



**Maryland**  
Department of  
the Environment

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# **2024 Integrated Report of Surface Water Quality and 2025-2032 Vision for Clean Water Act §303(d) Program Public Meeting**

Please note that this meeting is being recorded.

June 13, 2024

6:00 PM

Water and Science Administration  
Watershed Protection, Restoration, and Planning Program

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# Housekeeping Items

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## **NOTICE:**

This Notice is provided pursuant to § 4-501 of the General Provisions Article of the Maryland Code. The Maryland Department of the Environment (“MDE”) is a public agency and subject to the Maryland Public Information Act. This meeting may be audio and/or webinar recorded, with the exception of matters identified as confidential items in the agenda. Audio and webinar recordings of meetings will be made available on the Internet via MDE’s website and subject to inspection or copying, in whole or in part, by the public and other governmental agencies, if not protected by federal or State law. By participating in this meeting, individuals consent to the use and disclosure of the information that they share during the course of the meeting.



# Purpose of This Meeting

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- Provide General Information/Updates on the Draft 2024 IR and 2025-2032 Vision
- Encourage public dialogue, request comments
- Answer questions and address concerns related to the 2024 IR and 2025-2032 Vision
- Increase water quality awareness and increase the utilization of the IR for water quality planning

Note: 30-day public comment period ends on July 1, 2024!



# Outline

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- Background on the Integrated Report (IR) and Clean Water Act (CWA)
- 2024 IR Summary and Stats
- What's New in the 2024 IR?
- Environmental Justice and Climate Change
- Looking Ahead
- 2025-2032 Vision
- Questions



# Background – What is the Integrated Report?

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- Biennial Report required by Clean Water Act (Sections 303(d), 314, and 305(b))
- Assess the water quality status of MD's waters based on statewide monitoring data
- Identify and Prioritize waters needing:
  - Total Maximum Daily Loads (TMDLs)
  - Restoration
  - Protection

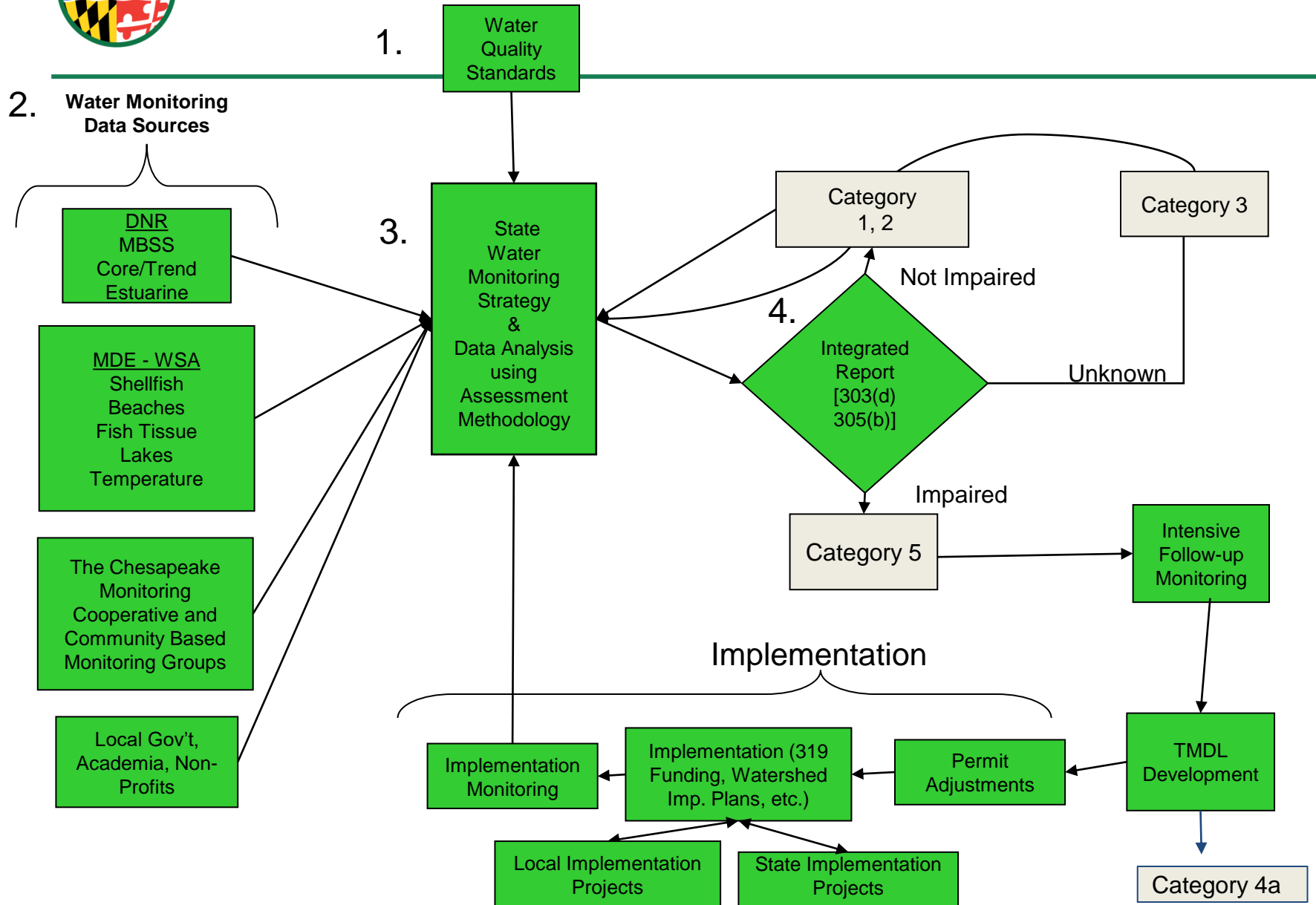


(MDE, 2016)



# CWA Background –

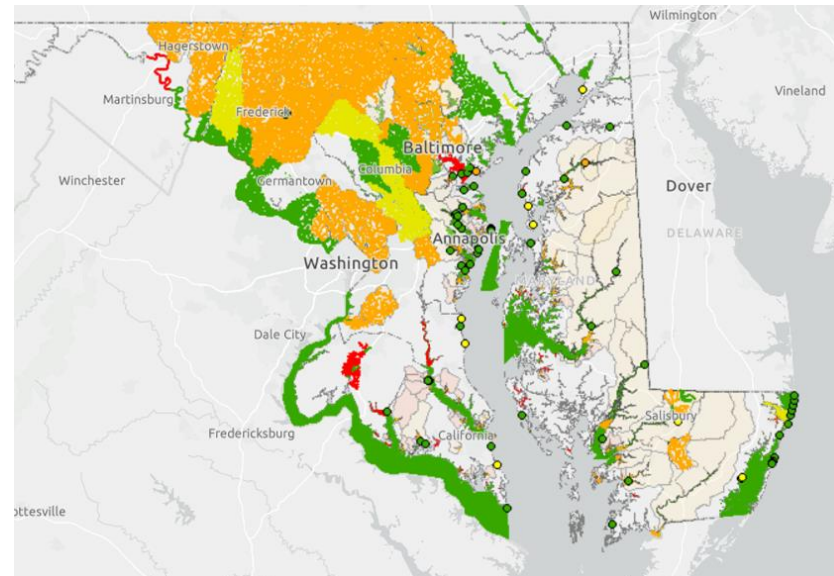
## An Adaptive Management Process





# Assessment Decisions- Categories of the Integrated Report

- **Categories 1 and 2** - assessment records attaining all standards or some standards
- **Category 3** - assessment records with insufficient information to assess water quality standards. *These areas deserve follow-up assessment.*
- **Category 4** - impaired assessment records that do **NOT** need a TMDL.
  - 4a – TMDL completed
  - 4b – Technological solution should bring water body back into attainment
  - 4c – Impairment not caused by a pollutant (eg. Dam, habitat modification)
- **Category 5** - impaired assessments records that may require a TMDL (*Historically known as the 303(d) List*).
  - 5s- Waterbody impairment is caused by chloride from road salt



2020-2022 IR bacteria listings (MDE Water Quality Assessment Map, 2022)



# Broader Goals of the IR

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- To communicate the status of MD's water quality to the public and EPA
  - 10,000 foot view
- Implement the CWA
- Highlight success stories as well as challenges
- To bring impaired waters back into attainment of water quality standards (Categories 1 and 2)
- Protect those water bodies already meeting water quality standards



(MDE, 2022)





# What's in the Report

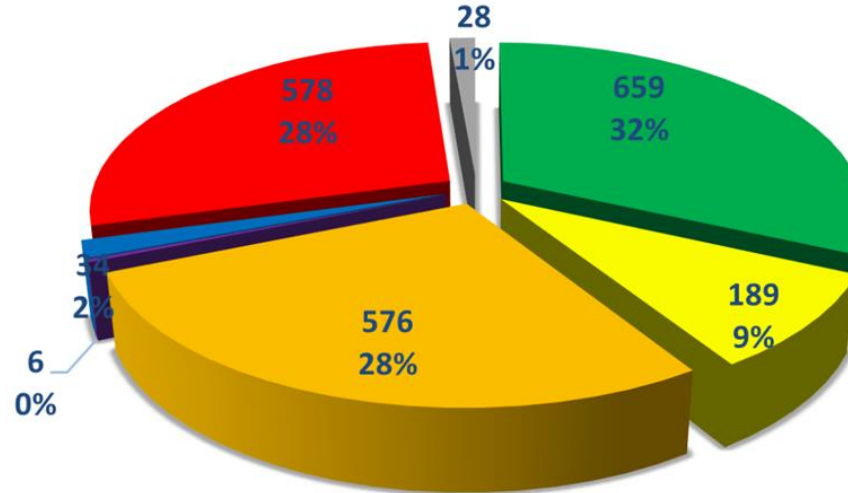
- A. Background on the assessment process
- B. A presentation of 2024 assessments results and a summary of assessment records in the IR
- C. Water quality challenges, accomplishments and priorities for Maryland
- D. A brief description of the State's water pollution programs and monitoring
- E. Notable appendices:
  - a. **2025-2032 Vision for Clean Water Act Section 303(d) Program**

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# 2024 Assessment Records by Categories

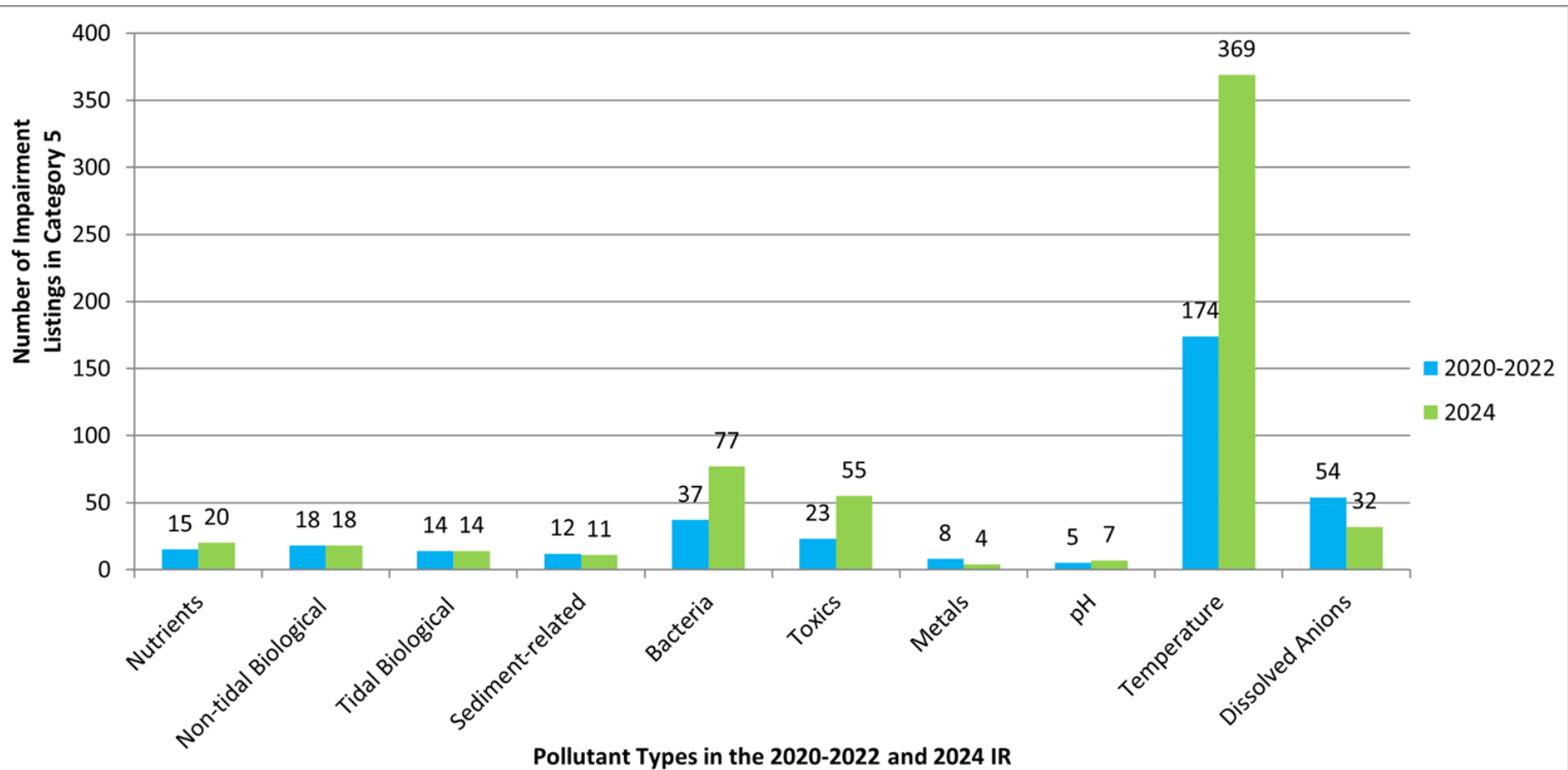
## 2024 Integrated Report: Assessment Records by Category



- Category 2 - Meets some WQ standards
- Category 3 - Insufficient information
- Category 4a - Impaired, TMDL completed
- Category 4b - Impaired, Tech. fix expected to bring about attainment
- Category 4c - Impaired, Pollution not caused by pollutant (e.g. channelization)
- Category 5 - Impaired, May need TMDL
- Category 5s - Impairment caused by chloride from road salt



# 2024 IR Summary Information





# Summary of Listing Changes for 2024 (Category 5)

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IR Year/Status	Category 5 Listings
<b>2020-2022 Total Category 5 Listings</b>	<b>360</b>
2024 New Category 5 Listings	+293
2024 New Delistings (Category 5 to Category 2 or 3)	-45
Approved TMDLs (since the 2020-2022 IR)	-1
<b>2024 Grand Total Category 5 Listings</b>	<b>607</b>



# New Category 5 Listings by Parameter Group

Type of Impairment Listing	Number of Listings Added to Category 5
Chlorophyll-a- Public Water Supply Designated Use-Lakes	2
Enterococcus and E coli.- Beaches	9
Fecal coliform- Shellfish Harvesting Areas	43
Perfluorooctane Sulfonate (PFOS) In Fish Tissue	36
pH- High pH	2
Phosphorus- Aquatic Life and Wildlife Designated Use-Lakes	5
Temperature (in Class III or III-P coldwater streams)	196
<b>Total New Category 5 Impairments</b>	<b>293</b>



# Delistings (Category 5)

<b>Type of Impairment Listing</b>	<b>Number of Listings Removed from Category 5</b>
Sulfate	22
Zinc in Sediment	2
Fecal Coliform- Shellfish Harvesting	13
Temperature	1
Mercury in Fish Tissue	2
PCBs in Fish Tissue	5
<b>2024 Number of Delistings</b>	<b>45</b>



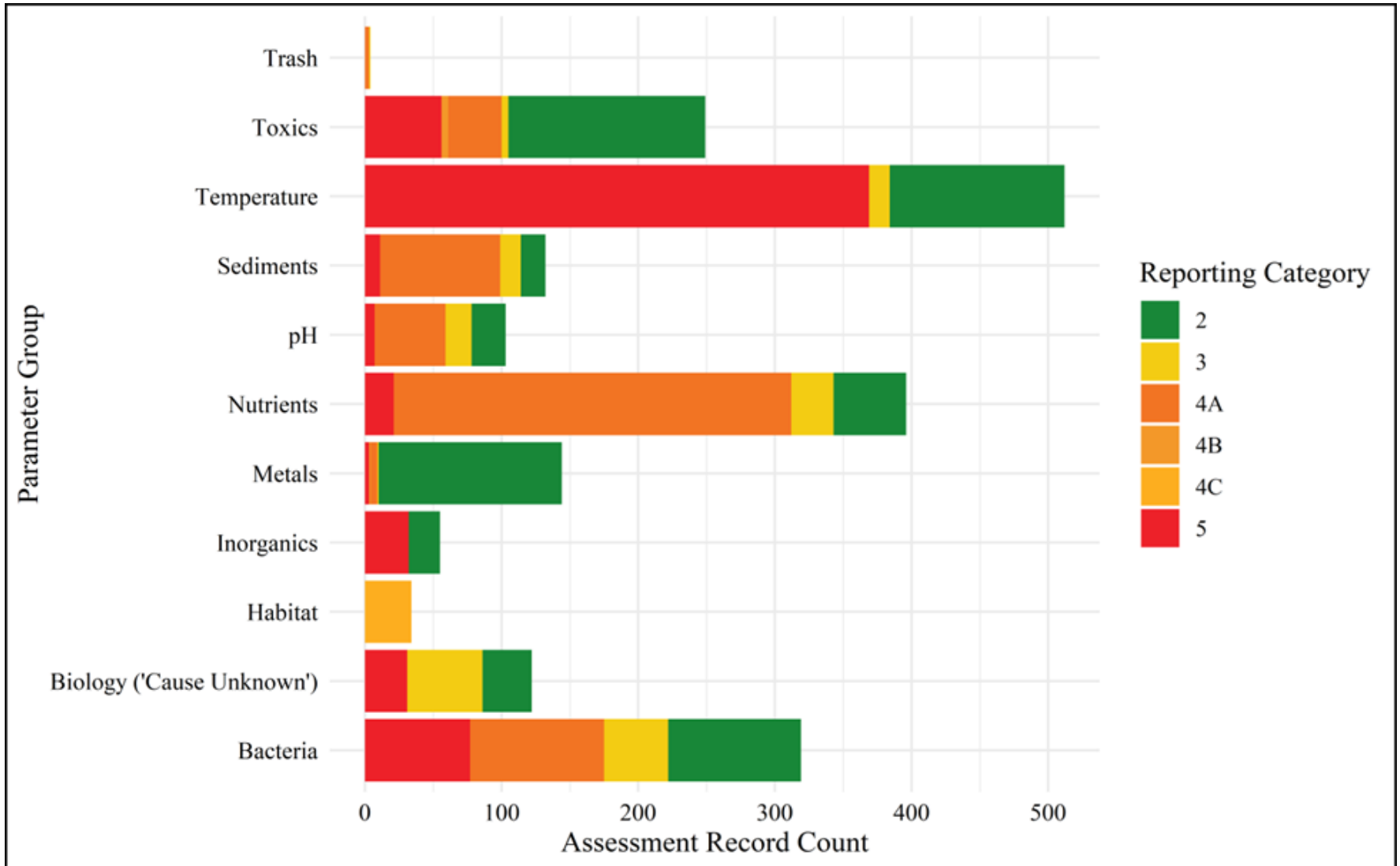
# TMDLs

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<b>Type of Impairment Listing</b>	<b>Number of TMDLs Approved</b>
Total Suspended Solids (TSS)	1
<b>Total TMDLs Approved (Since 2020-2022 IR)</b>	<b>1</b>



# The State of Maryland's Waters 2024 Results by Parameter Group

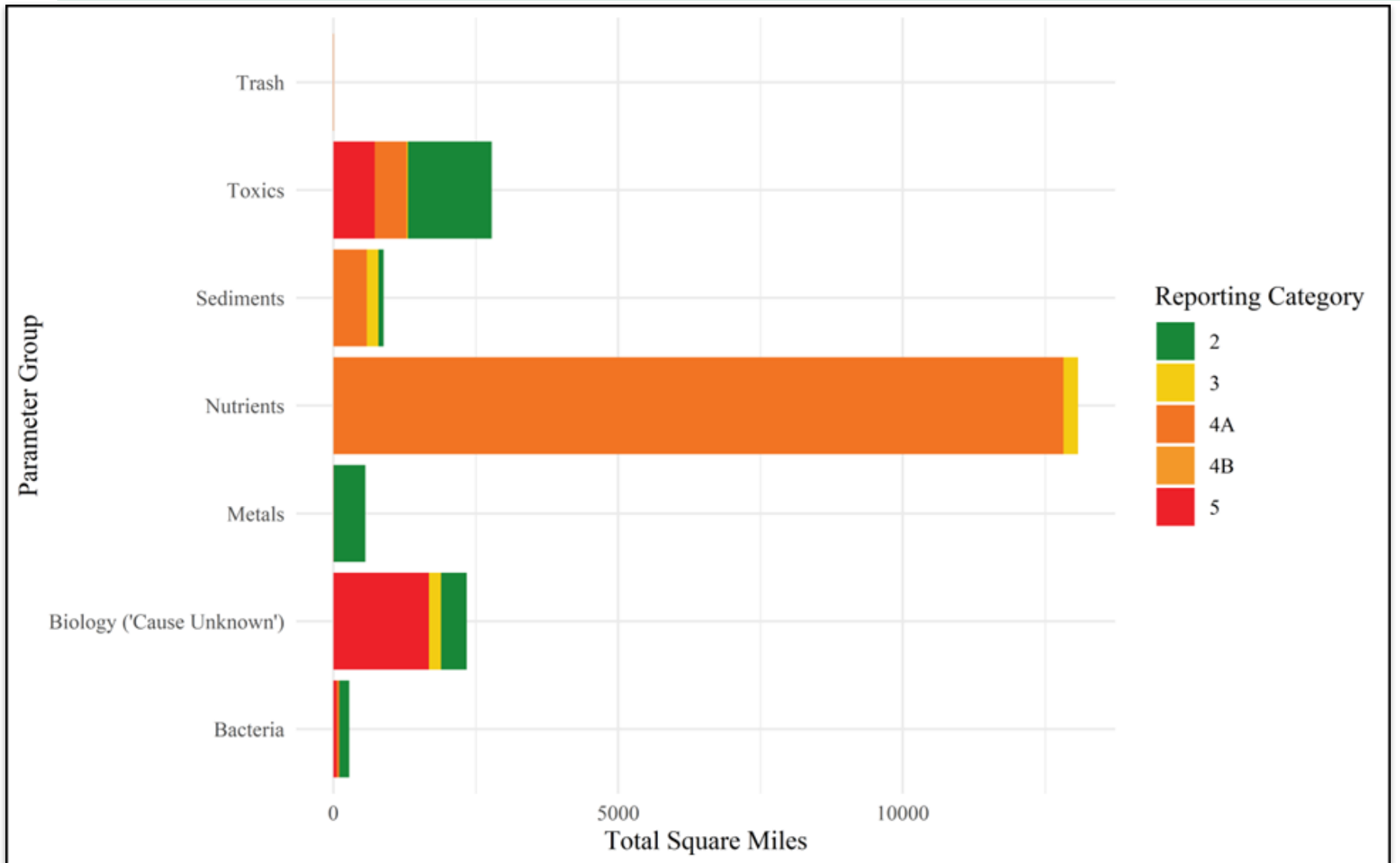






# 2024 IR Summary Stats

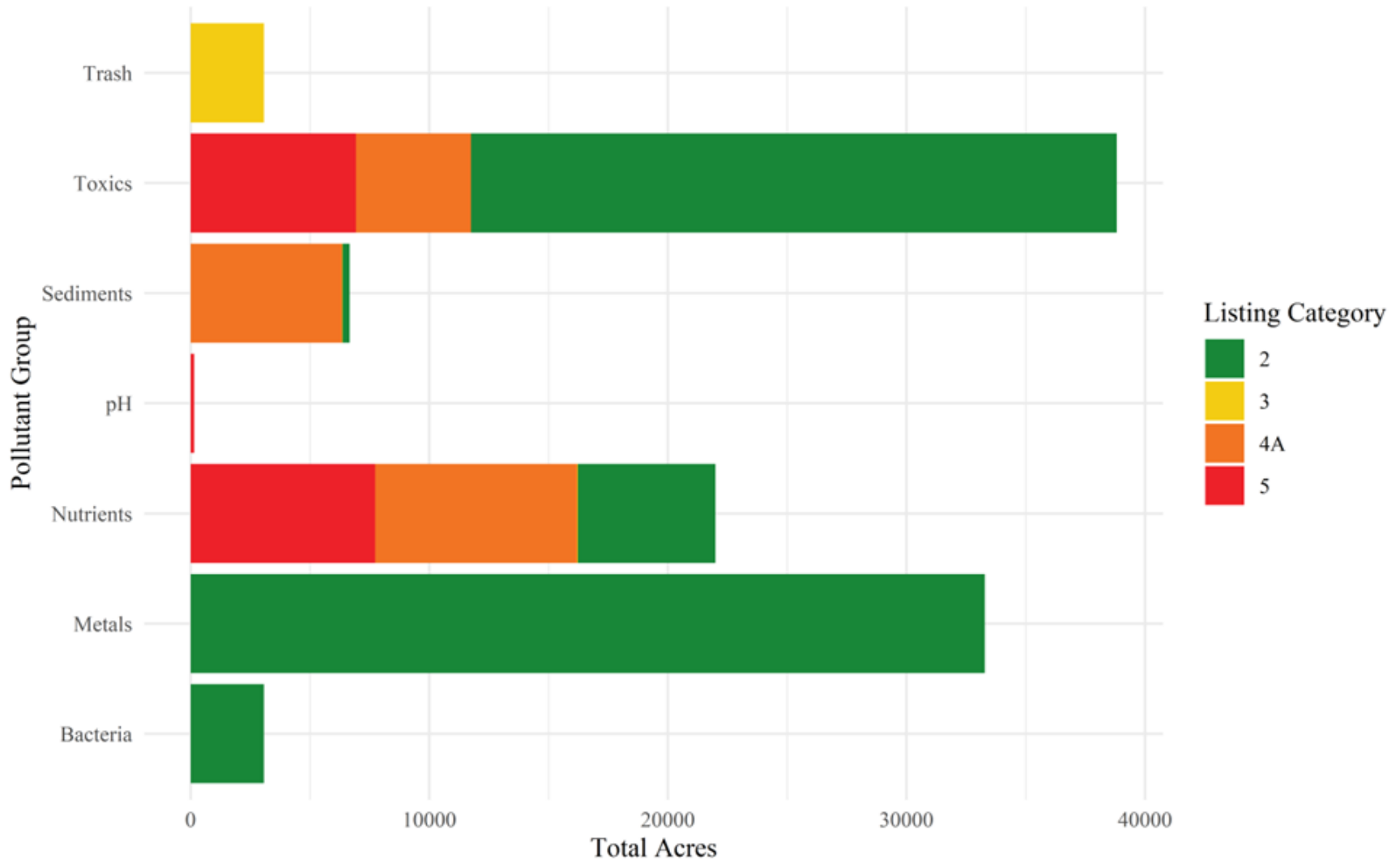
## Estuarine Waters in each category





# 2024 IR Summary Stats

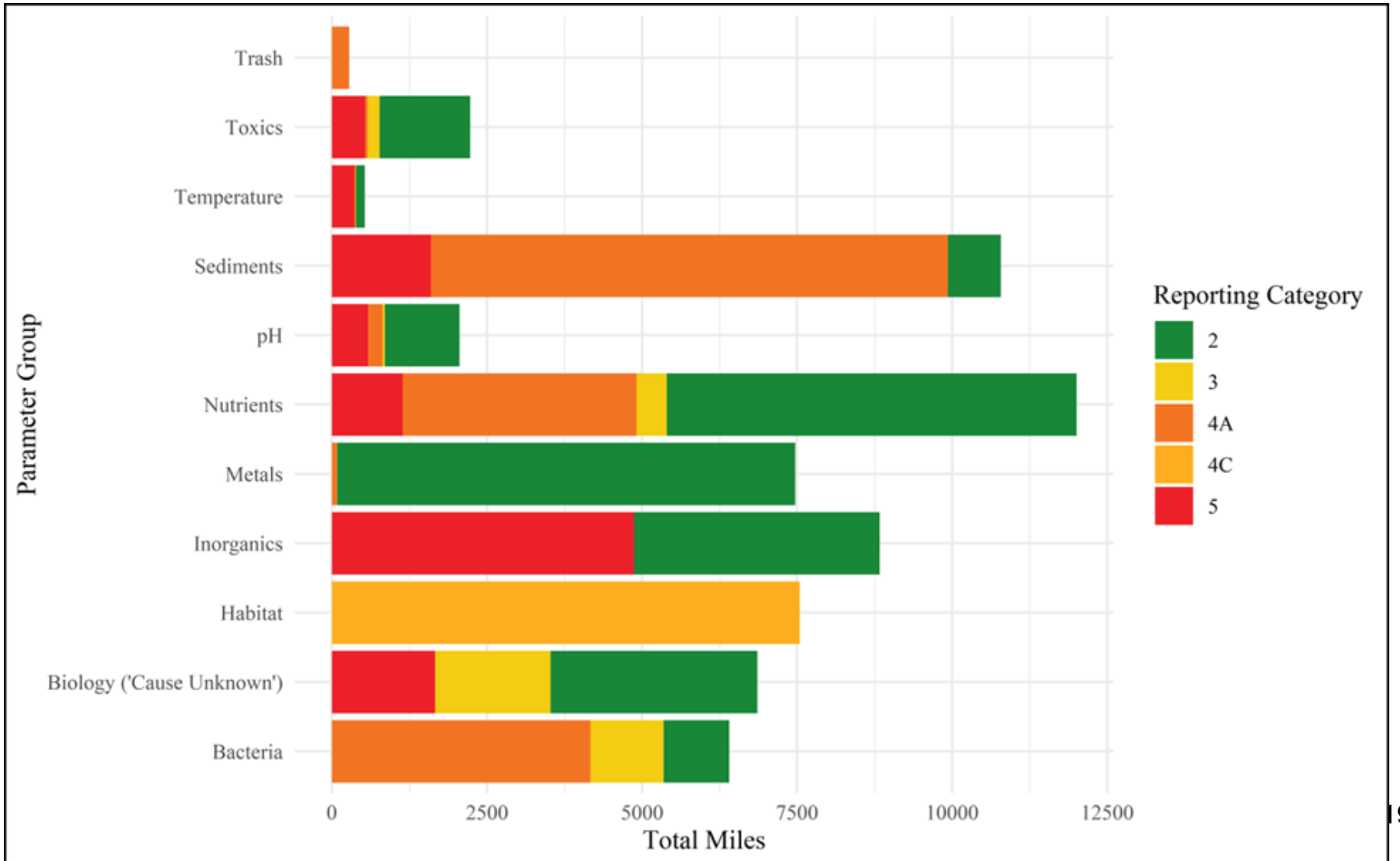
## Lakes in each category





# 2024 IR Summary Stats

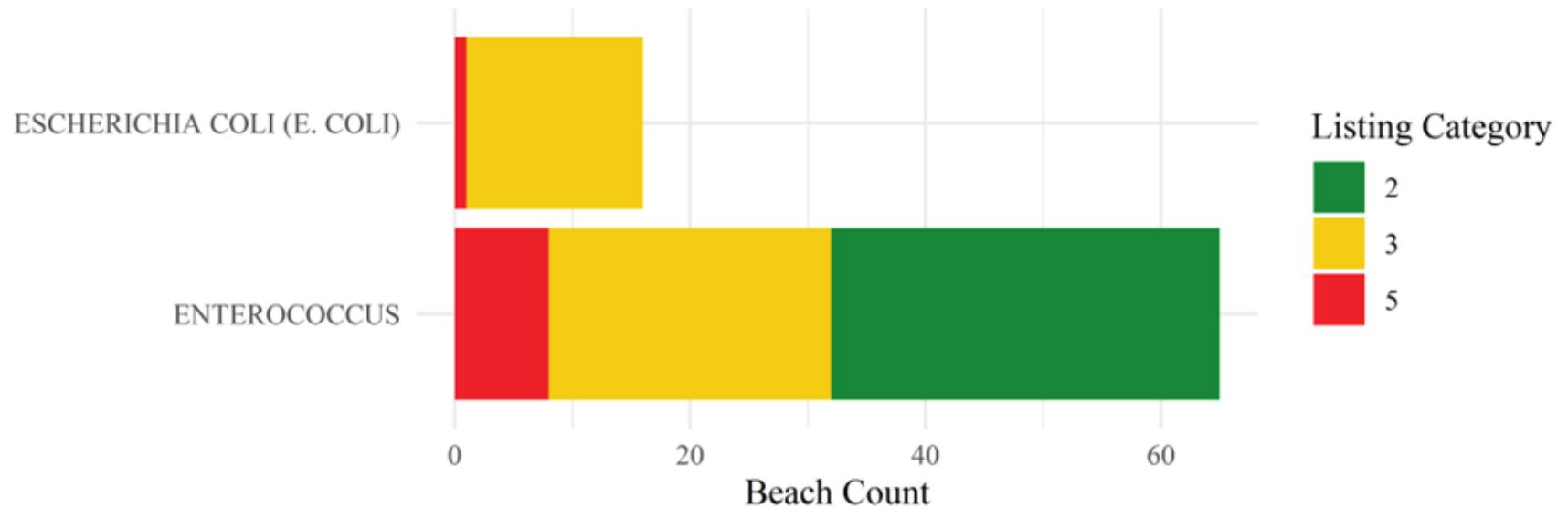
## Rivers in each category





# 2024 IR Summary Stats

## Beaches in each category





# What's New in the 2024 IR?

## Rising Surface Water Temperature

- 196 new Category 5 temperature impairments on the 2024 IR
- DNR Trends
  - 89% of stations show increased surface water temperatures
  - 69% of stations show water temperature 1°F or warmer

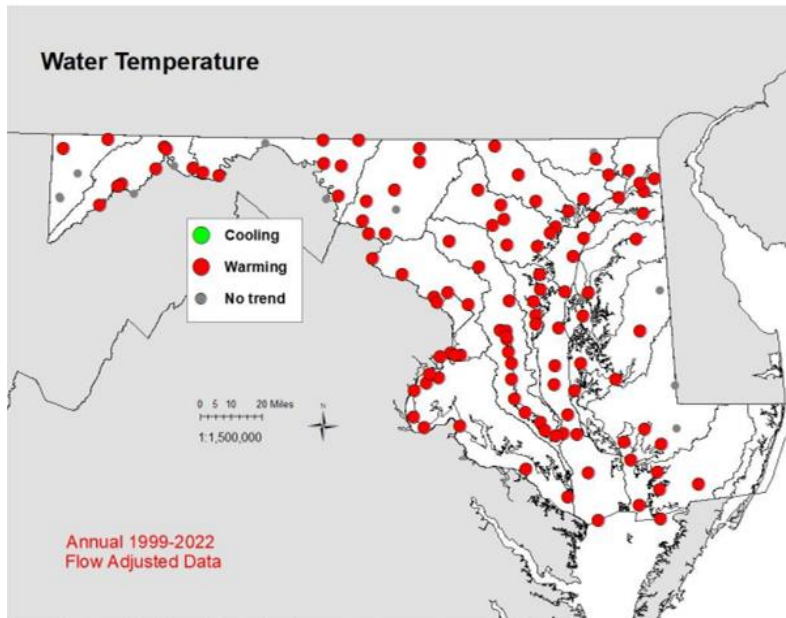


Figure 12. Trends in flow-adjusted surface water temperature 1999–2022.

- 0% of stations (0 of 125) have cooling surface water temperatures compared to 1999
- 89% of stations (111 of 125) have warming surface water temperatures compared to 1999
- 11% of stations (14 of 125) do not have surface water temperatures that are significantly different from 1999

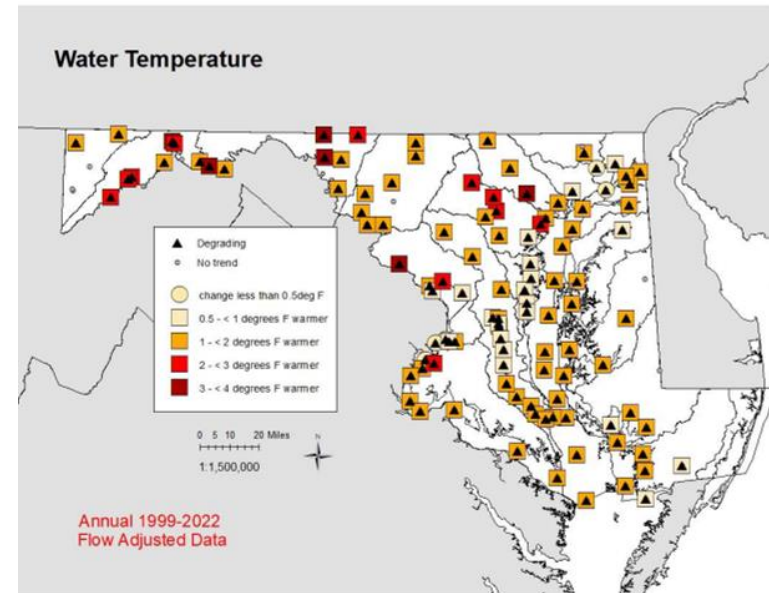


Figure 13. Magnitudes of change in surface water temperature 1999–2022.

- 4% of stations (5 of 125) are less than 0.5 degree F change
- 16% of stations (20 of 125) are between 0.5 and less than 1 degree F warmer
- 55% of stations (69 of 125) are between 1 and less than 2 degrees F warmer
- 9% of stations (11 of 125) are between 2 and less than 3 degrees F warmer
- 5% of stations (6 of 125) are between 3 and less than 4 degrees F warmer





# What's New Continued... Beaches Assessments

- Updated Bacteria Assessment Methodology in 2024 Cycle

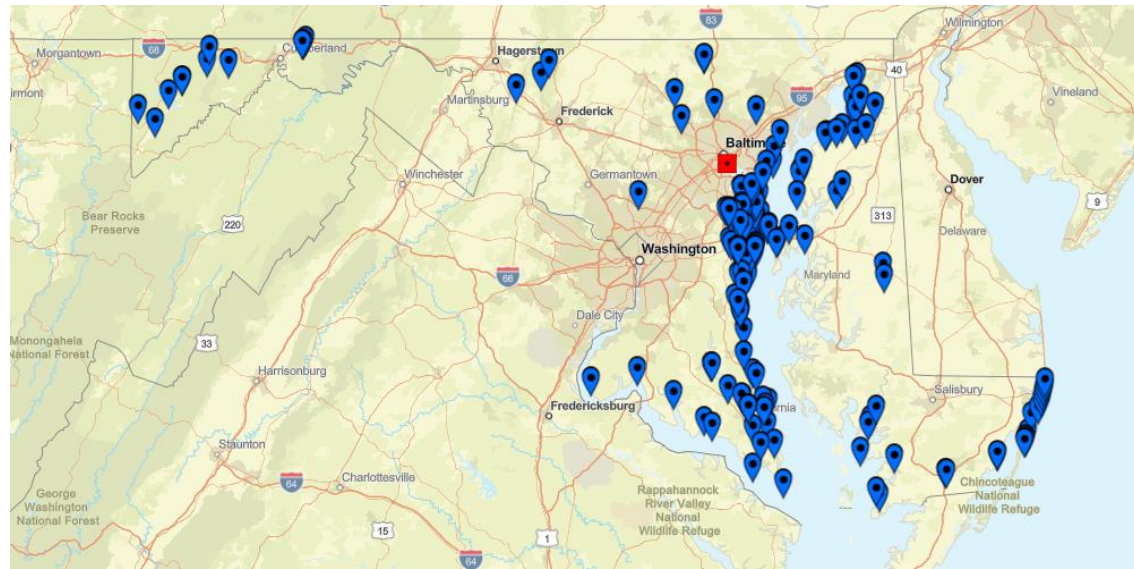
–IR impairments are characteristic of chronic impairments NOT real-time swimming conditions.

- 77 beaches were assessed in the 2024 IR cycle. The results were:

–38 - Category 2

–30 - Category 3

–9 - Category 5



- Open (blue)
- Advisory (yellow) Results for water quality samples collected from this area do not meet the State Beach Action Value.
- Closed (red balloon)
- Not Recommended (red square)
- Algae Bloom (orange) This beach area may not be suitable for swimming due to the presence of potentially toxic algae. Please contact the local health department for more information.
- No Data (white) No Sampling Data Available.

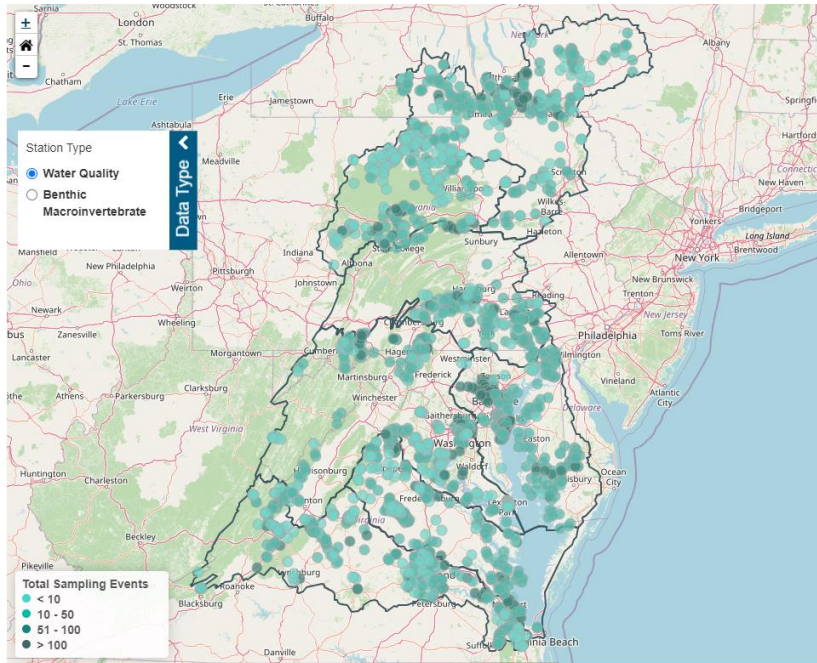
Image from [Maryland's Current Beach Conditions Map, 2024](#)

[Maryland's Healthy Beaches Program Webpage](#)





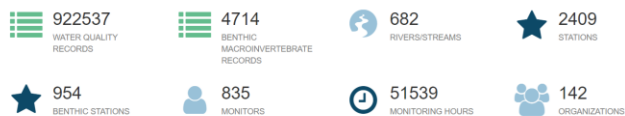
# What's New Continued... Community-Based Data



- Included more community-based data in the 2024 IR assessments than ever before
  - 17 organizations submitted data.
- High quality tidal DO data from three organizations were incorporated into CBP's DO Assessments for the Chesapeake Bay.
- MDE is working to decrease the barriers to achieve and document data quality necessary for regulatory decisions. [CMC's Webpage](#)

## Database Statistics

The summary statistics below provide an overview of the current scope of the Data Explorer.



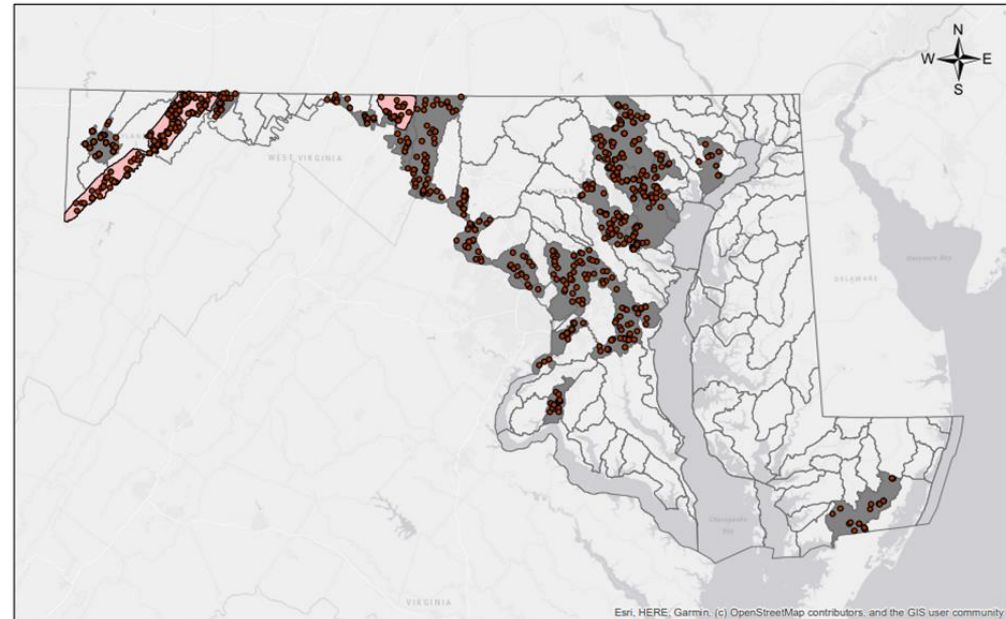




# What's New continued...

## Sulfate Delistings

- Re-evaluated all 8-digit watershed listings for sulfate.
  - Based on on prior biological stressor identification
- Utilized an updated, conservative sulfate threshold based on toxicity studies
- 22 of 26 watersheds impaired for sulfate were delisted.
- The remaining 4 watersheds will be revisited for TMDL development.



### Legend

- SO4 Sample Sites
- SO4 MD 8 Digit Impaired Listings with Exceedances
- SO4 MD 8 Digit Impaired Listings without Exceedances



Map Date: 03/15/2023  
Prepared By: MDE WPRPP

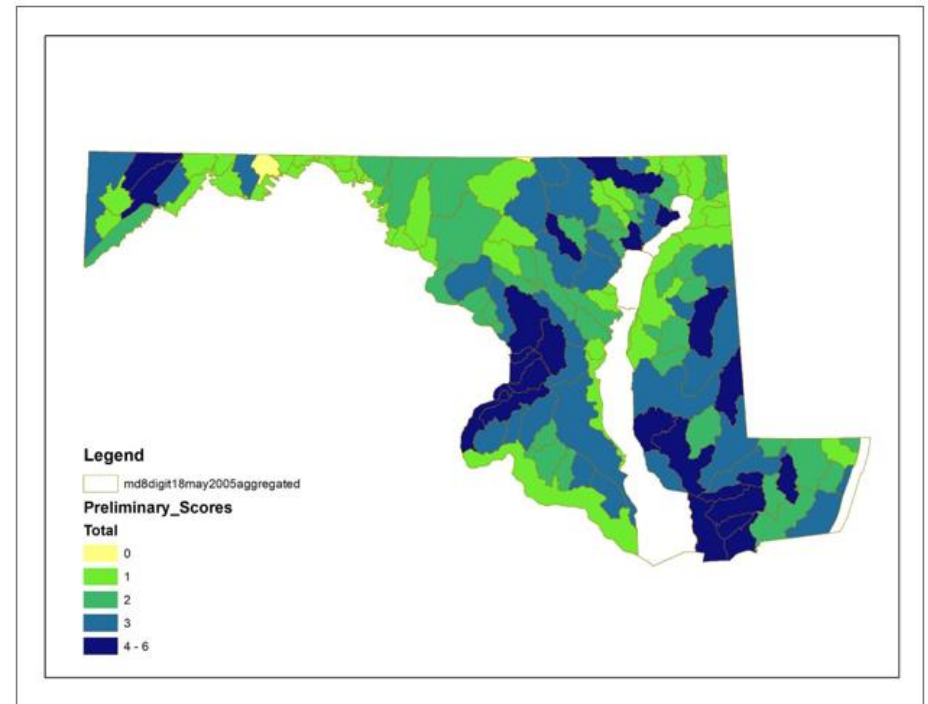
(MDE, Draft 2024 IR)



# Environmental Justice

Environmental justice (EJ) is defined under Maryland state law as "equal protection from environmental and public health hazards for all people regardless of race, income, culture, and social status."

- MDE developed and released the [MDE EJ Screening Tool](#) in 2022.
- In the IR process, WPRPP has utilized this tool to further EJ goals in its monitoring and improvement strategies, such as:
  - Lake monitoring prioritization strategy to select which MD lakes to monitor in 2024-2025 sampling.
  - The Vision 2.0's prioritization list for TMDL development between 2025-2032.
- MDE will continue to champion EJ in its regulatory processes, including in the IR



Results of combining the flood, EJ and Tier II GIS layers. The higher the score, the more overlap between the layers. This gives a geographic idea of where TMDL development could be targeted.

(MDE 2025-2032 Vision)



# Climate Change



Photo courtesy of the Chesapeake Bay Program



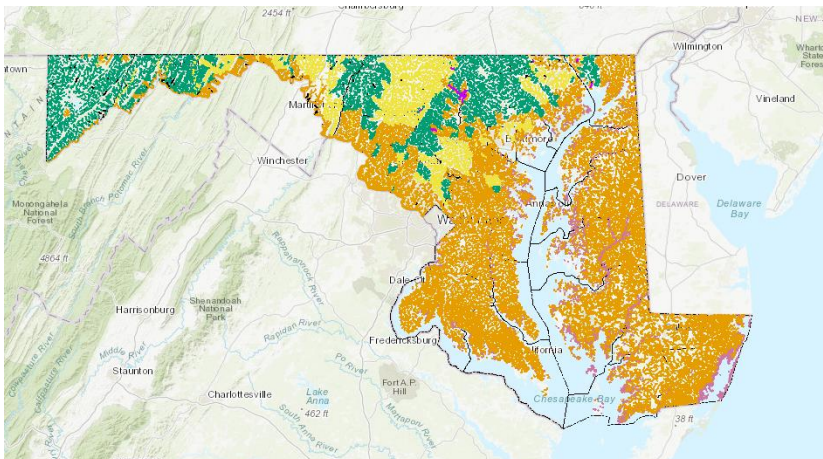
Photos courtesy of Jeff Carter, MDE, 2024

## Coldwater Protections

- Developed Coldwater Advisory Committee
- 19 existing use determinations were made on the 2019 Triennial Review
- Add additional cold water protections to waters that contain cold water species and have temperatures that are cooler than their current criteria specify for their designated use.
- [Coldwater Advisory Committee Webpage](#)

## Continued Work

- Ongoing continuous temperature monitoring
- Development of temperature TMDLs



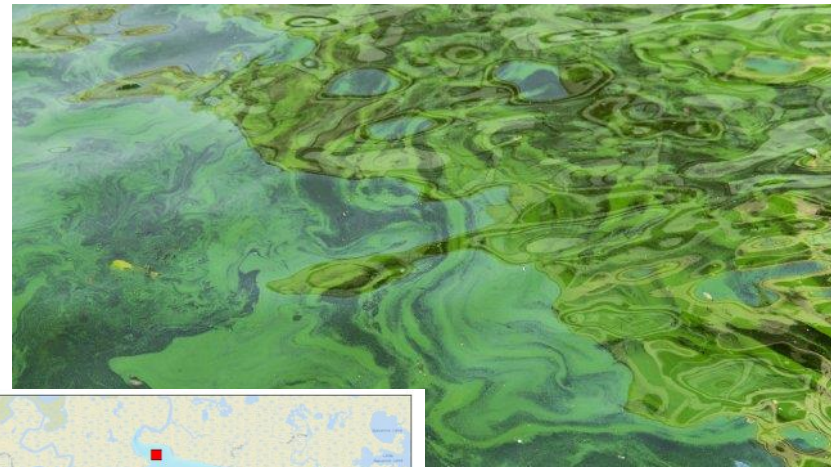
Maryland Use Classes. Use Class III and III-P coldwater streams are show in green.



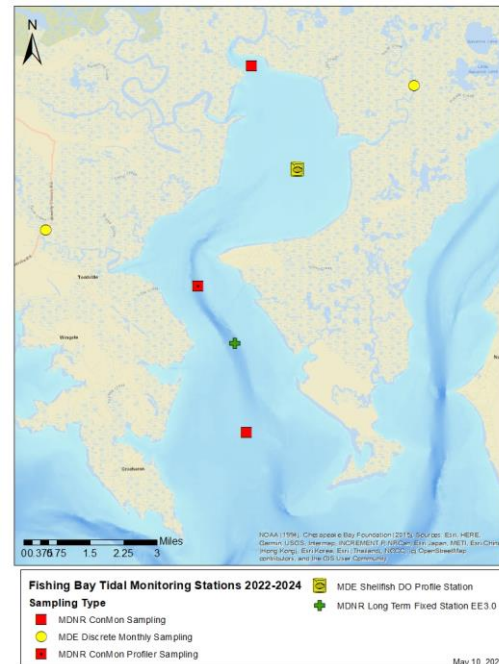


# Looking Ahead

- Fishing Bay- Assessing all applicable Chesapeake Bay Dissolved Oxygen Criteria.
- DNR and Maryland's NPDES Municipal Separate Storm Sewer System (MS4) County biological data collection and integration.
- QA/QC protocols and data quality- Internal and external
- Harmful Algal Blooms (HABs)- Recreational Water Quality Criteria



(Image from EPA HABS, 2024)



Map of Fishing Bay Monitoring Locations



(Image from MDE, 2019)



# How to Get Involved!

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- For the 2024 IR
  - **Submit comments by July 1, 2024.**
- Contact us about submitting data for the 2026 IR – Winter of 2024!
  - [MDE's Data Solicitation Webpage](#)
- Work with the [Chesapeake Monitoring Cooperative](#) (CMC)



# Integrated Report Resources Available Online

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- [Full Length 2024 Integrated Report](#)
  - Also includes the [2024 IR Database](#) available for download (Excel)
- [Assessment Methodologies](#)
- [Water Quality Mapping Center](#)
  - Features maps for water quality, use class information, shellfish harvesting areas, and high quality waters (Tier II)
  - *ArcGIS files available for download*
- [Searchable Integrated Report Database and Clickable Map](#)
- [EPA's How's My Waterway Page](#)





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