

# 2012 Water Quality Report

## CITY OF OXFORD



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### NCWSA Surface Water to Tap

**H**ave you ever had water that had a dissatisfactory color, odor or taste? You would wonder if it was safe to drink, wouldn't you? At NCWSA, we understand that you expect only the best water that is pleasing to sight and smell and guarded against pathogens. Two water sources supply water for two treatment facilities that produce a blended water for customers. Lake Varner, an 820 acre reservoir, is the source water for Cornish Creek Water Treatment Facility. Cornish Creek WTF is an up-flow clarification facility permitted for 25 MGD (Million Gallons per Day). Ninety-three percent of the water produced in 2011 by NCWSA came from Lake Varner. Williams St. WTF is a conventional plant capable of producing 4.0

MGD. Its source of water is the Alcovy River. Cornish Creek WTF pumps water from the Alcovy River to City Pond Reservoir where it gravity flows or is pumped to Williams St. WTF. Contaminants and potential pollution sources in a watershed are identified in a source water assessment plan. A source water assessment plan for the Alcovy River watershed has been completed. The overall susceptibility of the watershed was rated medium. The greatest potential threat to source water quality is agricultural waste ponds and secondary paved roads. The recommendations from the plan will ensure that citizens served by NCWSA will be provided the best quality water in the future.

### ABOUT YOUR DRINKING WATER

**T**he source 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 animal or human activity. Contaminants that may be present in source water include the following:

- ◆ 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, which can be naturally occurring or result from urban storm runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.
- ◆ Pesticides and herbicides, which 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, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.
- ◆ 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, EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. Food and Drug Administration regulations establish limits for contaminants in bottle 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 EPA's Safe Drinking Water Hotline (1-800-426-4791). 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 infections. 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 Safe Drinking Water Hotline (1-800-426-4791).

# City of Oxford

Cornish Creek WTF = Source of 95% of Water Produced in 2012

Williams Street WTF = Source of 5% of Water Produced in 2012

## Detected Contaminants Table

<i>Regulated Contaminants</i>							
Substance	MCL	MCLG	Newton County Water System Maximum	Detected Range	Number of Violations	Year Tested	Typical Sources of Contaminant
<i>Microbiological Contaminants</i>							
Filtered Turbidity	TT = 0.3 NTU 95% of Samples < 0.3 NTU	0 100 %	0.19NTU	0.03 - 0.19 NTU	None	2012	Agriculture, Geology
Total Coliform Bacteria	5% of Samples Positive	0% Positive	0% Positive	0% Positive	None	2012	Naturally Occurring
Fecal Coliform Bacteria	5% of Samples Positive	0% Positive	0% Positive	0% Positive	None	2012	Human & Animal Waste
Total Organic Carbon	TT	N/A	1.6 ppm	0.8 - 1.6 ppm	None	2012	Human & Animal Waste
<i>Organic Compounds</i>							
Total Trihalomethanes	80 ppb	N/A	* 47.0 ppb	10.0 - 100.0 ppb	None	2012	Treatment Process By-Product
Haloacetic Acid	60 ppb	N/A	* 20.0 ppb	6.0 - 30.0 ppb	None	2012	Treatment Process By-Product
Chlorine	4 ppm	4 ppm	2.06 ppm	0.78 - 2.06 ppm	None	2012	By-product of drinking water chlorination
* TTHMs and HAA5s = Annual averages are used for compliance							
<i>Inorganic Contaminants</i>							
Fluoride	4 ppm	4 ppm	1.12	0.50 - 1.12 ppm	None	2012	Additive / Naturally Occurring
Substance	Action Level	MCLG	Newton County Water System 90th Percentile	Number of Samples Above Action Level	Number of Violations	Year Tested	Typical Sources of Contaminant
Copper	1300 ppb	N/A	130 ppb	0	None	2011	Household Piping
Lead	15 ppb	N/A	2.5 ppb	0	None	2011	Household Piping

### DEFINITIONS

- **MG:** Million Gallons
- **MGD:** Million Gallons per Day
- **Maximum Contaminant Level (MCL):** The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.
- **Treatment Technique (TT):** A required process intended to reduce the level of contaminant in drinking water.
- **Action Level (AL):** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.
- **Turbidity:** A measure of the cloudiness of water. We monitor turbidity because it is a good indicator of the effectiveness of our filtration system.
- **ppm or mg/L:** Parts per million or milligrams per liter. One part per million is the equivalent of one minute in 2 years or one penny in 10 thousand dollars.
- **ppb or ug/L:** Parts per billion or micrograms per liter. One part per billion is the equivalent of one minute in 2,000 years or one penny in 10 million dollars.
- **N/A:** Not Applicable

### CRYPTO-WHO?

#### **Cryptosporidium**

[Krip'-to-spor-id-e-um]

Found in lakes, rivers and streams, cryptosporidium is a microscopic organism that can cause diarrhea or acute gastrointestinal disorder if ingested. It's common in surface water, very difficult to kill and even a well-run water system may contain cryptosporidium. Outbreaks of cryptosporidiosis have occurred in the US and abroad. Proper coagulation, sedimentation and filtration can effectively remove cryptosporidium from water. Ultra-violet light and ozone also have proven to be effective against crypto.