# 2006 WATER QUALITY REPORT




Norwich Public Utilities

**Norwich Public Utilities**
**Board of Commissioners**

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## For more information

There are many resources for more information about your drinking water:

- NPU's Customer Service Center
  860-887-2555; fax 860-823-4172, or visit www.norwichpublicutilities.com
- Uncas Health District
  860-823-1189
- Connecticut Department of Public Health Water Supplies Section
  860-509-7333
- U.S. Environmental Protection Agency Drinking Water Hotline
  1-800-426-4791


## INTRODUCTION

We are proud to present our Water Quality Report for 2006 which is a summary of results from tests of the drinking water we supply to our 36,000 customers in the towns of Norwich, Lisbon, Preston, Montville, Lebanon, Bozrah, and Franklin, Connecticut.

This past year, we extended our record of success as the water we supply once again met all Environmental Protection Agency (EPA) and state drinking water health standards. Our strict monitoring of your water supply continues to pay off with water quality that is superior to all government standards.

*Este informe contiene informacion muy importante sobre la calidad de su agua beber. Traduscalo o hable con alguien que lo entienda bien.*

重要信息（请翻译）

## QUESTIONS & ANSWERS ABOUT YOUR WATER

### Where does your water come from?

The water supply for Norwich Public Utilities comes from the surface water of two reservoirs: the Deep River Reservoir in Colchester, and the Stony Brook Reservoir in Montville.

We also have three backup supplies: the Fairview Reservoir, the Bog Meadow Reservoir, and a well located in Yantic. These supplies serve our needs when unexpected events, such as a water main break, occur.

### How is this source water protected?

Making sure source water does not become contaminated makes good public health sense, good economic sense, and good environmental sense. We vigilantly monitor the reservoirs and all activity on the land that surrounds them, watching for potential contamination of our supplies. Testing is handled by the following certified laboratories:

- NPU Stony Brook Laboratory (#PH-0196)
- NPU Deep River Laboratory (#PH-0449)
- NPU Falls Avenue Laboratory (#PH-0453)
- Complete Environmental Testing (#PH-0116)
- State of Connecticut Laboratory

Source water assessments, conducted by the State of Connecticut Department of Public Health, in cooperation with the Department of Environmental Protection, on our two reservoirs have demonstrated a low susceptibility to contamination. These reports can be found online at: www.dph.state.ct.us/BRS/Water/Source_Protection/Assessments/Assessments.htm.

### How can you help?

Here's how you can help protect drinking water and keep it safe:

- Dispose of household chemicals properly.
- Help clean up the watershed that supplies your water.
- Attend public meetings about land use to make sure safe drinking water is considered.

For more information go to: www.epa.gov/safewater/protect.html.

The Norwich Public Utilities Board of Commissioners generally meets the fourth Tuesday of every month at 6 PM. These meetings are open to the public, and take place at 173 North Main Street in Norwich.

If you have any questions about this report, contact us at 860-887-2555.

### How is the water distributed?

In order to serve our 36,000 customers, approximately 1.9 billion gallons of water are treated each year — that averages out to about 5.1 million gallons a day. Our storage tanks hold 9.3 million gallons of treated water which is delivered to your home through a 137-mile network of water main. We carefully maintain this system, using chlorine for disinfection, to ensure the water that comes out of your faucet is the same high quality water that leaves the treatment plant. As part of this maintenance, we flush the system twice a year to remove sediment and keep the water clear. Our distribution system is continuously tested all year; the results for 2006 appear inside.

### What improvements have been made during the last year?

NPU is now in the process of analyzing its existing water system with an eye towards identifying those areas that are in need of fire protection improvements. After conducting an extensive water leak survey of the entire distribution system, we were able to repair detected leaks and decrease system water loss by 7%.

## SPECIAL NOTES ABOUT YOUR WATER

Lead: Lead can enter drinking water as the result of corrosion of household plumbing systems or the 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.

**Lead is not detected in NPU's source water supplies.**

Copper: Copper can enter drinking water as the result of corrosion of household plumbing systems, the erosion or natural deposits or 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 doctor.

**Copper is not detected in NPU's source water supplies.**

Arsenic: EPA's arsenic standard balances the current understanding of arsenic's possible health effects against the costs of removing arsenic from drinking water. EPA continues to research the health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

**Arsenic is not detected in NPU's source water supplies.**

Cryptosporidium and giardia: Cryptosporidium and giardia are protozoan parasites which may cause nausea, vomiting, gastroenteritis, diarrhea and associated abdominal cramping, bloating, fatigue, anorexia, and weight loss. Cryptospordium contamination of a water supply is a significantly more serious problem among persons with HIV/AIDS or other immunosuppressive conditions, who may suffer chronic and debilitating diseases. These parasites can get into reservoir water through sewage and animal waste. NPU uses all necessary means to protect its watershed from runoff from farming activity, waste discharge and recreational use.

**The are no reported cases of waterborne disease due to cryptosporidium or giardia in NPU's supplies.**

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

**Nitrate detected in NPU's source water supplies is well below the maximum contaminate level allowed by EPA.**

## WHAT ABOUT PEOPLE WITH SEVERELY COMPROMISED IMMUNE SYSTEMS?

Some people may be more vulnerable to contaminants in drinking water than the general population. People with severely compromised immune systems, 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 from infections. These people should seek advice about drinking water from their health care providers. EPA/Centers for Disease Control 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 1-800-426-4791.

## A WORD ABOUT CONTAMINANTS IN DRINKING WATER

Drinking water — including bottled water — may contain at least small amounts of contaminants. However, the presence of contaminants does not necessarily indicate that the water poses a health risk. EPA sets standards for approximately 90 contaminants in drinking water. EPA's standards, along with each contaminant's likely source and health effects, are available at www.epa.gov/safewater/mcl.html.

## CONTAMINANTS AND THEIR POSSIBLE SOURCES

| | |
|---|---|
| **Microbial contaminants** | Viruses or bacteria from agricultural runoff, septic, sewage, or wildlife. |
| **Inorganic compounds** | Salt and metals that occur naturally or come from stormwater runoff, wastewater discharge, oil and gas production, mining and farming. |
| **Pesticides and herbicides** | Runoff resulting from residential, commercial and agricultural use. |
| **Organic chemical compounds** | Including synthetic and volatile organic chemicals from industrial byproducts, petroleum production, gas stations. |
| **Radioactive contaminants** | Oil and gas production, mining, and natural occurrences. |




## 2006 TREATED WATER QUALI

| Contaminant (Units) | HIGHEST LEVEL ALLOWED BY EPA (MCL) |
|---|---|
| **INORGANIC COMPOUNDS** | |
| Chloride (ppm) | 250 |
| Copper (ppm) | 1.3 |
| Fluoride (ppm) | 4 |
| Sodium (ppm) | 28 |
| Nitrate (ppm) | 10.0 |
| Nitrite (ppm) | 1.0 |
| **MICROBIALS** | |
| Turbidity (NTU) | 1 |
| **PHYSICAL CHARACTERISTICS** | |
| Color (C.U.) | 15 |
| Odor (Units) | 2 |
| pH | 7.0 - 10.0 |
| **DISINFECTION BYPRODUCT PRECURSORS** | |
| Total Organic Carbon (ppm) | TT |
| **RADIOLOGICALS** | |
| Alpha Emitters (pCi/L) | 15 |

1 The following areas/towns are served by the Stony Brook Reservoir:
2 The following areas/towns are served by the Deep River Reservoir: N

## 2006 DISTRIBUTION SYSTEM

| Contaminant (Units) | HIGHEST LEVEL ALLOWED BY EPA (MCL) |
|---|---|
| **INORGANIC COMPOUNDS** | |
| Lead (ppm) | 0.015 |
| Copper (ppm) | 1.3 |
| **ORGANIC COMPOUNDS** | |
| Total Trihalomethanes (ppb) | 80 |
| Haloacetic acid (ppb) | 60 |
| Chlorine | MRDL=4 |

**MCL**: Maximum Contaminant Level per Liter • **MCLG**: Maximum Cont
**C.U.**: Color unit (an indicator of clarity) • **TON**: Threshold Odor Numb

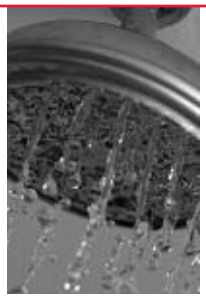
# TY TABLE

| EPA'S GOALS (MCLG) | STONY BROOK RESERVOIR[1] NPU AVERAGE | STONY BROOK RESERVOIR[1] NPU RANGE OF RECORDED VALUES | DEEP RIVER RESERVOIR[2] NPU AVERAGE | DEEP RIVER RESERVOIR[2] NPU RANGE OF RECORDED VALUES | MAJOR SOURCES OF CONTAMINANT IN DRINKING WATER |
|---|---|---|---|---|---|
| 250 | 10 | 8.0 - 13.0 | 9.9 | 9.0 - 12.0 | Runoff from road salt, natural deposits |
| 1.3 | ND<0.04 | ND<0.04 | ND<0.04 | ND<0.04 | Corrosion of household plumbing |
| 4 | 0.91 | 0.87 - .095 | 0.97 | 0.92 - 1.01 | Additive that promotes strong teeth |
| none | 10 | 9 - 13 | 13 | 11 - 15 | Runoff from road salt, natural deposits |
| 10.0 | 0.10 | ND<0.10 - 0.14 | 0.14 | ND<0.10 - 0.20 | Runoff from fertilizer |
| 1.0 | ND<0.10 | ND<0.10 | ND<0.10 | ND<0.10 | Runoff from fertilizer |
| none | 0.07 | 0.05 - 0.18 | 0.04 | 0.02 - 0.15 | Soil runoff |
| none | 0 | 0 - 1 | 0 | 0 - 1 | |
| none | 0 | 0 | 0 | 0 | |
| none | 8.2 | 8.1 - 8.6 | 8.6 | 8.1 - 9.2 | |
| TT | 1.4 | 0.49 - 2.20 | 1.2 | 0.45 - 1.79 | Naturally present in the environment |
| 0 | ND<3.0 | ND<3.0 | ND<3.0 | ND<3.0 | Erosion of natural deposits |

Norwich (West Side and City District), Thamesville and part of Montville.
lorwich (City District and East Side), Norwichtown, Greeneville, Taftville, Occum, Yantic, and part of Bozrah, Fitchville, Lebanon, Franklin, Preston and Lisbon.

| EPA'S GOALS (MCLG) | NPU AVERAGE | NPU RANGE OF RECORDED VALUES | MAJOR SOURCES OF CONTAMINANT IN DRINKING WATER |
|---|---|---|---|
| 0.015 | 0.004 | ND<0.001 - 0.009 | Corrosion of household plumbing |
| 1.3 | 0.03 | 0.006 - 0.010 | Corrosion of household plumbing |
| 0 | 60.0 | 51.0 - 72.0 | By-product of drinking water chlorination |
| 0 | 37.0 | 27.0 - 43.0 | By-product of drinking water chlorination |
| MRDLG=4 | 0.62 | 0.10 - 2.00 | Water additive used to control microbes |

taminant Level Goal • **ppm**: Parts per million (equivalent to one drop in 10 gallons) • **ppb**: Parts per billion (equivalent to one drop in 10,000 gallons) • **ND**: Not Detected
ber • **TT**: Treatment Technique • **NTU**: Nephelometric Turbidity Units (a measure of the presence of particles). Low NTU is an indicator of high quality water

## Drinking Water Definitions

**Action Level (AL) —** The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

**Maximum Contaminant Level Goal (MCLG) —** 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.

**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.

**Maximum Residual Disinfectant Level (MRDL) —** The highest level of a disinfectant allowed in drinking water. There is no convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

**Maximum Residual Disinfection Level Goal (MRDLG) —** 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.

**Treatment Technique (TT) —** A required process intended to reduce the level of a contaminant in drinking water.

## WATER CONSERVATION TIPS

Since water is a limited resource, it is crucial that we work together to maintain it and use it wisely. Help conserve water by following these tips:

- Turn off the faucet while brushing teeth, or shaving.
- Use low-flow showerheads or flow restrictors in regular showerheads to save between 500 and 800 gallons a month.
- Check for and repair leaky toilets (put a drop of food coloring in the tank, let it sit if the water in the bowl turns color, you have a leak). A leaking toilet can dribble away thousands of gallons of water a year.
- Replace your 5-gallon-per-flush toilet with an efficient 1.6-gallon-per-flush unit and permanently cut your water consumption by 25%.
- Run your dishwasher and washing machine only when full. Rinse all hand-washed dishes at once.
- Use a partially filled sink to rinse dishes rather than running a constant stream of water. Don't use more detergent than you need and you'll use less rinse water.
- If you let water run waiting for it to get hot, try catching the flow in a watering can to use later for plants or gardens.
- Store a jug of ice water in the refrigerator for a cold drink.
- Water shrubs and gardens using a slow trickle around the roots. A slow soaking encourages deep root growth, reduces leaf burn or mildew and prevents water loss. Select low-water demanding plants that provide an attractive landscape without high water use.
- Apply mulch around flowers, shrubs, vegetables and trees to reduce evaporation, promote plant growth and control weeds. Shrubs and ground covers require less maintenance, less water and provide year-round greenery.
- Be sure that your hose has a shut-off nozzle. Hoses without a nozzle can spout 10 gallons more per minute.
- When washing your car, wet it quickly then turn off the spray. Wash the car with soapy water from a bucket, rinse quickly.
- Don't use the hose to clean debris off your driveway or sidewalk. Use a broom.

## WATER FACTS

- We only drink about 1% of treated water — the rest we use to water the lawn, do the laundry or flush down the toilet.
- The average household uses about 240 gallons of water per day.
- Only 1% of the world's water supply is suitable for human use — the rest is salt water, or locked in glaciers and ice caps.


Norwich
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