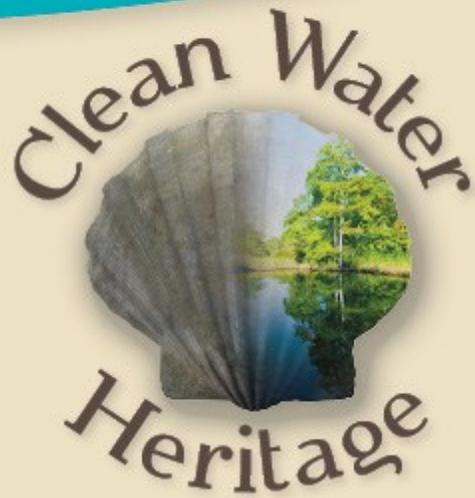


2016 Mill Creek Watershed



Water Quality Report



Restore & Protect

www.jamescitycountyva.gov/857/Stormwater

James City County Water Quality Strategies

As part of a long term commitment to environmental stewardship, James City County volunteers and staff have been gathering information about stream health throughout the County since 2008. The goal of collecting water quality information is to be able to identify emerging water quality problems, target areas for restoration and preservation, document improvements from citizen and County actions and provide educational and volunteer opportunities for the public.

Volunteers and staff collect two types of data: one looks at the types of small creatures that live in streams and the other provides an indication of the amount of harmful bacteria present in a stream. Together, this information provides evidence of the overall health of the County's waterways.

The following information is a summary of known water quality conditions in the County, gleaned from data collected by the Virginia Department of Environmental Quality, from the County's volunteer water monitoring program and from completed James City County watershed management plans. As more information becomes available, this report will be updated.

Mill Creek Watershed

The Mill Creek Watershed drains a small portion of James City County, yet it is the most developed of all County watersheds. It covers areas of shopping centers, strip malls, scattered office buildings, and residential developments — many of these with aging or undersized drainage systems. Most of the residences and all of the commercial space lie in the upper portion of the watershed, so development is highly focused in headwater streams. This is important, because the health of the headwater streams determines the health of the entire watershed. The lower portion of the watershed is a part of the James River floodplain and includes Lake Powell and portions of the Colonial Parkway.

Water Quality Conditions

The Virginia Department of Environmental Quality (VADEQ) has Mill Creek listed as polluted for: e. Coli bacteria, enterococcus bacteria, fecal coliform bacteria, dissolved oxygen and Polychlorinated Biphenyls (PCBs). Mill Creek's impairments for dissolved oxygen show that it's not able to sustain the aquatic life that should be found in it. The bacteria pollution and PCB impairments mean it might make people sick if they ingest water from it, or eat too much fish from it. In fact, VADEQ advises against shellfish harvesting, swimming, and fishing in Mill Creek.

In 1992, VADEQ began monitoring one station in Mill Creek, and when the bacteria levels began to exceed state standards in 2006, Mill Creek was put on Virginia's impaired waters list. In 2009, James City County began monitoring five locations for bacteria throughout the watershed. In 2010 James City County and the Commonwealth of Virginia developed a plan to minimize the bacterial loadings in the watershed.

Through the Stormwater Division's Water Quality Monitoring Program and the efforts of County staff and citizen volunteers, the benthic monitoring results indicate that, overall, Mill Creek water quality is considered stressed and gets poor scores in assessments. There are currently three sites in the Mill Creek Watershed being monitored every Spring and Fall.

Problems in the Watershed

- Headwater streams throughout the watershed show signs of deterioration due to increased stormwater runoff from development. Sediment from the eroding streams is causing problems for downstream properties throughout the watershed by clogging available drainage areas and altering stream flow channels. Stream bank erosion occurs from upstream urbanization.
- Assessments of Mill Creek neighborhoods determined that about half the lawns are high-maintenance, which can add excess pollutants into the waterways.

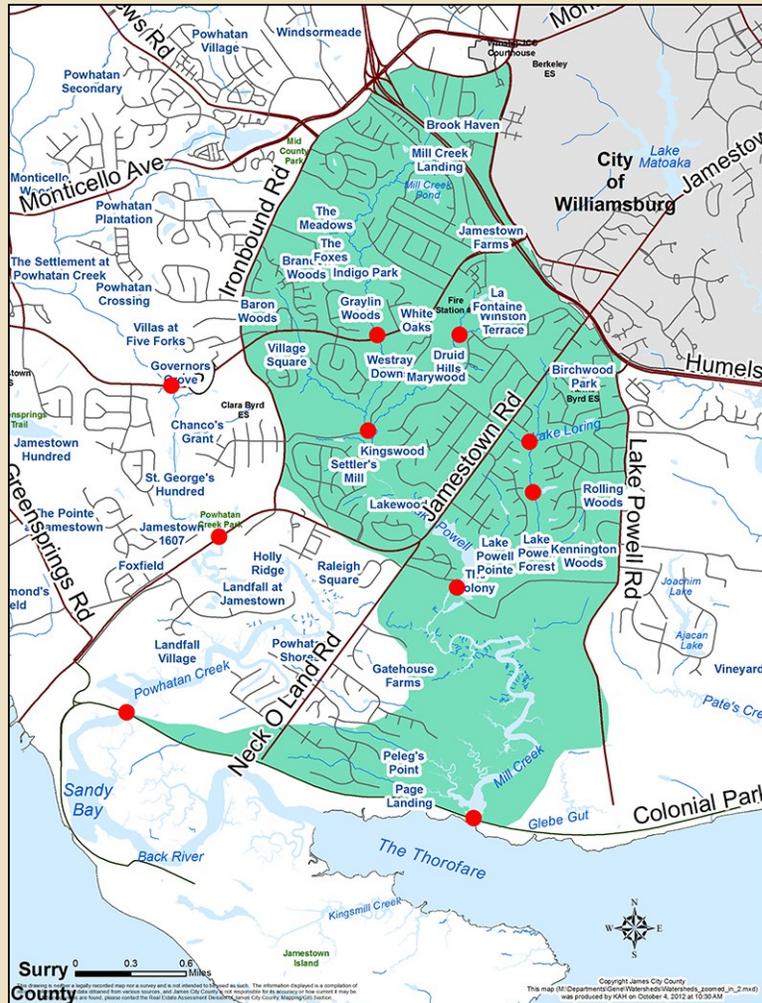
Completed Studies and Plans

- Mill Creek Watershed Management Plan (2011)
- Implementation Plan for the Fecal Coliform TMDL for the Mill Creek and Powhatan Creek (HRPDC, 2011)
- Bacteria Total Maximum Daily Load for Mill Creek and Powhatan Creek (VADEQ, 2008)
- Brook Haven Subdivision Drainage Study (2009)
- The Meadows Subdivision Stream Stabilization Concept Plan (2009)
- Gate House Farms Subdivision, Smokehouse Lane Drainage Study (1995)
- Mill Creek/Lake Powell Drainage Study (1988)

What Can Citizens Do?

- Clean up after your pet. Pet waste contains bacteria and viruses that are harmful to people and the environment.
- Fertilize properly. Learn about your soil and the type of grass in your yard to make a responsible fertilizing plan. Contact Turf Love at 757-564-2170 for help in identifying your yard needs.
- Leave a natural plant buffer around streams or stormwater ponds. Vegetation filters pollutants before they get to the water.
- Don't put fats and oils down the drain. Fatty deposits build up in the sewer system and can lead to sanitary sewer overflows, leaving harmful bacteria and viruses in the environment.
- Wash your car on the grass, not on pavement. Soap and grease will be filtered through the grass and soil before getting into groundwater.
- Plant a rain garden. These beautiful landscaped areas can act as a trap for rain water and can prevent erosion in areas where there is a lot of stormwater run-off.
- Power-wash with care. Look for cleaning products with environmentally-friendly ingredients.
- Don't put leaves and yard clippings in road ditches or on top of storm-drain inlets. Collect leaves and clippings for compost or drop off them off at a County transfer station.
- Go to askhrgreen.org for more helpful ideas.

Mill Creek Watershed Map



For More Information

If you are interested in more information, go to jamescitycountyva.gov/857/stormwater or call 757-259-1446.

James City County continues to be proactive in the protection and preservation of natural resources in its commitment to create and sustain a quality community. Remember...caring for our natural resources requires a team effort. Together, we can make sure water quality in Mill Creek Watershed is protected for generations to come.