



## COMMONWEALTH of VIRGINIA

Department of Health  
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### LOWER MACHODOC CREEK Growing Area # 005 Westmoreland County Shoreline Sanitary Survey

**Date:** 9 August 2023

**Survey Period:** February 1, 2023 – August 9, 2023

**Number of Samples Collected and Properties Surveyed:** 216

**Surveyed By:** J. Hudnall, J. Freidman, M. Farham, & I. Geeson

#### SECTION A: GENERAL

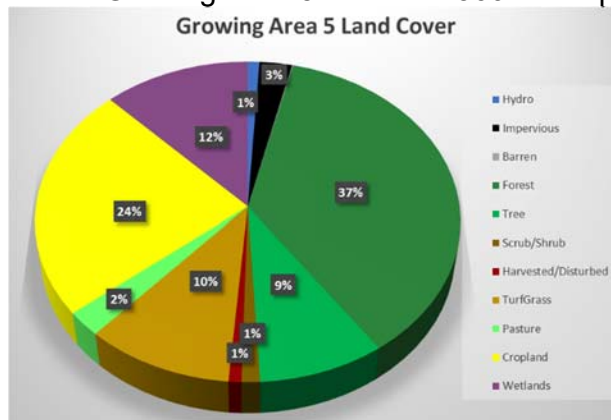
This survey area extends from Reference Point 5 at Kingcopsico Point to Reference Point 6 at Ragged Point, including the Potomac River shoreline between these two points, Lower Machodoc Creek, Herring Pond, Bettys Pond, Cabin Point Creek, Glebe Creek (Weatherall Creek and Ames Creek), Doyle Cove, Thompson Branch, Jones Branch, Drum Bay, Lee Creek, Mount Pleasant Branch, Hester Cove, Branson Cove, Blackbeard Pond and all their tributaries.

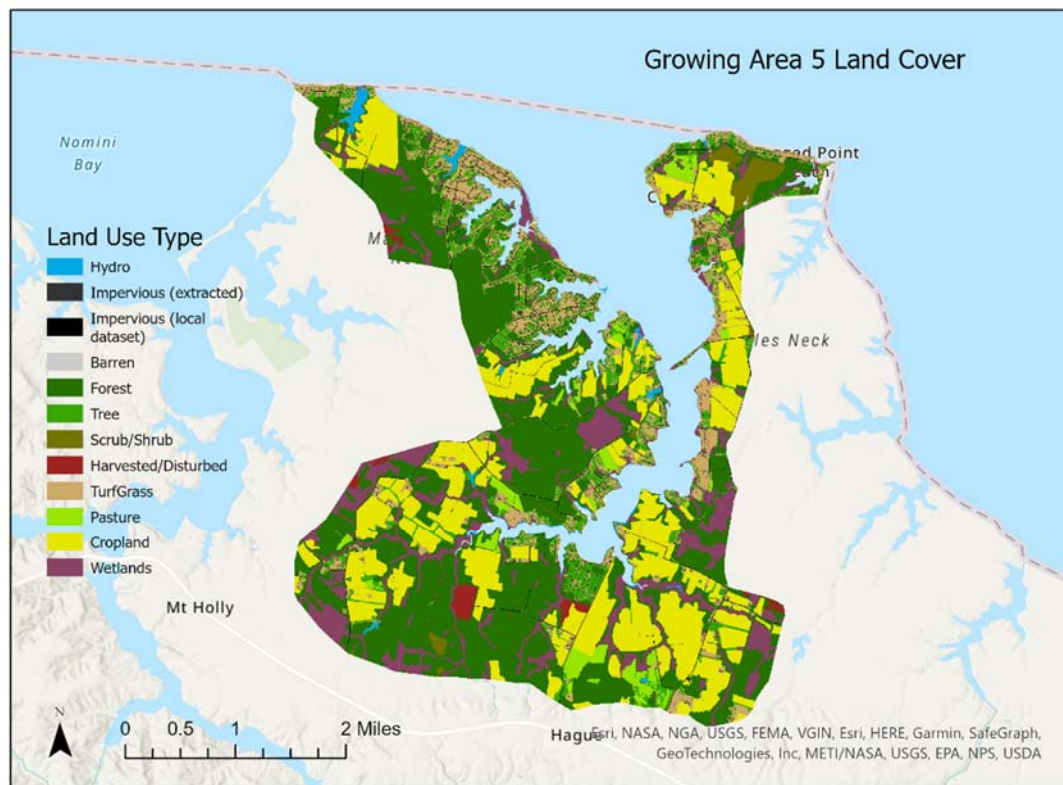
The terrain is relatively level throughout the survey area with elevations up to 30'. The western portions of the survey area have onsite sewage treatment systems. A portion of the survey area east of Lower Machodoc Creek and along the Potomac River from Grapevine Point to Ragged Point, are served by the Coles Point Sewage Treatment Plant.

The survey area falls within Westmoreland County. The population in Westmoreland County has grown an estimated 7.2 % since the 2010 census. The estimated population is around 18,700 people. Data from 2021 indicate there are 11,426 housing units. In 2022, 215 building permits were issued.

<https://www.census.gov/quickfacts/fact/table/US/PST045221>

Within Growing Area 5 there are 3604 land parcels. Land Cover data are shown below.





Source: [https://gismaps.vdem.virginia.gov/Download/Land\\_Cover/County\\_Report.pdf](https://gismaps.vdem.virginia.gov/Download/Land_Cover/County_Report.pdf)

Meteorological data indicated that 18.61" of rain fell during the survey period. A monthly breakdown is as follows:

Date range	Cumulative Rainfall (inches)	Avg. Monthly rainfall (2012-2022)
2/2023	1.07"	3.33"
3/2023	1.07"	3.10"
4/2023	6.01"	3.47"
5/2023	1.72"	4.61"
6/2023	3.15"	4.55"
7/2023	4.59"	5.43"
8/1/2023 - 8/9/2023	0.99"	n/a (partial month)

For this survey, nearshore seawater stations were established to survey the full extent of navigable waters beyond routine classification stations. Stations were created in closer proximity to the shoreline and farther upstream than routine stations and are intended to evaluate drainage entry points of potential point and nonpoint source pollution. Station data were analyzed to compare relative concentrations of fecal indicator bacteria within the waterway to identify potential onshore sources of contamination.

Hydrographic data, sampling times and range of enterococcus concentrations measured are shown in the table below. Maps of the enterococcus sampling are shown at the conclusion of this report.

Growing Area # 5 Nearshore Sampling					Rainfall in inches		
Sample dates	High Tide*	Ebb Current**	Sampling time	Enterococcus range (MPN/100ml)	Day of	Previous 24 hours	Previous 7 days
4/12/23	07:42	8:13	9:46-12:57	9-63	0	0	2.16"
4/13/23	08:48	9:25	9:51-12:25	9-445	0	0	2.16"
5/24/23	06:26	6:55	9:52-12:36	9-650	0	0	0.43"
5/25/23	07:13	7:38	10:12-11:00	9-259	0	0	0.29"
Total rainfall for nearshore sampling period (4/12/23 to 5/25/23): 4.96"							

\* High tide estimated from Ragged Point , Coles Neck NOAA Station ID # 2107.

\*\*Slack ebb current estimated from 2.2 Miles South of Piney Point NOAA Station ID #5726.

Information in this report is gathered by and primarily for use by the Division of Shellfish Safety, Virginia Department of Health, in order to fulfill its responsibilities of shellfish growing area supervision and classification. However, the data are made available to various agencies participating in shellfish program coordinated activities or other interested parties.

Copies of VPDES permits and inspections are available at the Department of Environmental Quality. A directory and interactive map are available via the internet at <https://www.deq.virginia.gov/permits-regulations/permits/water/surface-water-virginia-pollutant-discharge-elimination-system> and <https://geohub-vadeq.hub.arcgis.com/pages/Water%20Datasets>

Copies of Bacteriological, Hydrographic and Shellfish Closure data are available at the area office for review. Copies of the current condemnation notices and maps are available via the Internet at <https://www.vdh.virginia.gov/environmental-health/environmental-health-services/shellfish-safety/>

This report lists only those properties which have a sanitary deficiency or have other environmental significance. ***"DIRECT"*** indicates that the significant activity or deficiency has a direct impact on shellfish waters.

# Shoreline Survey # 005

## SECTION B: SEWAGE POLLUTION SOURCES

[illegible]

# Shoreline Survey # 005

## SECTION C: NONSEWAGE WASTE SITES

[illegible]

## SECTION D: BOATING ACTIVITY

[illegible]

# Shoreline Survey # 005

## SECTION E: ANIMALS PRESENT

[illegible]

## SUMMARY

Growing Area # 005  
Lower Machodoc Creek  
9 August 2023

### SECTION B: SEWAGE POLLUTION SOURCES

#### 1. SEWAGE TREATMENT FACILITIES

0 – DIRECT – None.  
0 – INDIRECT – None.  
0 – B.1. TOTAL

#### 2. ON-SITE SEWAGE DEFICIENCIES – Correction of deficiencies in this section is the responsibility of the local health department.

0 – CONTRIBUTES POLLUTION, DIRECT – None.  
0 – CONTRIBUTES POLLUTION, INDIRECT – None.  
0 – CP (Kitchen or Laundry Wastes), DIRECT – None.  
0 – CP (Kitchen or Laundry Wastes), INDIRECT – None.  
0 – NO FACILITIES, DIRECT – None.  
0 – NO FACILITIES, INDIRECT – None.  
0 – B.2. TOTAL

#### 3. POTENTIAL POLLUTION – Periodic surveillance of these properties will be maintained to determine any status change.

2 – POTENTIAL POLLUTION – # 728, 874

### SECTION C: NON-SEWAGE WASTE SITES

#### 1. INDUSTRIAL WASTE SITES

0 – DIRECT – None.  
0 – INDIRECT – None.  
0 – C.1. TOTAL

#### 2. SOLID WASTE SITES

0 – DIRECT – None.  
0 – INDIRECT – None.  
0 – C.2. TOTAL

#### 3. STORMWATER OUTFALLS

0 – DIRECT – None.  
0 – INDIRECT – None.  
0 – E. TOTAL

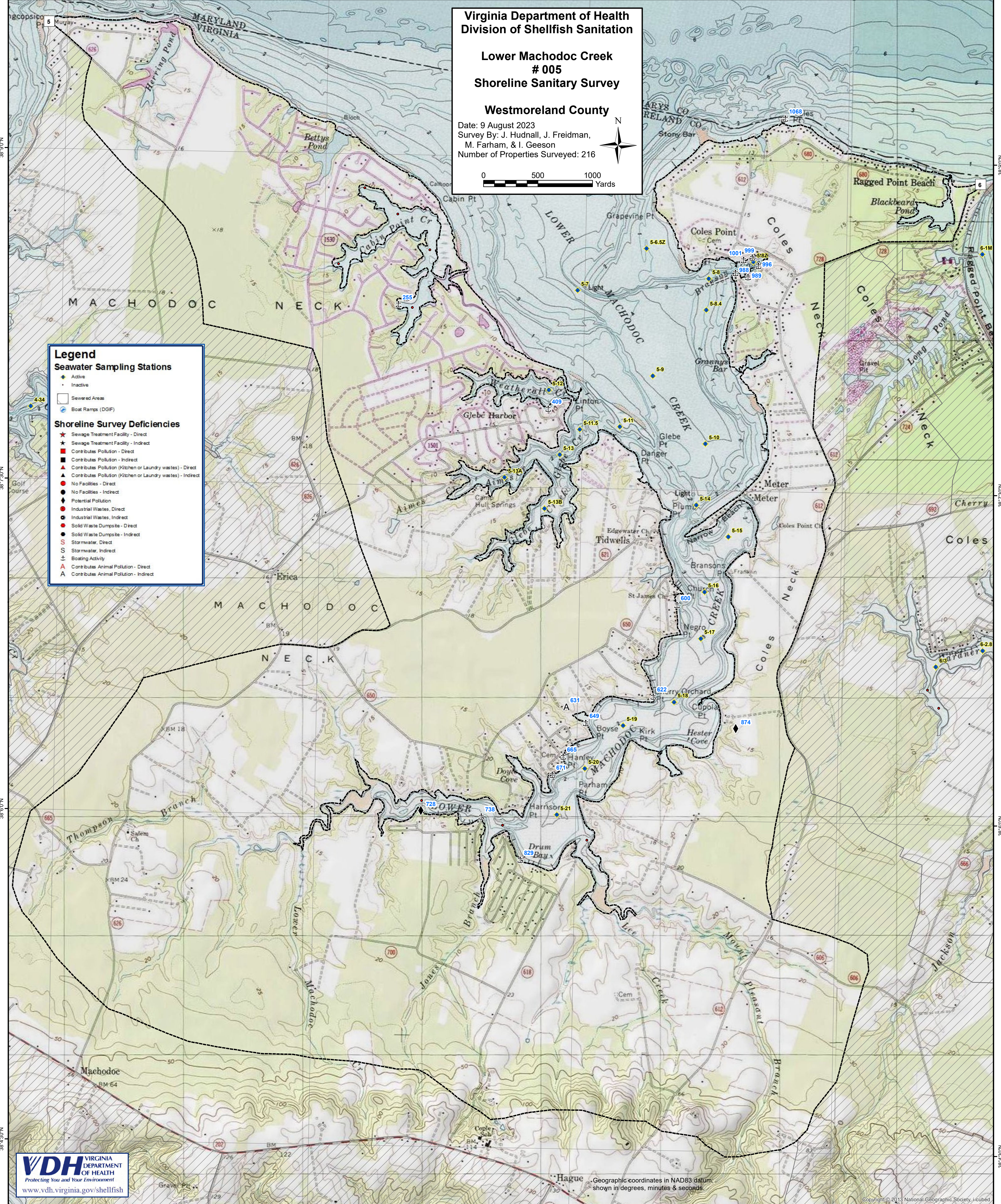
### SECTION D: BOATING ACTIVITY

5 – MARINA – # 829, 988, 996, 999, 1001  
10 – UNDER SURVEILLANCE – # 255, 409, 600, 622, 649, 665, 671, 738, 989, 1068  
15 – D. TOTAL

### SECTION E: ANIMALS PRESENT

0 – DIRECT – None.  
1 – INDIRECT – # 1001  
1 – E. TOTAL







# Near Shore Enterococcus Sampling Growing Area # 005 - Lower Machodoc Creek Westmoreland County

\* Highest value was 650 collected on 5/24/23.

