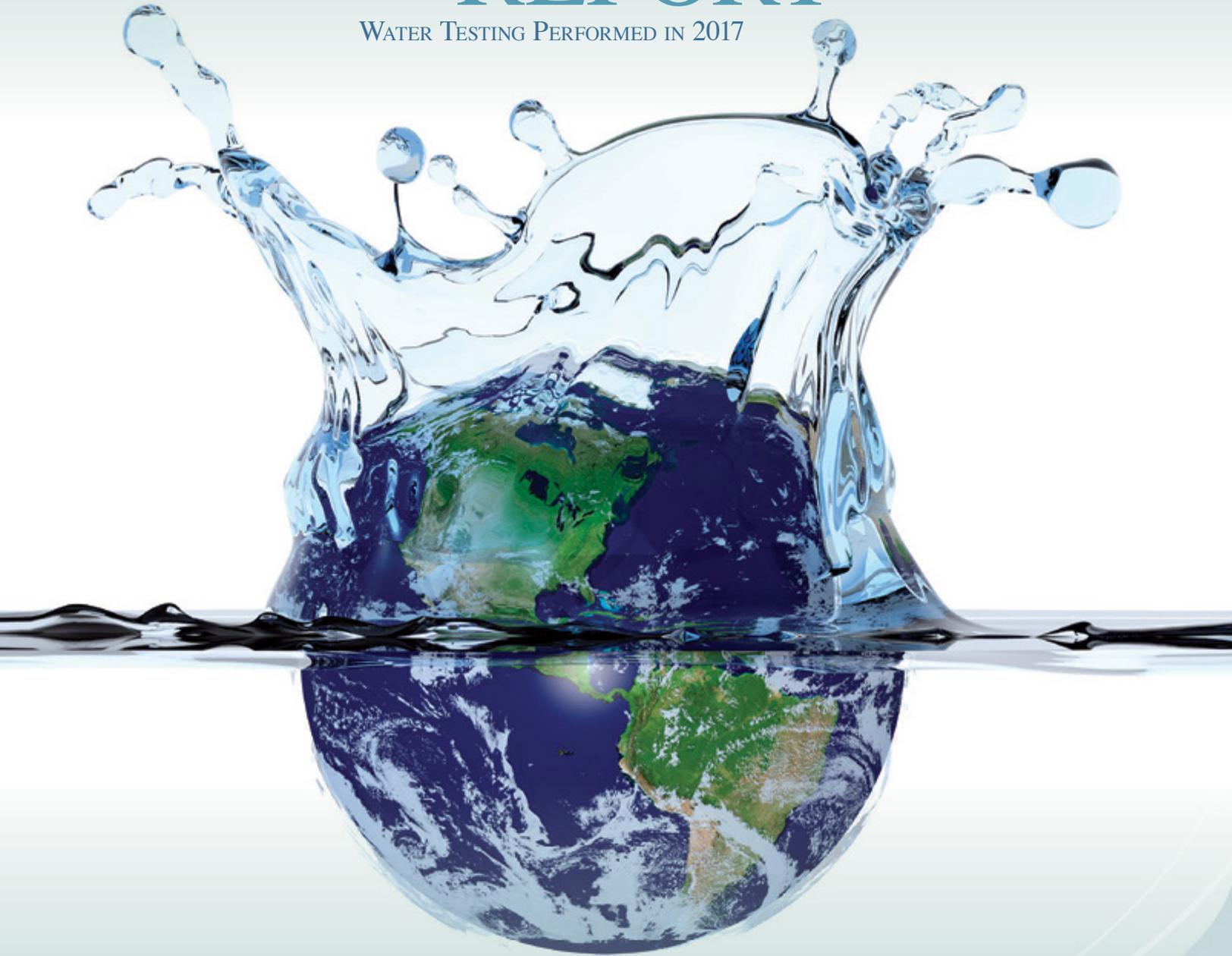


ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017



Presented By

City of Ukiah



2017 Executive Summary

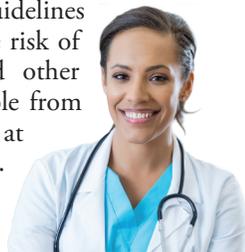
The City of Ukiah, Public Works Department, Water Utility Division, is responsible for providing drinking water to over 5,000 connections. The water that we produce continues to consistently meet and exceed both State and Federal standards for drinking water. The Water Division's ability to achieve this high standard is due to the ongoing monitoring our staff performs on the excellent sources of water available to the City of Ukiah.

The Water Division is currently completing the redevelopment of Well 4 and the construction of Well 9. These projects were expedited in response to the drought of 2014 and will greatly improve the water supply reliability for our customers. The Water Division also completed the design for one of its aging storage tanks.

Throughout 2017, the Water Distribution Division made numerous repairs and upgrades to an aging distribution system. We are continuing this work in 2018 by replacing the entire distribution system on Luce, Observatory, and Washington Streets. Our Department could not perform the job that we do without the hard work and support of our Distribution Crew, and their continual support and dedication is greatly appreciated. The combined efforts of the Distribution and Water Divisions ensure that exceptional drinking water is delivered throughout our entire system.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as those with cancer undergoing chemotherapy, those who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or <http://water.epa.gov/drink/hotline>.



Where Does My Water Come From?

The City of Ukiah supplies its customers with water that is considered to be underflow from the Russian River as well as three groundwater sources. The amounts of water delivered from each source, and when they are used, is dependent on both the demand on the system and the time of year. There are times of emergency when the City may have to purchase water from our neighboring water systems. These systems are the Millview County Water District and the Willow County Water District.

Substances That Could Be in 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.

In order to ensure that tap water is safe to drink, the U.S. Environmental Protection Agency (U.S. EPA) and the State Water Resources Control Board (State Board) prescribe regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration regulations and California law also establish limits for contaminants in bottled water that 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.

Contaminants that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, that may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife;

Inorganic Contaminants, such as salts and metals, that can be naturally occurring or can result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, that may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, that are by-products of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, agricultural applications, and septic systems;

Radioactive Contaminants, that can be naturally occurring or can be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Source Water Assessment

In 2016, the City of Ukiah completed a Source Water Assessment. This study considered the topography, type of vegetative cover, soil type, type of animal life and climate conditions of our watershed. Combined with human related recreation, industry, and life style several areas were considered to have influence on our raw waters. The influence was considered to be minimal and several areas of concern have been mitigated. These include the closing of the landfill, the replacement of leaking underground storage tanks, and bulk fuel containment. The City is continually upgrading its system and monitors for a variety of possible hazards. The City's water is still considered safe and reliable. The summary from that report is as follows.

Vulnerability Summary

According to the results of the vulnerability analysis, the surface water source is considered most vulnerable (vulnerability score* of 15) to the following activities not associated with any detected contaminants:

- Gas stations
- Plastic synthetic producers
- Historic gas stations
- Historic waste dumps/landfills
- Historic mining operations
- Confirmed leaking tanks
- Wastewater treatment and disposal facilities
- Managed forests



The above list of the PCAs includes several activities that can contaminate the drinking water source by releasing deleterious chemicals. Therefore, this list corroborates the conclusion in the 2016 Update Report of Watershed Sanitary Update (Page3): "The greatest potential threat of drinking water quality is that of a spill of deleterious material (e.g., petroleum products, hazardous or toxic substances) that could enter Lake Mendocino or the Russian River. The potential threat is great because the water treatment systems used by the City, the RVCWD, and the MCWD were not designed to remove these types of substances."

Further, the comparison of the above list of PCAs and that of "potential contaminant sources" delineated in the 2016 Update Report (Page 2) shows that some activities appear in both list: (1) wastewater treatment and (disposal) facilities (2) septic systems – high density, and (3) releases from industrial activities. The category of "releases from industrial activities" in the 2016 Update Report list encompasses some specific activities in the PCAs list, including gas stations, historic gas stations, confirmed leaking tanks, plastic synthetic producers, and chemical/petroleum processing/storage. Other activities in the 2016 Update Report list also ranked high in the Vulnerability Score include septic systems – low density (vulnerability score of 13), grazing animals (13), non-body and body contact recreation (13), spills from traffic or railroad accidents (11), and pesticide/herbicide use in agriculture (11).

*The drinking water source is considered Vulnerable to all PCAs with Vulnerability Score greater than or equal to 11 (California Drinking Water Source Assessment and Protection Program). The apparent discrepancies between the two lists, such as managed forests, historic mining operations, and historic waste dumps/landfills, may be attributable to the fact that surface protection zones were not established in this assessment.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but we 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 do so, you may wish to collect the flushed water and reuse it for another beneficial purpose, such as watering plants.) 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 or at www.epa.gov/lead.



Community Participation

Regularly scheduled Ukiah City Council meetings convene on the first and third Wednesdays of each month, at 6 p.m., at the Ukiah Civic Center, 300 Seminary Avenue, Ukiah, CA. These meetings provide citizens with the opportunity to express concerns regarding the City's drinking water.

QUESTIONS?

For more information about this report, or for any questions relating to your drinking water, please call Shelly Whyburn, Water Treatment Plant Supervisor, at (707) 467-2842.

Test Results

During the past year, the City of Ukiah has taken hundreds of water samples to determine the presence of any radioactive, biological, inorganic, volatile organic, or synthetic organic contaminants. The tables show only those contaminants that were detected in the water. The State of California requires the City to monitor for certain substances less often than once per year because the concentrations of these substances are significantly low and do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

We participated in the 3rd stage of the U.S. EPA's Unregulated Contaminant Monitoring Rule (UCMR3) program by performing additional tests on our drinking water. UCMR3 benefits the environment and public health by providing the EPA with data on the occurrence of contaminants suspected to be in drinking water, in order to determine if the EPA needs to introduce new regulatory standards to improve drinking water quality. Contact us for more information on this program.

REGULATED SUBSTANCES											
				Distribution System		Surface Water		Groundwater			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	PHG (MCLG) [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Barium (ppm)	2017	1	2	ND	NA	ND	NA	103	100–110	No	Discharges of oil drilling wastes and from metal refineries; erosion of natural deposits
Chlorine (ppm)	2017	[4.0 (as Cl ₂)]	[4 (as Cl ₂)]	0.80	0.29–1.60	NA	NA	NA	NA	No	Drinking water disinfectant added for treatment
Fluoride (ppm)	2017	2.0	1	NA	NA	ND	NA	0.08	0–0.13	No	Erosion of natural deposits; water additive that promotes strong teeth; discharge from fertilizer and aluminum factories
Nitrate [as nitrate] (ppm)	2017	45	45	0.46	NA	0.4	NA	2.0 ¹	1.8–2.8 ¹	No	Runoff and leaching from fertilizer use; leaching from septic tanks and sewage; erosion of natural deposits
Turbidity ² (NTU)	2017	TT	NA	NA	NA	0.077	0.002–0.077	NA	NA	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2017	TT = 95% of samples meet the limit	NA	NA	NA	100	NA	NA	NA	No	Soil runoff
Tap water samples were collected for lead and copper analyses from sample sites throughout the community.											
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	PHG (MCLG)	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	VIOLATION	TYPICAL SOURCE				
Copper (ppm)	2016	1.3	0.3	0.510	0/31	No	Internal corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives				
Lead (ppb)	2016	15	0.2	6	0/31	No	Internal corrosion of household water plumbing systems; discharges from industrial manufacturers; erosion of natural deposits				

SECONDARY SUBSTANCES

				Distribution System		Surface Water		Groundwater			
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	PHG (MCLG)	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Chloride (ppm)	2017	500	NS	6.2	NA	3.7	NA	7.7	7.4–8.1	No	Runoff/leaching from natural deposits; seawater influence
Color (Units)	2017	15	NS	ND	NA	ND	NA	2	0–6.0	No	Naturally occurring organic materials
Corrosivity (Units)	2017	Non-corrosive	NS	11	NA	10.48	NA	12	11–12	No	Natural or industrially influenced balance of hydrogen, carbon, and oxygen in the water; affected by temperature and other factors
Odor–Threshold (TON)	2017	3	NS	1.0	NA	ND	NA	ND	NA	No	Naturally occurring organic materials
Specific Conductance (µS/cm)	2017	1,600	NS	NA	NA	180	NA	343	310–370	No	Substances that form ions when in water; seawater influence
Sulfate (ppm)	2017	500	NS	10.0	NA	10	NA	15	12–21	No	Runoff/leaching from natural deposits; industrial wastes
Total Dissolved Solids (ppm)	2017	1,000	NS	140	NA	92	NA	200	NA	No	Runoff/leaching from natural deposits
Turbidity (NTU)	2017	5	NS	0.111	0.073–0.257	NA	NA	0.089	0.020–0.600	No	Soil runoff

UNREGULATED AND OTHER SUBSTANCES ³

		Distribution System		Surface Water		Groundwater	
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH
Bicarbonate (ppm)	2017	110	NA	92	NA	170	140–190
Calcium (ppm)	2017	18	NA	16	NA	27	23–26
Chlorate (ppb)	2015	64	41–98	8.75	0–35	125	52–290
Chromium [Total] (ppb)	2015	0.15	0–0.38	0.2	0–0.4	0.11	0–0.33
Chromium-6 (ppb)	2015	0.113	0.033–0.180	0.10	0.06–0.14	0.09	0.035–0.13
Magnesium (ppm)	2017	9.5	NA	9	NA	19	16–21
Molybdenum (ppb)	2015	0.67	0–2.1	ND	NA	0.68	0–2.1
Sodium (ppm)	2017	16	NA	8.5	NA	17	16–22
Strontium (ppb)	2015	251	210–320	213	200–220	263	230–300
Total Alkalinity (ppm)	2017	89	NA	75	NA	137	110–160
Total Hardness (ppm)	2017	83	NA	78	NA	147	130–170
Vanadium (ppb)	2015	1.2	0.57–1.8	0.72	0.41–1.3	1.18	0.35–1.8

Distribution System Disinfection By-Products

TOTAL TRIHALOMETHANES (PPB)	MCL	2016 2nd Qtr	2016 3rd Qtr	2016 4th Qtr	2016 LRAA	2017 1st Qtr	2017 2nd Qtr	2017 3rd Qtr	2017 4th Qtr	2017 LRAA	SOURCE
Site #1	80	15.0	23.0	22.2	16.6	0.0	0.0	16.5	12.6	7.3	By-product of drinking water disinfection.
Site #2	80	10.7	17.7	21.8	12.6	0.0	0.0	10.7	6.3	4.2	
Site #3	80	9.6	33.0	23.1	20.2	2.1	0.0	25.0	17.0	11.0	
Site #4	80	11.0	39.3	27.9	24.1	6.0	5.2	27.3	15.2	13.4	
TOTAL HALOACETIC ACIDS (PPB)	MCL	2016 2nd Qtr	2016 3rd Qtr	2016 4th Qtr	2016 LRAA	2017 1st Qtr	2017 2nd Qtr	2017 3rd Qtr	2017 4th Qtr	2017 LRAA	SOURCE
Site #1	60	6.5	20.0	6.3	8.7	0.0	0.0	17.2	8.3	6.4	By-product of drinking water disinfection.
Site #2	60	3.6	14.8	5.7	6.0	0.0	0.0	13.2	5.9	4.8	
Site #3	60	6.1	26.7	5.5	10.3	3.8	0.0	23.9	8.8	9.1	
Site #4	60	2.7	33.9	7.6	13.3	4.2	0.0	23.3	12.9	10.6	

¹ Groundwater sources sampled in 2015, 2016 and 2017.

² Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system.

³ Unregulated contaminant monitoring helps the U.S. EPA and the State Water Resources Control Board to determine where certain contaminants occur and whether the contaminants need to be regulated.

Definitions

AL (Regulatory Action

Level): The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

µS/cm (microsiemens per

centimeter): A unit expressing the amount of electrical conductivity of a solution.

MCL (Maximum Contaminant

Level): The highest level of a contaminant that is allowed in drinking water. Primary MCLs are set as close to the PHGs (or MCLGs) as is economically and technologically feasible. Secondary MCLs (SMCLs) are set to protect the odor, taste, and appearance of drinking water.

MCLG (Maximum Contaminant

Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs are set by the U.S. EPA.

MRDL (Maximum Residual

Disinfectant Level): 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.

MRDLG (Maximum Residual

Disinfectant Level Goal): The level of a 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NS: No standard

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

PDWS (Primary Drinking Water Standard): MCLs and MRDLs for contaminants that affect health along with their monitoring and reporting requirements, and water treatment requirements.

PHG (Public Health Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. PHGs are set by the California EPA.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

TON (Threshold Odor Number): A measure of odor in water.

TT (Treatment Technique):

A required process intended to reduce the level of a contaminant in drinking water.