Annual

WATER QUALITY REPORT

Reporting Year 2013

Presented By

TOWN OF CARY

PWS ID#: 03-92-020

Maintaining High Standards for Our Customers

The Town of Cary is once again proud to present our annual drinking water quality report. This report covers all water quality testing performed from January 1 to December 31, 2013. The Town remains committed to providing drinking water that meets all state and federal regulatory standards. We remain vigilant in meeting the challenges of new regulations, source water protection, water conservation, and community outreach and education while serving the needs of our customers.

At the Town of Cary, we focus every day on enriching the lives of our citizens by creating an exceptional environment and providing exemplary services that enable our community to thrive and prosper. We strive to provide our customers with the highest quality drinking water possible and are pleased to present our annual report for your review.

Partnership for Safe Water

We're proud to report that in 2013 and for the tenth consecutive year, the Cary/Apex Water Treatment Facility was awarded the Partnership for Safe Water Director's Award for its efforts to achieve excellence in water quality. The Cary/Apex Water Treatment Facility has received this award annually since 2003. The Partnership for Safe Water is a national volunteer initiative developed by EPA and other U.S. drinking water organizations representing water suppliers striving to provide their communities with drinking water quality that surpasses federal standards. The Director's Award is presented to water systems that have completed a successful review in the Partnership's Self-Assessment and Peer Review phase when utilities examine the capabilities of their treatment plant operation and their overall utility administration to create a plan for implementing improvements.

Cary also became a charter member of the Partnership for Safe Water's Distribution System Optimization Program in 2011. The goal of this program is to further improve and ensure the highest quality drinking water for Cary's customers by taking proactive steps to optimize water distribution system operations and management.

For more information on the Partnership for Safe Water, please visit the American Water Works Association website at www.awwa.org.

Lead in Home Plumbing

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. We are responsible for providing high-quality drinking water, but cannot control the variety of materials used in plumbing components. 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 www.epa.gov/safewater/lead.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised 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 may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) 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 (800) 426-4791 or http://water.epa.gov/drink/hotline.

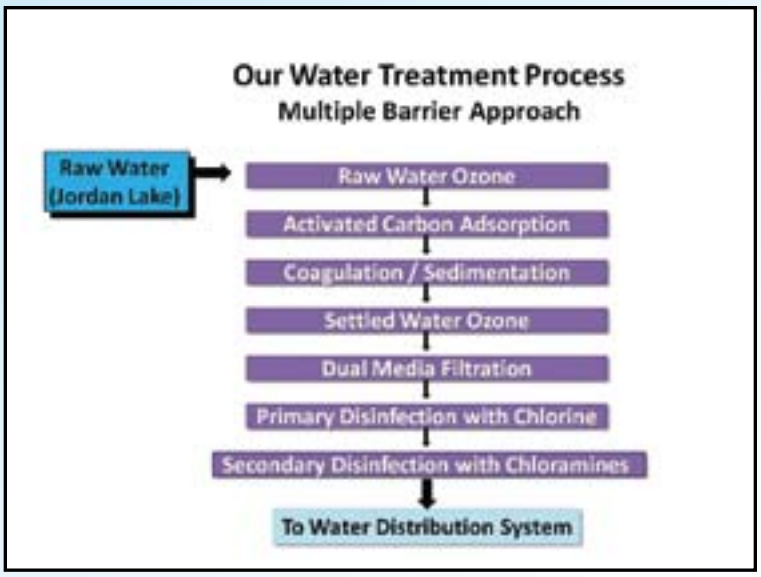
Where Does Our Water Come From?

The Town of Cary's drinking water source is the B. Everett Jordan Reservoir, more commonly known as Jordan Lake, which lies approximately 10 miles west of Cary in eastern Chatham County. The lake is a surface water supply developed and managed by the US Army Corps of Engineers and is part of the Cape Fear River basin.

Additionally, the Town maintains water system interconnections with the City of Raleigh and City of Durham, which can be used in event of emergency to insure adequate water supply for Town customers.

Cary/Apex Water Treatment Facility

Your drinking water is produced at the Cary/Apex Water Treatment Facility, a plant co-owned by the towns of Cary and Apex and located on Wimberly Road in western Wake County. The facility has a current capacity of 40 million gallons per day (MGD) and utilizes a multiple barrier treatment approach. In this approach multiple processes are employed within the treatment plant including ozone, an advanced treatment process, as well as sediment removal, filtration, and disinfection processes. The result is the production of safe, high-quality drinking water for Town customers and that consistently meets all regulatory standards.



Treated water is temporarily stored on-site at the facility and then pumped to water storage tanks located throughout town. The Town operates six elevated storage tanks and one ground level storage tank. Water system storage provides reliable, and continuous water supply during peak demand periods while also providing for emergency storage, consistent water system pressure, and fire protection.

Facility Expansion

In an effort to provide for adequate water supply and meet the needs of Town water customers in the future, a project is currently under way to expand the Cary/Apex Water Treatment Facility to a capacity of 56 MGD. This expansion project will provide additional treatment units for sediment removal, filtration, and ozonation as well as upgrade the facility's chemical feed systems and water pumping capacity. The project is currently in the early stages of construction and is expected to be completed by summer 2016.

Cross-Connection Control Program

Cross-connections that can potentially contaminate drinking water distribution lines are a major concern. A cross-connection is formed at any point where a drinking water line connects to industrial equipment (such as boilers), systems containing chemicals (such as air conditioning systems, fire sprinkler systems, and irrigation systems) or water sources of questionable quality. Cross-connection contamination can occur when the pressure in the equipment or system is greater than the pressure inside the drinking water line causing backpressure. Contamination can also occur when the pressure in the drinking water line drops due to occurrences such as water main breaks or heavy water demand, potentially causing contaminants to backflow from the equipment and into the drinking water system.

Community water supplies are potentially jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed and properly maintained. We have surveyed all industrial, commercial, institutional, and irrigation facilities in the Town's service area to make sure that all potential cross-connections are identified and eliminated or protected by a backflow preventer. We also require annual inspection and testing of each backflow preventer to make sure that it is providing maximum protection. These annual inspections are also required for all residential irrigation systems.

For more information on our Cross-Connection Control Program, visit the Town's Web site or contact Customer Service at (919) 469-4090. You can also find additional information by reviewing the Cross-Connection Control Manual from the U.S. EPA's Web site at http://water.epa.gov/infrastructure/drinkingwater/pws/crossconnectioncontrol/index.cfm.

Questions?

If you have questions or concerns relating to your drinking water or water service, please contact the Public Works and Utilities Customer Service at (919) 469-4090. For more information about this report, please contact Rachel Monschein, Chemist/Laboratory Supervisor at the Cary/Apex Water Treatment Facility, at (919) 362-5507 or rachel.monschein@townofcary.org.

Community Participation

The Town of Cary is committed to being open, transparent, and accessible and encourages public input in decisions affecting our community's drinking water. Regular meetings of the Cary Town Council are typically held on the second and fourth Thursdays of each month at 6:30 pm in the Council Chambers at Town Hall located at 316 N. Academy Street in Cary. The public is welcome. More information about Council meetings can be found on the Town's website at www.townofcary.org.

Source Water Assessment Program (SWAP) Results

The North Carolina Department of Environment and Natural Resources (DENR), Public Water Supply (PWS) Section, Source Water Assessment Program (SWAP) conducted assessments for all drinking water sources across North Carolina. The purpose of the assessments was to determine the susceptibility of each drinking water source (well or surface water intake) to Potential Contaminant Sources (PCSs). The results of the assessment are available in SWAP Assessment Reports that include maps, background information, and a relative susceptibility rating of Higher, Moderate or Lower.

The relative susceptibility rating of the water source for the Town of Cary was determined by combining the contaminant rating (number and location of PCSs within the assessment area) and the inherent vulnerability rating (i.e., characteristics or existing conditions of the well or watershed and its delineated assessment area).

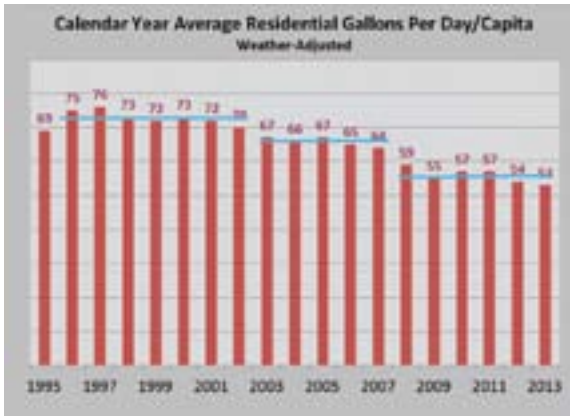
Susceptibility of Water Sources to Potential Contaminant Sources (PCSs)		
Source Name	Susceptibility Rating	SWAP Report Date
Jordan Lake	Higher	March 2010

The complete SWAP Assessment Report for the Town of Cary (PWSID# 03-92-020) may be viewed on the Web at: http://www.ncwater.org/pws/swap. Please note that because SWAP results and reports are periodically updated by the PWS Section, the results available on this Web site may differ from the results that were available at the time this CCR was prepared. To obtain a printed copy of this report, please mail a written request to: Source Water Assessment Program – Report Request, 1634 Mail Service Center, Raleigh NC 27699-1634, or by email to swap@ncdenr.gov. Please indicate your system name, PWSID, and provide your name, mailing address and phone number. If you have any questions about the SWAP report please contact the Source Water Assessment Program staff by phone at (919) 707-9098.

It is important to understand that a susceptibility rating of "higher" does not imply poor water quality, only the systems' potential to become contaminated by PCSs in the assessment area.

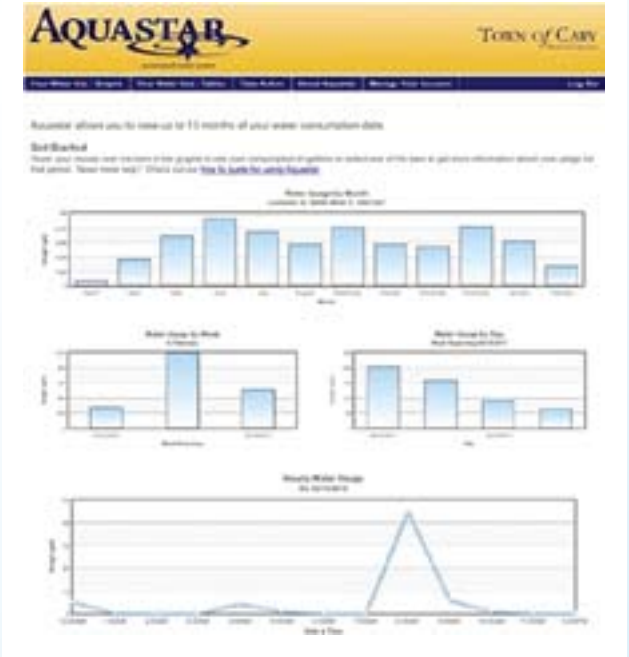
Wise Water Use is an Investment in our Community's Future

The Town is proud of the quality of water we deliver to you, and we are proud that you use this precious resource wisely. Reflecting our community's commitment to preserve and protect our natural resources, you have helped reduce the annual average per capita residential water use by over 20 percent, from approximately 75 gallons per person per day (gpcd) in 1996 to less than 60 gpcd in 2013. Widespread support for our ordinances, including watering on alternate days, use of rain sensors to prevent watering in the rain, and preventing water waste has helped us manage peak demand during the irrigation season. Your conscientious water use increases the reliability of our water supply today and in the future and postpones costly infrastructure expansion.



As part of the Town's long range water resource management, Water Resources Department staff can provide tips and incentives to support your continued efforts to use water efficiently. Whether you use a rain barrel for watering, install a high-efficiency toilet, or use our free water-saving tools, you are investing in our community's future. You can view your household's water consumption online by logging in to Aquastar where you can safely and securely access your monthly, weekly, daily, and even hourly water use. In addition, you can set an alert that will notify you by email or text when your household exceeds your expected daily water use. Instead of finding irregular consumption when you get your next water bill, you can automatically be alerted within 24 hours.

Committed to leading the state in water resource management, Cary was one of the first municipalities in the country to become an EPA WaterSense Partner and the first in the state to provide reclaimed water to residential customers. To learn more about our nationally recognized programs visit the Water Resources Department at www.townofcary.org.



Substances That Could Be in Water

To ensure that tap water is safe to drink, the U.S. EPA prescribes regulations limiting the amount of certain contaminants in water provided by public water systems. U.S. Food and Drug Administration 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 these contaminants does not necessarily indicate that the water poses a health risk.

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, in some cases, radioactive material, and substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater 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 may also come from gas stations, urban stormwater runoff, and septic systems;

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

For more information about contaminants and potential health effects, call the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Testing Results

During the past year we have taken thousands of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic substances. The table below shows only those substances that were detected in the water.

Unless otherwise noted, the data presented in the table below is from testing done January 1 through December 31, 2013. The EPA and the State require us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data is included, along with the year in which the sample was taken. Some of the data, though representative of the water quality, is more than one year old.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Bromate[1] (ppb)	2013	10	0	1.79	ND–3.6	No	By-product of drinking water disinfection
Chloramines[1] (ppm)	2013	[4]	[4]	2.87	0.9–3.8	No	Water additive used to control microbes
Chlorine[1] (ppm)	2013	[4]	[4]	1.28	0.1–2.4	No	Water additive used to control microbes
Fecal coliform and *E. coli* (# positive samples)	2013	0	0	0	NA	No	Human and animal fecal waste
Fluoride (ppm)	2013	4	4	0.72	NA	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA]–Stage 2[1] (ppb)	2013	60	NA	14	ND–20	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes]–Stage 2[1] (ppb)	2013	80	NA	44	25–46	No	By-product of drinking water disinfection
Total Coliform Bacteria (% positive samples)	2013	5% of monthly samples are positive	0	0.78	NA	No	Naturally present in the environment
Total Organic Carbon [TOC][2] (removal ratio)	2013	TT	NA	1.33	0.95–1.65	No	Naturally present in the environment
Turbidity[3] (NTU)	2013	TT=1 NTU	NA	0.18	0.03–0.18	No	Soil runoff
Turbidity (Lowest monthly percent of samples meeting limit)	2013	TT =95% of samples <0.3 NTU	NA	100	NA	No	Soil runoff

Tap water samples were collected for lead and copper analyses from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/ TOTAL SITES	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2012	1.3	1.3	0.191	0/58	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2012	15	0	3.2	1/58	No	Corrosion of household plumbing systems; Erosion of natural deposits

SECONDARY SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	SMCL	MCLG	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Manganese (ppb)	2013	50	NA	31	ND–31	No	Leaching from natural deposits
Sulfate (ppm)	2013	250	NA	36	NA	No	Runoff/leaching from natural deposits; Industrial wastes

UNREGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromodichloromethane (ppb)	2013	9.6	NA	By-product of drinking water disinfection
Bromoform (ppb)	2013	1.1	NA	By-product of drinking water disinfection
Chlorodibromomethane (ppb)	2013	6.4	NA	By-product of drinking water disinfection
Chloroform (ppb)	2013	8.0	NA	By-product of drinking water disinfection
Sodium (ppm)	2013	27	NA	Naturally occurring

[1] Compliance with the MRDLs for Disinfectants and MCLs for disinfection by-products is based on the running annual average (RAA) shown in the "Amount Detected" column. The RAA reported is the highest RAA for the year.
[2] Based on the average Total Organic Carbon (TOC) and alkalinity levels in our source water, we are required to meet an average % removal for TOC of 45%, which equates to a removal ratio of 1.0 and is classified by the State as the Step 1 compliance method. If we do not achieve that % removal there is an "alternative % removal" requirement. If we also fail to meet that requirement, we are in violation of a Treatment Technique. In 2013, our running annual average % removal for TOC was 60.0%, or a removal ratio of 1.33. We utilized the Step 1 compliance method and were in compliance with regulatory requirements for TOC removal throughout the year.
[3] Turbidity is a measure of the cloudiness of the water. We monitor it because it is a good indicator of the effectiveness of our filtration system. The turbidity rule requires that 95% or more of the monthly samples must be less than or equal to 0.3 NTU.

Definitions

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

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. Secondary MCLs (SMCLs) are established to regulate the aesthetics of drinking water (i.e., taste and odor).

MCLG (Maximum Contaminant Level Goal): 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.

MRDL (Maximum Residual Disinfectant Level): 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.

MRDLG (Maximum Residual Disinfectant Level Goal): 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.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

NTU (Nephelometric Turbidity Units): Measurement of the clarity, or turbidity, of water. Turbidity in excess of 5 NTU is just noticeable to the average person.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

removal ratio: A ratio between the percentage of a substance actually removed to the percentage of the substance required to be removed.

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