



CITY OF NOVI 2011 ANNUAL CONSUMER CONFIDENCE REPORT ON WATER QUALITY

CITY OF NOVI WATER AND SEWER DIVISION

The City of Novi proudly presents the 2011 Annual Consumer Confidence Report on Water Quality. As detailed in the report, we have surpassed water quality standards mandated by the U.S. Environmental Protection Agency (EPA) and the State of Michigan's Department of Environmental Quality (MDEQ). The report contains information on water quality issues and potential health effects, lists the source of our water and provides the results of water quality monitoring tests for 2011. Please be **assured** that if water quality is compromised, we will notify our customers **immediately**.

About our system

The City of Novi purchased 2,234,604,910 gallons of treated water from the Detroit Water and Sewerage Department (DWSD) in 2011, and currently has approximately 13,646 customers on the Novi water distribution system. DWSD withdraws source water from the Detroit River and Lake Huron. There are two intakes in the Detroit River: one at the north end near Lake Saint Clair, and one to the south near Lake Erie; and one intake at the south end of Lake Huron. Intake water is conveyed to five large water treatment plants for physical and chemical treatment. The City receives the majority of its water from DWSD's Lake Huron Water Treatment Plant located in St. Clair County near Port Huron. All DWSD treatment facilities operate year-round on a 24 hours a day, seven days a week basis. DWSD uses chlorine to disinfect source water, and adds fluoride to improve drinking water customers' dental health.

How do we know our water is safe?

To ensure that tap water is safe to drink, the EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The U.S. Food and Drug Administration's (FDA) regulations establish limits for contaminants in bottled water, which must provide the same level of public health protection. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants, but the mere presence of contaminants does not necessarily indicate that the water poses a health risk.

Contaminants that may be present in "source water" (untreated surface or ground water) include:

Microbial contaminants, such as viruses and bacteria, which 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 water 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 storm water runoff, and residential uses.

Organic chemical contaminants, including synthetic and volatile organics, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban storm water runoff, and septic systems.

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

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over 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. The MDEQ in partnership with the U.S. Geological Survey, the Detroit Water and Sewerage Department, and the Michigan Public Health Institute performed a source water assessment in 2004 to determine the source water's susceptibility to potential contamination. The assessment's susceptibility rating is a seven-tiered scale ranging from very low to very high, based primarily on geologic sensitivity, water chemistry, and contaminant sources. The Lake Huron source water intake that supplies most of Novi's water is categorized as having a moderately low susceptibility to potential contaminant sources. In addition, DWSD's Lake Huron water treatment plant has historically provided satisfactory treatment of this source water to meet drinking water standards.

DETECTED CONTAMINATION TABLES

The tables and information contained below are based on tests conducted by DWSD and the City of Novi. DWSD conducts many tests throughout the year; however, only tests that detect the presence of a contaminant are shown. The State does allow monitoring for certain contaminants at a frequency of less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. For this reason, although all of the data is representative of water quality, some data sets are more than one year old.

**Lake Huron Water Treatment Plant
2011 Regulated Detected Contaminants Tables**

Contaminant	Test Date	Units	Health Goal MCLG	Allowed Level MCL	Level Detected	Range of Detection	Violation yes/no	Major Sources in Drinking Water
Inorganic Chemicals – Annual Monitoring at Plant Finished Water Tap								
Fluoride	8/14/2011	ppm	4	4	0.98	n/a	no	Erosion of natural deposits; Water additive, which promotes strong teeth; Discharge from fertilizer and aluminum factories.
Nitrate	8/14/2011	ppm	10	10	0.30	n/a	no	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
Barium	6/9/2008	ppm	2	2	0.01	n/a	no	Discharge of drilling wastes; Discharge from metal refineries; Erosion of natural deposits.
Disinfectant Residuals and Disinfection By-Products – Monitoring in Distribution System								
Total Trihalomethanes (TTHM)	Feb-Nov 2011	ppb	n/a	80	17.8	7.7-25.0	no	By-product of drinking water chlorination
Haloacetic Acids (HAA5)	Feb- Nov 2011	ppb	n/a	60	11.6	5.5-14.0	no	By-product of drinking water disinfection
Disinfectant (Total Chlorine residual)	Jan-Dec 2011	ppm	MRDGL 4	MRDL 4	0.80	0.59-0.93	no	Water additive used to control microbes

2011 Turbidity – Monitored every 4 hours at Plant Finished Water Tap			
Highest Single Measurement Cannot exceed 1 NTU	Lowest Monthly % of Samples Meeting Turbidity Limit of 0.3 NTU (minimum 95%)	Violation yes/no	Major Sources in Drinking Water
0.2 NTU	100%	no	Soil Runoff
Turbidity is a measure of the cloudiness of water. We monitor it because it is a good indicator of the effectiveness of our filtration system.			

2011 Microbiological Contaminants – Monthly Monitoring in Distribution System					
Contaminant	MCLG	MCL	Highest Number Detected	Violation yes/no	Major Sources in Drinking Water
Total Coliform Bacteria	0	Presence of Coliform bacteria > 5% of monthly samples	0 in one month	no	Naturally present in the environment.
<i>E. coli</i> or fecal coliform bacteria	0	A routine sample and a repeat sample are total coliform positive, and one is also fecal or <i>E. coli</i> positive.	0 in entire year	no	Human waste and animal fecal waste.

Regulated Contaminant	Treatment Technique	Running Annual Average	Monthly Ratio Range	Violation Yes/No	Typical Source of Contaminant
Total Organic Carbon (ppm)	The Total Organic Carbon (TOC) removal ratio is calculated as the ratio between the actual TOC removal and the TOC removal requirements. The TOC was measured each month and because the level was low, there is no requirement for TOC removal.				Erosion of natural deposits

2011 Special Monitoring

Contaminant	MCLG	MCL	Level Detected	Source of Contamination
Sodium (ppm)	n/a	n/a	4.76	Erosion of natural deposits

Collection, sampling result information and table provided by Detroit Water and Sewerage Department (DWSD) Water Quality Division, ML Semegen.

In 1992, the City of Novi began testing homes with plumbing systems that may contribute lead and copper to the household's tap water. The results of lead and copper testing have all been below EPA-prescribed action levels. Additional information is available from the **Safe Drinking Water Hotline (800) 426-4791**.

Treatment Technique							
Regulated Contaminant	MCL	Treatment Technique (TT) Standard	Treatment Technique (TT) Violation yes/no	Reason for violation	Action Taken	Major Sources in Drinking Water	Health Effects
Lead	TT	No more than (9) days in a six (6) month period below the established minimum.	no	n/a	n/a	Corrosion of household plumbing system; 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.
Copper	TT	No more than (9) days in a six (6) month period below the established minimum	no	n/a	n/a	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress. Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's disease should consult their personal doctor.

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 Novi is responsible for providing high quality drinking water, but cannot control the variety of materials used in plumbing systems. 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 or at <http://www.epa.gov/safewater/lead>.

City of Novi Lead and Copper Monitoring at Customers' Tap								
Contaminant	Test Date	Units	Health Goal MCLG	Action Level AL	90 th Percentile Value*	Number of Samples Over AL	Violation yes/no	Major Sources in Drinking Water
Lead	2011	ppb	0	15	0	0	no	Corrosion of household plumbing system; Erosion of natural deposits.
Copper	2011	ppm	1.3	1.3	0.032	0	no	Corrosion of household plumbing system; Erosion of natural deposits; Leaching from wood preservatives.

*The 90th percentile value means 90 percent of the homes tested have lead and copper levels below the given 90th percentile value. If the 90th percentile value is above the AL additional requirements must be met.

Key to Detected Contaminants Tables		
Symbol	Abbreviation for	Definition/Explanation
MCLG	Maximum Contaminant Level Goal	The level of contaminant in drinking water below which there is no known or expected risk to health.
MCL	Maximum Contaminant Level	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.
ppb	Parts per billion (one in one billion)	The ppb is equivalent to micrograms per liter. A microgram = 1/1000 milligram.
ppm	Parts per million (one in one million)	The ppm is equivalent to milligrams per liter. A milligram = 1/1000 gram.
NTU	Nephelometric Turbidity Units	Measures the cloudiness of water.
TT	Treatment Technique	A required process intended to reduce the level of a contaminant in drinking water.
AL	Action Level	The concentration of a contaminant, which, if exceeded, triggers treatment or other requirements which a water system must follow.
pCi/l	picocuries per liter	a measure of radioactivity
n/a	not applicable	

As part of the 1998 Amendment to the Federal Safe Drinking Water Act, the Consumer Confidence Report (CCR) Rule became effective September 1998. The CCR Rule requires all community water systems in the United States to prepare an annual water quality report and to deliver it to all of the water system's customers. The CCR Rule was published in the Federal Register August 19, 1998 and can be found at the U.S. EPA's website: <http://water.epa.gov/drink/info/ccr/regulations.cfm>

Unregulated contaminants are those for which the EPA has not established drinking water standards. Monitoring helps the EPA determine where certain contaminants occur and whether those contaminants need to be regulated. Beginning in July of 2008 - April 2009, DWSD began monitoring quarterly for unregulated contaminants under the Unregulated Contaminant Monitoring Rule 2 (UCMR2). All the UCMR2 contaminants monitored on List 1 and List 2 in 2008-2009 (from the following link) were undetected in DWSD's regional water system: <http://water.epa.gov/lawsregs/rulesregs/sdwa/ucmr/ucmr2/basicinformation.cfm>

More information about contaminants and potential health effects can be obtained by calling the **Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791)**.

Special Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as people with cancer undergoing chemotherapy, people who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk to infection from contaminants. These people should seek advice from their health care providers before consuming tap water. EPA/CDC guidelines on appropriate means to lessen the risk of infection by cryptosporidium, for example, and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791).

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 system. 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 (800-426-4791).

News from the Water Division

The City of Novi strives to provide quality drinking water at an affordable cost. In an effort to reduce our wholesale water rate charged by DWSD, we are asking our customers to adhere to the Lawn Watering Ordinance by watering lawns on an alternate, odd/even day basis according to the last digit of your street address. In addition, if you have an automatic programmable irrigation system, please program it to operate between the hours of 11 PM and 5 AM. By doing so, you will help us decrease our "peak hour" demand (the period of maximum water use, hence the most expensive period in which to purchase water), which is one factor DWSD uses to calculate our wholesale water rate. For more information about our water rates, please visit cityofnovi.org or contact the Water and Sewer Division at (248) 347-0496.



We invite public participation in decisions that affect drinking water quality. The Novi City Council frequently takes action regarding the City's water distribution system, and City Council meetings are held twice a month on Monday nights at 7:00 pm in the Council Chambers located in the Novi Civic Center, 45175 W Ten Mile Rd., Novi, MI 48375. Contact the City Clerk's office at 248-347-0456 or visit the City's website at www.cityofnovi.org for specific Council meeting dates.

If you would like to know more about this report, please contact **Robert M. West**, Water & Sewer Manager, (248) 735-5647 or west@cityofnovi.org. Additional copies of this report are available online and at the Novi Civic Center and Novi Public Library.

City of Novi Water Division (248) 347-0496
EPA Safe Drinking Water Hotline: (800) 426-4791
United States Environmental Protection Agency website: www.epa.gov/safewater/