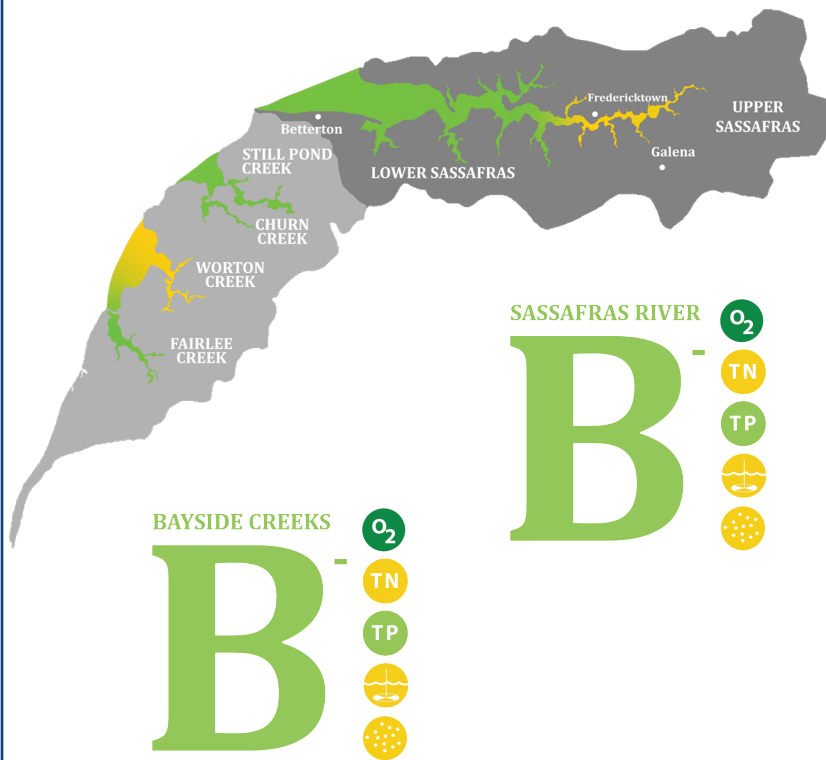


# SASSAFRAS RIVER & BAYSIDE CREEKS REPORT CARD

## 2022

### BAY HEALTH SCALE



The 2022 water quality scores for the SassafRAS River and Bayside Creeks show that while almost all parameters are trending in a positive direction, excess nitrogen, low water clarity, and high levels of chlorophyll *a* continue to be detrimental to the health of these waterways.

Water clarity is the only measured parameter that hasn't shown much sign of improvement over the past several years. The overall Water Quality Index shows that the Upper SassafRAS only meets acceptable water quality standards 58% of the time, while the Lower SassafRAS meets these standards 72% of the time, and the Bayside Creeks meet these standards 63% of the time.

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- O<sub>2</sub>** DISSOLVED OXYGEN
  - TN** TOTAL NITROGEN
  - TP** TOTAL PHOSPHORUS
  - Water Clarity** WATER CLARITY
  - Chlorophyll A** CHLOROPHYLL A
- ShoreRivers uses Mid-Atlantic Tributary Assessment Coalition scientific protocols to collect and evaluate water quality data. A numeric **Water Quality Index** is calculated using established thresholds for water quality parameters, then converted to a letter grade.

	DISSOLVED OXYGEN	TOTAL NITROGEN	TOTAL PHOSPHORUS	WATER CLARITY	CHLOROPHYLL A	WATER QUALITY INDEX	2022 GRADE
SassafRAS River	97%	59%	66%	41%	58%	64%	B-
Still Pond Creek	100%	51%	76%	43%	57%	65%	B
Churn Creek	100%	51%	81%	47%	61%	68%	B
Worton Creek	100%	51%	54%	35%	46%	57%	C+
Fairlee Creek	100%	52%	65%	37%	61%	63%	B-

# BACTERIA MONITORING ON THE SASSAFRAS & BAYSIDE CREEKS | 2022

Site Name	Pass Rate	Average Failing CFU*
Fox Hole Landing	75%	162
Budds Landing	100%	Never Failed
Shorewood Estates	75%	277
Georgetown Bridge	100%	Never Failed
Indian Acres	92%	341
Kentmore Park	92%	318
Turner's Creek	75%	304
Cheshaven	100%	Never Failed
Betterton Beach	75%	324
Still Pond Creek	100%	Never Failed
Churn Creek	75%	199
Worton Creek	67%	2191
Fairlee Creek	83%	254

CFU = Coliform Forming Units  
Pass/Fail Threshold = 104 CFU

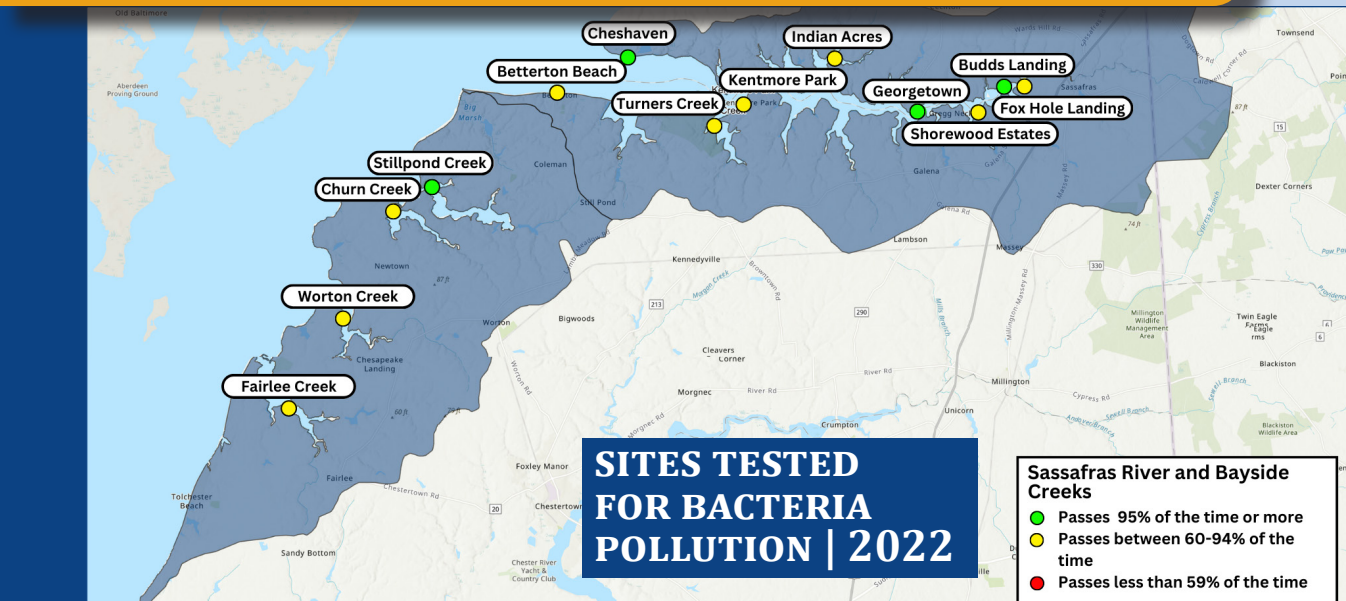
\*Indicates the average of all failing scores this season

As part of the Swimmable ShoreRivers program, volunteer SwimTesters sample for bacteria at popular public access locations. Tests are conducted weekly from Memorial Day through Labor Day. The program follows the Environmental Protection Agency's standard protocols for collecting and analyzing samples and uses a pass/fail system to determine if bacteria levels are safe or unsafe for swimming.

We're especially thankful for this watershed's strong community support for this program—our Fox Hole Landing, Budds Landing, Shorewood Estates, Kentmore Park, and Cheshaven sites are all paid for by residents of those neighborhoods! Tidal flow, temperature, and rainfall vary at each site and can cause bacteria levels to spike at various rates, contributing to failing results.

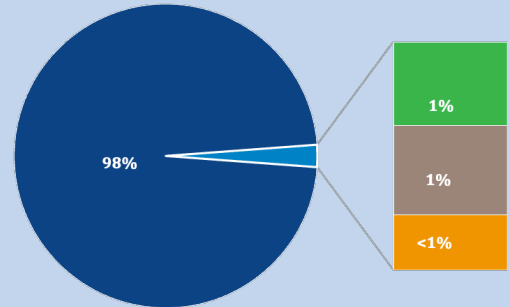
Thank you to our sponsors and volunteers for making our bacteria testing program possible!

**DID YOU KNOW** that common practice is to pump out a septic system every three-five years? And if you're operating a Best Available Technology system, make sure that it's plugged in, turned on, and running properly. Failing or underperforming septic systems can cause bacteria and nutrient pollution to flow directly into our rivers, making them unsafe to swim in and to eat shellfish from.



## BACTERIA eDNA SOURCE TRACKING ANALYSIS

Copies per 100ml



■ Human: 151,443 ■ Poultry: 1,337 ■ Swine: 1,443 ■ Dog: 882

Thanks to generous funding from our members and the Cornell Douglas Foundation, ShoreRivers has begun tracking the sources of bacteria pollution in our rivers using eDNA testing. This new type of testing measures the number of eDNA copies (genetic material found in the environment) per 100ml of sample water and identifies the specific animal groups present.

Results from 2022 testing indicate the overwhelming majority of eDNA present in our rivers is human, making shoreline septic systems, wastewater treatment outfalls, and illegal marine discharge key sources to monitor in the year ahead.