



COMMONWEALTH of VIRGINIA

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Lynnhaven River Growing Area # 070 Shoreline Sanitary Survey City of Virginia Beach

Date: July 3, 2025

Survey Period: February 11, 2025- July 3, 2025

Total Number of Properties Surveyed and Near-Shore Samples Collected: 379

Surveyed by: E. Yeargan, J. Dickerson, T. Egerton, I. Geeson, F. Monis, C. Turner, L. Sakach

SECTION A: GENERAL

This survey area includes the Lynnhaven River starting at the Lesner Bridge to the end of Inlet Road at the southern mouth of Long Creek, including the Lynnhaven River shoreline between those two points Crab Creek, Pleasure House Creek, Western Branch of the Lynnhaven River (Bayville Creek, Thoroughgood Cove, Witch Duck Bay, Thurston Branch of Thalia Creek, Buchanan Creek, Hebden Cove); Lynnhaven Bay (Keeling Cove, Dix Creek, Poorhouse Cove); Eastern Branch of Lynnhaven River (Pinetree Branch, London Bridge Creek, Wolfsnare Creek, Brown Cove, Great Neck Lake), Brock Cove, Keeling Drain, and all their tributaries.

For the most up-to-date Classification map, see [Virginia Shellfish Classification Map](#)
For the Growing Area Boundary Map, see: [Virginia Shellfish Growing Area Boundary Map](#)

The topography of the area varies from 5' or less along the shoreline to a maximum of 25' near the outer edge of the survey boundary. The population density is high throughout most of the growing area.

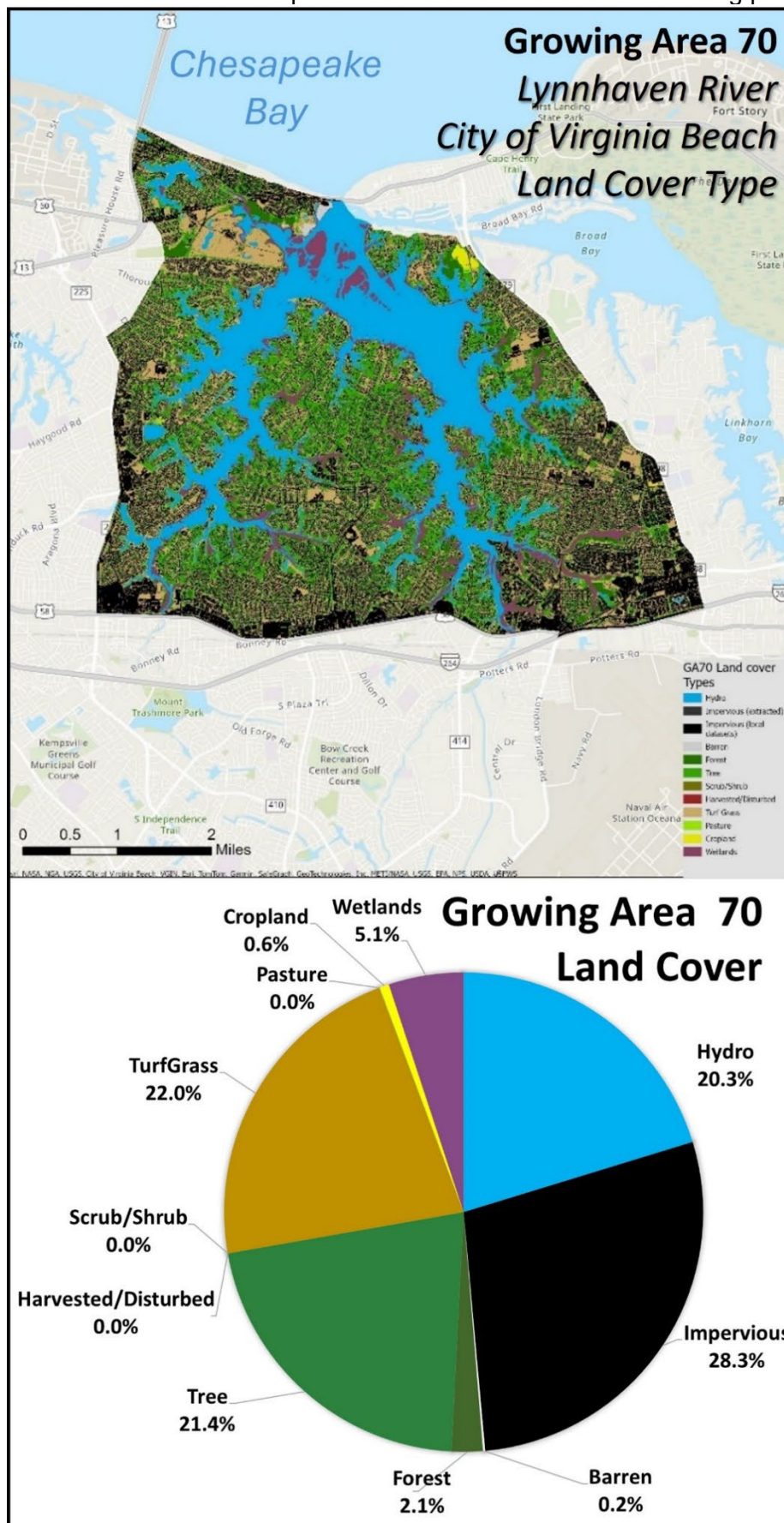
The City of Virginia Beach has sewered the vast majority of the survey area. The last remaining properties (<10) with onsite sewage disposal systems are located off Addington Road near Brock Cove. The sewered properties within Growing Area 70 are served by Hampton Roads Sanitation District with the wastewater being treated at the Atlantic Treatment Plant and discharged into the Atlantic Ocean (Growing Area 73).

Population and Landcover:

The 2020 census reported that there are an estimated 60,650 residents across 25,888 housing units in Growing Area 70 survey boundary within the City of Virginia Beach. The population density is 3,250 residents per square mile.

<https://www.census.gov/geographies/reference-maps/2020/geo/2020-census-block-maps.html>

Land Cover data are shown in the map below and summarized in the following pie chart.



Source: [Virginia Geographic Information Network Land Cover Dataset](#)

Rainfall Data:

Meteorological data indicated that 21.98" of rain fell during the survey period. A monthly breakdown is as follows:

Date range	Cumulative Rainfall (inches)	Avg. Monthly rainfall (2015-2024)
Feb 2025	5.68	3.28
March 2025	1.98	3.88
April 2025	2.98	3.88
May 2025	6.55	4.71
June 2025	4.77	5.22

Nearshore Water Sampling:

For this survey, nearshore seawater stations were established to assess navigable waters beyond the routine classification stations. These stations were generally positioned closer to the shoreline and farther upstream than the regular Classification stations, with the goal of evaluating drainage entry points for potential point and nonpoint source pollution. Data from these stations were analyzed to compare fecal indicator bacteria (FIB) concentrations in the waterway and identify possible onshore contamination sources.

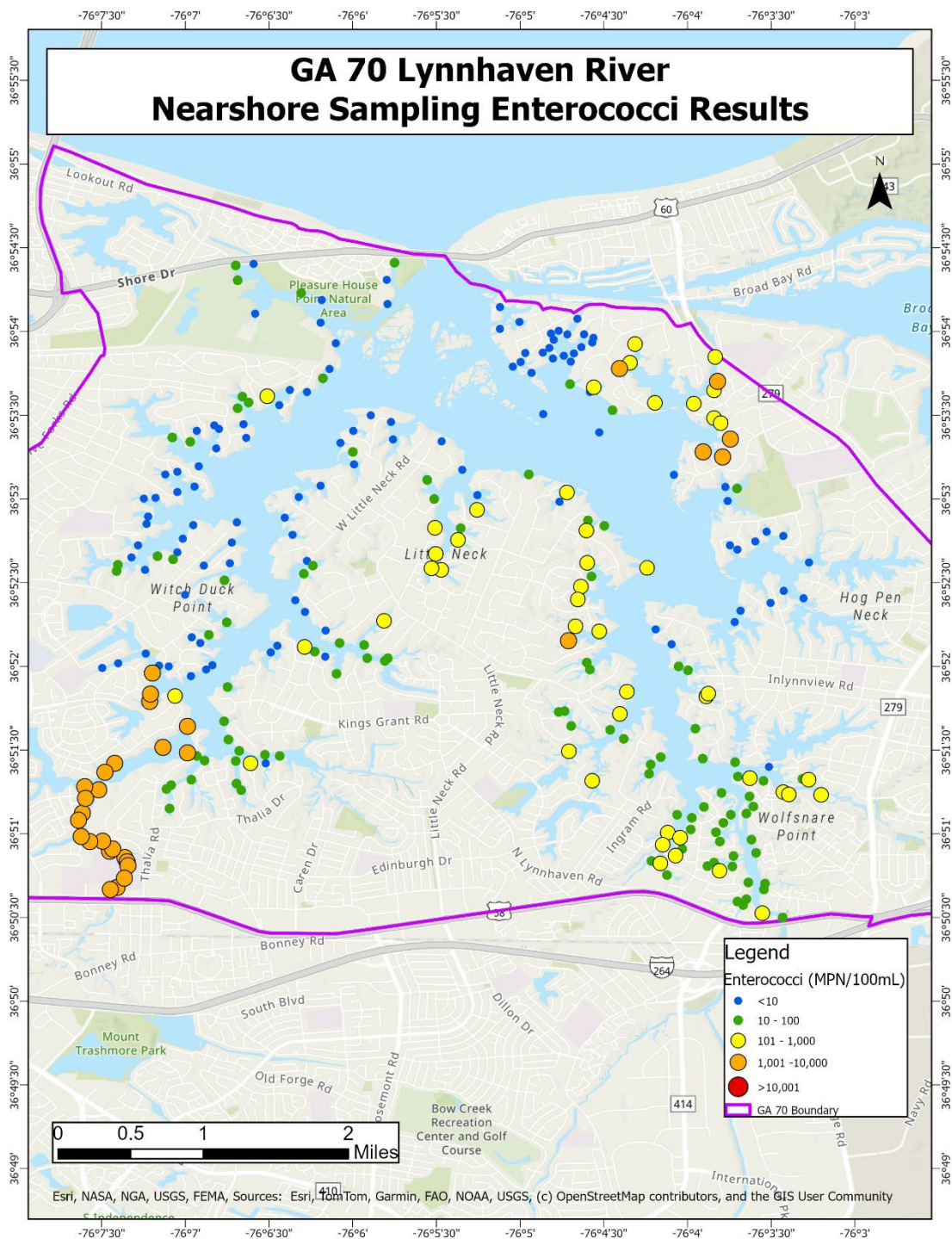
The samples in this survey were also tested for the human-associated molecular marker gene HF183, which can indicate recent human-source fecal pollution. Of the 295 nearshore samples analyzed for HF183, 48 samples were positive for HF183. The majority of these positive HF183 samples were found at low concentrations (<1,000 copies/100mL) suggesting dilution is occurring rapidly in the surface waters leading away from any onshore sources of sewage. HF183 detections were found primarily in the upstream extents of the Eastern and Western Branches of the Lynnhaven river, in Restricted areas well beyond where shellfish are being harvested. All the positive HF183 samples, except for one, came from shellfish waters that are currently classified as Restricted for shellfish harvesting at the time of the survey.

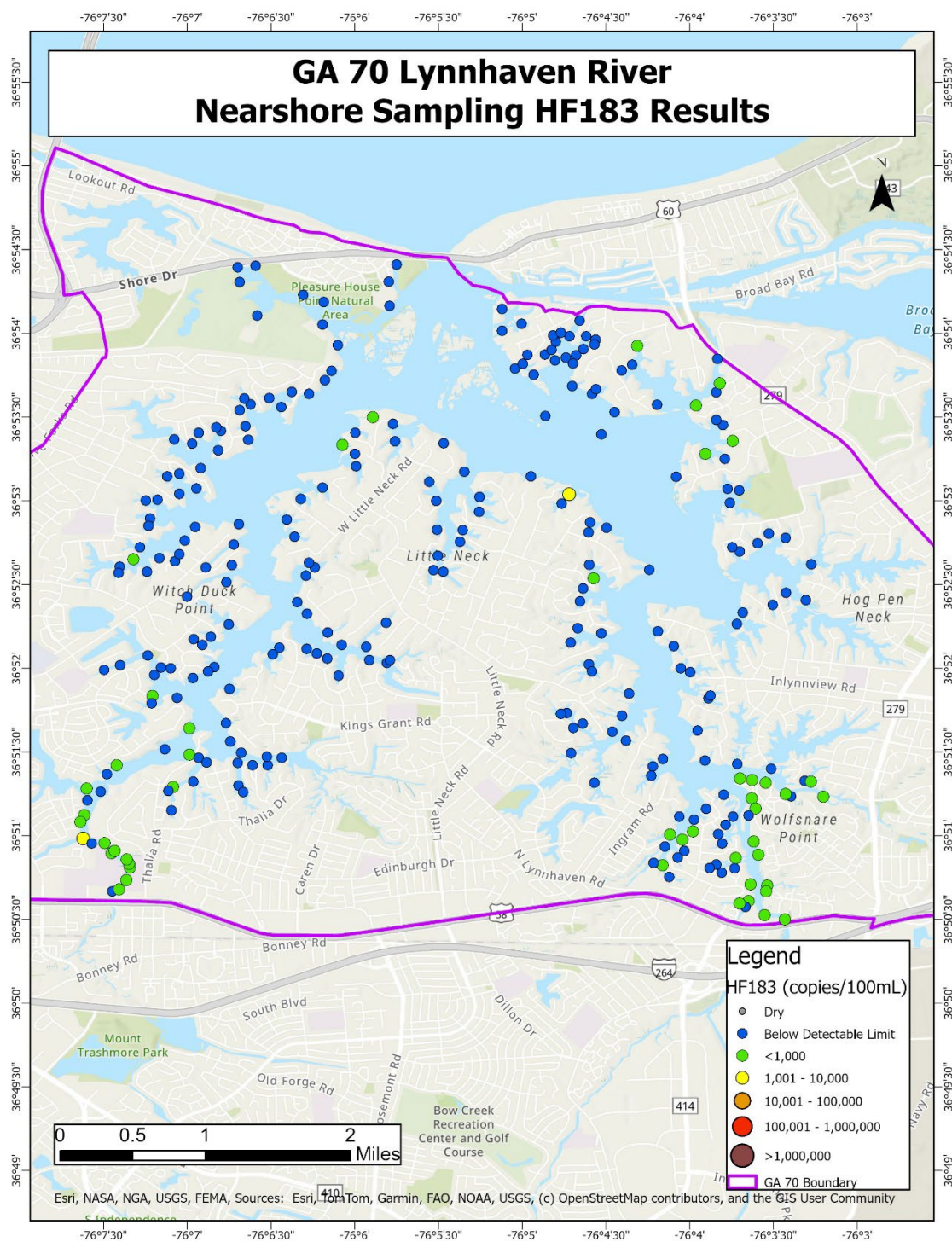
One sample from within the rainfall Conditionally Approved Area C1 was above the level of detection for HF183. This site was resampled one month later and came back below the level of detection. Further onshore investigation of the adjacent sewer and stormwater infrastructure did not indicate there was any ongoing source of sewage pollution in this area.

At the time of this report, sampling sites with positive detections are currently under further investigation through additional sampling and site visits of the nearshore waters as well as the adjacent stormwater network onshore in collaboration with the City of Virginia Beach and Hampton Roads Sanitation District. This collaboration has already led to the finding and fixing of two onshore sewage deficiencies during the time of this survey in adjacent growing areas. Collaborative microbial source tracking efforts will continue in this watershed to find and fix sewage related issues where they are found while also informing of any necessary future changes to the shellfish growing area's classification status.

The table below shows hydrographic data, sampling times, and the range of enterococcus concentrations measured. Maps of the enterococcus sampling locations are provided at the end of this report.

Growing Area #70 Nearshore Sampling				Rainfall in inches		
Sample dates	High Tide*	Sampling time	Enterococci range (MPN/100ml)	Day of	Previous 24 hours	Previous 7 days
2/11/25	8:13am	8:56-12:05	<10-185	0.77	0.27	1.48
2/12/25	8:52am	9:43-11:27	10-2,723	0.99	0.77	2.25
3/12/25	8:53am	10:37-12:44	<10-52	0	0.01	0.72
3/13/25	9:28am	10:15-12:38	<10-41	0	0	0.02
4/9/25	7:43am	9:52-11:45	<10-4,884	0	0.93	1.77
4/10/25	8:22am	9:20-12:25	<10-426	0	0	1.77
4/28/25	10:01am	10:48-12:14	<10-272	0	0.17	0.64
5/27/25	9:42am	10:22-12:10	<10-199	0.12	0.03	1.59
*High Tide estimated from VA Pilot Dock Lynnhaven Inlet, Virginia Beach, (NOAA ID 8638888)				Total rainfall for nearshore sampling period: 13.41"		





Notable Events Since Prior Shoreline Survey:

Since 2013, Lynnhaven River has been managed conditionally based on rainfall, with a 10 day closure put into place when 24 hour rainfall exceeds 1". In addition, the Lynnhaven River has had multiple emergency closures due to sewage spills and/or excessive rainfall and flooding associated with potential bacterial pollution. This included a precautionary closure in October 2016 associated with Hurricane Matthew and over 8 inches of rainfall in a 24 hour period. In February 2021, a utility break due to drilling lead to a spill of 281,000 gallons of raw sewage into the upper portion of the Western Branch of Lynnhaven River. An emergency closure was put into place and lifted after 21 days. In January 2023 a wastewater force main break resulted in a spill of 150,000 gallons of raw sewage into the Pleasure House Creek tributary of the Western Branch of Lynnhaven River. An emergency closure was put into place and lifted after 21 days. No illnesses were reported as a result of these incidents.

Marinas and Additional Marine Structures:

All marine structures (docks, piers, bulkheads) with a total length of 200' (double sided) or 330' (single side) within Growing Area 70 were measured and evaluated to determine whether they meet the NSSP definition for a "Marina". This evaluation was conducted using field observations from the boat and/or with current and historic satellite imagery to determine whether these structures are used for docking and constructed to provide temporary or permanent docking space for more than ten (10) boats. If these structures meet the NSSP Marina definition they are documented and evaluated as a Marina (Section D). There is **1** Marina in GA 70.

If they do not meet this definition they are documented as "Additional Marine Structures" on the Shoreline Survey Field Map Application. For the GA 70 survey, there are a total of **100** of these Additional Marine Structures.

Significant Properties and Deficiencies:

Information in this report is gathered by and primarily for use by the Division of Shellfish Safety and Waterborne Hazards, Virginia Department of Health, 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/water/surface-waters-vpdes> and [VPDES Permit Map](#)

Copies of bacteriological, hydrographical, and shellfish closure data are available at the area field office for review. Copies of the current condemnation notices and maps are available via the internet at www.vdh.virginia.gov/shellfish/.

This report lists only those properties that have sanitary deficiencies or have other environmental significance. "**DIRECT**" indicates that the significant activity or deficiency has a direct impact on the shellfish growing area waters. Individual field forms with full information on properties listed in this report are on file in the Richmond Office of the Division of Shellfish Safety and Waterborne Hazards and are available for reference until superseded by a subsequent survey of the area. Data in the report are also made available to local health departments and other agencies to address items that may be out of compliance with their regulatory programs.

**SECTION B: SEWAGE POLLUTION SOURCES
SEWAGE TREATMENT WORKS**

-None-

ONSITE SEWAGE DEFICIENCIES

-None-

POTENTIAL POLLUTION

-None-

**SECTION C: NON-SEWAGE WASTE SITES
INDUSTRIAL SITES**

-None-

SOLID WASTE DUMPSITES

-None-

**SECTION D: BOATING ACTIVITY
MARINAS**

Field ID	Boating Activity Type	Lat	Long	Address	Site Remarks	Number of Wet Slips	Over 7 boats present?	Evidence of Live Aboards
M1	Public Boat Ramp	36.9073	-76.0946	Lynnhaven Boat Ramp and Beach Facility, 3576 Piedmont Circle, Virginia Beach 23455	Virginia Beach public municipal boat ramp. No storage slips or moorings. On-shore sanitary facilities provided are 2 commodes, 2 urinals and 2 lavatories for men; and 4 commodes and 2 lavatories for women. There are 5 outdoor showers provided. 1 portable toilet is also present on the property. Sewage disposal is to HRSD. Solid waste containers are provided. There are no fuel services or boat holding tank pump-out or dump stations provided at this location.	18	No	No

SECTION E: ANIMALS

-None-

Growing Area #70
Lynnhaven River
July 3, 2025

SECTION B: SEWAGE POLLUTION SOURCES

1. SEWAGE TREATMENT WORKS

- 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.

- 0 – POTENTIAL POLLUTION – None

SECTION C: NON-SEWAGE WASTE SITES

1. INDUSTRIAL WASTE SITES

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

2. SOLID WASTE DUMPSITES

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

SECTION D: BOATING ACTIVITY

- 1 – MARINAS – M1
- 1 – D. TOTAL

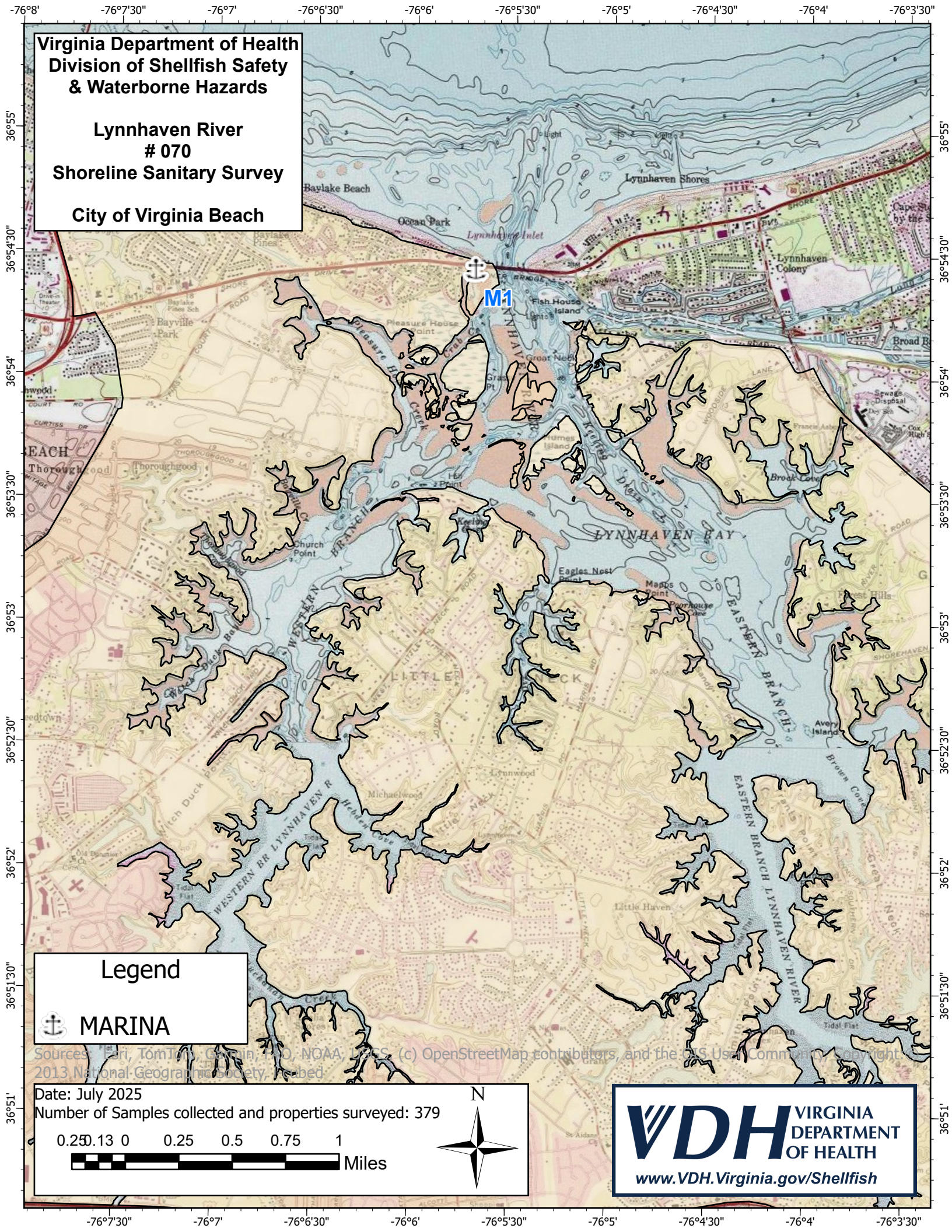
SECTION E: ANIMALS

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

Virginia Department of Health
Division of Shellfish Safety
& Waterborne Hazards

Lynnhaven River
070
Shoreline Sanitary Survey

City of Virginia Beach



Legend



MARINA

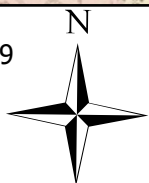
Sources: Esri, TomTom, Garmin, FDO, NOAA, USGS, (c) OpenStreetMap contributors, and the U.S. Government. Copyright 2013 National Geographic Society, Inc.

Date: July 2025

Number of Samples collected and properties surveyed: 379

0.25 0.13 0 0.25 0.5 0.75 1

Miles



VDH VIRGINIA
DEPARTMENT
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www.VDH.Virginia.gov/Shellfish