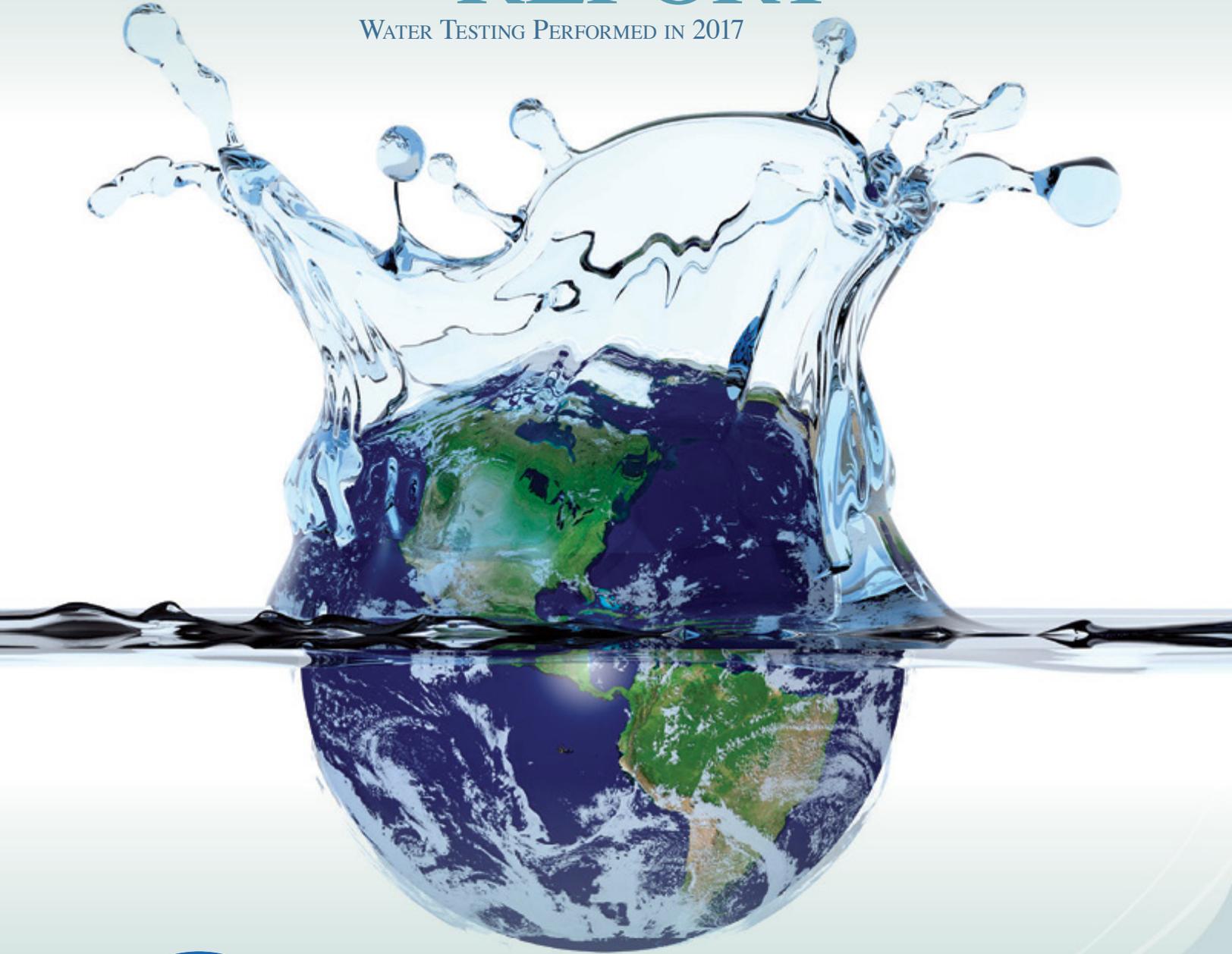


ANNUAL WATER QUALITY REPORT

WATER TESTING PERFORMED IN 2017



Presented By
Town of Kill Devil Hills

Quality First

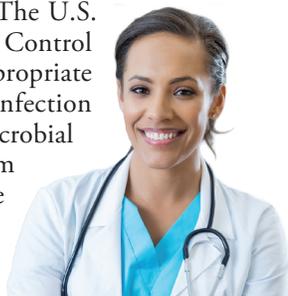
Once again, we are pleased to present our annual water quality report covering the period between January 1 and December 31, 2017. This report is a summary of last year's water quality and includes details about your source(s) of water, what it contains, and how it compares to standards set by regulatory agencies. We are committed to delivering you the best quality and dependable supply of drinking water. As new challenges to drinking water safety emerge, we remain vigilant in meeting the goals of source water protection, water conservation, and community education while continuing to serve the needs of all our water users.

This report is developed to keep you informed about your water quality, and we encourage you to share your thoughts with us on the information contained in this report. After all, well-informed customers are our best allies. For more information about this report, or for any questions relating to your drinking water, please call Alfred Burton, Water Plant Supervisor, at (252) 480-4090. Thank you for allowing us to continue providing you and your family with high-quality drinking water.

Dare County has replaced a portion of Skyco's ion-exchange water treatment process with nanofiltration treatment to improve drinking water quality.

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>.



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/lead.

Where Does My Water Come From?

Our drinking water is purchased from the Dare County Regional Water System. The County's Skyco Treatment Facility, located on Roanoke Island, processes ground water from fresh water wells using ion exchange and nanofiltration technologies. The North Reverse Osmosis (RO) Treatment Facility, located in Kill Devil Hills, processes ground water drawn from brackish water wells and uses reverse osmosis technology. These two facilities combine to meet regional water demands.

System Upgrade

Please be informed that Dare County has made a change to their water treatment process at the Skyco Water Treatment Plant. Dare County has replaced a portion of Skyco's ion-exchange water treatment process with nanofiltration treatment to improve drinking water quality.

Community Participation

The Board of Commissioners annually adopts its regular meeting schedule at its December meeting. Meetings typically begin at 5:30 p.m. and are held in the Meeting Room at the Administration Building, 102 Town Hall Drive, off Colington Road. All meetings of public bodies are open to the public. Please check www.kdhnc.com for further information on meeting dates and times. Agendas for meetings of the Board of Commissioners are posted on the Town's website, www.kdhnc.com, and Facebook page, <https://www.facebook.com/townofkdh>. Meeting materials, including minutes, are posted for public review on the website. Regular meetings of the Board are videotaped, and videos may be viewed on YouTube by entering Town of Kill Devil Hills in the search bar. Video summaries of each regular meeting are also available for viewing on YouTube by entering Kill Devil Hills Spotlight in the search bar. The Board of Commissioners welcomes and encourages community participation and interest. To learn more about what's going on and how you can participate, please send questions, comments, and interests to info@kdhnc.com.



Source Water Assessment Program

The North Carolina Department of Environmental Quality (NCDEQ), 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 (PCS). The results of the assessments 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 each source was determined by combining the contaminant rating (number and location of PCS 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. The April 2017 assessment findings are summarized below:

SOURCE/WELL	SUSCEPTIBILITY RATING
Skyco Wells #2,4,5,6,8,10,13	Lower
Skyco Wells #7,11,14	Moderate
NRO Wells #11,15,17	Lower
NRO Wells #1,2,3,4,5,6,7,8,9,10,12	Moderate

The complete SWAP Assessment report for the Dare County Regional Water System may be viewed on the Internet at <http://www.ncwater.org/pws/swap/>. Please note that because the PWS section periodically updates SWAP results and reports, the results available on the website may differ from the results that were available at the time this report was prepared. To obtain a printed copy of a report, please mail a written request to: Source Water Assessment Program, Report Request, 1634 Mail Service Center, Raleigh, North Carolina, 27699-1634, or e-mail a request to swap@ncdenr.gov. Please indicate the system name (Dare County Regional Water System), Public Water System ID (04-28-030), and provide your name, mailing address, and phone number. If you have any questions about the SWAP report, please contact the Source Water Assessment 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 system’s potential to become contaminated by potential contaminant sources in the assessment area.

Water Main Flushing

Distribution mains (pipes) convey water to homes, businesses, and hydrants in your neighborhood. The water entering distribution mains is of very high quality; however, water quality can deteriorate in areas of the distribution mains over time. Water main flushing is the process of cleaning the interior of water distribution mains by sending a rapid flow of water through the mains.

Flushing maintains water quality in several ways. For example, flushing removes sediments like iron and manganese. Although iron and manganese do not pose health concerns, they can affect the taste, clarity, and color of the water. Additionally, sediments can shield microorganisms from the disinfecting power of chlorine, contributing to the growth of microorganisms within distribution mains. Flushing helps remove stale water and ensures the presence of fresh water with sufficient dissolved oxygen, disinfectant levels, and an acceptable taste and smell.

During flushing operations in your neighborhood, some short-term deterioration of water quality, though uncommon, is possible. You should avoid tap water for household uses at that time. If you do use the tap, allow your cold water to run for a few minutes at full velocity before use and avoid using hot water, to prevent sediment accumulation in your hot water tank.

Please contact us if you have any questions or if you would like more information on our water main flushing schedule.

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 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.



BY THE NUMBERS

The number of gallons of water produced daily by public water systems in the U.S.

34
BILLION

1
MILLION

The number of miles of drinking water distribution mains in the U.S.

The amount of money spent annually on maintaining the public water infrastructure in the U.S.

135
BILLION

300
MILLION

The number of Americans who receive water from a public water system.

The age in years of the world's oldest water found in a mine at a depth of nearly two miles.

2
BILLION

151
THOUSAND

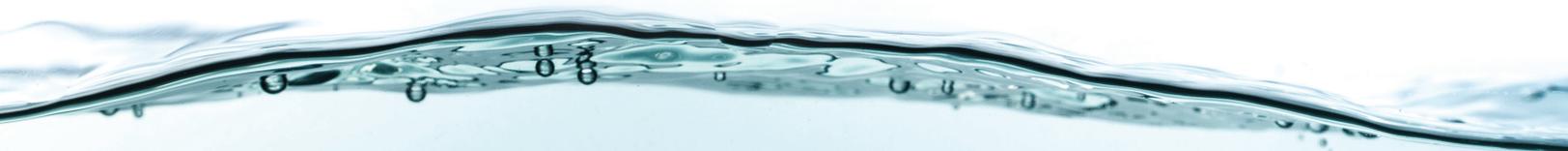
The number of active public water systems in the U.S.

The number of highly trained and licensed water professionals serving in the U.S.

199
THOUSAND

93

The number of federally regulated contaminants tested for in drinking water.



Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule. The information in the data tables shows only those substances that were detected between January 1 and December 31, 2017. Remember that detecting a substance does not necessarily mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels. The State recommends monitoring 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 are included, along with the year in which the sample was taken.

REGULATED SUBSTANCES

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	Town of Kill Devil Hills		Dare County Regional		VIOLATION	TYPICAL SOURCE
				AMOUNT DETECTED	RANGE LOW-HIGH	AMOUNT DETECTED	RANGE LOW-HIGH		
Beta/Photon Emitters ¹ (pCi/L)	2008	50	0	NA	NA	5.25	NA	No	Decay of natural and man-made deposits
Chlorine (ppm)	2017	[4]	[4]	0.90	0.43–1.28	0.79	0.67–0.91	No	Water additive used to control microbes
Fluoride (ppm)	2017	4	4	NA	NA	0.77	0.73–0.84	No	Erosion of natural deposits; Water additive that promotes strong teeth; Discharge from fertilizer and aluminum factories
Haloacetic Acids [HAA] (ppb)	2017	60	NA	2.4	1.1–4.1	1.8	1.0–3.7	No	By-product of drinking water disinfection
TTHMs [Total Trihalomethanes] (ppb)	2017	80	NA	13.9	8.0–29.6	6.3	2.8–13.8	No	By-product of drinking water disinfection
Total Coliform Bacteria (# positive samples)	2017	1 positive monthly sample	0	0	NA	1	NA	No	Naturally present in the environment

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

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	Town of Kill Devil Hills				Dare County Regional		VIOLATION	TYPICAL SOURCE
		AL	MCLG	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES	AMOUNT DETECTED (90TH%TILE)	SITES ABOVE AL/TOTAL SITES		
Copper (ppm)	2017	1.3	1.3	0.141	0/40	0.184	0/60	No	Corrosion of household plumbing systems; Erosion of natural deposits
Lead (ppb)	2017	15	0	ND	0/40	6	3/60	No	Corrosion of household plumbing systems; Erosion of natural deposits

UNREGULATED SUBSTANCES (DARE COUNTY REGIONAL)²

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromomethane [Methyl Bromide] (ppb)	2013	0.7	0.7–0.7	Man-made pesticide, Naturally occurring in the ocean
Chlorate (ppb)	2013	258	124.0–469.0	Disinfection by-product
Chromium (Total) (ppb)	2013	0.3	0.24–0.50	Natural erosion
Chromium-6 (ppb)	2013	0.05	0.036–0.085	Natural erosion
Strontium (ppb)	2013	138	94–168	Natural erosion

¹The MCL for beta particles is 4 mrem/year. U.S. EPA considers 50 pCi/L to be the level of concern for beta particles.

²Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the U.S. EPA in determining the occurrence of unregulated contaminants in drinking water and whether future regulations are warranted.

Definitions

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

LRAA (Locational Running Annual Average): The average of sample analytical results for samples taken at a particular monitoring location during the previous four calendar quarters under the Stage 2 Disinfectants and Disinfection Byproducts Rule.

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.

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.

pCi/L (picocuries per liter): A measure of radioactivity.

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).