James River Watch Volunteer Water Quality Monitoring

Proactively Detecting Elevated Levels of Bacteria

September 30, 2025

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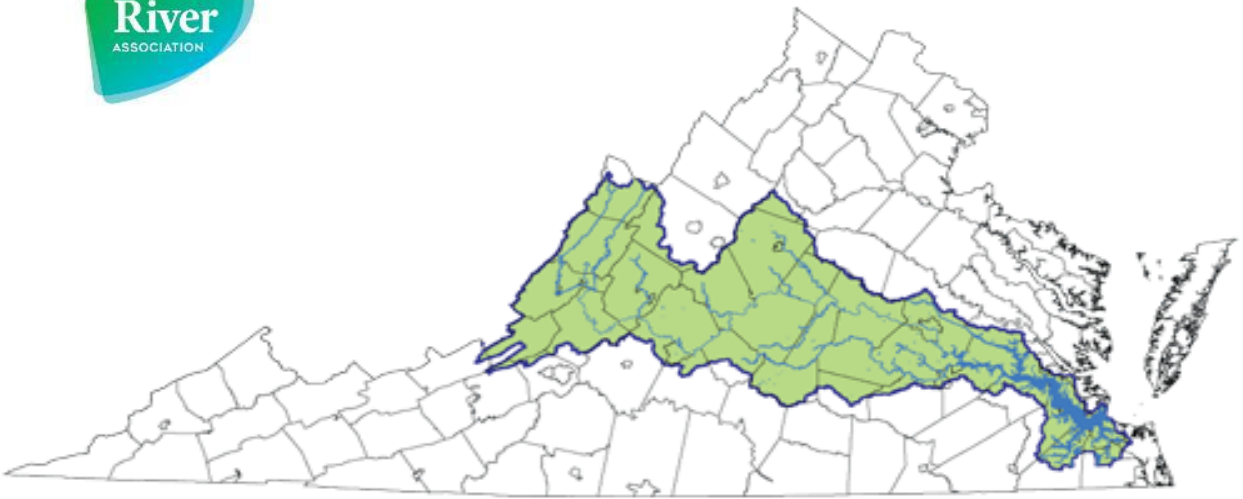
Agenda

- The James River Association
- The James River Watch Monitoring Program
  - Who, why, what, how, when, where, & how often
- 2025 James River Watch
- 13 years of James River Watch

James River ASSOCIATION



Mission: To *Protect* the James River and *Connect* people to it.

JRA 10-year Vision:
A Fully Healthy, Grade-A James River That Supports Thriving Communities

AWARENESS
Ensuring all watershed residents know their connection to the James and their role in protecting it.

APPRECIATION
Ensuring everyone has a personal connection to the James River and is inspired to do their part.

ACTION
Engaging partners and members to put projects on the ground that protect the James and connect people to it.

ADVOCACY
Achieving policy changes to drive actions needed to protect the James and connect people to it.

James River Association

JAMES RIVER WATCH

Program Goals:

A water quality monitoring program designed to help answer a fundamental question:

Is it safe to swim in the James?

Typically the answer is yes, but it depends…

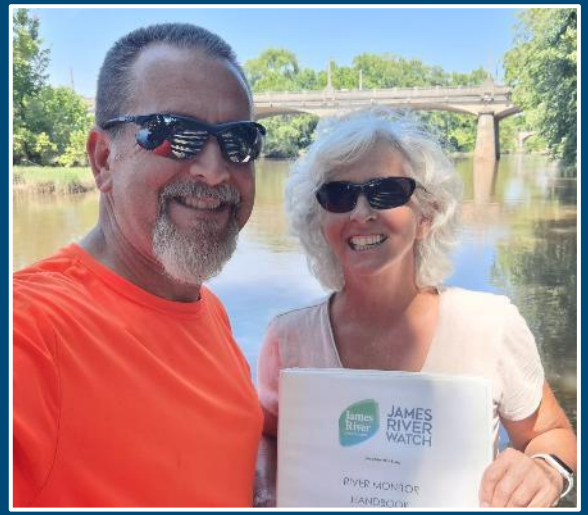
…on river height
…on temperatures
…on bacteria levels

Why do we test the water?

- Fecal bacteria in the river indicates presence of pathogens and increased risk of waterborne illness
- Pathogens can enter the river from:

  –feces of many animals, including cattle, pets, and wildlife

  –humans, through leaking septic systems, broken sewage lines, and sewer overflows
- During and after significant rainfalls, the possibility exists for unsafe



James River Association

JAMES RIVER WATCH

Annual Volunteer Program

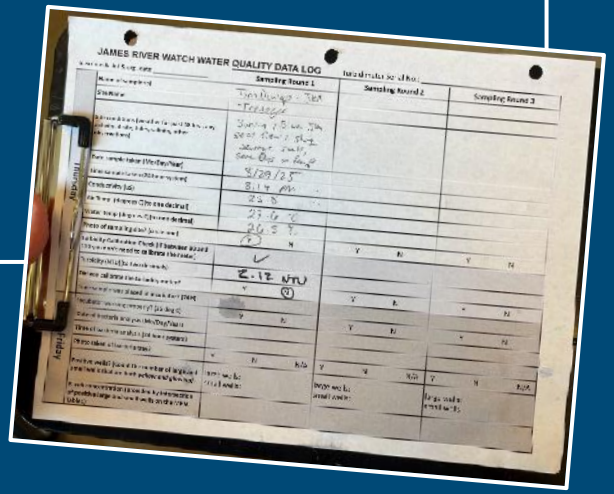
Once Weekly Sampling
Memorial Day - Labor Day

Public River Access Locations
Across the James River

How do we test the water?

Data Collected in the James River Watch Program

- Narrative Descriptions of Site conditions, i*ncluding: current and preceding weather conditions (if applicable), human and wildlife activity, and other relevant details*
- Temperature - Air and Water
- Conductivity
- Salinity
- Turbidity
- Bacteria



Volunteers or JRA Staff collect *in situ* data and retrieve water samples for turbidity and bacteria

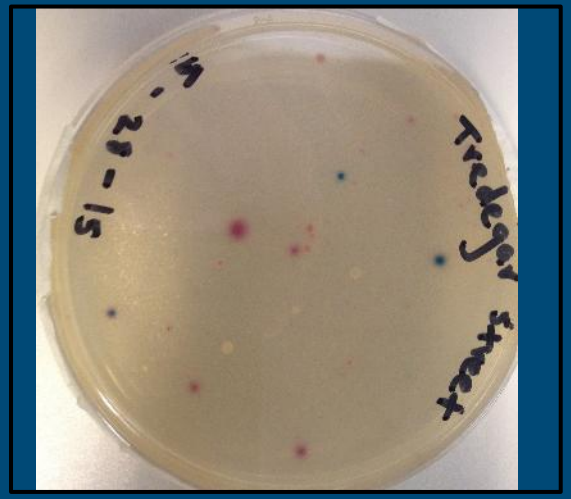
River Watch Testing Locations

Bacteria Analysis

Idexx quanti tray method

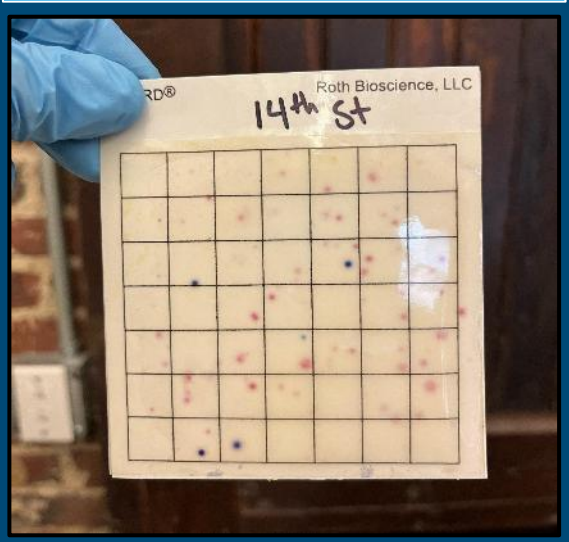
Tier 3

Coliscan Gel method



Tier 2

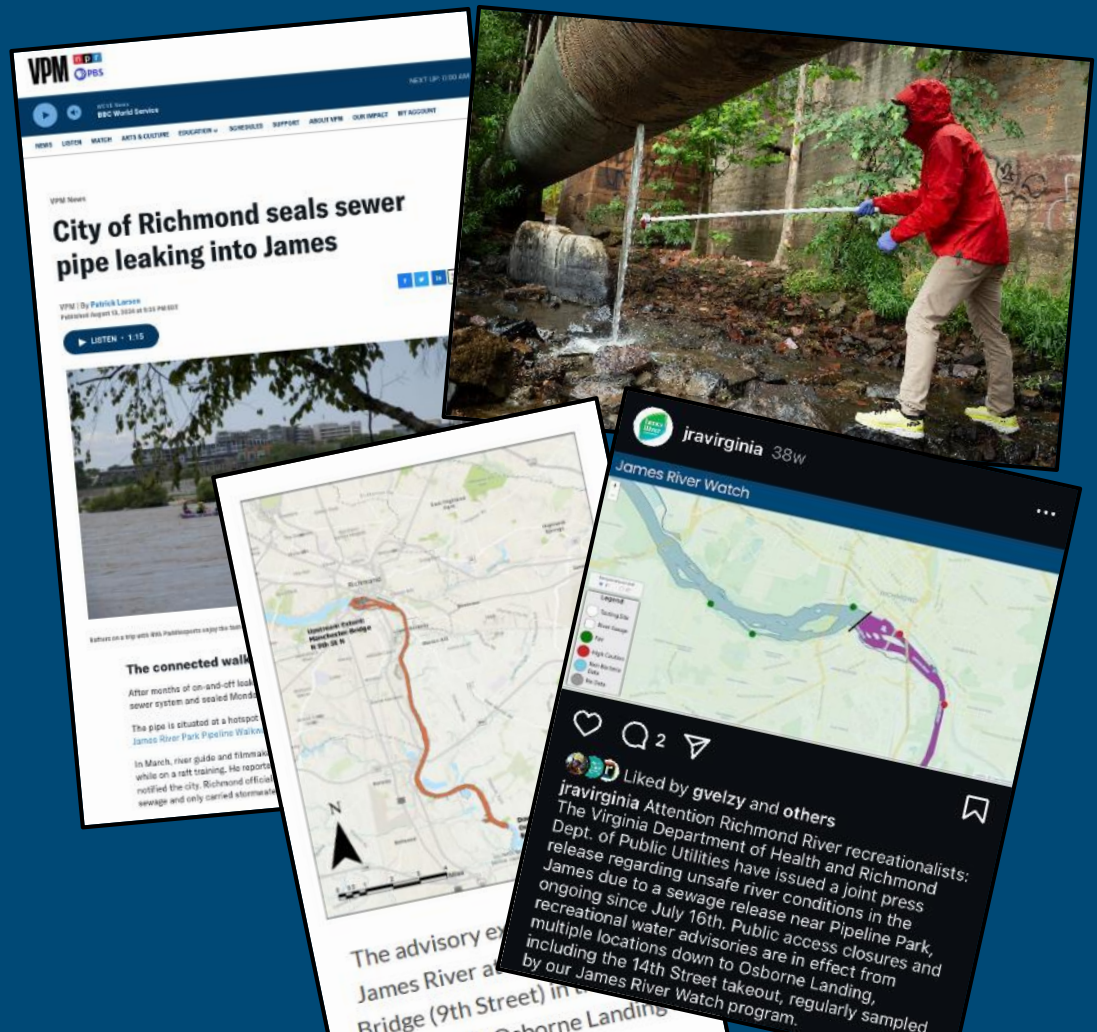
R-Card method



Tier 2

Program Spotlights

- JRW captures (unfortunately) routine CSO activity
- Have been able to evidence other threats (sewage leak, contamination elsewhere)
- Works in tandem with other JRA programs (James River Rats)



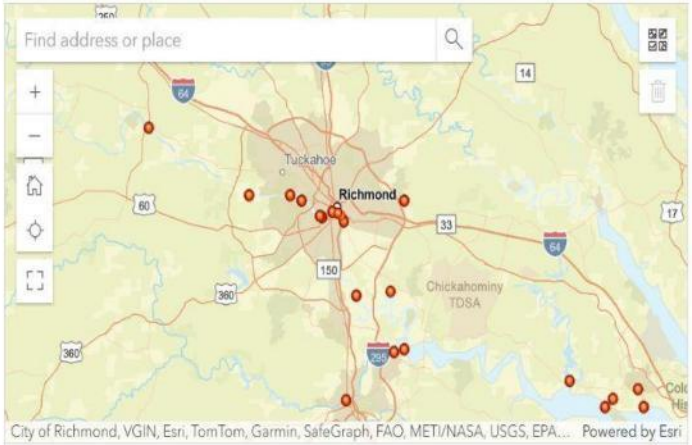
Reset Saved

River Watch Data Upload

Site*

-Please select-

Location



Lat: ° Lon: °

Site Conditions and Comments

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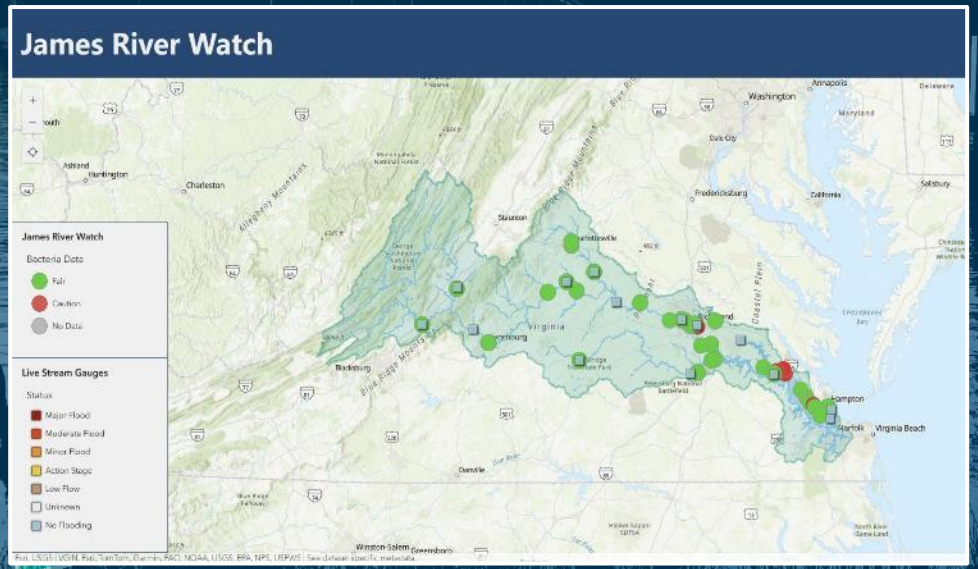
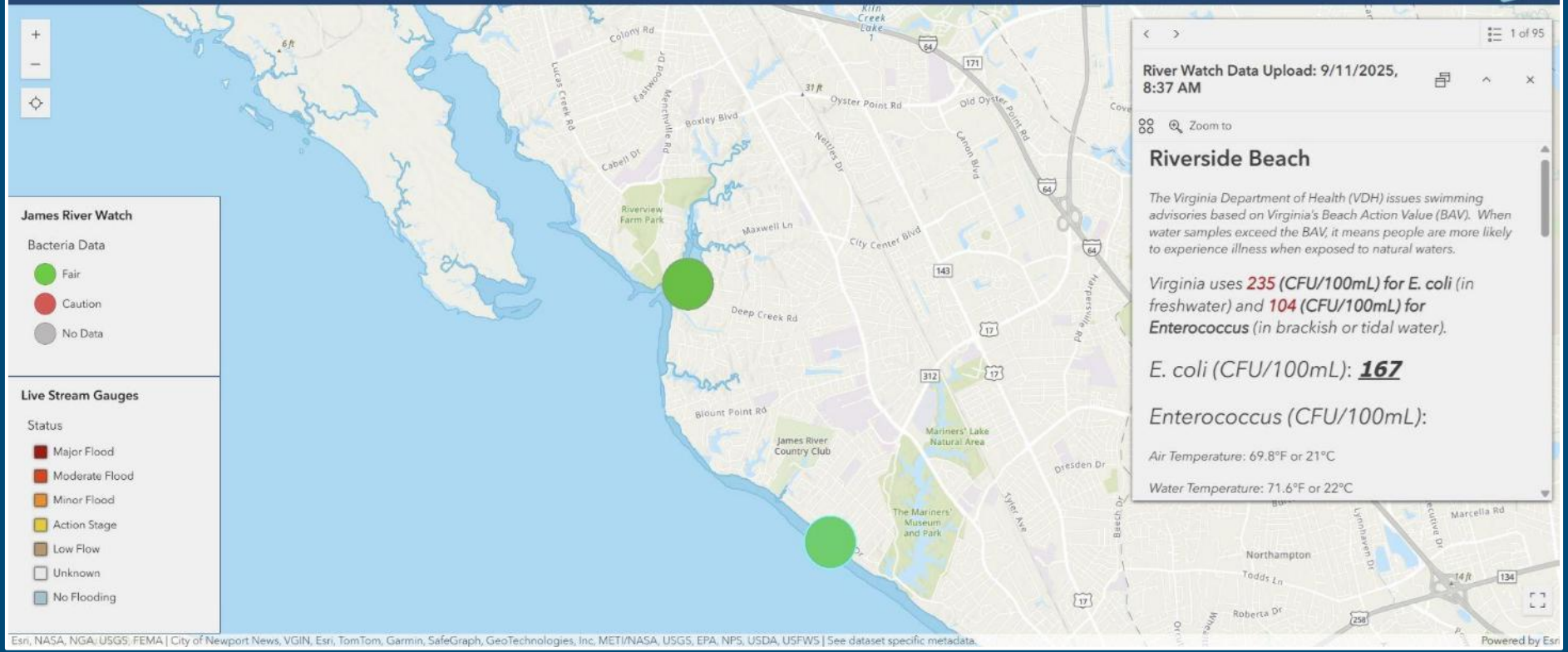
JAMES RIVER WATCH



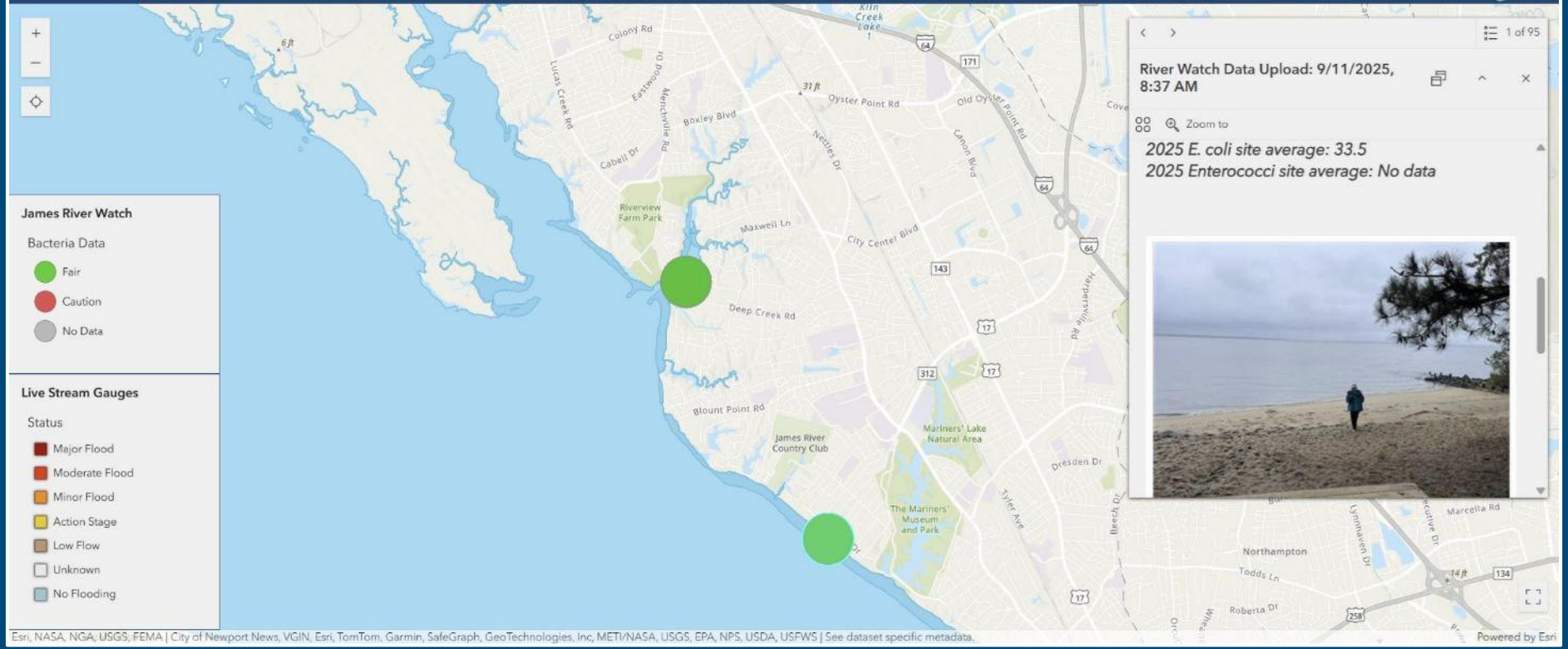
A web application that:

- Empowers river users to plan their outings based upon their river use, in a safer and informed manner
- Provides information in a simple, easy to understand format with results updated weekly from Memorial Day to Labor Day Weekends

James River Watch



James River Watch



Results shared in weekly newsletter & social media

Subscribe | Past Issues

Happy River Season!

For the 13th year in a row, our volunteers are hitting the riverbanks to assist us in tracking river conditions to help keep swimmers, paddlers, and boaters informed before they get on the river. James River Watch volunteers take water samples every Thursday from Memorial Day to Labor Day each year to track measurements of water temperature, air temperature, turbidity (or cloudiness), conductivity (or saltiness), and bacteria. High levels of fecal coliform bacteria can indicate the presence of pathogens harmful to human health, which

James River Association
July 9, 2021 ·

James River Watch volunteers Pat and Jessie were at the Buchanan site taking water quality samples yesterday as the rain was coming in. Large amounts of rains often push pollutants and bacteria in the river, making it unsafe to swim. Our team of water quality monitor volunteers take weekly samples to help track the river's health which is displayed on our James River Watch website so you can know what the conditions are before hitting the river. Below is a photo of the Buchanan water sample from yesterday! Check your favorite access point at www.JamesRiverWatch.org

Amber Ellis, Erin Hillert Bell and 8 others — 4 Comments

jravirginia 38w

James River Watch

2

Liked by **gvelzy** and **others**

jravirginia Attention Richmond River recreationalists: The Virginia Department of Health and Richmond Dept. of Public Utilities have issued a joint press release regarding unsafe river conditions in the James due to a sewage release near Pipeline Park, ongoing since July 16th. Public access closures and recreational water advisories are in effect from multiple locations down to Osborne Landing, including the 14th Street takeout, regularly sampled by our James River Watch program.

In response to the public concern and news reports of these unsafe bacteria levels reported by JRA's James River Watch program last week for several locations in the Richmond area, JRA staff collected additional water samples at five Richmond sites on the morning of July 16th. Analysis of these July 16th samples indicates that JRA's monitoring locations upstream from this reported sewage leak, including public access points at Tredegar, Reedy Creek, and

James River Watch

How is the river in your area?

At the James River Association, we believe a healthy River should be enjoyed by all, and we strive to connect Virginians to our shared James River. But river conditions can change quickly. One of the most common questions we receive is whether the river is safe to swim. To help answer that question, we worked with partners to develop the James River Watch, a water quality monitoring program that communicates river conditions to individuals across the James River basin. So whether you're swimming, paddling, or boating – get outside, enjoy the James, and know before you go!

Some features on the conditions map, like bacteria scores, are only available from Memorial Day to Labor Day when our Water Quality Monitor volunteers are busy at work!

Check Your River Conditions

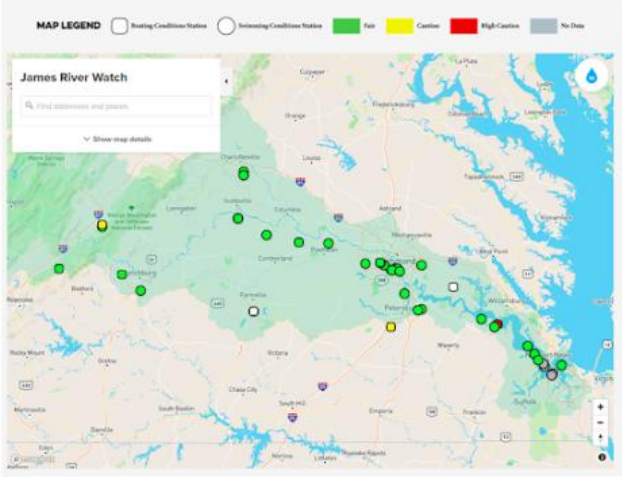
River conditions are posted every Friday from Memorial Day to Labor Day. Sign up below to receive a notification email when the results are in!

First Name

Last Name

Email

Submit



Volunteer for the James River Watch

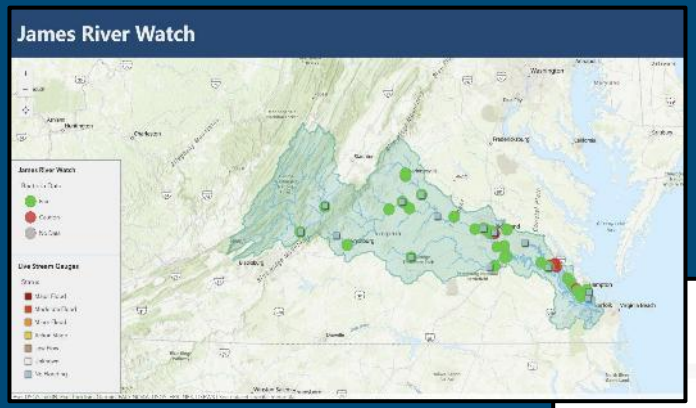
We have a team of volunteers who take weekly water samples and report their findings to the James River Watch. Every Friday, from Memorial Day to Labor day, check the James River Watch for water conditions in your area.

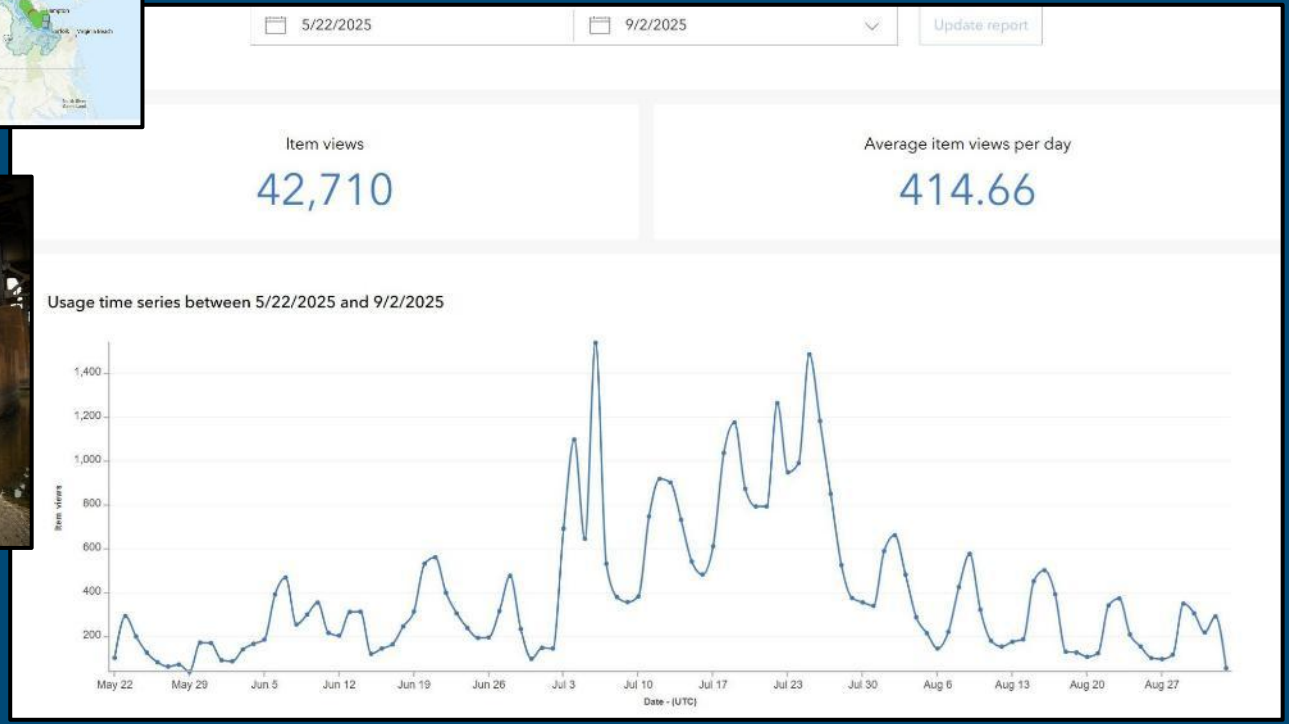
Our Volunteer Program

James River Watch – 2025 Volunteer Training

April 30, 5:30pm-6:30pm Register here
May 1, 5:30pm-6:30pm Register here.

James River Watch is a resource for the public





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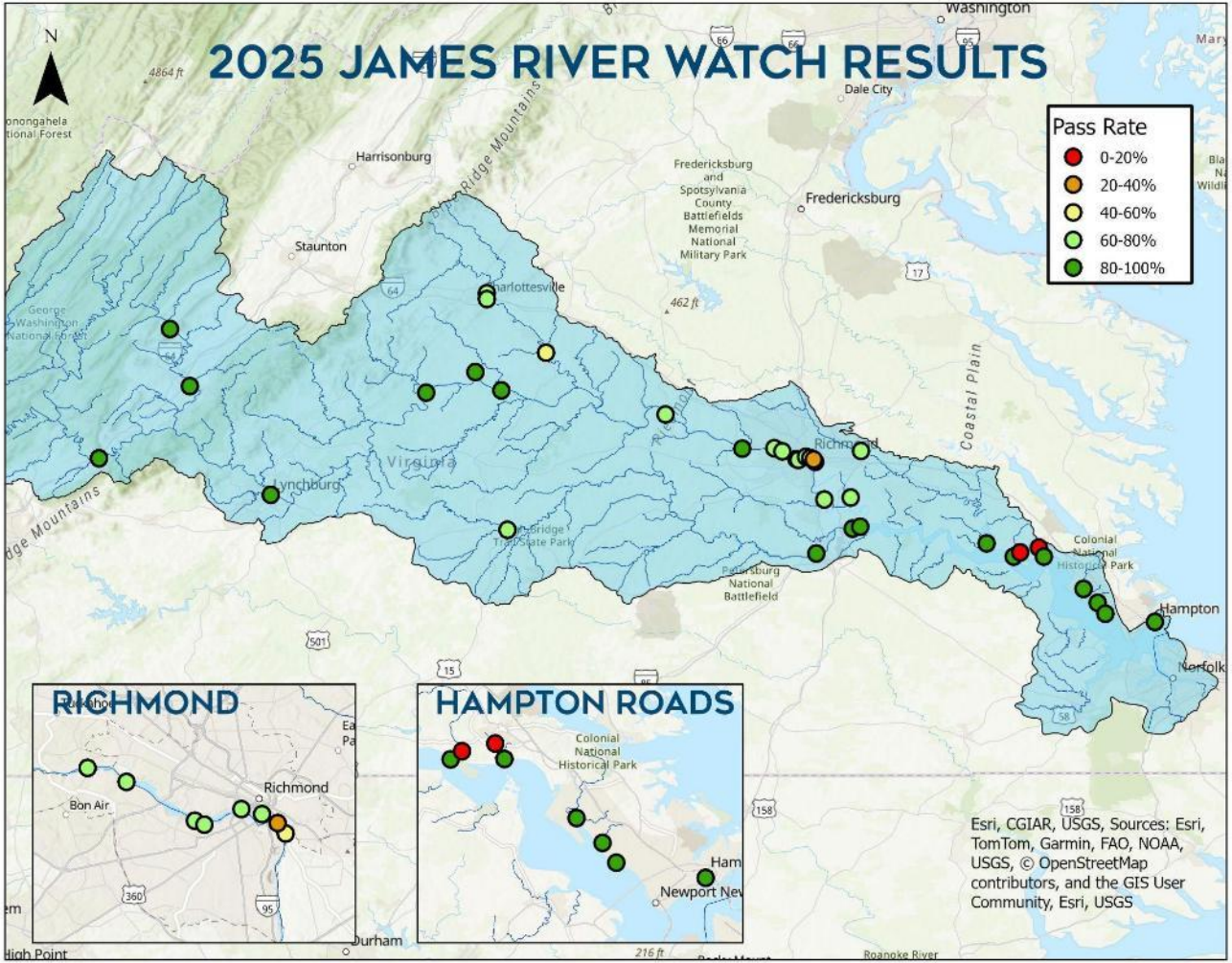


WATERSHED-WIDE RESULTS

2025 OVERALL PASSING RATE

76%

2024 OVERALL PASSING RATE

85%

10-YEAR AVERAGE PASSING RATE

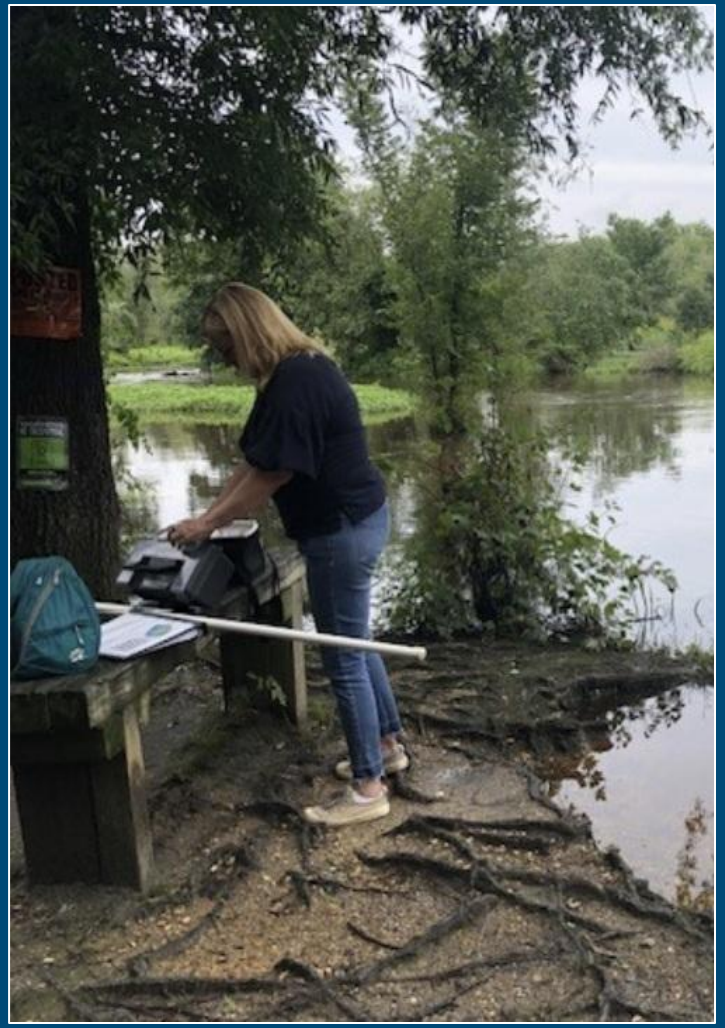
84%

2025 PROGRAM RECAP

36
MONITORING STATIONS

477
WATER SAMPLES COLLECTED

107
VOLUNTEERS ENGAGED



James River Association

James River Association

Virginia Master Naturalist peninsula chapter

Appomattox River Company

Twin River Outfitters River Adventures

Rockbridge Conservation Conserving natural resources since 1976

Rivanna Conservation Alliance

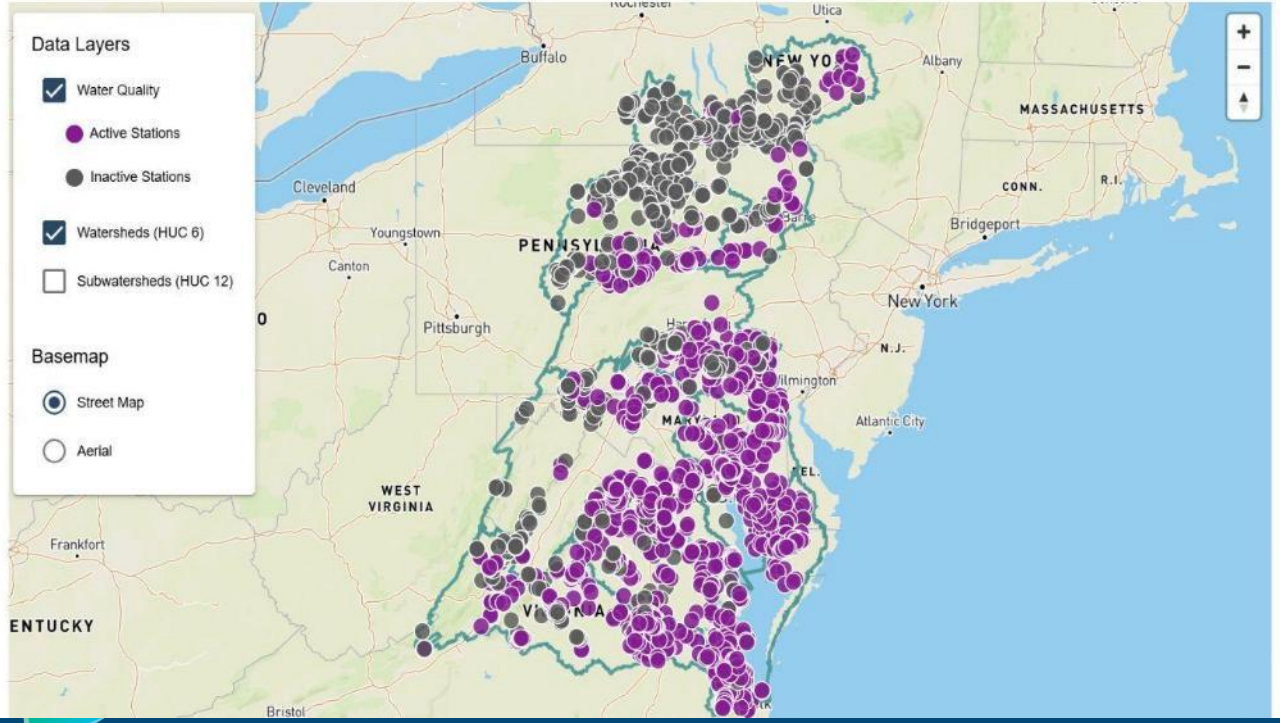
Virginia State

American Water

CMC DATA EXPLORER

ABOUT | HELP CENTER | CONTACT | DATA ETHICS | MANAGE DATA

1,111,900 Samples | 110 Organizations | 2,473 Total Stations | 1,508 Active Stations | 11/01/1992 - 09/24/2025



Map Data Layers

Water Quality | Benthic Macroinvertebrates

Watershed | Political

Data Filters

CLEAR FILTERS

Watersheds (HUC 6) (pick all that apply)

Subwatersheds (HUC 12) (pick all that apply)

Groups (pick all that apply)

Stations (pick all that apply)

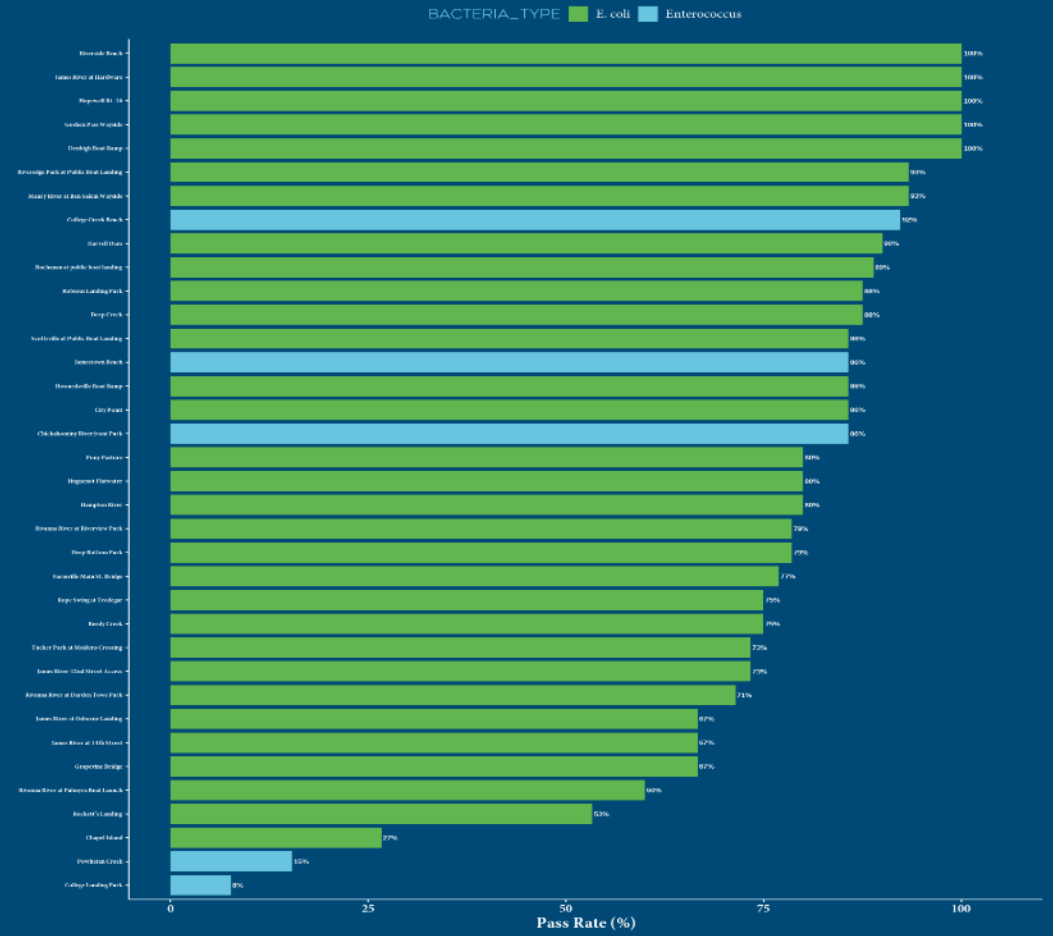
Parameters (pick all that apply)

Start Date | End Date

FILTER MAP

2025 SITE RANKINGS - WATER QUALITY PERFORMANCE

PERCENTAGE OF SAMPLES MEETING RECREATIONAL STANDARDS



Green – E. coli sites | Blue – Enterococcus sites

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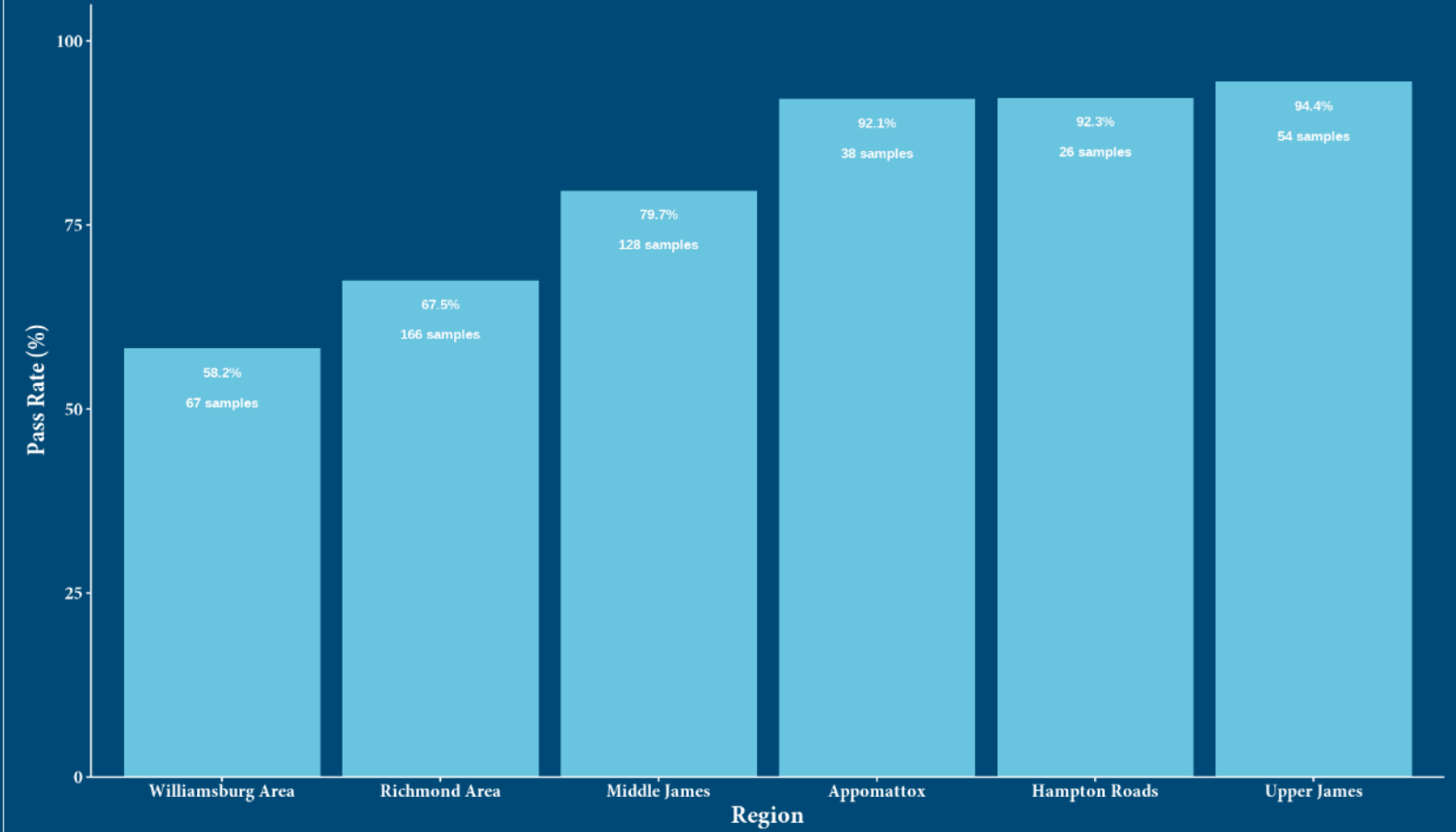
2025 REGIONAL WATER QUALITY COMPARISON

PASS RATES BY GEOGRAPHIC REGION



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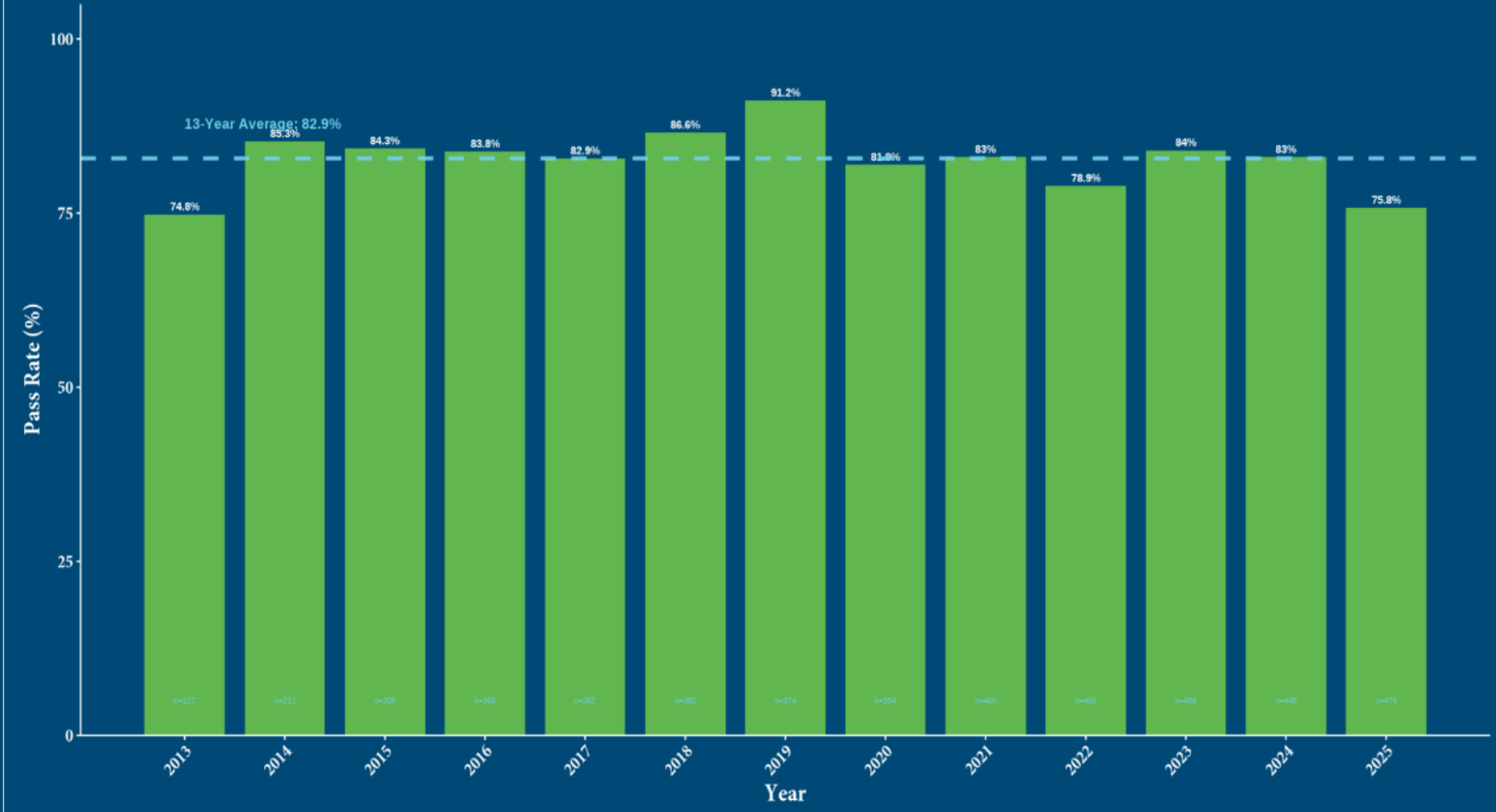
ANNUAL WATER QUALITY PASS RATES (2013-2025)

SINGLE SAMPLE ASSESSMENT: E. COLI <235 | ENTEROCOCCUS <104 CFU/100ML



Each sample assessed against species-specific recreational water quality threshold

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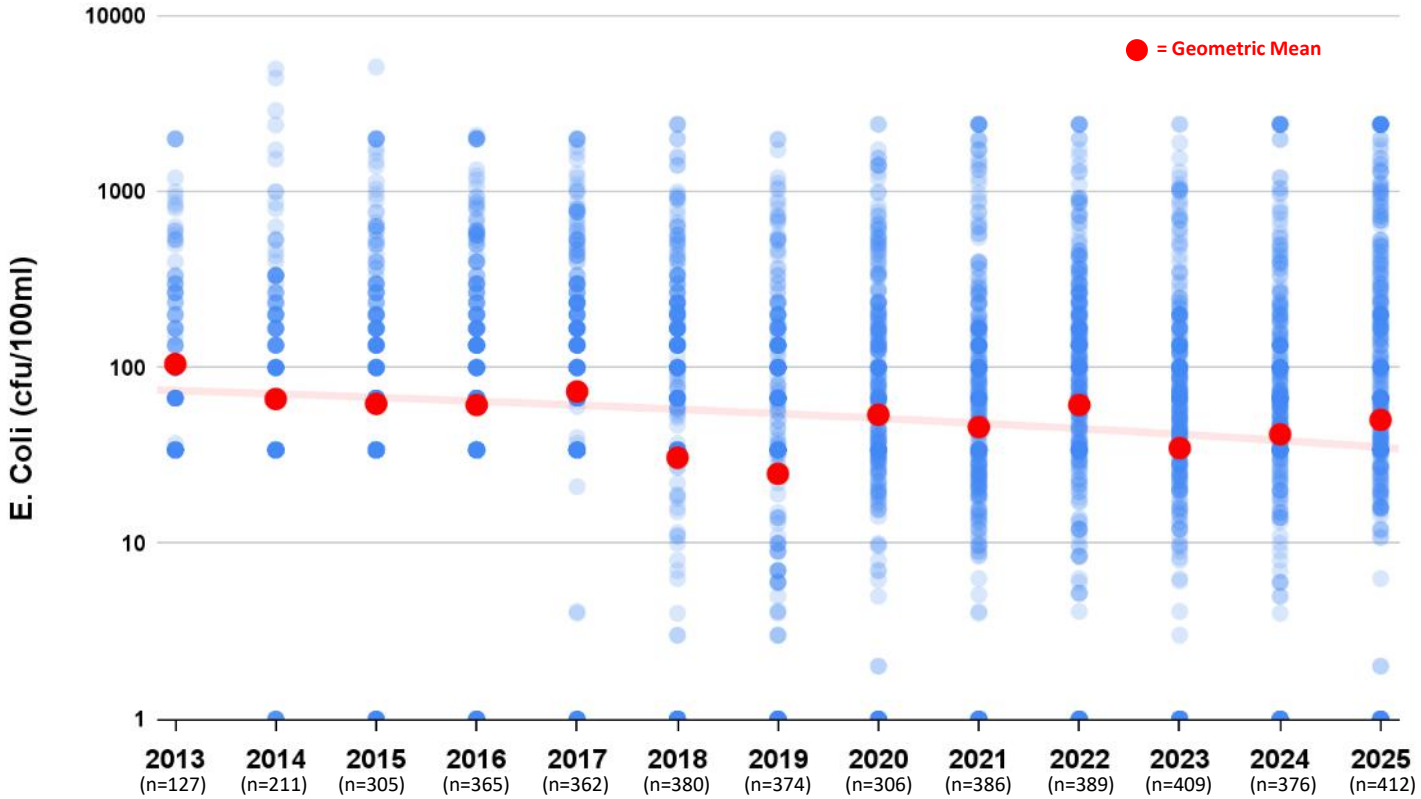
James River Watch All Time Fresh Water Data



Conclusions

- James River Watch has been a useful tool for the public for over 13 years now
- The 2025 James River Watch program showed that our sites were below the VDH E. coli thresholds 76% of the time we sampled
- Our data evidences that the river is improving


Questions?