

# CHUCKATUCK AND BREWERS CREEK WATERSHEDS WATER QUALITY

## TMDL STUDY

A TMDL study was completed for Chuckatuck and Brewers Creek (Isle of Wight County and the City of Suffolk, Virginia) in 2006. Water quality monitoring performed by the Virginia Department of Health (VDH) revealed that Chuckatuck and Brewers Creek violated water quality standards for bacteria. Fecal coliforms (FC) concentrations exceed the safe levels for shellfish harvesting in Virginia waters. The TMDL study on Chuckatuck and Brewers Creek watersheds set standards for fecal coliform concentration which if attained will meet water quality standards and support a healthy, safe to harvest shellfish resource. The TMDL study also outlines the reductions required from various point and non-point sources to reduce bacteria levels to meet defined water quality goals. A copy of the report is available at:

<http://www.deq.virginia.gov/portals/0/DEQ/Water/TMDL/apptmdls/shellfish/chuckbrew.pdf>

## POTENTIAL SOURCES OF

### Point Sources:

Isle of wight county and the City of Suffolk have two Municipal Separate Storm Sewer System (MS4) permits. There are no permitted Sanitary Sewer facilities within the watersheds.

### Urban and Residential Development Sources:

Failed, malfunctioning, and non-operational septic systems, as well as uncontrolled (straight pipe) discharges.

### Pets:

Fecal material deposited by pets can enter the river by overland runoff during rain events.

### Agriculture:

Livestock is a manageable source of bacteria. Fecal material can be deposited by livestock directly to streams or can be transported by overland runoff from pasture during rain events.

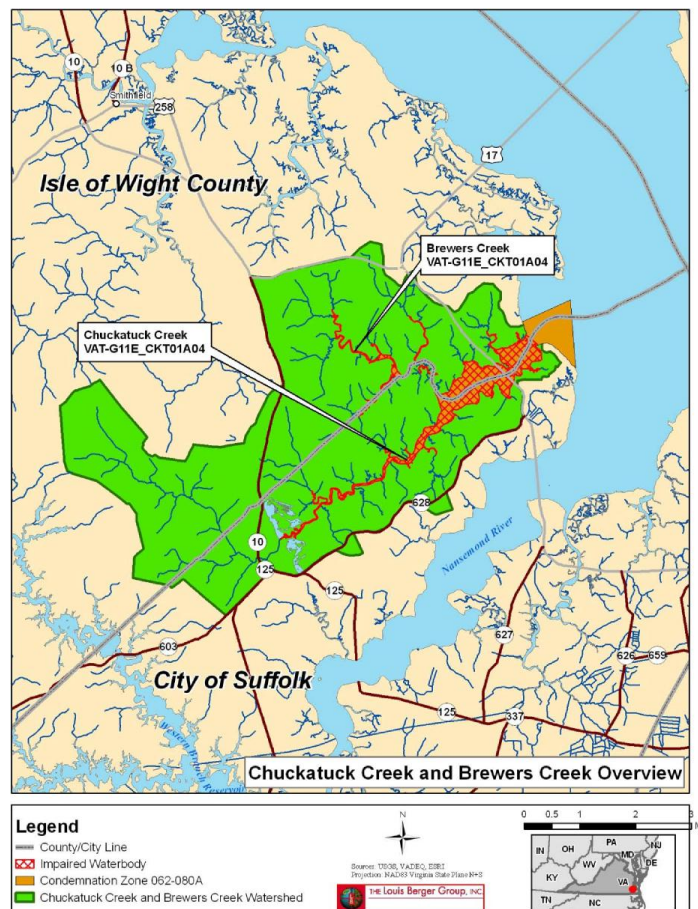
### Wildlife:

Animal waste can be a significant contributor of fecal coliform in water bodies.



## CLEAN THE RIVER: TMDL

To advance water quality improvements an Implementation Plan (IP) will be developed outlining steps to reduce the amount of bacteria originating from the sources identified in the TMDL study. Stakeholder involvement is a critical component of the IP development process. The following groups and other will assist in developing a clean-up plan for Chuckatuck and Brewers Creek watersheds: The Peanut Soil and Water Conservation District, The Nansemond River Preservation Alliance, Hampton Roads Planning District Commission (HRPDC), Virginia Department of Health, Department of Environmental Quality, and Department of Conservation and Recreation. These diverse groups will worked cooperatively to identify appropriate conservation measures, known as best management practices (BMPs) to include in the IP. Some examples of BMPs recommended include maintenance of septic systems, installing rain gardens and fencing livestock out of waterways.



# BEST MANAGEMENT

Best Management Practices (BMPs) can be used to reduce nutrient and bacterial inputs into Chuckatuck and Brewers Creeks. Several potential BMPs are listed below. Implementation goals were established for each of the practices listed below and financial assistance is available for BMP installation through the Virginia State Cost Share Program. Progress will be assessed by regular monitoring by DEQ, VDH and citizen programs. Based on progress at the end of 5 years, it will be determined whether additional implementation efforts are necessary to meet the TMDL IP goals.



Above, Alternative cattle water trough system.  
Middle, Septic tank maintenance and cleanout.  
Below, Responsible pet owners scoop the poop.

## AGRICULTURAL BEST MANAGEMENT PRACTICES

*Grazing Land and Stream Protection Systems:* Establish streamside fencing and buffers to trap pollutants

*Waste Storage:* Facilities to store waste from poultry and livestock

*Improved Pasture Management:* Includes rotational grazing systems, soil testing, nutrient management and improving

## URBAN BEST MANAGEMENT PRACTICES

*Stream Buffers and Stabilization:* Grow trees and shrubs along streams to filter nutrients, sediment and bacteria.

*Retention Ponds:* Depression areas allow water to infiltrate into the ground at a more natural rate and decrease pollutants entering streams.

*Biofiltration filters:* Used to treat surface runoff from paved surfaces allowing infiltration and retention of pollutants by native plants and soil

## RESIDENTIAL BEST MANAGEMENT PRACTICES

*Rain Gardens:* Gardens designed to collect and filter water and reduce the amount of pollutants carried to streams in stormwater

*Septic System Maintenance, Repair and Replacement:* Includes septic system pump-outs, repair or replacement of failing systems, and installation of alternative systems when necessary

*Pet Waste Disposal:* Cleaning up after your pet prevents both

### WHAT YOU CAN DO!

Learn about financial incentives available to install Best Management Practices

Implement Best Management Practices on your property

Get involved with civic groups and watershed organizations

Give a copy of this fact sheet to your neighbor

### For more information contact

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