CITY OF OXFORD
HOME OF MIAMI UNIVERSITY

Water Quality Report for 2008

Oxford's Water Treatment Plant began producing water in 1991. Routine operation removes iron and manganese, adds fluoride to help prevent tooth decay, and chlorinates to kill bacteria. The City of Oxford water system receives its drinking water from wells located in the federally designated Sole Source Aquifer of the Great Miami River Valley. The well fields are developed north and east of Oxford.

What are possible 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; and (E) Radioactive contaminants, which can be naturally-occurring, or be the result of oil and gas production and mining activities.

To ensure that tap water is safe to drink, the United States Environmental Protection Agency (USEPA) prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. The United States Food and Drug Administration (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 USEPA's Safe Drinking Water Hotline (1-800-426-4791) between 10:00 a.m. and 4:00 p.m. eastern-time weekdays, or on the internet by visiting http://www.epa.gov/safewater/. Internet access is available at most public libraries.

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 those 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. Guidelines from the USEPA and the Center for Disease Control 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). While some people prefer bottled or home-treated water, these are not necessarily safer than tap water. The safety of any water depends on its source and treatment. For more information about bottled water, please contact the FDA's Center for Food Safety and Applied Nutrition Outreach and Information Center (1-888-723-3366) between 10:00 a.m. and 4:00 p.m. eastern-time weekdays, or visit http://www.cfsan.fda.gov/. Sources of information concerning home treatment devices can be obtained from the Safe Drinking Water Hotline (1-800-426-4791).

Well head protection program and susceptibility analysis

The City of Oxford has actively initiated studies in an effort to protect the well fields that supply the community with drinking water. Well field delineation and potential pollution source studies have been completed. Based upon the information contained within these studies, the Ohio EPA conducted a federally-mandated susceptibility analysis of Oxford's well fields. A susceptibility analysis is a study to determine the groundwater's vulnerability to contamination from material spills or leaks onto or beneath the land's surface.

The Ohio EPA determined that the aquifers supplying the drinking water for Oxford have a high susceptibility to contamination. This susceptibility rating is based on the following:

1) Relatively shallow depth to the top of groundwater in the aquifers (less than 30 feet below ground surface);
2) The porous nature of the sand and gravels composing the aquifer;
3) The presence of up to 6 potential pollution sources over or near the well fields; and
4) The detection of nitrates in excess of 2 milligrams per liter (mg/L) on 6 occasions in water samples collected between 1997 and 2001, suggesting the potential of human impact to the groundwater.

The maximum level of nitrates (3.68 mg/L) detected during the 1997-2001 monitoring period was well below the federal and state drinking water primary drinking water standard of 10 mg/L (current as of April 2009). Oxford's susceptibility analysis can be viewed at http://www.epa.state.oh.us/ddagw/Documents/oxford.PDF. Additional information regarding susceptibility analyses in general, and Oxford's susceptibility analysis in particular, can be obtained from the Ohio EPA's Division of Drinking and Groundwater at 1-800-686-8930 between 8:00 a.m. and 5:00 p.m. eastern-time on weekdays.

The most common inquiry about Oxford's water quality is the result of minerals in solution made up of calcium and magnesium. Deposits commonly called **water hardness** are most obvious in appliances that heat drinking water, faucet aerators, and small white flakes released from thawing ice cubes. Water hardness is not regulated and causes no known health threat to the general public. Proper operation of a home water softener requires the following information: Oxford's water contains **21 grains per gallon (gpg) of total hardness.**

Public participation in water quality and other environmental issues is welcome at meetings of the Oxford City Council at 118 West High Street on the 1st and 3rd Tuesday of each month, and of the Oxford Environmental Commission at 101 East High Street on the 4th Wednesday of each month.

WATER QUALITY DATA

Regulated contaminants subject to a MCL, Action Level (AL) or Treatment Technique (TT)

Substance	MCL	MCLG	Highest Compliance Level Detected	Minimum-Maximum Detected	Possible Contamination Sources
Fluoride	4 ppm	4 ppm	1.81 ppm	0.66 – 1.81 ppm	Additive
Barium	2 ppm	2 ppm	0.104 ppm	0.104 ppm	Geology
Nitrate	10 ppm	10 ppm	1.20 ppm	1.20 ppm	Agriculture, Geology
Chlorine	MRDL=4 ppm	MRDLG= 4 ppm	1.3 ppm	0.5 – 1.3 ppm	Additive
Copper	AL=1,300 ppb	1,300 ppb	159 ppb @ AL	nd – 370 ppb	Household plumbing
Lead	AL=15.5 ppb	0 ppb	6.9 ppb@ AL	nd – 67 ppb	Household plumbing
Total Trihalomethanes	80 ppb	na	27.43 ppb	12.39 – 27.43 ppb	Byproduct of chlorination
Total Haloacetic acids	60 ppb	na	8.45 ppb	nd – 8.45 ppb	Byproduct of chlorination

Unregulated contaminants for which the US and Ohio EPA requires monitoring

Substance	MCL	MCLG	Average Level Detected	Minimum-Maximum Detected	Possible Contamination Sources
Chloroform	Not regulated	0 ppb	10.41 ppb	3.100 – 11.580 ppb	Byproduct of chlorination
Bromodichloromethane	Not regulated	0 ppb	6.535 ppb	4.500 – 8.570 ppb	Byproduct of chlorination
Dibromodichloromethane	Not regulated	60 ppb	5.050 ppb	4.010 – 6.090 ppb	Byproduct of chlorination
Bromoform	Not regulated	0 ppb	0.970 ppb	0.7500 – 1.190 ppb	Byproduct of chlorination
Dibromoacetic acid	Not regulated	na	1.25 ppb	nd – 1.25 ppb	Byproduct of chlorination
Dichloroacetic acid	Not regulated	0 ppb	3.26 ppb	nd – 3.26 ppb	Byproduct of chlorination
Trichloroacetic acid	Not regulated	30 ppb	1.33 ppb	nd – 1.33 ppb	Byproduct of chlorination
Bromochloroacetic acid	Not regulated	60 ppb	2.61 ppb	nd – 2.61 ppb	Byproduct of chlorination

Definitions and water initiative resources

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water. MCL's are set as close to the MCLG's as feasible using the best available treatment technology.
Maximum Contaminant Level Goal (MCLG): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLG's allow for a margin of safety.
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.
Maximum Residual Disinfection 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.
Action Level (AL): The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements, which a water system must follow.
Abbreviations used in data: **ppm**: parts per million **ppb**: parts per billion **nd**: not detectable (at testing limits)
na: not applicable

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City of Oxford Drinking Water Quality Information Enclosed

About Your Drinking Water

The U.S. Environmental Protection Agency (EPA) requires regular sampling to ensure drinking water safety. Water samples are analyzed for bacteria, inorganic, radiological, synthetic organic, volatile organic, and disinfection by-product contaminants on a contaminant-specific monitoring schedule in accordance with the Federal Safe Drinking Water Act. Samples were collected for all regulated and many unregulated contaminants, most of which were not detected in the City of Oxford water supply; those which were detected are listed in this document. The Ohio EPA requires that the City monitor for some contaminants less than once per year, as the concentrations of these possible contaminants do not change frequently. The Miami Conservancy District and Ohio EPA conduct additional monitoring on untreated water at Oxford's well sites. Information about source water protection and water monitoring analytical results may be obtained at http://www.miamiconservancy.org/ (1-937-223-1271) between 8:00 a.m. and 5:00 p.m. weekdays, or http://www.epa.state.oh.us/ (1-800-686-8930) between 8:00 a.m. and 5:00 p.m. weekdays. Internet access is available at most public libraries. You may receive additional assistance by contacting Mr. David Weihrauch, Oxford Water Treatment Plant Manager, at telephone number 1-513-523-1753.