



"2021" Annual Drinking Water Quality Report

"Southern Outer Banks Water"

Water System Number: "60-27-001 "

We are pleased to present to you this year's Annual Drinking Water Quality Report. This report is a snapshot of last year's water quality. Included are details about your source(s) of water, what it contains, and how it compares to standards set by regulatory agencies. Our constant goal is to provide you with a safe and dependable supply of drinking water. We want you to understand the efforts we make to continually improve the water treatment process and protect our water resources. We are committed to ensuring the quality of your water and to providing you with this information because informed customers are our best allies. If you have any questions about this report or concerning your water, please contact Cody Edwards at [\(252\) 453-2620](tel:2524532620). We want our valued customers to be informed about their water utility.

What EPA Wants You to Know

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 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 (800-4264791).

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 microbial contaminants are available from the Safe Drinking Water Hotline (800426-4791).

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 Southern Outer Banks Water System is 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 <http://www.epa.gov/safewater/lead>.

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 and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Contaminants 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, and wildlife; inorganic contaminants, such as salts and metals, which can be naturally-occurring or 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 can also come from gas stations, urban storm water runoff, and septic systems; and radioactive contaminants which can be naturally-occurring or be the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, EPA prescribes regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

When You Turn on Your Tap, Consider the Source

The water that is used by the SOBWS Treatment Facility comes from 64 wells. Of these 69 are shallow wells used by the greensand/anion exchange treatment section of the facility. All of these wells are at 45-feet deep. 16 are located behind the treatment facility, 26 are located in Ocean Sands and 22 are located in Monterey Shores along Hwy. 12. There are 7 brackish water wells that supply the desalination section of the treatment facility they are 250-feet deep and located in Village of Ocean Hill, Whalehead, the Whalehead Club and Corolla Light.

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 each source for Southern Outer Banks System 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). The assessment findings are summarized in the table below:

Susceptibility of Sources to Potential Contaminant Sources (PCSs)

Source Name	Susceptibility Rating	SWAP Report Date
16 wells at SOBWS	Moderate	June 21, 2017
26 wells at Ocean Sands	Moderate	June 21, 2017
22 wells at Monterey Shores	Moderate	June 21, 2017
2 deep wells at Whalehead Club and Frankl n Street	Moderate	June 21, 2017
5 deep wells at Sturgeon St., Shad St., Sailfish St., Fairwinds Ln and Ocean Hill Blvd.	Lower	June 21, 2017

The complete SWAP Assessment report for Southern Outer Banks Water may be viewed on the Web at:

www.ncwater.org/pws/swap. 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. If you are unable to access your SWAP report on the web, you may mail a written request for a printed copy to: Source Water Assessment Program - Report Request, 1634 Mail Service Center, Raleigh, NC 27699-1634, or email requests to swap@ncdenr.gov. Please indicate your system name, number, 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 PCSs in the assessment area.

Water Quality Data Tables of Detected Contaminants

We routinely monitor for over 150 contaminants in your drinking water according to Federal and State laws. The table below lists all the drinking water contaminants that we detected in the last round of sampling for the particular contaminant group. The presence of contaminants does necessarily indicate that water poses a health risk. Unless otherwise noted, the data presented in this table is from testing done January 1 through December 31, 2015. The EPA and the State allow us to monitor for certain contaminants less than once per year because the concentrations of these contaminants are not expected to vary significantly from year to year. Some of the data, though representative of the water quality, is more than one year old.

Important Drinking Water Definitions:

Not-Applicable (N/A) — Information not applicable/not required for that particular water system or for that particular rule.

Non-Detects (ND) - Laboratory analysis indicates that the contaminant is not present at the level of detection set for the particular methodology used.

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 (ug/L) - One part per billion corresponds to one minute in 2,000 years, or a single penny in \$ 10,000,000.

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

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

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.

Maximum Residual Disinfection Level (MRDL) — 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.

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 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.

Tables of Detected Contaminants

Lead and Co r

Contaminant (units)	Sample Date	Your Water	# of sites found above the AL	MCLG		Likely Source of Contamination
Copper (ppm) (90 th percentile)	6-12-19	55		1300	AL=1300	Corrosion of household plumbing systems; erosion of natural deposits
Lead (ppb) (90 th percentile)	6-12-19	<3		15	AL=15	Corrosion of household plumbing systems, erosion of natural deposits

Disinfectants and Disinfection Byproducts Contaminants

Contaminant (units)	MCL/MR Violation YIN	Your Water (Stage 2)	Range Low High	MCLG	MCL	Likely Source of Contamination
ITHM (ppb) [Total Trihalomethanes		72	N/A	N/A	80	By-product of drinking water chlorination
HAA5 (ppb) [Total Haloacetic Acids			N/A	N/A	60	By-product of drinking water disinfection
Chlorine (ppm)		.50	.38/1.26	MRDLG=4	MRDL=4	Water additive used to control microbes

For TTHM: Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.

For HAA5: Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.

The PWS Section requires monitoring for other misc. contaminants, some for which the EPA has set national secondary drinking water standards (SMCLs) because they may cause cosmetic effects or aesthetic effects (such as taste, odor, and/or color) in drinking water. The contaminants with SMCLs normally do not have any health effects and normally do not affect the safety of your water.

Other Miscellaneous Water Characteristics Contaminants

Contaminant (units)	Sample Date	Your Water	Range Low/High	SMCL
phi	11-11-21	7.44	7.23-7.52	6.5 to 8.5

ROY COOPER,
Governor

ELIZABETH S. BISER
Sec'tary

S. DANIEL SMITH NORTH CAROLINA Direr'01
Environmental Quality



NC6027001_20211020_DBP_MR_2021Q3_D01.pdf

October 20, 2021

TO: CURRITUCK, COUNTY OF
ATTN: BEN STIKELEATHER, COUNTY MANAGER
153 COURT HOUSE ROAD, SUITE 204;
CURRITUCK, NC 27929

RE: SOUTHERN OUTER BANKS WTR SYST
WATER SYSTEM NUMBER: NC6027001
COUNTY: CURRITUCK
SYSTEM TYPE: C

NOTICE OF VIOLATION

Disinfection Byproducts (DBPs) Monitoring/Reporting Violation: Your system was required to be monitored for DBPs at 2 pre-established sample location(s) in your distribution system during the month of September in the annual compliance period beginning January 1, 2021. Our records indicate that valid DBPs analytical results for that compliance period have not been reported to this agency within the required timeframe. Failure to monitor for the contaminants is a violation of 15A NCAC 18C .2008 and the failure to report analytical results on time is a violation of 15A NCAC 18C .1525.

You will receive an administrative penalty, assessed under GS. '130A-22(b), for a confirmed monitoring and reporting violation for the compliance period cited above.

ADMINISTRATIVE ORDER

IT IS HEREBY ORDERED that CURRITUCK, COUNTY OF shall return to compliance as follows:

For a Monitoring and Reporting Violation:

1. Resume monitoring: Collect water samples for DBPs during the next annual compliance period (September 2022) and continue sampling as required by 15A NCAC 18C .2008. Water samples must be analyzed by a North Carolina certified laboratory. (See Web page: <https://slphreporting.ncpublichealth.com/EnvironmentalSciences/Certification/CertifiedLaboratory.asD> for a list of NC certified laboratories.) Your laboratory is responsible for electronically reporting your analytical results to the Public Water Supply Section. We recommend that you check our website links to "Sampling Status" and/or "Drinking Water Watch" and follow-up with your laboratory, as necessary, to ensure we receive your sample results;
2. Provide public notification: Provide public notification of the monitoring/reporting violation cited above as required by 15A NCAC 18C .1523. See the enclosed sample notice with instructions. Failure to provide public notification as required is a violation of 15A NCAC 18C .1523; and
3. Submit a copy of your completed Notice to the Public and Public Notification Certification to the Public Water Supply Section: Immediately after you have distributed the notices to your customers, use our web-based certification process "ECERT" to submit a copy of the completed notice with your signature and date on the Public Notification Certification (located at the bottom of our template notice) indicating full compliance with all the public notification requirements. Access to ECERT is available from our website or the following link: <https://pws.ncwater.org/ECERT/>. If you do not have internet access, mail the completed notice to Bethany Goodwin at 1634 Mail Service Center, Raleigh, NC 27699-1634. Retain a copy of these documents for your files.

Note: if you do not provide the required public notification to your customers and submit a signed certification with the notice to the Public Water Supply Section, you may be subject to an additional administrative penalty.

For a Reporting Violation:

If monitoring was performed during the month of September in the annual compliance period beginning January 1, 2021, but valid analytical results were not properly reported to the Public Water Supply Section, CURRITUCK, COUNTY OF shall:

1. Immediately contact your laboratory to confirm that your laboratory was properly certified for the analysis performed. Then have the laboratory electronically upload the analytical results and notify Katie Richardson, DBP Rule Manager, by November 3 2021; and
2. Contact Katie Richardson at telephone number (919) 707-9087 or by e-mail at Katherine.Richardson@ncdenr.gov to confirm that the analytical report has been uploaded by the laboratory and that it is complete. If the Rule Manager determines that your system properly completed the required monitoring, your system will be returned to compliance for the monitoring violation. Because valid analytical results were received after the required reporting timeframe, your system will still have a reporting violation of 15A NCAC 18C .1525.
Note: If the Rule Manager determines that valid analytical results were received for the month of September during the annual compliance period beginning January 1, 2021, no public notification is required and no penalty will be issued for the monitoring and reporting violation cited above.

ENFORCEMENT AUTHORITY

This Notice of Violation and Administrative Order are issued pursuant to authority in G.S. 130A-325 and G.S. 130A-326. Any person who violates, fails to comply or refuses to comply with any of the provisions of this Order is subject to an administrative penalty under G.S. 130A-22(b). The agency reserves the right to take enforcement action for any new or additional violations of the NC Drinking Water Act or North Carolina's Rules Governing Public Water Systems, 15A NCAC

ADDITIONAL INFORMATION

Please include your water system's name and number on all correspondence. Our website contains links to "Sampling Status" which allows systems to view their current monitoring schedules for each contaminant group and to "Drinking Water Watch" which allows systems to view their monitoring results and other system information. Copies of North Carolina's Rules Governing Public Water Systems can be found on our website at www.ncwater.org/pws/.

CONTACT INFORMATION

If you have questions or need assistance regarding public notification, please contact Bethany Goodwin, Public Notification Rule Manager, at (919) 707-9079 or by e-mail at Bethany.Goodwin@ncdenr.gov.

If you have questions or need assistance regarding this violation, please contact the Rule Manager, Katie Richardson by phone at (919) 707-9087 or by e-mail at Katherine.Richardson@ncdenr.gov.


Robert W. Midgette, P.E., Chief Robert W, Midgette, P,
Public Water Supply Section
Division of Water Resources, NCDEQ

Enclosures: Notice to the Public/Public Notification Certification

cc: JAMIE MIDGETTE, P.E.
Responsible Person: CHUNN, DAVID

Contaminant Group List (AS)

Asbestos - includes testing for Total Asbestos.

(BA) Total Coliform Bacteria — includes testing for Total Coliform bacteria and E.coli bacteria. Testing for E.coli bacteria is required if total coliform is present in the sample.

(B) Bromate — includes testing for Bromate.

(CD) Chlorine Dioxide/Chlorite — includes testing for Chlorine Dioxide and/or Chlorite.

(DI) Disinfectant Residual must be tested with the collection of each compliance bacteriological sample, at the same time and site.

Fecal Indicators — includes E.coli, enterococci or coliphage.

(HAA5)- Haloacetic Acids - includes Monochloroacetic Acid, Dichloroacetic Acid, Trichloroacetic Acid, Monobromoacetic Acid, Dibromoacetic Acid.

(IOC) Inorganic chemicals - includes Antimony, Arsenic, Barium, Beryllium, Cadmium, Chromium, Cyanide, Fluoride, Iron, Manganese, Mercury, Nickel, pH, Selenium, Sodium, Sulfate, and Thallium.

(LC) Lead and Copper are tested by collecting the required number of samples and testing each of the samples for both lead and copper.

(NT) Nitrate/ (NI) Nitrite — includes testing for nitrate and/or nitrite.

(RA) Radionuclides — includes Gross Alpha, Radon, Uranium, Combined Radium, Radium 226, Radium 228, Potassium 40 (Total), Gross Beta, Tritium, Strontium 89, Strontium 90, Iodine 131, and Cesium 134.

(SOC) — Synthetic Organic Chemicals/Pesticides — includes 2,4-D, 2,4,5-TP (Silvex), Alachlor (Lasso), Atrazine, Benzo(a)pyrene,

Carbofuran, Chlordane, Dalapon, Di(2-ethylhexyl)adipate, Di(2-ethylhexyl)phthalate, Dibromochloropropane (DBCP), Dinoseb, Endrin, Ethylene dibromide (EDB), Heptachlor, Heptachlor Epoxide, Hexachlorobenzene, Hexachlorocyclopentadiene, Lindane (BHC-Gamma), Methoxychlor, Oxamyl (Vydate), PCBs, Pentachlorophenol, Picloram, Simazine, and Toxaphene.

(TOC) - Total Organic Carbon - includes testing for Alkalinity, Dissolved Organic Carbon (DOC), Total Organic Carbon (TOC) and Ultraviolet Absorption 254 (UV254). Source water samples must be tested for both TOC and Alkalinity. Treated water samples must be tested for TOC. Source water samples and treated water samples must be collected on the same day.

(TTHM) - Total Trihalomethanes - includes Chloroform, Bromoform, Bromodichloromethane, and Dibromochloromethane.

(VOC) - Volatile Organic Chemicals - includes 1,2,4-Trichlorobenzene, Cis-1,2-Dichloroethylene, Xylenes (Total), Dichloromethane, Om Dichlorobenzene, p-Dichlorobenzene, Vinyl Chloride, 1,1 ,-Dichloroethylene, Trans-1,2,-Dichloroethylene, i ,2-Dichloroethane, 1,1 , 1Trichloroethane, Carbon Tetrachloride, 1,2-Dichloropropane, Trichloroethylene, ,2-Trichloroethane, Tetrachloroethylene, Chlorobenzene, Benzene, Toluene, Ethylbenzene, and Styrene.

(WQP) Water Quality Parameters (for Lead and Copper Rule) - includes Calcium, Orthophosphate (as P04), Silica, Conductivity, pH, Alkalinity and Water Temperature.

Instructions for Completing the Notice/Certification Form & for Performing Public Notice for Tier 3 Monitoring Violations

1. Complete ALL the missing information on the "Notice to the Public." (Note: Under the section of the notice entitled "What is being done?" describe corrective actions you took, or are taking. You may choose the appropriate language below, or develop your

- We have since taken the required samples, as described in the last column of the table above. The sample results showed we are meeting drinking water standards.
- We have since taken the required samples, as described in the last column of the table above. The sample for [contaminant] exceeded the limit. [Describe corrective action; use information from public notice prepared for violating the limit.] "We plan to take the required samples soon, as described in the last column of the table above.

2. Provide public notification to our customers as soon as reasonably possible after you learn of the violation as follows:

Community systems must use one of the following:
Hand or direct delivery
Mail, as a separate notice or included with the bill

For community systems, this notice is appropriate for insertion in an annual notice or the Consumer Confidence Report (CCR), as long as public notification timing and delivery requirements are met [CFR 141.204(d)].

Non-community systems must use one of the following:

Posting in conspicuous locations
Hand delivery
Mail

For non-community systems, if you post the notice, it must remain posted as long as the violation or situation persists; in no case should the notice be posted less than 7 days, even if the violation is resolved. [CFR 141.204(b)].

(Note: Both community and non-community systems must use another method reasonably calculated to reach others IF they would not be reached by one of the required methods listed above [CFR 141.204(c)]. Such methods could include newspapers, e-mail, or deliver to community organizations.

- Both sides of this public notice/certification MUST be delivered to the persons served by the water system in order for your customers to have access to the required Contaminant Group List. • If you mail, post, or hand deliver, print your notice on letterhead, if available.
- Notify new billing customers or units prior to or at the time their service begins.
- Provide multi-lingual notifications if 30% of the residents served are non-English speaking.
- Should you decide not to use this notice and develop your own version instead, the mandatory language in bold italics may not be altered, and you MUST include the ten required elements listed in CFR 141.205. The certification located at the bottom of this sample notice MUST also be submitted.

3. After issuing the "Notice to the Public" to your customers, sign and date the "Public Notification Certification" at the bottom of the notice. Within ten days after issuing the notice [CFR 141.31 (d)], use our new on-line ECERT application located online at: [JUtps://pws.ncwater.org/ECERT/](https://pws.ncwater.org/ECERT/) or mail to the Public Water Supply Section, ATTN: Public Notification Rule Manager, 1634 Mail Service Center, Raleigh, NC 27699-1634. Keep a copy for your files,, (08/2018)

NOTICE TO THE PUBLIC

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

SOUTHERN OUTER BANKS WTR SYST HAS NOT MET MONITORING REQUIREMENTS

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the compliance period specified in the table below, we ['did not monitor or test' or 'did not complete all monitoring or testing'] for the contaminants listed and therefore cannot be sure of the quality of your drinking water during that time.

CONTAMINANT GROUP**	FACILITY ID NO.	COMPLIANCE PERIOD BEGIN DATE	NO. OF SAMPLES / SAMPLING FREQUENCY	WHEN SAMPLES WERE OR WILL BE TAKEN (Water System to Complete)
Disinfection Byproducts (DBPs)	DOI	January 1, 2021	2 / annual (month of September)	September 2022

** See back of this notice for further information on contaminants.

What should I do? There is nothing you need to do at this time.

What is being done? [Describe corrective action.]

Be sure to sample at both locations September 2022

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

For more information, please contact:

Responsible Person Cody Edwards	System Name SOUTHERN OUTER BANKS WTR	System Address (Street) 734 Ocean Trail
Phone Number 252-456-2620	System Number NC6027001	System Address (City/State/Zip) Corolla, NC 27927

Violation Awareness Date: October 20 2021

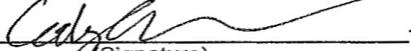
Date Notice Distributed: 6-14-22 Method of Distribution: CCR

Public Notification Certification:

The public water system named above hereby affirms that public notification has been provided to its consumers in accordance with all delivery, content, format, and deadline requirements specified in 15ANCAC 18C .1523.

Owner/Operator:

Content, format, and deadline requirements


(Signature)

Cody Edwards

(Print Name)

Owner/Operator:

6-14-22
(Date)