Annual Drinking Water Quality Report
Winterset Municipal Water
January 1 to December 31, 2001

We're very pleased to provide you with this year's Annual Water Quality Report. We want to keep you informed about the excellent water and services we have delivered to you over the past year. Our goal is and always has been, to provide to you a safe and dependable supply of drinking water.

Our surface water source is Cedar Lake; a man-made reservoir located northeast of Winterset. Built in 1938, Cedar Lake has 10,900 acres of watershed north and west of town. We also have as an emergency supply a groundwater, under the influence of surface water, well along Middle River south of town.

We will have a source water protection plan available in the near future that will provide more information such as potential sources of contamination.
If you have any questions about this report or concerning your water utility, please contact Stephen Wesselmann, Water Superintendent, at 462-3601. The Winterset Municipal Water Department wants our valued customers to be informed about their water utility. If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the second or third Thursday of each month at the Light Plant – 321 N. John Wayne Drive at 8:30am.

MONITORING

The Winterset Municipal Water Utility routinely monitors for constituents in your drinking water according to Federal and State laws. This report shows the results of our monitoring for the period of January 1st to December 31st, 2001. As water travels over the land or underground, it can pick up substances or contaminants such as microbes, inorganic and organic chemicals, and radioactive substances. All drinking water, including bottled drinking water, may be reasonably expected to contain at least small amounts of some constituents. It's important to remember that the presence of these constituents does not necessarily pose a health risk.

DEFINITIONS

In this report you will find many terms and abbreviations you might not be familiar with. To help you better understand these terms we've provided the following definitions:
Non-Detects (ND) - laboratory analysis indicates that the constituent is not present.

Parts per million (ppm) or Milligrams per liter (mg/l) - one part per million corresponds to one minute in two years or a single penny in $10,000.

Parts per billion (ppb) or Micrograms per liter - one part per billion corresponds to one minute in 2,000 years, or a single penny in $10,000,000.

Parts per trillion (ppt) or Nanograms per liter (nanograms/l) - one part per trillion corresponds to one minute in 2,000,000 years, or a single penny in $10,000,000,000.

Parts per quadrillion (ppq) or Picograms per liter (picograms/l) - one part per quadrillion corresponds to one minute in 2,000,000,000 years or one penny in $10,000,000,000,000.

Picocuries per liter (pCi/L) - picocuries per liter is a measure of the radioactivity in water.

Millirems per year (mrem/yr) - measure of radiation absorbed by the body.

Million Fibers per Liter (MFL) - million fibers per liter is a measure of the presence of asbestos fibers that are longer than 10 micrometers.

Nephelometric Turbidity Unit (NTU) - nephelometric turbidity unit is a measure of the clarity of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

Action Level - the concentration of a contaminant, which if exceeded, triggers treatment or other requirements, which a water system must follow.

Treatment Technique (TT) - A treatment technique is a required process intended to reduce the level of a contaminant in drinking water.

Maximum Contaminant Level - The "Maximum Allowed" (MCL) is 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.

Maximum Contaminant Level Goal - The "Goal"(MCLG) is 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.

TEST RESULTS

While we test in excess of 75 contaminates such as microbiological, radioactivity, inorganics, synthetic organics, pesticides & herbicides, and volatile organics; only the ones found are listed.

In the Distribution System

Lead (ppb) – Routine Sample on 08/25/1999 – 16.5 ppb – 5% (1 of 20) of all samples exceeded the MCL/AL.
MCL/AL = 15 MCLG = 0

Typical source of contaminant: Corrosion of household plumbing systems; erosion of natural deposits.

Infants and children who drink water containing lead in excess of the action level could experience delays in their physical or mental development. Children could show slight deficits in attention span and learning abilities. Adults who drink this water over many years could develop kidney problems or, high blood pressure.
Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (1-800-426-4791).

Lead and Copper monitoring status for compliance period 06/01/1996 to 09/30/1999 – Complete – No exceedance.
90^{th} percentile: Lead 8.8 ppb – Copper 0.15ppb.

At the Source Entry Point from Cedar Lake

Barium (ppm) – Routine Sample on 5/10/2001 – 0.1ppm
MCL/AL = 2 MCLG = 2

Typical Source of Contaminant: Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.

Fluoride (ppm) – Routine Sample on 05/10/2001 – 1.45 ppm
MCL/AL = 4 MCLG = 4

Typical Source of Contaminant: Water additive, which promotes strong teeth; Erosion of natural deposits; Discharge from fertilizer and aluminum factories.

Sodium (ppm) – Routine Sample on 05/10/2001 – 19.6 ppm
MCL/AL = N/A MCLG = N/A

Typical Source of Contaminant: Erosion of natural deposits; Added to water during treatment process.

Nitrate (as N) (ppm) – Routine Sample on 12/20/2001 – 1.2 ppm
Routine Sample on 11/07/2001 – 1.4 ppm
Routine Sample on 10/11/2001 – 1.5 ppm
Routine Sample on 09/06/2001 – 3.2 ppm
Routine Sample on 08/07/2001 – 6.5 ppm
Routine Sample on 07/23/2001 – 9.0 ppm
Routine Sample on 06/15/2001 – 14.0 ppm
Routine Sample on 05/10/2001 – 14.2 ppm
Routine Sample on 04/05/2001 – 11.7 ppm
Routine Sample on 03/01/2001 – 1.95 ppm
Routine Sample on 02/01/2001 – 1.08 ppm
Routine Sample on 01/04/2001 – 1.05 ppm
MCL/AL = 10 MCLG = 10

Typical Source of Contaminant: Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits.

Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.
Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

Atrazine (ppb) – Routine Sample on 08/02/2000 – 0.4 ppb
MCL/AL = 3 MCLG = 3

Typical Source of Contaminant: Runoff from herbicide used on row crops.

2,4-D (ppb) – Routine Sample on 08/02/2000 – 0.1 ppb
MCL/AL = 70 MCLG = 70

Typical Source of Contaminant: Runoff from herbicide used on row crops.

Dicamba (ppm) – Routine Sample on 08/02/2000 – 0.0002 ppm
MCL/AL = N/A MCLG = N/A

Typical Source of Contaminant: N/A

VIOLATION REPORT

We constantly monitor for various constituents in the water supply to meet all regulatory requirements. This past year the following MCL violations occurred:

04/01/2001 to 04/30/2001 - #200101901 – Nitrate (as N) – MCL Violation

05/01/2001 to 05/31/2001 - #200102236 – Nitrate (as N) – MCL Violation
06/01/2001 to 06/30/2001 - #200102637 – Nitrate (as N) – MCL Violation

Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome.

WHAT DOES THIS ALL MEAN?

The test results show that our system had problems with nitrates in 2001. The duration of the violation was 04/01/2001 to 06/30/2001. The potential adverse health effects are as follows; Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue-baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

We are correcting this problem by looking at different options to reduce or eliminate nitrate from our drinking water. These include establishing practices in the watershed to reduce the amount of nitrate that enters the lake, possible nitrate removal at the treatment plant.
In addition as a precaution we will always notify the public if there is ever a higher than normal level of nitrates in the water supply, in addition to any notification should we exceed the MCL for nitrates or any other contaminant. As a precaution we always notify physicians and health care providers in this area if there is ever a higher than normal level of nitrates in the water supply.

All sources of drinking water are subject to potential contamination by substances that are naturally occurring or man made. These substances can be microbes, inorganic or organic chemicals and radioactive substances. All 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 the 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 at 1-800-426-4791.

MCL's are set at very stringent levels. To understand the possible health effects described for many regulated constituents, a person would have to drink 2 liters of water every day at the MCL level for a lifetime to have a one-in-a-million chance of having the described health effect.
Lead in drinking water is rarely the sole cause of lead poisoning, but it can add to a person's total lead exposure. All potential sources of lead in the household should be identified and removed, replaced or reduced.

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 microbiological contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

We at the Winterset Municipal Water Utility work around the clock to provide top quality water to every tap. We ask that all our customers help us protect our water sources, which are the heart of our community, our way of life and our children's future.