COMMONWEALTH of VIRGINIA
Department of Health
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CHUCKATUCK CREEK
Growing Area # 062
Isle of Wight County and City of Suffolk
Shoreline Sanitary Survey

Date: 22 May 2023
Survey Period: June 30, 2022 – February 31, 2023
Total Number of Properties Surveyed and Samples Collected: 502
Surveyed By: E. Yeargan, J. Dickerson, T. Egerton, I. Geeson, F. Monis, L. Sakach, & C. Turner

SECTION A: GENERAL

This survey area extends from Reference Point 63 at the most prominent northeast point above the northern boundary of Ballard Marsh to Reference Point 64 at Barrel Point, including the James River shoreline between these two points, Ballard Creek, Kings Creek, Cooper Creek, Batten Bay, Ragged Island Creek, Chuckatuck Creek, Winall Creek, Muddy Cove (Smith Neck Creek), Brewers Creek (Creer Creek and Green Swamp Creek), Sleepy Lake, and all of their tributaries.

The topography of the area is characterized by a large area of marshlands extending from reference point 63 along the shoreline and continuing to the northwestern edge of Ragged Island Creek. This area exceeds one mile in width in the vicinity of Cooper Creek and Ragged Island. Elevations rise from sea level around the shoreline to a maximum of 25' near the western survey boundary.

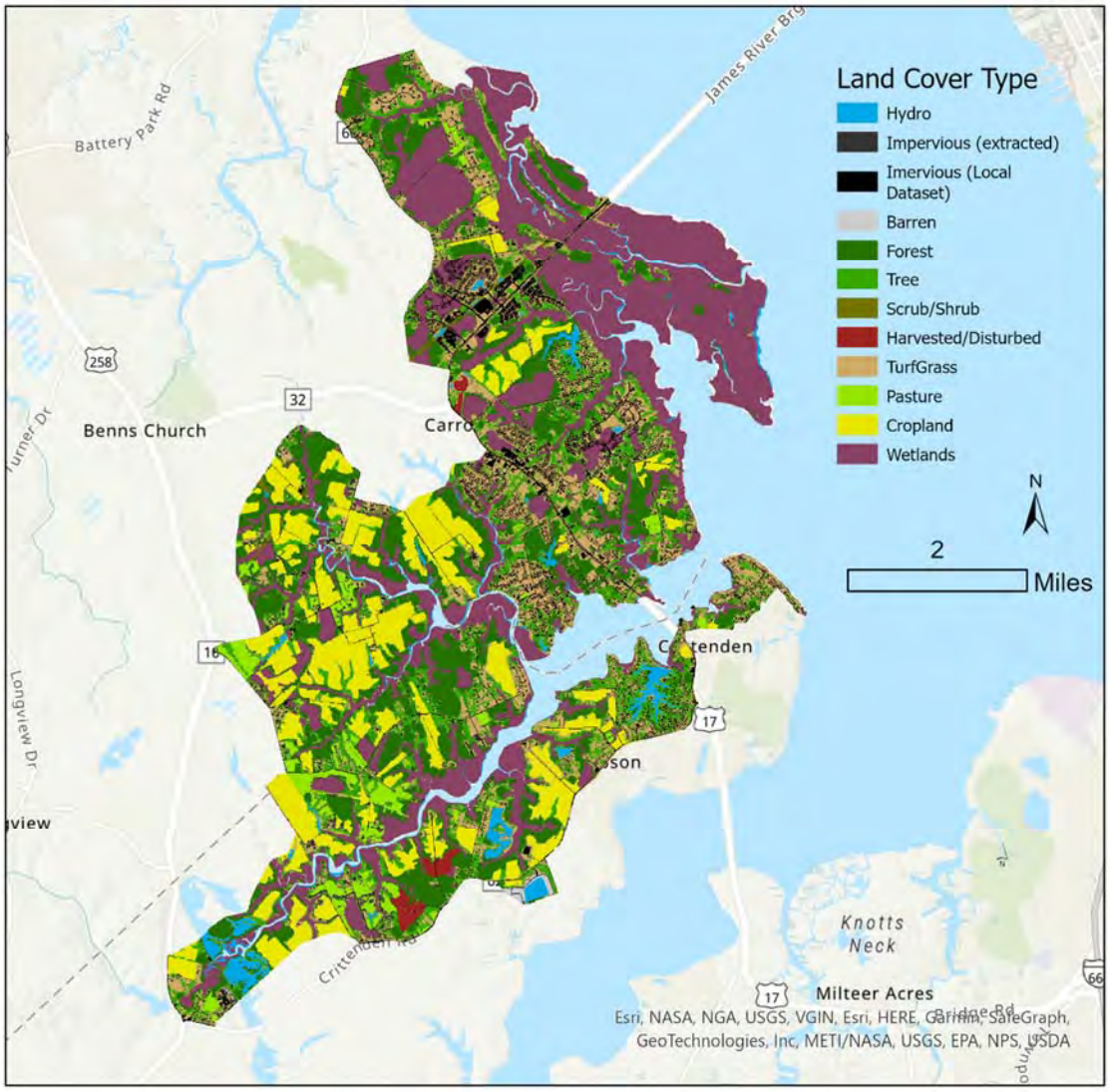
The Chuckatuck Creek and Brewers Creek watersheds fall within City of Suffolk and Isle of Wight County. The population in Suffolk is estimated to have increased by 14% from April of 2010 from 84,585 to 98,537 as of July 2022. Data from 2021 indicate there are 39,558 housing units. 669 new building permits were issued in 2022.
The population in Isle of Wight County is estimated to have increased by 12% from April of 2010 from 35,270 to 40,151 as of July 2022. Data from 2021 show 16,761 housing units. In 2022, 514 new building permits were issued.
https://www.census.gov/quickfacts/fact/table/US/PST045221

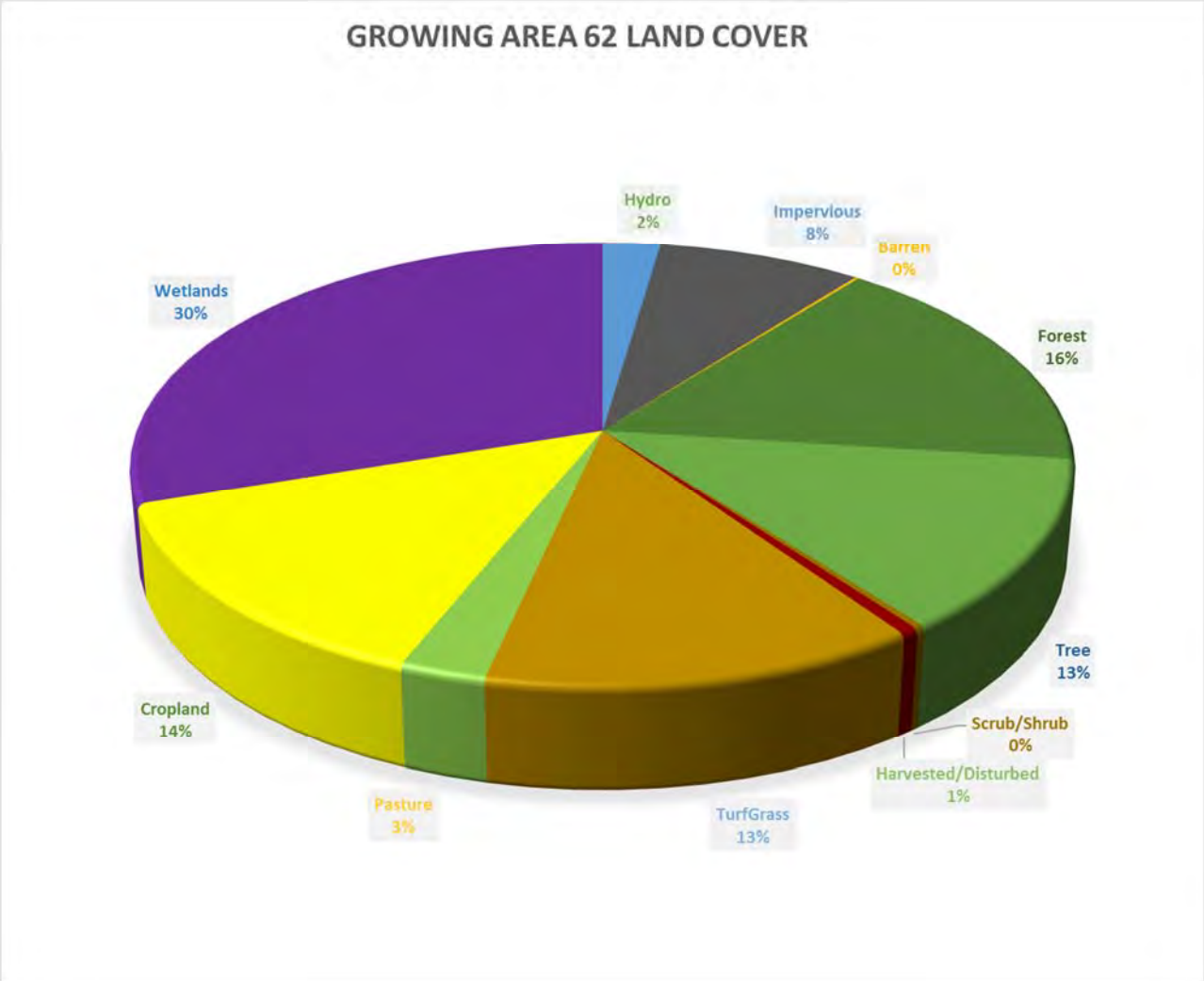
Boating activity is moderate, with seasonal recreational boaters and commercial fishermen comprising much of the activity.

The area includes populations served by sanitary sewer (Hampton Roads Sanitation District) which is conveyed to and treated at the Nansemond Sewage Treatment facility (discharges into James River near Craney Island) as well as those with onsite sewage systems. Sewer service is generally contained to the Eastern/ downstream section of the growing area surrounding the Route 17 corridor and associated developments. Stormwater

structures also vary within the growing area. Newer residential developments, primarily in the Eastern/ downstream section include piped stormwater networks draining to outfalls, while the more rural sections of the growing area include surface runoff, open swales and ditches.

Within Growing Area 62, there are 4,316 land parcels. Land Cover data are shown below. More information about Land Cover Types can be found at the following link.
https://gismaps.vdem.virginia.gov/Download/Land_Cover/Land_Cover_Use_Case_Scenarios.pdf





Source: https://vgin.maps.arcgis.com/apps/View/index.html?appid=d3d51bb5431a4d26a313f586c7c2c848

Meteorological data indicated that 26.8" of rain fell during the survey period. A monthly breakdown follows:

Date range	Cumulative Rainfall (inches)	Avg. Monthly rainfall (2012-2022)
6/30/2022	0	---
7/2022	4.54	5.07
8/2022	2.73	5.65
9/2022	3.7	5.35
10/2022	2.51	4.57
11/2022	3.28	3.20
12/2022	3.44	3.71
1/2023	3.53	3.90
2/2023	3.07	3.37

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 # 62 Nearshore Sampling							Rainfall in inches	
Sample dates	# of boats	High Tide*	Ebb Current**	Sampling time	Enterococcus range (MPN/100ml)	Day of	Previous 24 hours	Previous 7 days
8/24/22	3	08:39	09:30	9:26-12:10	<10-1,396	0	0	0.21
9/7/22	1	07:39	08:44	9:09-11:52	<10-1,334	0.01	0.04	0.04
9/8/22	1	08:39	09:50	9:34-12:27	10-495	0.04	0.01	0.05
9/14/22	1	13:24	15:08	11:59-12:13	<10	0	0	0.94
9/21/22	3	07:18	08:17	8:01-11:00	<10-638	0	0	0
9/22/22	2	08:07	09:12	8:24-11:27	<10-4,106	0.07	0	0
10/4/22	•	05:17•	06:34•	10:12 – 13:47	10- 14,136	0.13	0.29	3.59
10/5/22	•	06:28•	07:48•	11:04 – 12:56	109 - >24,196	0.02	0.13	3.71
10/24/22	1	09:35	11:16	11:02-12:56	31-1,076	0	.25	.83
10/25/22	2	10:16•	11:59•	10:55-12:33	<10-2,755	0	0	.59
11/28/22	•	13:14•	14:52*	9:07 – 12:40	109 - >24,196	0.00	0.62	1.31
1/5/23	1	08:43•	10:43•	11:40 – 12:15	<10 - 63	0.00	0.08	0.96
Total rainfall for nearshore sampling period (8/24/22 - 1/5/23)								13.35”.

Land based outfall collections.
* High tide estimated from Pig Point NOAA Station ID 2235.
**Slack ebb current estimated from 1.8 NE of Pig Point NOAA Station ID 5201,

The Virginia Department of Environmental Quality in cooperation with Isle of Wight County and the City of Suffolk released a Water Quality Implementation Plan in 2015 for the Chuckatuck Creek and Brewers Creek Watersheds for bacterial impairments in the watershed. The plan called for the reduction of bacterial contamination through implementing agricultural (cover crop, buffers, etc.), residential (septic repairs, pet stations, etc.) and educational programs in multiple phases with a cost estimate of approximately $2.1 million over a 20 year period.
https://www.deq.virginia.gov/home/showpublisheddocument/8388/637540063402870000

In January 2021, a 36” primary force main on 16th street in Newport News suffered a major line break resulting in approximately 29 million gallons of raw sewage being released into Growing Area 56. An emergency closure was put in place on 1/5/21 that restricted parts of several growing areas which included portions of Growing Area 62. The impacted waters

reverted to their previous classification status by 4/13/21. Water quality and shellfish tissue samples were evaluated at multiple locations before the closure was lifted.

In addition to the Shoreline Sanitary Survey, the Chuckatuck Creek and Brewers Creek Watersheds are a part of an enhanced pollution source assessment study. Stormwater and sewer conveyance pipes and outfall locations were reviewed in GIS layers made available by the City of Suffolk and Hampton Roads Sanitation District. Stormwater outfalls and conveyance points were identified to visit onshore under both dry and wet weather conditions with water samples collected when water was present. These targeted sample collections were analyzed for enterococcus, a fecal indicator bacterium, as well as the molecular marker gene HF183 which may indicate the presence of recent human-source fecal pollution. The enhanced pollution assessment study is ongoing at the time of this report.

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.

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SECTION B: SEWAGE POLLUTION SOURCES

	GA #	Field #	Inspection Date	Deficiency or Pollution Type	Latitude	Longitude	Pollutant Remarks	Septic System Type	Structure Type	Contact	Overall Site Remarks	Locality	DSS Staff	Date of Correction	Correction Notes
2098	62	CC2	11/1/2022	POTENTIAL POLLUTION	36.970750	-76.547924	Prior 2011 survey report indicated cracked septic lid with sanitary notice issued on 1/9/11. Unable to make contact with property owner and could not verify if repair was made.		Dwelling	N	Visited property on 11/1/22 unable to make contact with owner.	Isle of Wight	CT		
2105	62	E30	11/1/2022	POTENTIAL POLLUTION	36.947131	-76.515822	Prior report listed Laundry waste discharging from buried green garden hose into private lake with Sanitary Notice Issued on 2/7/11. Unable to make contact.		Dwelling	N	Dwelling - 2 story brown frame.	Isle of Wight	EY		Unable to verify if previous deficiency was corrected.

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SECTION C: NONSEWAGE WASTE SITES

	GA #	Field #	Inspection Date	Deficiency or Pollution Type	Latitude	Longitude	Pollutant Remarks	Septic System Type	Structure Type	Contact	Overall Site Remarks	Locality	DSS Staff
2120	62	FM3	1/31/2023	INDUSTRIAL WASTES, indirect	36.884346	-76.560030	Observed one 1000 gallon diesel tank and two 3000 gallon liquid fertilizer tanks with berms.		Agri	Y	Cotton Plains Farm	Suffolk	FM
2123	62	LS2	11/7/2022	INDUSTRIAL WASTES, indirect	36.921833	-76.533500	Agricultural farm. Tanks for diesel fuel present.		Agri	Y		Isle of Wight	LS
2103	62	E28	11/1/2022	SOLID WASTE DUMPSITE, indirect	36.961818	-76.526870	Prior 2011 survey listed property as having 4 dumpsters and a RV.			N	Not able to access property due to gate across end of driveway.	Isle of Wight	EY

SECTION D: BOATING ACTIVITY

	GA #	Field #	Inspection Date	Deficiency or Pollution Type	Latitude	Longitude	Pollutant Remarks	Septic System Type	Structure Type	Contact	Overall Site Remarks	Locality	Boating Activity Type	Number of Wet Slips	NUM BOATS <26'	NUM BOATS >26'	Evidence of Live-Aboards	DSS Staff
3088	62	G985	3/3/2023	BOATING ACTIVITY	36.912735	-76.500442	Restricted access. Restrooms available for staff. Pumpout exempt.	NA	Marine	Y	Volvo Penta. Research and development facility, no service, no inhabited boats.	Suffolk	Marina	32	0	0	N	
2122	62	E24	3/30/2023	BOATING ACTIVITY	36.907167	-76.525722	Private Community Boat Ramp	NA	Marine		Private Community Boat Ramp.	Suffolk	Under Surveillance	0	0	0	N	EY
2110	62	G924	4/24/2023	BOATING ACTIVITY	36.920559	-76.493004			Marine	N	Dock in disrepair. LHD lists facility as closed.	Suffolk	Under Surveillance	0	0	0	N	IG
2111	62	G971	3/13/2023	BOATING ACTIVITY	36.916585	-76.494375	Primarily workboats.	NA	Marine	N		Suffolk	Under Surveillance	9	0	0	N	IG
3087	62	G983	3/3/2023	BOATING ACTIVITY	36.914810	-76.498048		Privy	Marine		Inspected shellfish facility.		Under Surveillance	7	0	0	N	IG

SECTION E: CONTRIBUTES ANIMAL POLLUTION

	GA #	Field #	Inspection Date	Deficiency or Pollution Type	Latitude	Longitude	Pollutant Remarks	Septic System Type	Structure Type	Contact	Overall Site Remarks	Locality	DSS Staff
2115	62	G2A	1/5/2023	CONTRIBUTES ANIMAL POLLUTION, direct	36.899980	-76.521054	9 Cattle with creek access. Manure worked into soil 2-3 times per year with drag.			Y	25 acres of pasture shared.	Suffolk	IG
2097	62	CC1	11/7/2022	CONTRIBUTES ANIMAL POLLUTION, indirect	36.983531	-76.541546	2 horses present in fenced pasture.			N		Isle of Wight	CT
2099	62	CC3	11/7/2022	CONTRIBUTES ANIMAL POLLUTION, indirect	36.974321	-76.535952	4 horses present in fenced pasture.			N		Isle of Wight	CT
2100	62	CC4	11/7/2022	CONTRIBUTES ANIMAL POLLUTION, indirect	36.971607	-76.534524	2 horses present in fenced pasture.			N		Isle of Wight	CT
5027	62	E25	11/1/2022	CONTRIBUTES ANIMAL POLLUTION, indirect	36.963502	-76.529037	30 chickens on property.			Y		Isle of Wight	EY
5030	62	E26	11/1/2022	CONTRIBUTES ANIMAL POLLUTION, indirect	36.962086	-76.532119	2 ponies fenced in on property.			N		Isle of Wight	EY
5029	62	E27	11/1/2022	CONTRIBUTES ANIMAL POLLUTION, indirect	36.962165	-76.539690	Kennels inside fenced in backyard with dogs and cats and other animals.			N		Isle of Wight	EY
5028	62	E29	11/1/2022	CONTRIBUTES ANIMAL POLLUTION, indirect	36.962728	-76.536732	10-15 chickens fenced in on property.			N		Isle of Wight	EY
2121	62	FA4	1/5/2023	CONTRIBUTES ANIMAL POLLUTION, indirect	36.898291	-76.532155	Present at time of survey were 4 horses in pasture. Gated-no access to property. Manure is used as a fertilizer.		Agri	N	Fair Oaks Stable	Suffolk	FM
2119	62	FA5	3/3/2023	CONTRIBUTES ANIMAL POLLUTION, indirect	36.885338	-76.532595	Present at time of survey were 2 horses in pasture. Manure is left on ground. No contact made.		Agri	N		Suffolk	FM
4990	62	G1A	11/4/2022	CONTRIBUTES ANIMAL POLLUTION, indirect	36.908677	-76.500414	2 fenced in horses.			N		Suffolk	IG
4991	62	G2	1/5/2023	CONTRIBUTES ANIMAL POLLUTION, indirect	36.877623	-76.552512	5 horses in fence.			N		Suffolk	IG
4992	62	GA3	1/25/2023	CONTRIBUTES ANIMAL POLLUTION, indirect	36.900071	-76.545731	2 Horses in fence.			N		Isle of Wight	IG
4993	62	G4	1/25/2023	CONTRIBUTES ANIMAL POLLUTION, indirect	36.900963	-76.532361	2 horses in fence.			N		Isle of Wight	IG
2106	62	LS3	11/7/2022	CONTRIBUTES ANIMAL POLLUTION, indirect	36.928962	-76.502719	2 horses observed in fenced pasture.		Dwelling	N		Isle of Wight	LS
2108	62	LS5	11/7/2022	CONTRIBUTES ANIMAL POLLUTION, indirect	36.925670	-76.504692	11 horses observed in fenced pastures.		Dwelling	N		Suffolk	LS
5048	62	TE11	12/21/2022	CONTRIBUTES ANIMAL POLLUTION, indirect	36.883779	-76.533075	5 horses present at time of survey in fenced pasture.			N	5 horses at time of survey in fenced pasture.	Suffolk	TE

SUMMARY

Growing Area # 062
Chuckatuck Creek
22 May 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 – # CC2, E30

SECTION C: NON-SEWAGE WASTE SITES

1. INDUSTRIAL WASTE SITES

0 – DIRECT – None.
2 – INDIRECT – # FM3, LS2
2 – C.1. TOTAL

2. SOLID WASTE DUMPSITES

0 – DIRECT – None.
1 – INDIRECT – # E28
1 – C.2. TOTAL

3. STORMWATER OUTFALLS

0 – DIRECT – None.
0 – INDIRECT – None.
0 – C.3. TOTAL

SECTION D: BOATING ACTIVITY

1 – MARINAS – # G985
4 – UNDER SURVEILLANCE – # E24, G924, G971, G983
5 – D. TOTAL

SECTION E: CONTRIBUTES ANIMAL POLLUTION

1 – DIRECT – # G2A
16 – INDIRECT – # CC1, CC3, CC4, E25, E26, E27, E29, FA4, FA5, G1A, G2, GA3, G4, LS3, LS5, TE11
17 – E. TOTAL

Virginia Department of Health
Division of Shellfish Sanitation

Chuckatuck Creek
062
Shoreline Sanitary Survey

Isle of Wight County
and City of Suffolk

N

Date: 22 May 2023
Survey By: E. Yeargan, J. Dickerson, T. Egerton, I. Geeson, F. Monis, L. Sakach, & C. Turner
Number of Properties Surveyed and Samples Collected: 502

0 0.5 1 Miles

76°34'30"W 76°33'0"W 76°31'30"W 76°30'0"W

36°58'30"N 36°57'0"N 36°55'30"N 36°54'0"N 36°52'30"N

CC1 CC2 CC3 CC4 E25 E27 E29 E26 E28 E30 LS2 LS3 LS5 FM3 FA4 FA5 TE11 GA3 G4 G2A G2 E24 62-14 62-14.5 62-T57 62-X57 62-2B 62-2A 62-2 62-1 62-3 62-3.5 62-4 62-5 62-6 62-7 62-8 62-9 62-9.1A 62-10 G924 G971 G983 G985 G1A 63-1B 63-5

Geographic coordinates in NAD83 datum; shown in degrees, minutes & seconds.

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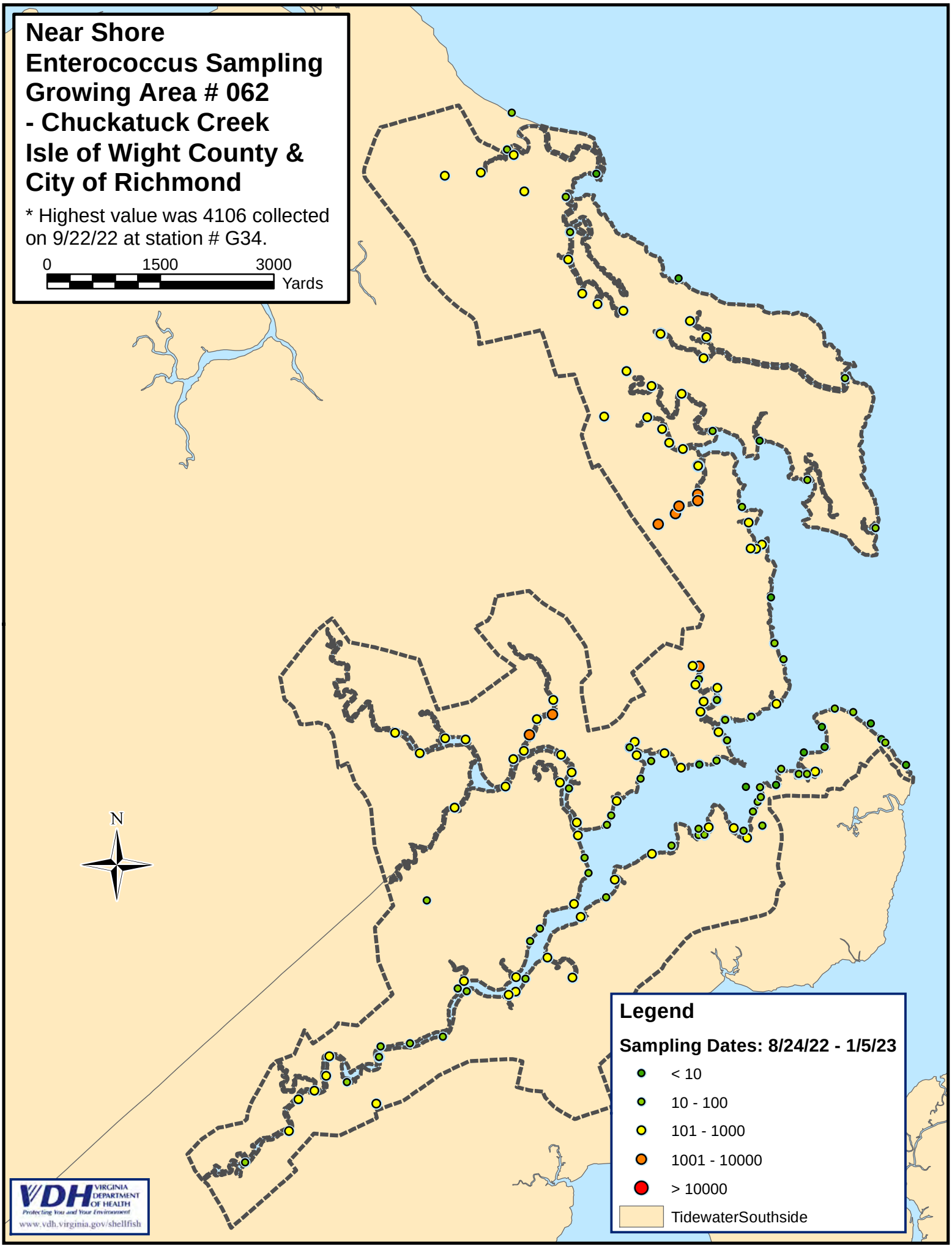
Legend

Seawater Sampling Stations
- Active
- Inactive

Sewered areas

DGIF Boat Ramps

Shoreline Survey Deficiencies
- Sewage Treatment Facility - Direct
- Sewage Treatment Facility - Indirect
- Contributes Pollution - Direct
- Contributes Pollution - Indirect
- Contributes Pollution (Kitchen or Laundry wastes) - Direct
- Contributes Pollution (Kitchen or Laundry wastes) - Indirect
- No Facilities - Direct
- No Facilities - Indirect
- Potential Pollution
- Industrial Wastes, Direct
- Industrial Wastes, Indirect
- Solid Waste Dumpsite - Direct
- Solid Waste Dumpsite - Indirect
- Boating Activity
- Contributes Animal Pollution - Direct
- Contributes Animal Pollution - Indirect


Near Shore
Enterococcus Sampling
Growing Area # 062
- Chuckatuck Creek
Isle of Wight County &
City of Richmond
* Highest value was 4106 collected on 9/22/22 at station # G34.
0
1500
3000
Yards
N
Legend
Sampling Dates: 8/24/22 - 1/5/23
< 10
10 - 100
101 - 1000
1001 - 10000
> 10000
TidewaterSouthside
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GA62: Chuckatuck Creek Microbial Source Tracking