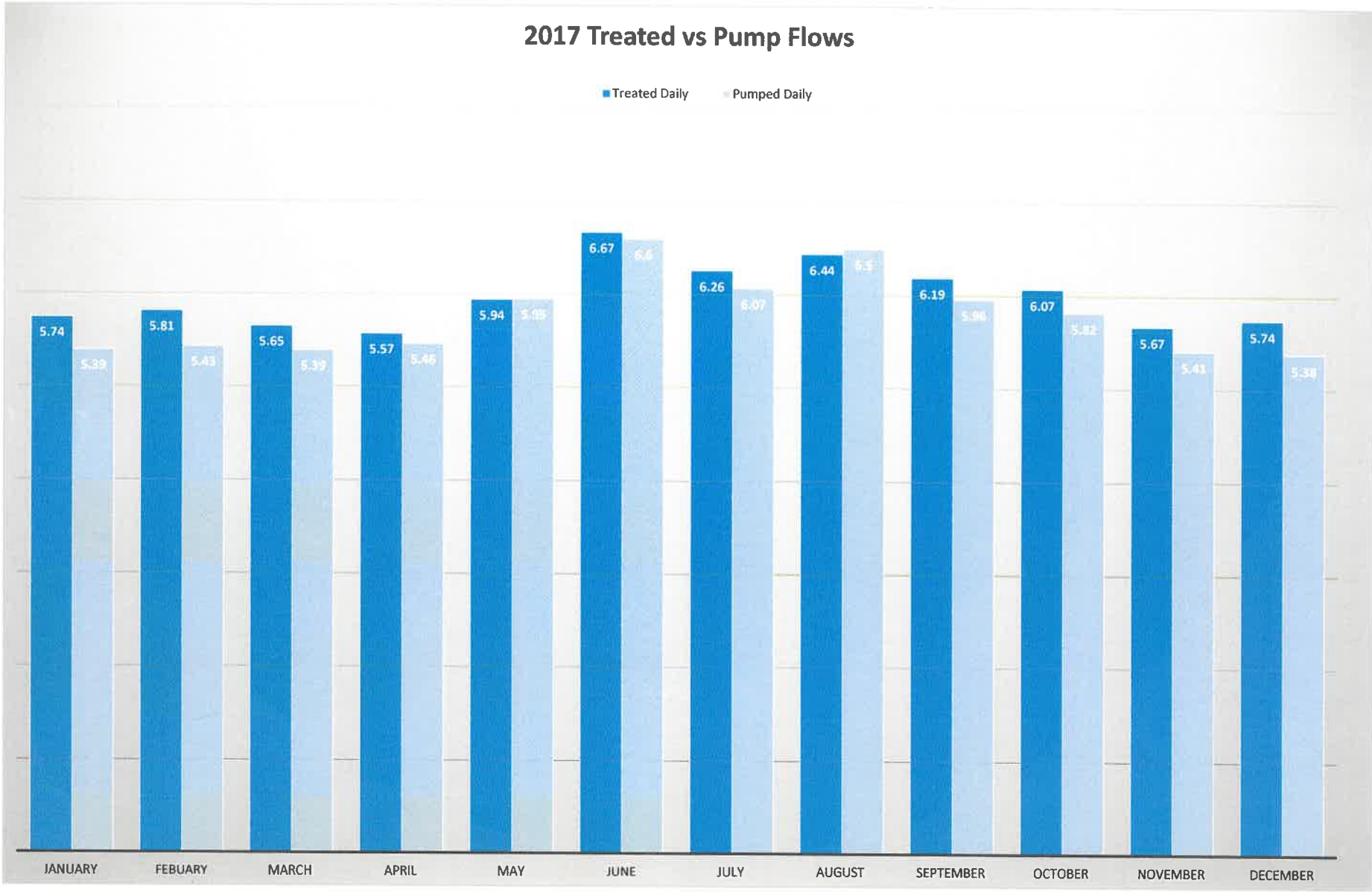
- Repair concrete by solids contact units
- Replace lime silo piping
- Utilize drone to better treat reservoir for algae
- Begin painting fire hydrants
- Continue waterline replacement
- Complete overflow and rehab work at reservoir
- Assessment of distribution system
- Rate study update
- Master Plan for the Water treatment plant

Water Treatment Expenses

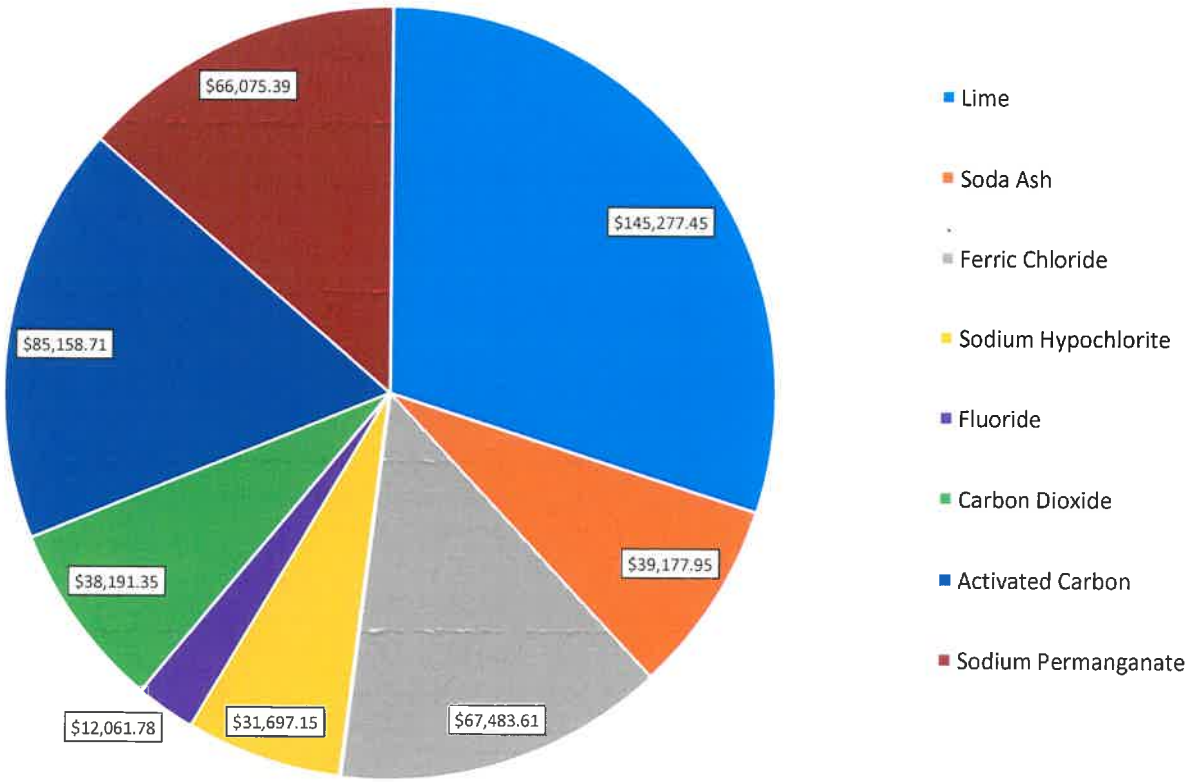
	2012	2013	2014	2015	2016	2017
Wages	$ 788,696.00	$ 717,150.00	$ 688,792.00	$ 707,021.00	$ 762,139.00	$ 805,434.00
Retirement Settlements	$ 160,945.00					
Benefits	$ 388,463.00	$ 329,426.00	$ 253,925.00	$ 231,284.00	$ 242,246.00	$ 307,431.00
Operating	$ 389,093.00	$ 351,698.00	$ 445,237.00	$ 361,512.00	$ 461,188.00	$ 513,688.00
Maintenance	$ 151,475.00	$ 95,083.00	$ 151,228.00	$ 120,859.00	$ 122,317.00	$ 126,823.00
Utilities	$ 252,719.00	$ 225,925.00	$ 282,724.00	$ 255,431.00	$ 310,500.00	$ 273,163.00
Capital	$ 6,437.00		$ 50,756.00	$ 59,045.00	$ 40,127.00	$ 7,390.00
Others	$ 95,263.00	$ 91,654.00	$ 35,689.00	$ 84,060.00	$ 59,286.00	$ 38,831.00
Total	**$ 2,233,091.00**	**$ 1,810,936.00**	**$ 1,908,351.00**	**$ 1,819,212.00**	**$ 1,997,803.00**	**$ 2,072,760.00**

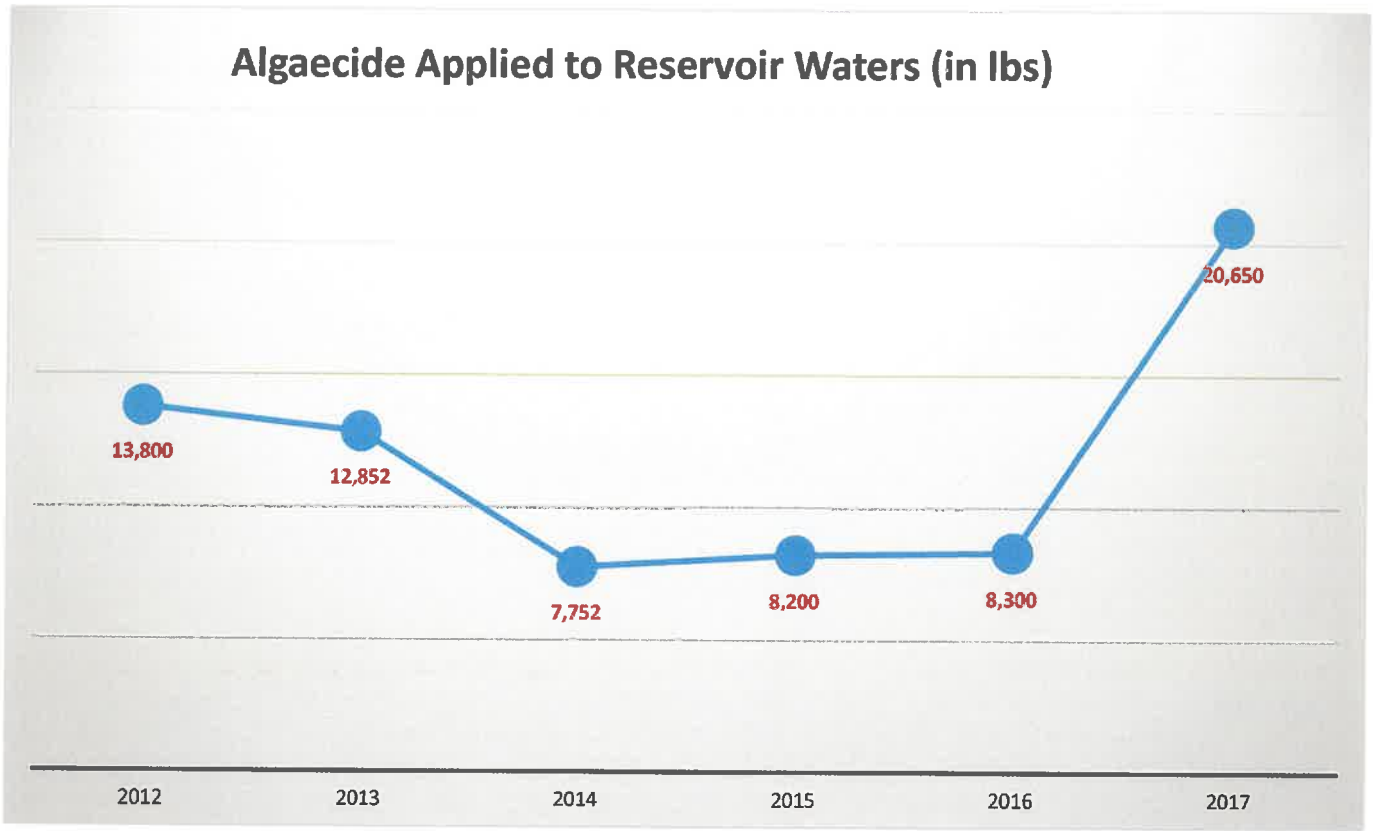
Supply Reservoir Expenses

Wages	$ 47,580.00	$ 49,664.00	$ 50,056.00	$ 54,539.00	$ 57,098.00	$ 56,118.00
Retirement Settlements						
Benefits	$ 32,227.00	$ 33,212.00	$ 23,693.00	$ 23,561.00	$ 22,451.00	$ 28,482.00
Operating	$ 115,131.00	$ 130,931.00	$ 67,175.00	$ 79,228.00	$ 77,864.00	$ 133,767.00
Maintenance	$ 141,596.00	$ 57,816.00	$ 28,314.00	$ 6,107.00	$ 27,543.00	$ 25,057.00
Utilities	$ 94,624.00	$ 96,982.00	$ 90,257.00	$ 99,524.00	$ 104,233.00	$ 109,637.00
Capital		$ 5,812.00			$ 51,011.00	$ 26,226.00
Others	$ 28,539.00	$ 12,342.00	$ 21,852.00	$ 10,544.00	$ 10,118.00	$ 7,563.00
Total	**$ 459,697.00**	**$ 386,759.00**	**$ 281,347.00**	**$ 273,503.00**	**$ 350,318.00**	**$ 386,850.00**


2017 Treated vs Pump Flows
Treated Daily
Pumped Daily
5.74
5.39
5.81
5.43
5.65
5.39
5.57
5.46
5.94
5.85
6.67
6.6
6.26
6.07
6.44
6.5
6.19
5.96
6.07
5.82
5.67
5.41
5.74
5.38
JANUARY
FEBUARY
MARCH
APRIL
MAY
JUNE
JULY
AUGUST
SEPTEMBER
OCTOBER
NOVEMBER
DECEMBER

2017 Chemical Usage Costs




Algaecide Applied to Reservoir Waters (in lbs)
13,800
12,852
7,752
8,200
8,300
20,650
2012
2013
2014
2015
2016
2017

City of Findlay Water Department
Drinking Water Consumer Confidence Report For 2016

Superintendent	Mayor	Safety-Service Director
Jeff Newcomer	Lydia L. Mihalik	Paul E. Schmelzer, P.E., P.S.

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 2016. Samples were collected for 55 different contaminants, most of which were not detected in the City of Findlay water supply. In 2016, we tested both Raw and Tap water for microcystins and had no detections. 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. 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	2.4	1.9-3.5	NO	2016	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	0.18	0.04 – 0.18	NO	2016	Soil runoff.
Turbidity (% meeting standard)	NA	TT	100%	100% – 100%	NO	2016	
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 2016 was 0.18 NTU and lowest monthly percentage of samples meeting the turbidity limits was 100%.							
Radioactive Contaminants							
Gross Alpha (pCi/L)	0	15	<3	NA	NO	2012	Erosion of natural deposits.
Radium-228	0	5	<1	NA	NO	2012	Erosion of natural deposits
Inorganic Contaminants							
Barium (ppm)	2	2	0.010	NA	NO	2016	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits
Fluoride (ppm)	4	4	1.04	0.44 – 1.33	NO	2016	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	10	10	0.38	<0.10 – 0.38	NO	2016	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Lead and Copper							
Contaminants (Units)	**Action Level (AL)**	**Individual Results over the AL**	90% of test levels were less than				
Lead (ppb)	15	NA	2.5		NO	2016	Corrosion of household plumbing systems; Erosion of natural deposits.
	Zero out of 30 samples have lead levels that exceeded the Action Level of 15 ppb.						
Copper (ppm)	1.3	NA	0.094		NO	2016	Corrosion of household plumbing systems; Erosion of natural deposits.
	Zero out of 30 samples have copper levels that exceeded the Action Level of 1.3 ppm.						
Synthetic Organic Contaminants including Pesticides and Herbicides							
Atrazine (ppb)	3	3	0.17	NA	NO	2016	Runoff from herbicide used on row crops.
Simazine (ppb)	4	4	<0.05	NA	NO	2016	Runoff from herbicide used on row crops.
Disinfection Byproducts							
Haloacetic Acids (HAA5) (ppb)	NA	60	26.9	12.4 – 30.7	NO	2016	By-product of drinking water chlorination.
Total Trihalomethane (TTHM) (ppb)	NA	80	72.4	31.4 – 82.3	NO	2016	By-product of drinking water chlorination.
Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems and may have an increased risk of getting cancer.							
Residual Disinfectants							
Total Chlorine (ppm)	MRDLG = 4	MRDL = 4	1.5	1.2 – 1.7	NO	2016	Water additive used to control microbes.
Unregulated Contaminant Monitoring Rule 3							
	Entry Point		**Distribution**				
	Level Found	Range of Detections	Level Found	Range of Detections			
Chlorate (ppb)	37.9	37.9	111	111	NO	2015	
Chromium 3 (ppb)	0.60	0.60	0.73	0.73	NO	2015	
Chromium-6 (ppb)	0.43	0.43	0.44	0.44	NO	2015	
Molybdenum (ppb)	7.8	7.8	8.3	8.3	NO	2015	
Strontium (ppb)	1200	1200	1300	1300	NO	2015	
Vanadium (ppb)	0.29	0.29	0.34	0.34	NO	2015	
Unregulated contaminants are those for which EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulation is warranted							

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

In 2016 we had an 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.
- Microcystins: Liver toxins produced by a number of cyanobacteria. Total microcystins are the sum of all the variants/congeners (forms) of the cyanotoxin Microcystin.