Preliminary Acquired Data Analysis Report for the Brays and Sims Bayou Watershed

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Houston-Galveston Area Council

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

EPA United States Environmental Protection Agency

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Abbreviations List

AU	Assessment Unit
CFU	Colony Forming Units
CRP	Clean Rivers Program
E. coli	*Escherichia coli*
DMR	Discharge Monitoring Report
DO	Dissolved Oxygen
EPA	United States Environmental Protection Agency
GIS	Geographic Information System
H-GAC	Houston-Galveston Area Council
LOESS	Locally Estimated Scatterplot Smoothing
MGD	Millions of Gallons per Day
mg/L	Milligrams Per Liter
mL	Milliliters
pH	Potential of Hydrogen
QAPP	Quality Assurance Project Plan
SAS	Statistical Analysis Software
SELECT	Spatially Explicit Load Enrichment Calculation Tool
SSO	Sanitary Sewer Overflow
SWQMIS	Surface Water Quality Monitoring Information System
TCEQ	Texas Commission on Environmental Quality
Texas Integrated Report	Texas Integrated Report of Surface Water Quality for Clean Water Act Sections 305(b) and 303(d)
WPP	Watershed Protection Plan
WWTF	Wastewater Treatment Facility

SECTION 1: INTRODUCTION

Brays Bayou flows east and south from its headwaters near the crossing of State Highway 6 and the Westpark Tollway. Sims Bayou is just south of Brays Bayou, also flowing east from its headwaters near the border between Harris and Fort Bend counties (**Figure 1**). The Brays and Sims Bayou watershed is composed of the drainage area of the unclassified segments Brays Bayou Above Tidal (1007B) and Sims Bayou Above Tidal (1007D), as well as smaller unclassified segment tributaries, and a network of natural and manmade drainage channels. This watershed area spans approximately 220 square miles of portions of Harris and Fort Bend counties (**Figure 1**).

Land cover in the watershed is mostly developed with the exception of a small percentage of forest, wetland, and pasture (mostly in the Sims Bayou watershed) (**Figure 1**). Major transportation corridors include Interstate 10, Interstate 45, Interstate 69/US Highway 59, US Highway 90, the Sam Houston Tollway/Beltway 8, the Westpark Tollway, State Highway 6, State Highway 35, and State Highway 288. The watersheds overlap portions of Bellaire, Four Corners, Houston, Mission Bend, Meadows Place, South Houston, Southside Place, Stafford, University Place, and small portions of Missouri City, Pasadena, and Sugar Land.

To improve water quality and address other concerns related to water resources, a watershed protection plan (WPP) is being developed by the stakeholders of the Brays and Sims Bayou watershed[1]. As part of the WPP development process, water quality data analyses were conducted for the Brays and Sims Bayou watershed to provide stakeholders with an understanding of water quality conditions. To understand the current status of surface water quality in the Brays and Sims Bayou watershed area, the Houston-Galveston Area Council (H-GAC) has analyzed the most recent monitoring and report data and summarized the results of these analyses herein. These assessments will highlight any short-term changes in water quality observed in recent years.

This document includes:

- A summary of the design and purpose of each analysis
- A description of the data sources considered for each analysis which include ambient water quality monitoring data, discharge monitoring report (DMR) data from WWTFs, and reports of sanitary sewer overflows (SSOs).
- An overview of the implications of the results of the analyses.

[1] For more information, see the project website for the Brays and Sims Bayou Watershed Partnership (https://www.h-gac.com/watershed-based-plans/brays-sims-bayou).

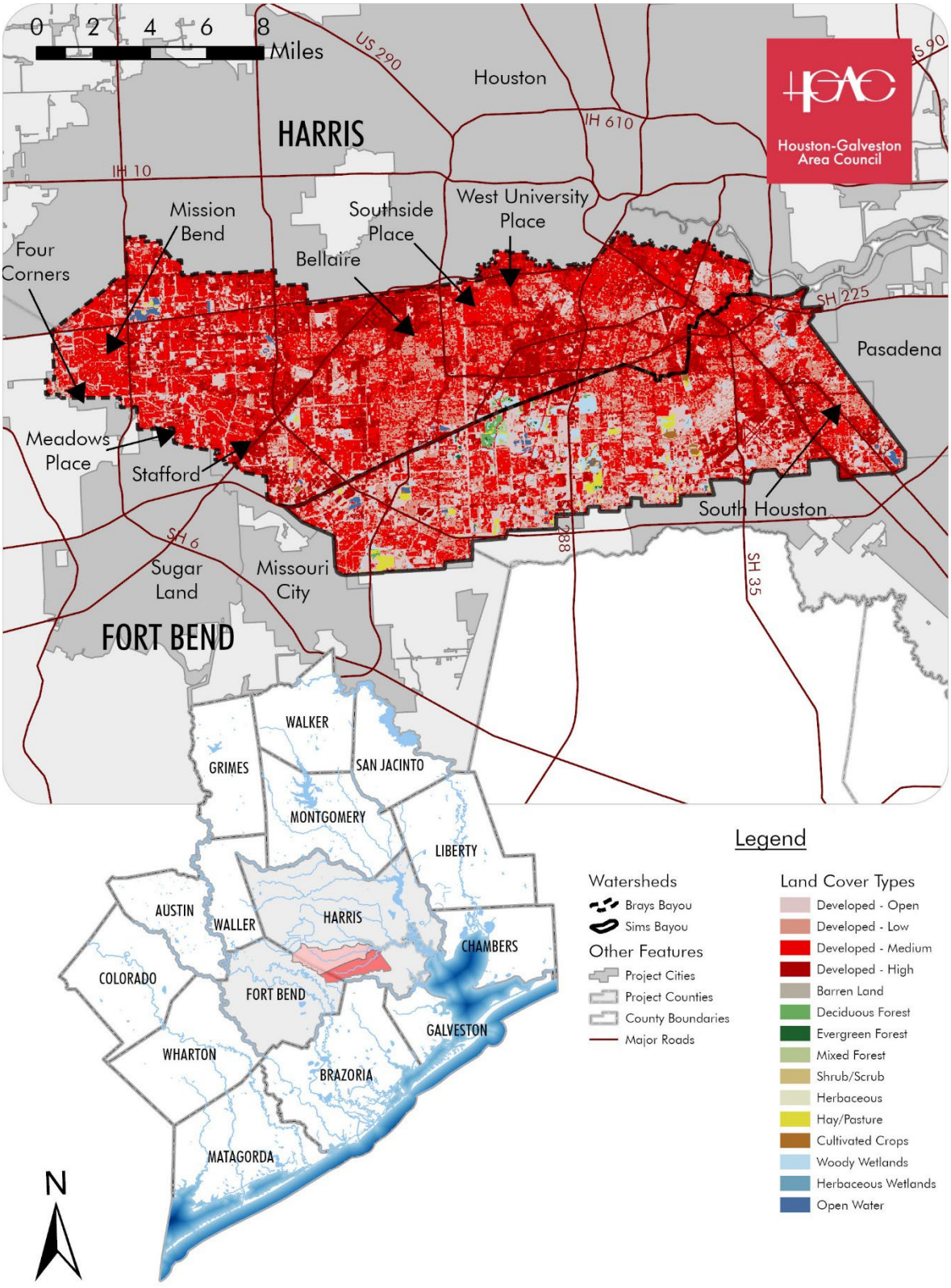


Figure 1. *Regional Context and Land Cover in the Brays and Sims Bayou Watershed*

SECTION 2: ANALYSIS PURPOSE AND DESIGN

2.1 Purpose

Based on assessments from the *2024 Texas Integrated Report of Surface Water Quality for Clean Water Act Sections 305(b) and 303(d)* (Texas Integrated Report)[2] produced by the Texas Commission on Environmental Quality (TCEQ), the primary water quality issues in the Brays and Sims Bayou watershed include elevated levels of fecal indicator bacteria and nutrients as well as low levels of dissolved oxygen (DO). Additional concerns and feedback will be solicited from the stakeholders during the formal stakeholder process. Issues commonly identified in other Houston-area watersheds can include sediment loading (from development), changes in flow velocity and volume, illegal dumping, trash, and bank erosion.

2.2 Project Design

To form a more current understanding of the condition of surface water quality in stream segments throughout the Brays and Sims Bayou watershed, the following analyses were designed to address the needs outlined below.

- General Understanding
  - Describe the extent of the challenges impacting water quality in the watershed.
  - Visualize whether water quality is spatially variable, and if so, identify focus areas.
- Source Identification
  - Analyze DMR data from Texas Pollutant Discharge Elimination System permitted WWTFs to verify whether their discharges comply with permit limits.
  - Quantify the frequency, distribution and causes of SSOs in the watershed.

To answer these requirements data were acquired and evaluated according to the standards below.

- Data Acquisition
  - The most recent data available collected between January 2020 and December 2024 from monitoring stations throughout the watershed area will be retrieved from the Surface Water Quality Monitoring Information System (SWQMIS) to characterize ambient conditions.
  - The most recent data available collected between January 2020 and December 2024 from DMR and SSO reports from within the watershed will be used to characterize wastewater quality.
  - Individual parameters from the aforementioned sources that will be included in the analysis are indicated in **Table 1**.
- Data Evaluation
  - Ambient (SWQMIS) Data
    - Evaluate the relative character of water quality of segments.
    - Identify trends for parameters of concern, by segment.
  - DMR Bacteria Data

[2] The State of Texas assesses its waterways every two years, based on seven-year sets of SWQMIS data. These assessments form the basis by which segments (defined portions of waterways) and their tributaries are classified as having impairments (inability to meet a state water quality standard for which a numerical or other specific limit exists) or concerns (levels of parameters which exceed screening levels or other criteria, but for which numerical or specific limits do not exist).

- Evaluate the primary parameter of concern for compliance with WWTF permit limits.
- Evaluate the general level of compliance for WWTFs.

- SSO Report Data
  - Evaluate the frequency, volume, and causes of SSOs by stream segment.

Table 1. *Data Sources for Parameters of Concern*

Parameter of Concern	SWQMIS Data	DMR Data	SSO Data
Ammonia Nitrogen	X		
Bacteria (*Escherichia coli* (*E. coli*) and Enterococci)	X	X	
Dissolved Oxygen (DO)	X		
Nitrate Nitrogen	X		
pH	X		
SSO Cause			X
SSO Frequency/Volume			X
Temperature	X		
Total Phosphorus	X		

SECTION 3: EVALUATIONS

3.1 Overview

The latest available data from SWQMIS, DMR, and SSO databases, Statistical Analysis Software (SAS) and the spatial analysis platform ArcGIS Pro 3.1 were used to generate statistical results and evaluate geographical trends and variations in the data. The results of all analyses conducted for this report were reviewed by project staff, and pertinent outcomes were selected for the focus of discussion in this document. The full data and evaluation worksheets for these efforts are available on request but are not included in this report for the sake of brevity.

3.2 Ambient Data

Ambient water quality data are collected at over 400 sites in the 13-county Houston-Galveston region by H-GAC, local partners, and TCEQ as part of the Clean Rivers Program (CRP). In general, most monitoring stations are sampled by CRP partners on a quarterly frequency for a suite of field, bacteriological, and conventional parameters. Waterways are inherently dynamic systems, and water quality at any given time can vary greatly dependent on the conditions at the time. However, a history of samples provides a more representative view of the range of conditions that may be present in that waterway. Ambient data are important for characterizing waterways because they represent a range of conditions and have a historical aspect that allows for the identification of trends over time. The final determination of the regulatory status of each segment is based primarily on these ambient data. The goals and decisions for the WPPs were established in part due to the regulatory status, and therefore ambient data are important sources of information for informing stakeholder decisions.

Data collected by CRP partners and incorporated into SWQMIS include several parameters characterizing conventional, bacteriological, and other field conditions of surface water at each site. Based on parameters commonly identified as impairments or concerns for each of the water bodies in the Brays and Sims Bayou watershed such as fecal indicator bacteria, DO, and nutrients, a subset of the SWQMIS dataset for stations throughout the watershed areas was selected. Other parameters were added to provide context for environmental conditions such as temperature, potential of hydrogen (pH), instantaneous flow, and total suspended solids (TSS). The parameters focused on in this analysis include:

- Ammonia Nitrogen – a measure of specific nitrogenous compound that can impact aquatic life and is an indicator of nutrient levels and potentially of improperly treated sewage effluent.
- DO, grab – an indicator of the ability of the waterway to support aquatic life.
- Bacteria – *E. coli* and Enterococci which are common in the intestines of all warm-blooded animals used as an indicator of the presence of fecal wastes. Due to this relationship, it may also be used as a proxy indicator of the safety of waterways for human recreation as fecal waste can be a vector for human pathogens. The state water quality geomean standard for *E. coli* concentrations is 126 colony forming units per 100 milliliters (CFU/100 mL) and the single sample standard is 399 CFU/100 mL. *E. coli* is used as the indicator bacteria in freshwater systems. The state water quality geomean standard for Enterococci concentrations is 35 colony forming units per 100 milliliters (CFU/100 mL) and the single sample standard is 130 CFU/100 mL. Enterococci is used as the indicator bacteria in tidally influenced systems.
- Instantaneous Flow – a measure of water volume over time.
- Nitrate and Nitrite – a measure of nitrogenous compounds and indicator of nutrient levels.
- pH – an indicator of the acidity or basicness of water, which may affect aquatic life and other uses.

- Temperature – an indicator of a waterway's ability to hold oxygen, and a means for correlating other indicators to conditions in the waterways.
- Total Phosphorus – an indicator of nutrient levels, especially in relation to potential for algal blooms and depressed DO in elevated levels.
- TSS – a measure of the number of suspended particles in water that indicates the potential of light infiltration in the water column and the presence of particulate matter on which bacteria may seek shelter.

For all the ambient water quality data analyses, statistical significance is defined as a p-value of 0.0545 or less. Any significance not based on this statistical review (e.g., seasonal trends, qualitative comments) will be specifically described as not being related to this significance threshold. The quantitative analysis for the ambient conditions was conducted using SAS. Statistical analyses in the graphs of Appendix A are based on a Locally Estimated Scatterplot Smoothing (LOESS) curve rather than a straight regression curve to better indicate change in trend over time for disparate stations.

3.2.1 Monitoring in the Brays and Sims Bayou Watershed

The Brays and Sims Bayou watershed has 39 active water quality monitoring stations (**Figure 2**). Data from the 9,148 samples conducted between 2020 and 2024 were used to assess water quality of each stream segment (**Table 2**). This dataset captures the recent water quality conditions before the implementation of the Brays and Sims Bayou WPP. Trend analyses of the acquired data for each parameter within each segment were performed and visualized with a series of graphs (**Appendix A: Ambient Monitoring Data**).

Table 2. *Brays and Sims Bayou Watershed Segments, Stations, and Samples, 2020 to 2024*

Segment Number	Segment Name	Stations	Sample Number	Earliest Event	Latest Event
1007	Houston Ship Channel/Buffalo Bayou Tidal	11302, 11306, 11309, 16479, 16660, 20736	1,634	02/13/2020	11/21/2024
1007A	Canal C-147	16656	120	02/17/2020	11/19/2024
1007B	Brays Bayou Above Tidal	11138, 11139, 11140, 15848, 15850, 15851, 15852, 15853, 15854, 15855	2,503	02/04/2020	12/03/2024
1007C	Keegans Bayou Above Tidal	11169, 20211	478	02/26/2020	10/31/2024
1007D	Sims Bayou Above Tidal	11132, 11133, 11135, 15876, 15877, 15878, 17976	1,758	02/17/2020	11/21/2024
1007E	Willow Waterhole Bayou Above Tidal	16652	122	02/04/2020	12/03/2024
1007F	Berry Bayou Above Tidal	16661	243	03/03/2020	11/21/2024
1007G	Kuhlman Gully Above Tidal	16653	235	02/13/2020	10/29/2024
1007H	Pine Gully Above Tidal	16659	242	03/03/2020	11/21/2024
1007I	Plum Creek Above Tidal	16658	243	03/03/2020	11/21/2024
1007K	Country Club Bayou Above Tidal	16650, 16651	486	02/13/2020	03/12/2024
1007L	Unnamed Non-Tidal Tributary of Brays Bayou	16654	241	02/04/2020	12/03/2024
1007N	Unnamed Non-Tidal Tributary of Sims Bayou	16655	241	02/17/2020	11/19/2024
1007S	Poor Farm Ditch	18692	117	02/06/2020	11/25/2024

1007T	Bintliff Ditch	18690	121	02/04/2020	12/03/2024
1007U	Mimosa Ditch	18691	122	02/06/2020	11/25/2024
1007W	Harris County Flood Control Ditch D 138	21180	242	02/06/2020	11/25/2024

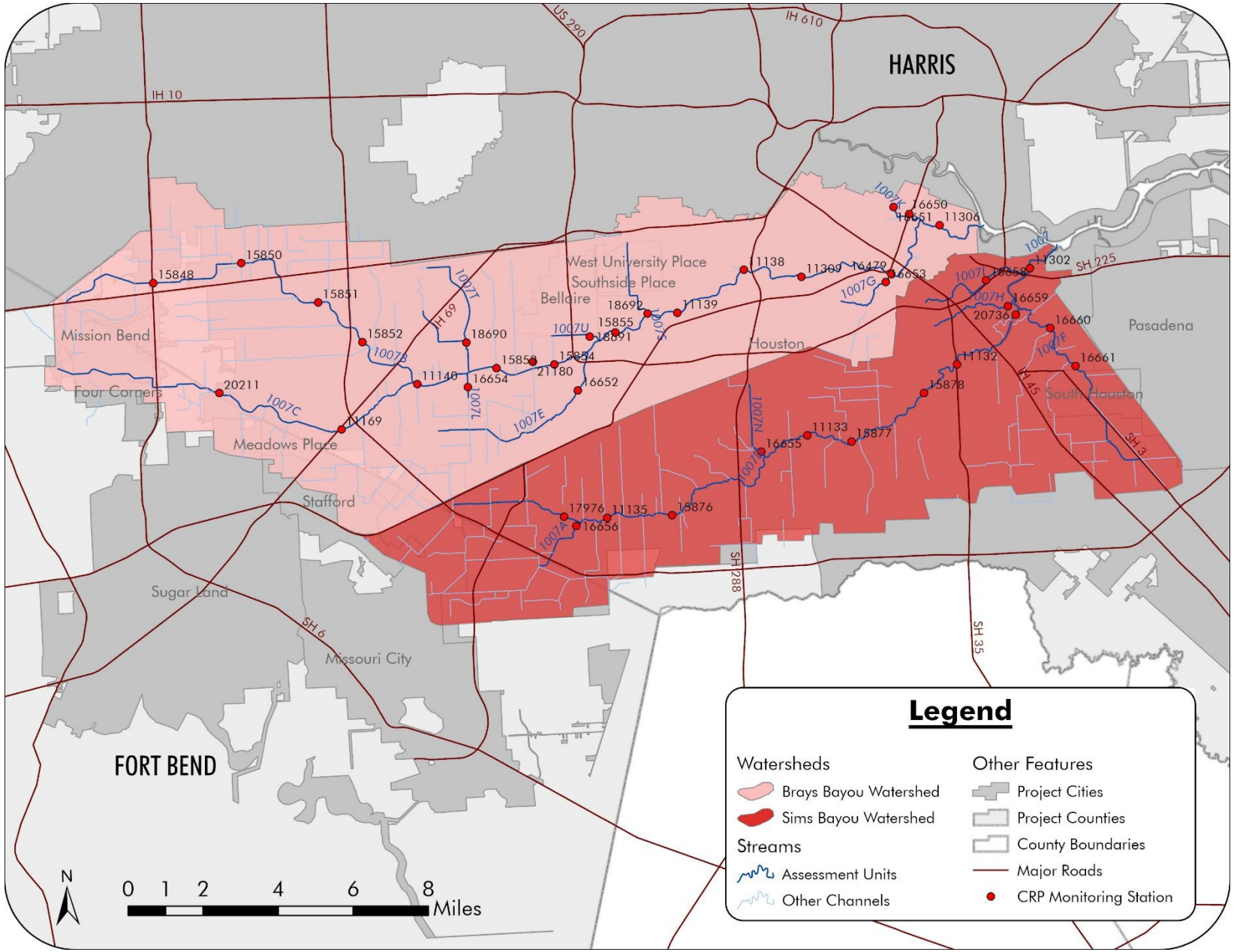


Figure 2. *Active Monitoring Sites in the Brays and Sims Bayou Watershed*

Sub-sections of each stream segment classified as assessment units (AUs) are the basic unit of analysis for the Texas Integrated Reports produced by TCEQ. The *2024 Texas Integrated Report* deemed several AUs in the Brays and Sims Bayou watershed impaired for recreation use due to high levels of fecal indicator bacteria (*E. coli* and Enterococcus). These AUs and others within the watershed were also flagged as concerns for aquatic life and general use due to high nutrient levels and depressed oxygen (**Table 3**).

Table 3. *2024 Texas Integrated Report Status of Brays and Sims Bayou Waterways*

Impairments or Concerns				
Segment	**AU(s)**	**Parameter**	**Use**	**Category or Level of Concern**
1007	02	PCBs and Dioxin	Fish Consumption	NS, 5c
		Total Phosphorus and Nitrate	General	CS
1007	04	Total Phosphorus, Ammonia, Nitrate	General	CS
		PCBs and Dioxin	Fish Consumption	NS, 5c
1007	06	PCBs and Dioxin	Fish Consumption	NS, 5c
		Total Phosphorus and Nitrate	General	CS
1007A	01	Total Phosphorus and Nitrate	General	CS
		E. coli	Recreation	NS, 4a
1007B	01	Total Phosphorus, Nitrate, Ammonia	General	CS
		E. coli	Recreation	NS, 4a
1007B	02	Total Phosphorus and Nitrate	General	CS
		E. coli	Recreation	NS, 4a
1007C	01	Total Phosphorus and Nitrate	General	CS
		E. coli	Recreation	NS, 4a
1007D	01, 02, 03	Total Phosphorus and Nitrate	General	CS
		E. coli	Recreation	NS, 4a
1007E	01	*E. coli*	Recreation	NS, 4a
1007F	01	Total Phosphorus and Nitrate	General	CS
		E. coli	Recreation	NS, 4a
1007G	01	Dissolved oxygen grab	Aquatic life	CS
		E. coli	Recreation	NS, 4a
1007H	01	Dissolved oxygen grab	Aquatic Life	NS, 5c
		Dissolved oxygen grab	Aquatic Life	CS
		Ammonia	General	CS
		E. coli	Recreation	NS, 4a
1007I	01	Dissolved oxygen grab	Aquatic Life	NS, 5c
		Dissolved oxygen grab	Aquatic Life	CS
		Ammonia	General	CS
		E. coli	Recreation	NS, 4a
1007K	01	Dissolved oxygen grab	Aquatic Life	NS, 5c
		Dissolved oxygen grab	Aquatic Life	CS
		E. coli	Recreation	NS, 4a
1007L	01	Nitrate	General	CS
		E. coli	Recreation	NS, 4a
1007N	01	Dissolved oxygen grab	Aquatic Life	CS
		Ammonia	General	CS
		E. coli	Recreation	NS, 4a
1007S	01	Total Phosphorus and Nitrate	General	CS
		E. coli	Recreation	NS, 4a
1007T	01	*E. coli*	Recreation	NS, 4a
1007U	01	*E. coli*	Recreation	NS, 4a
1007W	01	Dissolved oxygen grab	Aquatic Life	NS, 5c
		Dissolved oxygen grab	Aquatic Life	CS
		Ammonia	General	CS
		E. coli	Recreation	NS, 4a

Brays and Sims Bayou Watershed Monitoring Results

Bacteria

A summary of ambient data for each segment of the Brays and Sims Bayou watershed, represented as the geomean of pathogen indicator bacteria for data collected between 2020 and 2024 (**Table 4**), found that there were 15 instances of geomeans exceeding the TCEQ criteria (grey shading), while two instances (no shading) were either in compliance with criteria or better than the screening level.

Table 4. *Brays and Sims Bayou Watershed Monitoring Results for Fecal Indicator Bacteria by Segment, 2020 to 2024 Geomean*

Segment ID	Parameter	Criteria (MPN/100 mL)	Number of Samples	Geometric Mean (MPN/100 mL)	Date Range
1007	Enterococci	168	457	98.35	01/08/2020 - 12/04/2024
1007A	*E. coli*	126	31	102.66	02/17/2020 - 11/19/2024
1007B	*E. coli*	126	309	2,256.84	02/04/2020 - 12/03/2024
1007C	*E. coli*	126	62	1,073.04	02/26/2020 - 10/31/2024
1007D	*E. coli*	126	217	520.64	02/17/2020 - 11/21/2024
1007E	*E. coli*	126	31	951.24	02/04/2020 - 12/03/2024
1007F	*E. coli*	126	31	3,196.27	03/03/2020 - 11/21/2024
1007G	*E. coli*	126	30	673.79	02/13/2020 - 10/29/2024
1007H	*E. coli*	126	30	1,829.46	03/03/2020 - 11/21/2024
1007I	*E. coli*	126	31	1,748.71	03/03/2020 - 11/21/2024
1007K	*E. coli*	126	62	1,003.08	02/13/2020 - 10/29/2024
1007L	*E. coli*	126	31	1,024.34	02/04/2020 - 12/03/2024
1007N	*E. coli*	126	31	178.72	02/17/2020 - 11/19/2024
1007S	*E. coli*	126	31	1,172.54	02/06/2020 - 11/25/2024
1007T	*E. coli*	126	31	9,202.87	02/04/2020 - 12/03/2024
1007U	*E. coli*	126	31	1,388.22	02/06/2020 - 11/25/2024
1007W	*E. coli*	126	31	1,956.11	02/06/2020 - 11/25/2024

Dissolved Oxygen

A summary of ambient data for each segment of the Brays and Sims Bayou watershed, represented as the mean exceedances of Dissolved Oxygen Grab Minimum for data collected between January 2020 and November 2024 (**Table 5**), found that there were 9 instances of mean exceedances (grey shading), while 8 instances (no shading) were either in compliance with criteria or better than the screening level. Please note for this section and *Nutrient Screening Levels*: Mean exceedances = mean of the samples that exceeded the criteria. Criteria are defined as the assigned Aquatic Life Use (ALU) for the assessment units within each segment [1].

Table 5. *Brays and Sims Bayou Watershed Monitoring Results for Dissolved Oxygen Grab Minimum by Segment, 2020 to 2024*

Segment ID	Other Uses*	ALU Designation	Criteria (mg/L)	Mean Exceedances (Samples Exceeding Standard/n)
1007	N/IS	Minimal	1.5	0.63 (22/517)
1007A	N/IS	Limited	2.0	0.0 (0/28)
1007B	N/IS	Limited	2.0	1.15 (2/282)
1007C	N/IS	Limited	2.0	0.0 (0/52)
1007D	N/IS	Intermediate/Limited**	2.0	0.65 (2/207)
1007E	N/IS	Limited	2.0	0.0 (0/29)
1007F	N/IS	Limited	2.0	0.0 (0/31)
1007G	N/IS	High	3.0	0.0 (0/29)
1007H	N/IS	Intermediate	3.0	1.68 (17/31)
1007I	N/IS	Intermediate	3.0	1.46 (18/30)
1007K	N/IS	Intermediate	3.0	1.52 (27/59)
1007L	N/IS	Limited	2.0	0.9 (1/30)
1007N	N/IS	Limited	2.0	0.0 (0/29)
1007S	N/IS	Intermediate	3.0	0.0 (0/24)
1007T	N/IS	Intermediate	3.0	0.0 (0/29)
1007U	N/IS	Intermediate	3.0	2.8 (1/29)
1007W	N/IS	Limited	2.0	1.23 (8/29)

*Other Uses defined as: N-Navigation, IS-Industrial Water Supply

**Refers to intermediate or limited body contact incidental to shoreline activity

[1] 2024 Guidance for Assessing and Reporting Water Quality in Texas

Nutrients

A summary of ambient data for each segment of the Brays and Sims Bayou watershed, represented as the mean exceedances of Nutrient Screening Levels for data collected between January 2020 and November 2024 (**Table 6**), found that there were 9 instances of mean exceedances (grey shading) for Total Phosphorus, while 3 instances (no shading) were either in compliance with criteria or better than the screening level. Nitrate had 9 instances of mean exceedances with 3 instances of compliance, and Ammonia had 12 instances of mean exceedances. Any segment that has a blank cell is deemed as insufficient data and further discussed in Section 4. Criteria are defined as the assigned General Use for the assessment units within each segment.

Table 6. *Brays and Sims Bayou Watershed Monitoring Results for Nutrient Screening Levels by Segment, 2020 to 2024*

Segment	Other Uses	Nutrient Screening Levels - Mean Exceedances (Samples Exceeding the Standard/n)		
		Total Phosphorus	Nitrate	Ammonia
1007	N/IS	1.30 (348/532)	4.65 (445/502)	1.05 (154/532)
1007A	N/IS	-	-	-
1007B	N/IS	1.51 (283/308)	7.23 (276/308)	1.11 (85/307)
1007C	N/IS	2.58 (59/62)	10.59 (59/62)	0.87 (10/62)
1007D	N/IS	2.14 (168/217)	5.19 (165/217)	0.78 (30/217)
1007E	N/IS	-	-	-
1007F	N/IS	2.22 (26/31)	10.21 (29/31)	0.88 (9/31)
1007G	N/IS	0.0 (0/30)	0.0 (0/30)	0.47 (1/30)
1007H	N/IS	0.0 (0/31)	0.0 (0/31)	0.94 (10/31)
1007I	N/IS	1.61 (1/31)	9.4 (1/31)	0.59 (13/31)
1007K	N/IS	0.83 (3/62)	0.0 (0/62)	0.92 (23/62)
1007L	N/IS	0.85 (2/31)	3.16 (10/31)	0.35 (1/30)
1007N	N/IS	0.0 (0/31)	3.09 (1/31)	2.58 (19/31)
1007S	N/IS	-	-	-
1007T	N/IS	-	-	-
1007U	N/IS	-	-	-
1007W	N/IS	1.31 (2/31)	5.41 (2/31)	1.69 (20/31)

The data and parameters listed above each have either a screening level or criteria to be compared against. Other parameters such as temperature, flow, Nitrite, Total Kjeldahl Nitrogen and Nitrite plus Nitrate are parameters for which the data are not compared to criteria or screening levels, but are still collected.

Brays and Sims Bayou Watershed Trends

Trends in the data were determined by examining all parameters collected from surface water samples in the Brays and Sims Bayou watershed and how measurements for those parameters have changed over time. The results in **Table 7** only indicate significant improvements or worsening trends. Results for parameters with stable trends over time are not represented. Consequently, parameter measurements that remained consistently above water quality standards (such as *E. coli*) throughout the study period are not captured by this summary. Graphs depicting the results of all analyses can be found in **Appendix A: Ambient Monitoring Data**.

Table 7. *Brays and Sims Bayou Watershed Water Quality Trends by Segment, 2020 to 2024*

Segment	Parameter	Trend
Houston Ship Channel/Buffalo Bayou Tidal, 1007	Temperature	Deteriorating
Houston Ship Channel/Buffalo Bayou Tidal, 1007	Total Suspended Solids	Improving
Canal C-147, 1007A	DO	Deteriorating
Brays Bayou Above Tidal, 1007B	Ammonia Nitrogen	Deteriorating
Brays Bayou Above Tidal, 1007B	*E. coli*	Deteriorating
Brays Bayou Above Tidal, 1007B	Temperature	Deteriorating
Brays Bayou Above Tidal, 1007B	Total Phosphorus	Improving
Keegans Bayou Above Tidal, 1007C	*E. coli*	Deteriorating
Keegans Bayou Above Tidal, 1007C	Instantaneous Flow	Deteriorating
Keegans Bayou Above Tidal, 1007C	Total Suspended Solids	Deteriorating
Sims Bayou Above Tidal, 1007D	pH	Improving
Willow Waterhole Bayou Above Tidal, 1007E	Instantaneous Flow	Improving
Berry Bayou Above Tidal, 1007F	DO	Deteriorating
Kuhlman Gully Above Tidal, 1007G	DO	Deteriorating
Kuhlman Gully Above Tidal, 1007G	*E. coli*	Improving
Kuhlman Gully Above Tidal, 1007G	Nitrate Nitrogen	Deteriorating
Kuhlman Gully Above Tidal, 1007G	Total Phosphorus	Improving
Plum Creek Above Tidal, 1007I	*E. coli*	Improving
Plum Creek Above Tidal, 1007I	Instantaneous Flow	Improving
Plum Creek Above Tidal, 1007I	Total Phosphorus	Improving
Country Club Bayou Above Tidal, 1007K	Ammonia Nitrogen	Deteriorating
Country Club Bayou Above Tidal, 1007K	Instantaneous Flow	Improving

Country Club Bayou Above Tidal, 1007K	Nitrate Nitrogen	Deteriorating
Country Club Bayou Above Tidal, 1007K	Temperature	Deteriorating
Country Club Bayou Above Tidal, 1007K	Total Phosphorus	Improving
Unnamed Non-Tidal Tributary of Brays Bayou, 1007L	Total Phosphorus	Improving
Mimosa Ditch, 1007U	DO	Improving
Mimosa Ditch, 1007U	pH	Improving
Harris County Flood Control Ditch D 138, 1007W	DO	Improving
Harris County Flood Control Ditch D 138, 1007W	Instantaneous Flow	Improving
Harris County Flood Control Ditch D 138, 1007W	Total Phosphorus	Improving

Brays and Sims Bayou Watershed Ambient Analysis Summary

Of the ambient water quality parameters observed, geomean values for fecal indicator bacteria levels measured between 2020 and 2024 exceeded state water quality standards most frequently. As mentioned, 15 segments out of 17 observed in this analysis showed geomean values for fecal indicator bacteria exceeding criteria levels. In the trend analysis of data collected between 2020 and 2024, *E. coli* levels show signs of significant improvement on Kuhlman Gully Above Tidal (1007G) and Plum Creek Above Tidal (1007I). However, bacteria levels are so far above the standard, particularly on the latter segment, that this trend is not expected to continue to the point of compliance with the geomean standard. On Brays Bayou Above Tidal (1007B) and Keegans Bayou Above Tidal (1007C), trends indicate deteriorating conditions regarding *E. coli* pollution. All other segments showed stable trends for bacteria, however, this was due to regular observed exceedances of the geomean standard, apart from Houston Ship Channel/Buffalo Bayou Tidal (1007) and Canal C-147 (1007A).

Nutrients also continue to pose a challenge to water quality in the Brays and Sims Bayou watershed. Total phosphorus, nitrate nitrogen, and ammonia observed mean exceedances on several segments including Houston Ship Channel/Buffalo Bayou Tidal (1007), Brays Bayou Above Tidal (1007B), and Keegans Bayou Above Tidal (1007C). There do, however, appear to be improvements over time for Total Phosphorus indicated by the trend analysis on Country Club Bayou Above Tidal (1007K) and an Unnamed Non-Tidal Tributary of Brays Bayou (1007L).

Another parameter of interest in this watershed is DO. DO mean exceedances did not meet the criteria for several segments including Houston Ship Channel/Buffalo Bayou Tidal (1007) and Brays Bayou Above Tidal (1007B). While none of the samples exceeded the standard on Berry Bayou Above Tidal (1007F) and Kuhlman Gully Above Tidal (1007G), trends still indicate deteriorating conditions over time. However, improving trends for DO were observed on Mimosa Ditch (1007U) and Harris County Flood Control Ditch D 138 (1007W).

3.3 DMR Bacteria Data

Discharges from wastewater treatment plants are regulated by water quality permits from TCEQ which require stringent limits for effluent quality. Generally, wastewater treatment plants in the Houston region are able to meet their permits. However, because human waste has an appreciable pathogenic potential, identifying trends in permit exceedances for indicator bacteria by WWTFs is important in understanding overall impacts to waterways. Discharges from WWTFs are monitored on a regular basis (with a frequency dependent on plant size and other factors). The data from these required sampling events are submitted to and compiled by TCEQ as DMRs. As with any self-reported data, there is an expectation that some degree of uncertainty or variation from conditions may occur, but these DMRs are the most comprehensive data available for evaluating WWTFs in the watersheds.

Discharge from WWTFs is assessed for compliance with state water quality standards. In the case of the indicator bacteria *E. coli* and Enterococci, the permitted geomean standard is 126 CFU/100 mL and 35 CFU/100 mL, respectively, whereas the grab sample standard is 399 CFU/100 mL and 130 CFU/100 mL, respectively. For this project, staff evaluated bacteria data associated with WWTF permits, from the same time period as the most recently available ambient water quality data, January 2020 through December 2024, and compliance with permit limits for bacteria were compared across segments, plant types, years, and seasons.

Of the 42 permitted domestic outfalls in the Brays and Sims Bayou watershed, 31 submitted DMRs. Of those, 94.7% of reports were in compliance with the bacteria standard (**Table 8**). The disparity between the number of samples exceeding the geomean standard compared to samples exceeding the grab standard could indicate high variability in the data. Higher rates of exceedance from specific sites may be overshadowed by the broad scope of this analysis.

Table 8. *Brays and Sims Bayou Watershed DMR Bacteria Exceedance Statistics, 2020 to 2024*

Parameter	Number of Plants	Percent of Reports
Plants Reporting Bacteria	31	
Total Records	1,782	
Exceedances of Geomean	5	0.3%
Exceedances of Single Grab	90	5.1%
Total Exceedances	95	5.3%

Looking at the number of annual exceedances did not suggest any pattern to the frequency of exceedances. Although the lowest number of exceedances relative to other years for both geomean and grab samples occurred in 2020, this did not represent a strong trend (**Table 9**).

Table 9. *Brays and Sims Bayou Watershed DMR Bacteria Exceedances by Year*

Exceedances	2020	2021	2022	2023	2024	Total
By Geomean	-	2	-	-	3	5
By Grab	11	24	12	17	26	90
Total	11	26	12	17	29	95

The rate of exceedance by plant size was also considered as part of this analysis (**Table 10** and **Table 11**). Plant size refers to the amount of volume in millions of gallons per day (MGD) that each WWTF is permitted to discharge. From the data analyzed, grab samples generally exceed the standard at a higher rate than geomeans. The highest prevalence of exceedances by plant size occurred at the variable, 5-10 MGD and > 10 MGD level for grab samples. The highest one-year percent exceedance (25.0%) occurred in 2021 in the > 10 MGD size category.

Table 10. *Brays and Sims Bayou Watershed DMR Bacteria Geometric Mean Exceedance Rates by Plant Size, 2020 to 2024*

Relative Plant Size	Number of Plants	2020	2021	2022	2023	2024
Variable/Intermittent Discharge	9	0.0%	1.1%	0.0%	0.0%	0.0%
< 0.1 MGD	1	0.0%	0.0%	0.0%	0.0%	0.0%
0.1-0.5 MGD	6	0.0%	1.7%	0.0%	0.0%	1.6%
0.5-1 MGD	2	0.0%	0.0%	0.0%	0.0%	0.0%
1-5 MGD	8	0.0%	0.0%	0.0%	0.0%	2.1%
5-10 MGD	3	0.0%	0.0%	0.0%	0.0%	0.0%
> 10 MGD	3	0.0%	0.0%	0.0%	0.0%	0.0%

Table 11. *Brays and Sims Bayou Watershed DMR Bacteria Grab Sample Exceedance Rates by Plant Size, 2020 to 2024*

Relative Plant Size	Number of Plants	2020	2021	2022	2023	2024
Variable/Intermittent Discharge	9	3.1%	8.9%	5.8%	2.1%	6.3%
< 0.1 MGD	1	.	8.3%	.	.	8.3%
0.1-0.5 MGD	6	.	1.4%	.	.	1.4%
0.5-1 MGD	2	.	.	.	.	.
1-5 MGD	8	2.1%	2.1%	4.2%	5.3%	4.2%
5-10 MGD	3	2.8%	8.3%	.	13.9%	16.7%
> 10 MGD	3	13.9%	25.0%	8.3%	13.9%	22.2%

3.3.1 Summary of DMR Bacteria Data

Overall, the results of the analyses of DMR bacteria data indicated that the total number of exceedances reported was small relative to the total number of DMR reports submitted for the period of 2020 to 2024 (95 out of 1,782 records). No significant trends were observed when the data was viewed as annual frequencies of exceedance or exceedance rates by plant size. While WWTFs may be appreciable contributors to pollution under certain conditions in localized areas, the DMR analysis indicates that they are not likely a significant driver of segment bacteria impairments due to the comparatively few exceedances. However, due to the relatively higher risk of pathogens from human waste, and proximity to developed areas, WWTF exceedances are likely still a point of concern for stakeholders.

3.4 SSOs

Though SSOs occur episodically, they represent a high-risk vector for bacteria contamination because they can have concentrations of bacteria several orders of magnitude higher than treated effluent. Untreated sewage can contain large volumes of raw fecal matter, making it a significant health risk where SSOs are sizeable and/or chronic issues. The causes of SSOs vary from equipment failure to infiltration of rainwater into sewer pipes. Data used for these analyses are self-reported and may vary in quality. Even in the best of circumstances, the ability to accurately gauge SSO volumes or even occurrences in the field are limited by several factors. Actual SSO volumes and incidences are generally expected to be greater than reported due to these fundamental challenges. Known causes of SSOs were broken into four broad categories with several subcategories each, to reflect the breakdown in the TCEQ SSO database. It should be noted, however, that this categorization depends on the accuracy of the data reported by the utilities. Additionally, while a single cause is typically listed on the SSO report, many SSOs are caused by a combination of factors.

This study considered five years of TCEQ SSO violation data from January 2020 through December 2024. There were 2,408 SSO records from 28 plants considered for the Brays and Sims Bayou watershed, which were broken down by year and cause, for number and volume.

There was not a strong trend in number of SSOs over time for the five years examined (**Table 12** and **Figure 3**). In terms of cause by number, the general category of malfunctions and operational issues accounted for 19.7%, blockages accounted for 53.2%, weather-related issues accounted for 26.7% of the overall total, and 0.4% were listed as unknown causes.

Table 12. *Number of Annual SSO Events in Brays and Sims Bayou Watershed*

CAUSE	2020	2021	2022	2023	2024
Weather	**13**	**34**	**54**	**206**	**336**
Rain / Inflow / Infiltration	10	30	54	206	314
Severe Weather/Natural Disaster	3	4	-	-	22
Malfunctions	**189**	**155**	**52**	**34**	**45**
WWTF Operation or Equipment Malfunction	105	99	41	17	19
Power Failure	-	-	-	-	-
Lift Station Failure	-	1	1	3	2
Collection System Structural Failure	84	55	10	14	24
Equipment Failure	-	-	-	-	-
Blockages	**259**	**252**	**415**	**206**	**148**
Blockage in Collection System-Other Cause	61	41	80	19	28
Blockage in Collection System Due to Fats/Grease	196	207	335	187	116
Blockage Due to Rags/Wipes	2	4	-	-	4
Unknown Cause	-	**8**	**1**	**1**	-
Total	**461**	**449**	**522**	**447**	**529**

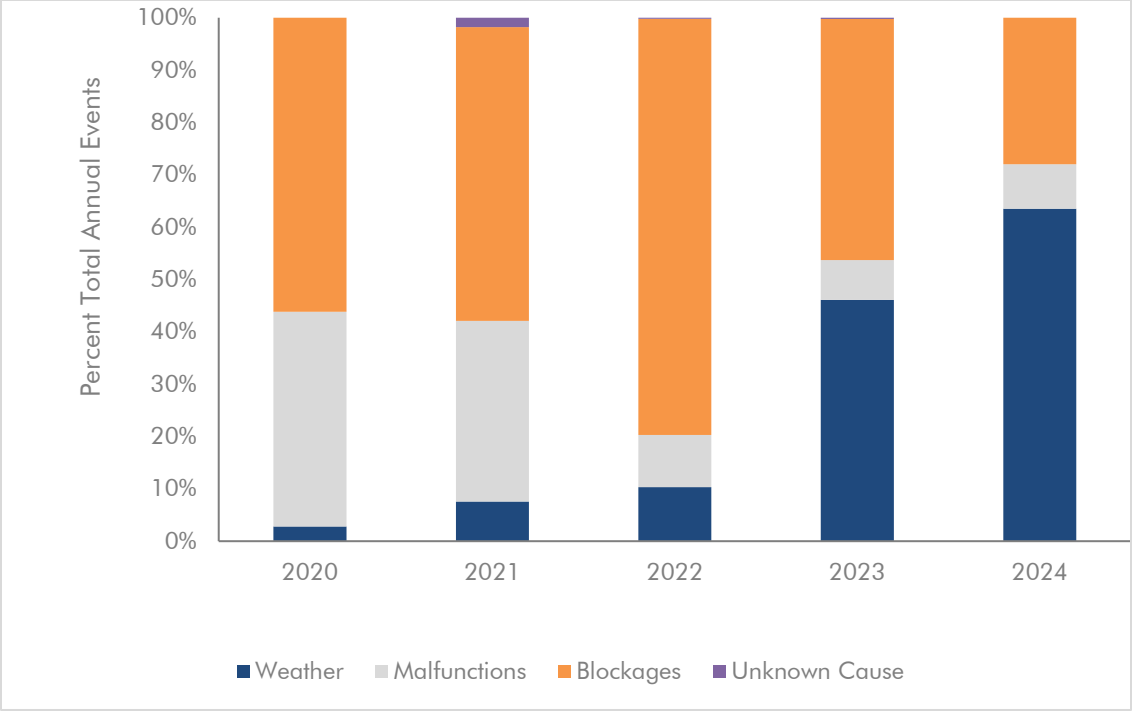


Figure 3. *Percent Total Annual SSO Events in Brays and Sims Bayou Watershed*

While number of SSO events informs how frequently these overflows impact the basin, volume of overflow is an indicator of the magnitude of impact. Of the total volume of overflows reported from 2020 to 2024, malfunctions were responsible for 23.9%, weather contributed 39.7%, blockages comprised 36.4%, and

unknown causes led to the remaining 0.1% (**Table 13** and **Figure 4**). These overall contributions are important to consider in a general sense for estimating impacts to the watershed area.

Table 13. *Annual SSO Events by Volume (in Gallons) in Brays and Sims Bayou Watershed*

CAUSE	2020	2021	2022	2023	2024
Weather	**13,855**	**44,434**	**23,715**	**72,821**	**523,704**
Rain / Inflow / Infiltration	10,800	36,134	23,715	72,821	253,256
Severe Weather/Natural Disaster	3,055	8,300	-	-	270,448
Malfunctions	**135,714**	**124,993**	**74,033**	**38,551**	**35,012**
WWTF Operation or Equipment Malfunction	84,774	102,862	39,785	11,454	11,720
Power Failure	-	-	-	-	-
Lift Station Failure	-	-	500	12,950	2,230
Collection System Structural Failure	50,940	22,131	33,748	14,147	21,062
Equipment Failure	-	-	-	-	-
Blockages	**62,434**	**124,314**	**227,682**	**107,311**	**99,900**
Blockage in Collection System-Other Cause	9,710	32,653	39,160	17,166	13,384
Blockage in Collection System Due to Fats/Grease	52,724	89,989	188,522	90,145	85,916
Blockage Due to Roots/Rags/Debris	-	1,672	-	-	600
Unknown Cause	-	**525**	**489**	**-**	-
Total	**212,003**	**294,266**	**325,919**	**218,683**	**658,616**

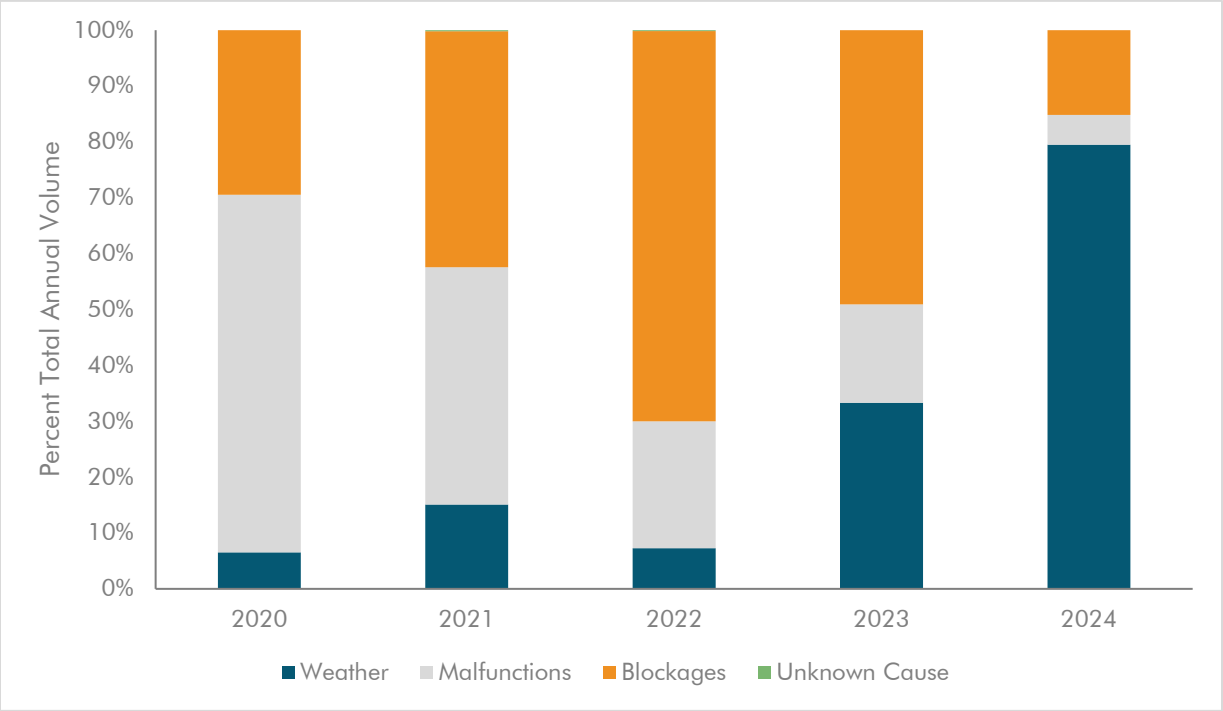


Figure 4. *Percent Total Annual SSO Volume in Brays and Sims Bayou Watershed*

3.4.1 Summary of SSO Analyses

The highest volume of flows relative to other years occurred in 2024, but there was not a strong annual trend in number of SSOs. In terms of general cause, blockages accounted for the highest number of events respective to the other general categories of weather, malfunctions, and unknown causes. In terms of volume, weather contributed the highest overflow observed between 2020 and 2024.

While these data are useful, it should be noted that they are also self-reported and may vary in quality. Overflow volumes and numbers of events may be greater than the values recorded in the report data, and causes may be overgeneralized due to multiple factors ultimately resulting in SSOs.

In watersheds where bacteria and nutrient loading are of particular concern, the impacts of SSOs are important to understand due to their concentrations of untreated human waste. These events pose a high risk to human health especially due to their proximity to urban populations. Further, despite their episodic occurrences, SSOs can be extreme loading sources in the sense of volume introduced in a short time frame. Though SSOs do not have the same potential to cause chronic impacts on waterways as effluent from high volume WWTFs, for the aforementioned reasons, it is still critical to consider SSO management among the best management practices selected to improve water quality in the waterways of Brays and Sims Bayou and other surrounding watersheds.

SECTION 4: OUTCOMES AND IMPLICATIONS

This analysis of ambient, DMR, and SSO report data contributes to the continued characterization of water quality concerns in the waterways of Brays and Sims Bayou. Findings from this report can be used to inform stakeholders as they work to implement best management practices outlined in the WPP.

Data collected between January 2020 and December 2024 were used to determine which water quality parameters are of greatest concern and the extent to which their impacts have been observed throughout the waterways. As indicated in the *2024 Texas Integrated Report* results for this watershed, a geomean analysis of the SWQMIS dataset identified high levels of fecal indicator bacteria as the most pervasive impact to water quality throughout the waterways. Further, elevated nutrient (nitrate nitrogen and total phosphorus) levels were also highlighted as concerns in segments such as Houston Ship Channel/Buffalo Bayou Tidal (1007), Brays Bayou Above Tidal (1007B), and Keegans Bayou Above Tidal (1007C). For those same parameters, as previously mentioned in section 3.2, there were segments such as Canal C-147 (1007A) and Willow Waterhole Bayou Above Tidal (1007E) that had insufficient data. This is because no data were collected during the analyzed timeframe of 2020 to 2024. As this report is being used to assist H-GAC staff with the development of the 2026 Basin Highlights Report[2], H-GAC staff plan to discuss the implications of these data gaps with CRP partners in scheduled upcoming meetings and can provide a follow-up upon request from stakeholders. Depressed DO levels were observed on several segments including Plum Creek Above Tidal (1007I) and Country Club Bayou Above Tidal (1007K), as well as the unnamed tributary to Sims Bayou (1007N). Slight discrepancies between the geomean analyses in this report and the results of the *2024 Texas Integrated Report* are most likely due to the incomplete temporal overlap of datasets observed for each report.

According to the analyses in this report, permitted wastewater effluent is unlikely to be a widespread or chronic water quality issue but requires further investigation on limited spatial scales and timeframes. However, understanding these discharges is still critical to the development of this project as WWTFs without permit limits for certain nutrients act as source loads—particularly in effluent-dominated streams. Further, as treatment facilities for human waste, improper treatment indicators identified in DMR analyses can have greater implications for risk to human health.

An analysis of SSO reports from the watershed indicated that for the number of SSO events, blockages were among the most common for the general cause categories, while weather related events were among the most common for volume of overflow. However, it is important to note that while only one cause is usually listed on the report, multiple compounding factors can lead to SSOs. Ultimately, causes listed in SSO reports are prone to a degree of subjectivity as opposed to more quantitative measurements. While the episodic overflow volumes reported during these events are relatively small compared to the scale of effluent produced by WWTFs, SSO inputs are of particular concern due to the untreated nature of the sewage associated with them and the subsequent risk to human health.

As populations in the watershed continue to grow, the balance of pollutant sources and current hydrologic processes could be altered significantly in the coming years. These changes could result in further water quality impacts without intervention. Subsequent efforts should be made to identify causes and sources of the primary parameter of concern (indicator bacteria), and to characterize nutrient sources further to identify areas within the project watershed most vulnerable to pollutant loadings and/or best suited for the implementation of management strategies. The identification and characterization of pollutant loadings is defined and analyzed through the

[2] CRP Basin Highlights/Summary Reports Publications Page

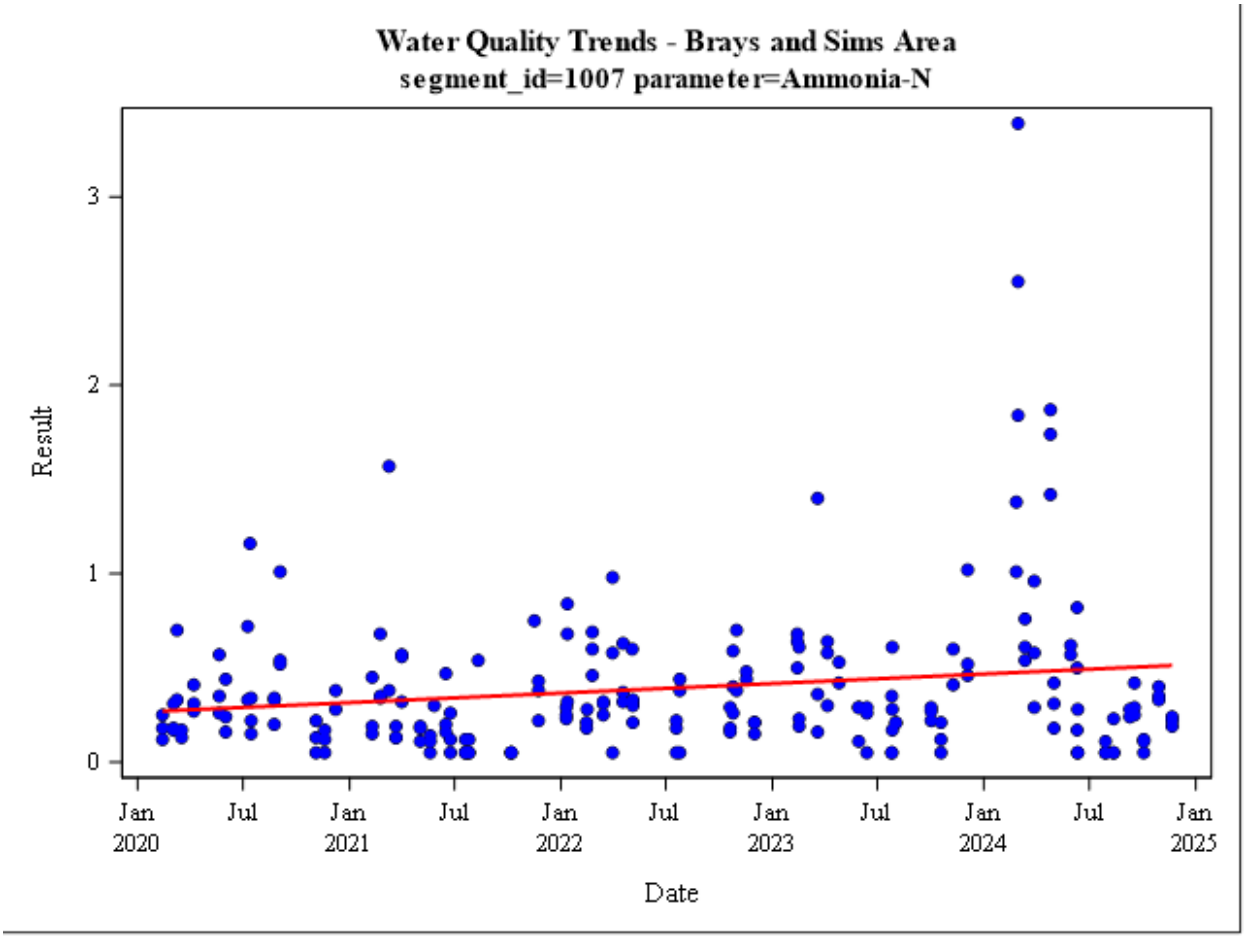
Spatially Explicit Load Enrichment Calculation Tool (SELECT) model. SELECT uses existing spatial data in a geographic information system (GIS) framework and literature values to characterize the extent and spatial distribution of bacteria sources. This methodology was originally selected for this purpose based on use in similar projects and because it represented a good match between the level of precision needed for the project with the complexity of the model (and the resources available). For more information on the SELECT model, please refer to the Brays and Sims Bayou Watershed Protection Plan Modeling Quality Assurance Project Plan (QAPP).

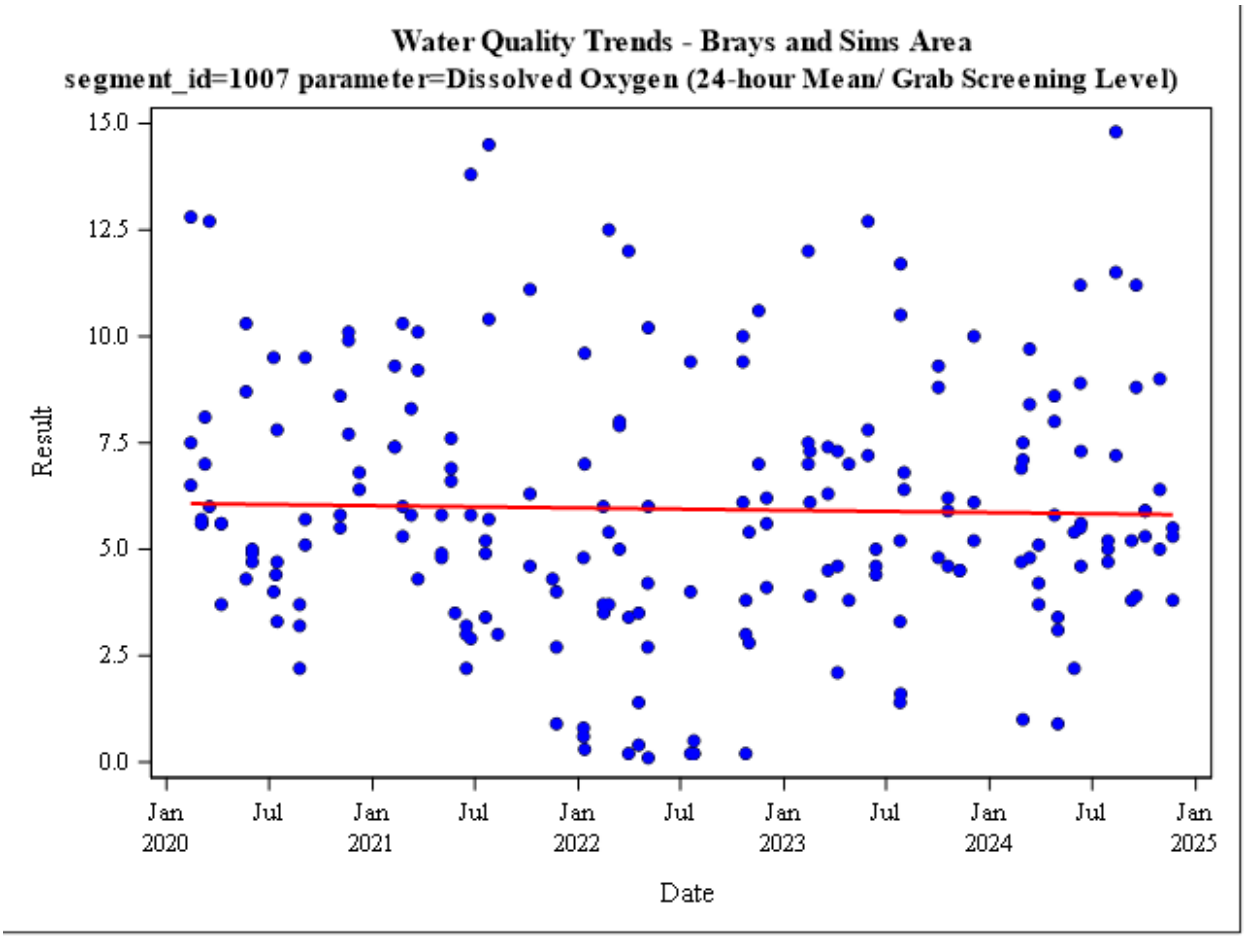
APPENDIX A: AMBIENT MONITORING DATA

The following figures represent the results, by segment, for all parameters evaluated. The period of observation is 2020 through 2024, although data may vary as indicated in the charts. The regression analyses for ambient conditions were conducted using SAS.

Brays and Sims Bayou Watershed

Houston Ship Channel/Buffalo Bayou Tidal (1007)

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10.0
7.5
5.0
2.5
0.0
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Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
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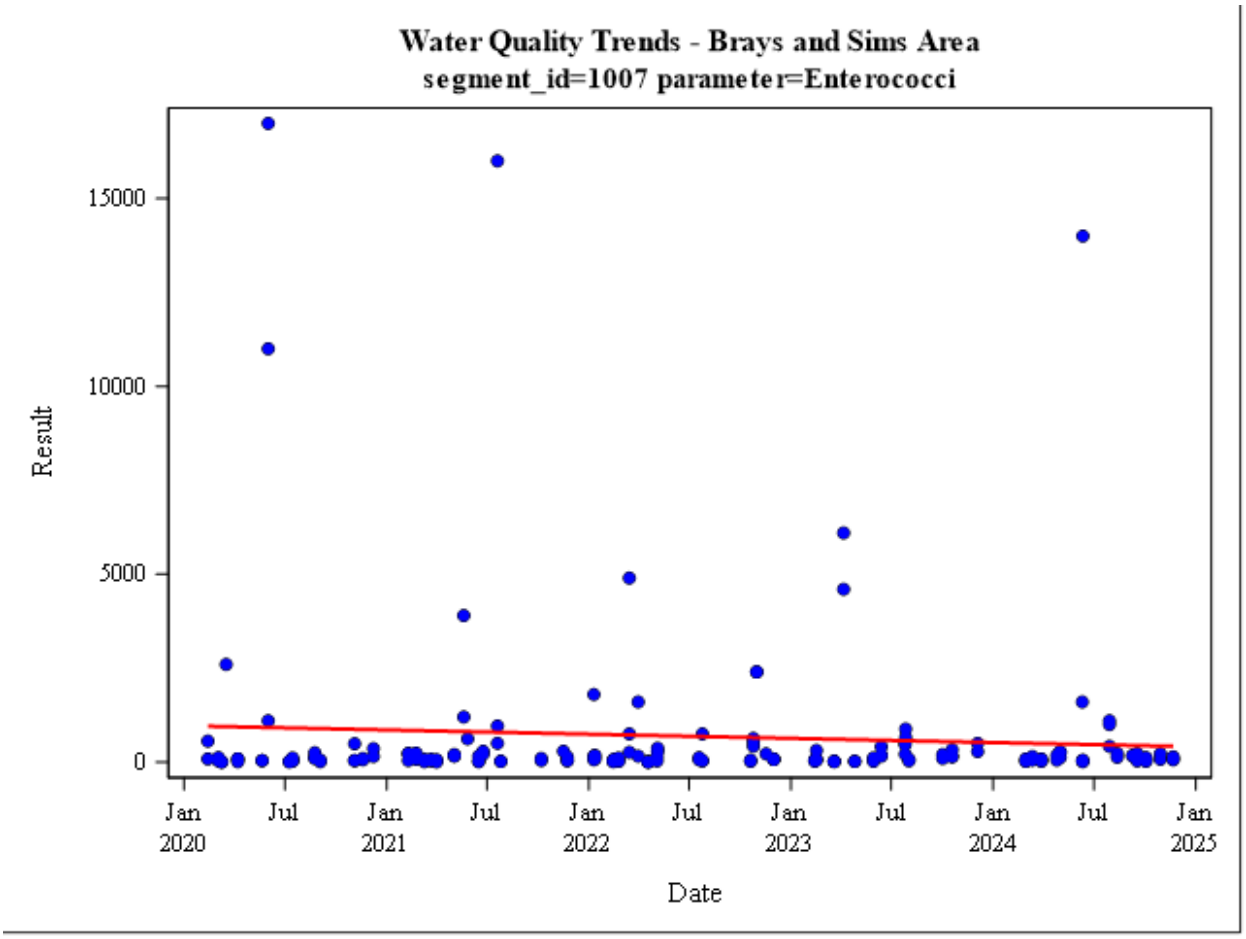
Jan 2024
Jul
Jan 2025
Date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Jan 2022
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Jan 2023
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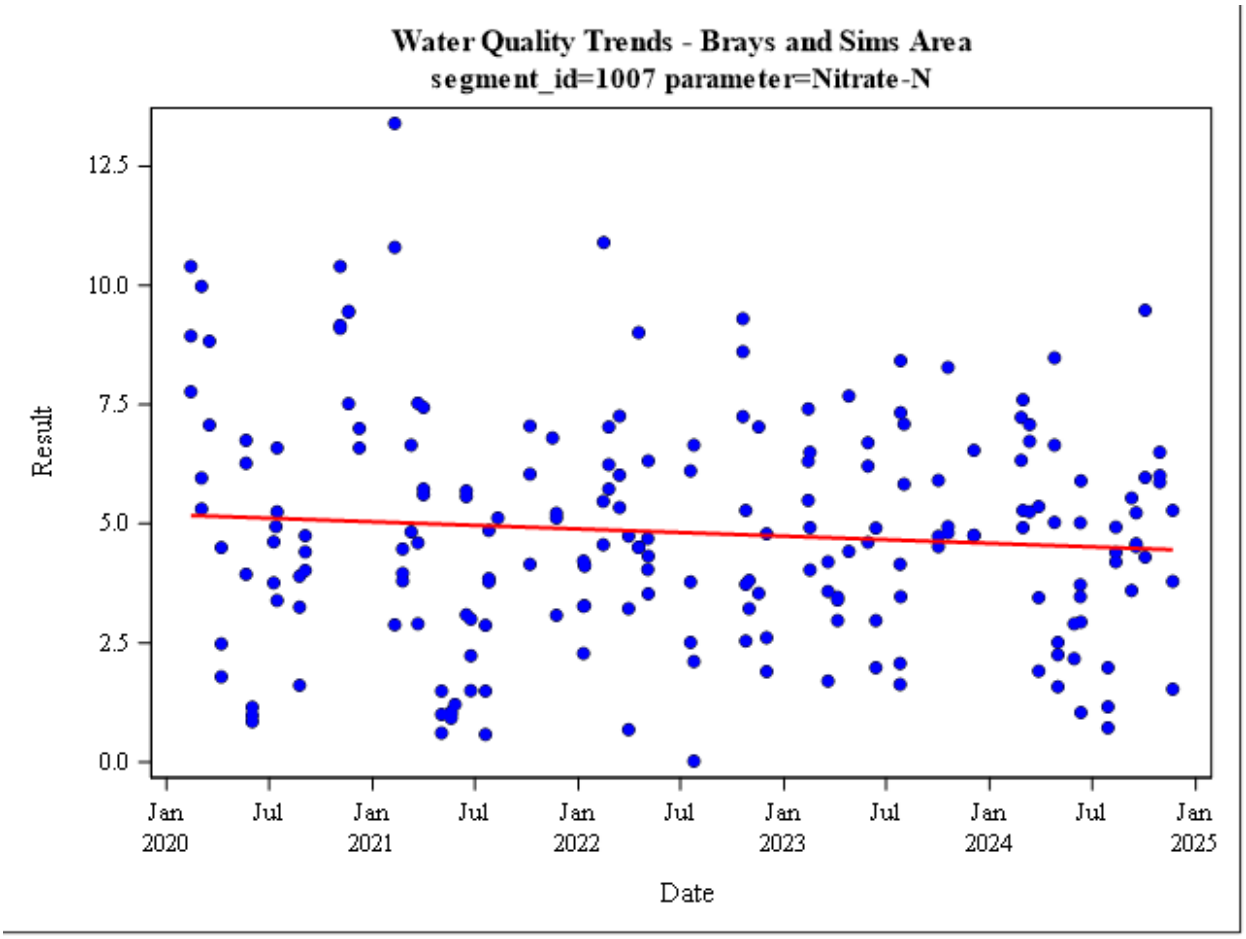
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10.0
7.5
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2.5
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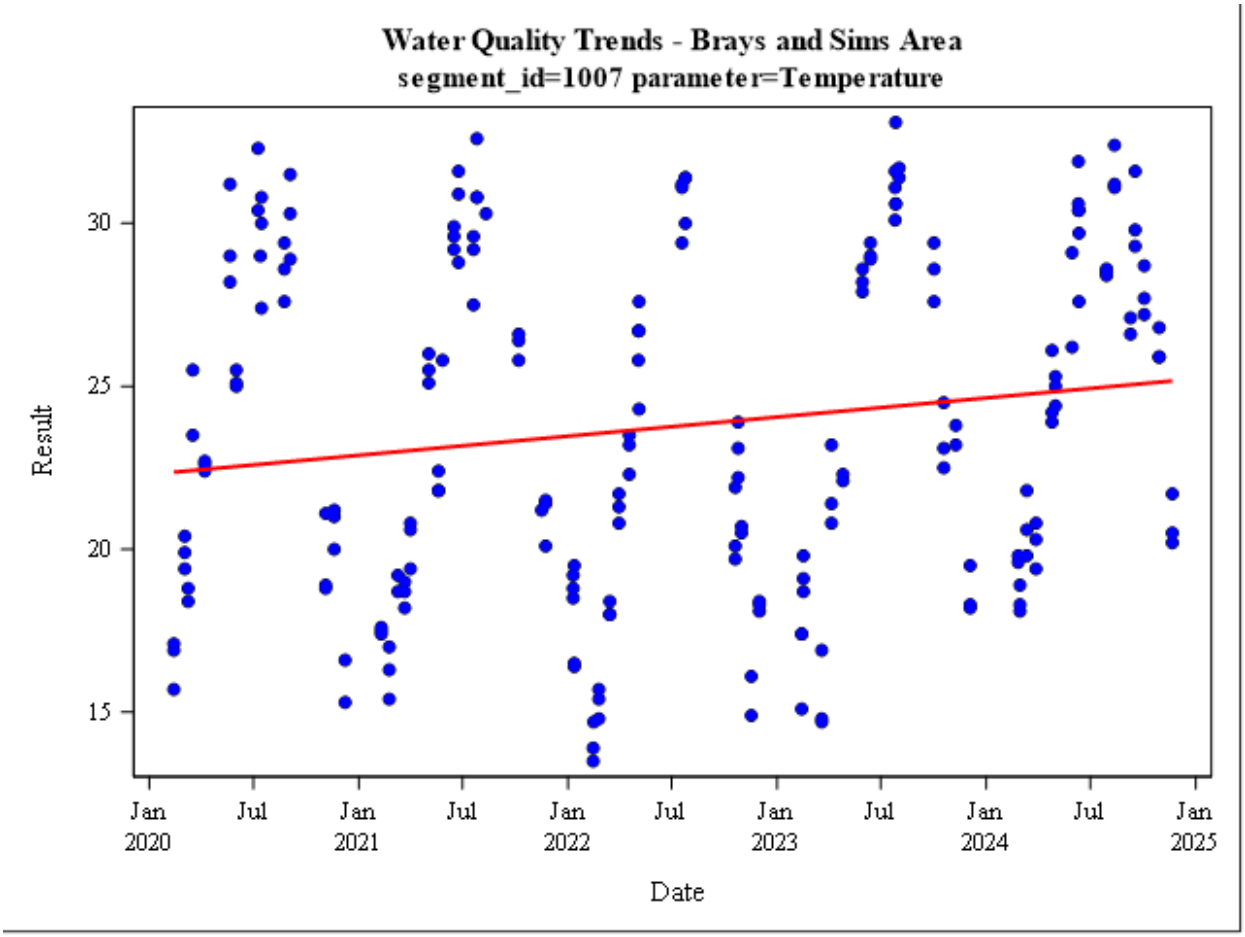
Date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25
20
15
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2020
Jul
Jan
2021
Jul
Jan
2022
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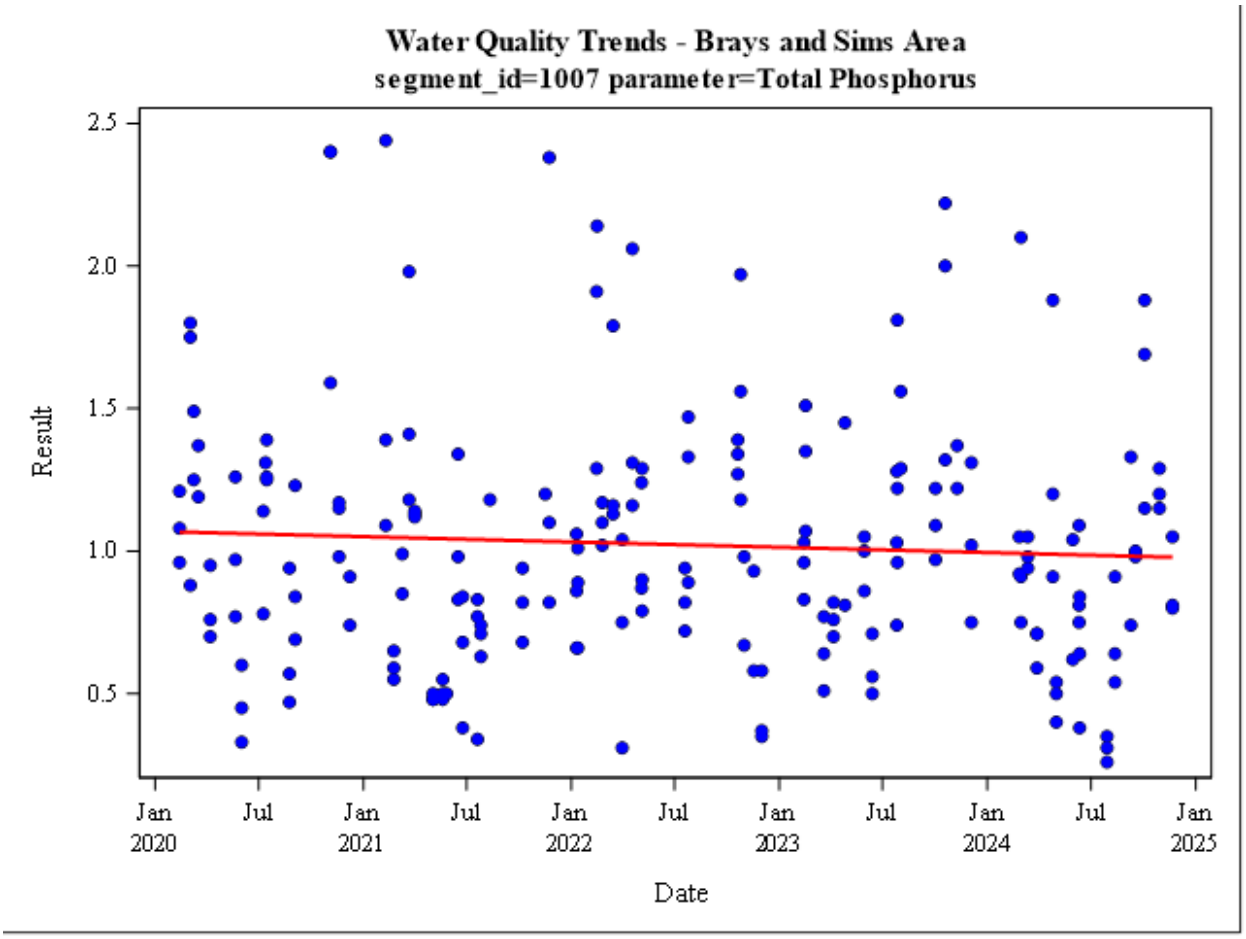
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date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1.5
1.0
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Jan 2025
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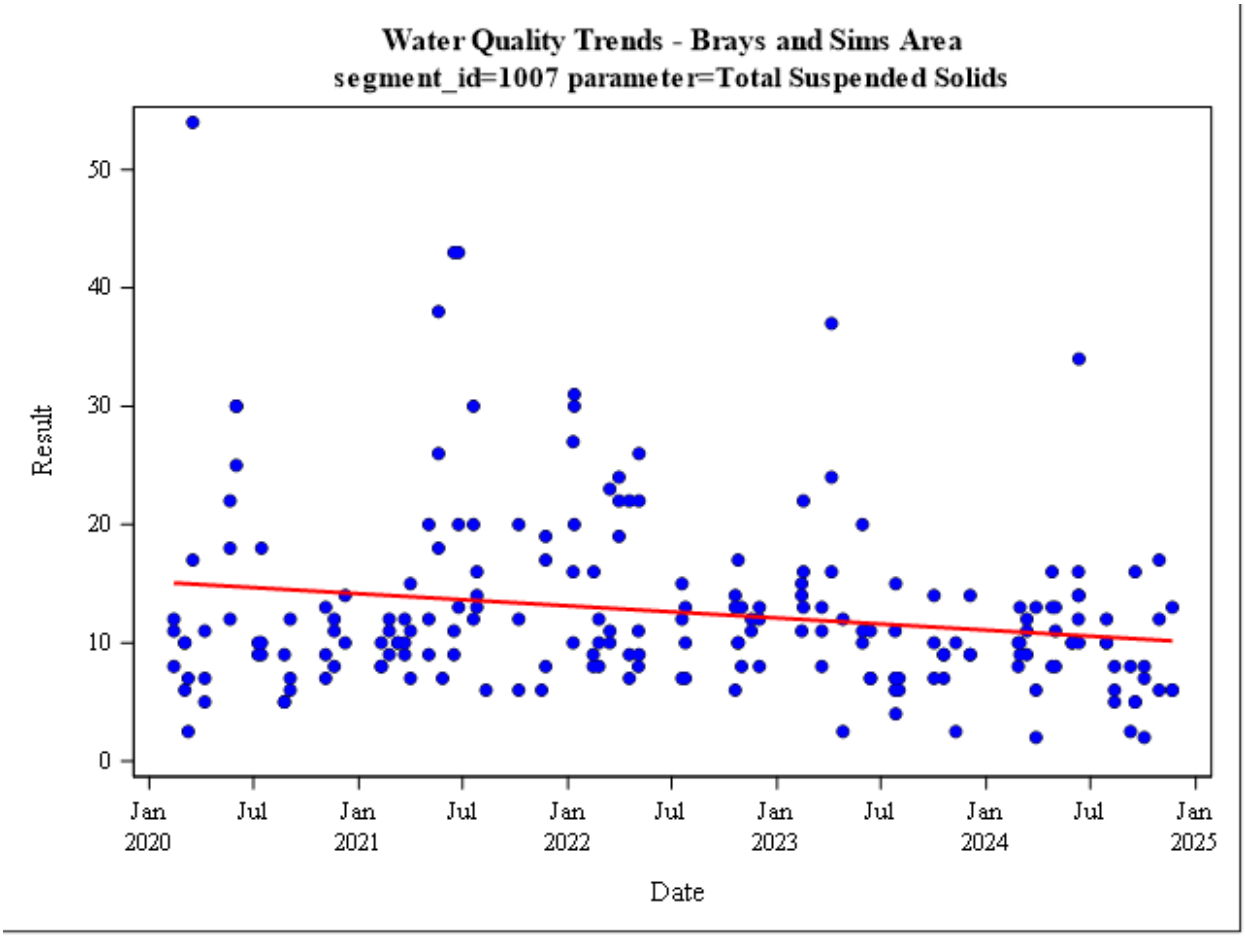
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Jan 2022
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Jan 2023
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Jan 2024
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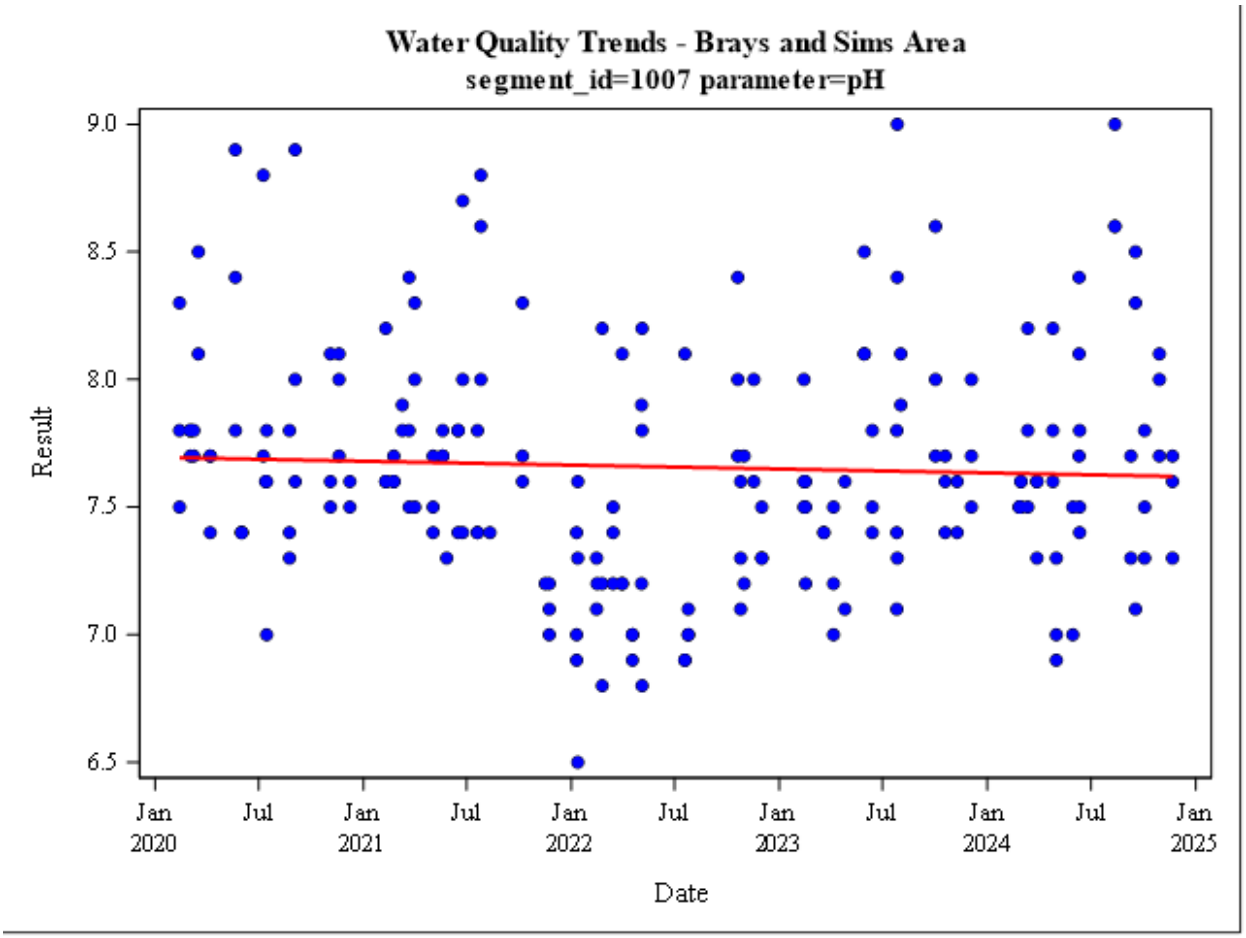
Jan 2025
Date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8.5
8.0
7.5
7.0
6.5
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Jul
Jan 2021
Jul
Jan 2022
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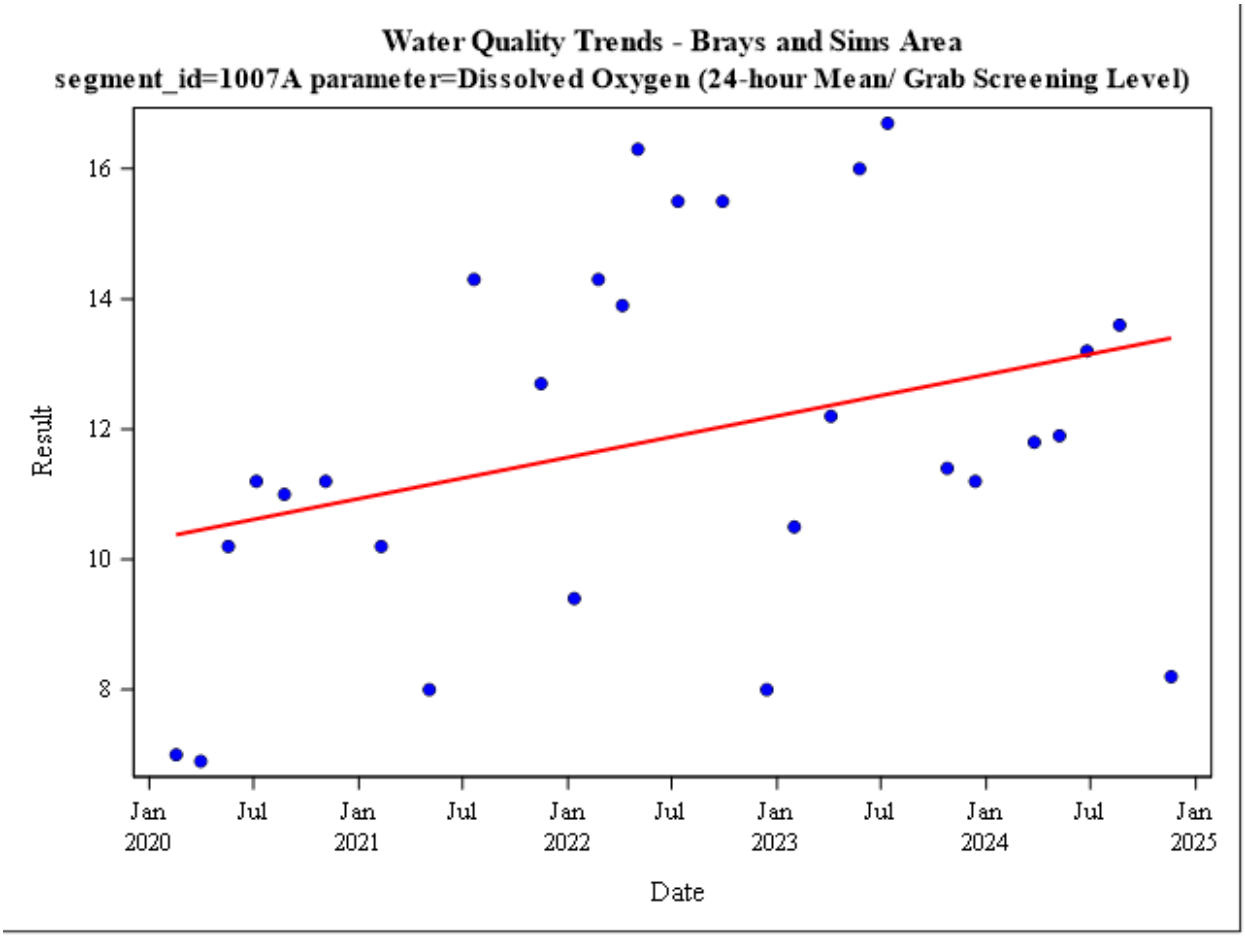
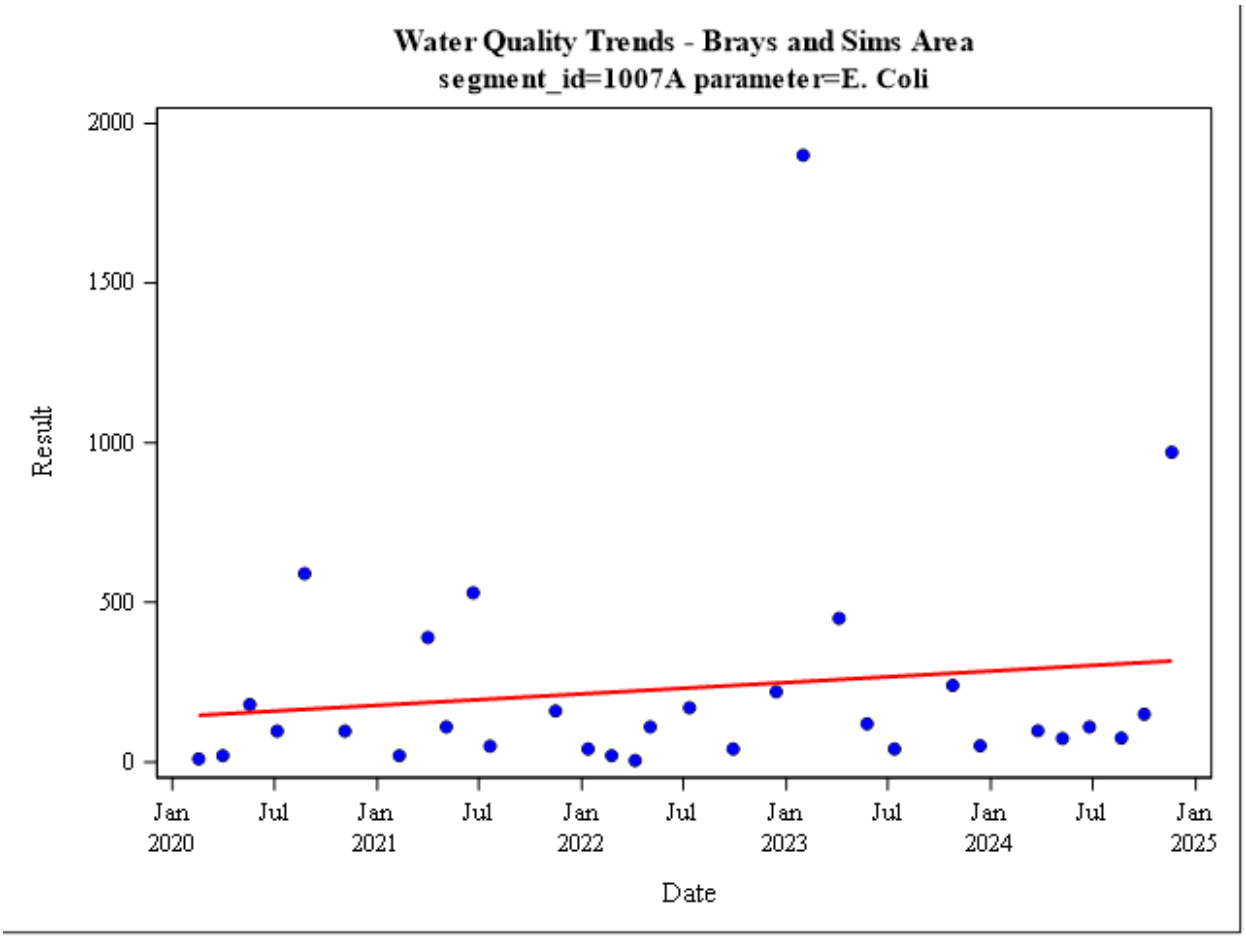
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

Canal C-147 (1007A)

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1000
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Jan 2021
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Jan 2023
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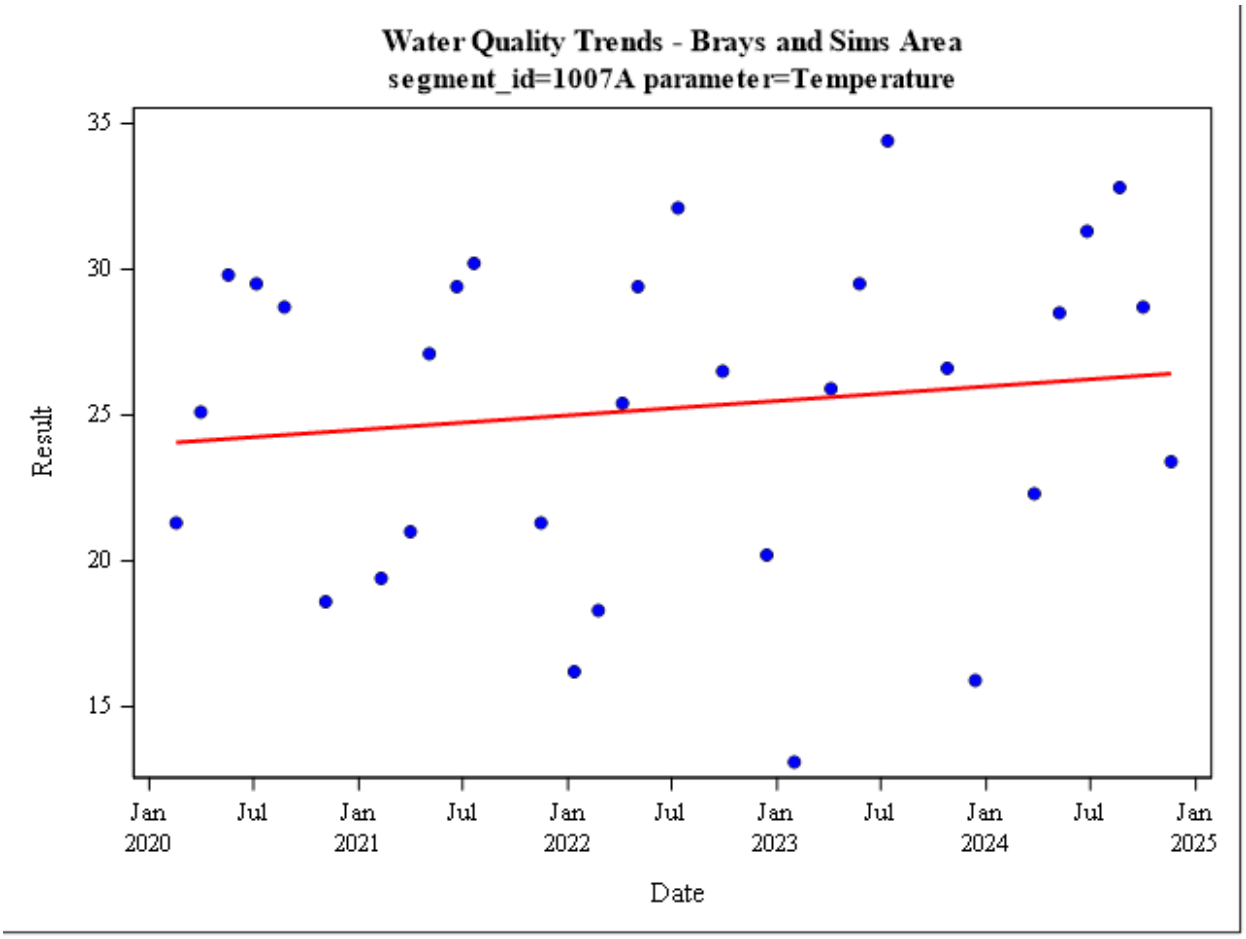
Date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Jan 2021
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Jan 2022
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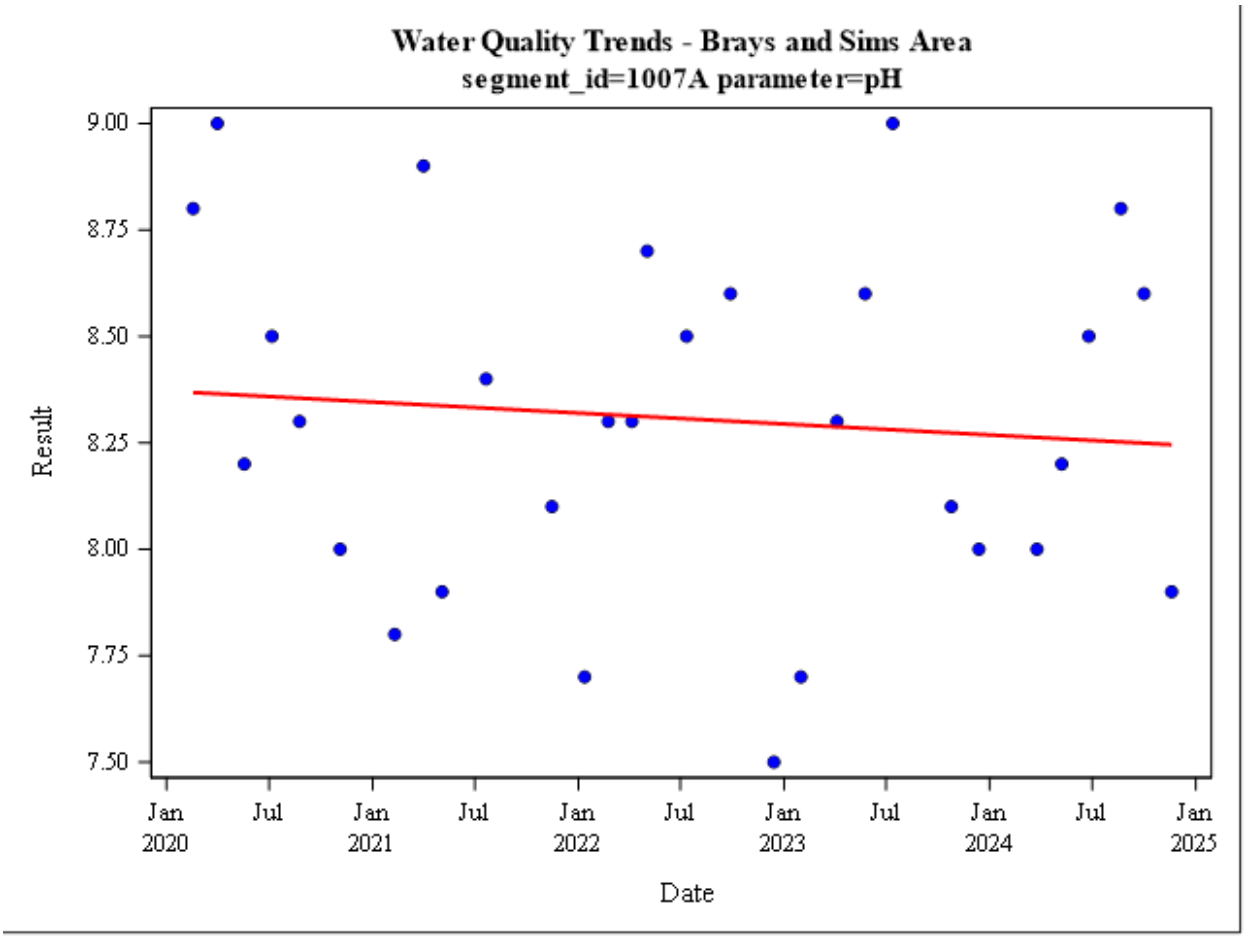
Jan 2025
Date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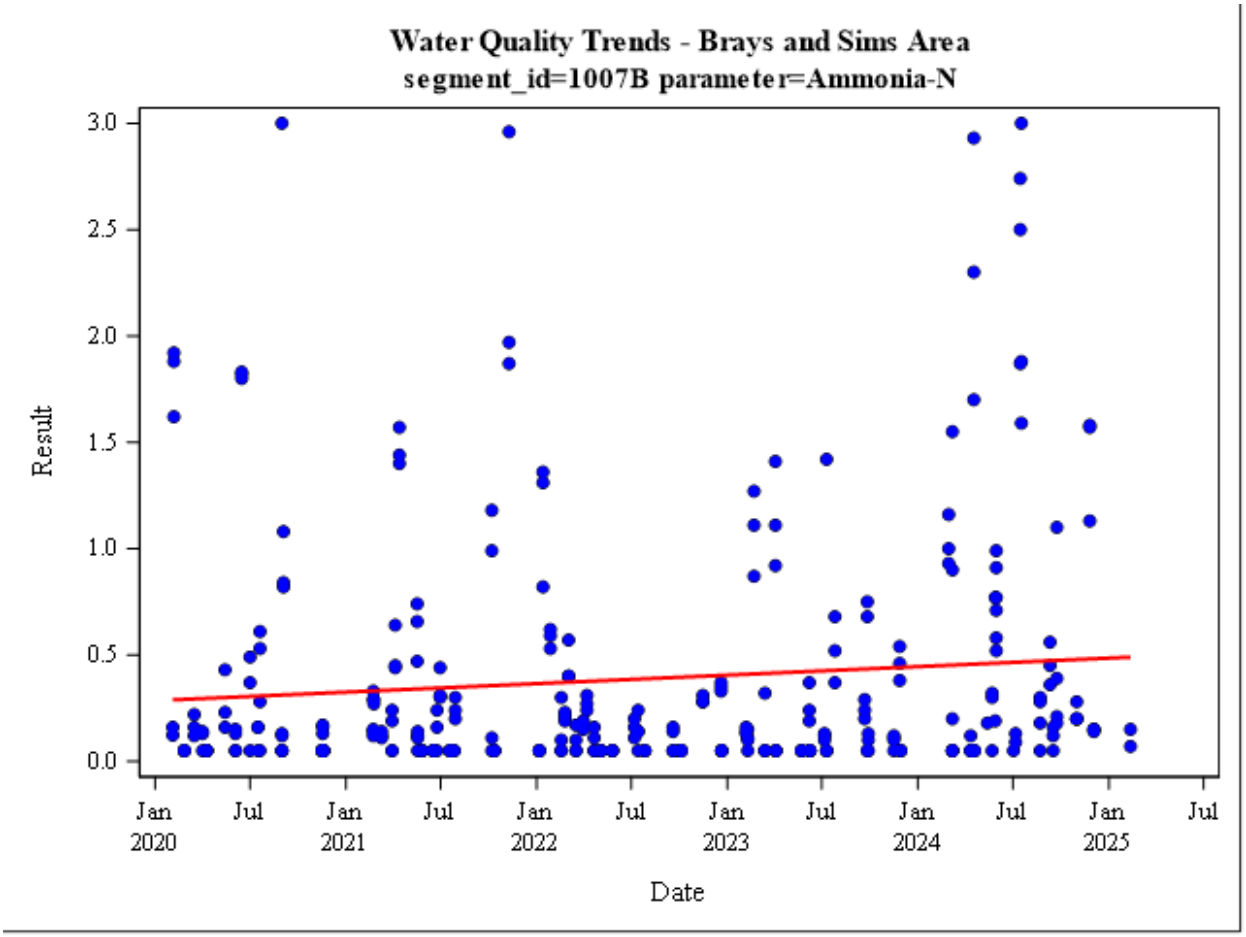
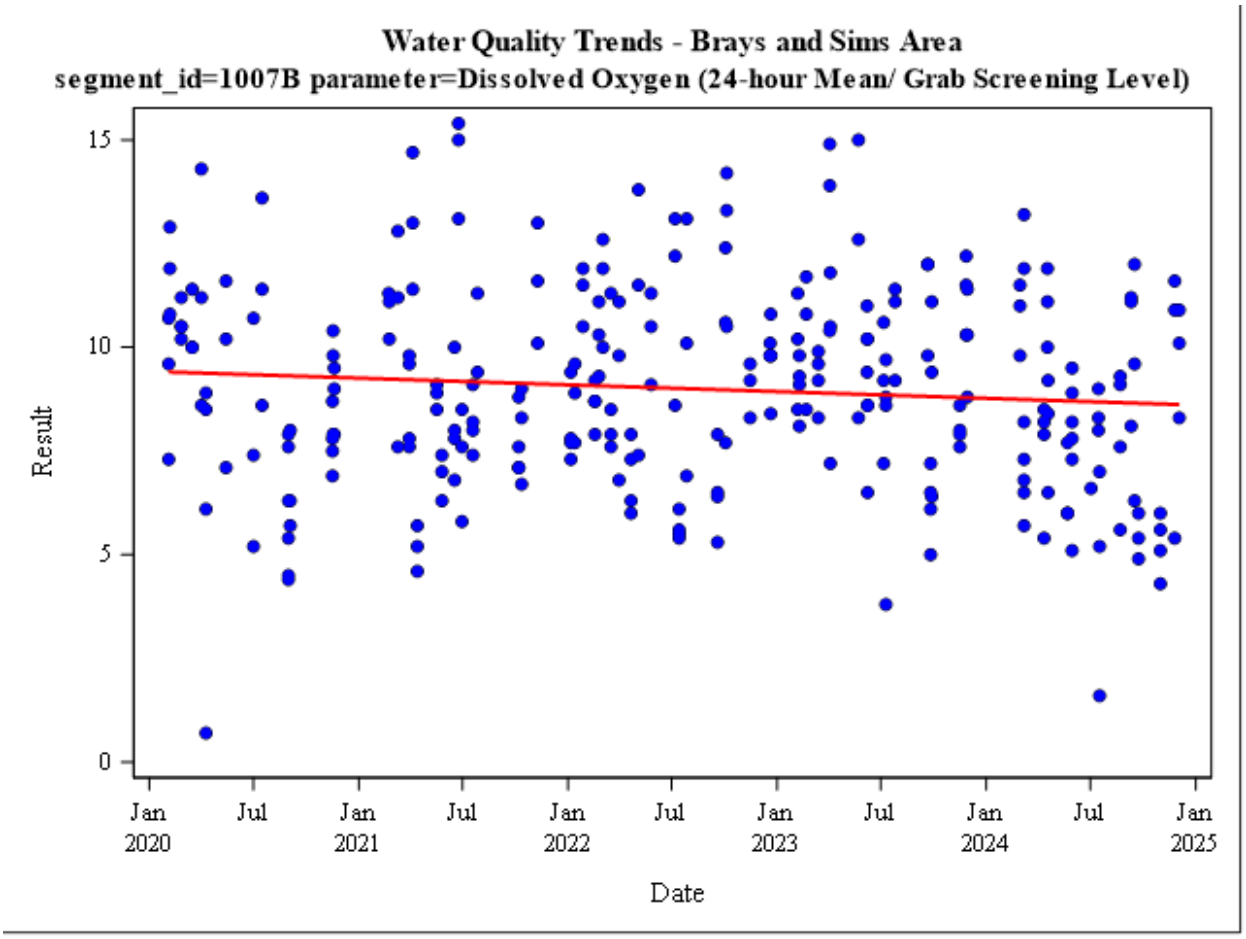
8.75
8.50
8.25
8.00
7.75
7.50
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

Brays Bayou Above Tidal (1007B)

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10
5
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
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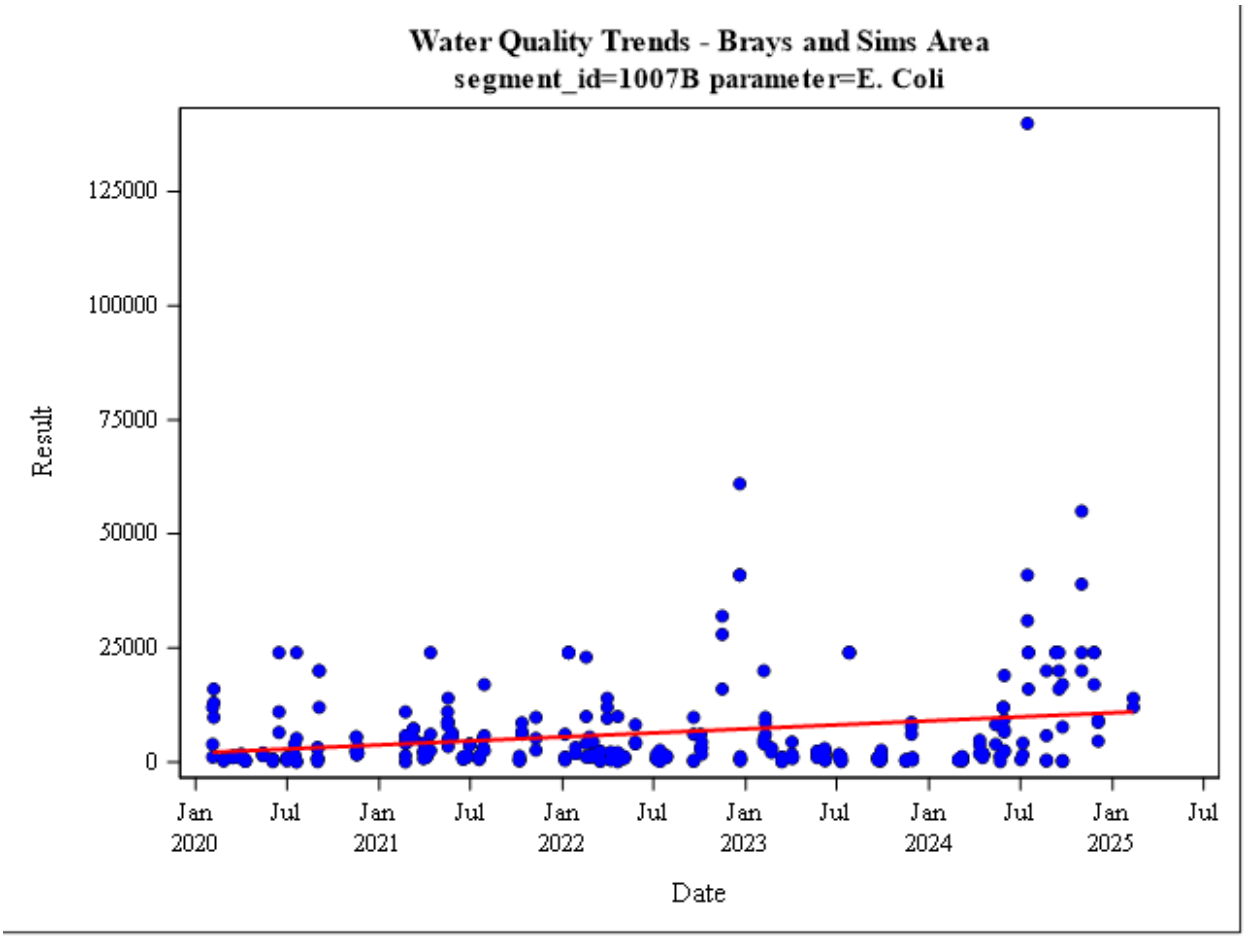
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50000
25000
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Jan 2020
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Jan 2022
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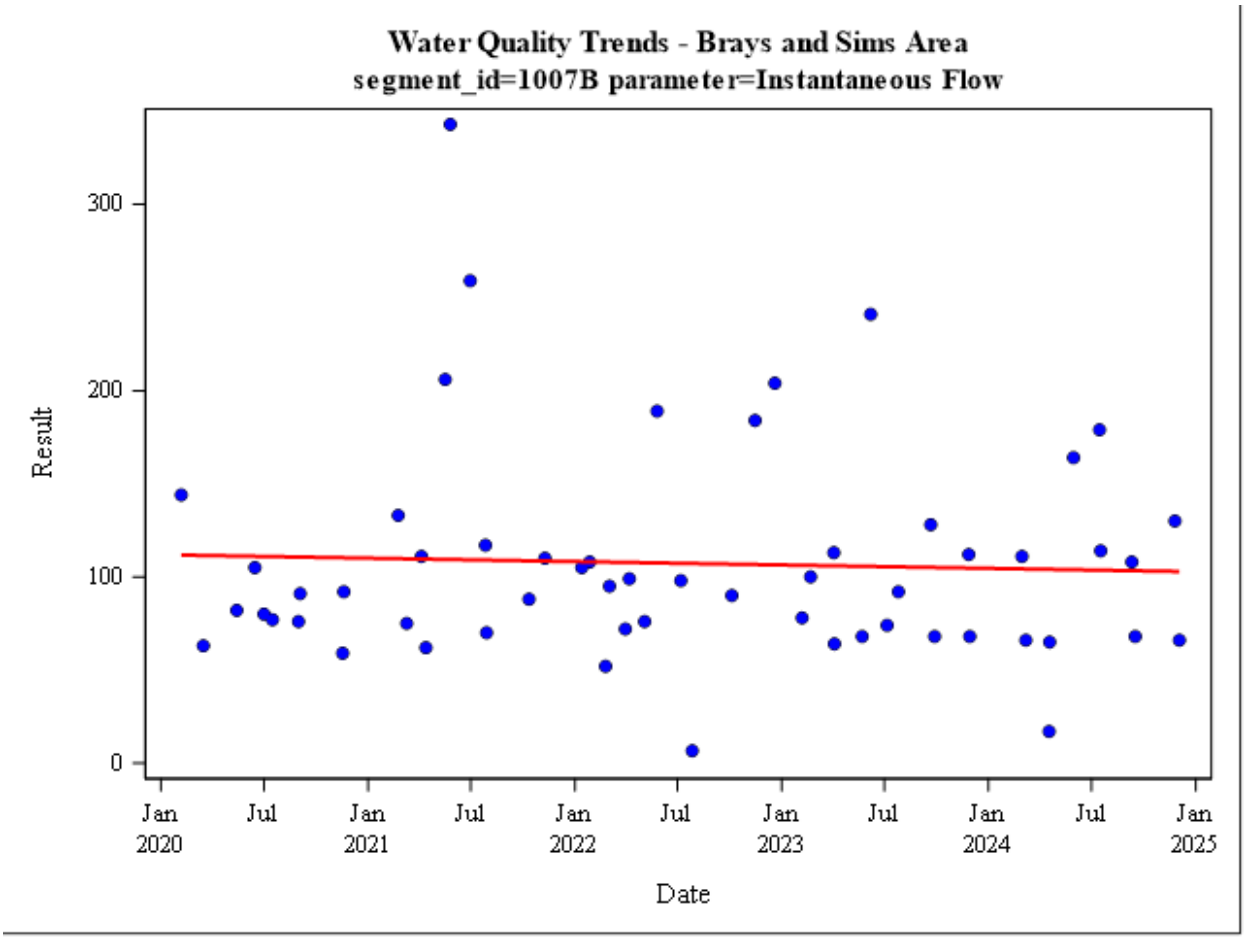
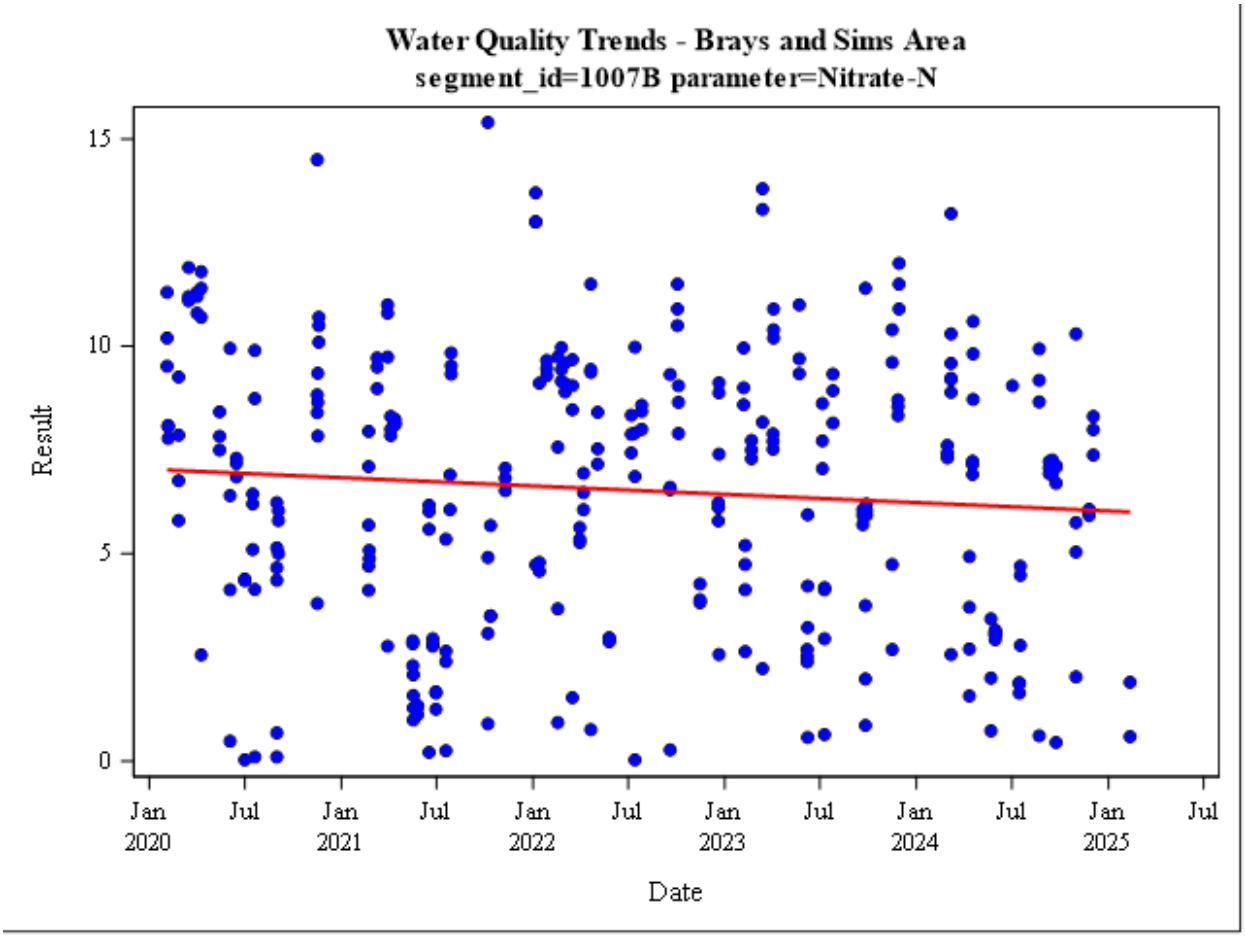
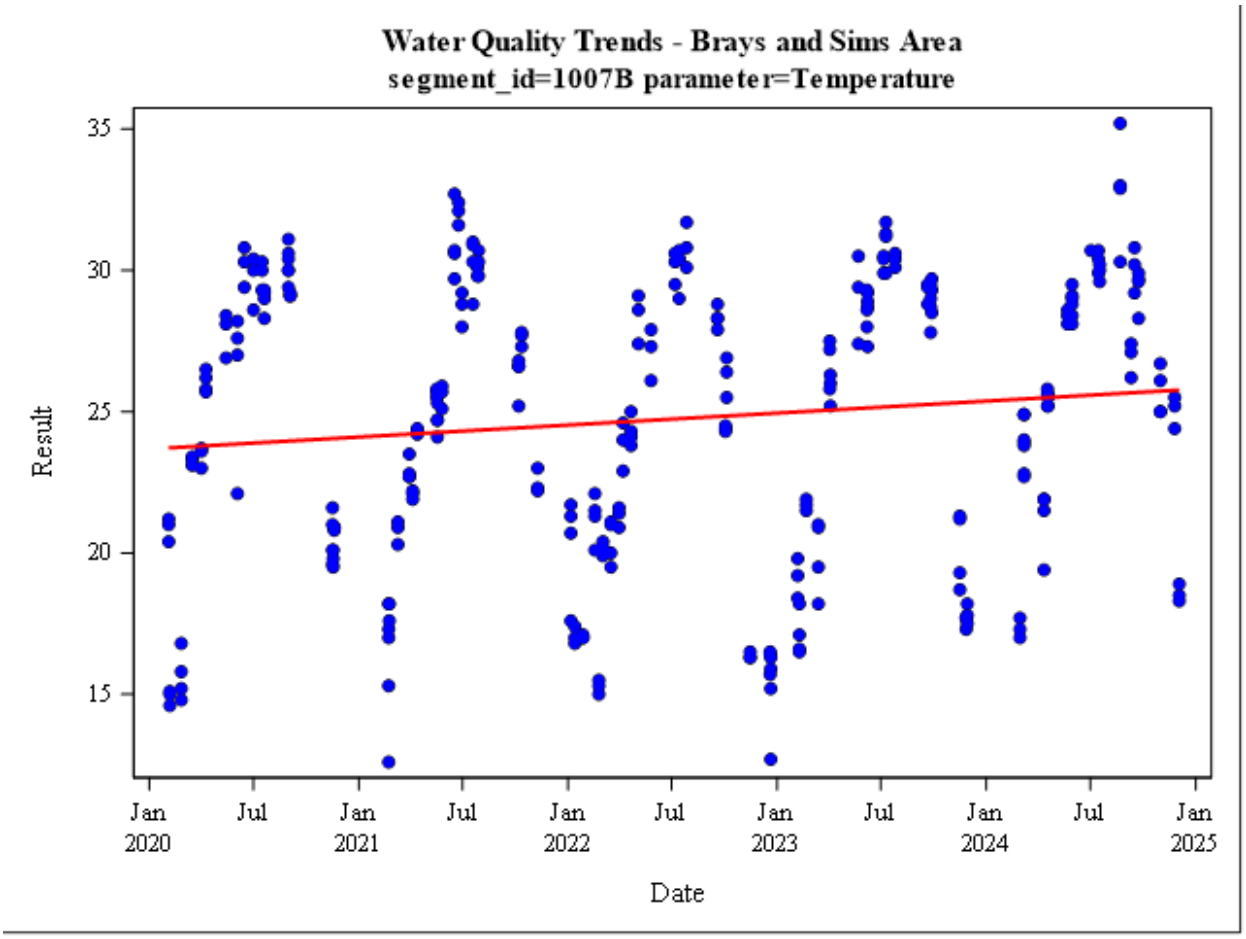
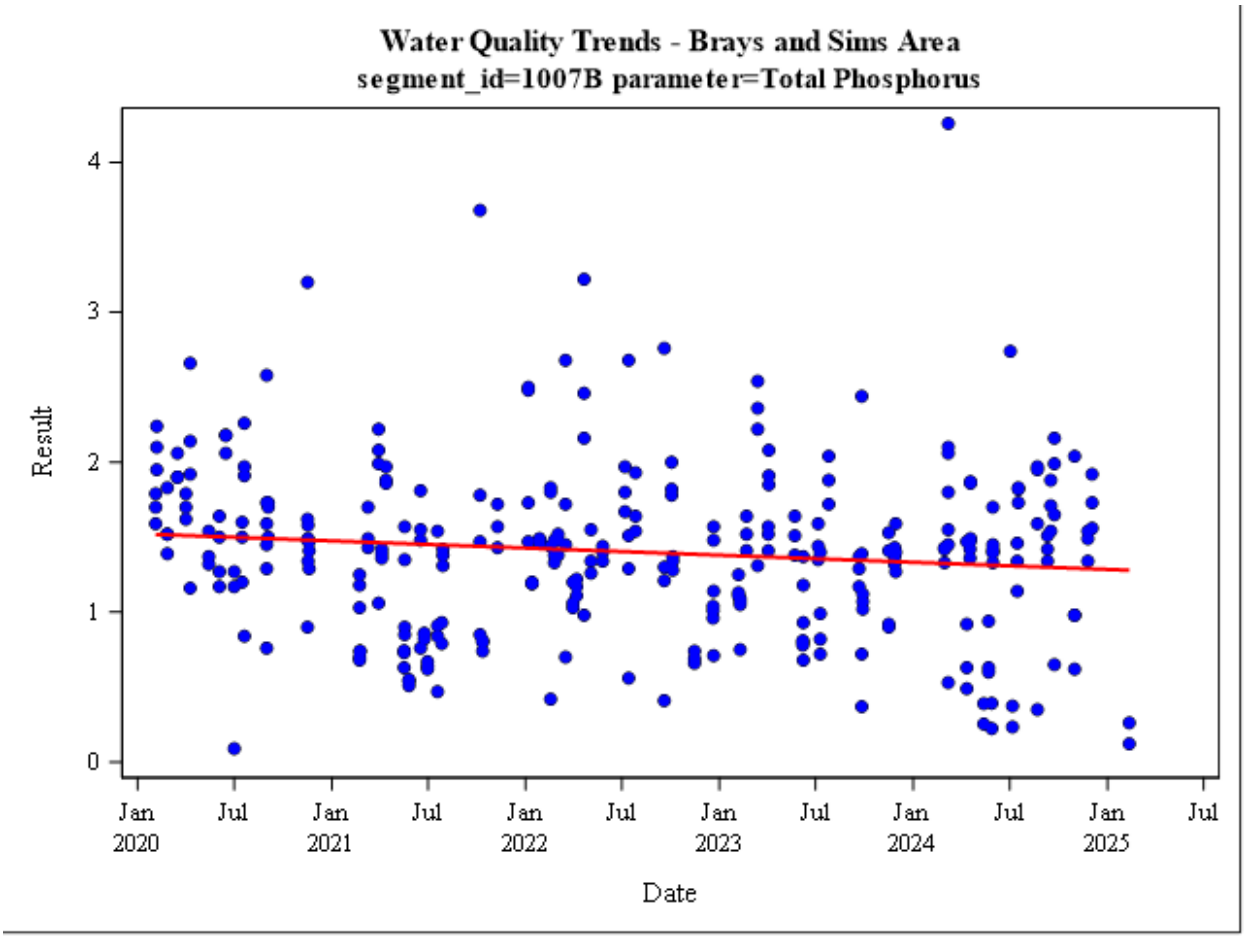
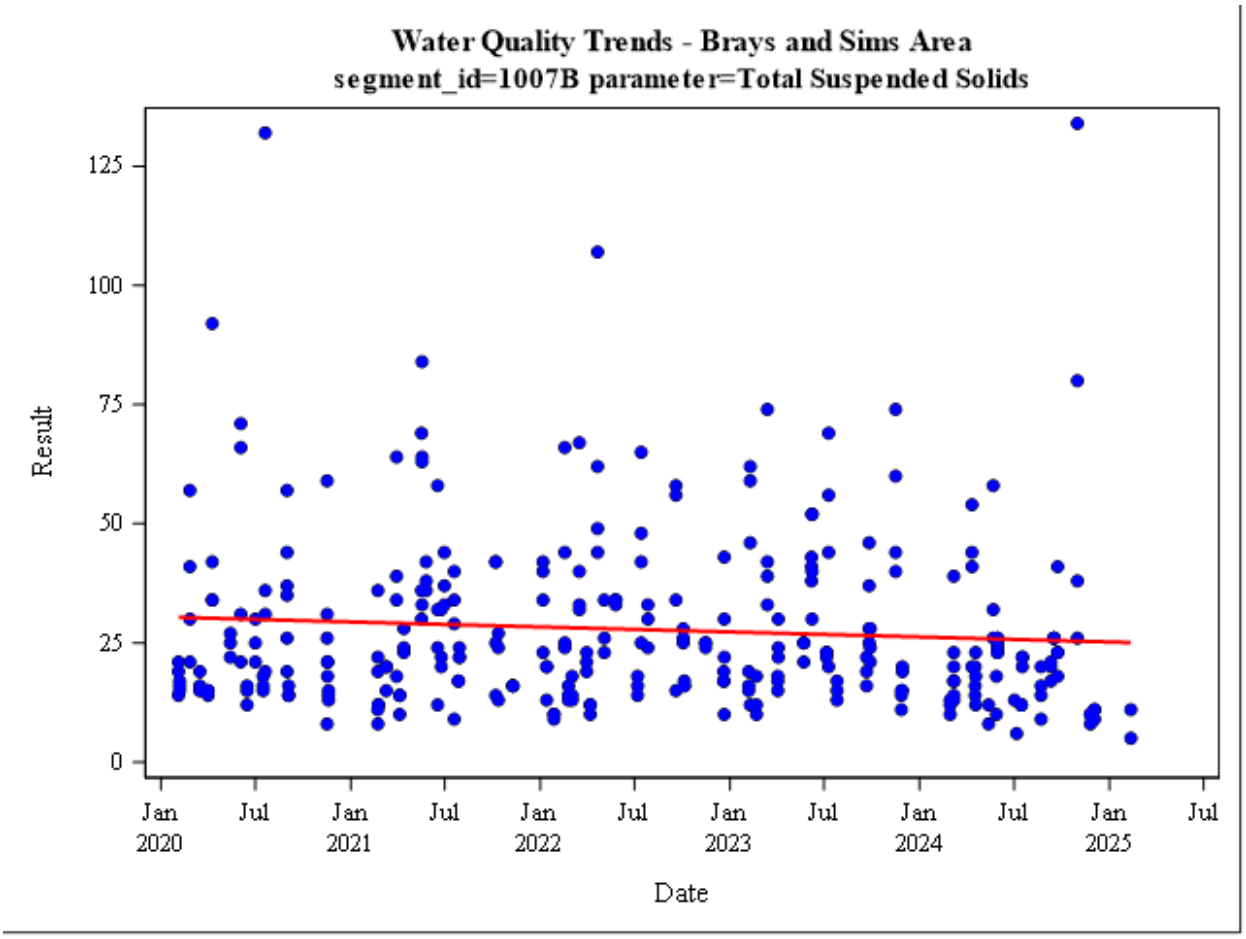
Jan 2025
Jul
Date

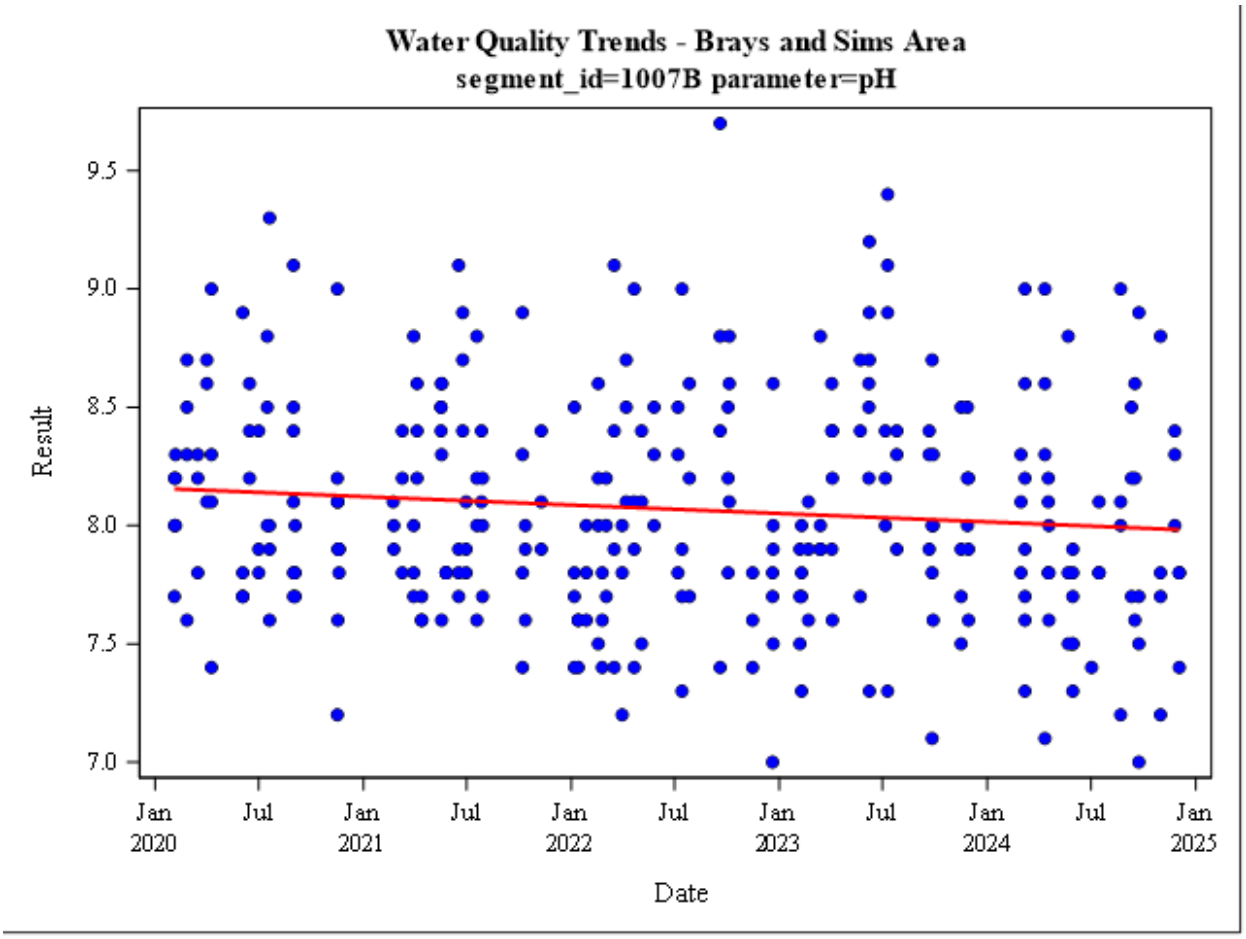

Water Quality Trends - Brays and Sims Area
segment_id=1007B parameter=Instantaneous Flow
Result
300
200
100
0
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007B parameter=Nitrate-N
Result
15
10
5
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Jul
Date

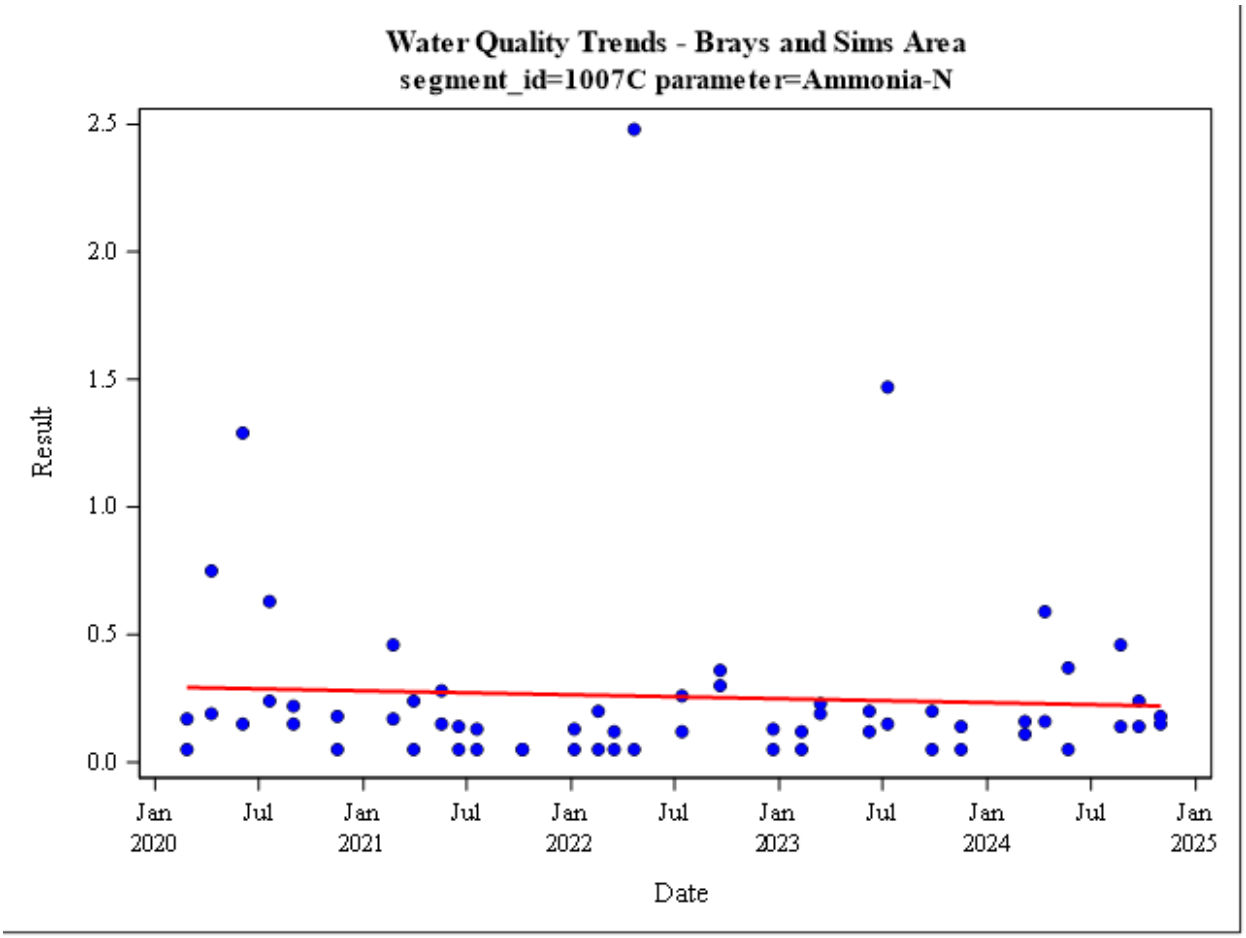

Water Quality Trends - Brays and Sims Area
segment_id=1007B parameter=Temperature
Result
35
30
25
20
15
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

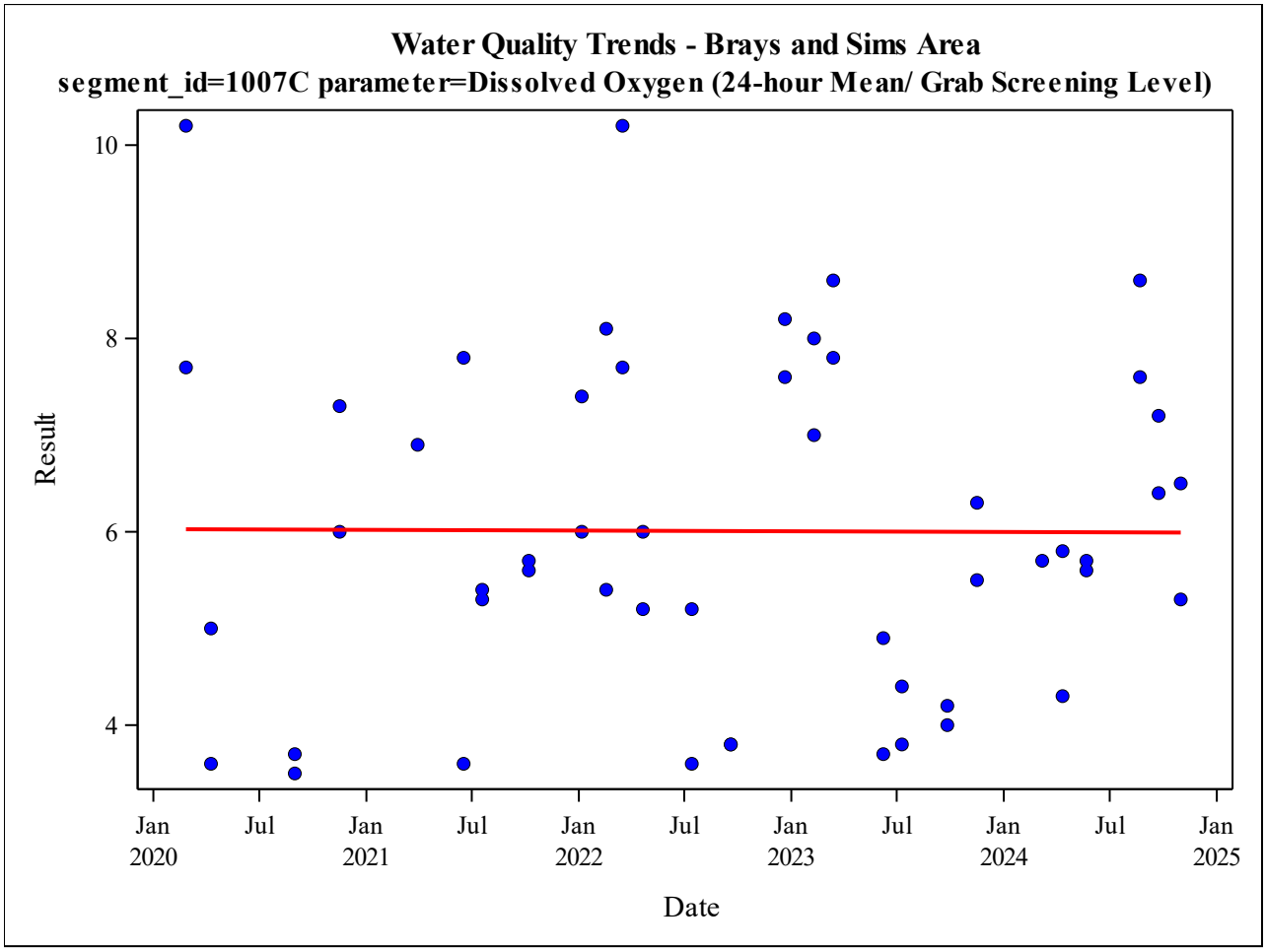

Water Quality Trends - Brays and Sims Area
segment_id=1007B parameter=Total Phosphorus
Result
0
1
2
3
4
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Jul
Date

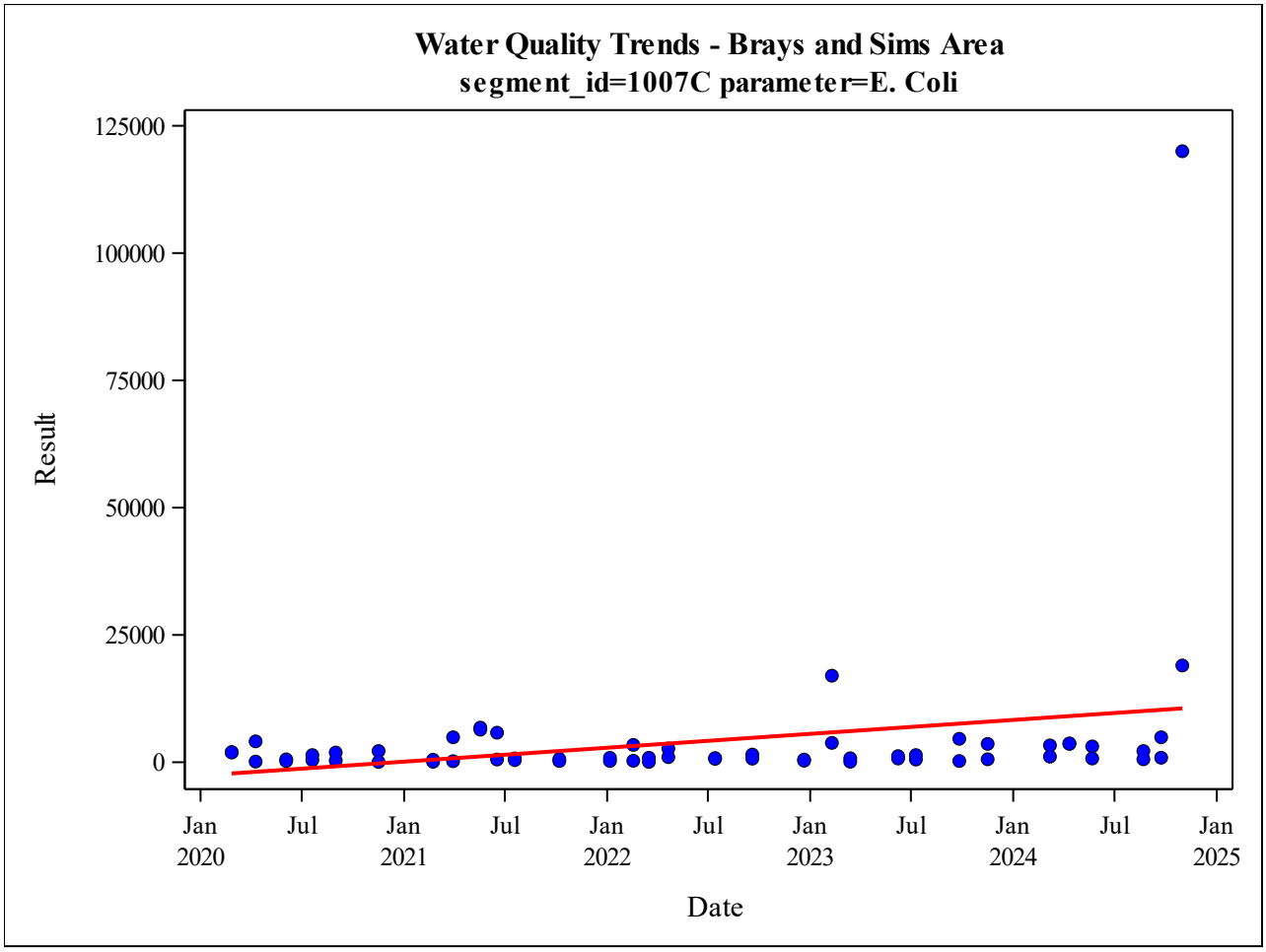

Water Quality Trends - Brays and Sims Area
segment_id=1007B parameter=Total Suspended Solids
Result
125
100
75
50
25
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Jul
Date

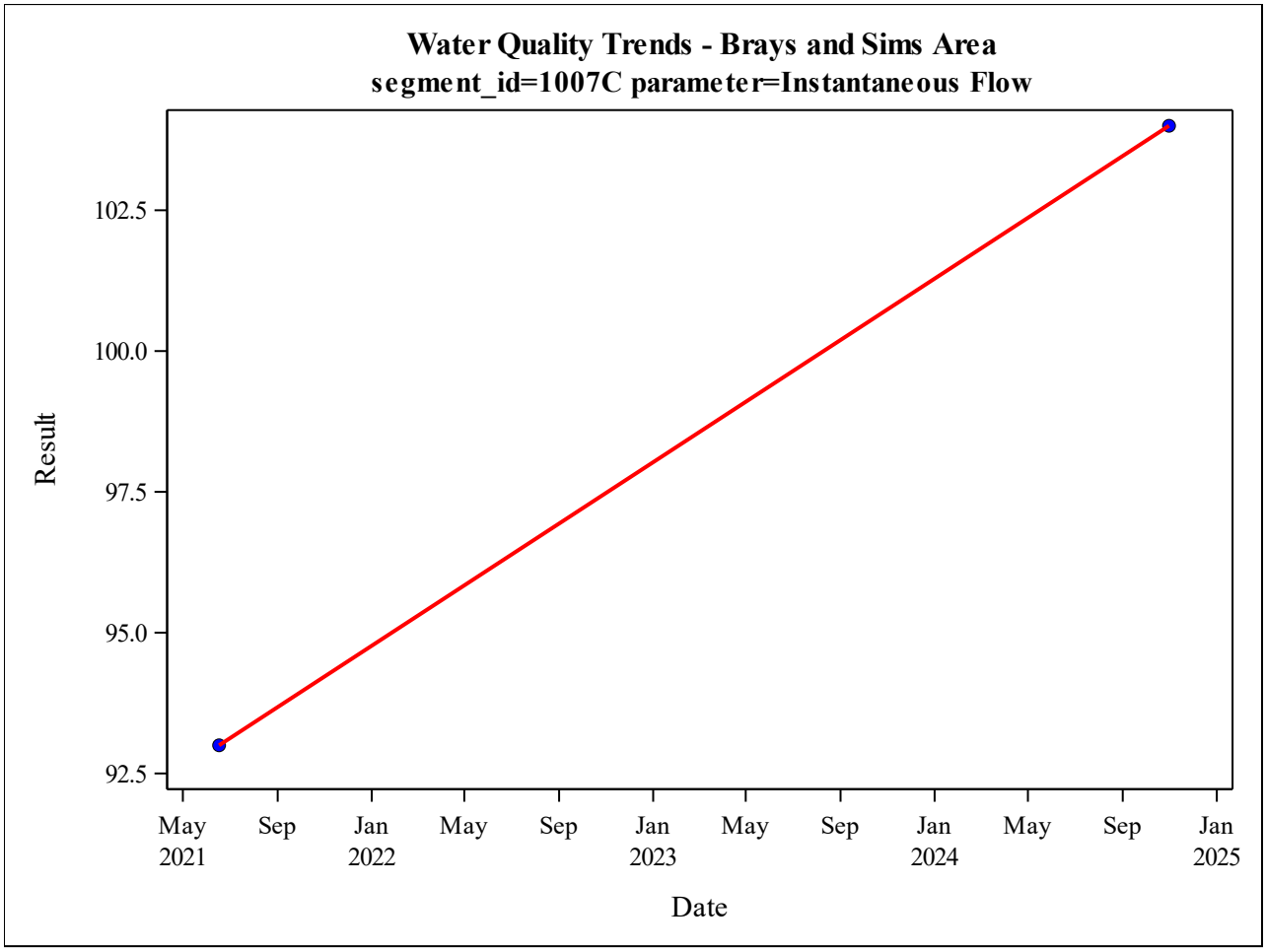

Water Quality Trends - Brays and Sims Area
segment_id=1007B parameter=pH
Result
9.5
9.0
8.5
8.0
7.5
7.0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

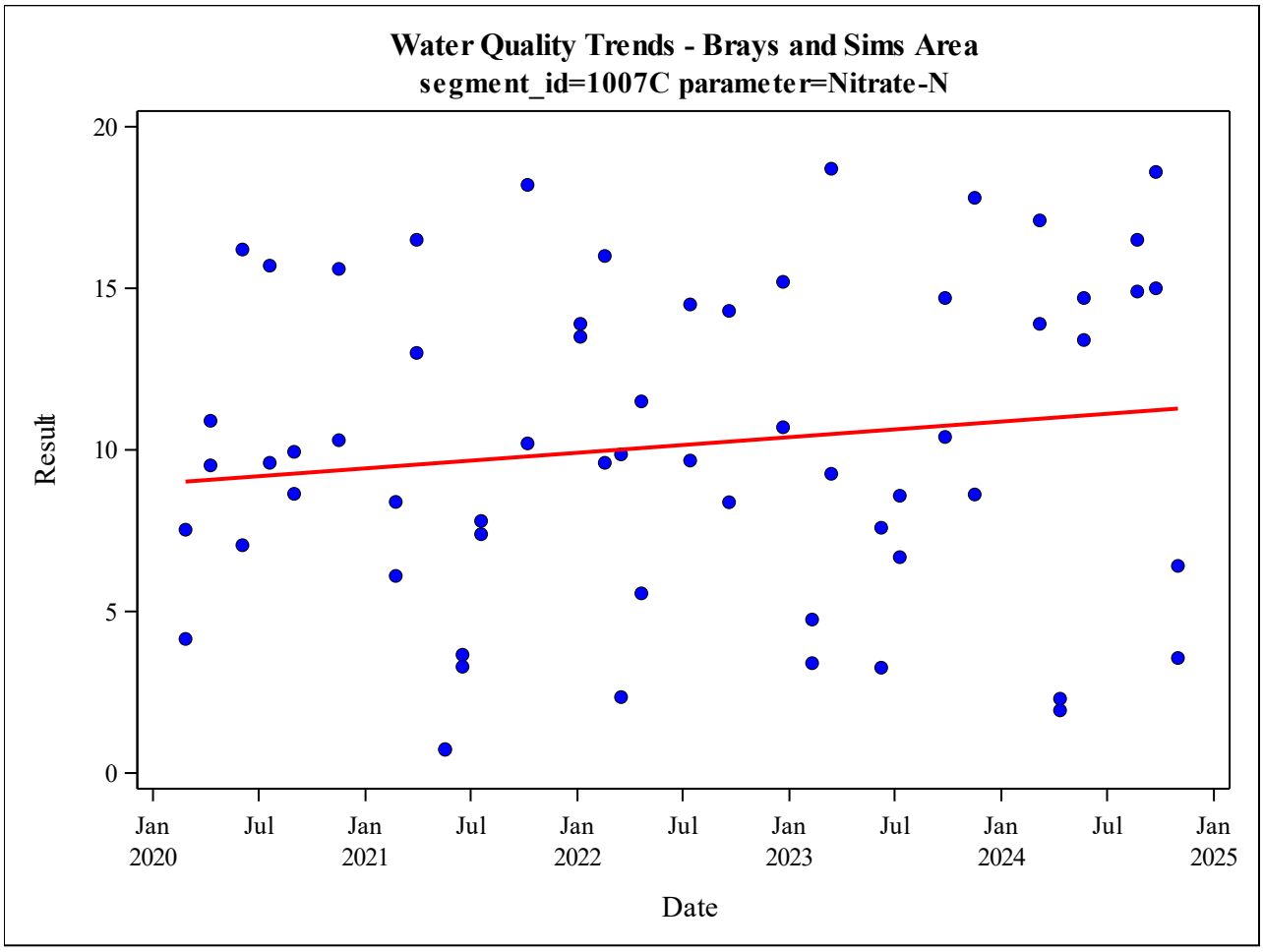
Keegans Bayou Above Tidal (1007C)

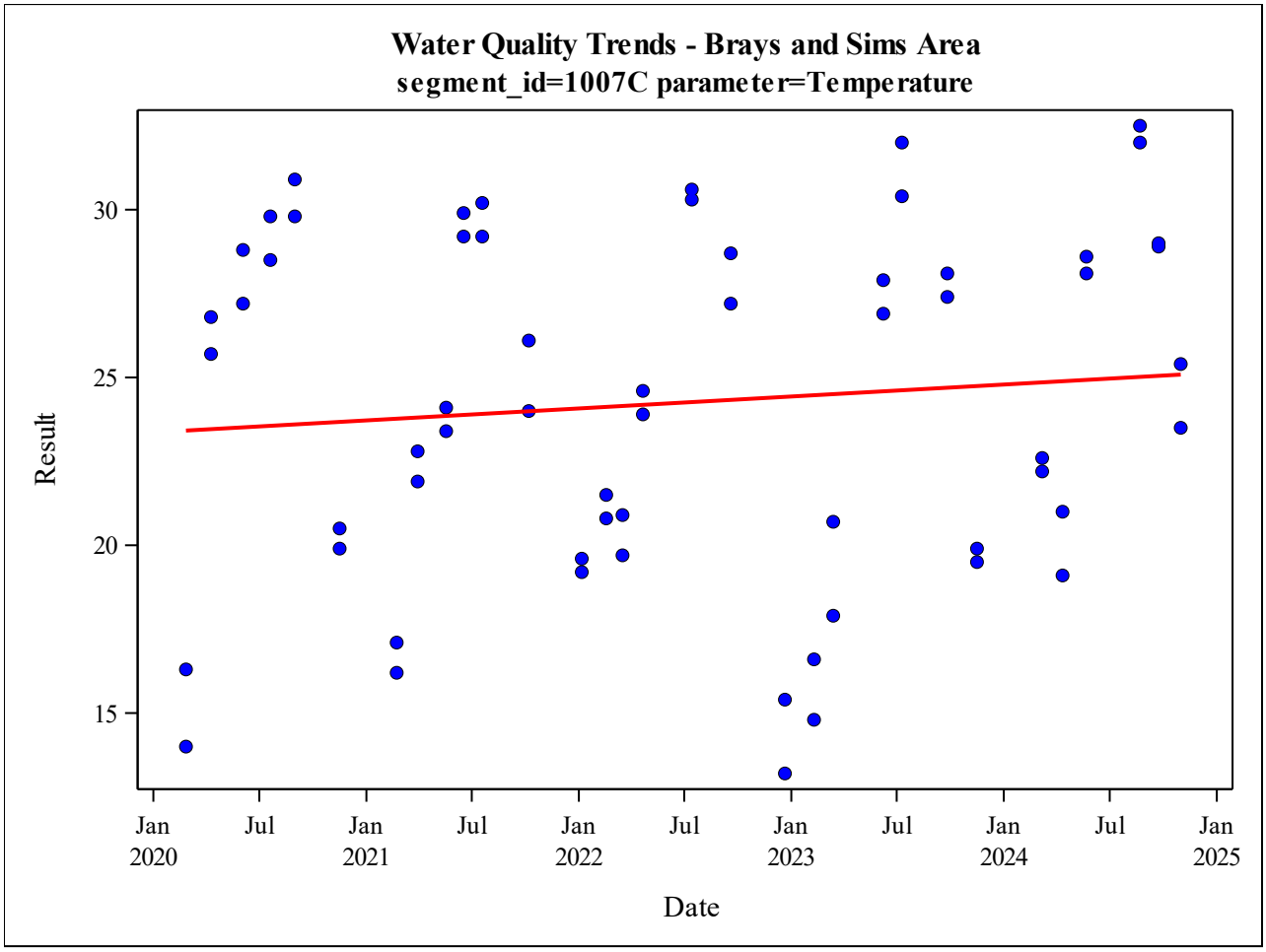


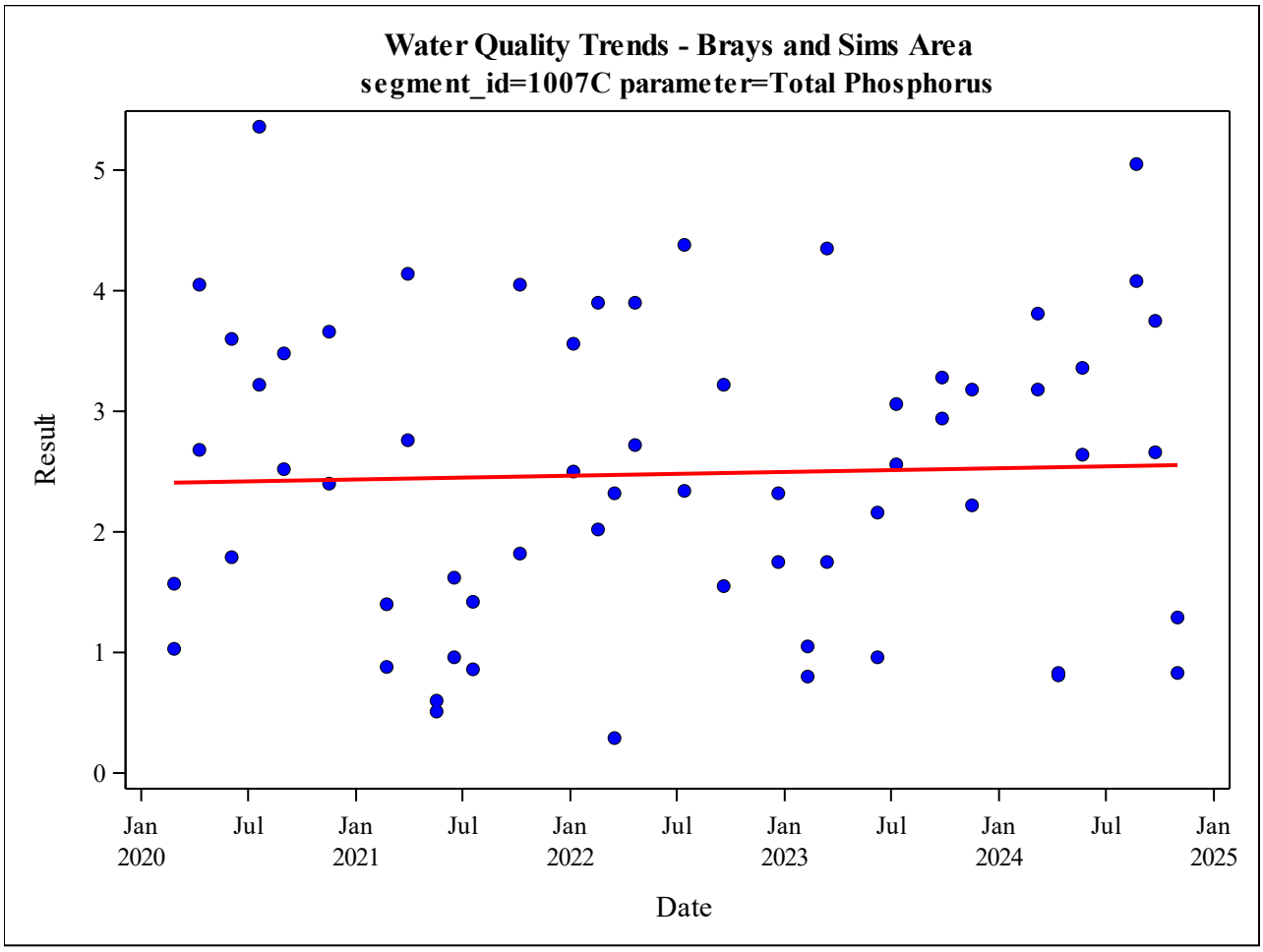

Water Quality Trends - Brays and Sims Area
segment_id=1007C parameter=Dissolved Oxygen (24-hour Mean/ Grab Screening Level)
Result
10
8
6
4
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

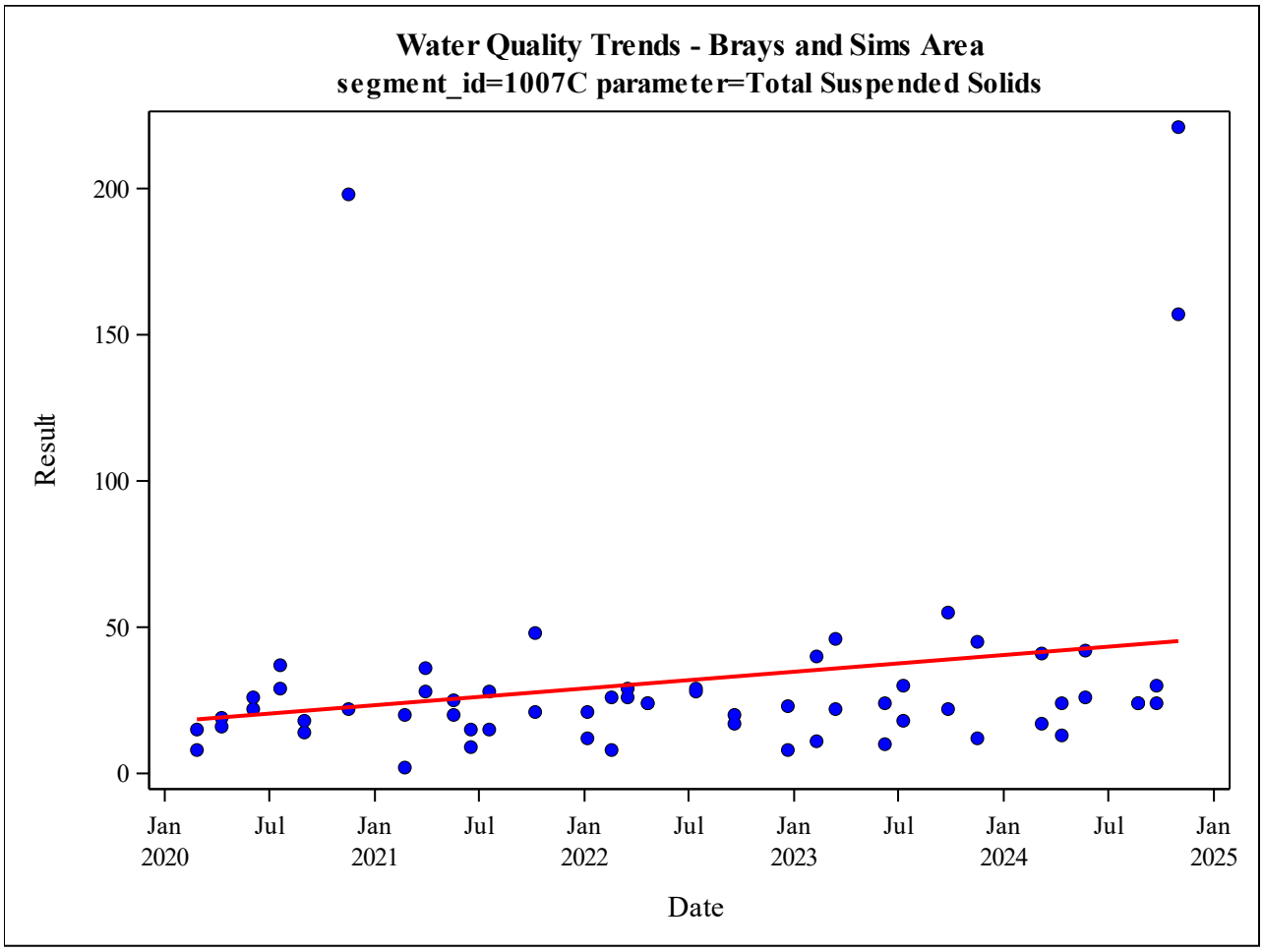

Water Quality Trends - Brays and Sims Area
segment_id=1007C parameter=E. Coli
Result
125000
100000
75000
50000
25000
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

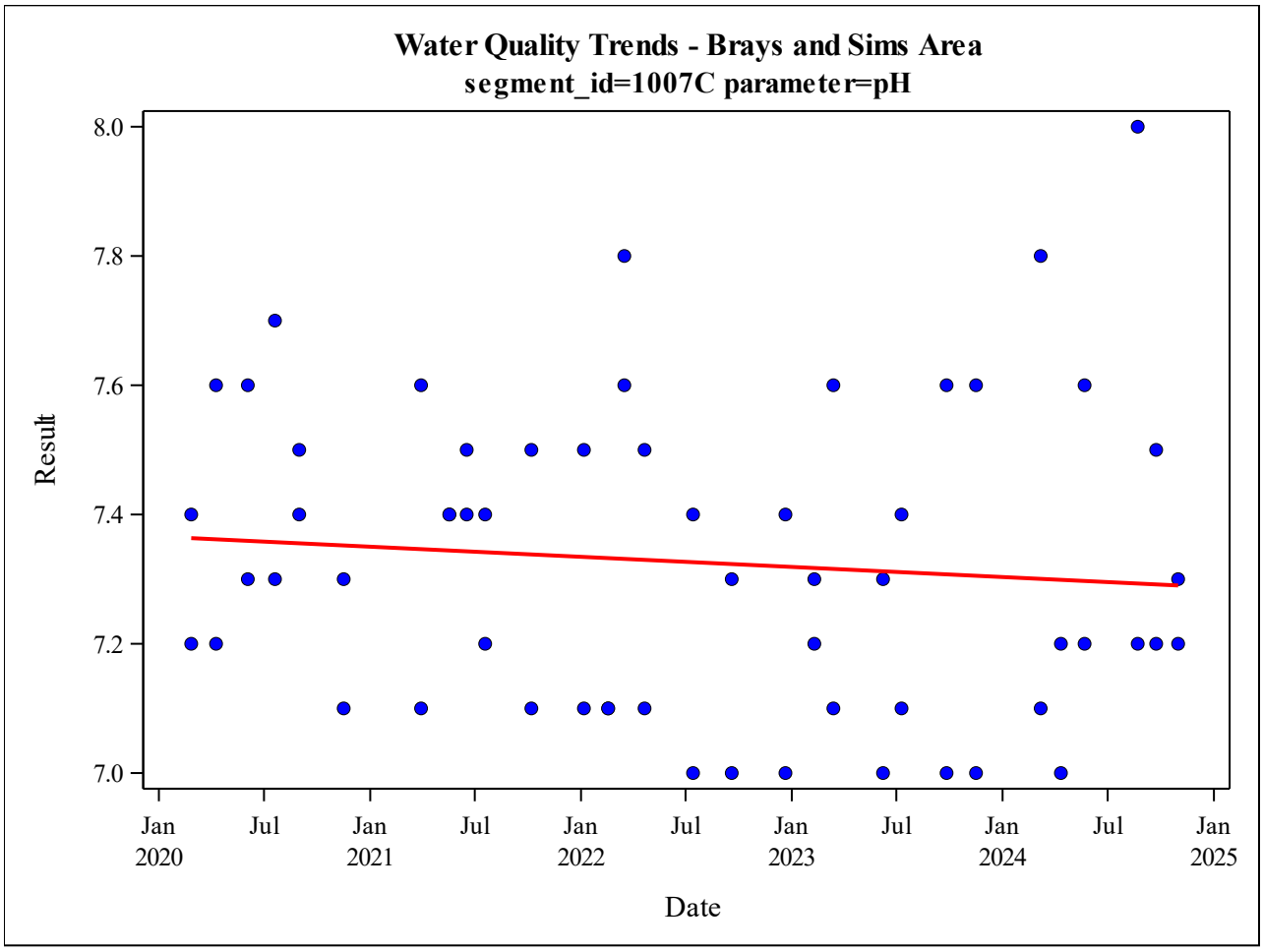

Water Quality Trends - Brays and Sims Area
segment_id=1007C parameter=Instantaneous Flow
Result
102.5
100.0
97.5
95.0
92.5
May 2021
Sep
Jan 2022
May
Sep
Jan 2023
May
Sep
Jan 2024
May
Sep
Jan 2025
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007C parameter=Nitrate-N
Result
20
15
10
5
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

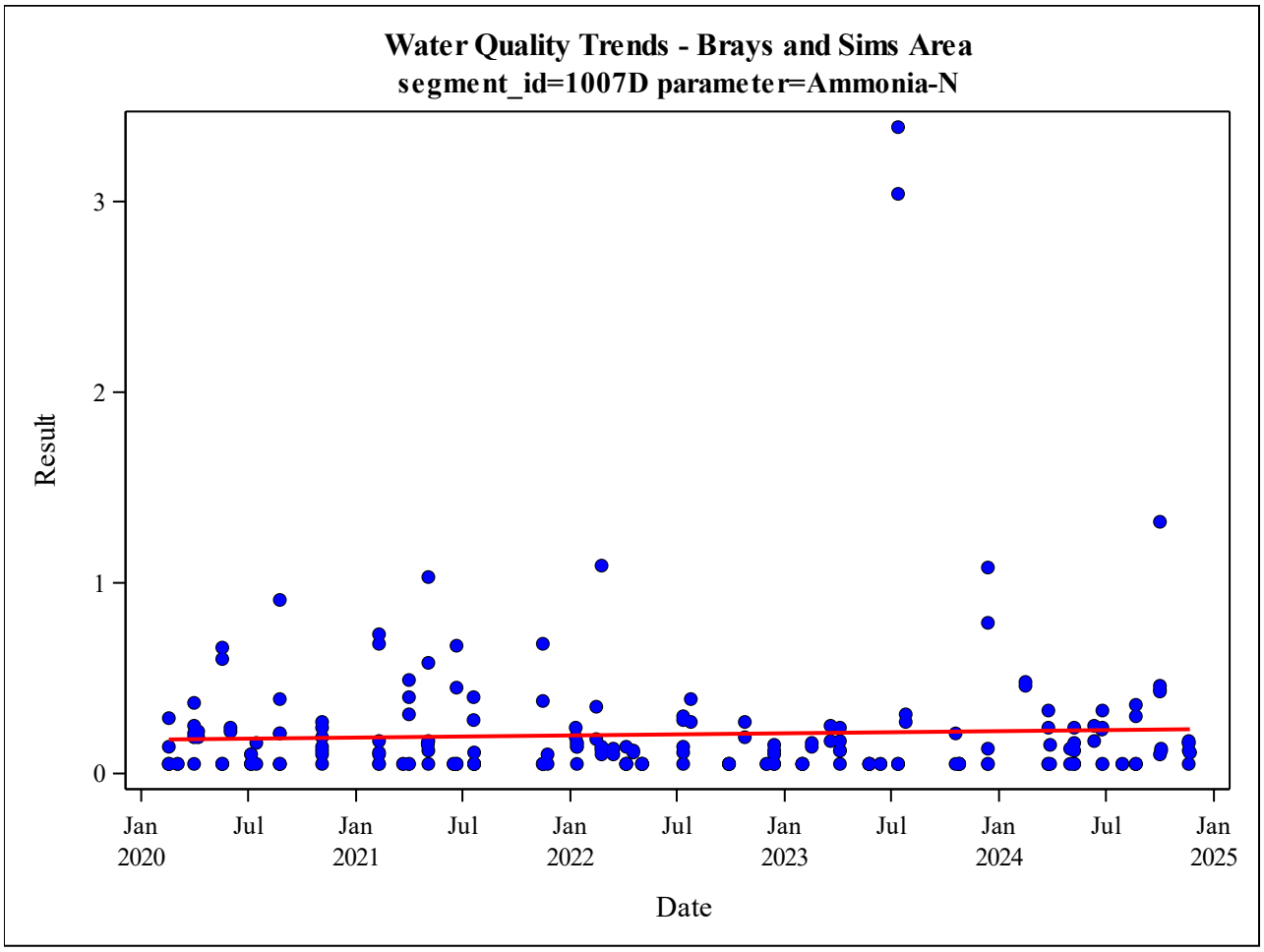

Water Quality Trends - Brays and Sims Area
segment_id=1007C parameter=Temperature
Result
30
25
20
15
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

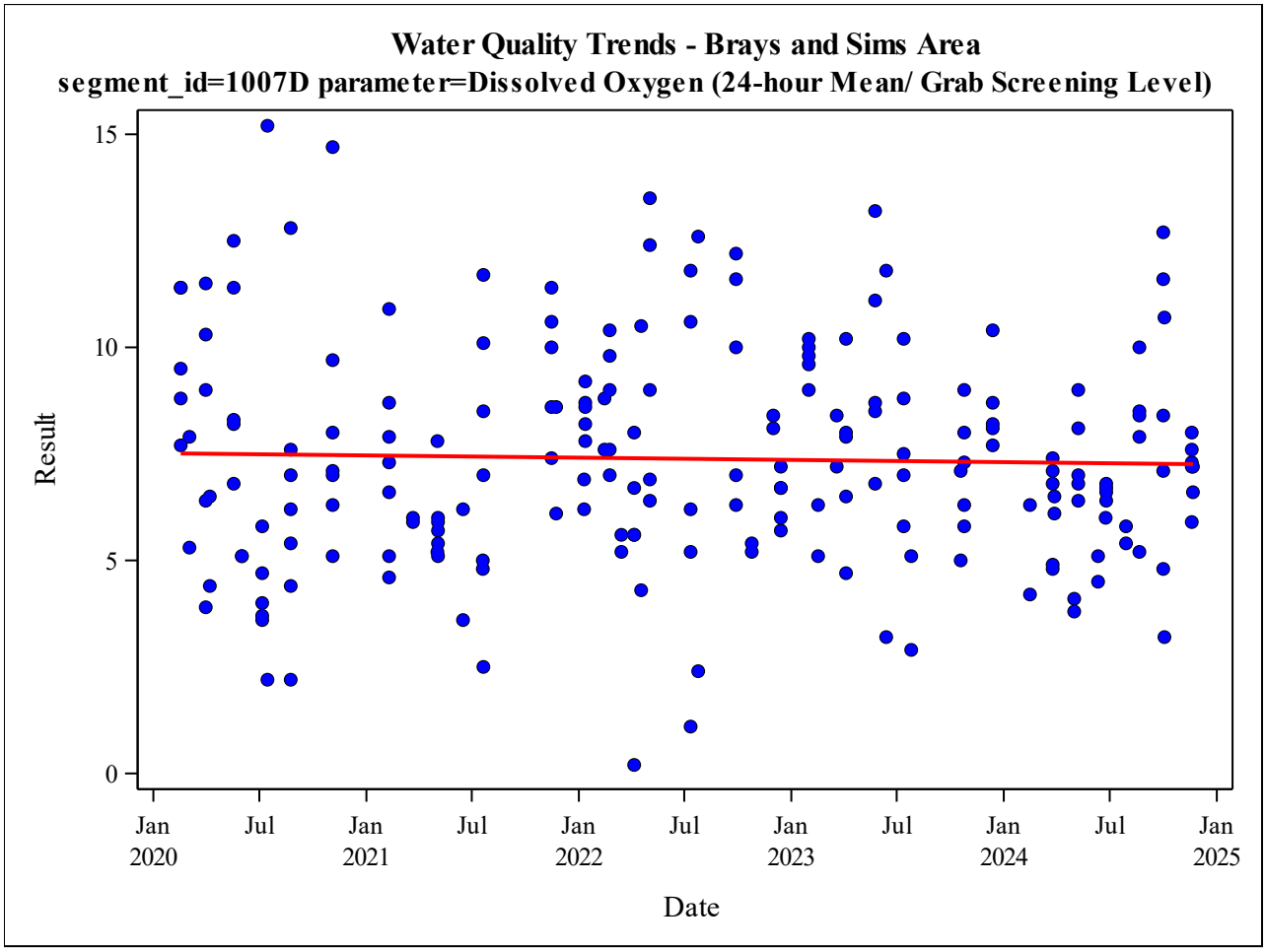

Water Quality Trends - Brays and Sims Area
segment_id=1007C parameter=Total Phosphorus
Result
0
1
2
3
4
5
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

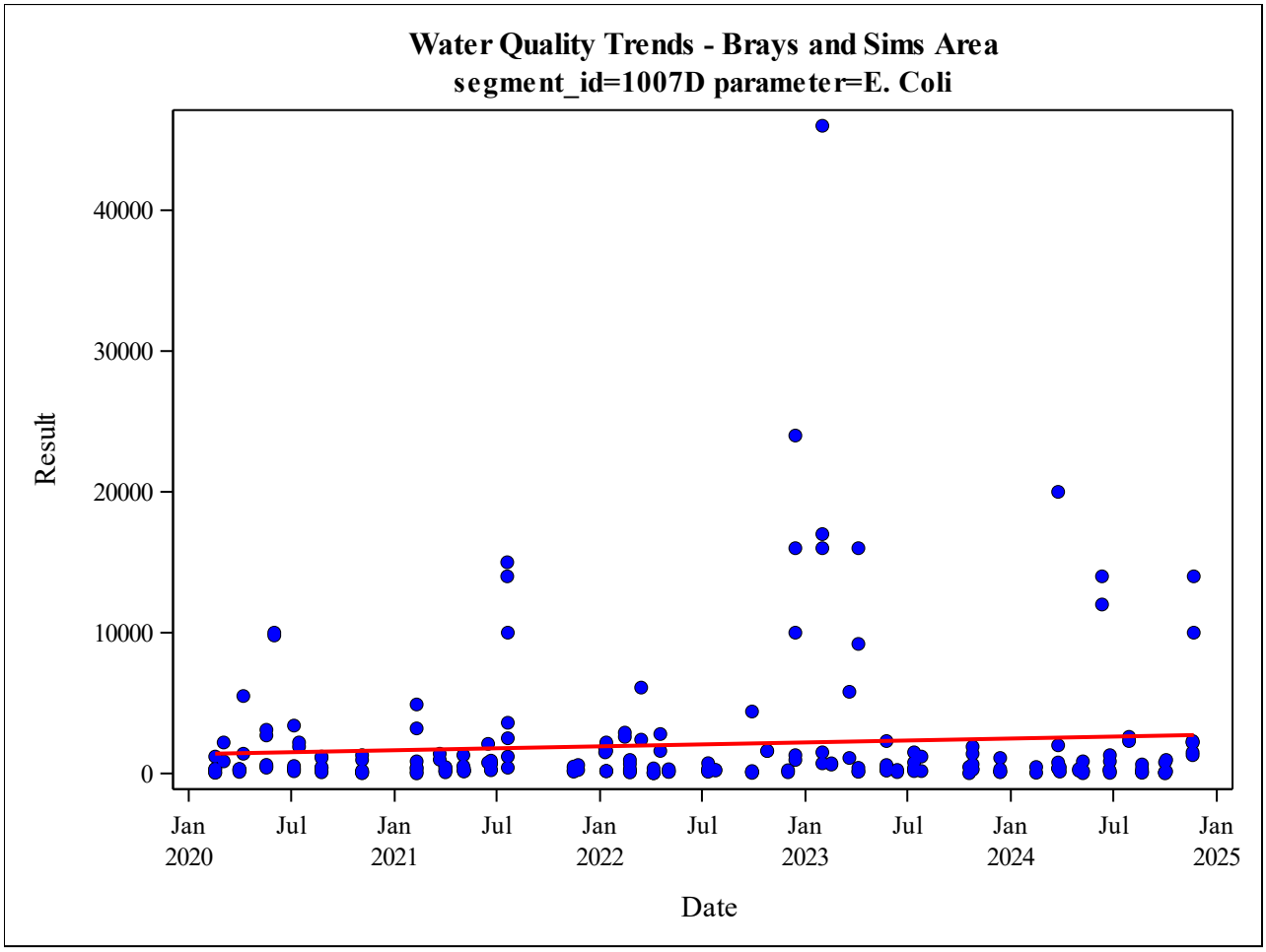

Water Quality Trends - Brays and Sims Area
segment_id=1007C parameter=Total Suspended Solids
Result
200
150
100
50
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

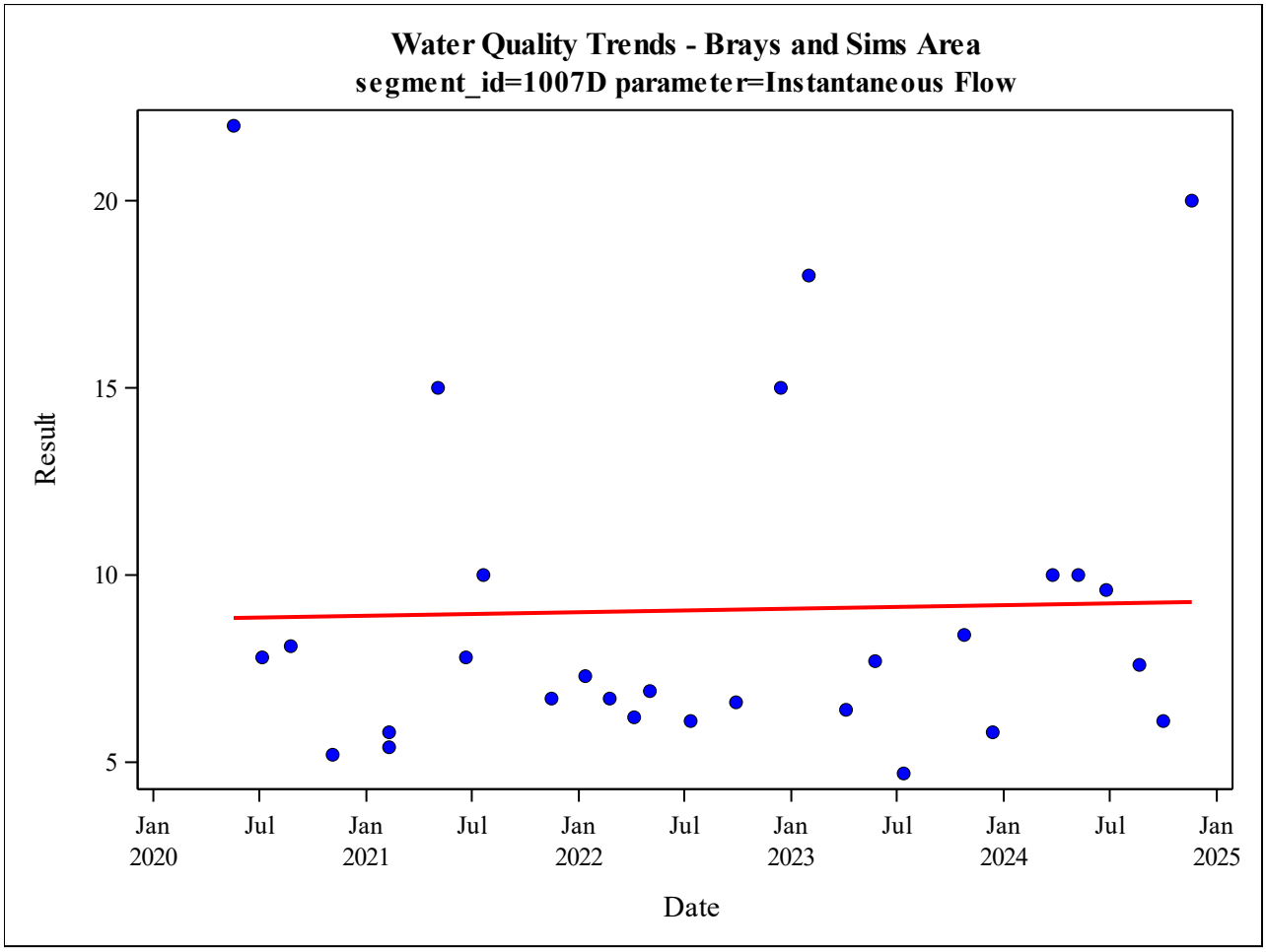

Water Quality Trends - Brays and Sims Area
segment_id=1007C parameter=pH
Result
8.0
7.8
7.6
7.4
7.2
7.0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

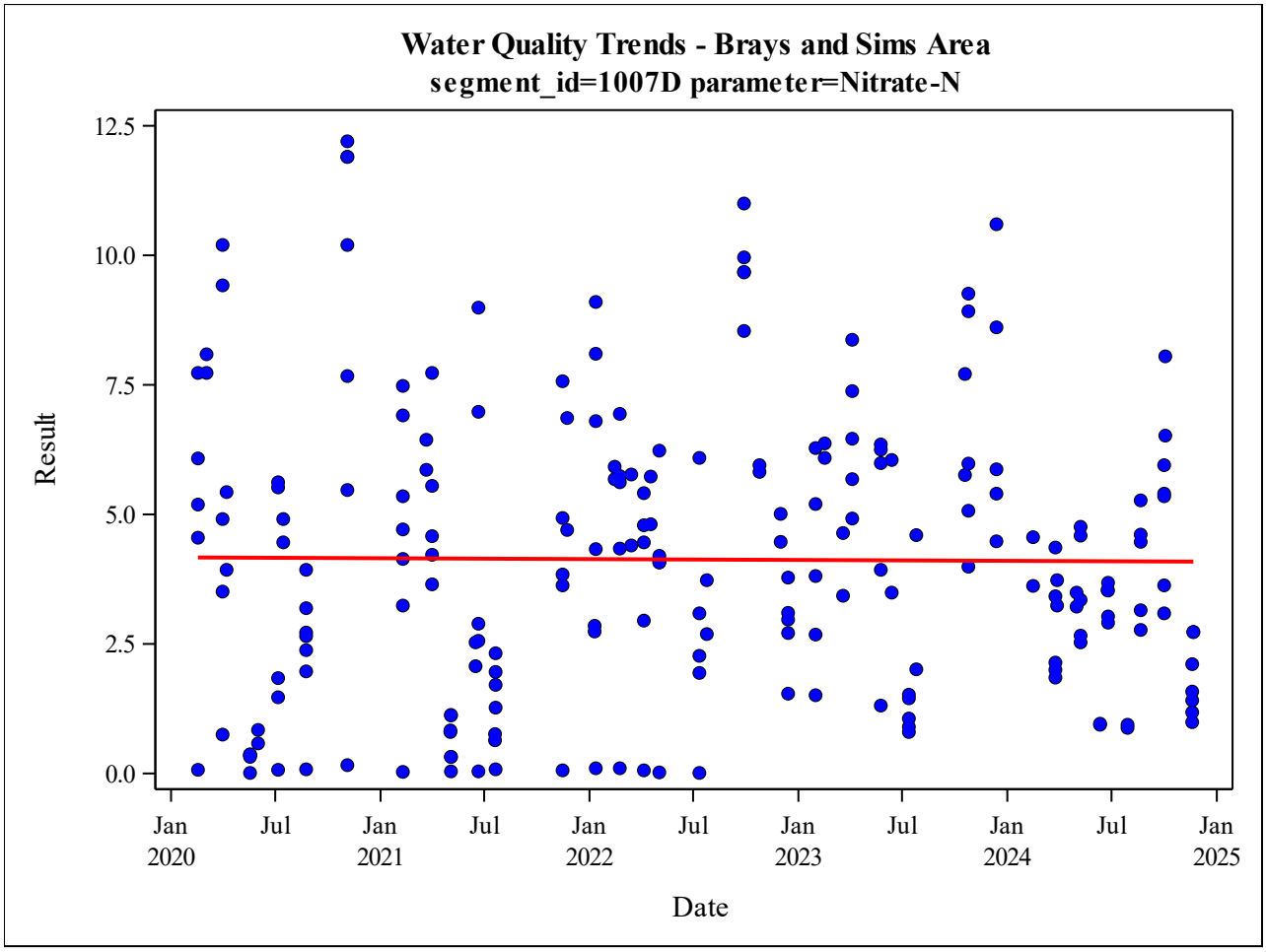
Sims Bayou Above Tidal (1007D)

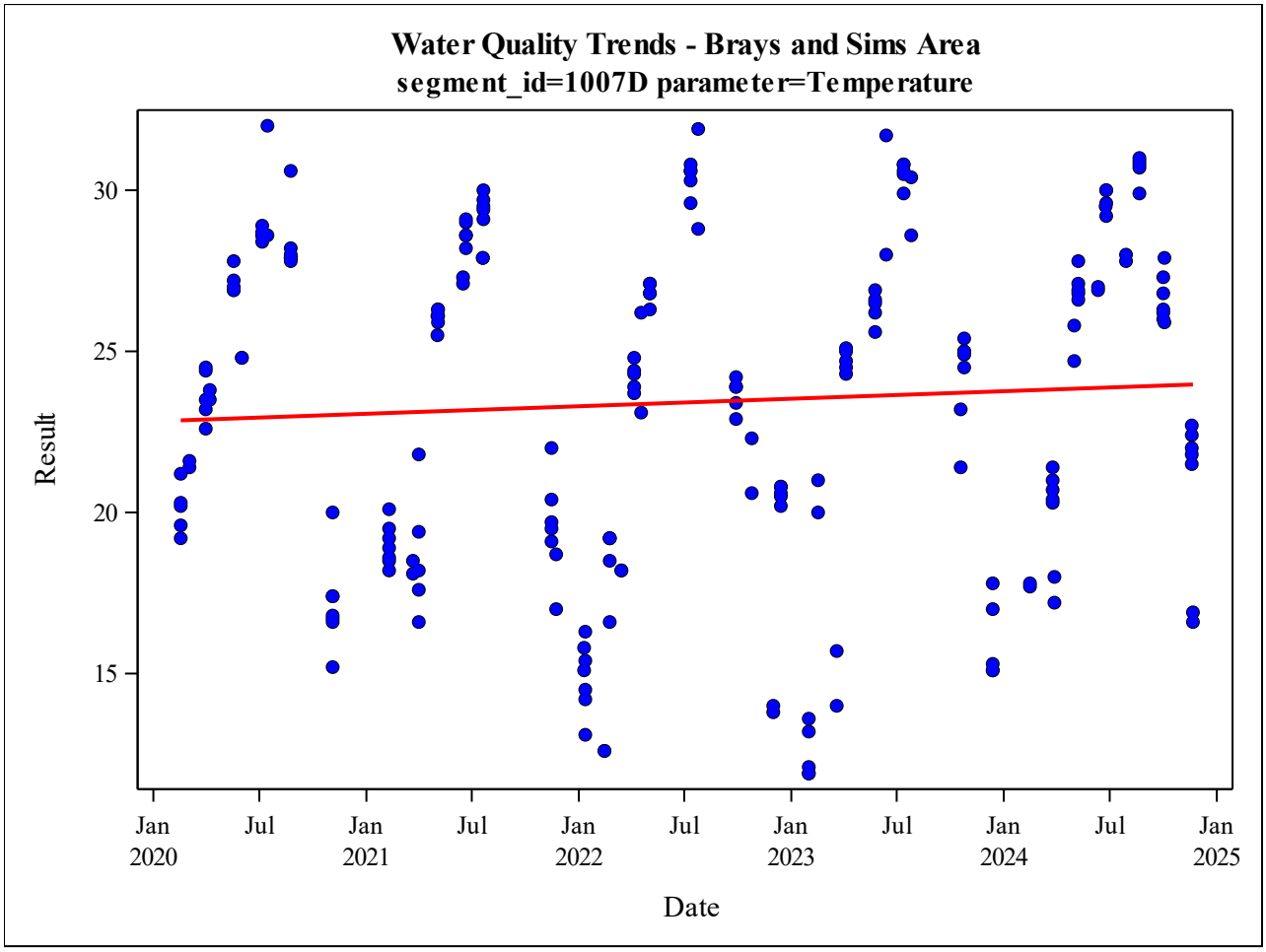


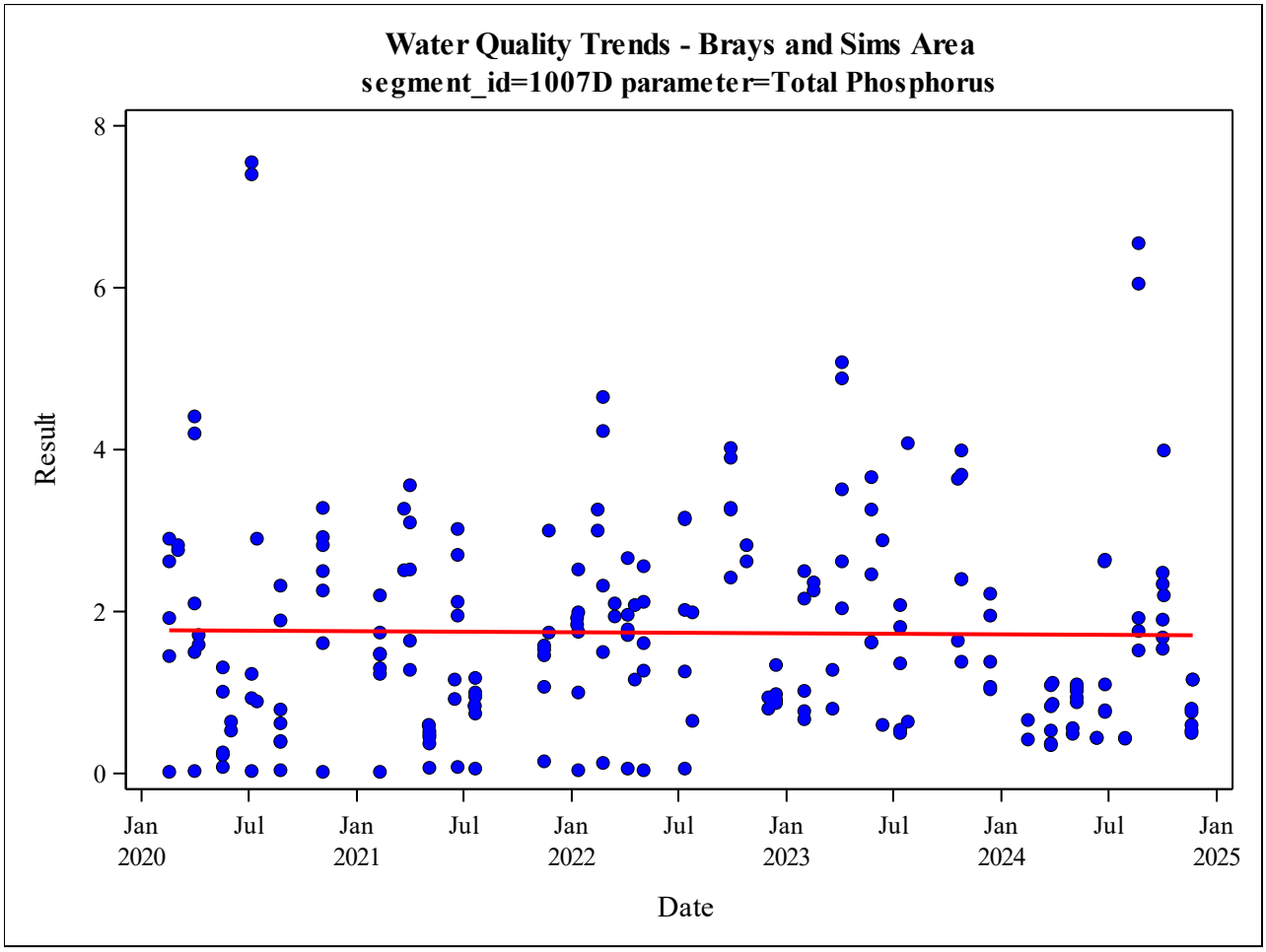

Water Quality Trends - Brays and Sims Area
segment_id=1007D parameter=Dissolved Oxygen (24-hour Mean/ Grab Screening Level)
Result
15
10
5
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

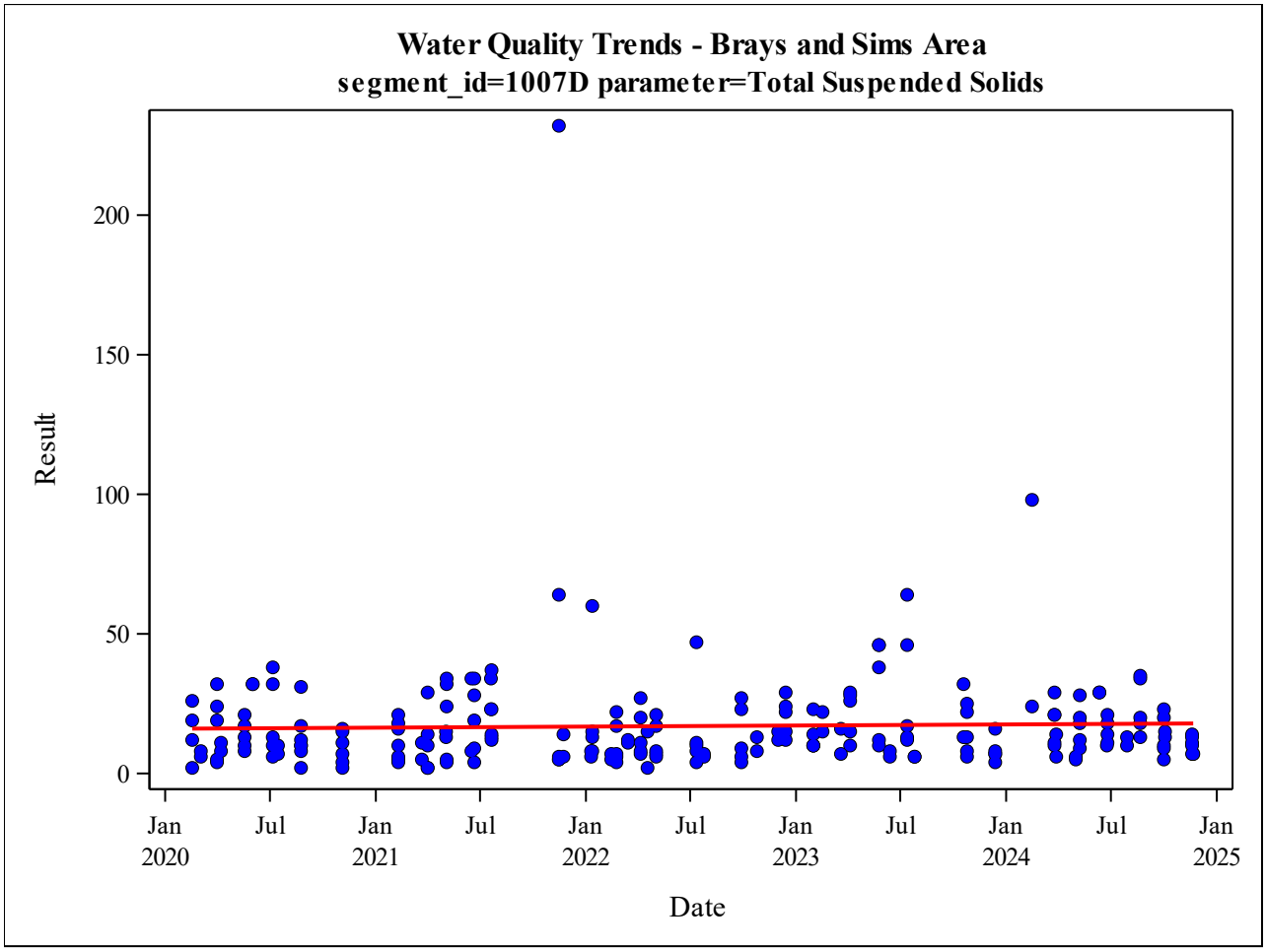

Water Quality Trends - Brays and Sims Area
segment_id=1007D parameter=E. Coli
Result
40000
30000
20000
10000
0
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

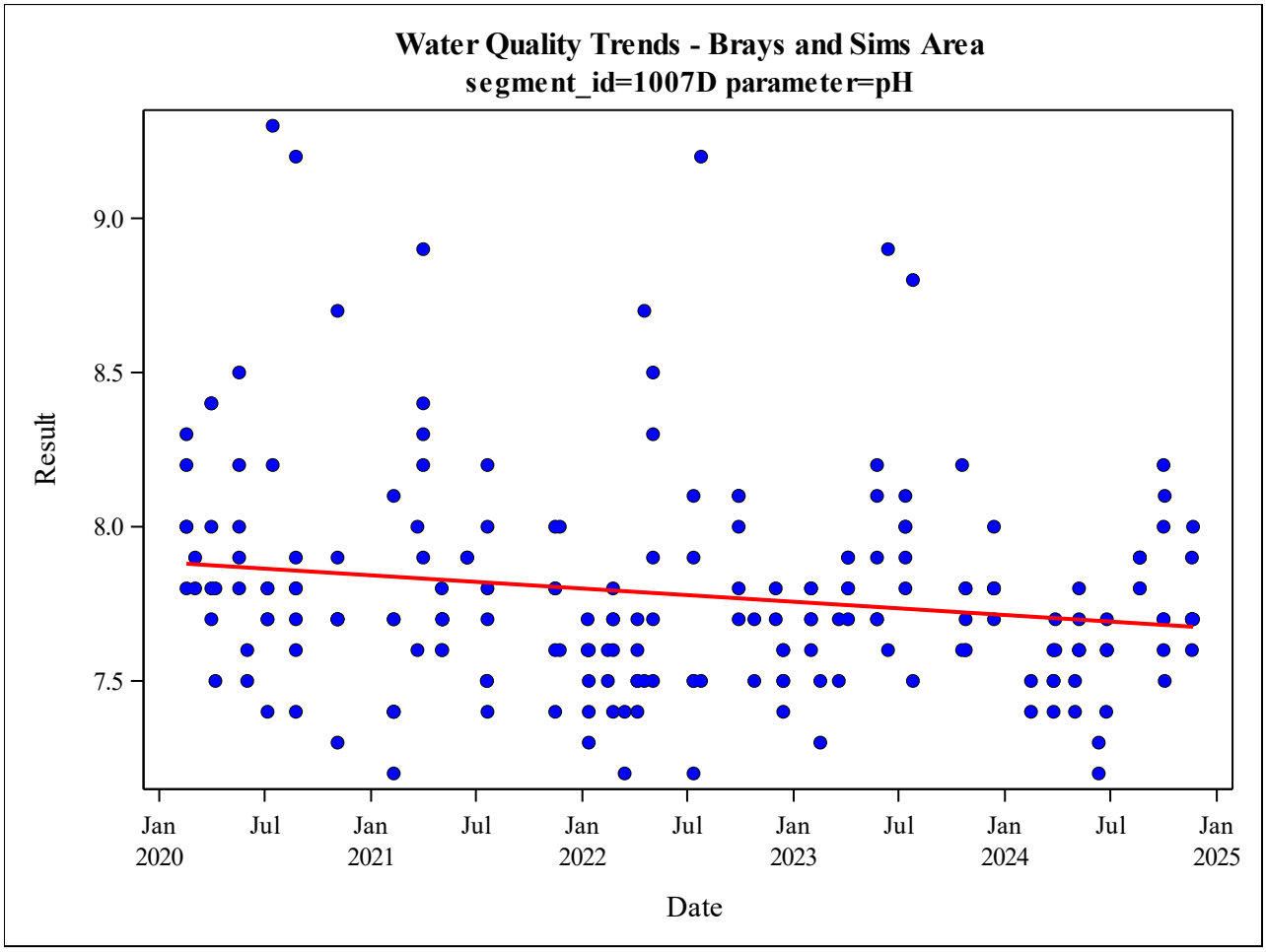

Water Quality Trends - Brays and Sims Area
segment_id=1007D parameter=Instantaneous Flow
Result
20
15
10
5
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007D parameter=Nitrate-N
Result
12.5
10.0
7.5
5.0
2.5
0.0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

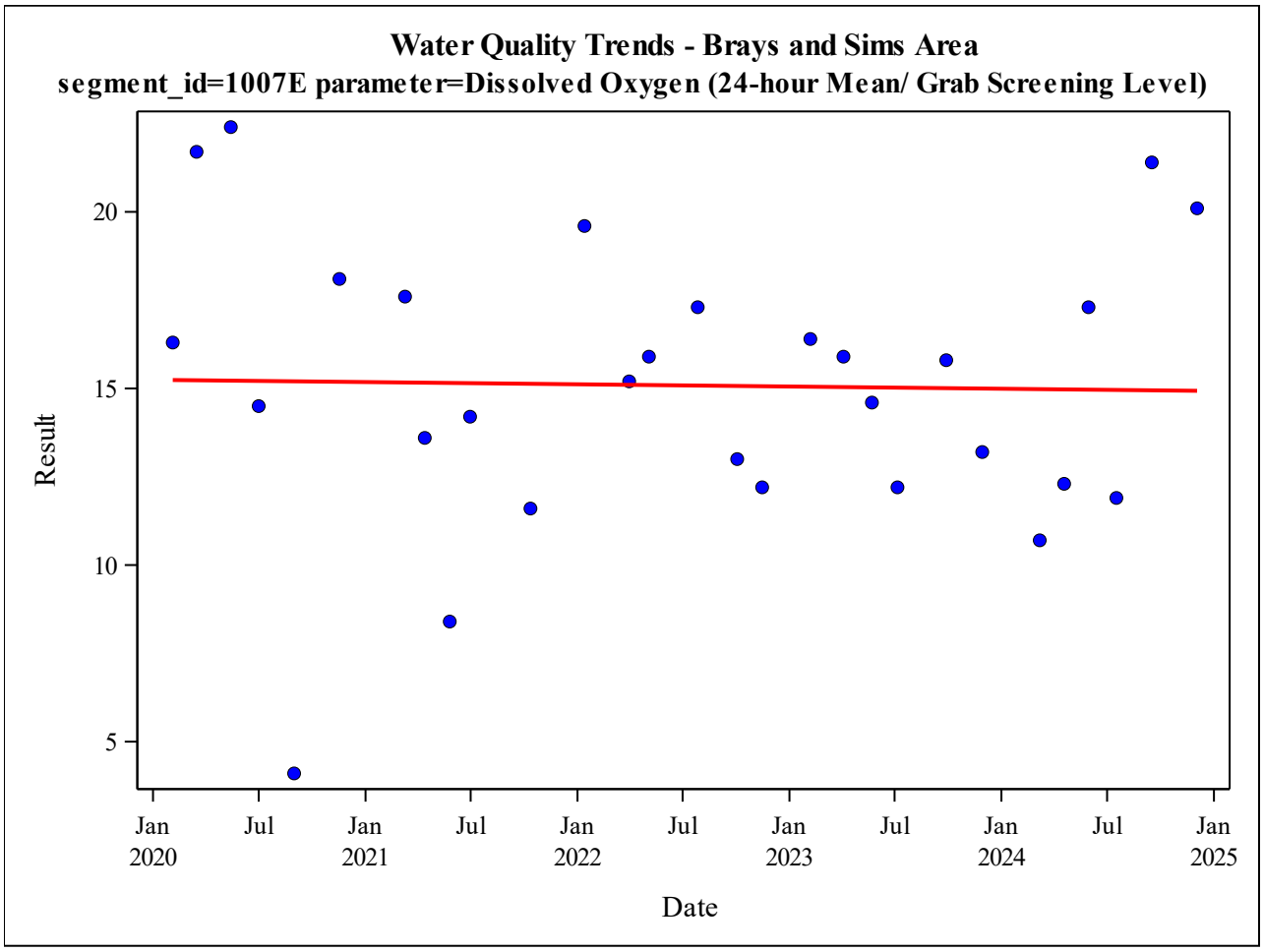

Water Quality Trends - Brays and Sims Area
segment_id=1007D parameter=Temperature
Result
30
25
20
15
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

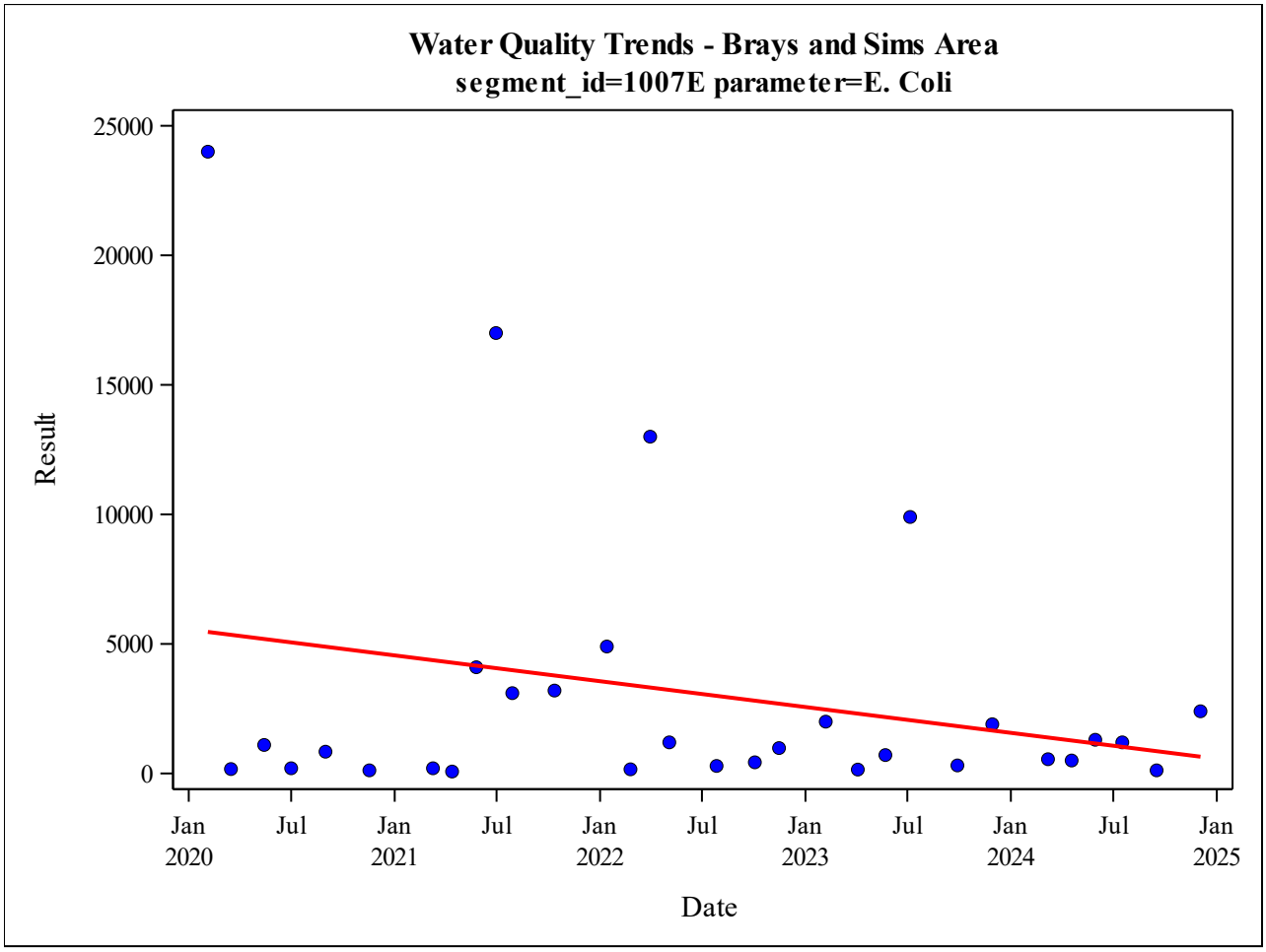

Water Quality Trends - Brays and Sims Area
segment_id=1007D parameter=Total Phosphorus
Result
8
6
4
2
0
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

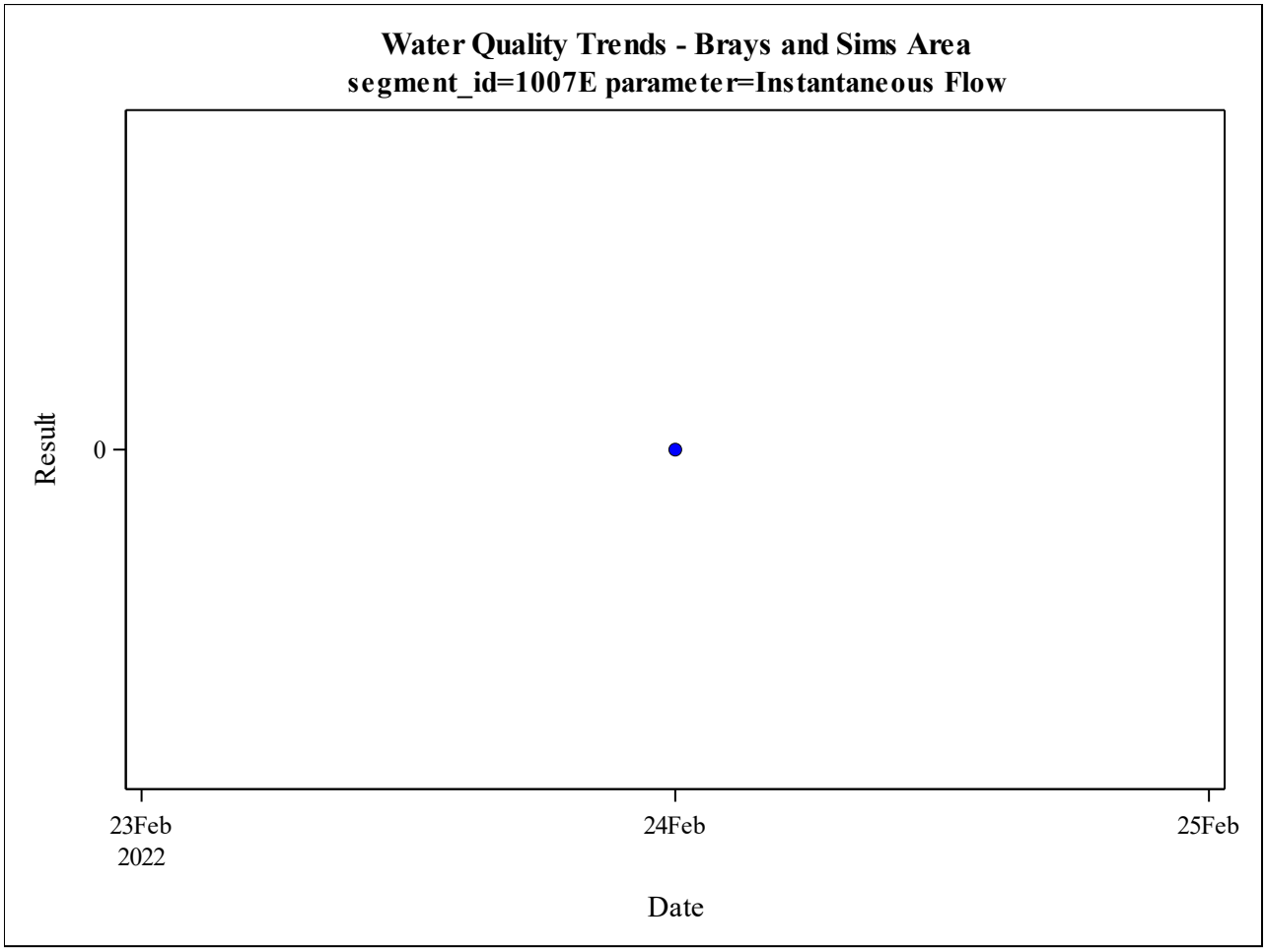

Water Quality Trends - Brays and Sims Area
segment_id=1007D parameter=Total Suspended Solids
Result
200
150
100
50
0
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

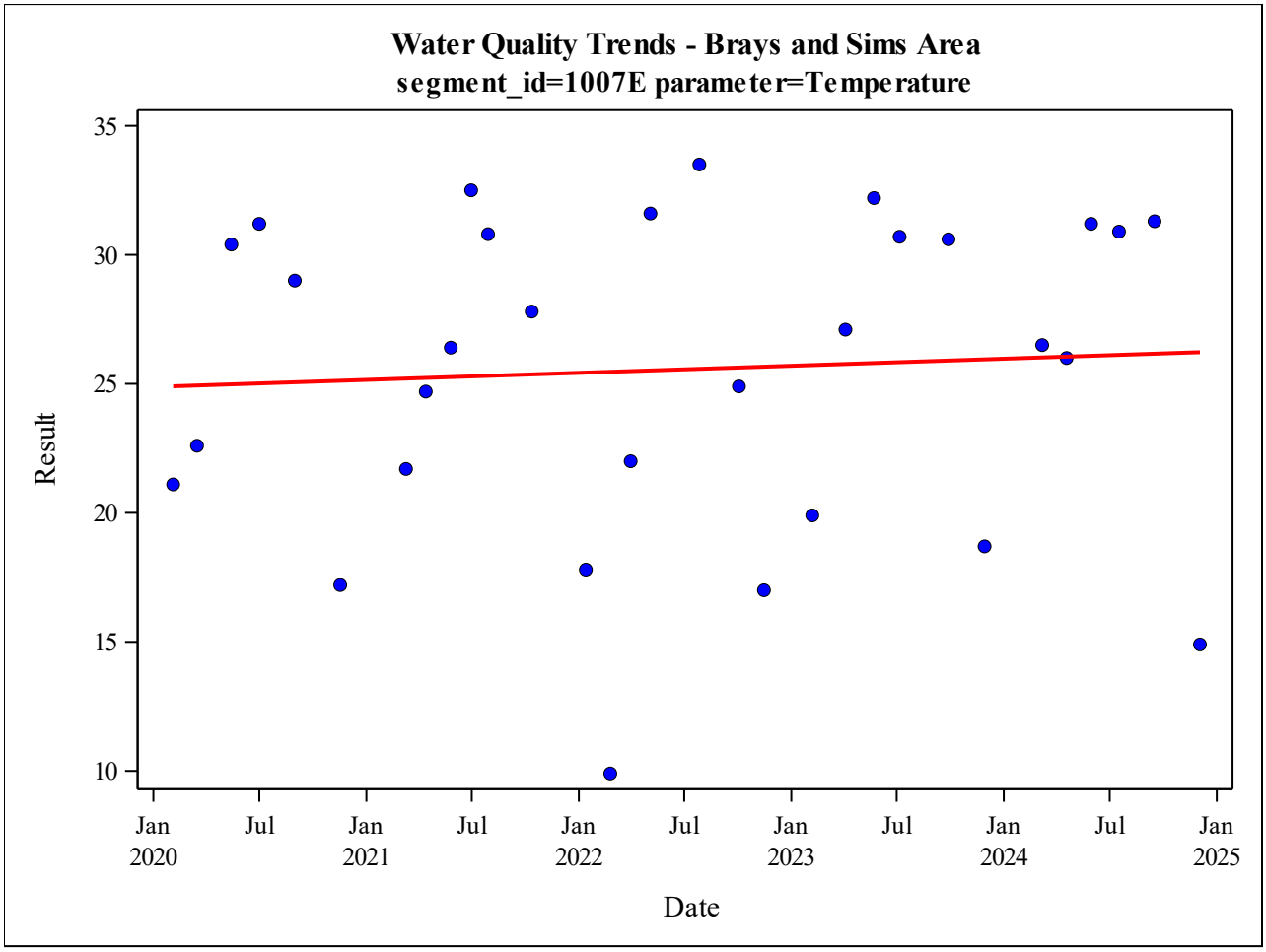

Water Quality Trends - Brays and Sims Area
segment_id=1007D parameter=pH
Result
9.0
8.5
8.0
7.5
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

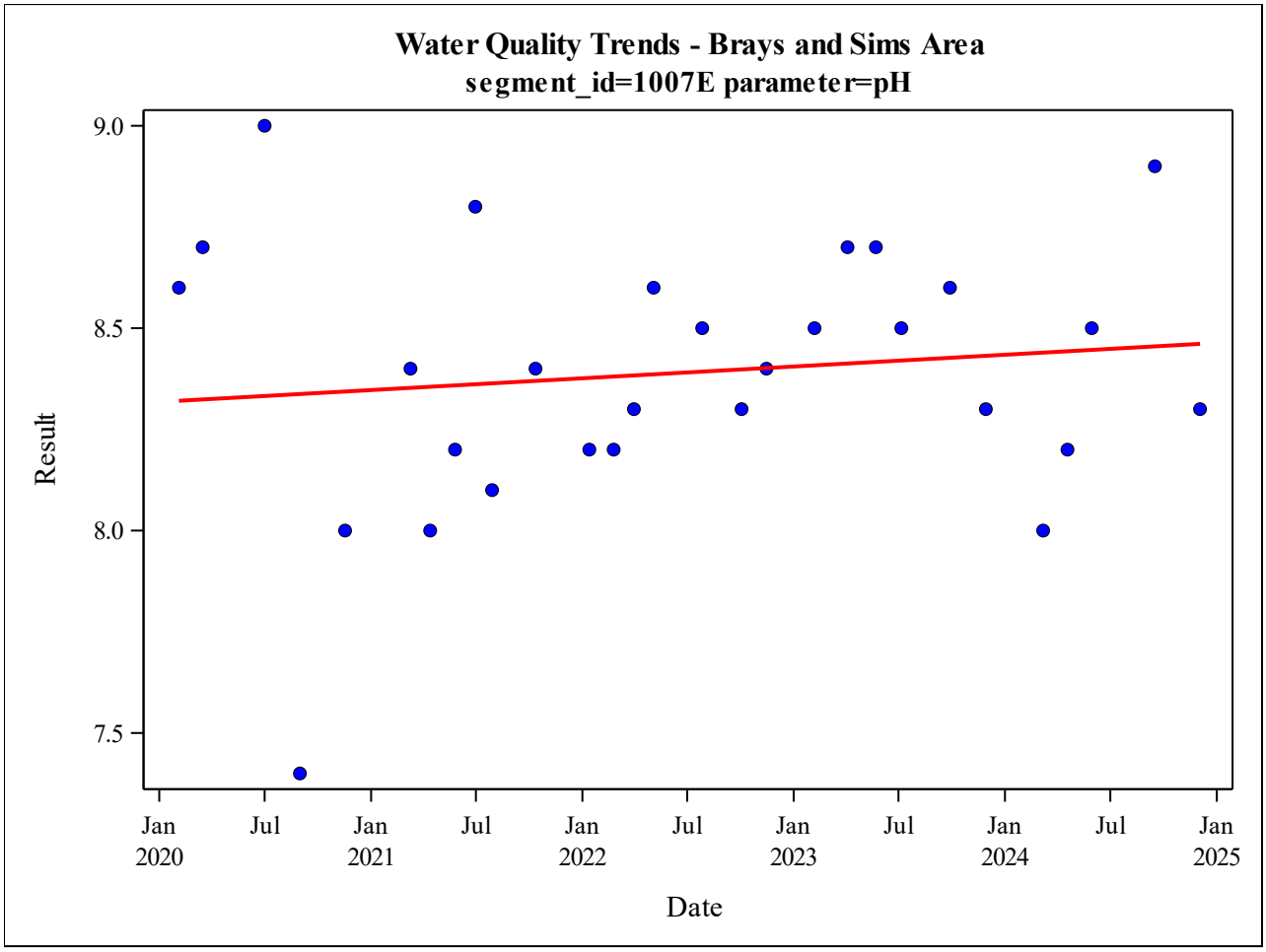
Willow Waterhole Bayou Above Tidal (1007E)



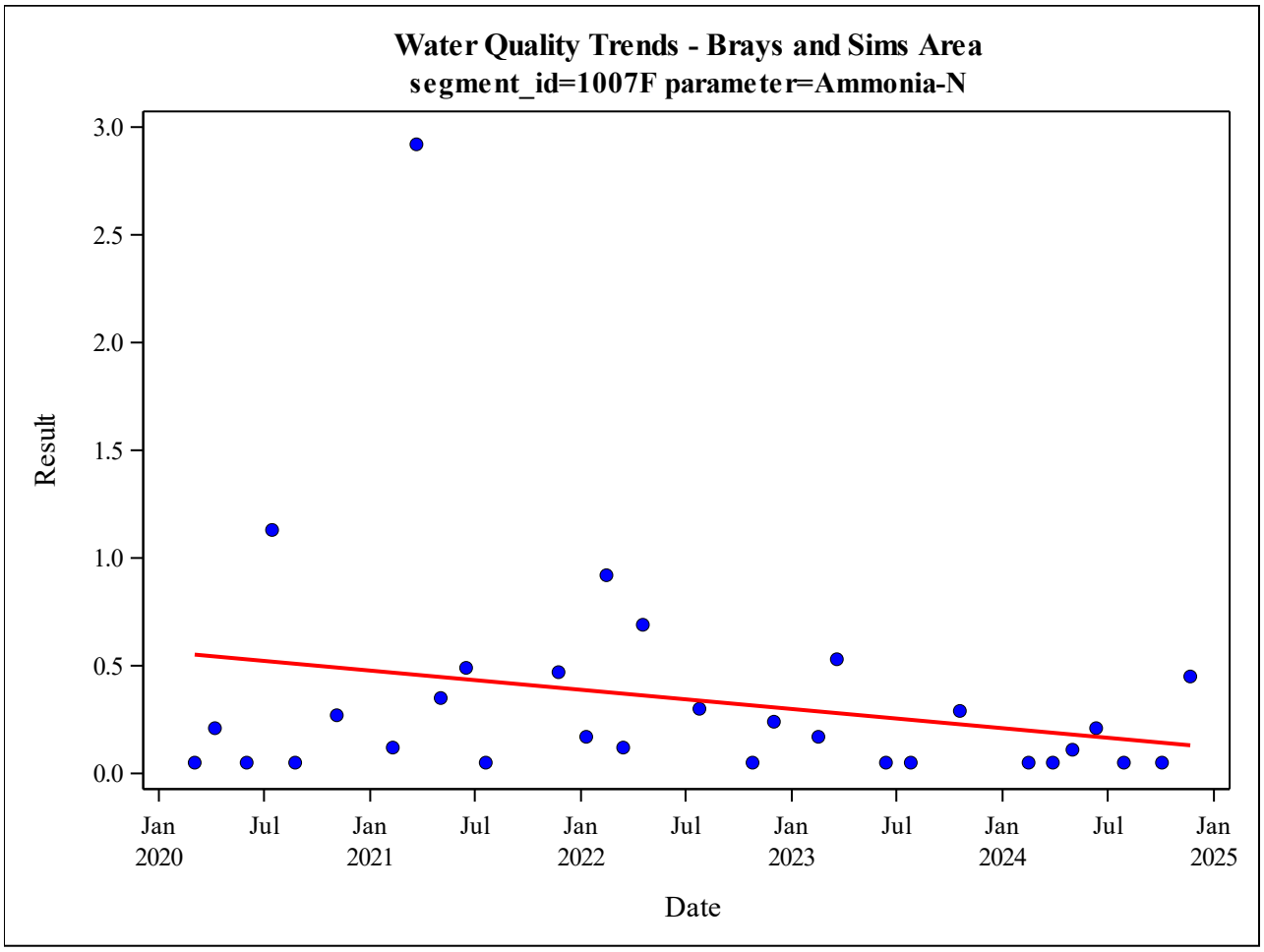

Water Quality Trends - Brays and Sims Area
segment_id=1007E parameter=E. Coli
Result
25000
20000
15000
10000
5000
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

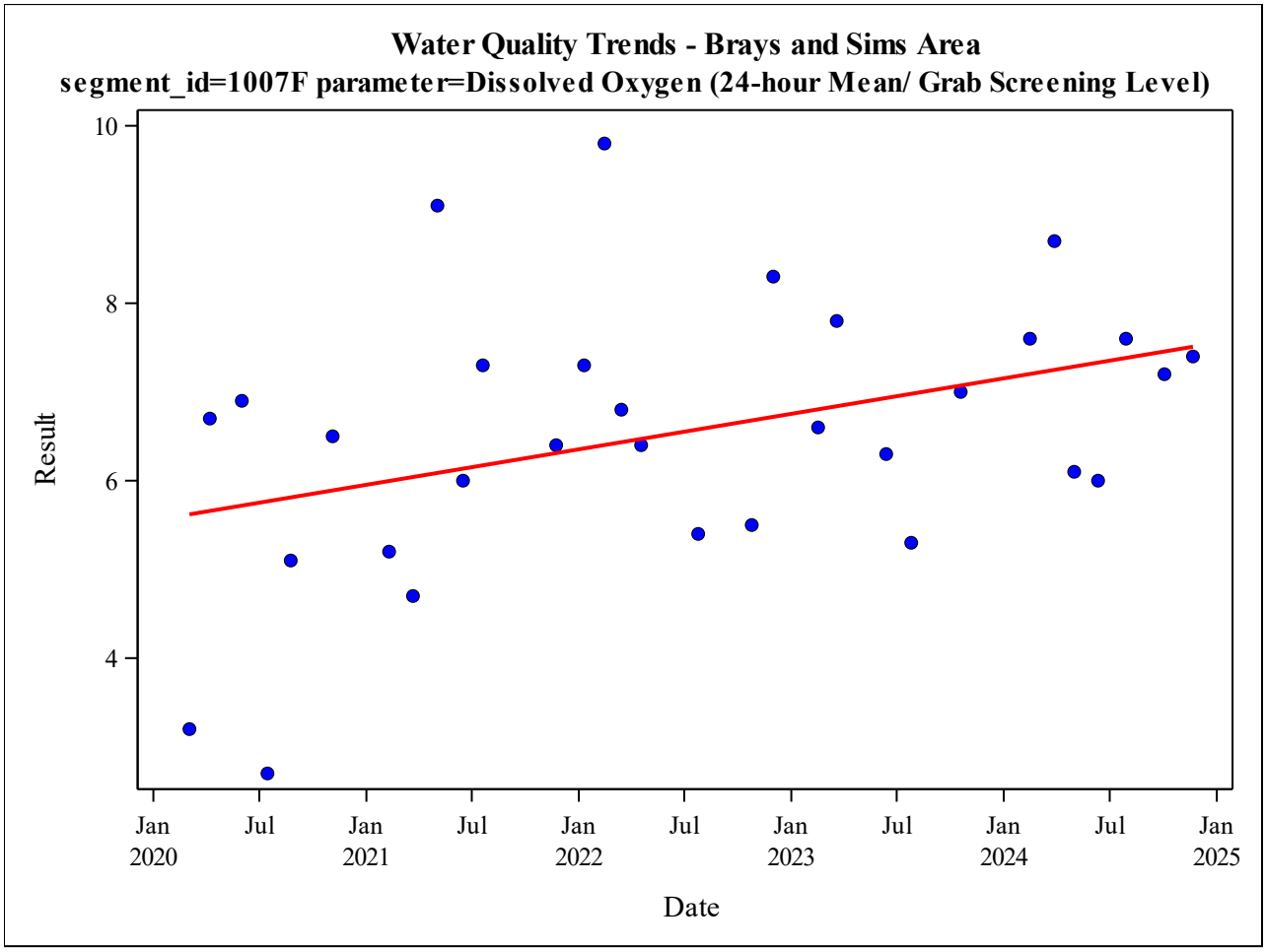

Water Quality Trends - Brays and Sims Area
segment_id=1007E parameter=Instantaneous Flow
Result
0
23Feb
2022
24Feb
25Feb
Date

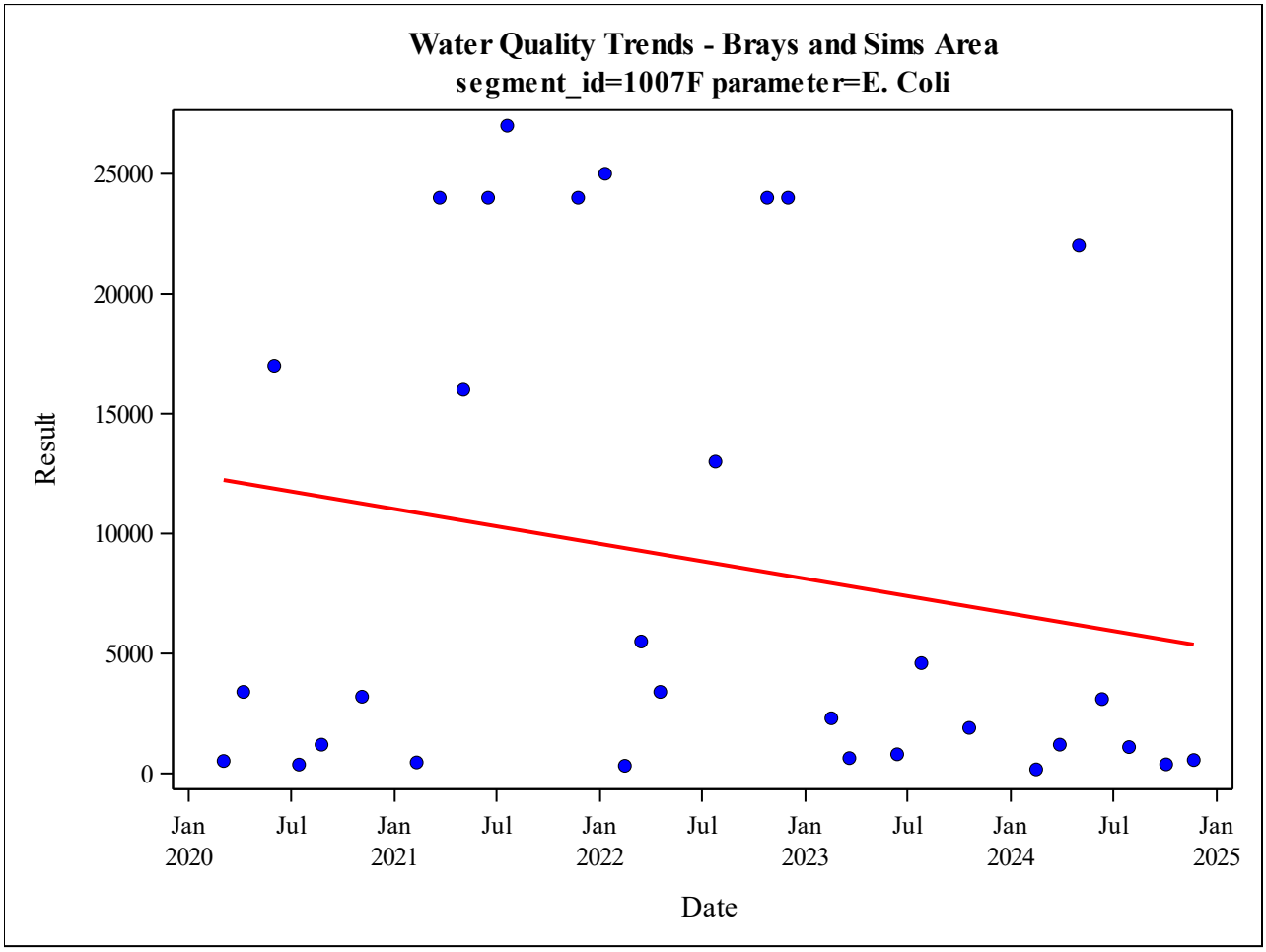

Water Quality Trends - Brays and Sims Area
segment_id=1007E parameter=Temperature
Result
35
30
25
20
15
10
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

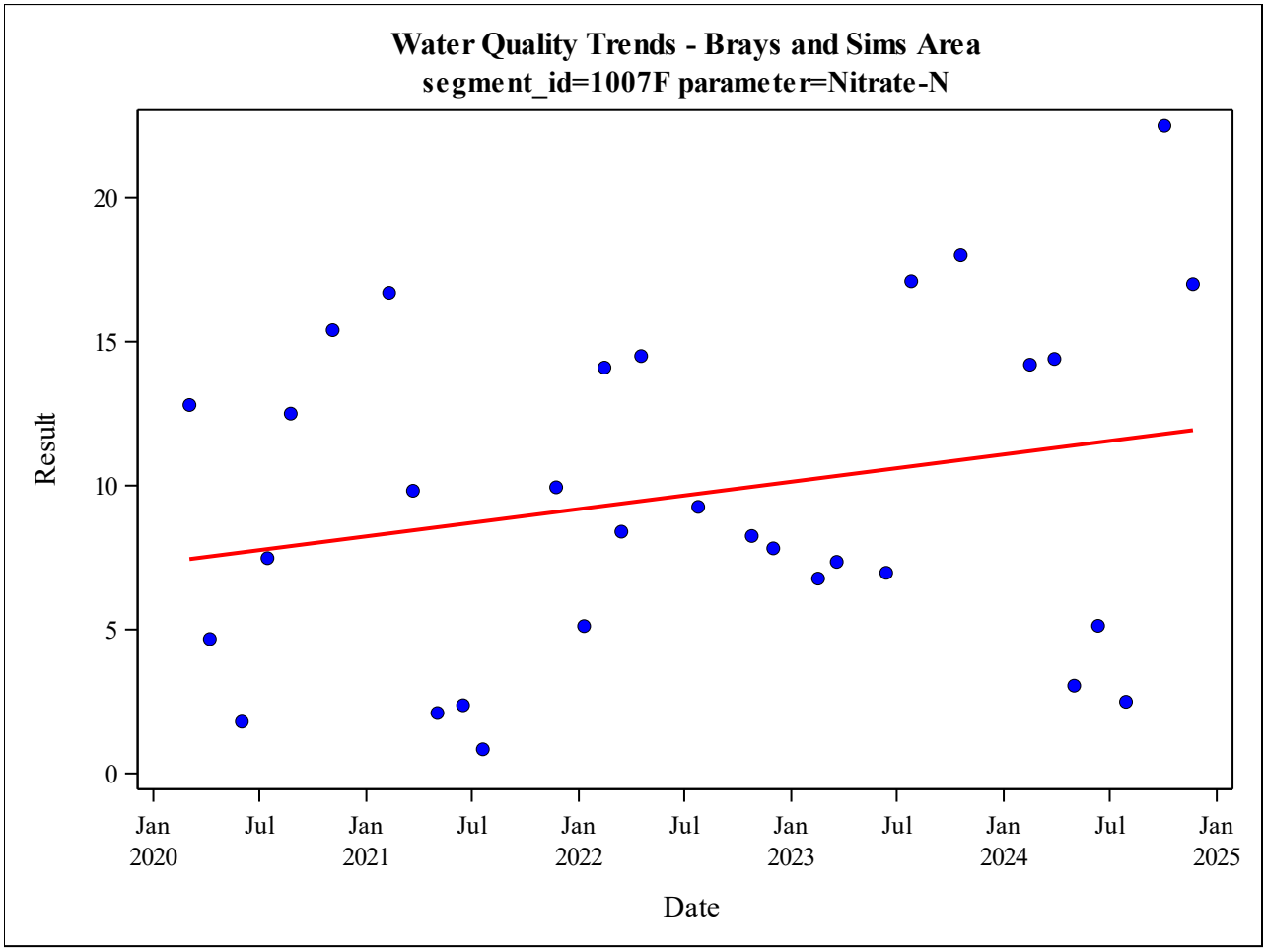

Water Quality Trends - Brays and Sims Area
segment_id=1007E parameter=pH
Result
9.0
8.5
8.0
7.5
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

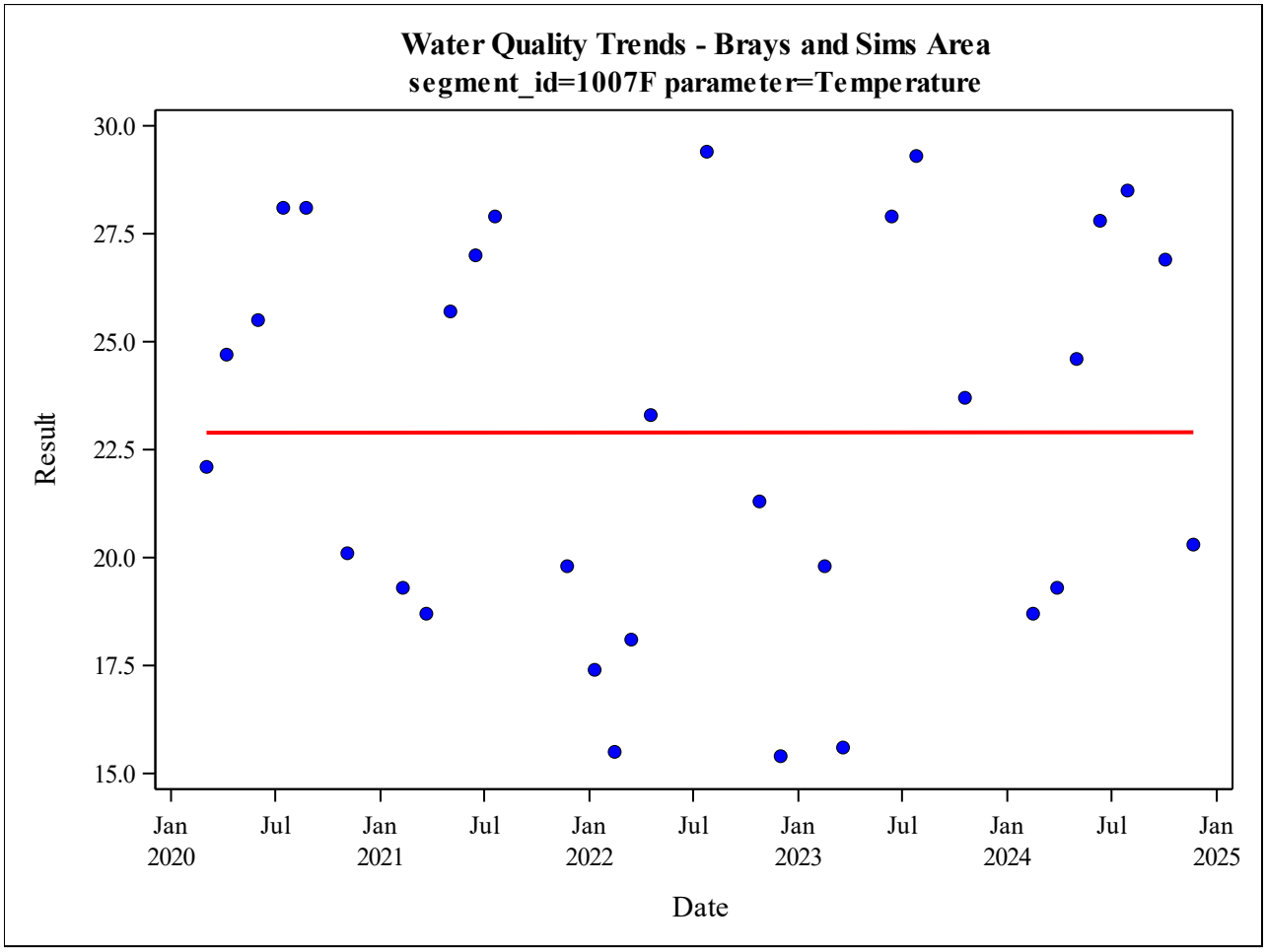
Berry Bayou Above Tidal (1007F)

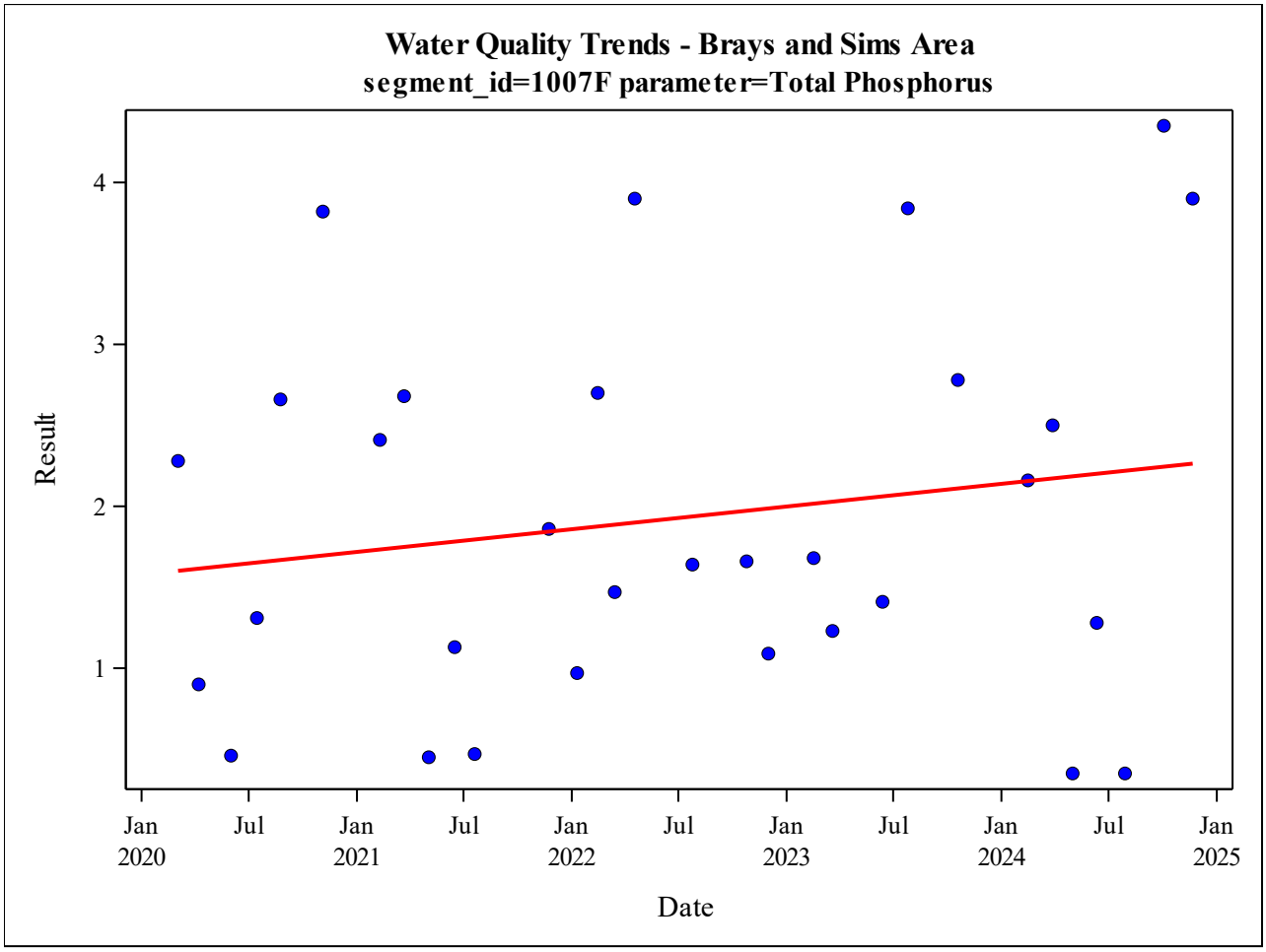


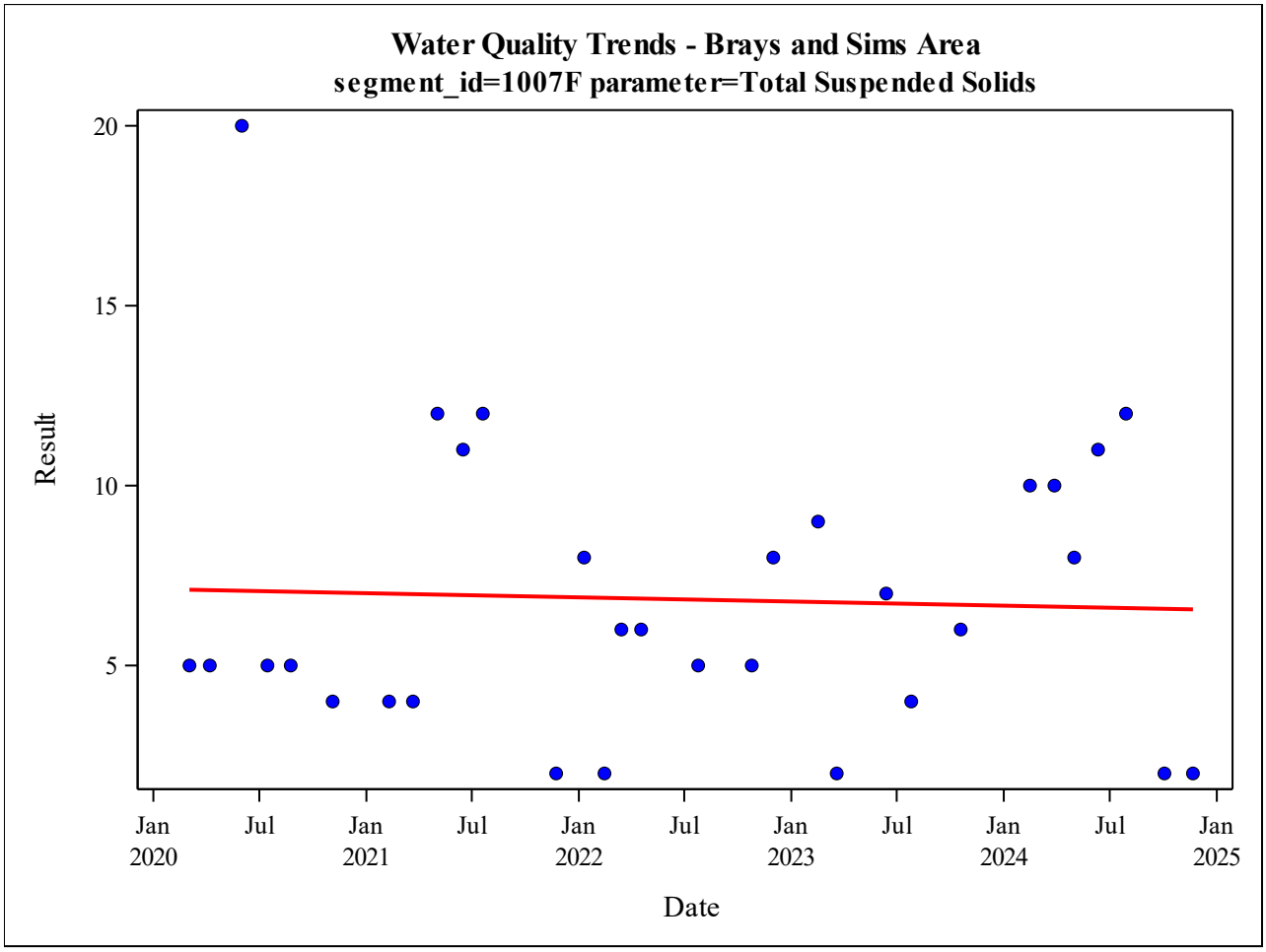

Water Quality Trends - Brays and Sims Area
segment_id=1007F parameter=Dissolved Oxygen (24-hour Mean/ Grab Screening Level)
Result
10
8
6
4
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

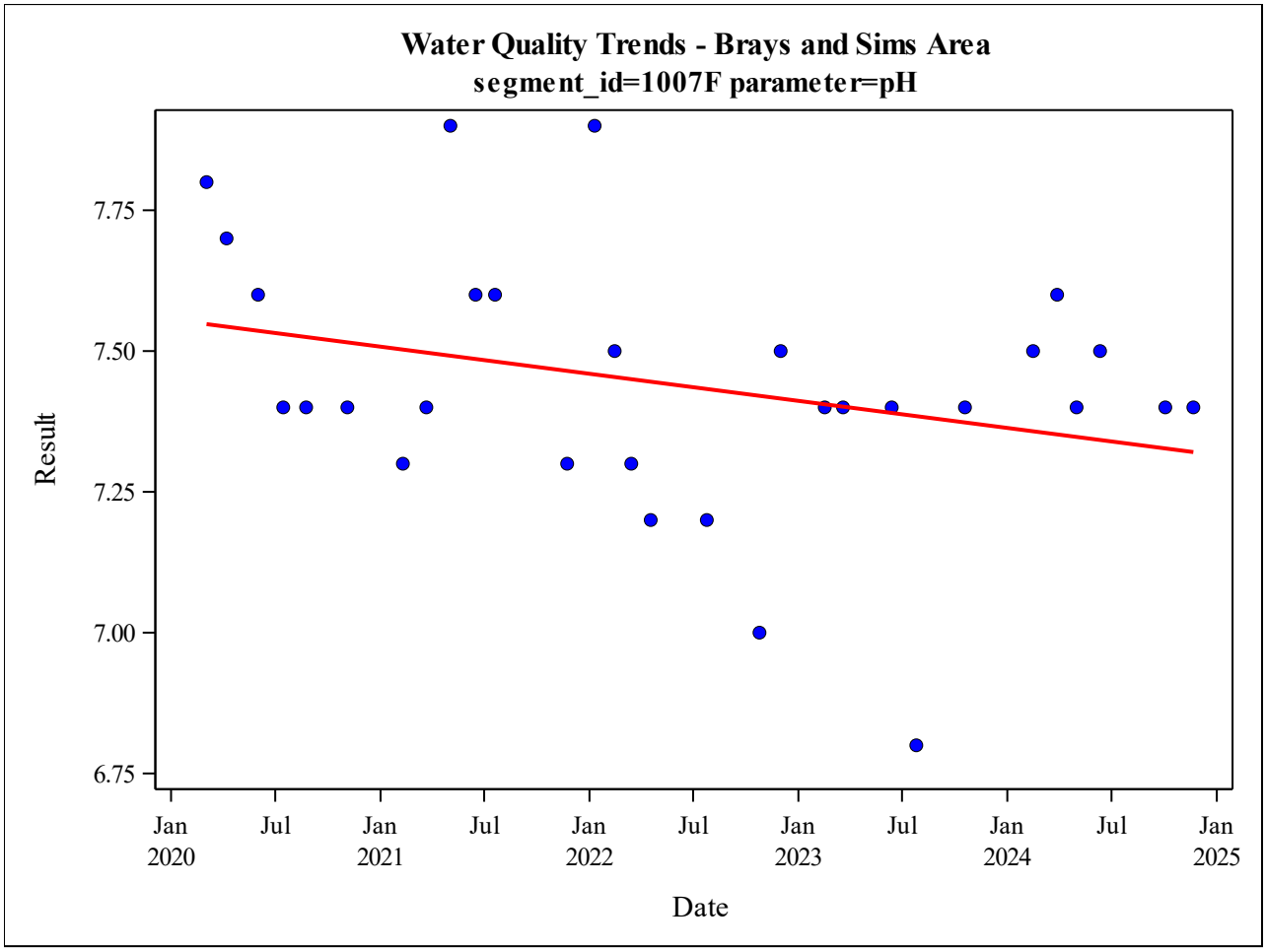

Water Quality Trends - Brays and Sims Area
segment_id=1007F parameter=E. Coli
Result
25000
20000
15000
10000
5000
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007F parameter=Nitrate-N
Result
20
15
10
5
0
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

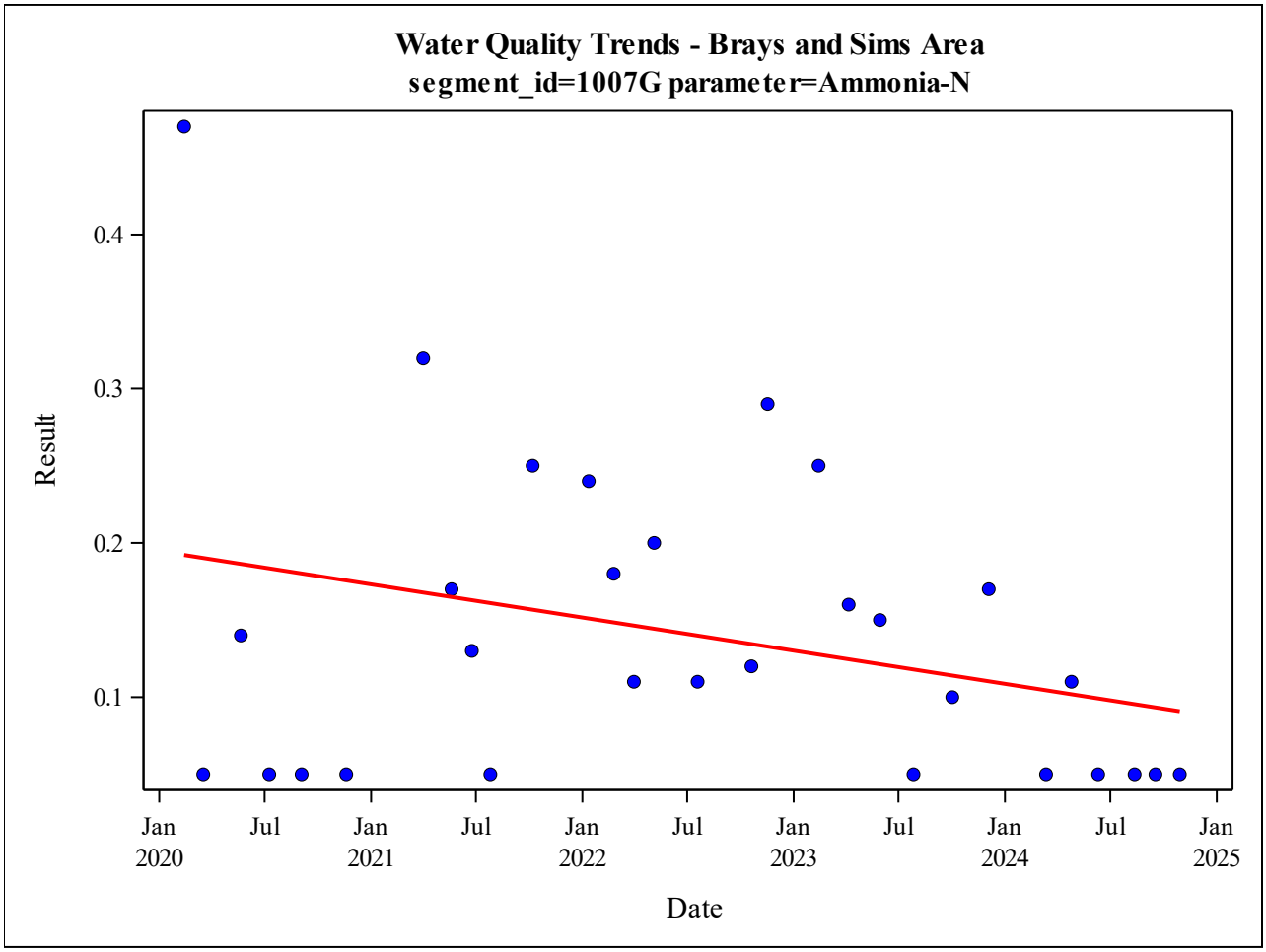

Water Quality Trends - Brays and Sims Area
segment_id=1007F parameter=Temperature
Result
30.0
27.5
25.0
22.5
20.0
17.5
15.0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

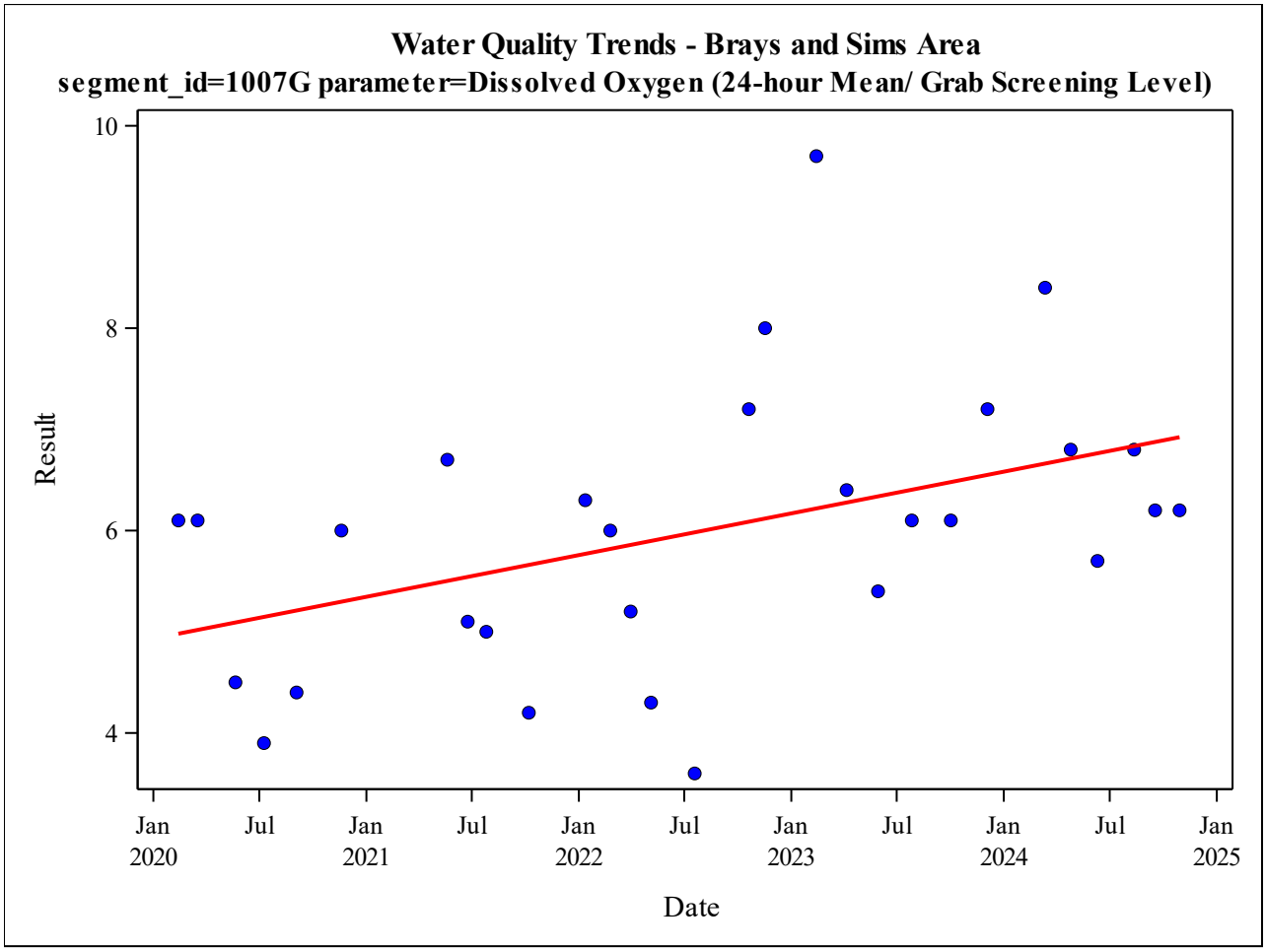

Water Quality Trends - Brays and Sims Area
segment_id=1007F parameter=Total Phosphorus
Result
4
3
2
1
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

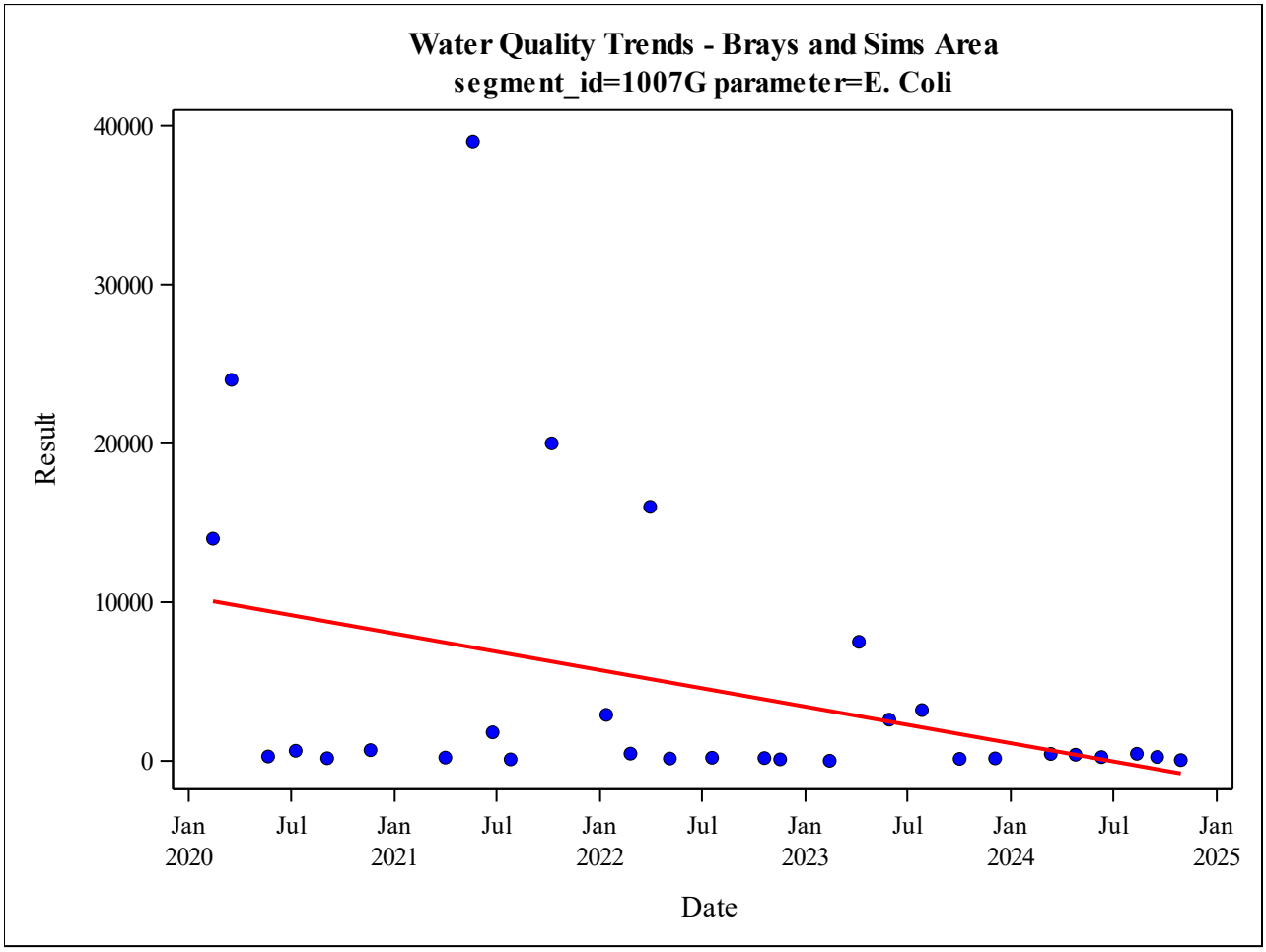

Water Quality Trends - Brays and Sims Area
segment_id=1007F parameter=Total Suspended Solids
Result
20
15
10
5
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

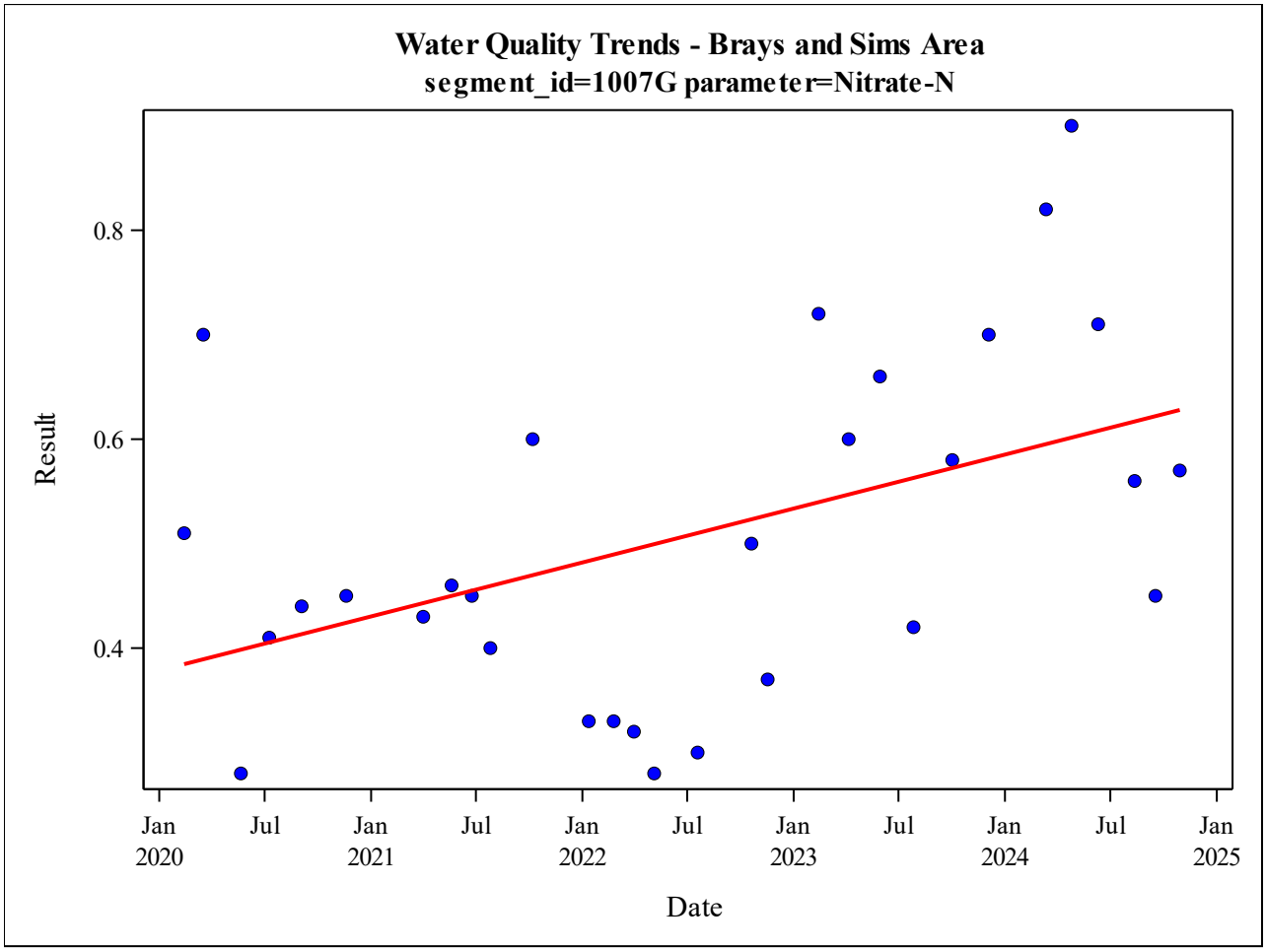

Water Quality Trends - Brays and Sims Area
segment_id=1007F parameter=pH
Result
7.75
7.50
7.25
7.00
6.75
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

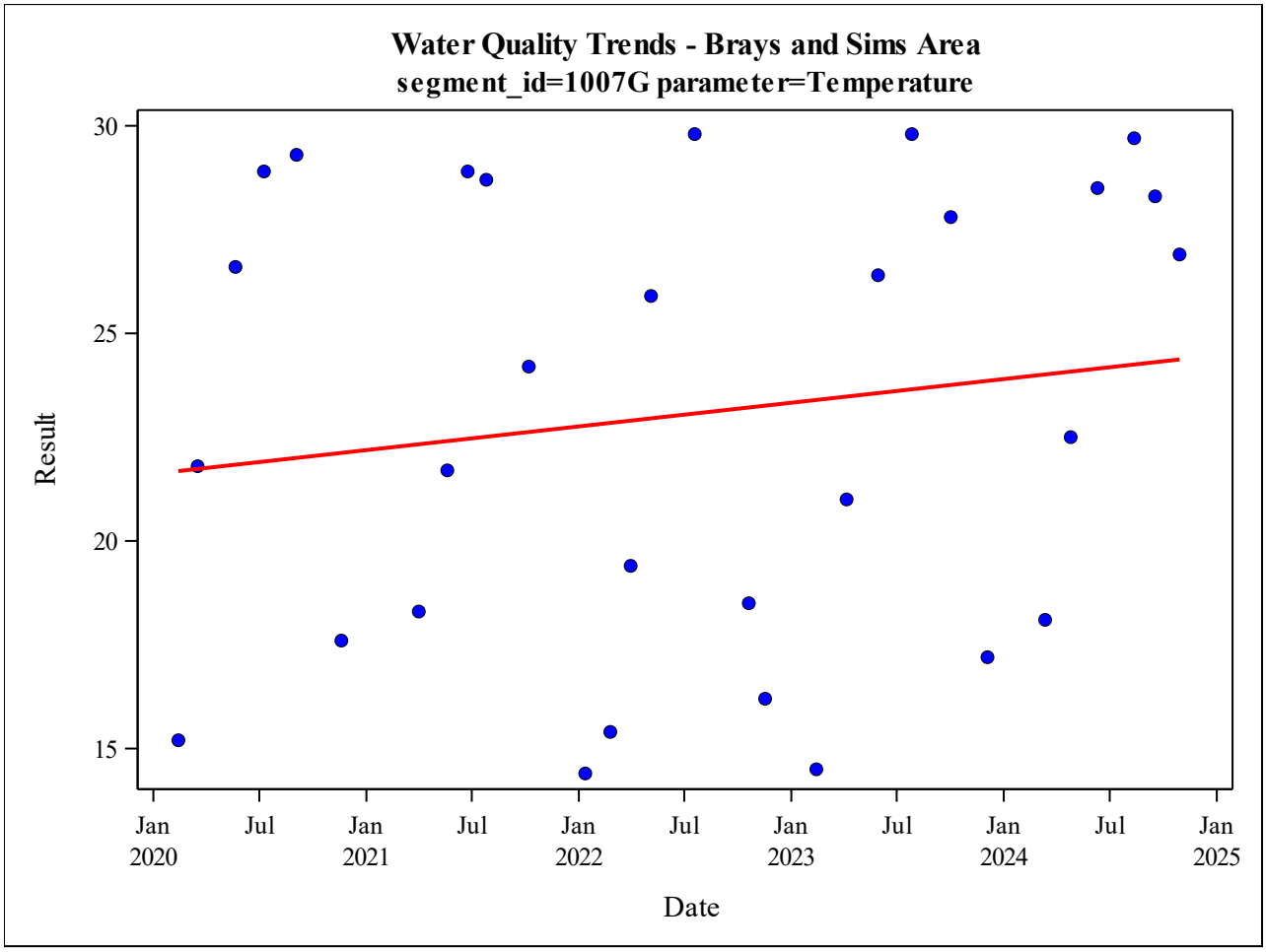
Kuhlman Gully Above Tidal (1007G)

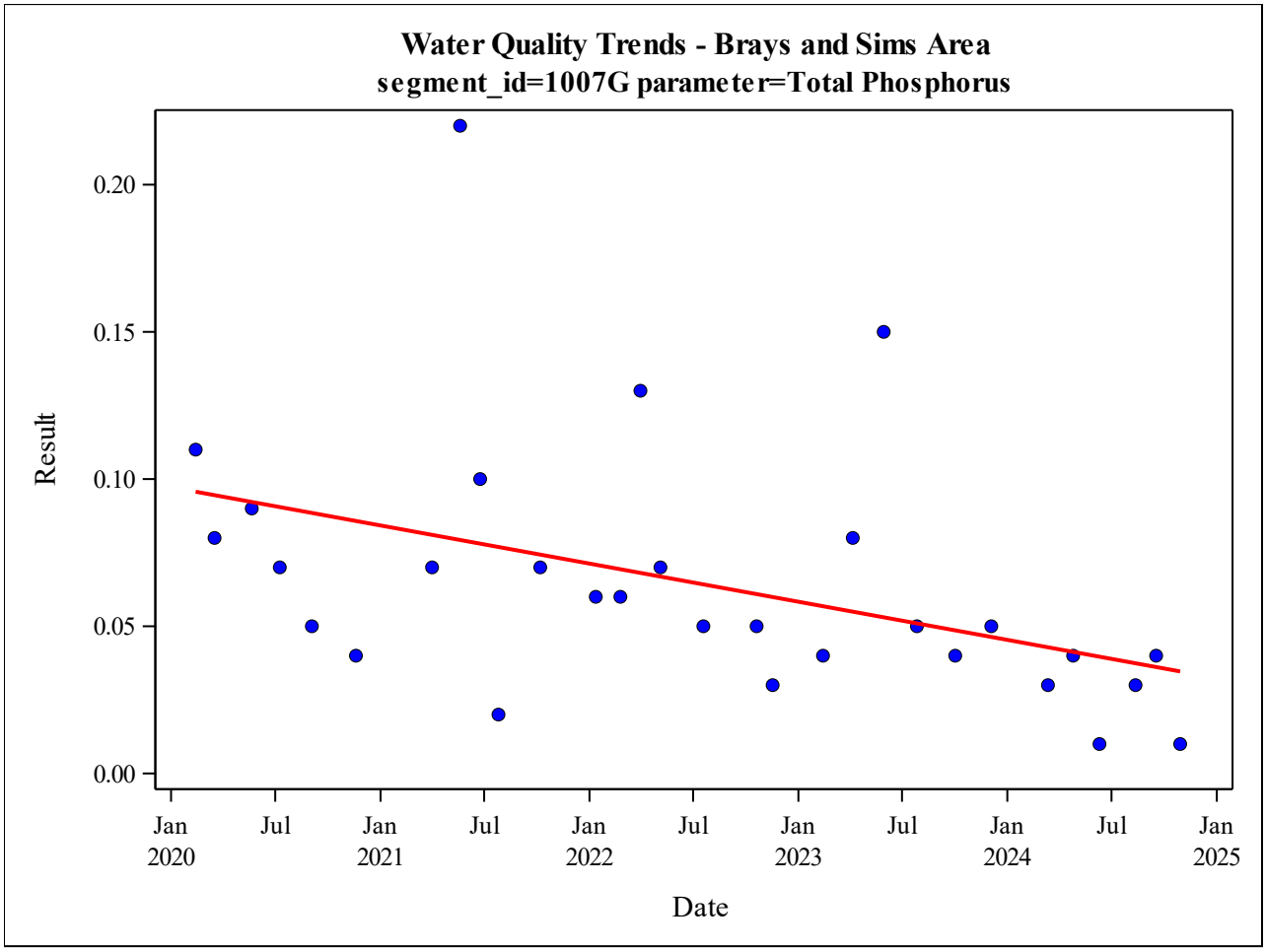


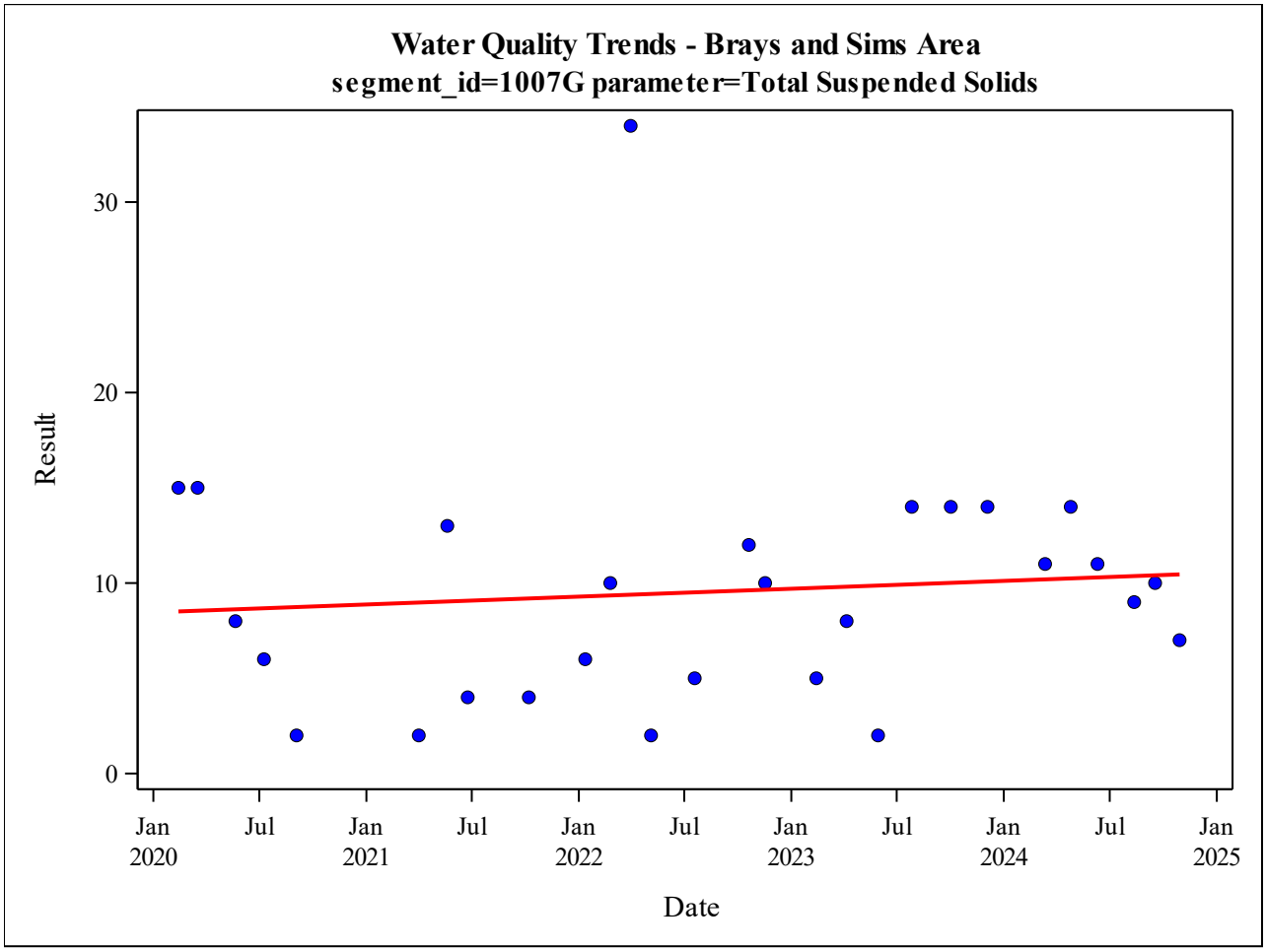

Water Quality Trends - Brays and Sims Area
segment_id=1007G parameter=Dissolved Oxygen (24-hour Mean/ Grab Screening Level)
Result
10
8
6
4
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

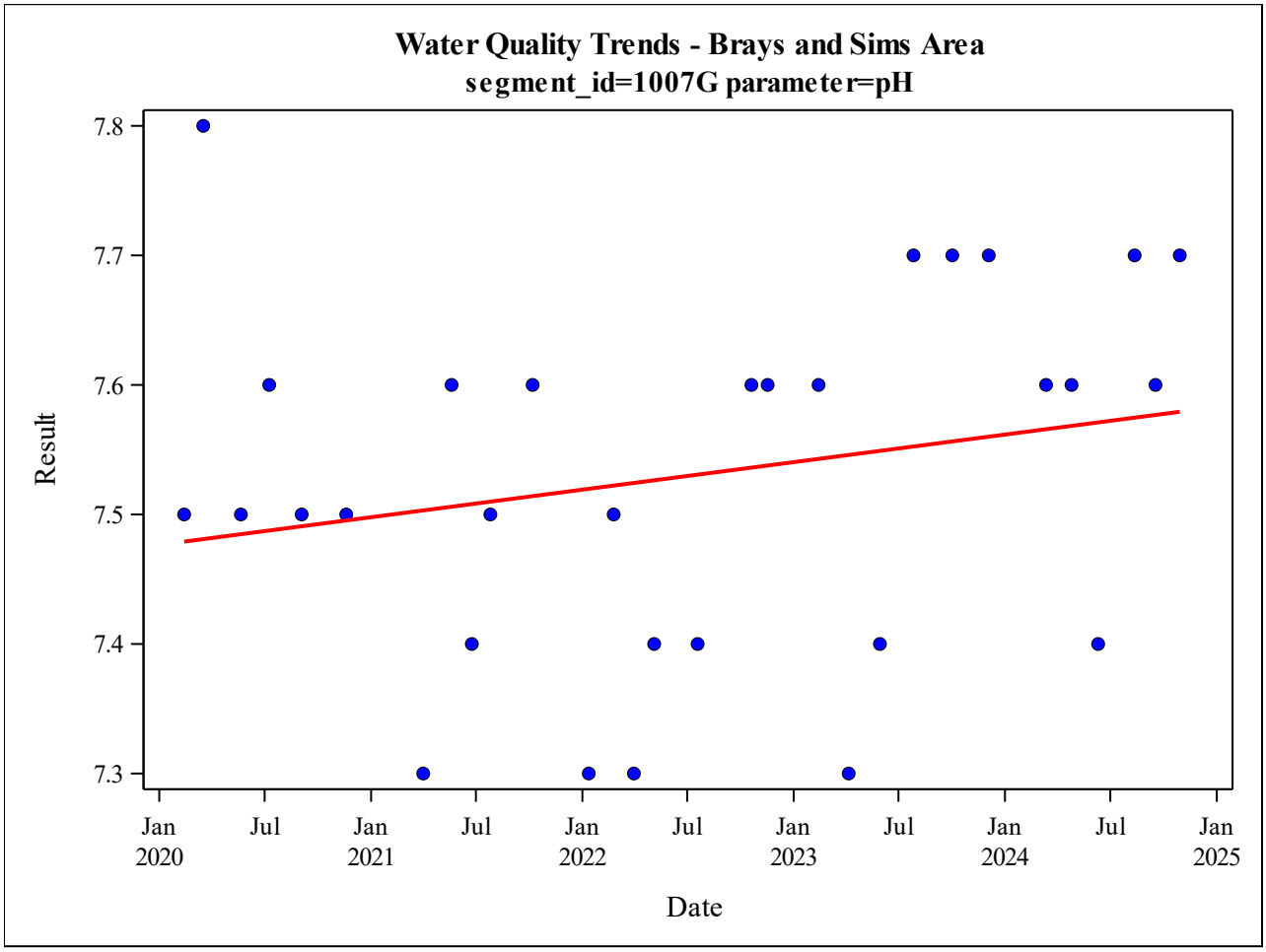

Water Quality Trends - Brays and Sims Area
segment_id=1007G parameter=E. Coli
Result
40000
30000
20000
10000
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007G parameter=Nitrate-N
Result
0.8
0.6
0.4
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

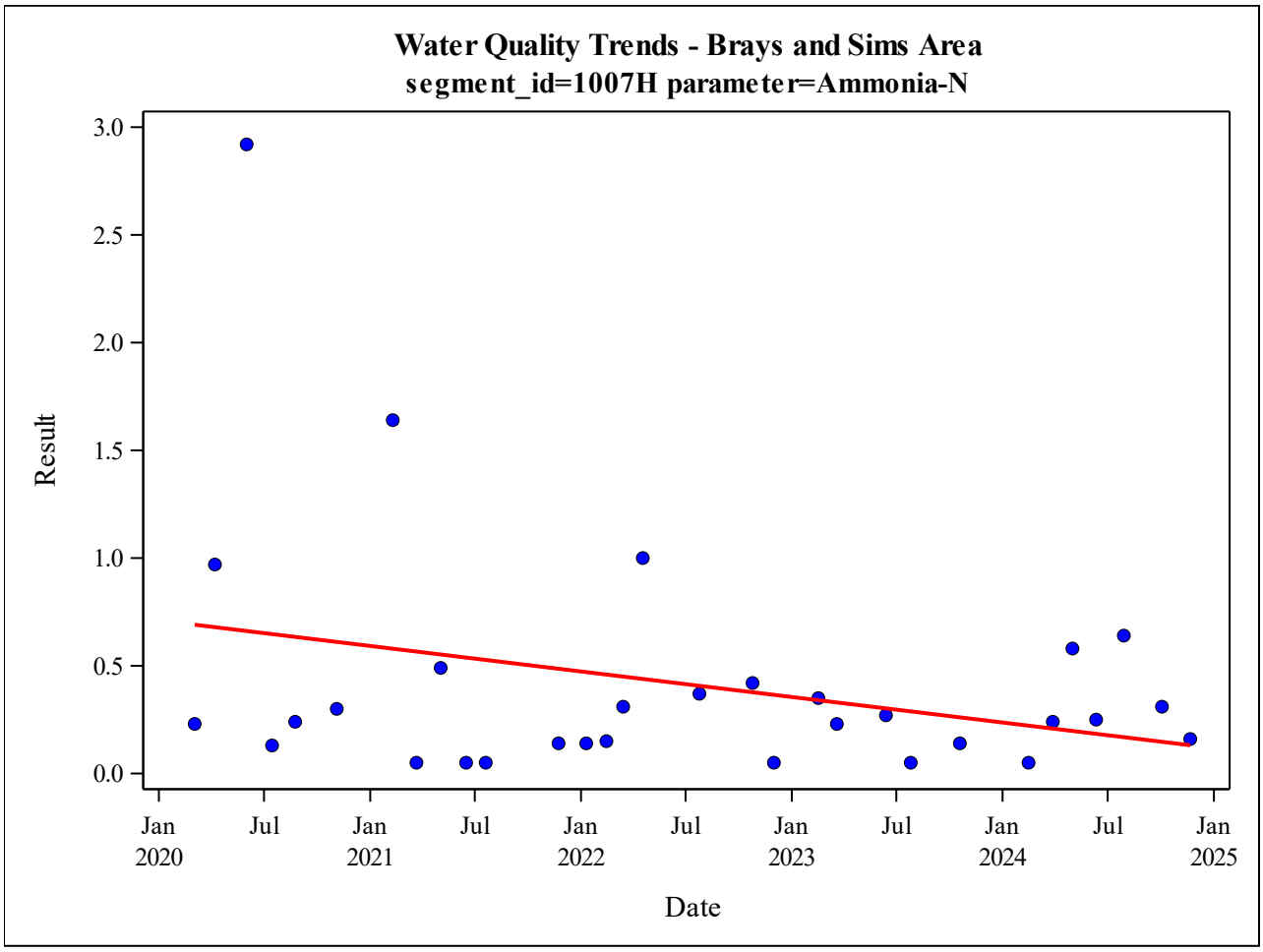

Water Quality Trends - Brays and Sims Area
segment_id=1007G parameter=Temperature
Result
30
25
20
15
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

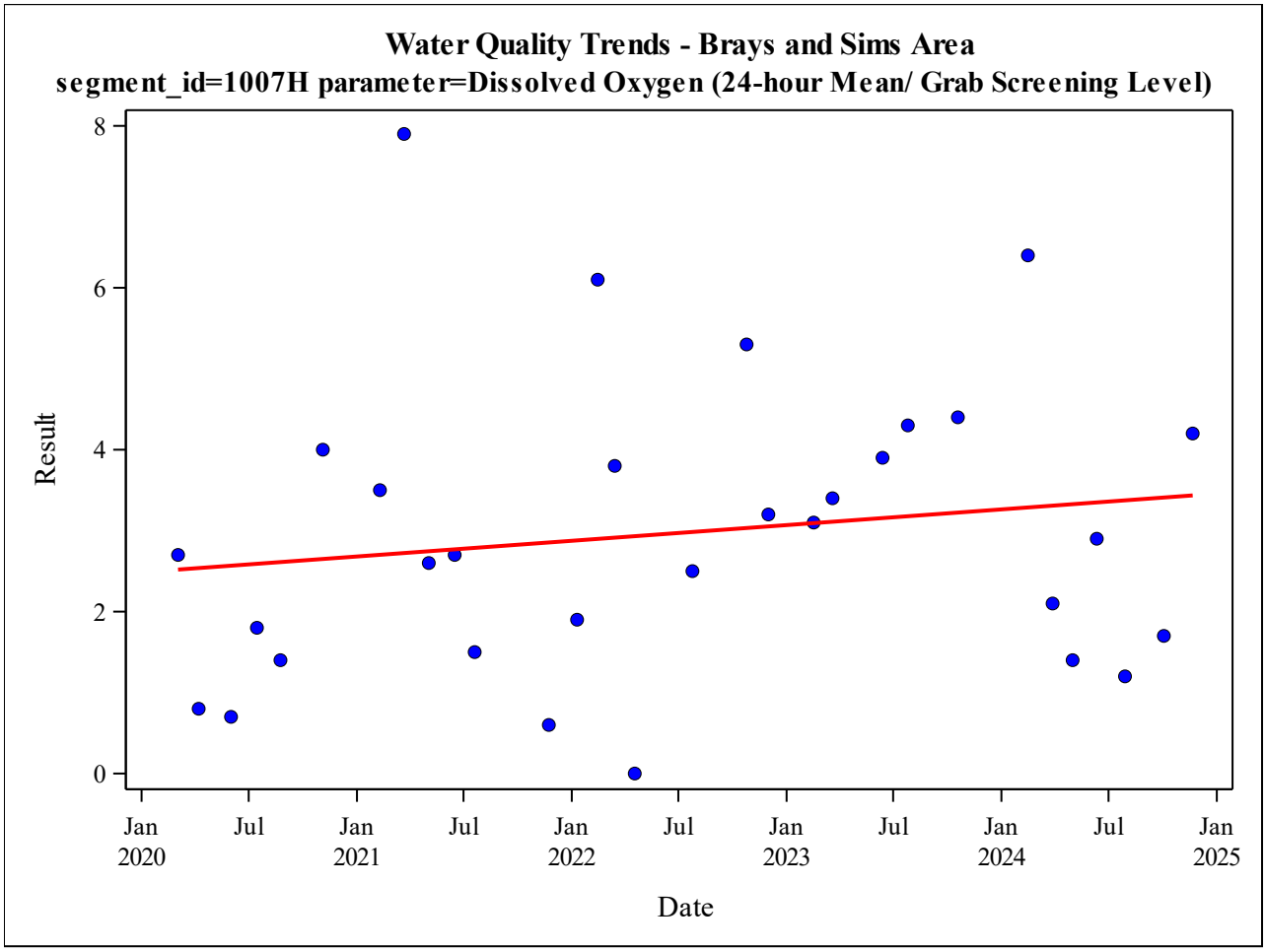

Water Quality Trends - Brays and Sims Area
segment_id=1007G parameter=Total Phosphorus
Result
0.20
0.15
0.10
0.05
0.00
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

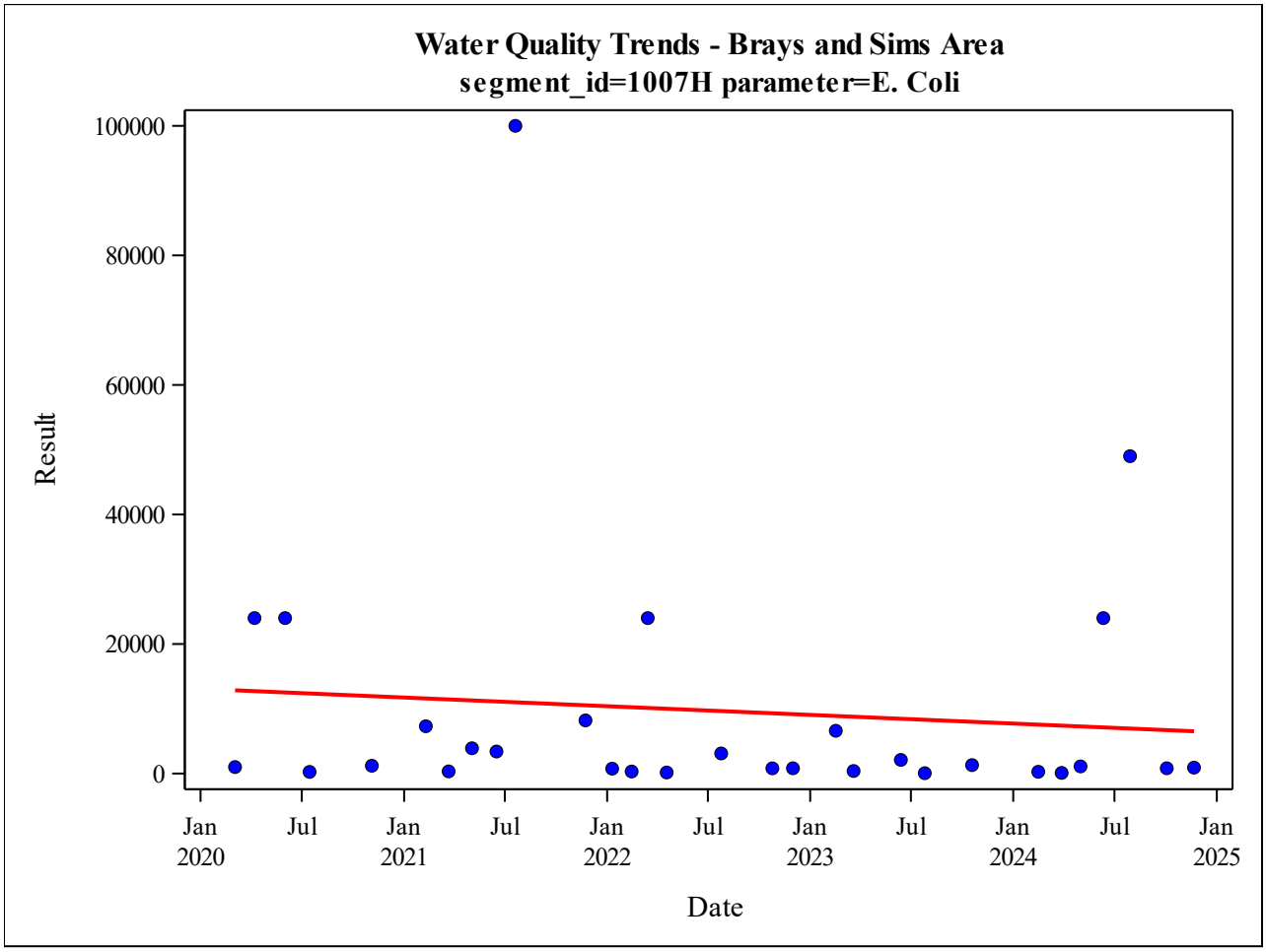

Water Quality Trends - Brays and Sims Area
segment_id=1007G parameter=Total Suspended Solids
Result
30
20
10
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

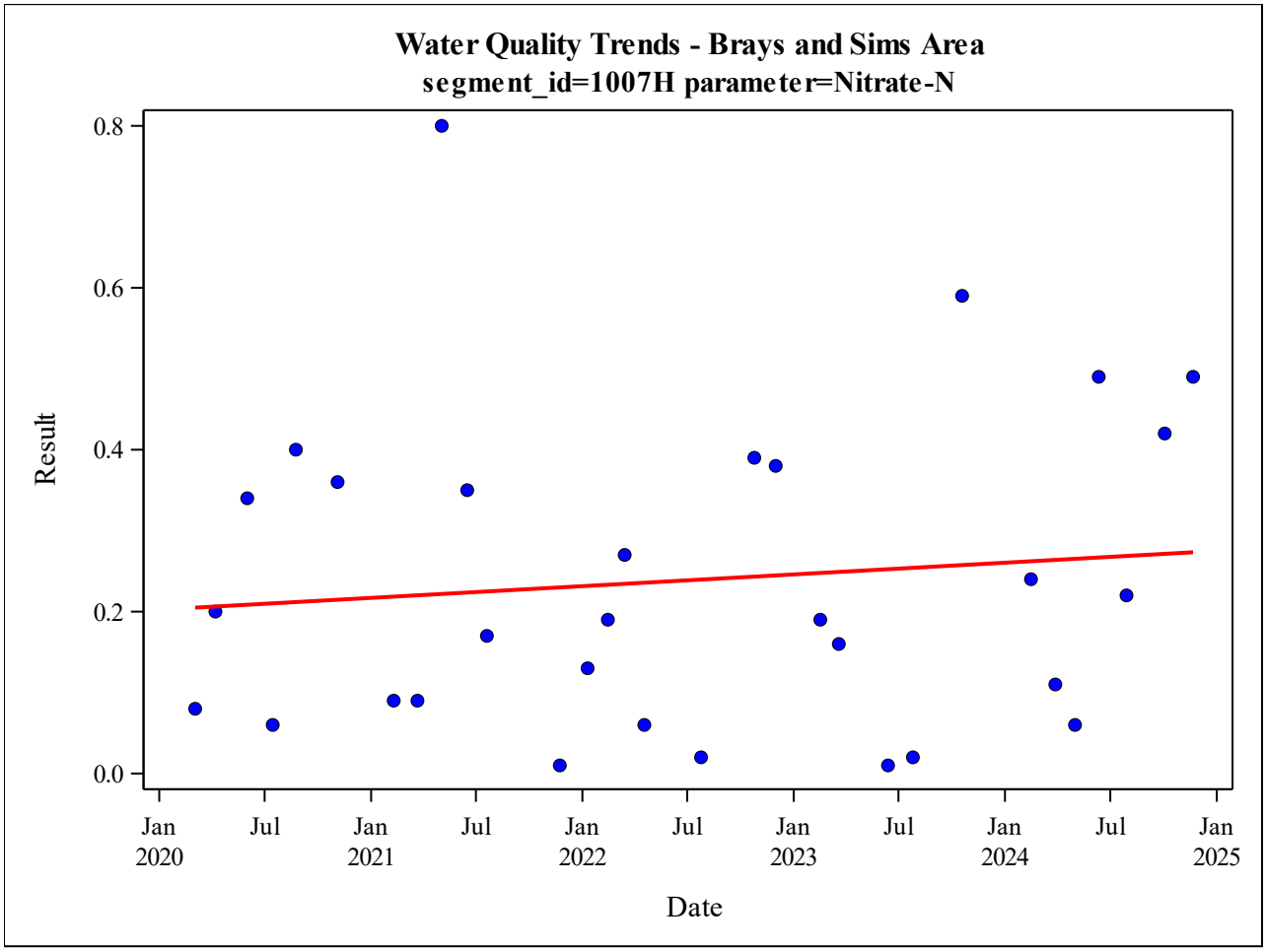

Water Quality Trends - Brays and Sims Area
segment_id=1007G parameter=pH
Result
7.8
7.7
7.6
7.5
7.4
7.3
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

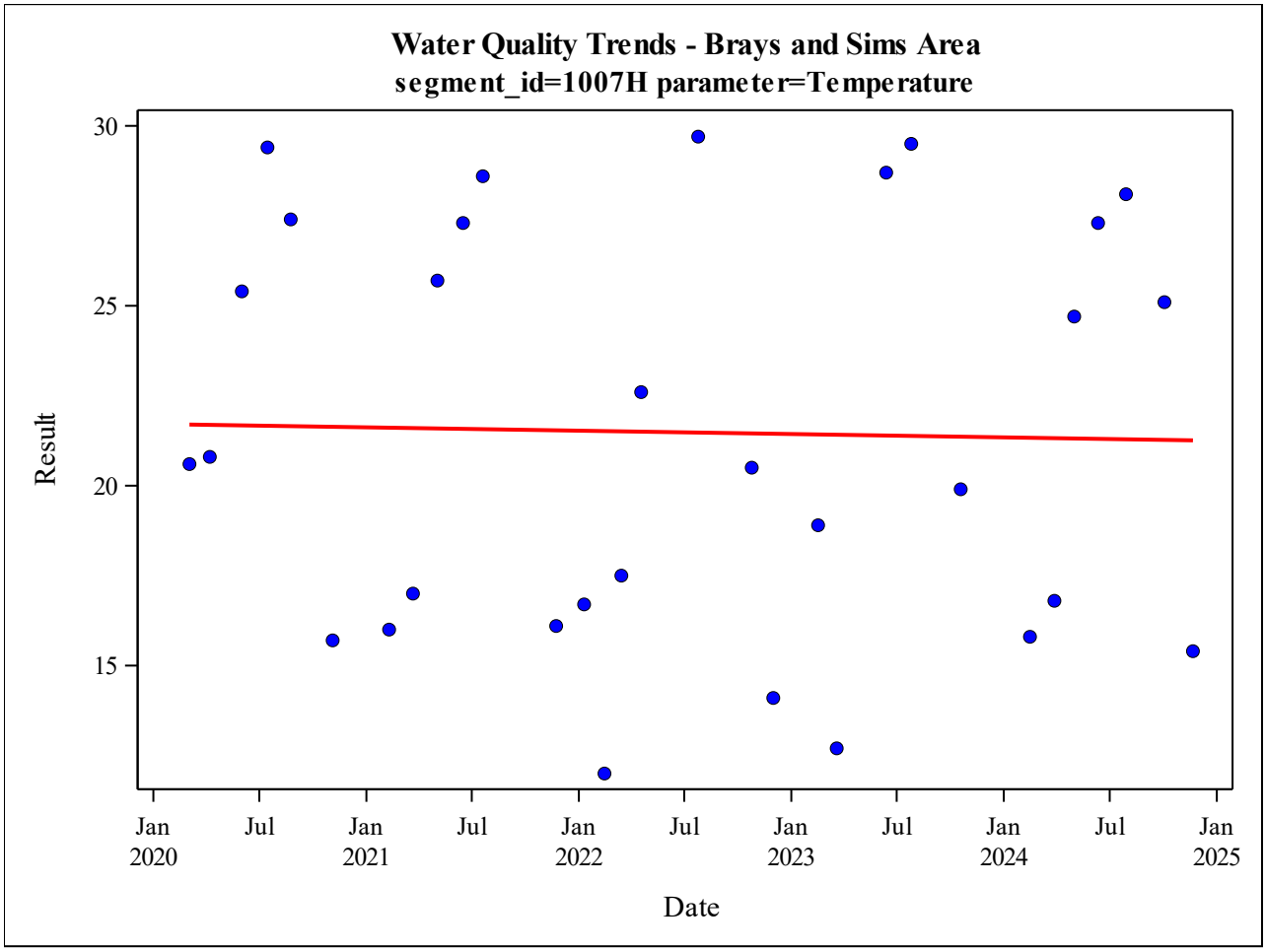
Pine Gully Above Tidal (1007H)

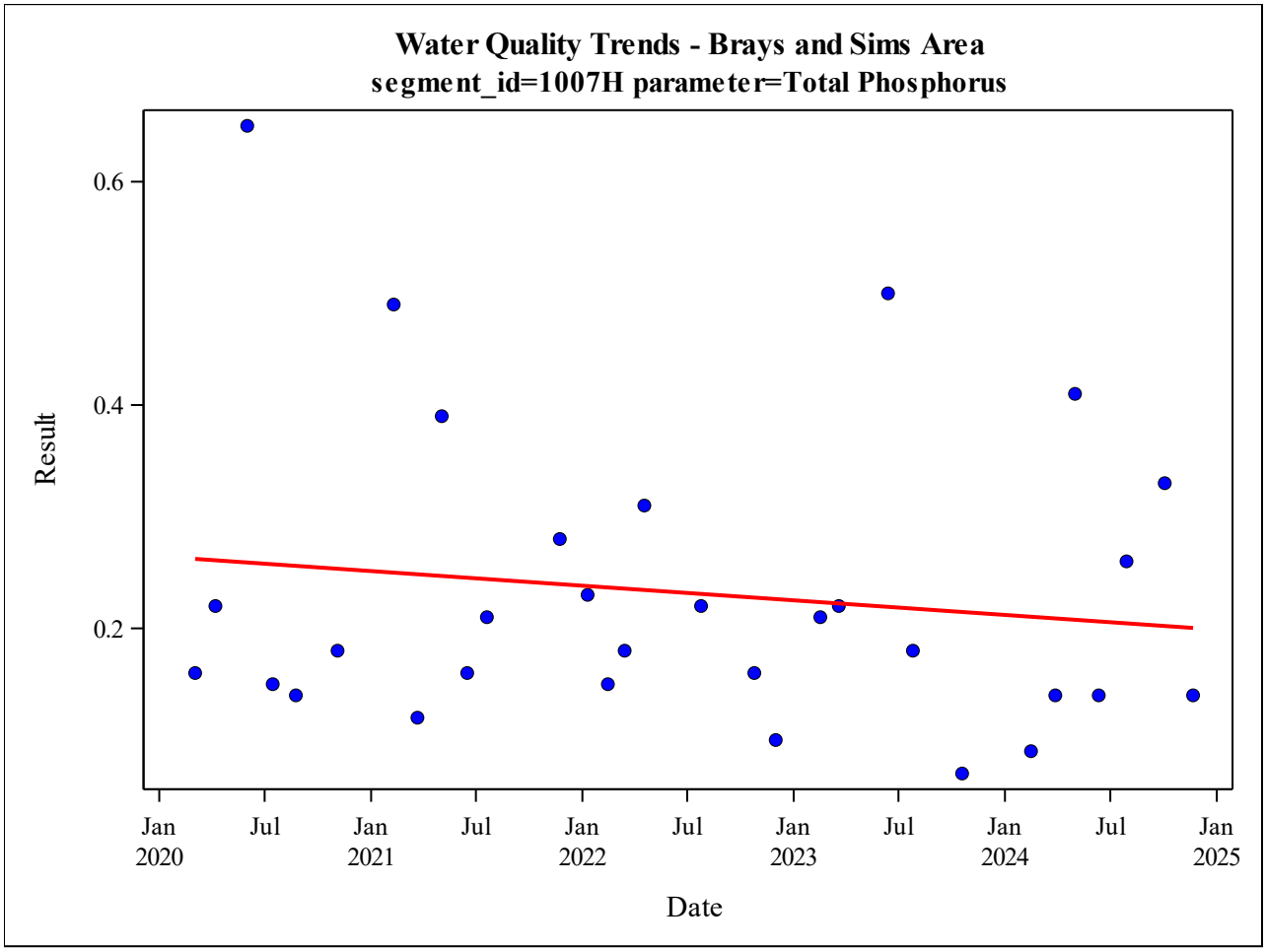


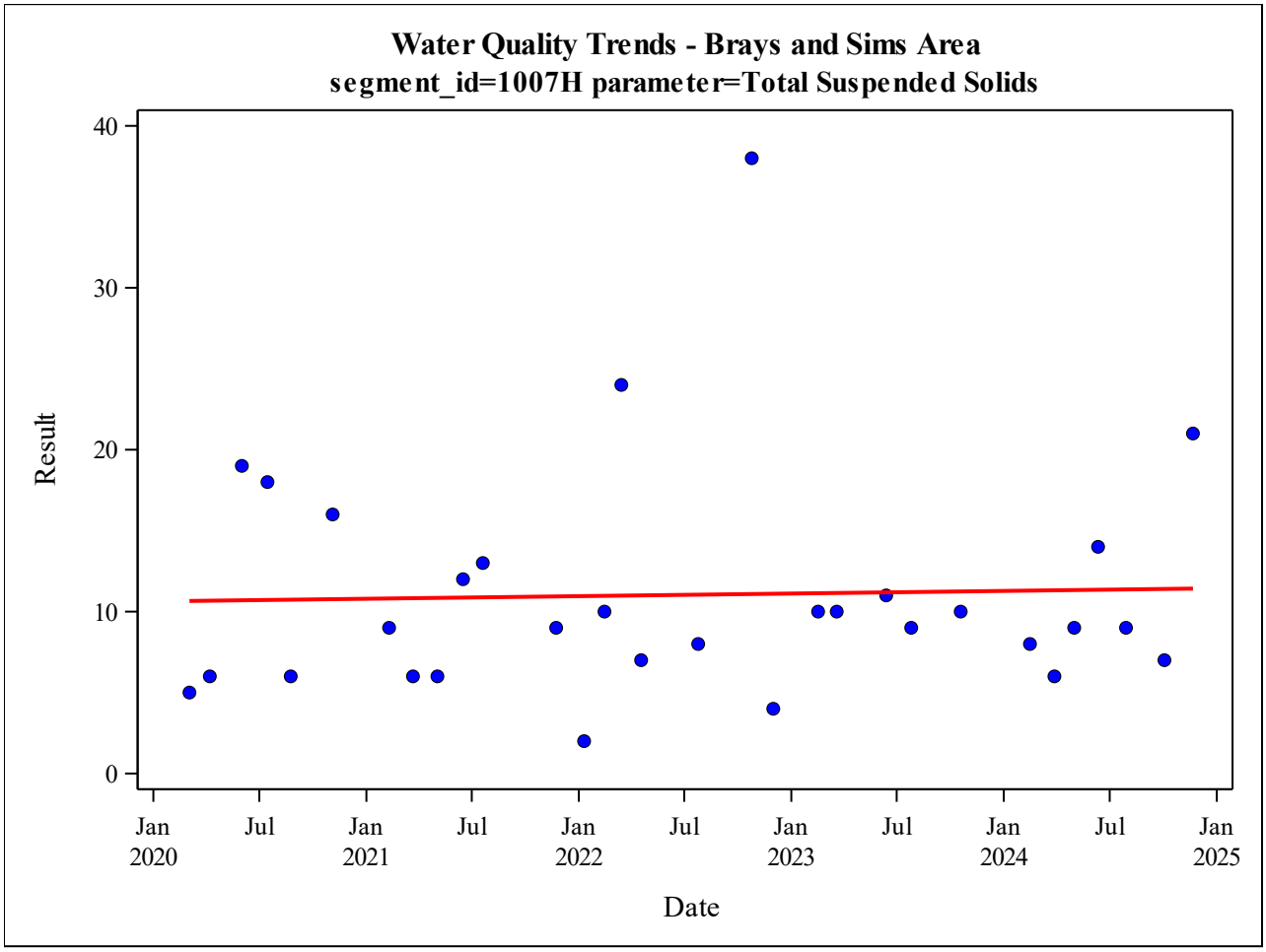

Water Quality Trends - Brays and Sims Area
segment_id=1007H parameter=Dissolved Oxygen (24-hour Mean/ Grab Screening Level)
Result
8
6
4
2
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

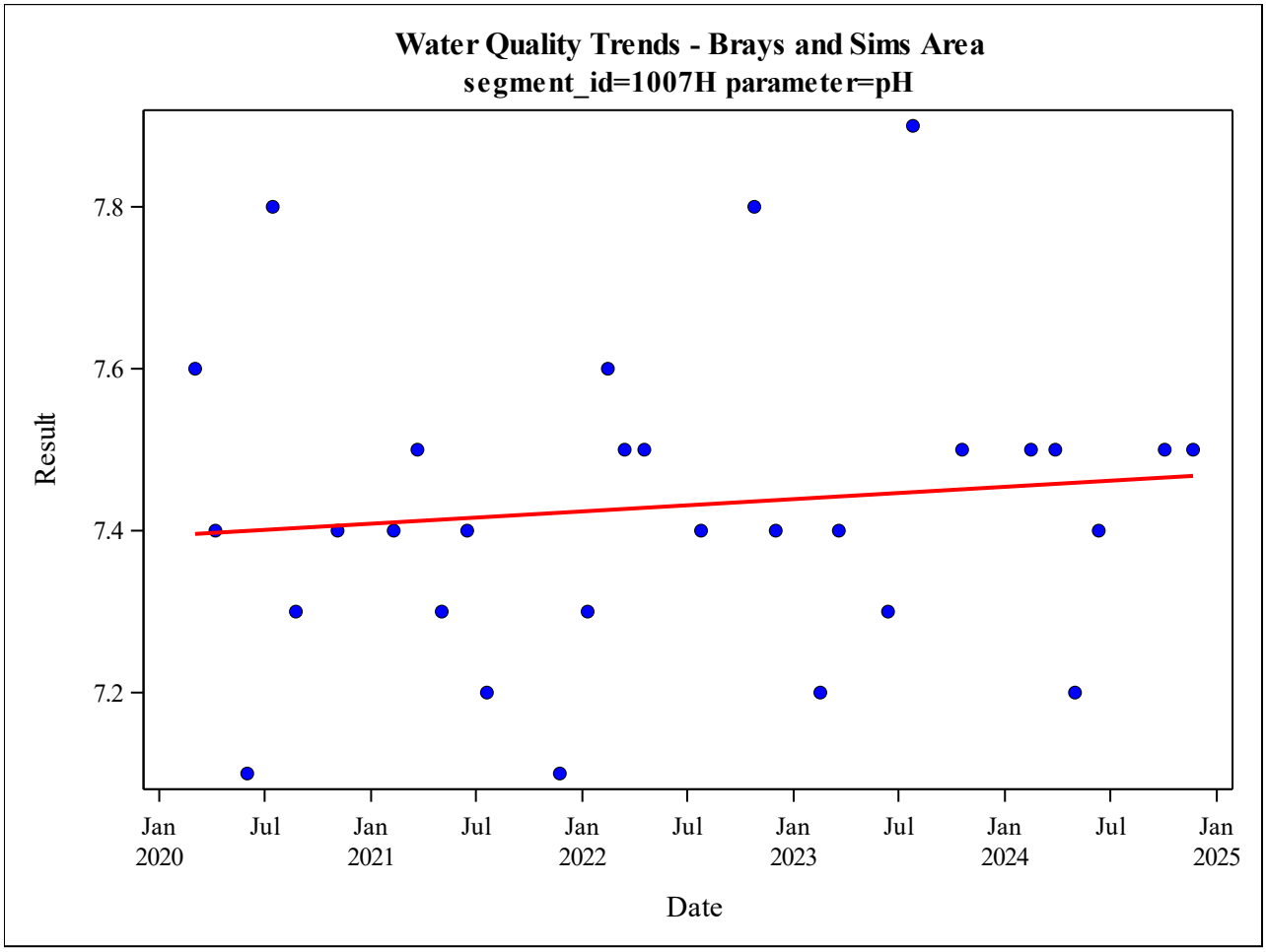

Water Quality Trends - Brays and Sims Area
segment_id=1007H parameter=E. Coli
Result
100000
80000
60000
40000
20000
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007H parameter=Nitrate-N
Result
0.0
0.2
0.4
0.6
0.8
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

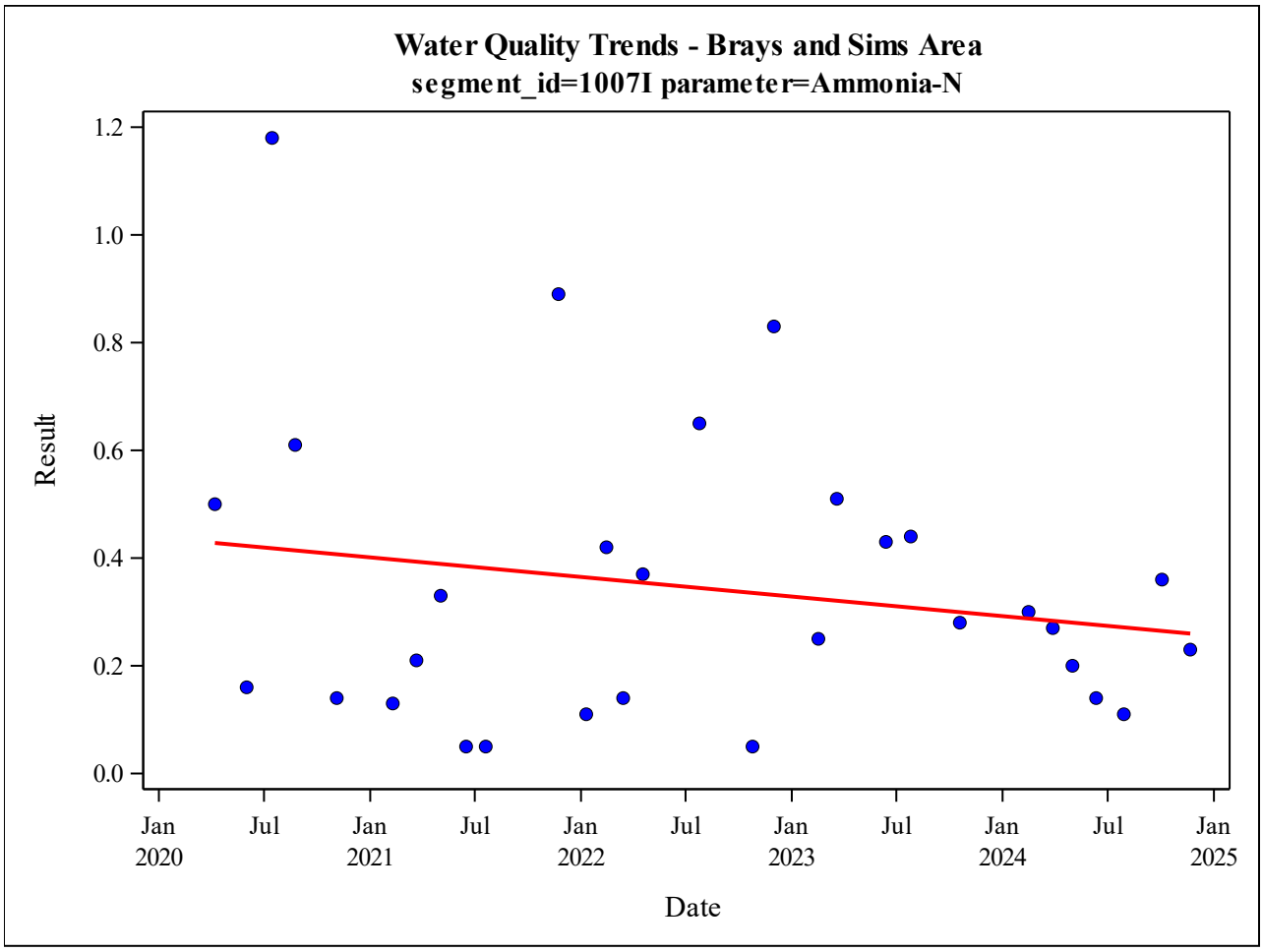

Water Quality Trends - Brays and Sims Area
segment_id=1007H parameter=Temperature
Result
30
25
20
15
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

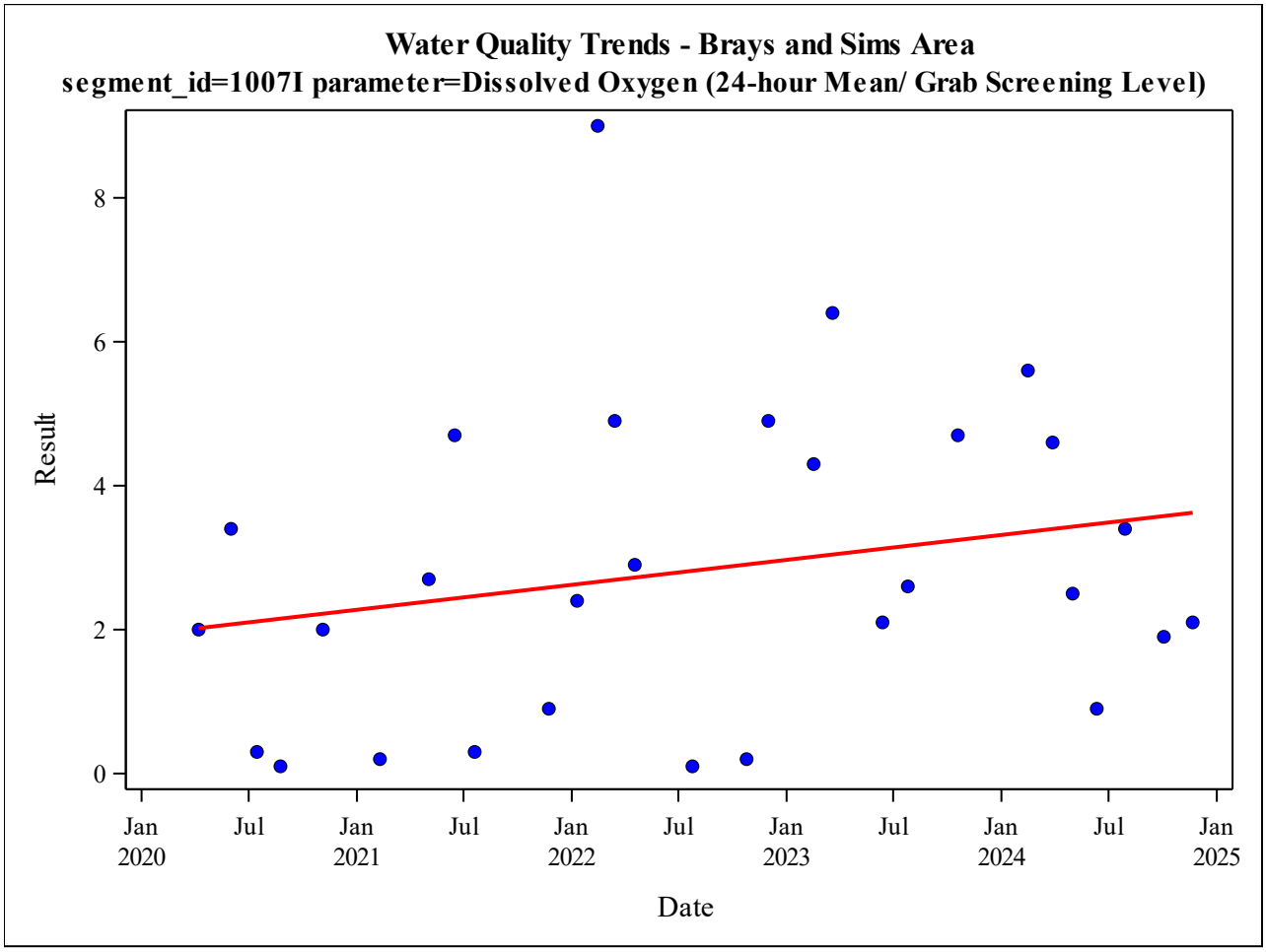

Water Quality Trends - Brays and Sims Area
segment_id=1007H parameter=Total Phosphorus
Result
0.6
0.4
0.2
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

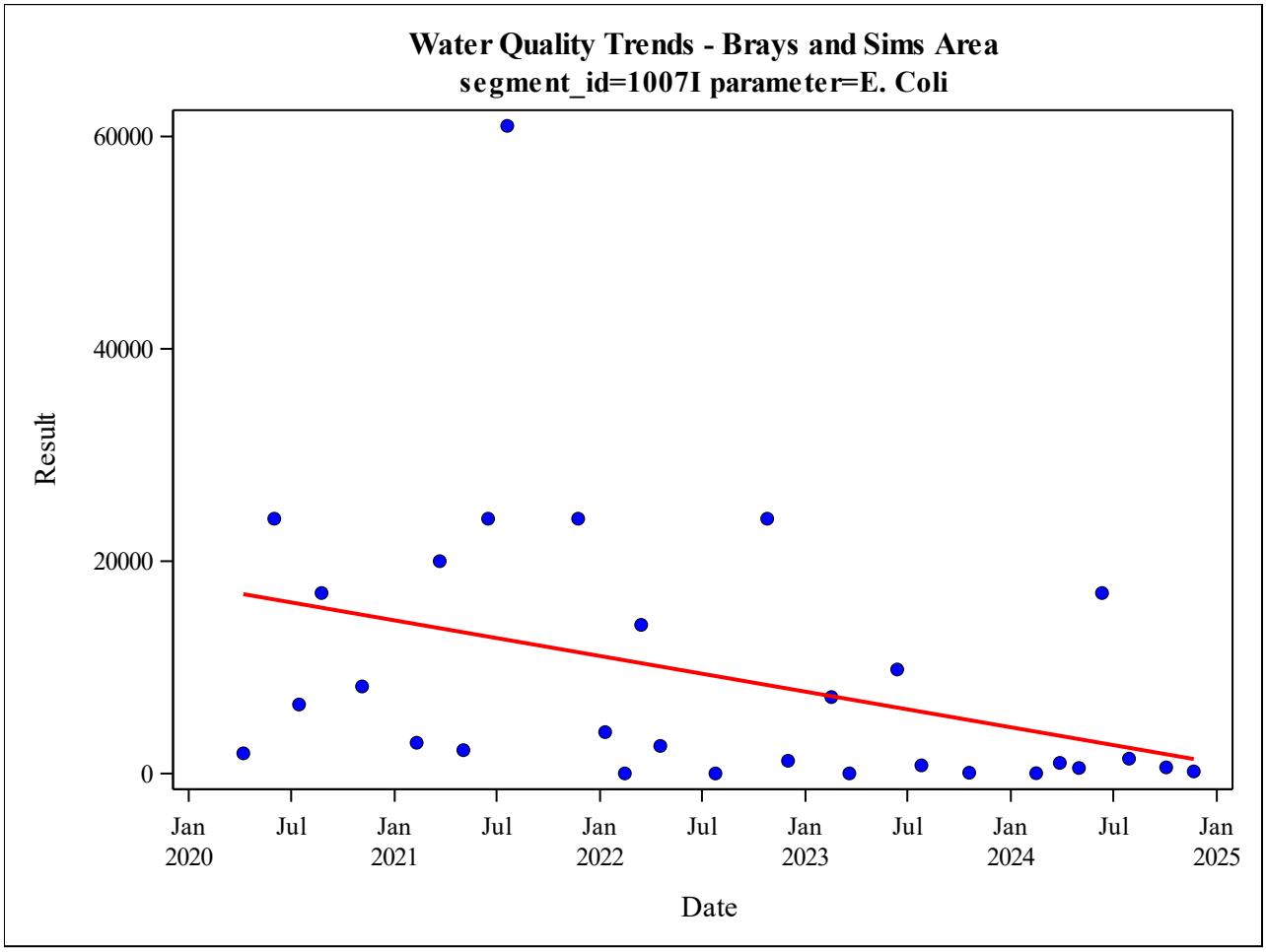

Water Quality Trends - Brays and Sims Area
segment_id=1007H parameter=Total Suspended Solids
Result
40
30
20
10
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

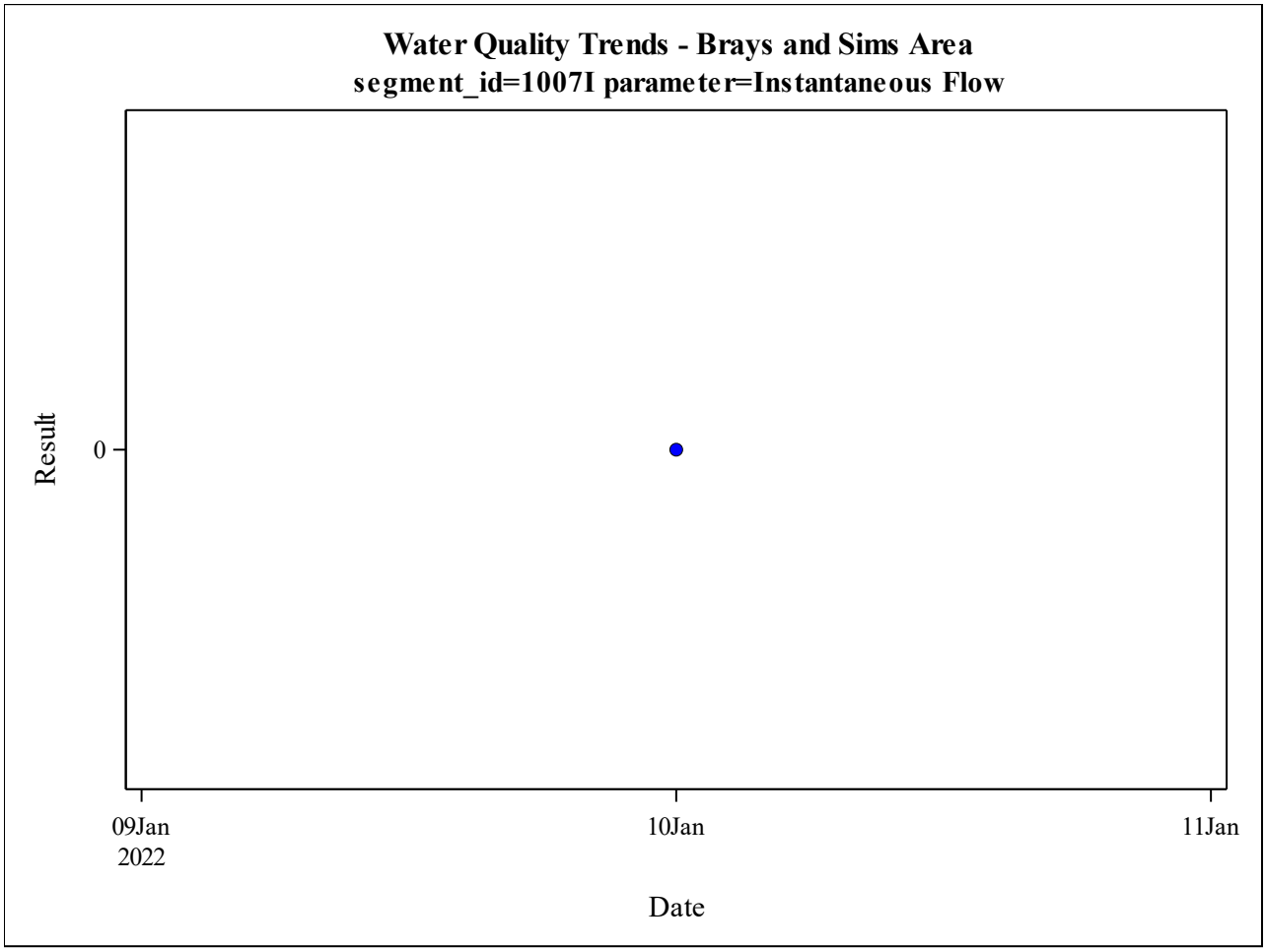

Water Quality Trends - Brays and Sims Area
segment_id=1007H parameter=pH
Result
7.8
7.6
7.4
7.2
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

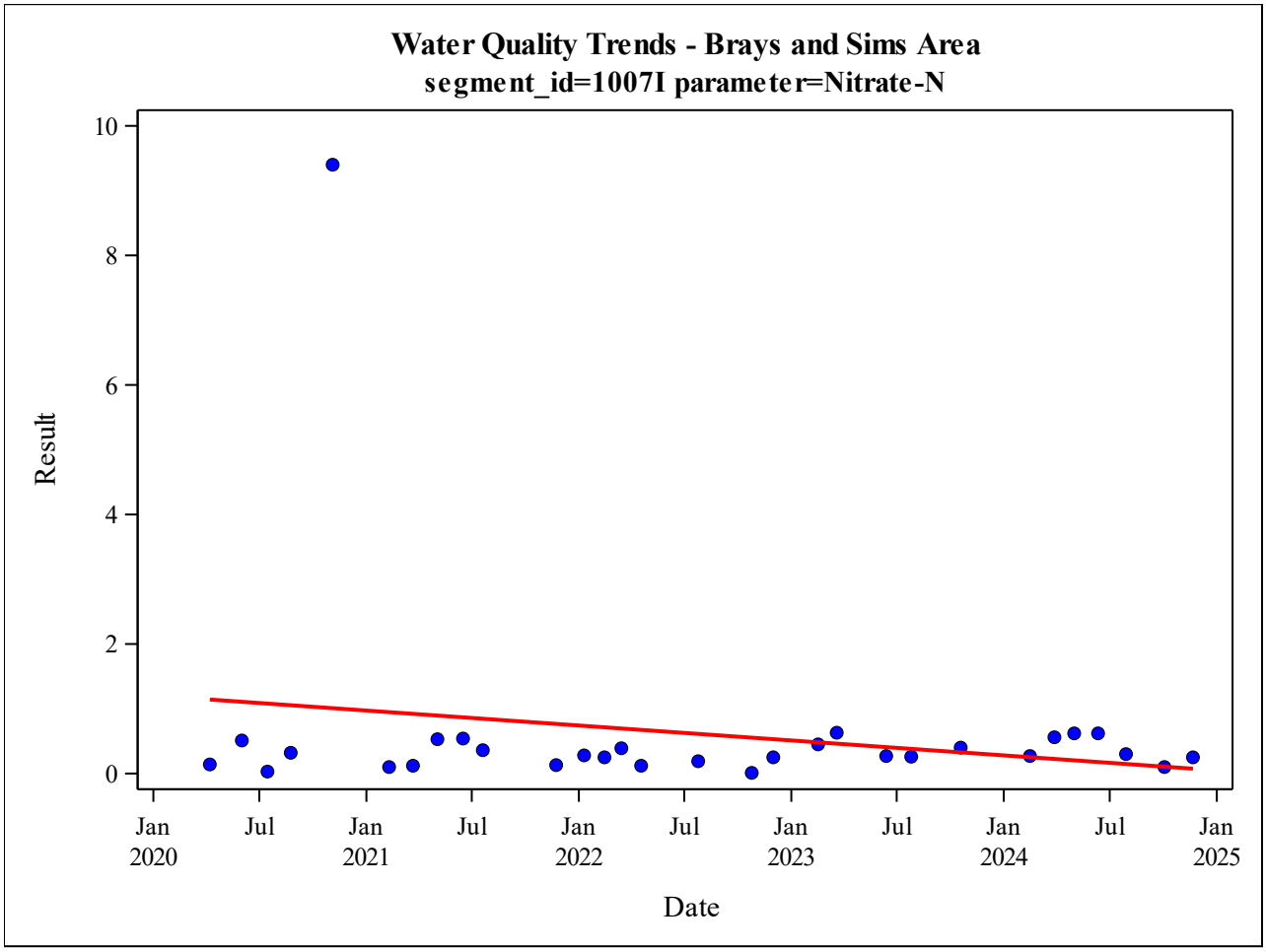
Plum Creek Above Tidal (1007I)

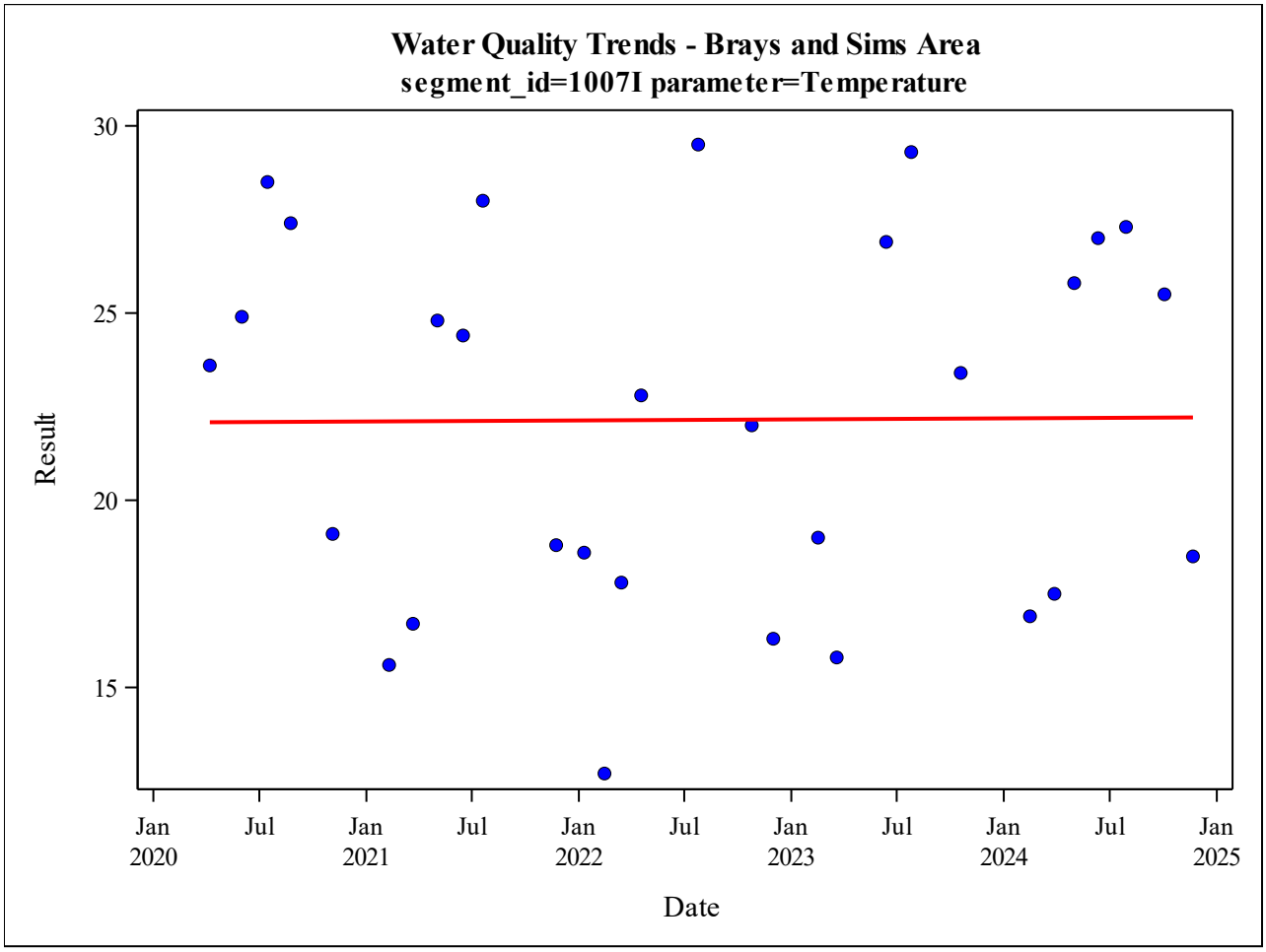


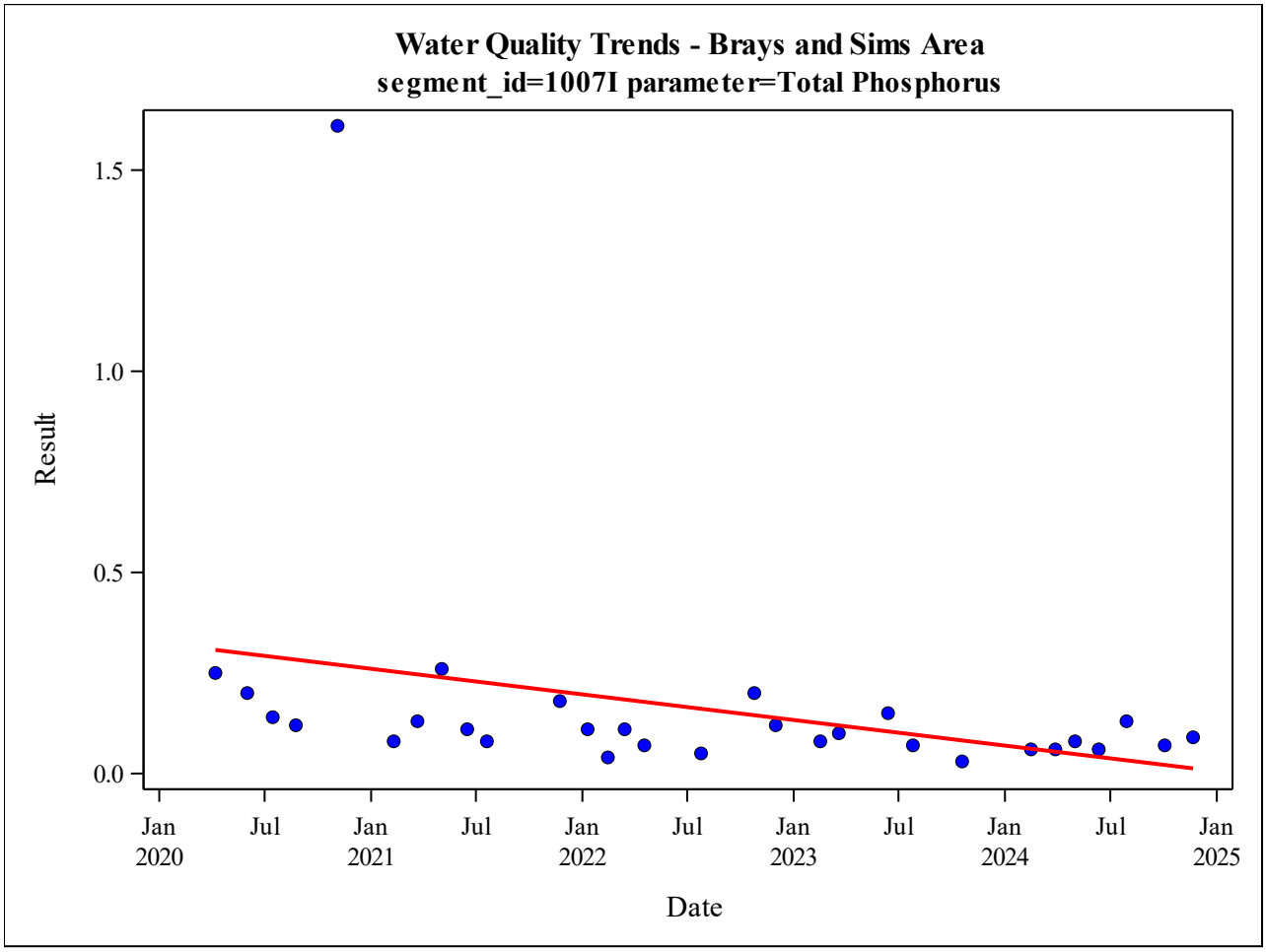

Water Quality Trends - Brays and Sims Area
segment_id=1007I parameter=Dissolved Oxygen (24-hour Mean/ Grab Screening Level)
Result
0
2
4
6
8
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

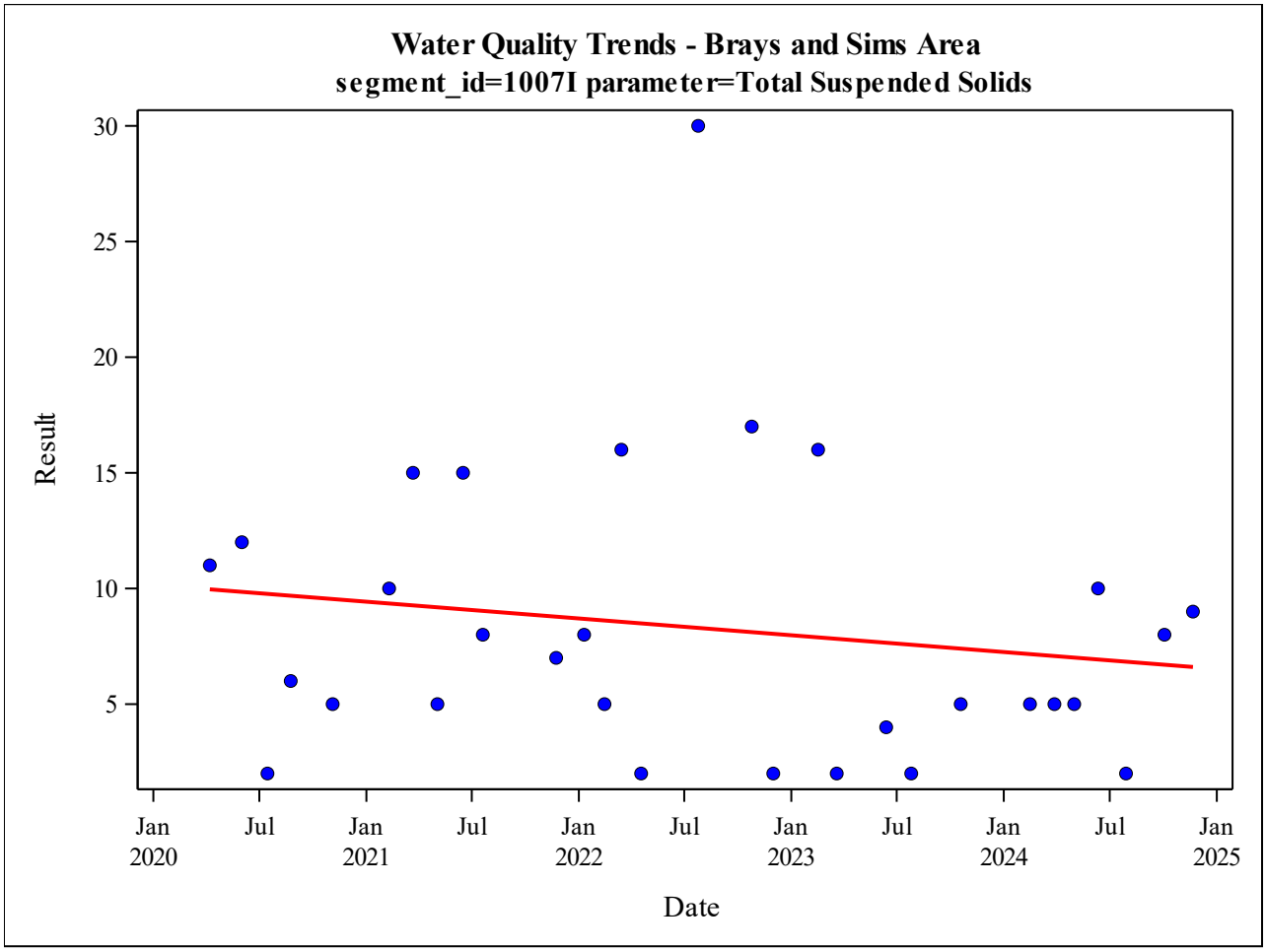

Water Quality Trends - Brays and Sims Area
segment_id=1007I parameter=E. Coli
60000
40000
20000
0
Result
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

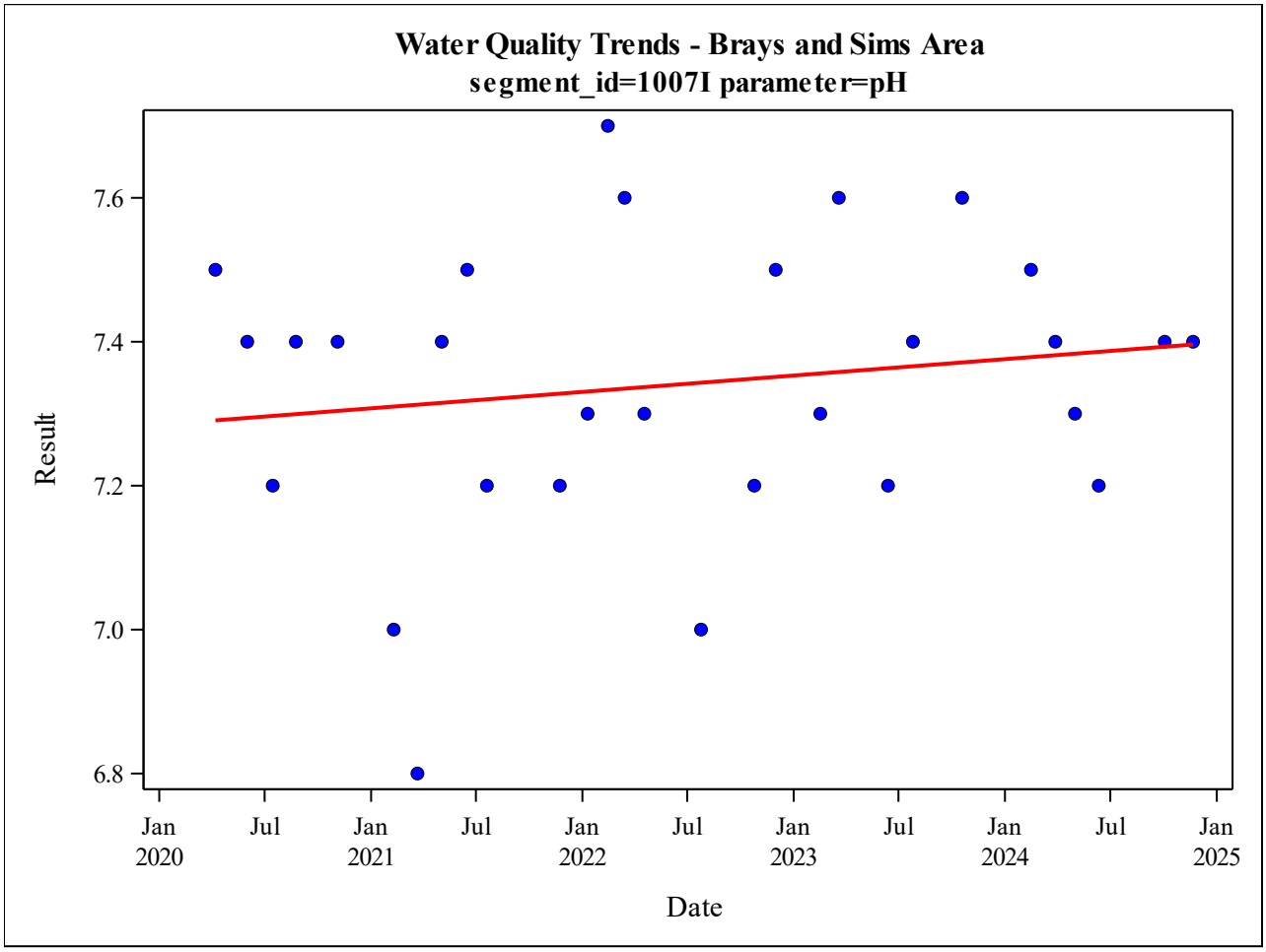

Water Quality Trends - Brays and Sims Area
segment_id=1007I parameter=Instantaneous Flow
Result
0
09Jan
2022
10Jan
11Jan
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007I parameter=Nitrate-N
Result
10
8
6
4
2
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

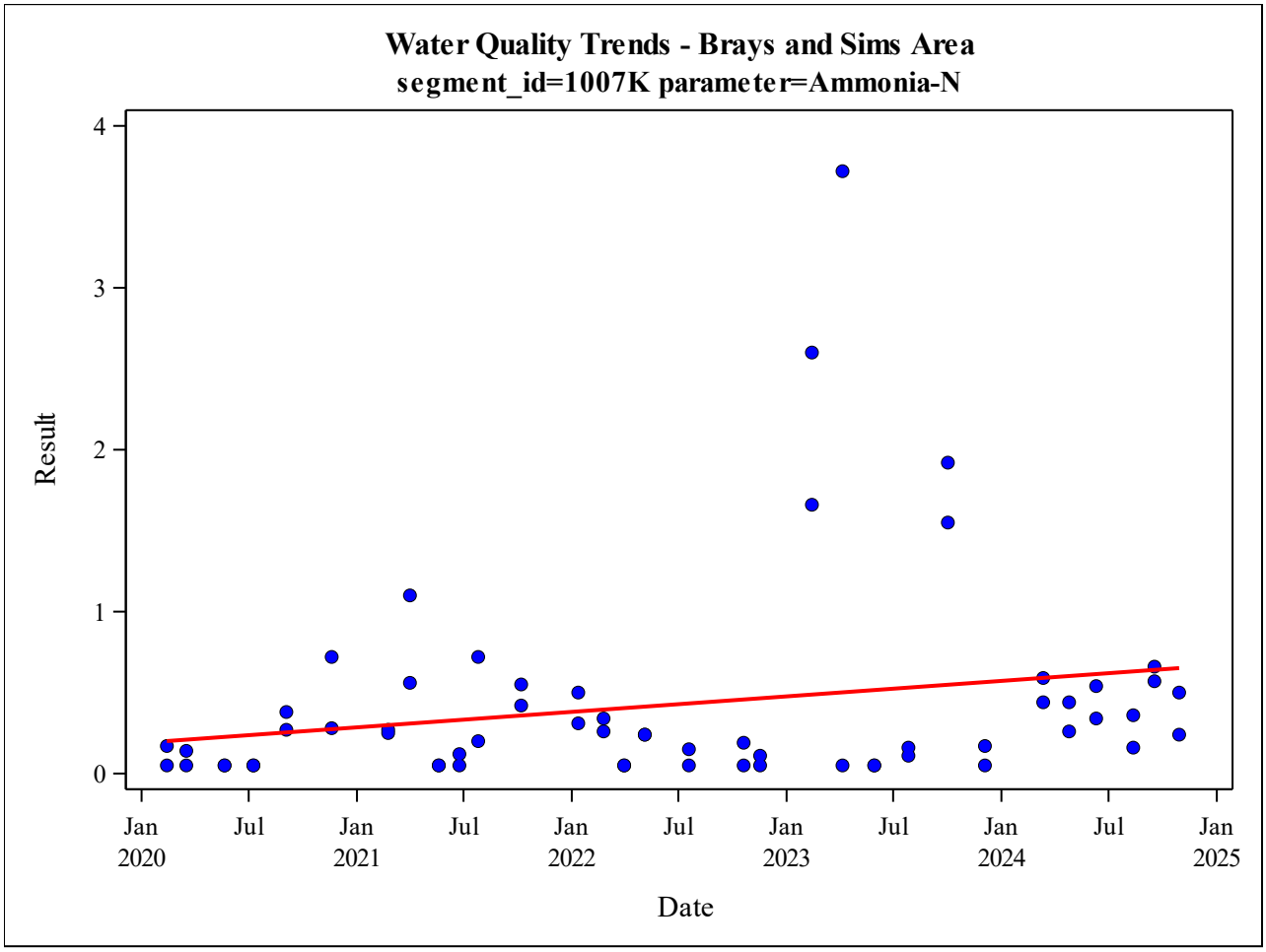

Water Quality Trends - Brays and Sims Area
segment_id=1007I parameter=Temperature
Result
30
25
20
15
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

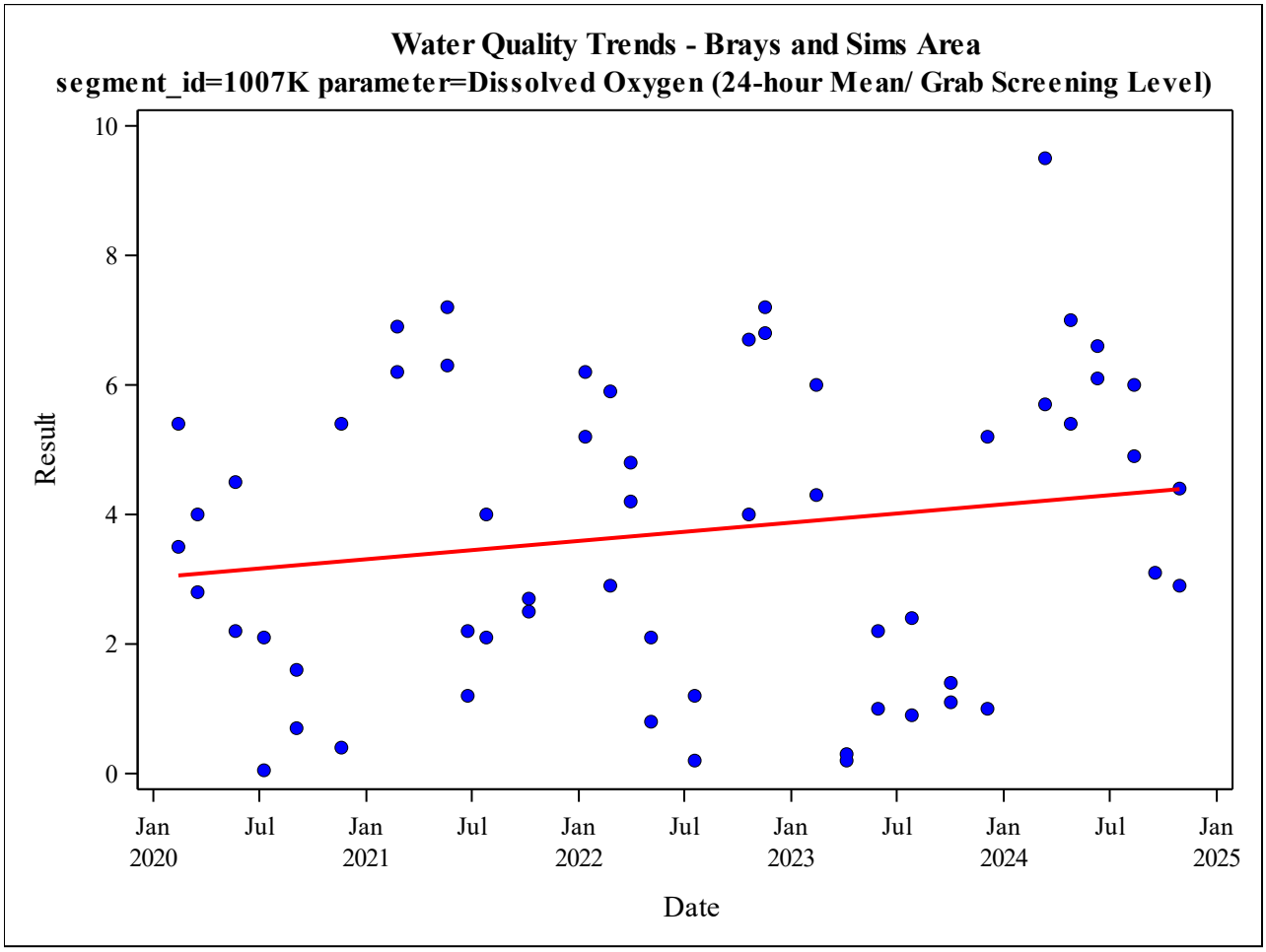

Water Quality Trends - Brays and Sims Area
segment_id=1007I parameter=Total Phosphorus
Result
1.5
1.0
0.5
0.0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

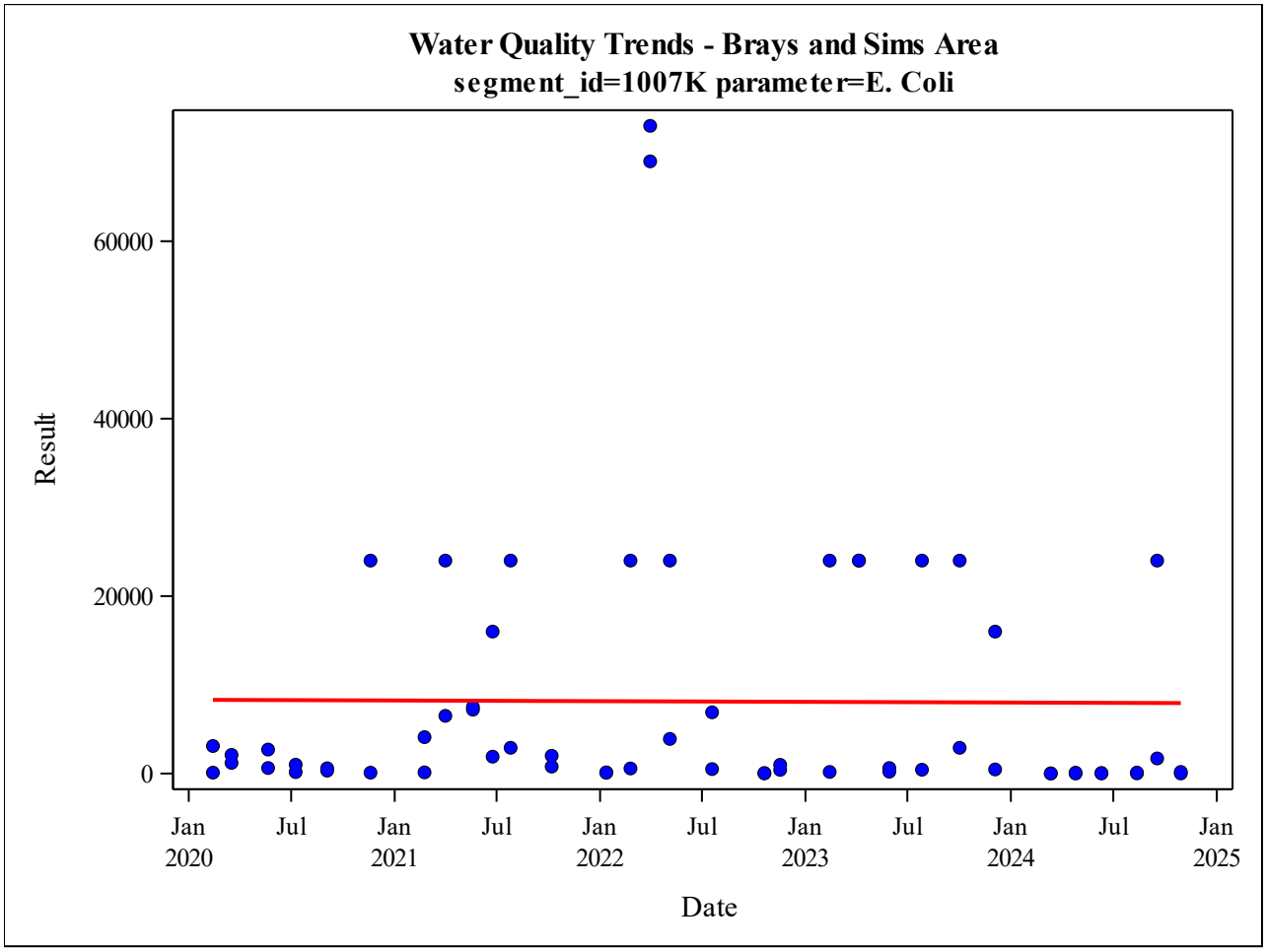

Water Quality Trends - Brays and Sims Area
segment_id=1007I parameter=Total Suspended Solids
Result
30
25
20
15
10
5
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

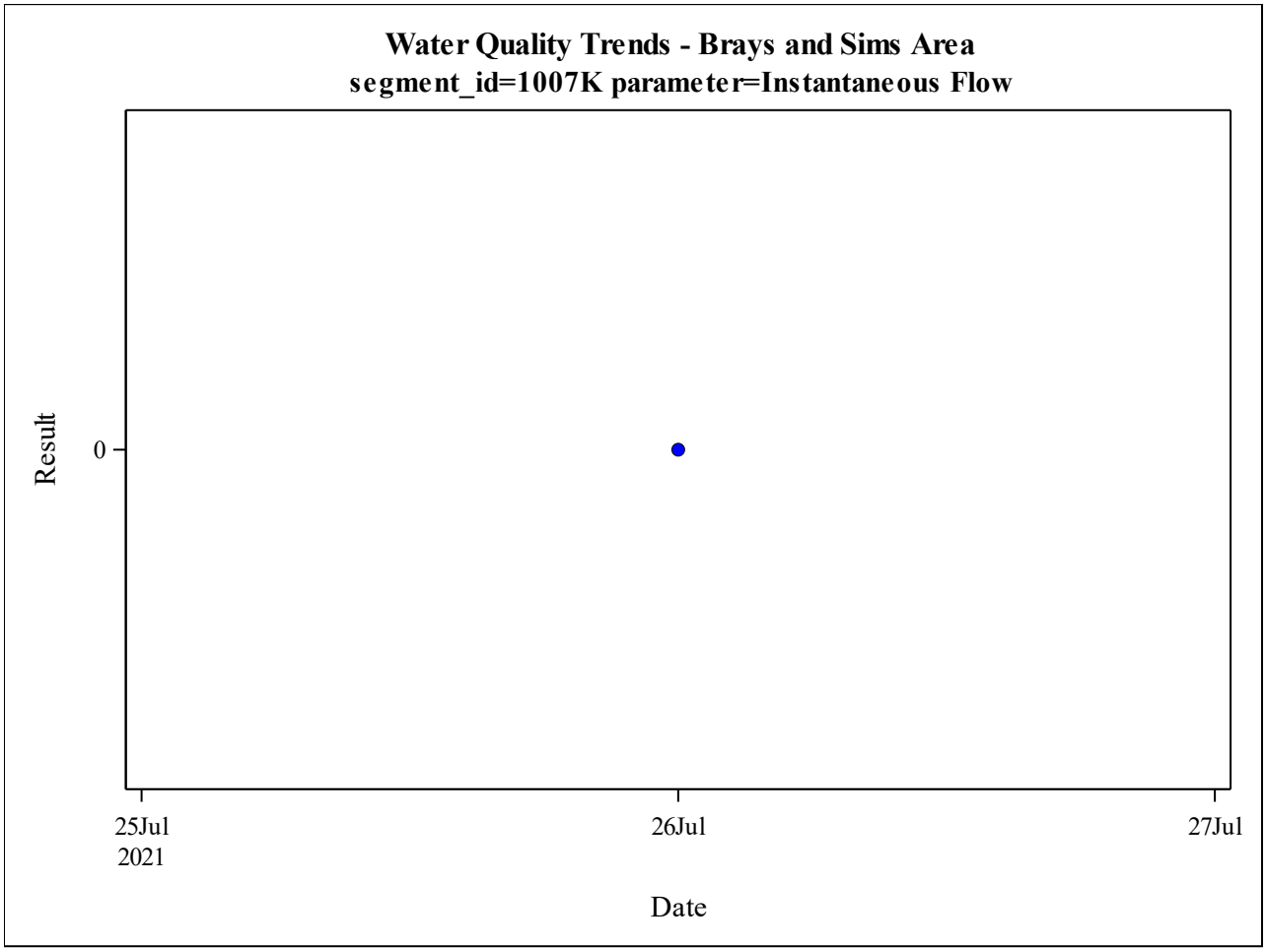

Water Quality Trends - Brays and Sims Area
segment_id=1007I parameter=pH
Result
7.6
7.4
7.2
7.0
6.8
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

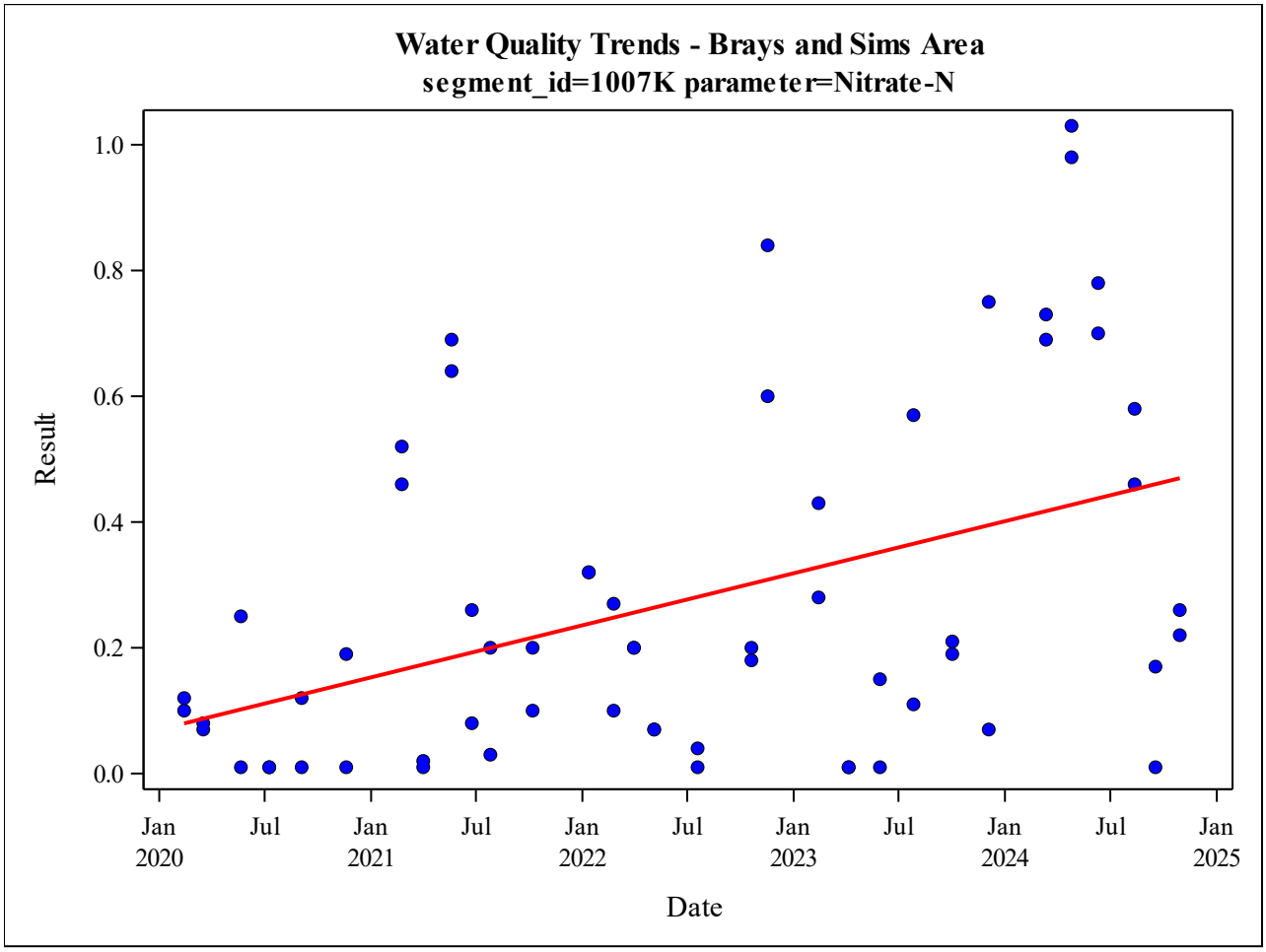
Country Club Bayou Above Tidal (1007K)

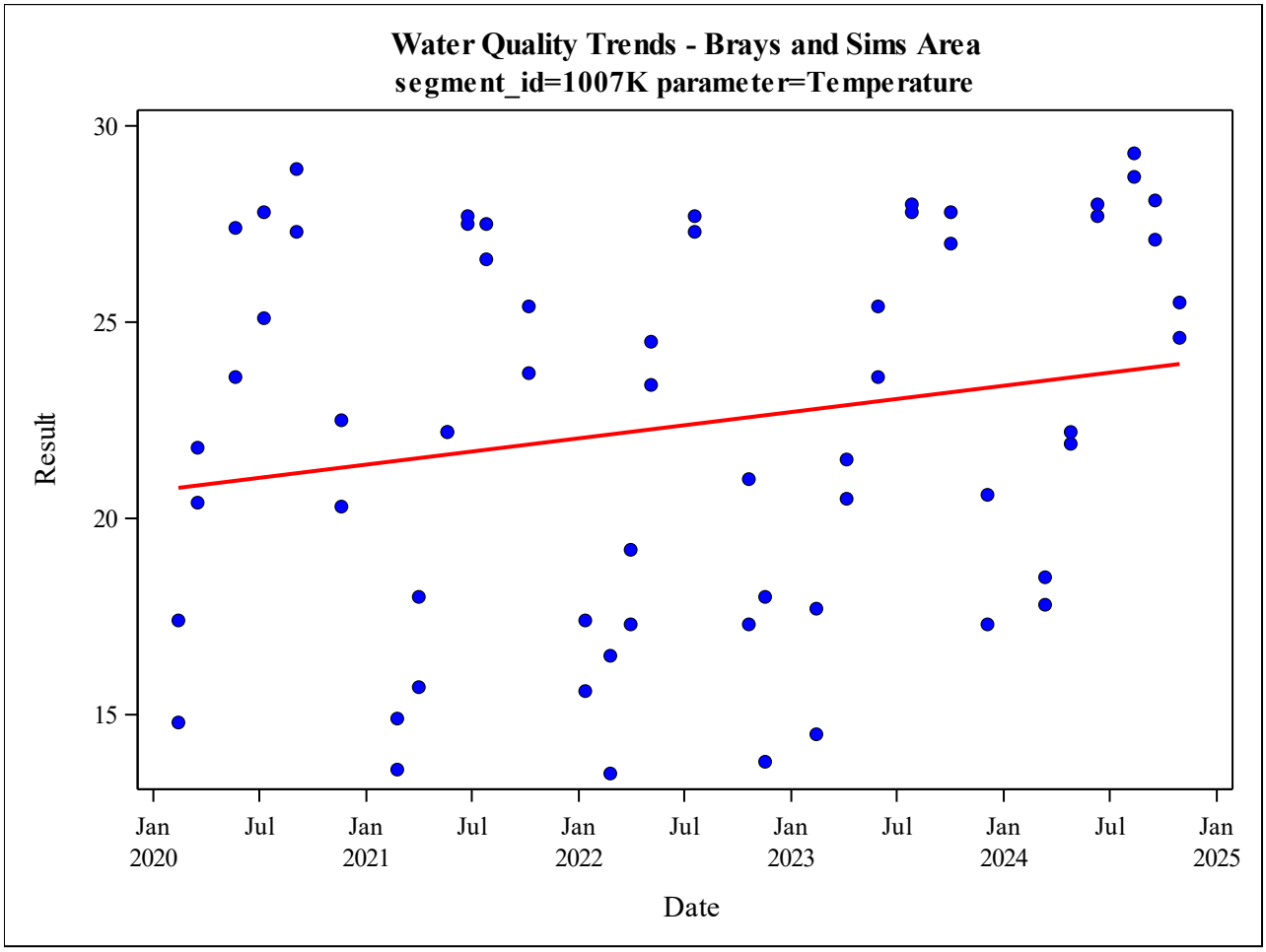


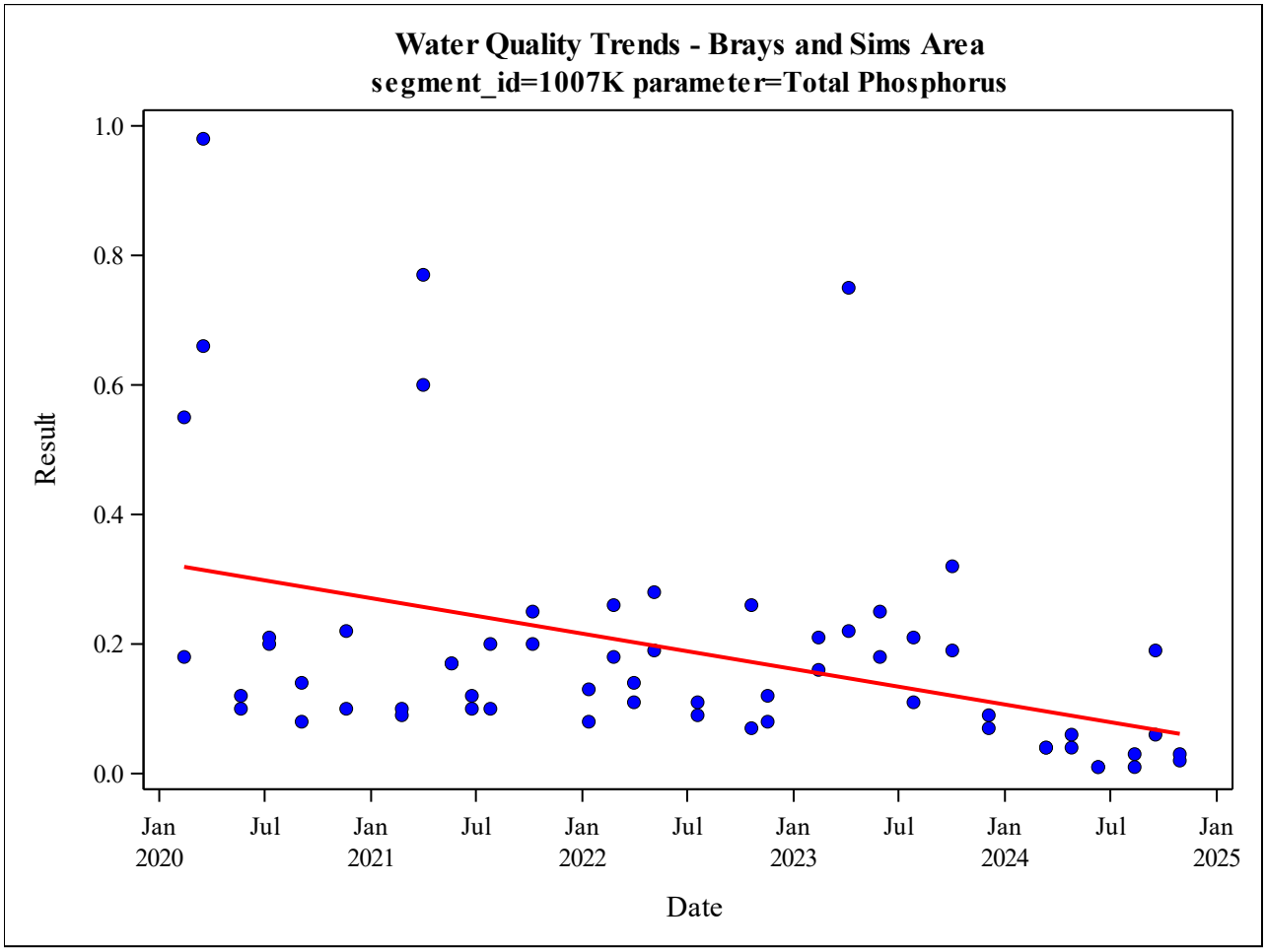

Water Quality Trends - Brays and Sims Area
segment_id=1007K parameter=Dissolved Oxygen (24-hour Mean/ Grab Screening Level)
Result
10
8
6
4
2
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

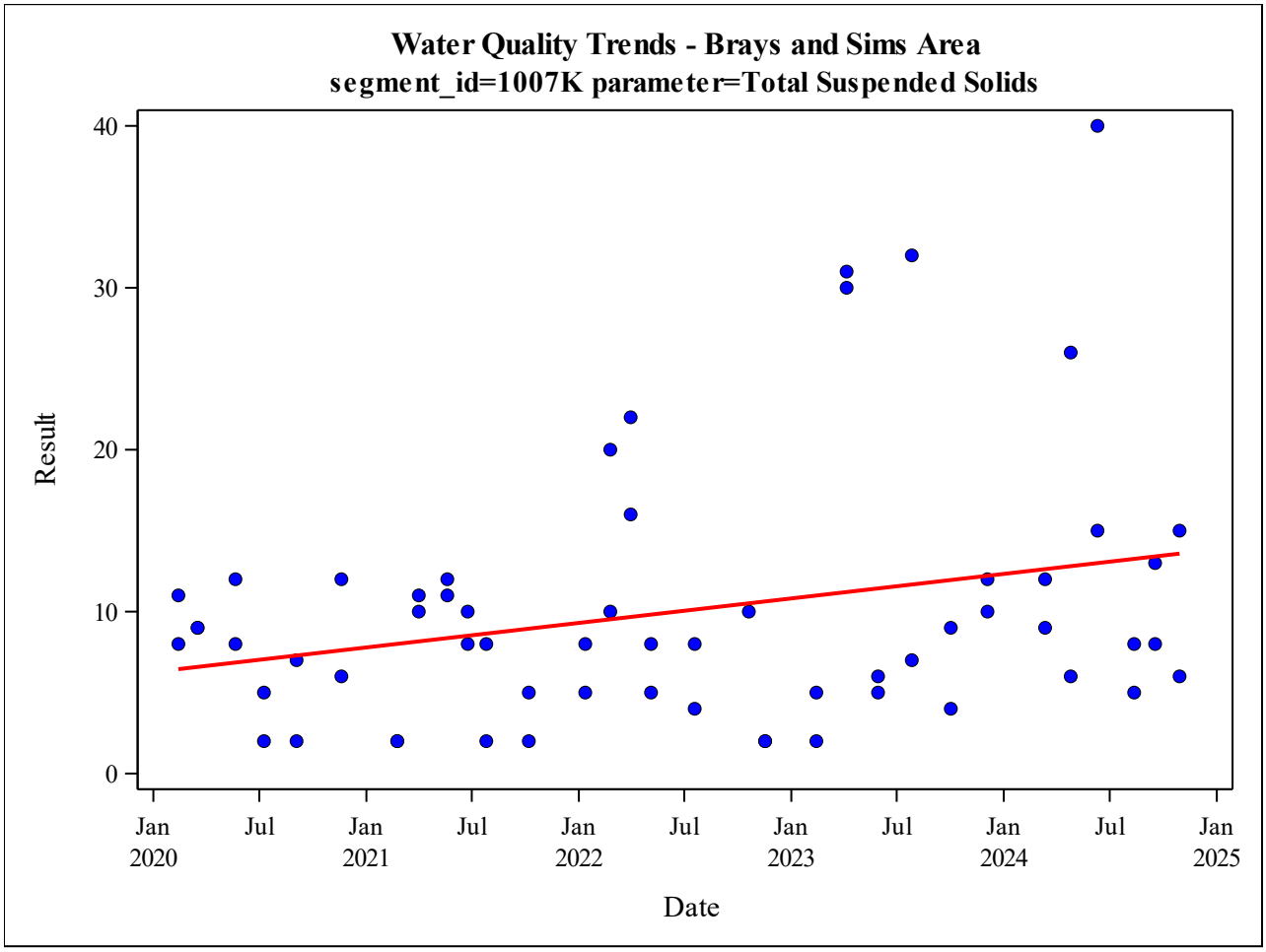

Water Quality Trends - Brays and Sims Area
segment_id=1007K parameter=E. Coli
Result
60000
40000
20000
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

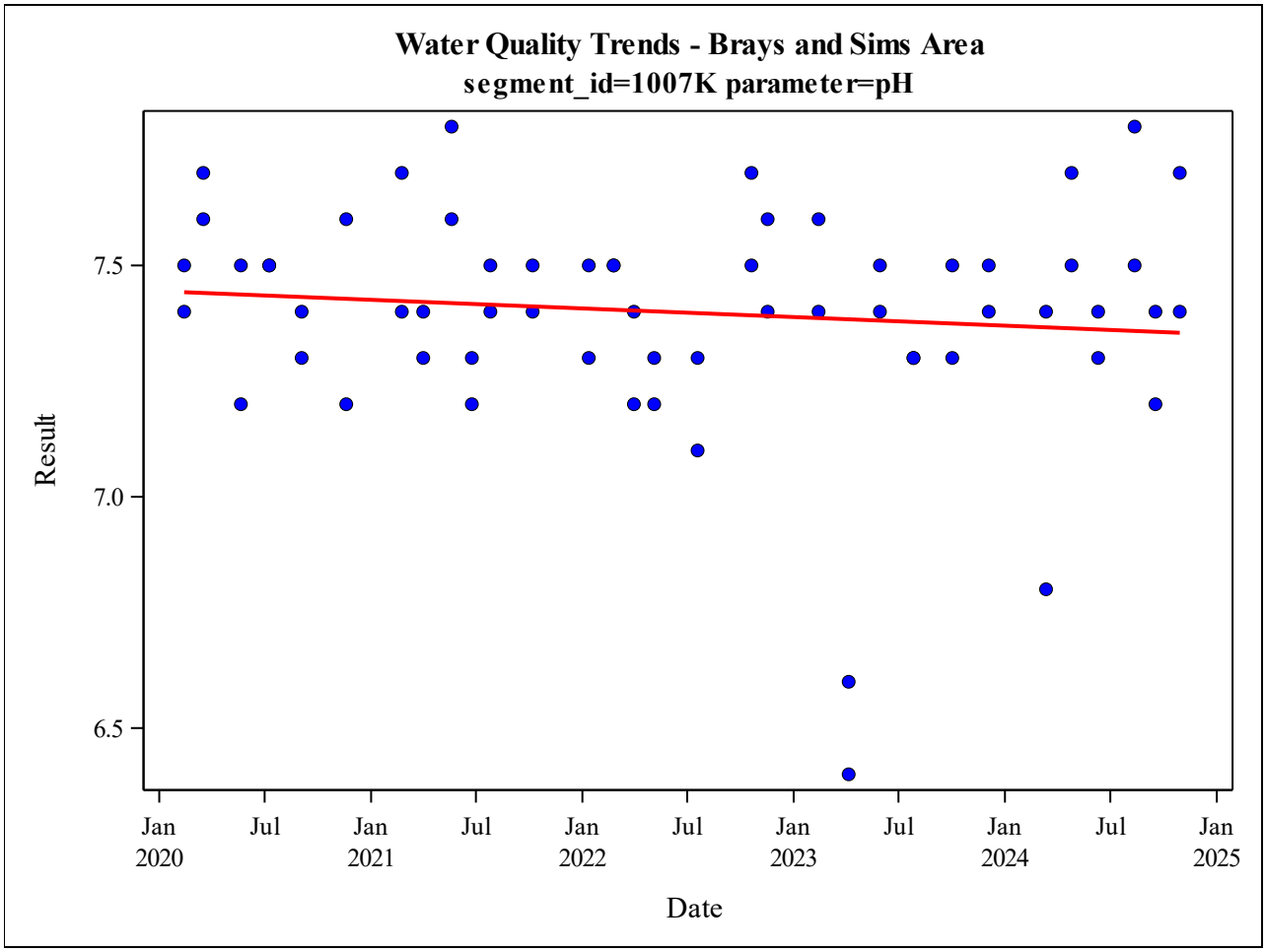

Water Quality Trends - Brays and Sims Area
segment_id=1007K parameter=Instantaneous Flow
Result
0
25Jul
2021
26Jul
27Jul
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007K parameter=Nitrate-N
Result
1.0
0.8
0.6
0.4
0.2
0.0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

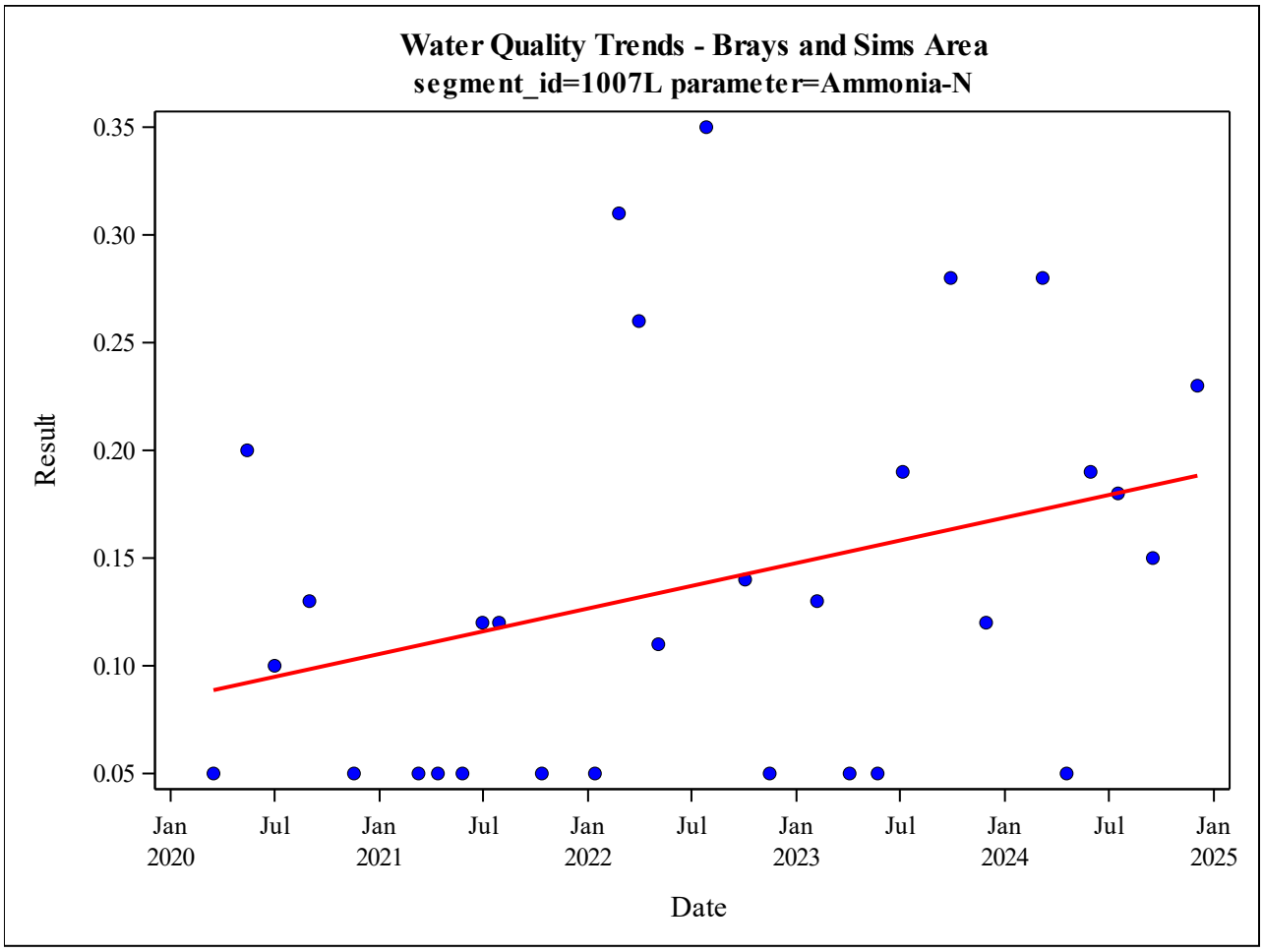

Water Quality Trends - Brays and Sims Area
segment_id=1007K parameter=Temperature
Result
30
25
20
15
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

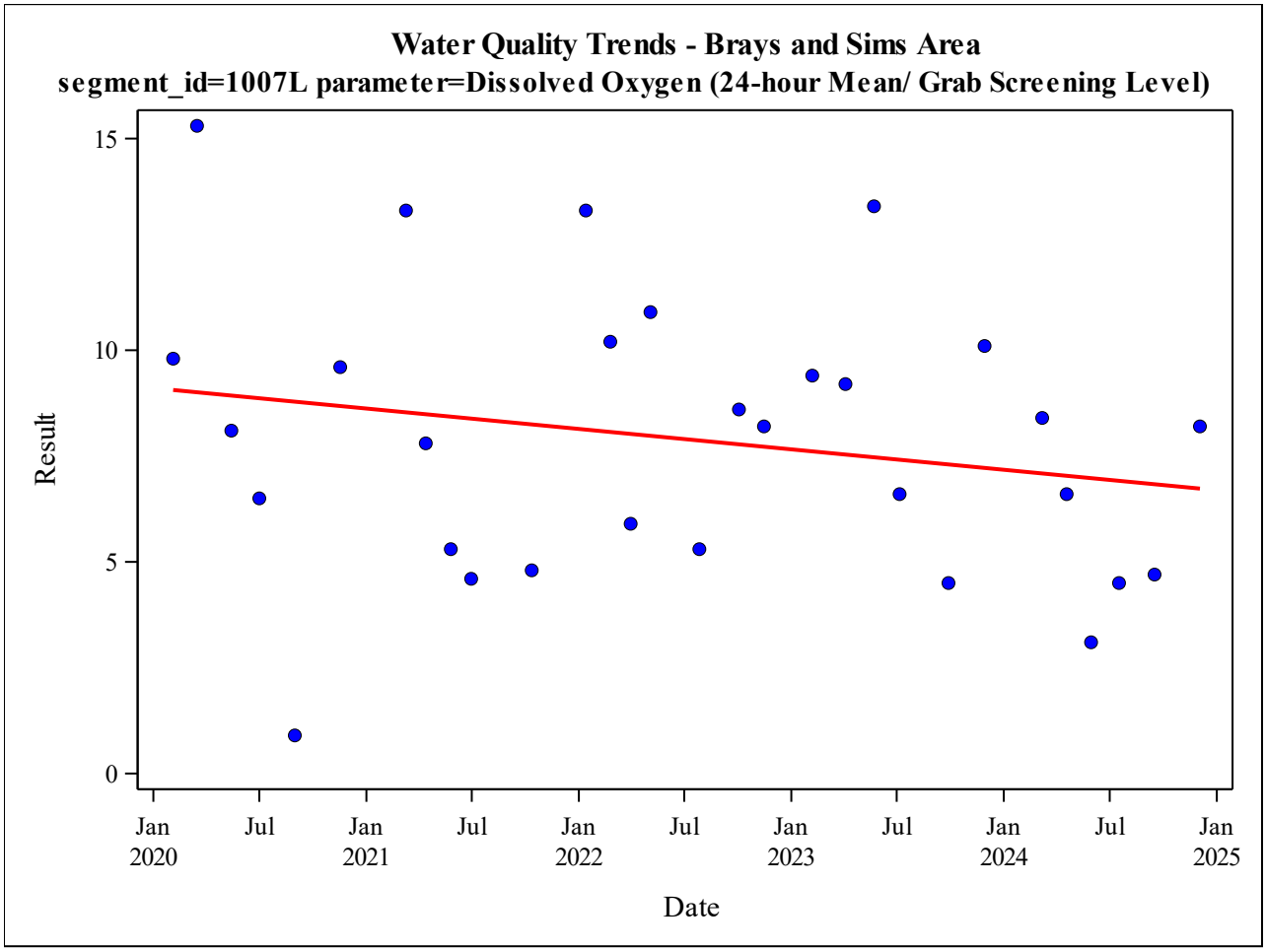

Water Quality Trends - Brays and Sims Area
segment_id=1007K parameter=Total Phosphorus
Result
1.0
0.8
0.6
0.4
0.2
0.0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

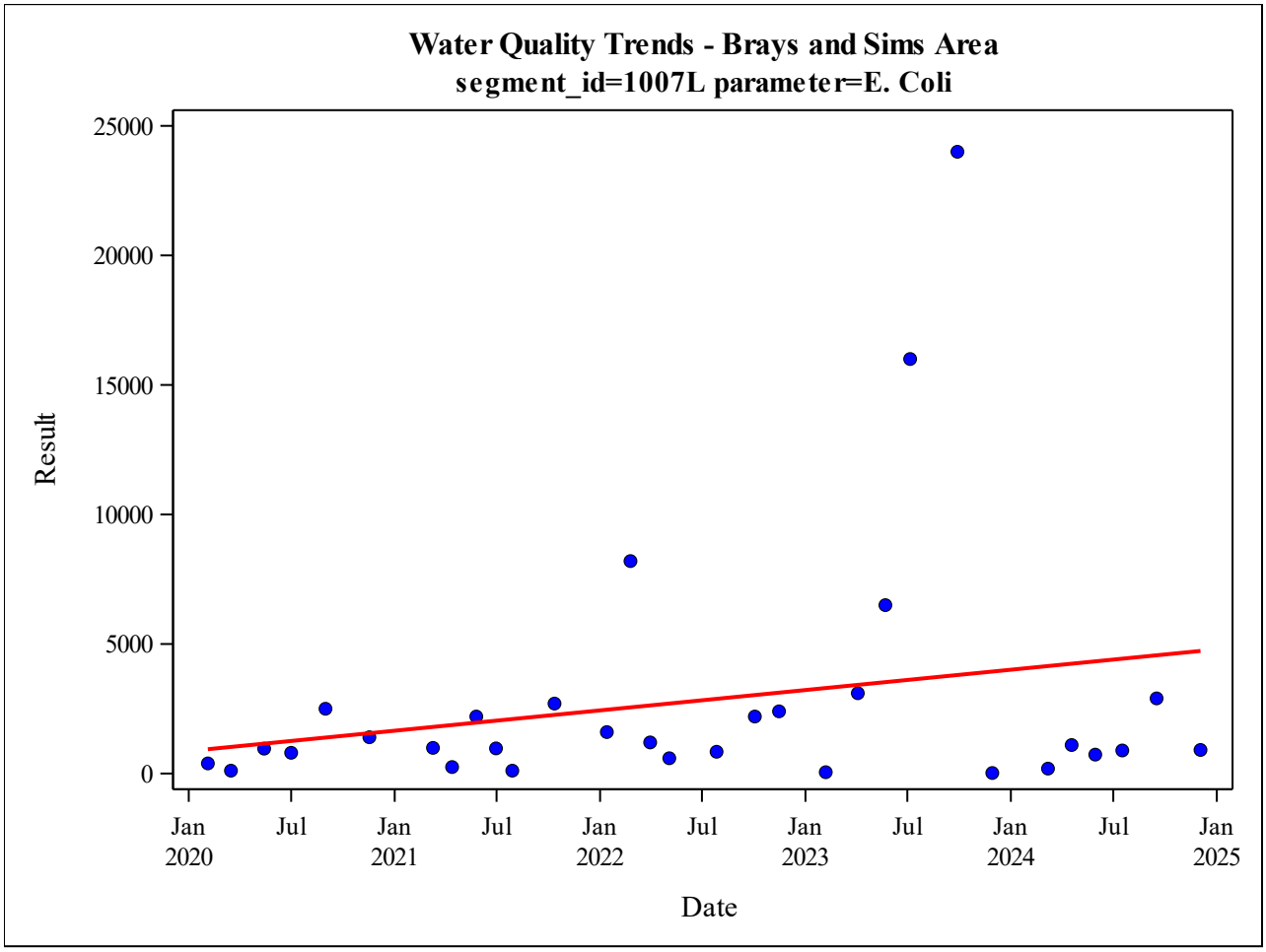

Water Quality Trends - Brays and Sims Area
segment_id=1007K parameter=Total Suspended Solids
Result
40
30
20
10
0
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

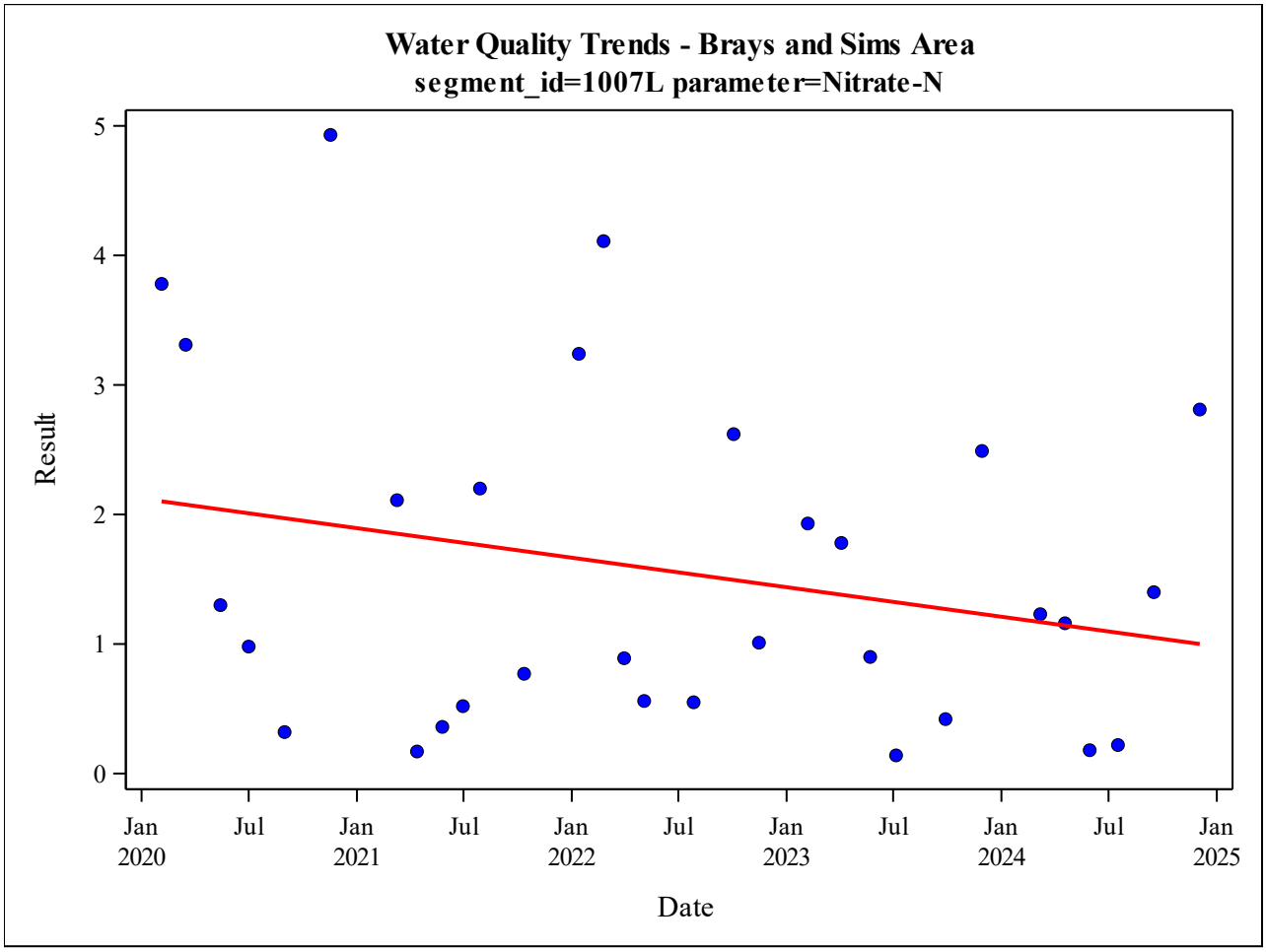

Water Quality Trends - Brays and Sims Area
segment_id=1007K parameter=pH
Result
7.5
7.0
6.5
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

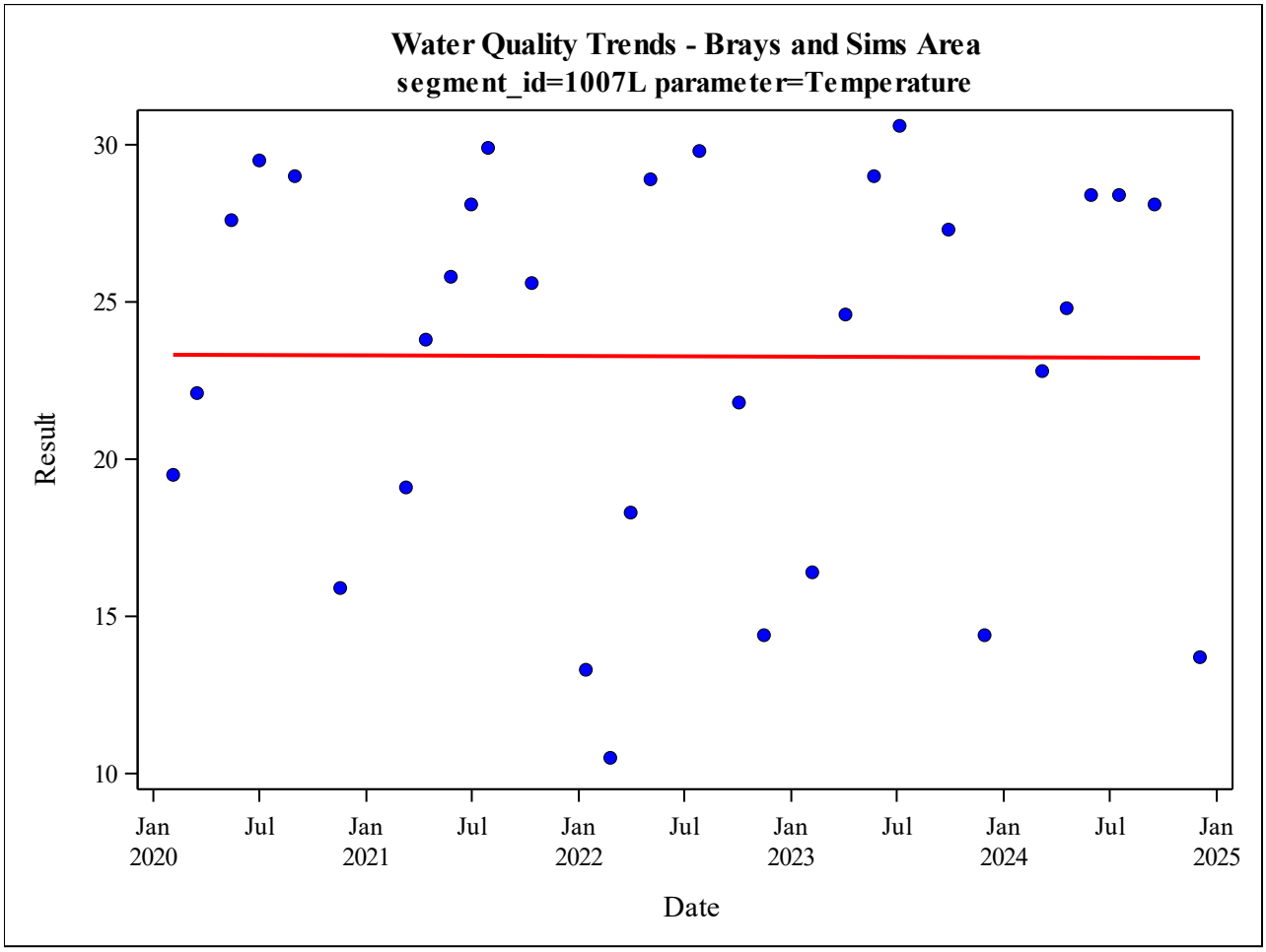
Unnamed Non-Tidal Tributary of Brays Bayou (1007L)

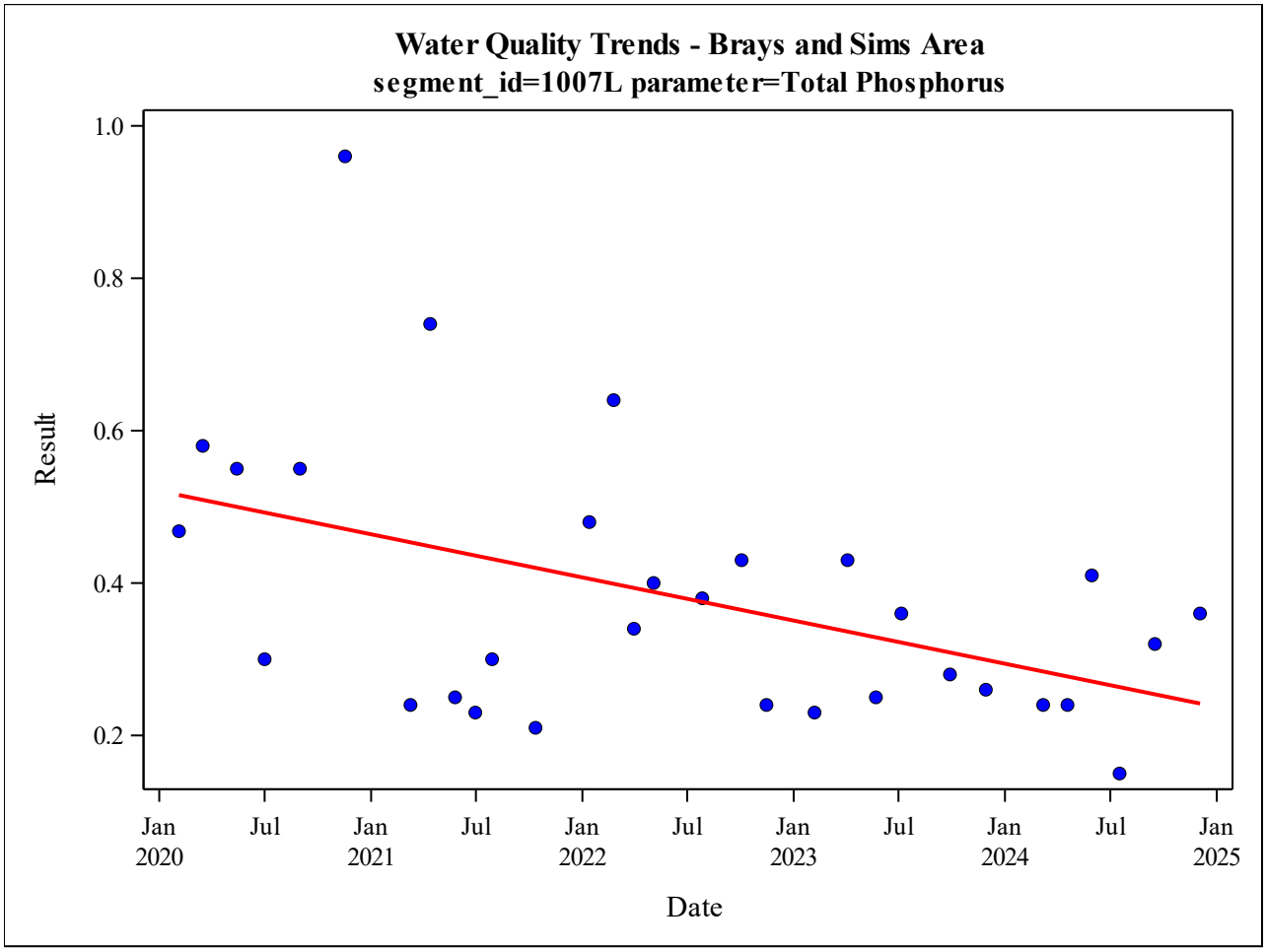


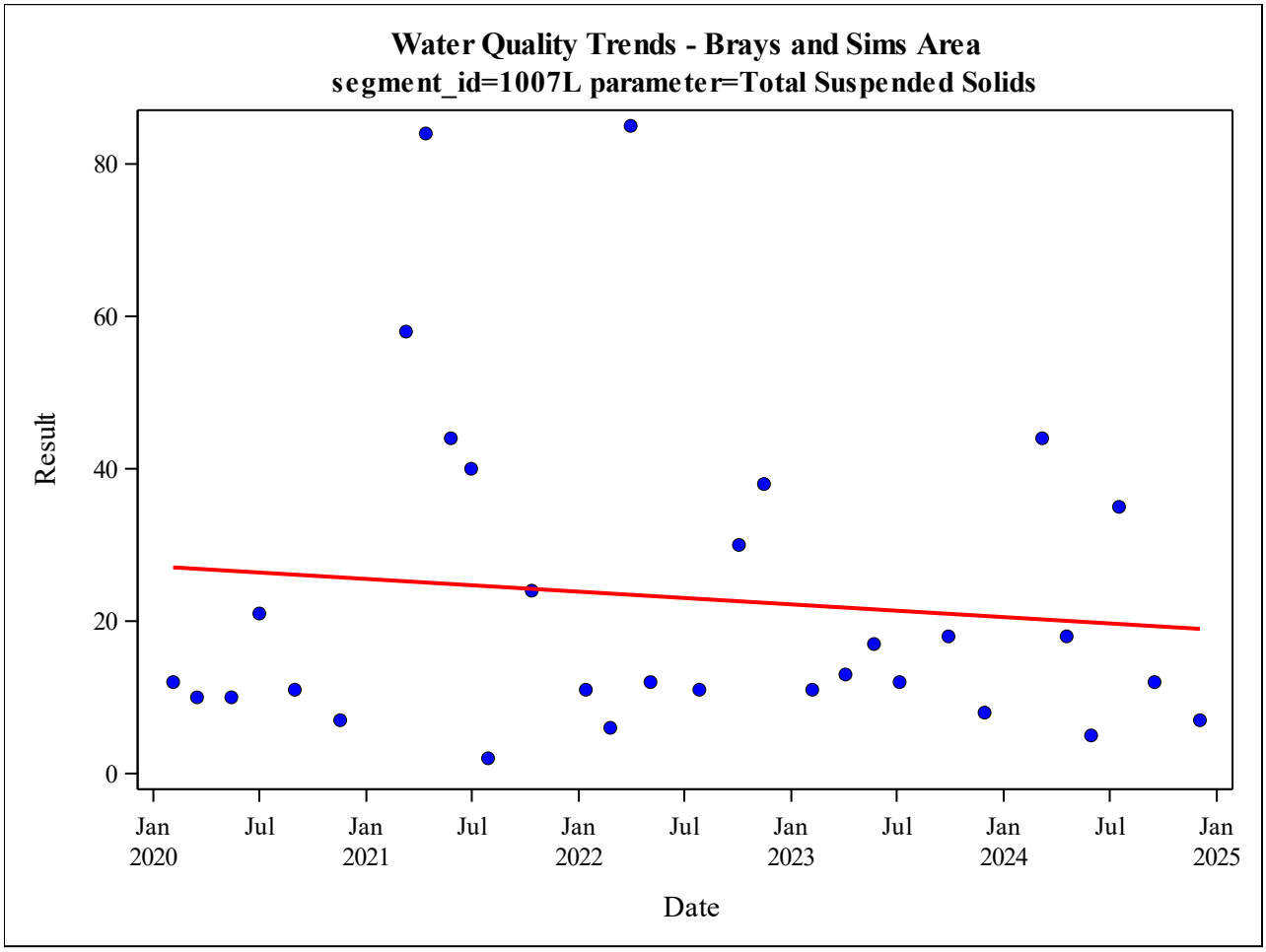

Water Quality Trends - Brays and Sims Area
segment_id=1007L parameter=Dissolved Oxygen (24-hour Mean/ Grab Screening Level)
Result
15
10
5
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

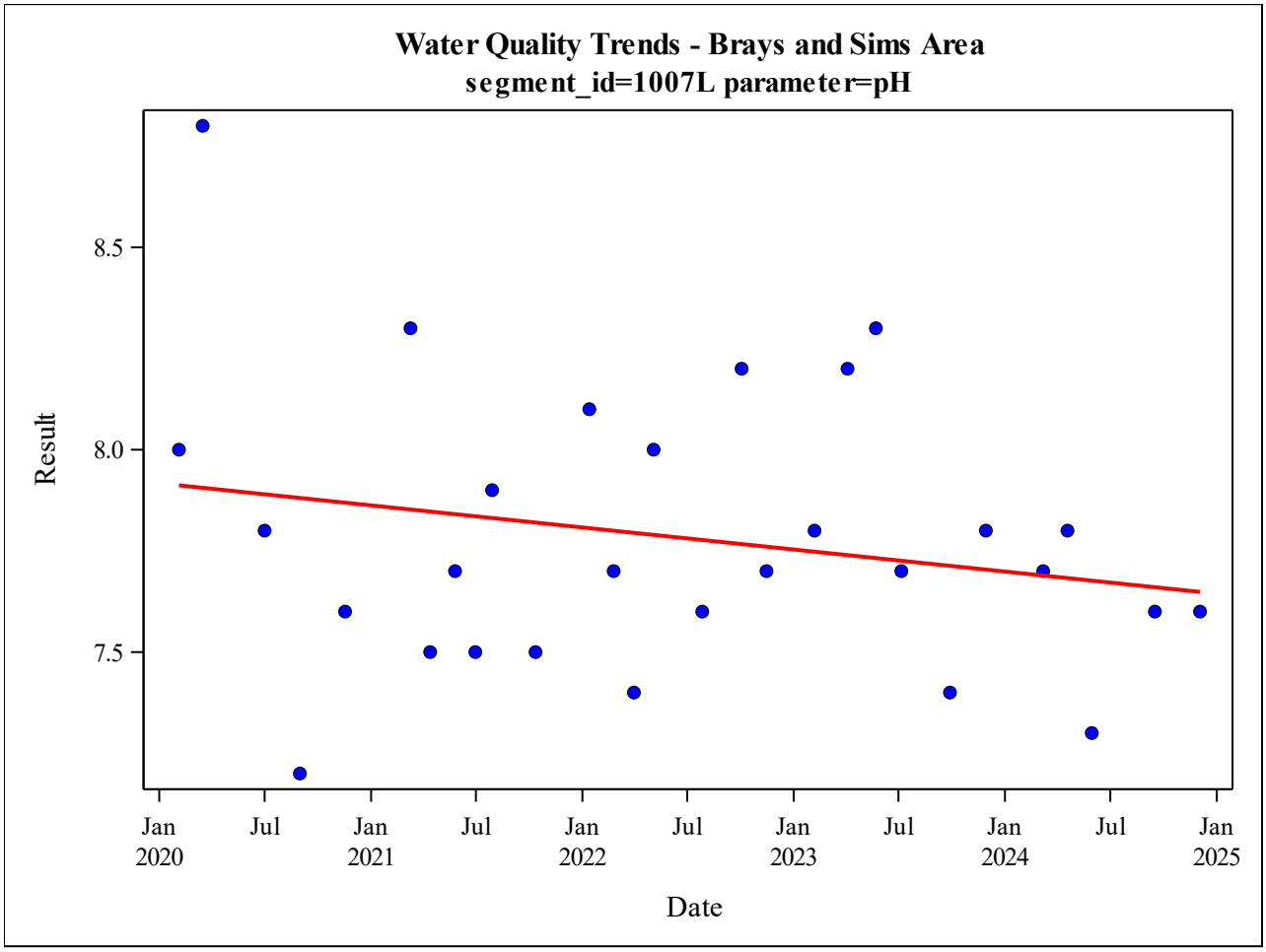

Water Quality Trends - Brays and Sims Area
segment_id=1007L parameter=E. Coli
Result
25000
20000
15000
10000
5000
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007L parameter=Nitrate-N
Result
5
4
3
2
1
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

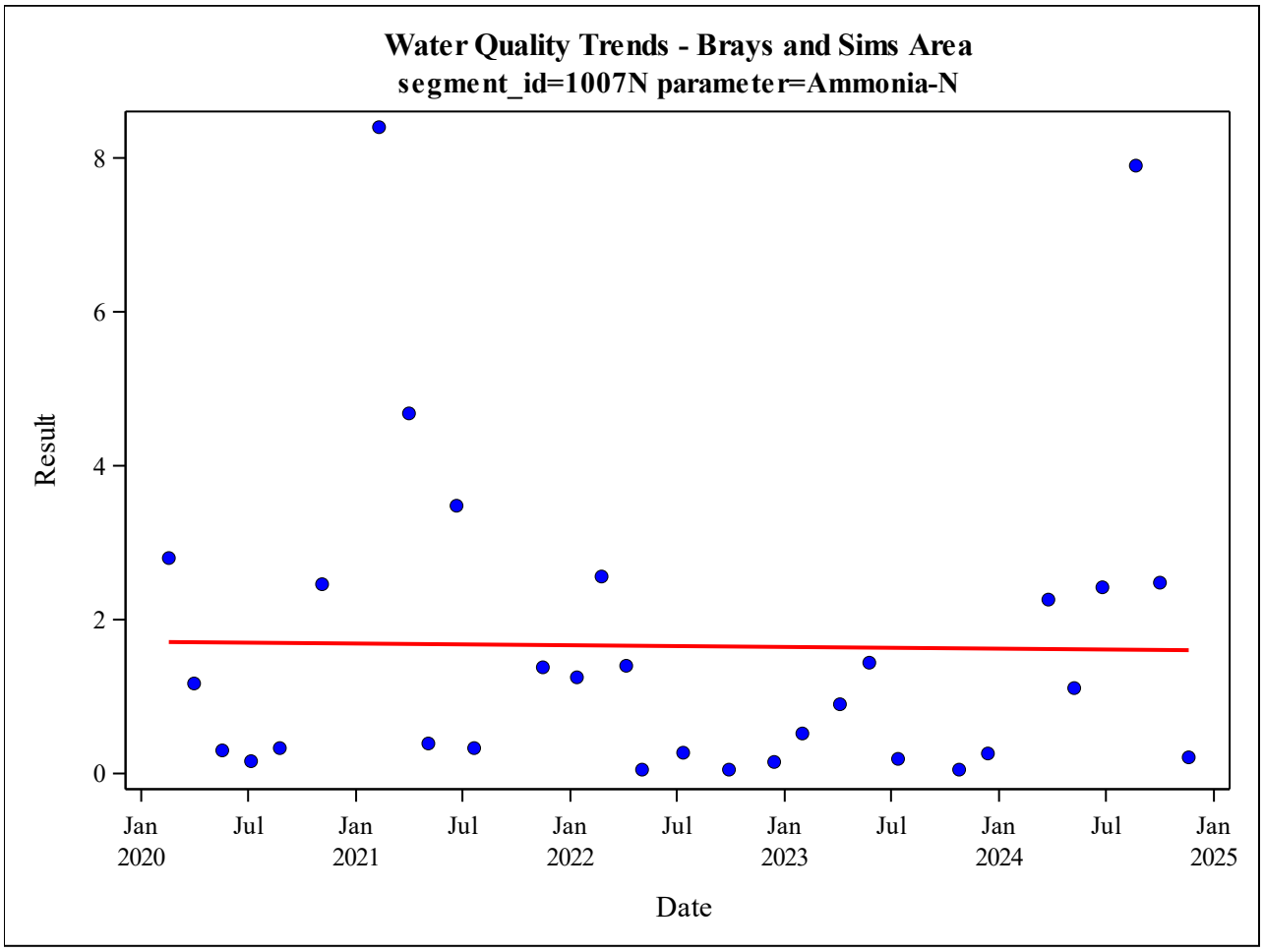

Water Quality Trends - Brays and Sims Area
segment_id=1007L parameter=Temperature
Result
30
25
20
15
10
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

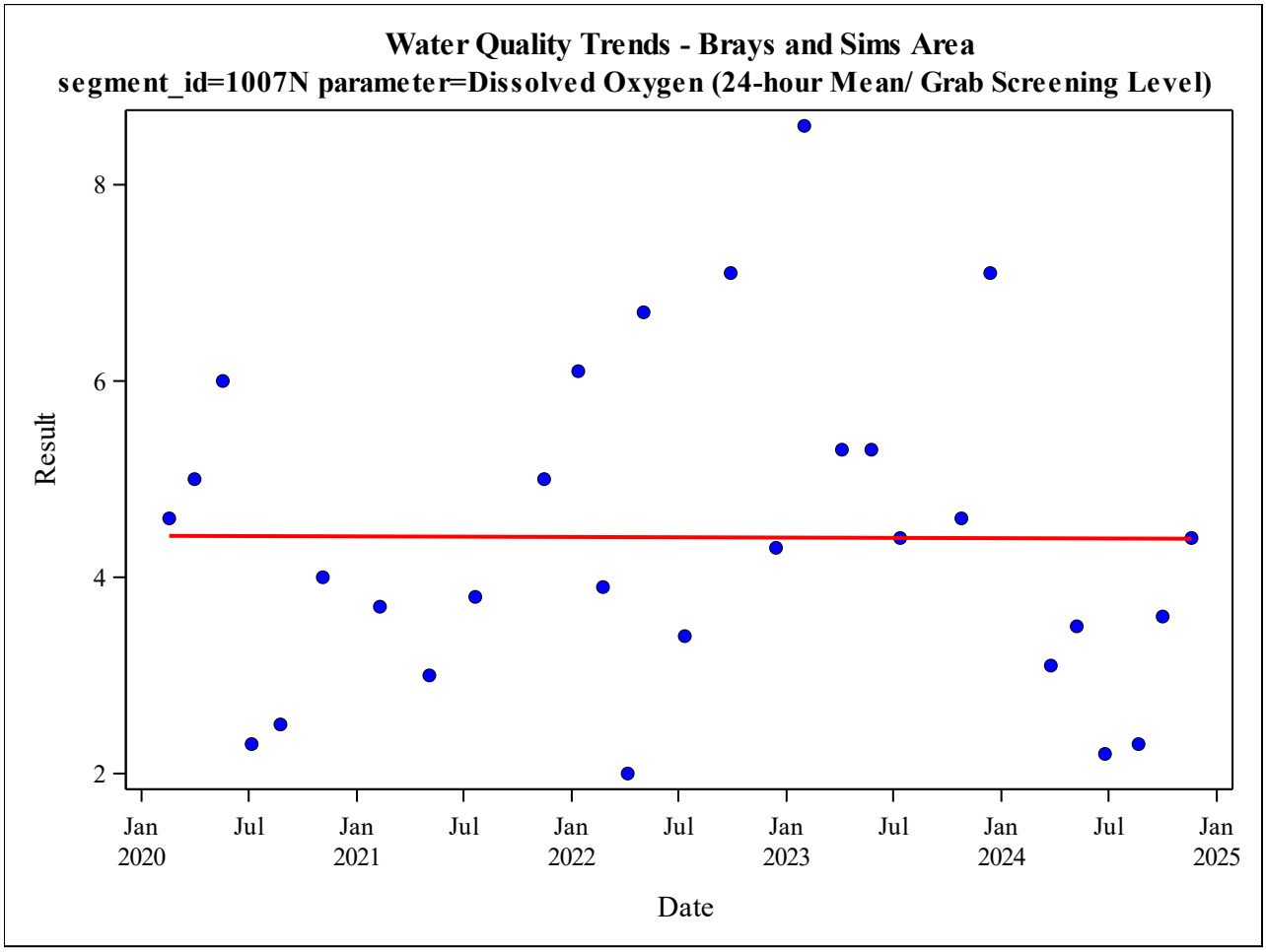

Water Quality Trends - Brays and Sims Area
segment_id=1007L parameter=Total Phosphorus
Result
1.0
0.8
0.6
0.4
0.2
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

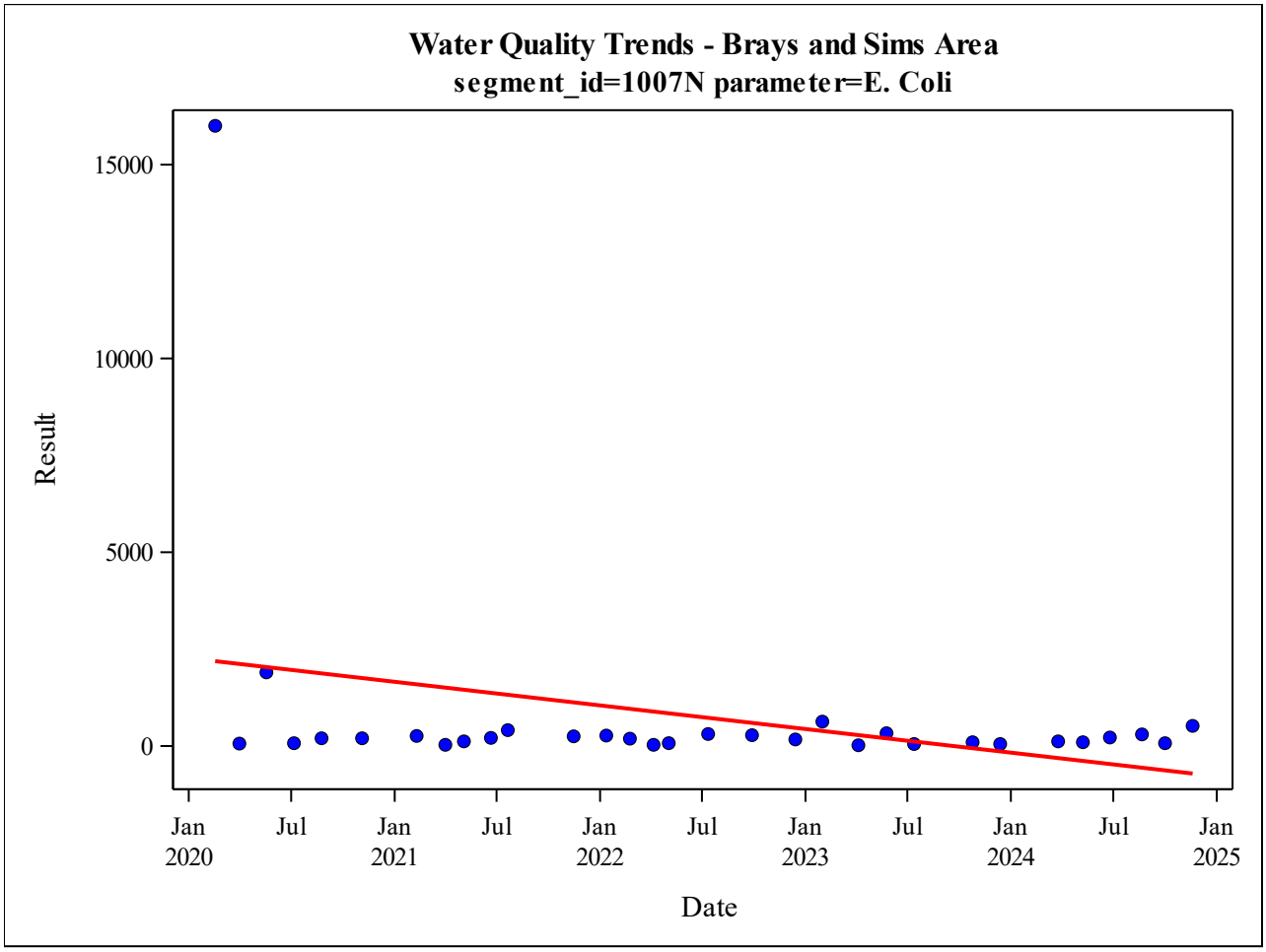

Water Quality Trends - Brays and Sims Area
segment_id=1007L parameter=Total Suspended Solids
Result
80
60
40
20
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

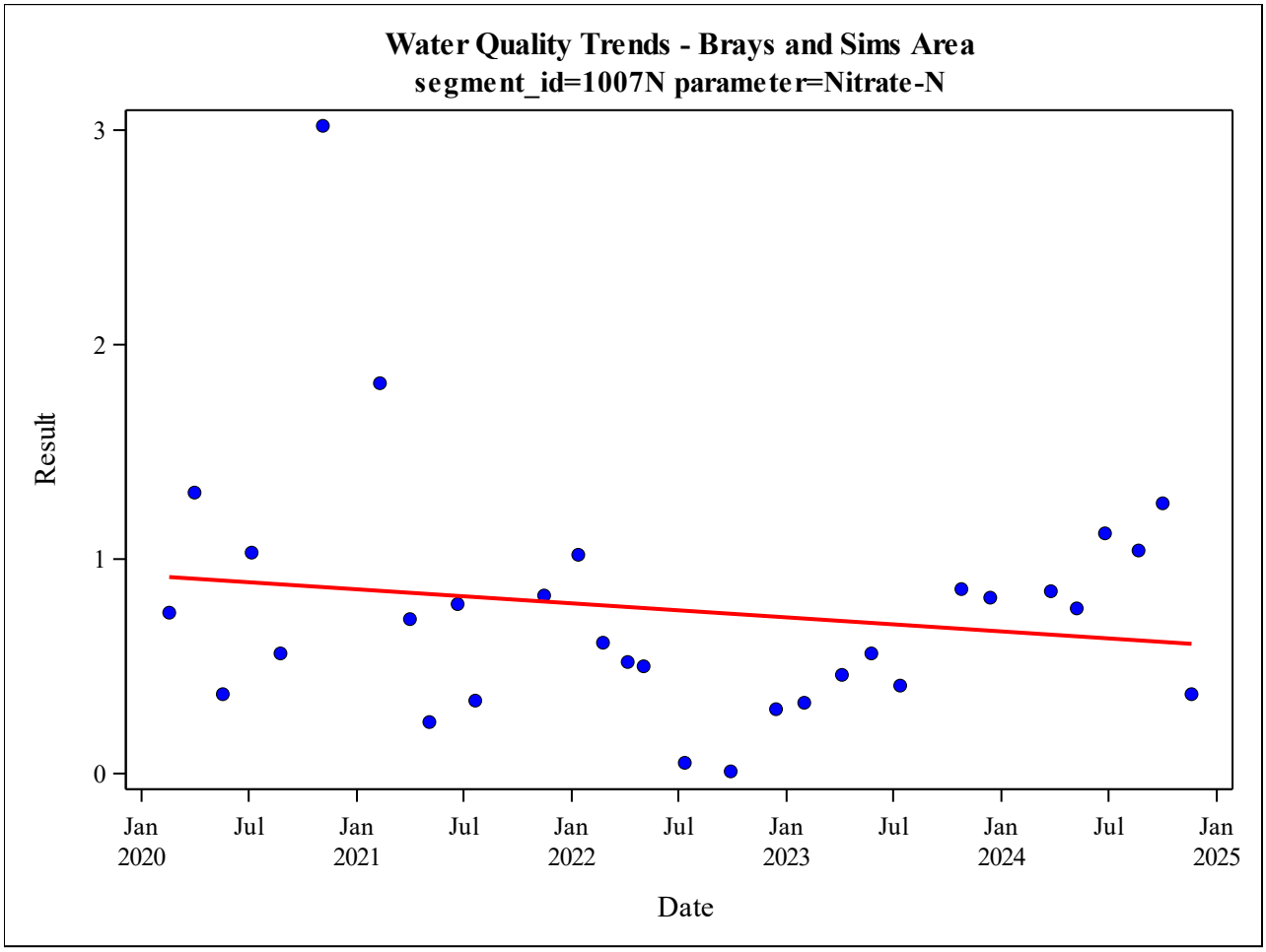

Water Quality Trends - Brays and Sims Area
segment_id=1007L parameter=pH
Result
8.5
8.0
7.5
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

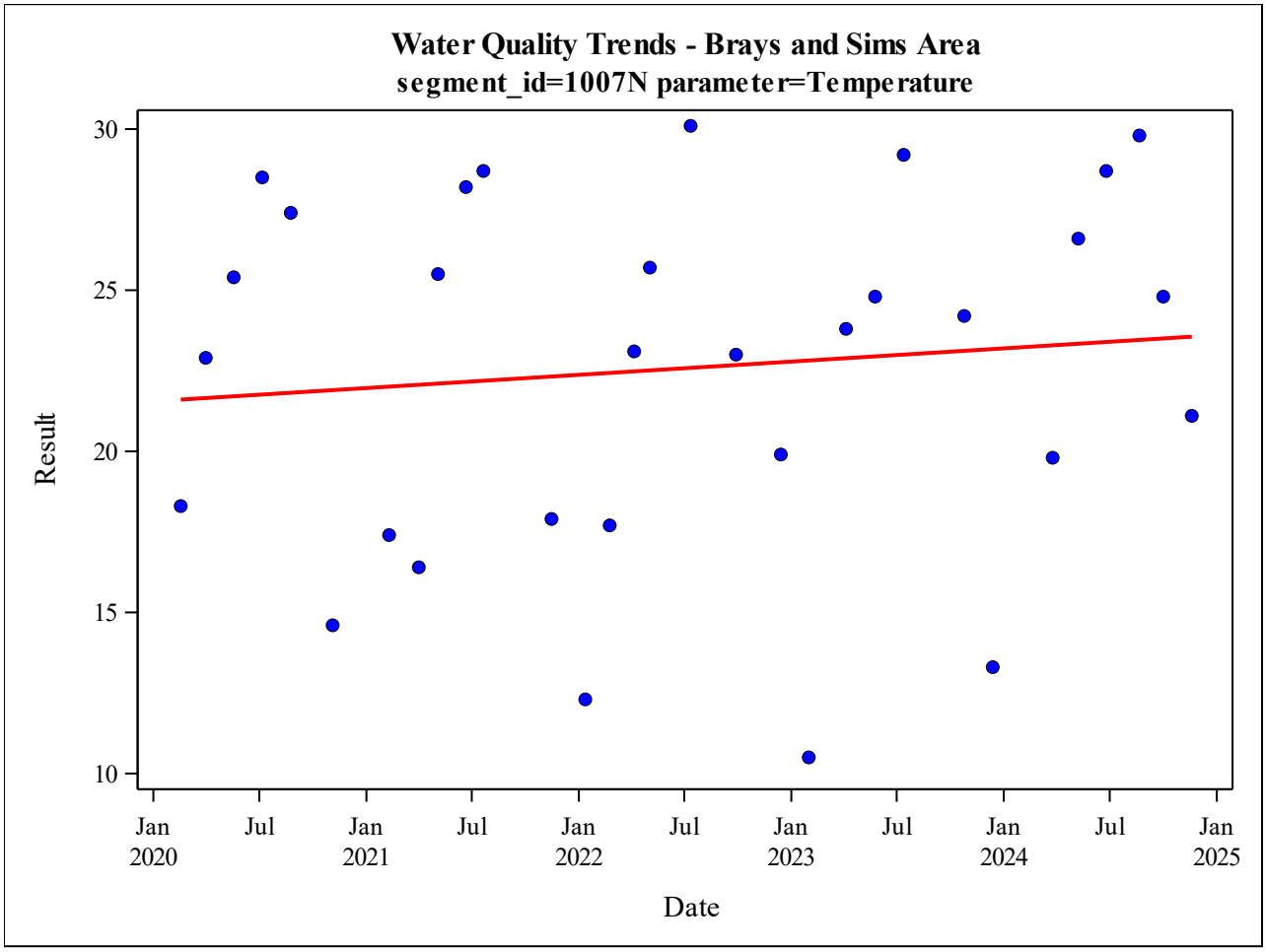
Unnamed Non-Tidal Tributary of Sims Bayou (1007N)

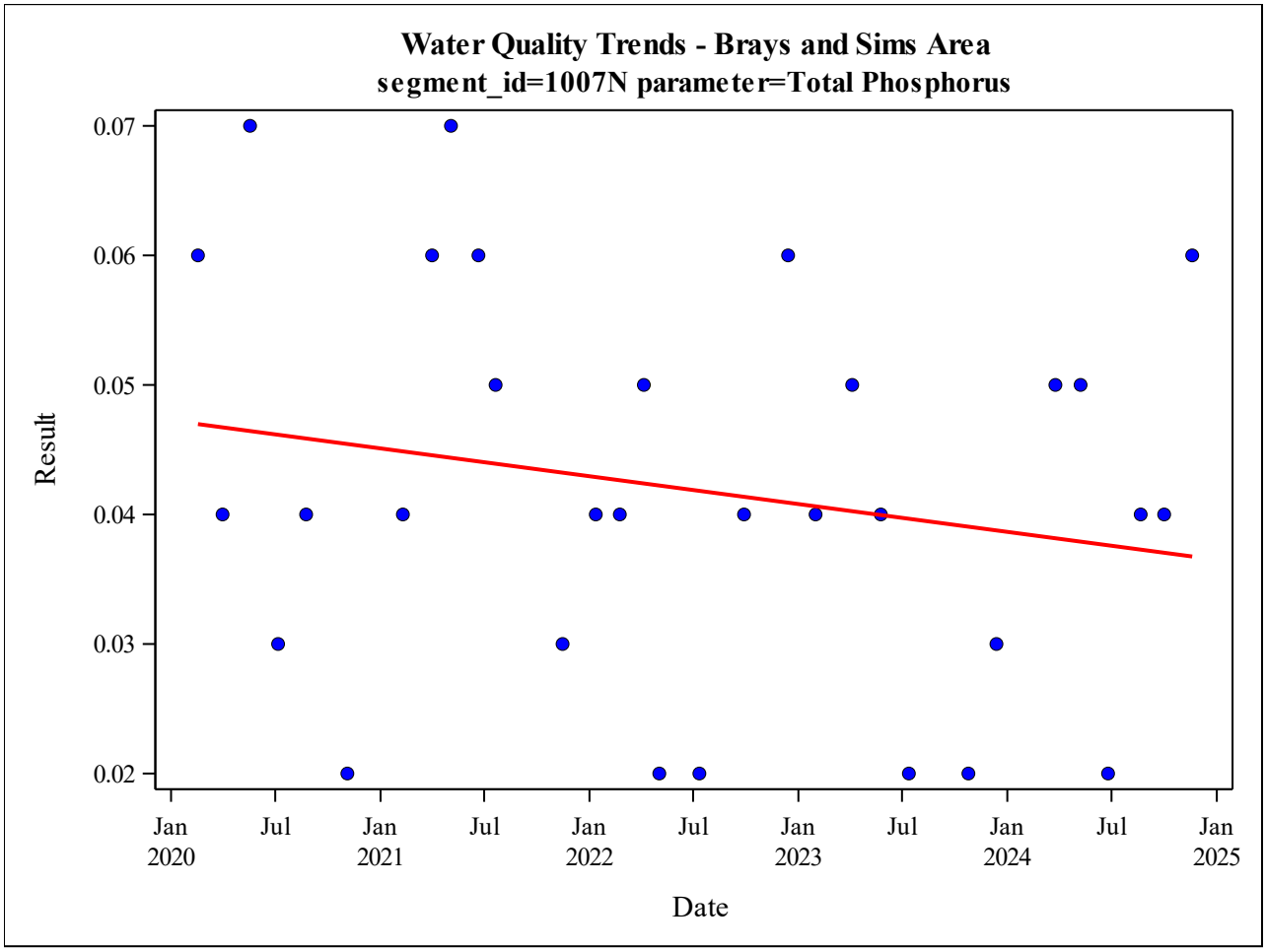


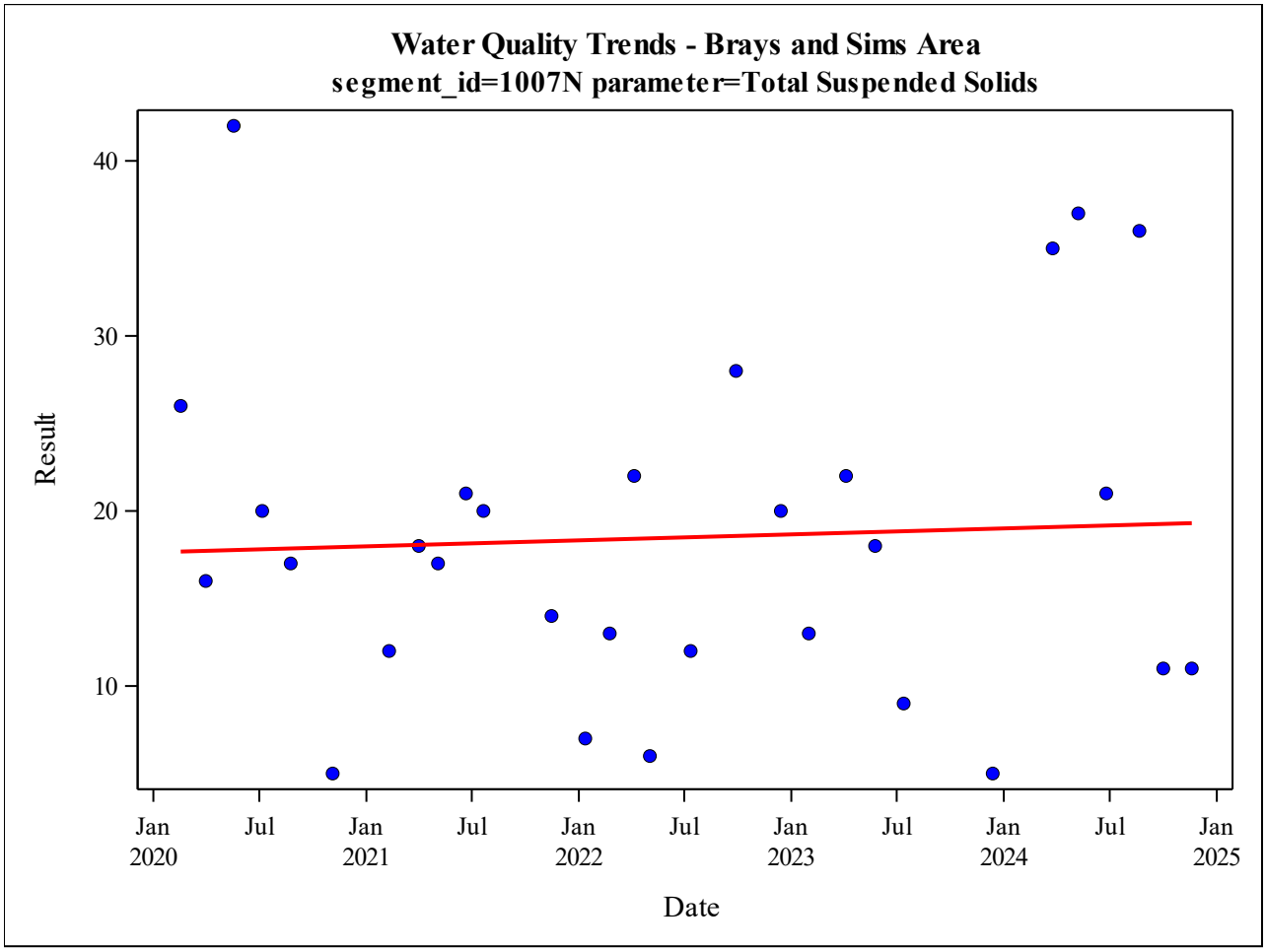

Water Quality Trends - Brays and Sims Area
segment_id=1007N parameter=Dissolved Oxygen (24-hour Mean/ Grab Screening Level)
Result
8
6
4
2
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

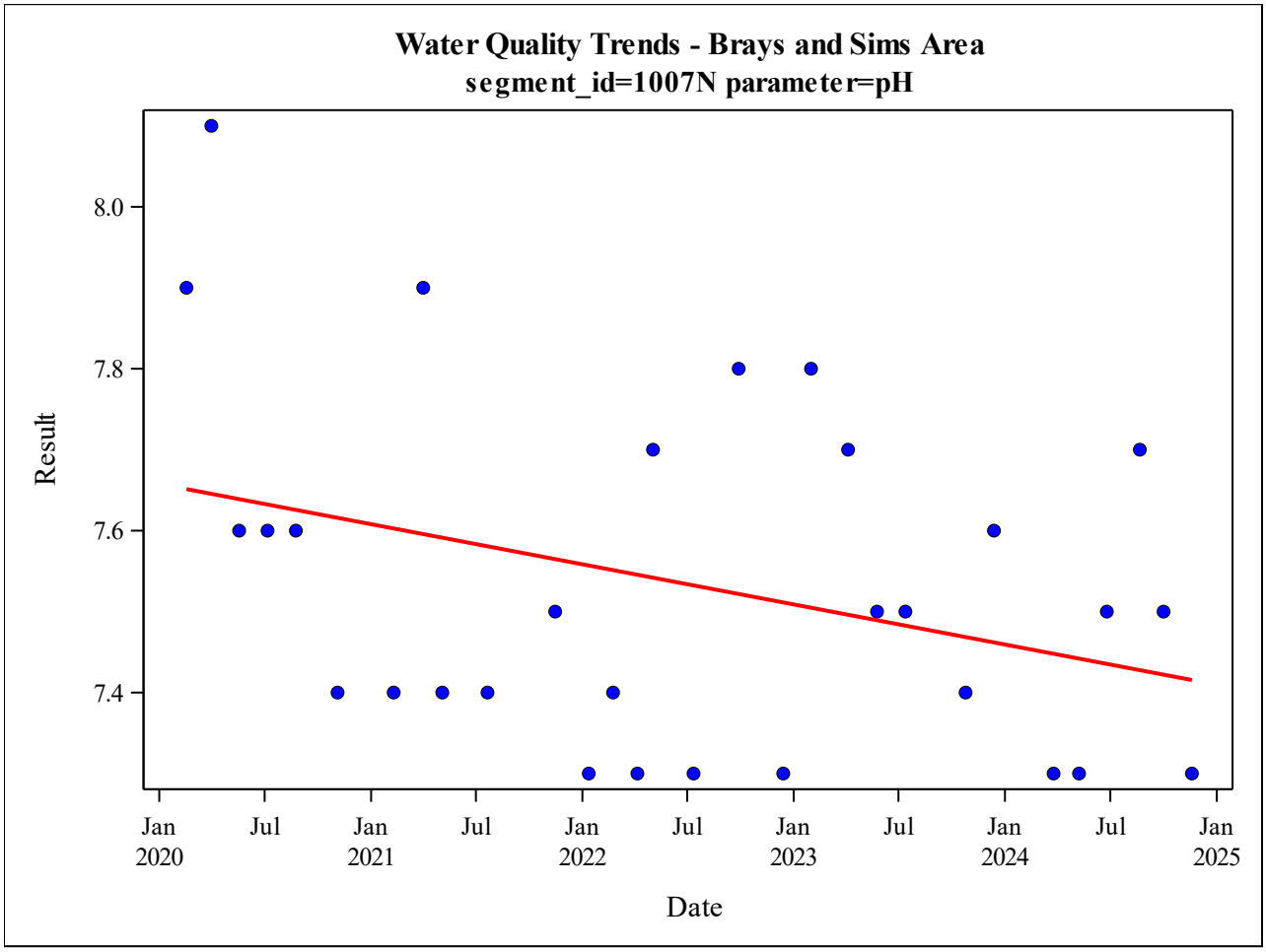

Water Quality Trends - Brays and Sims Area
segment_id=1007N parameter=E. Coli
Result
15000
10000
5000
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007N parameter=Nitrate-N
Result
3
2
1
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

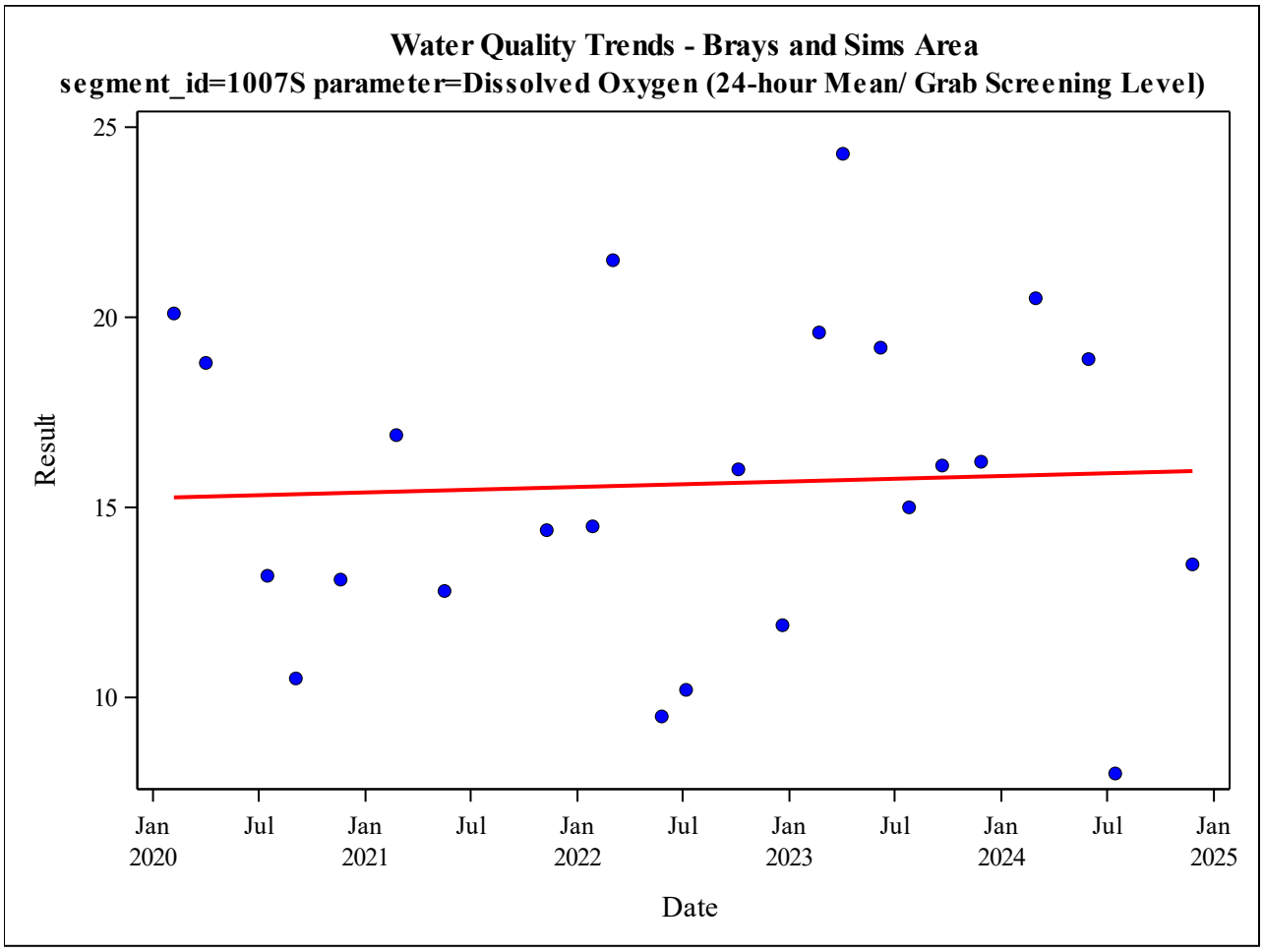

Water Quality Trends - Brays and Sims Area
segment_id=1007N parameter=Temperature
Result
30
25
20
15
10
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

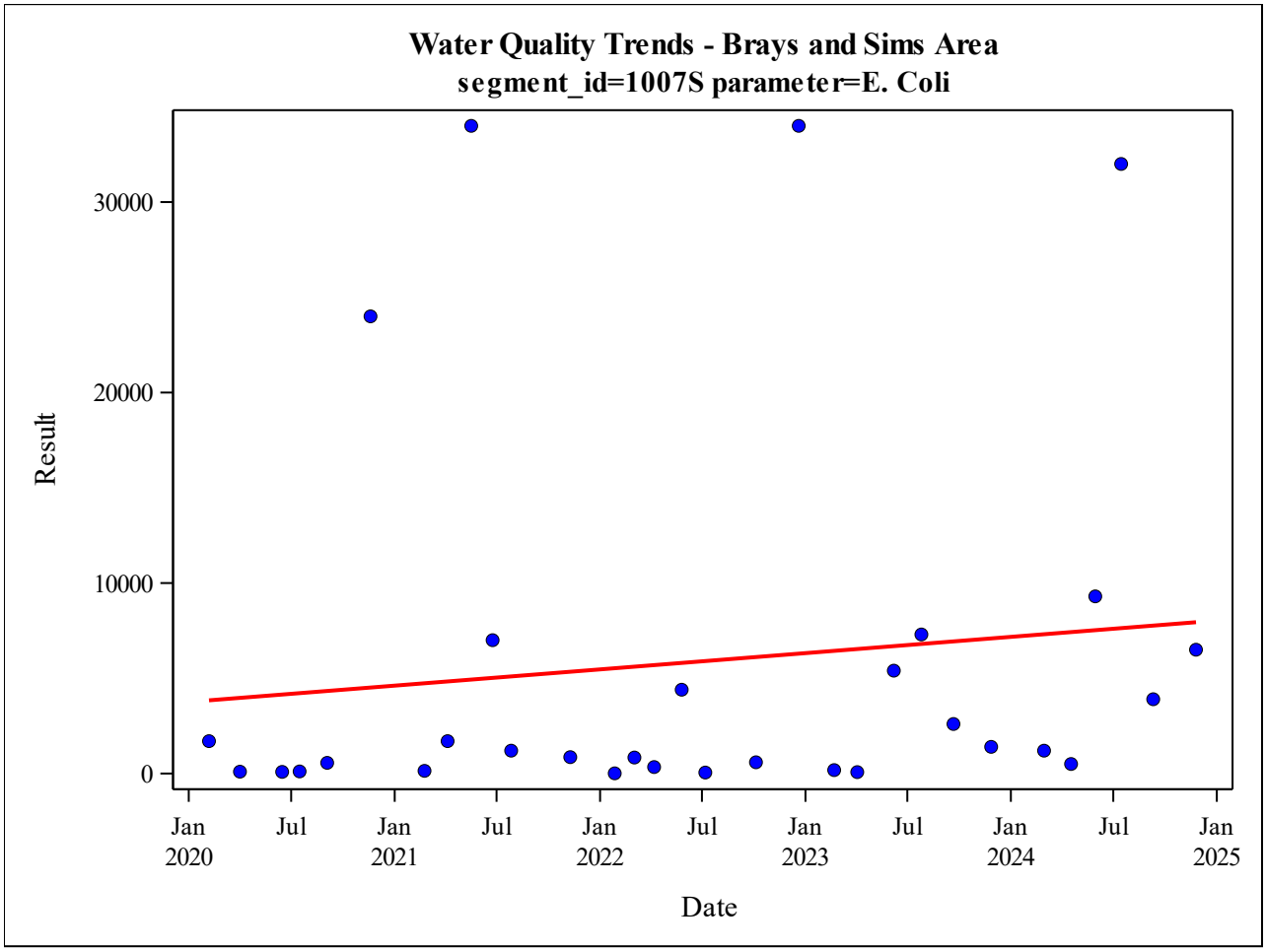

Water Quality Trends - Brays and Sims Area
segment_id=1007N parameter=Total Phosphorus
Result
0.07
0.06
0.05
0.04
0.03
0.02
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

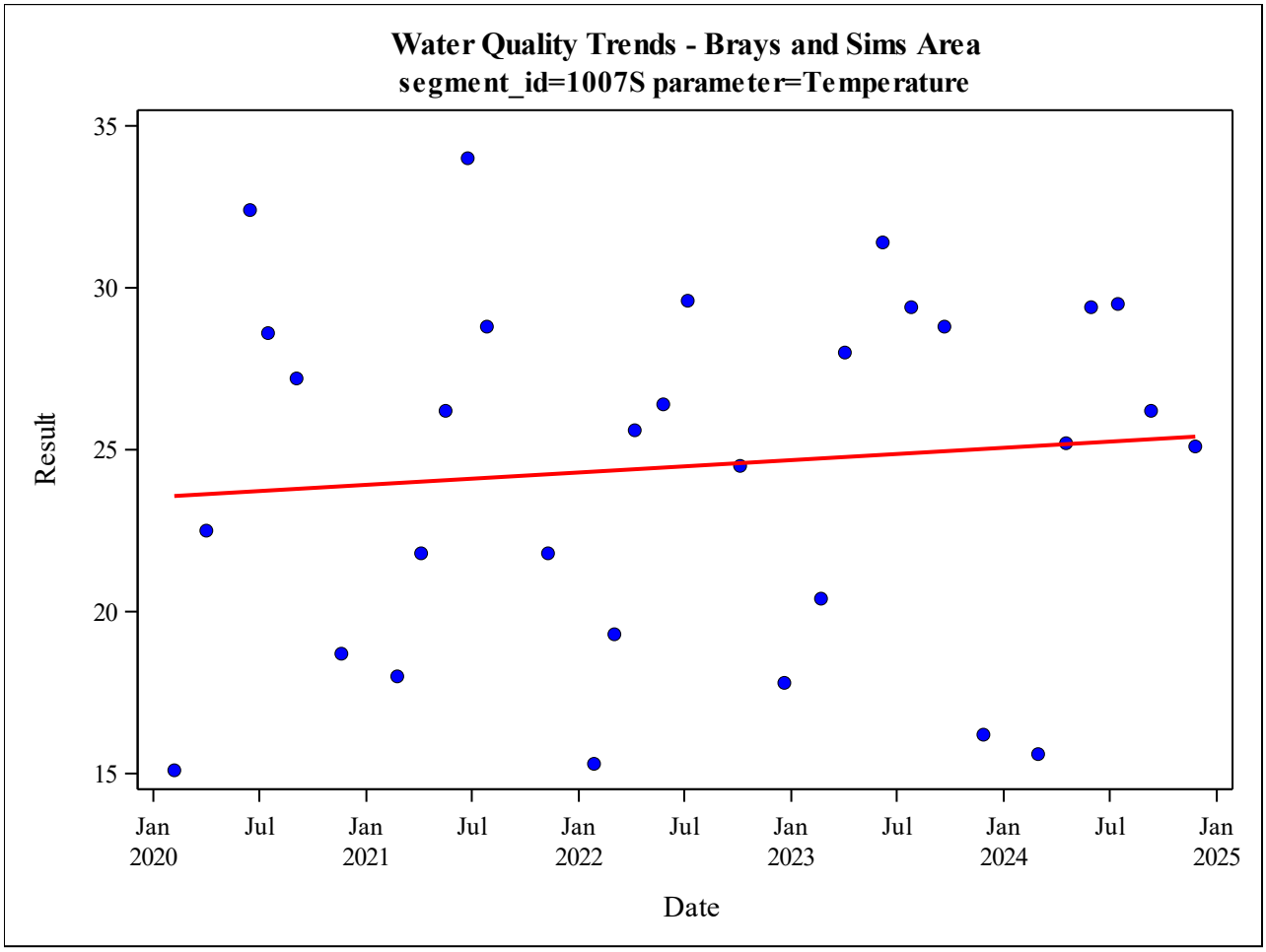

Water Quality Trends - Brays and Sims Area
segment_id=1007N parameter=Total Suspended Solids
Result
40
30
20
10
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

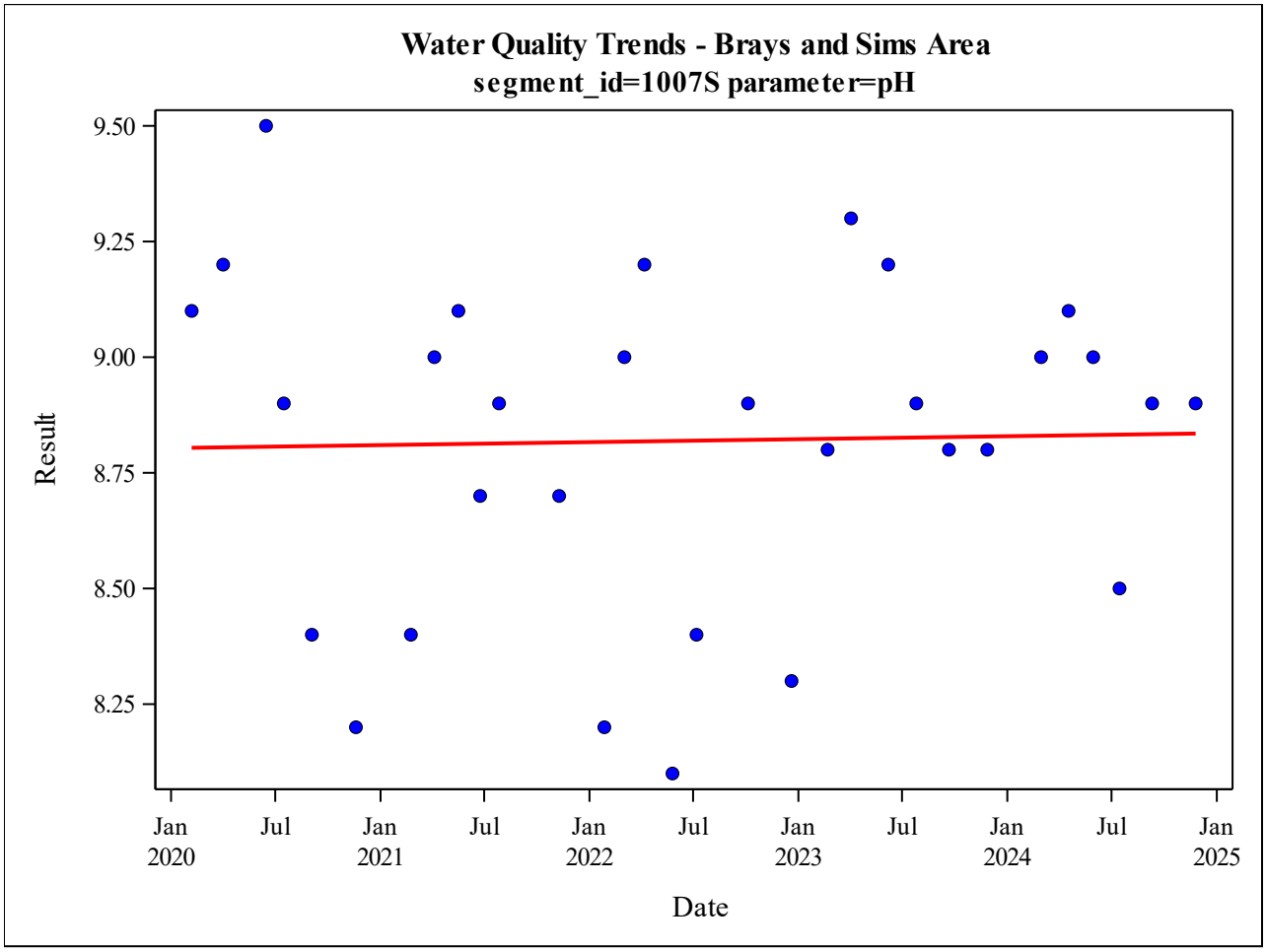

Water Quality Trends - Brays and Sims Area
segment_id=1007N parameter=pH
Result
8.0
7.8
7.6
7.4
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

Poor Farm Ditch (1007S)

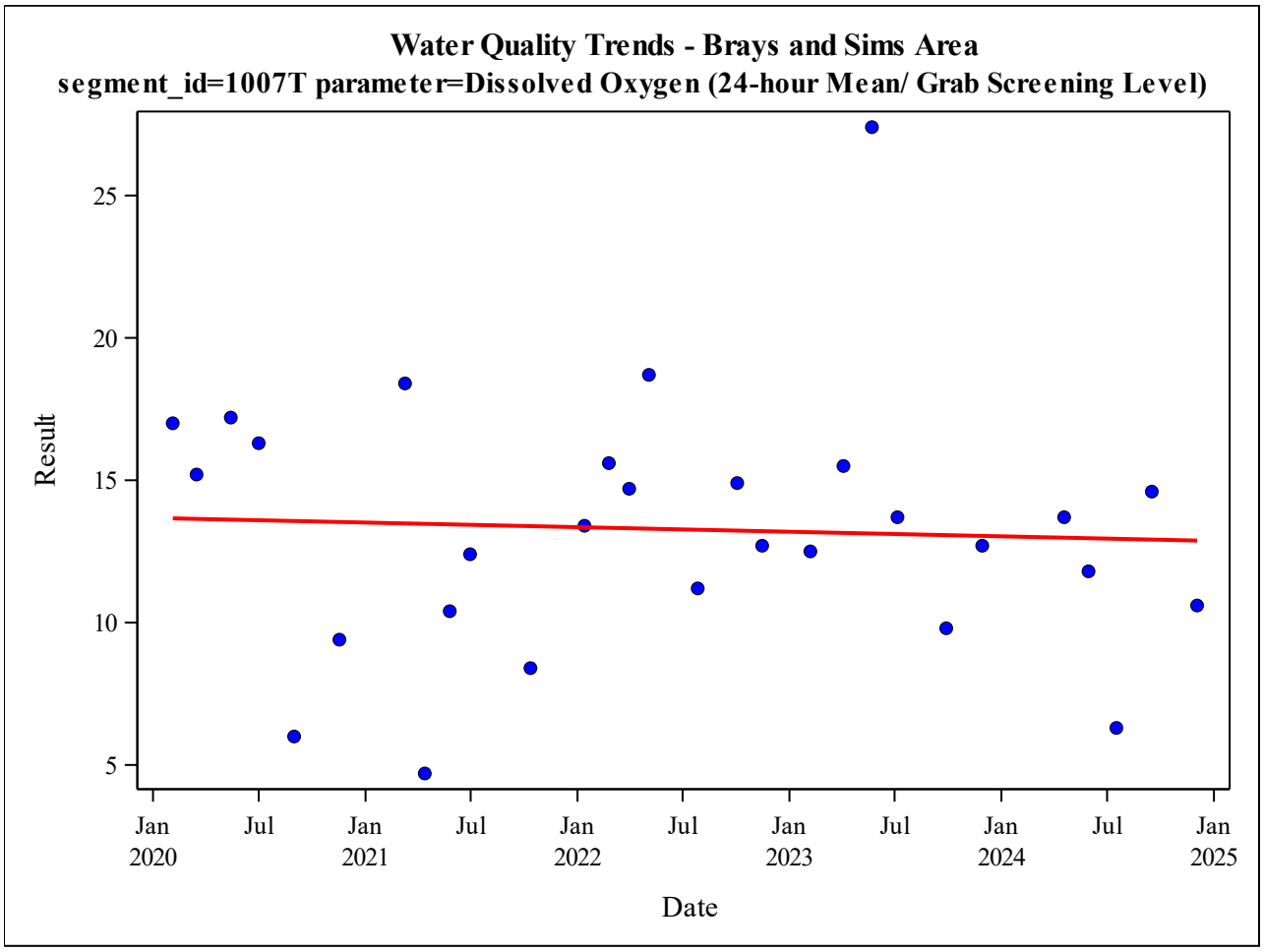


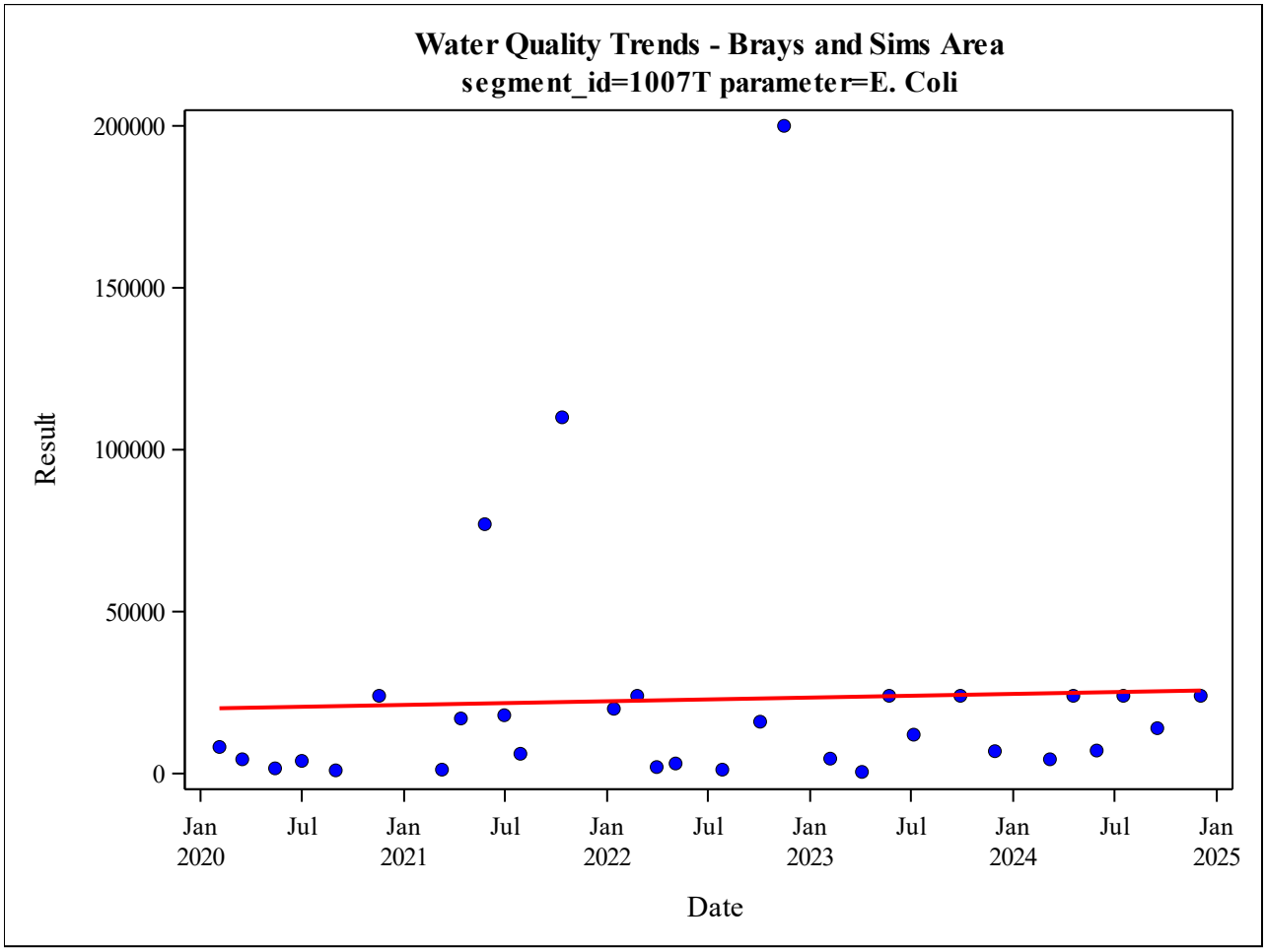

Water Quality Trends - Brays and Sims Area
segment_id=1007S parameter=E. Coli
Result
30000
20000
10000
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

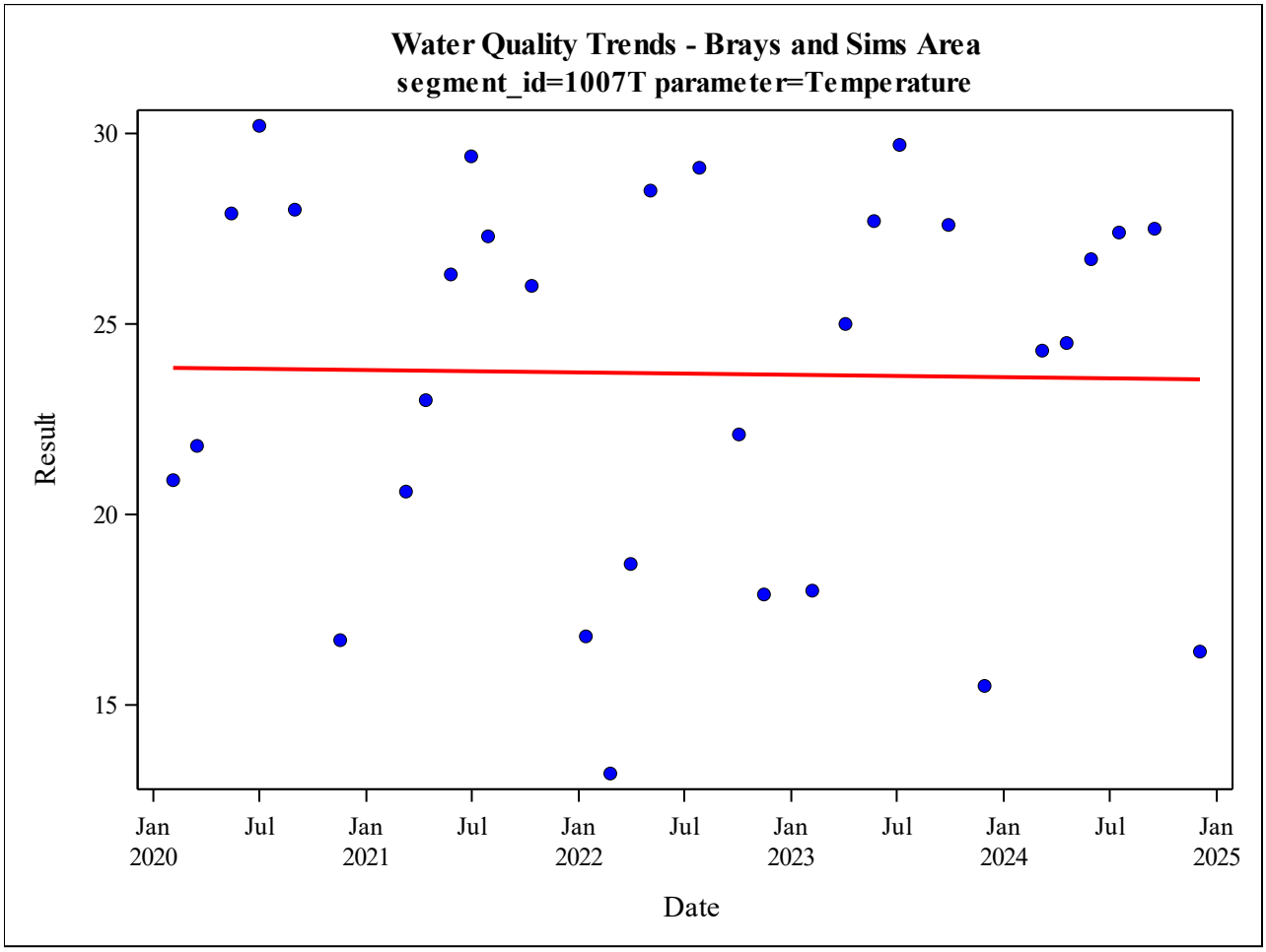

Water Quality Trends - Brays and Sims Area
segment_id=1007S parameter=Temperature
Result
35
30
25
20
15
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

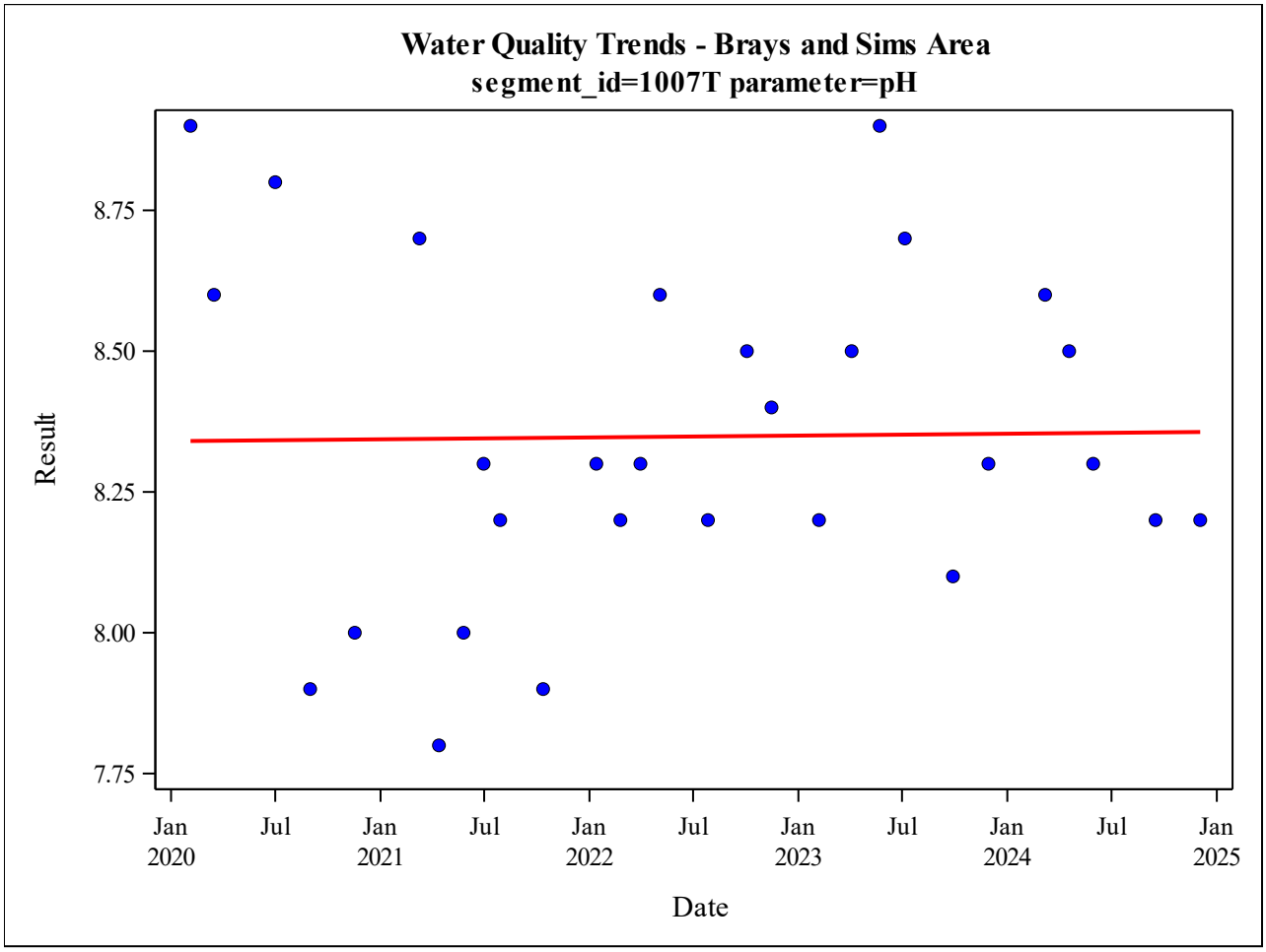

Water Quality Trends - Brays and Sims Area
segment_id=1007S parameter=pH
Result
9.50
9.25
9.00
8.75
8.50
8.25
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

Bintliff Ditch (1007T)

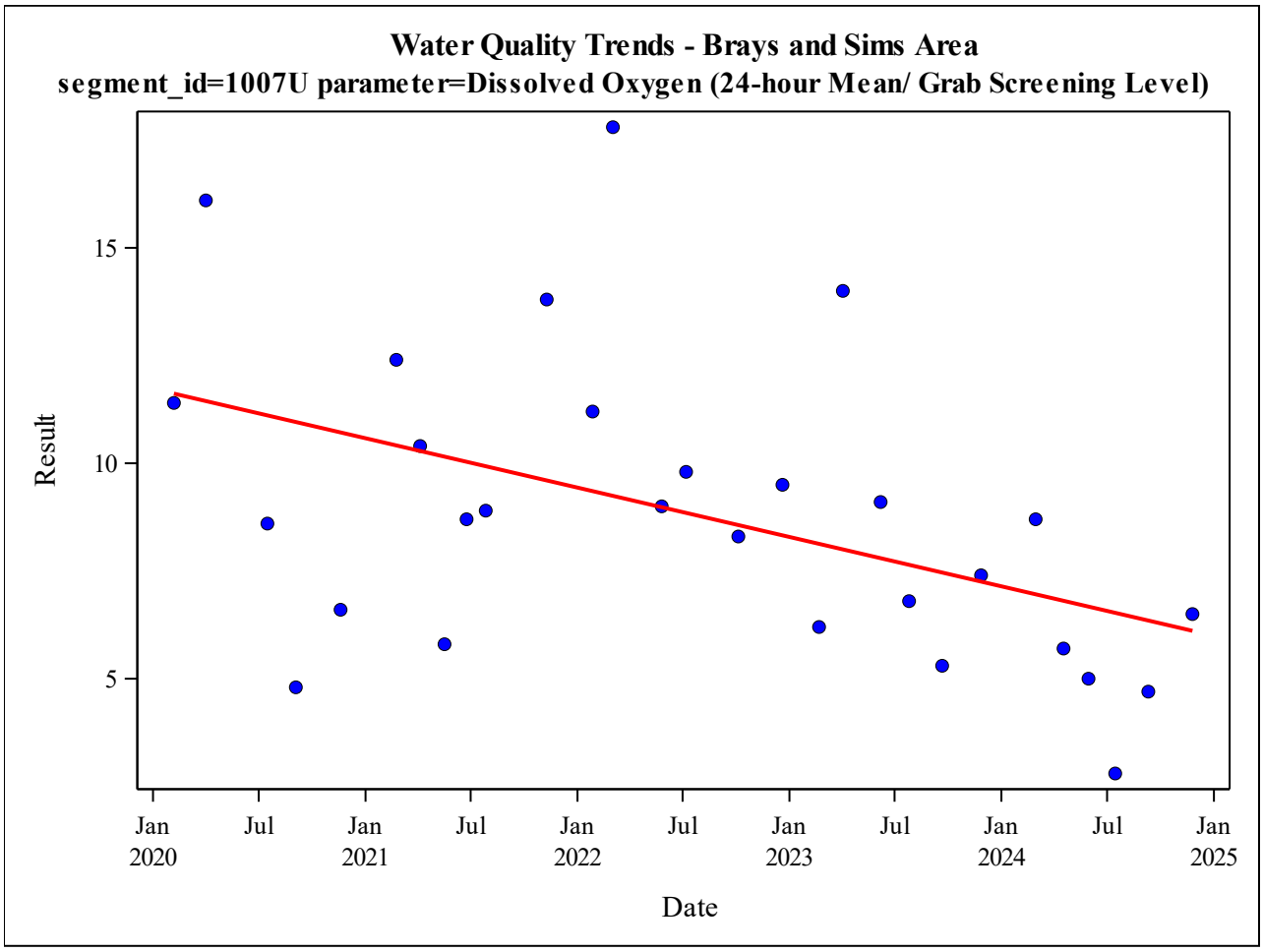


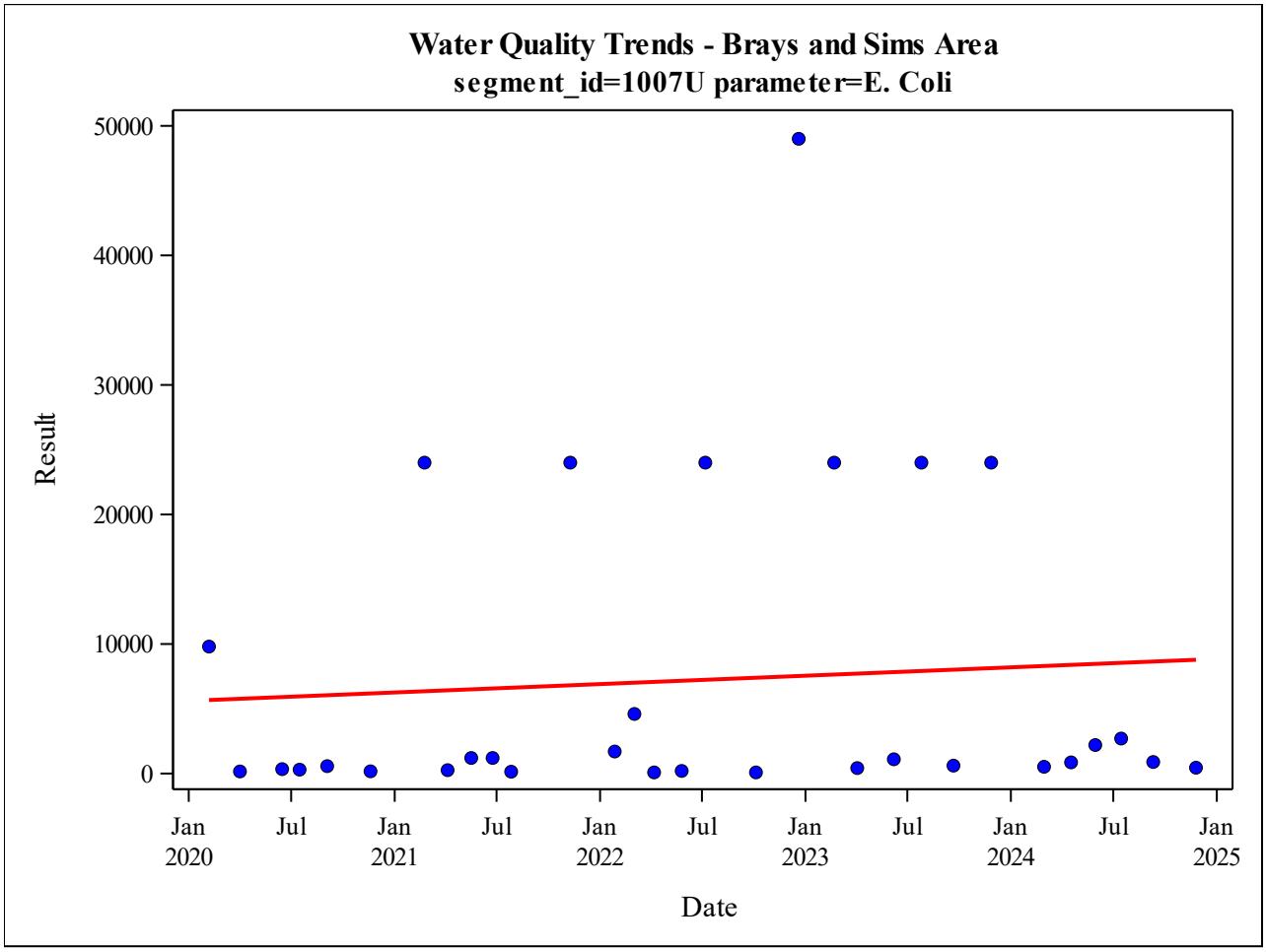

Water Quality Trends - Brays and Sims Area
segment_id=1007T parameter=E. Coli
Result
200000
150000
100000
50000
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

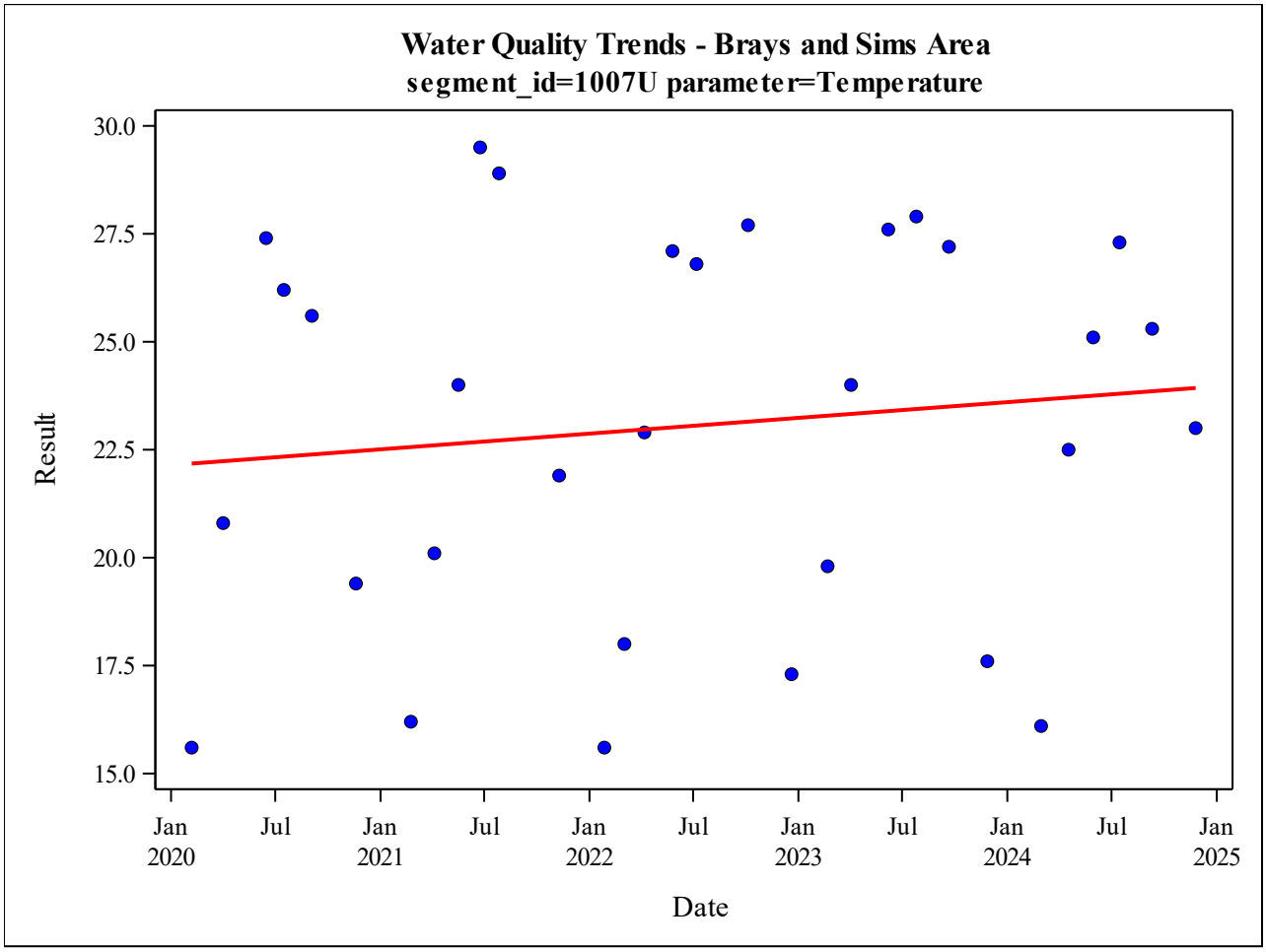

Water Quality Trends - Brays and Sims Area
segment_id=1007T parameter=Temperature
Result
30
25
20
15
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

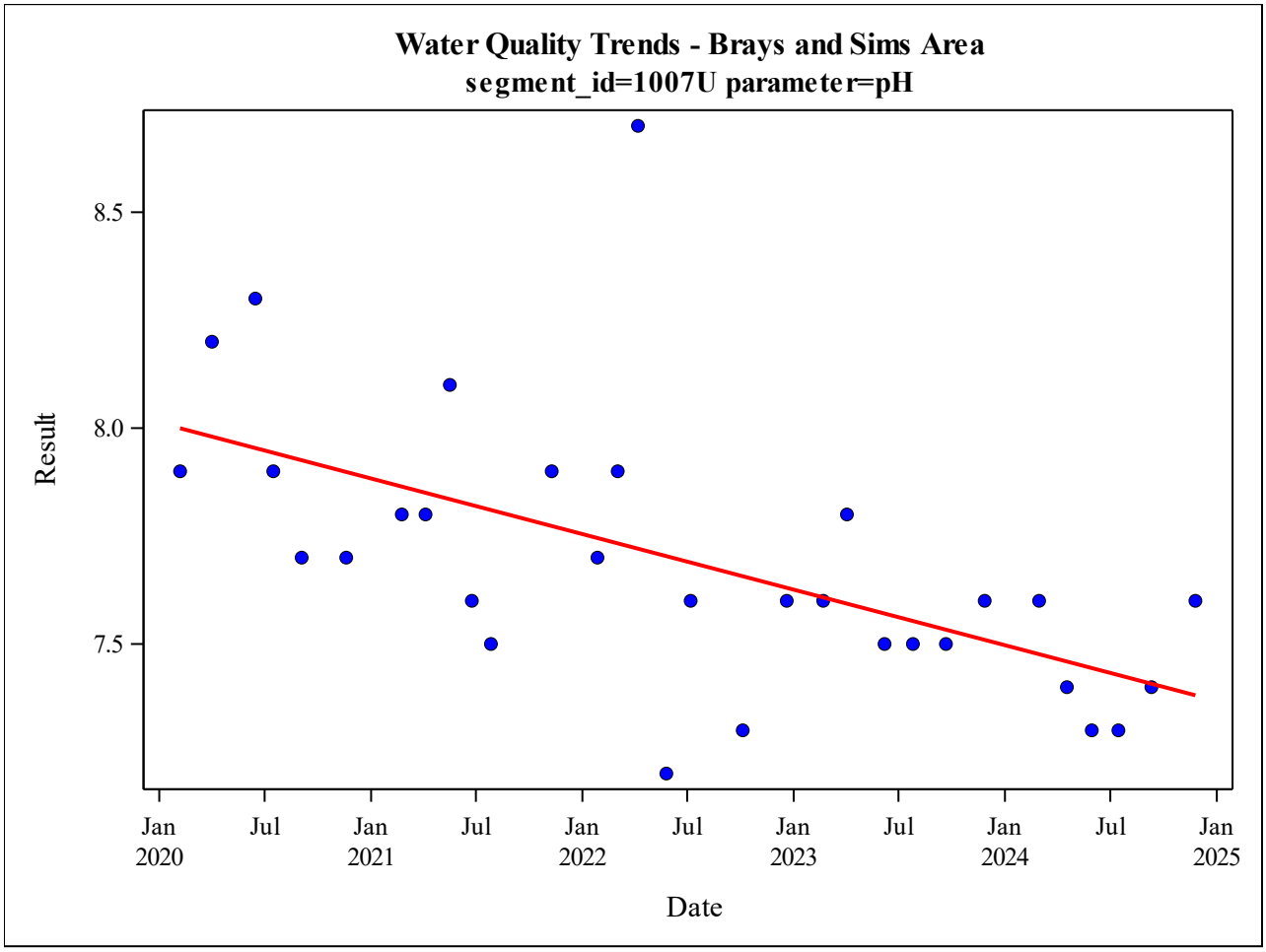

Water Quality Trends - Brays and Sims Area
segment_id=1007T parameter=pH
Result
8.75
8.50
8.25
8.00
7.75
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

Mimosa Ditch (1007U)

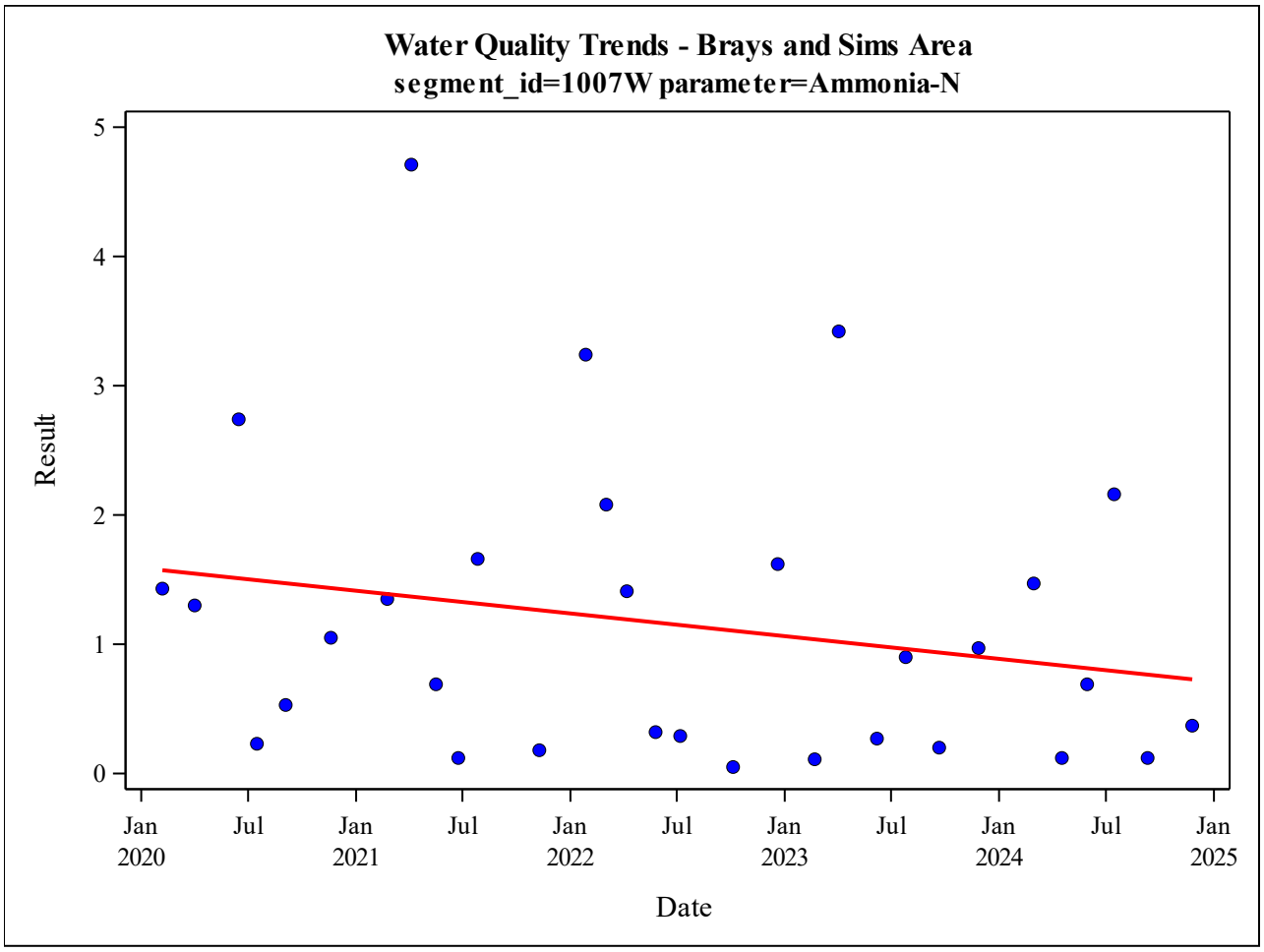


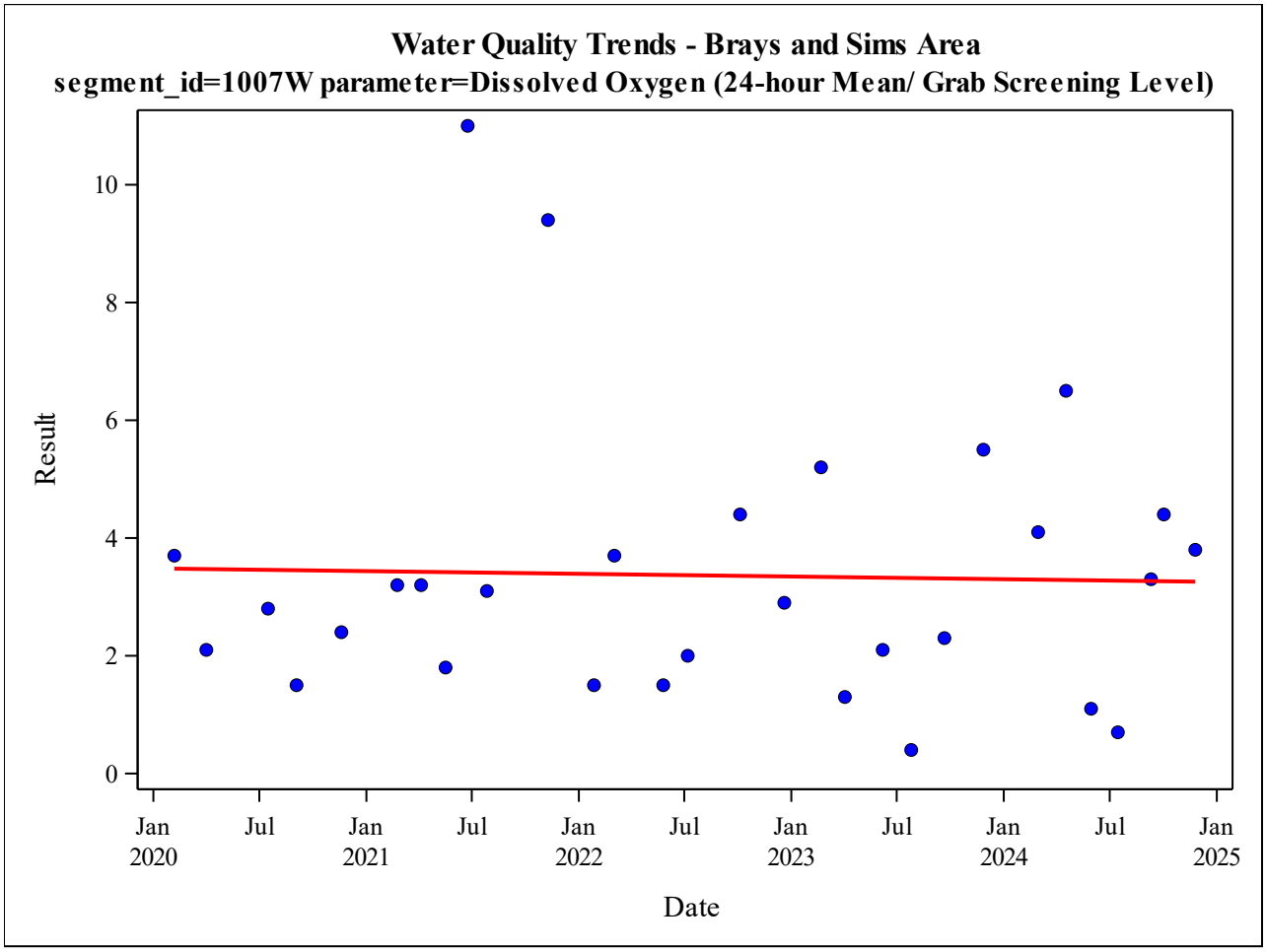

Water Quality Trends - Brays and Sims Area
segment_id=1007U parameter=E. Coli
Result
50000
40000
30000
20000
10000
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

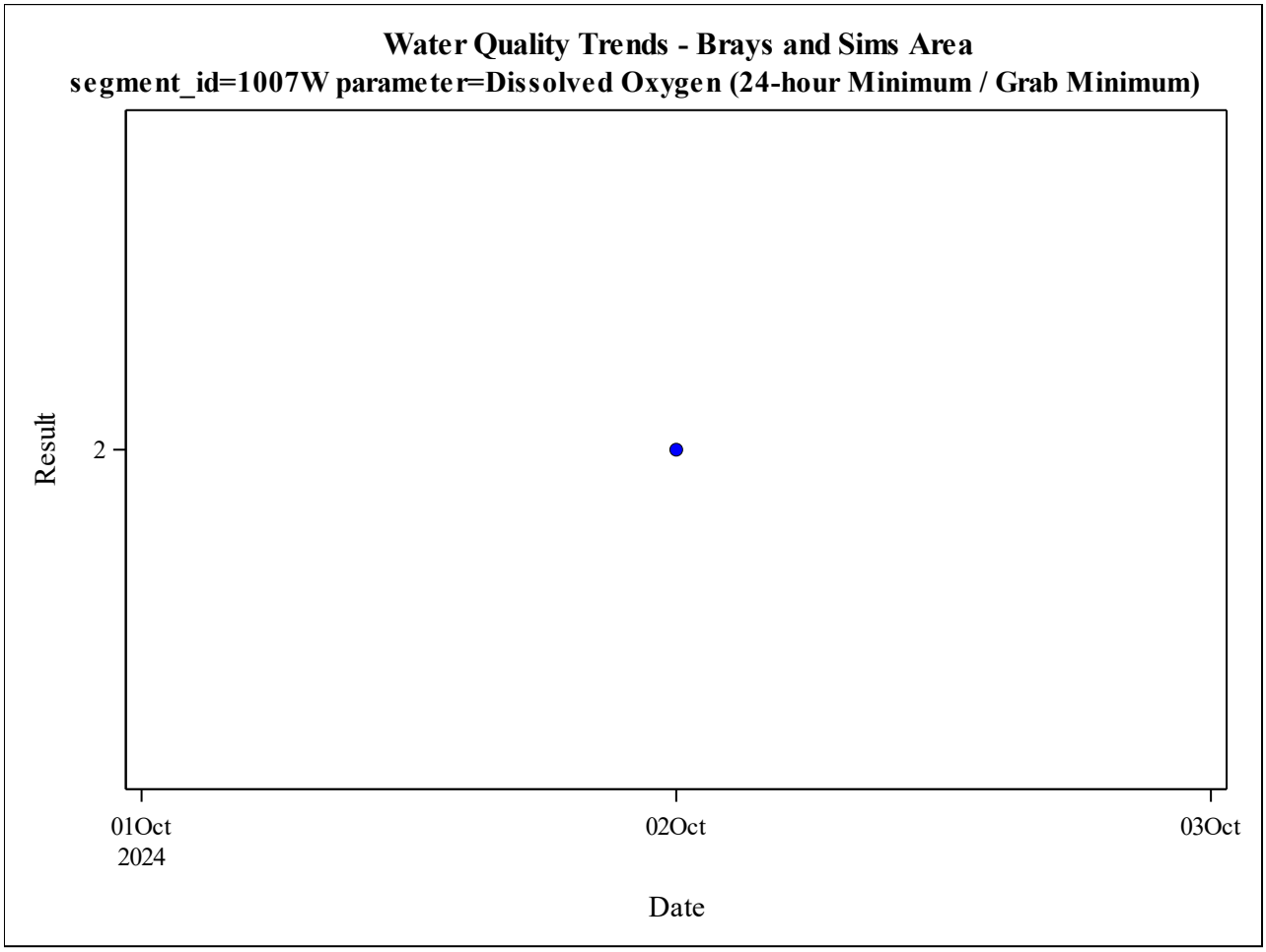

Water Quality Trends - Brays and Sims Area
segment_id=1007U parameter=Temperature
Result
30.0
27.5
25.0
22.5
20.0
17.5
15.0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

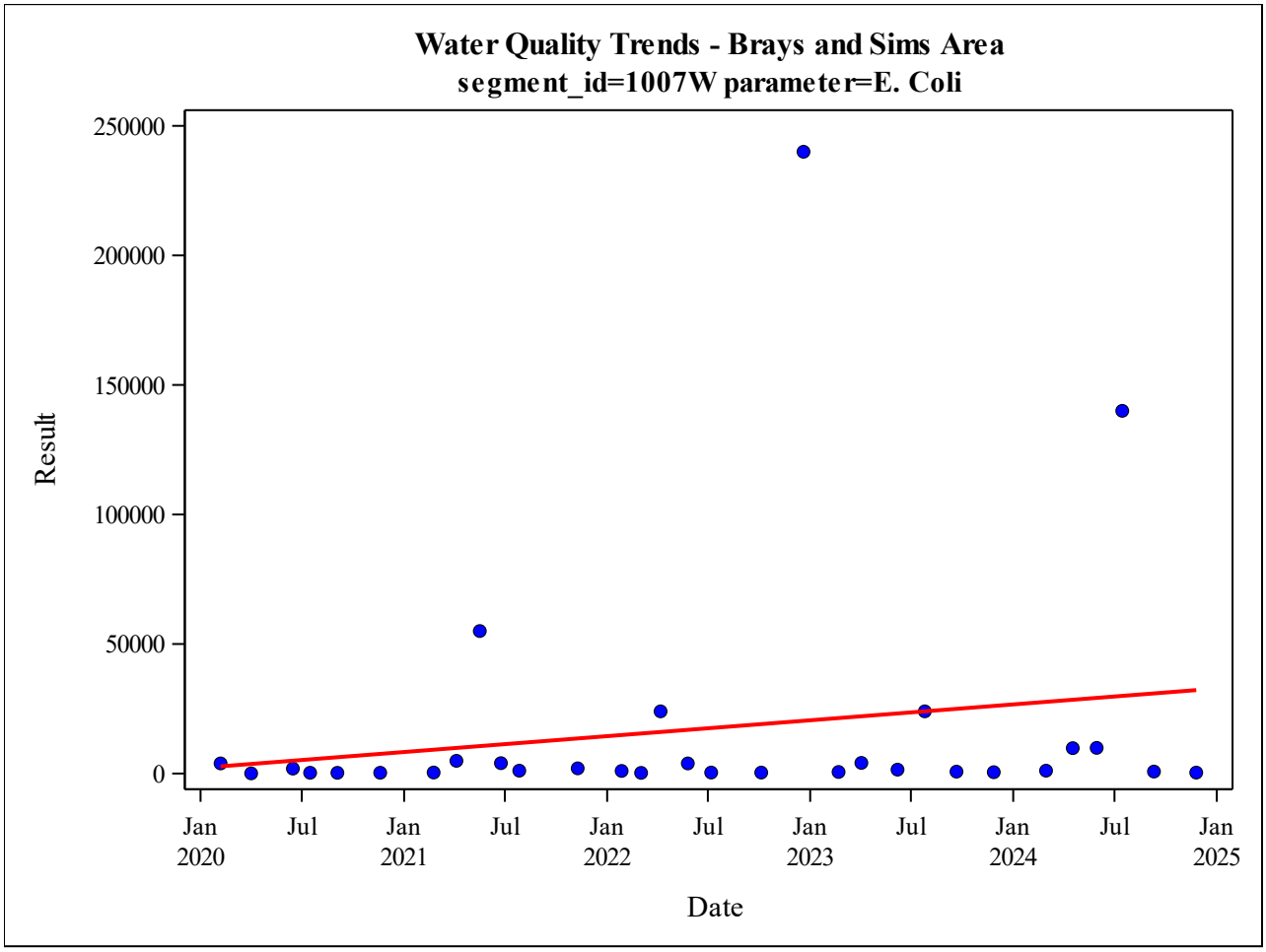

Water Quality Trends - Brays and Sims Area
segment_id=1007U parameter=pH
Result
8.5
8.0
7.5
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

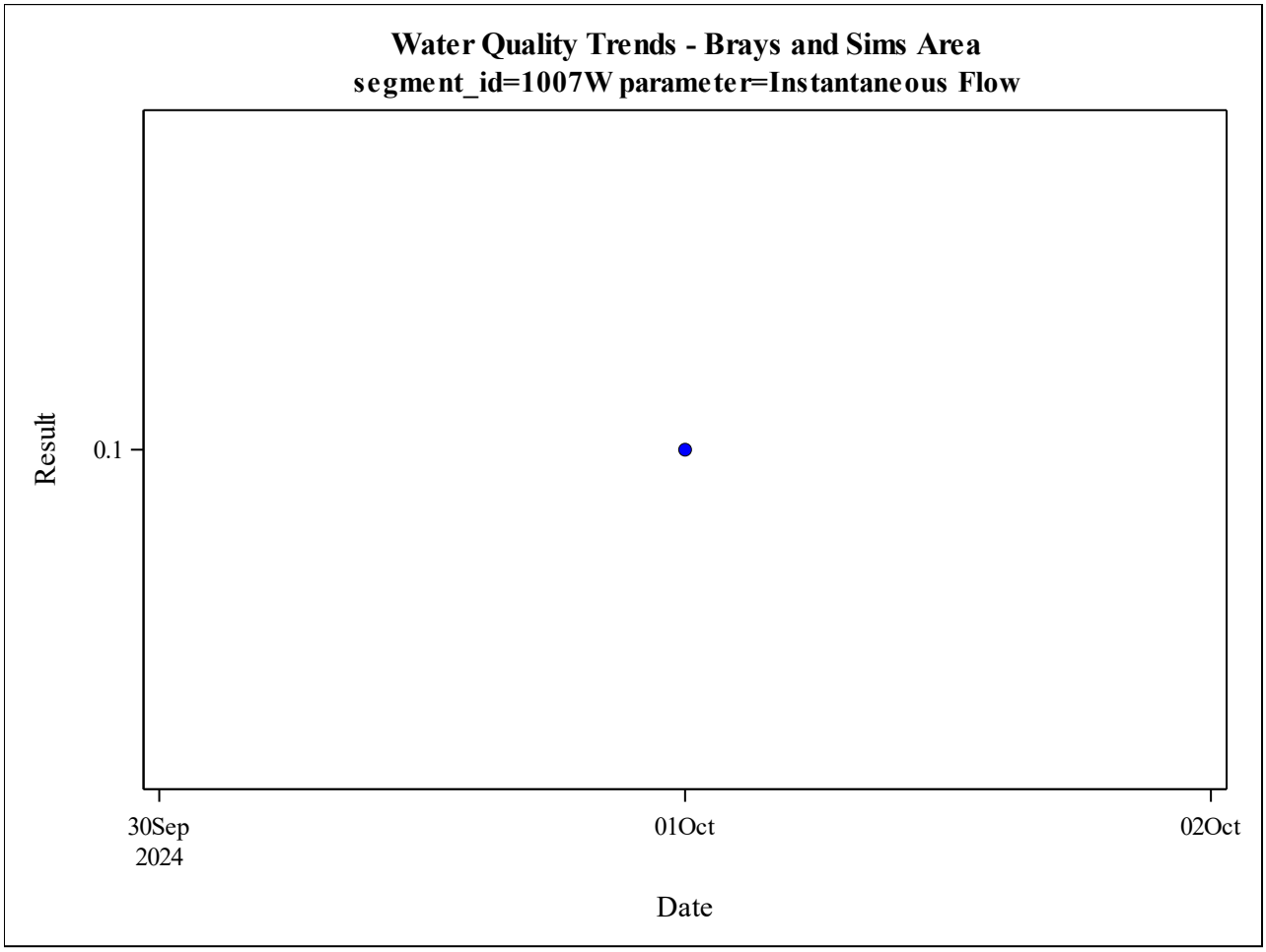
Harris County Flood Control Ditch D 138 (1007W)

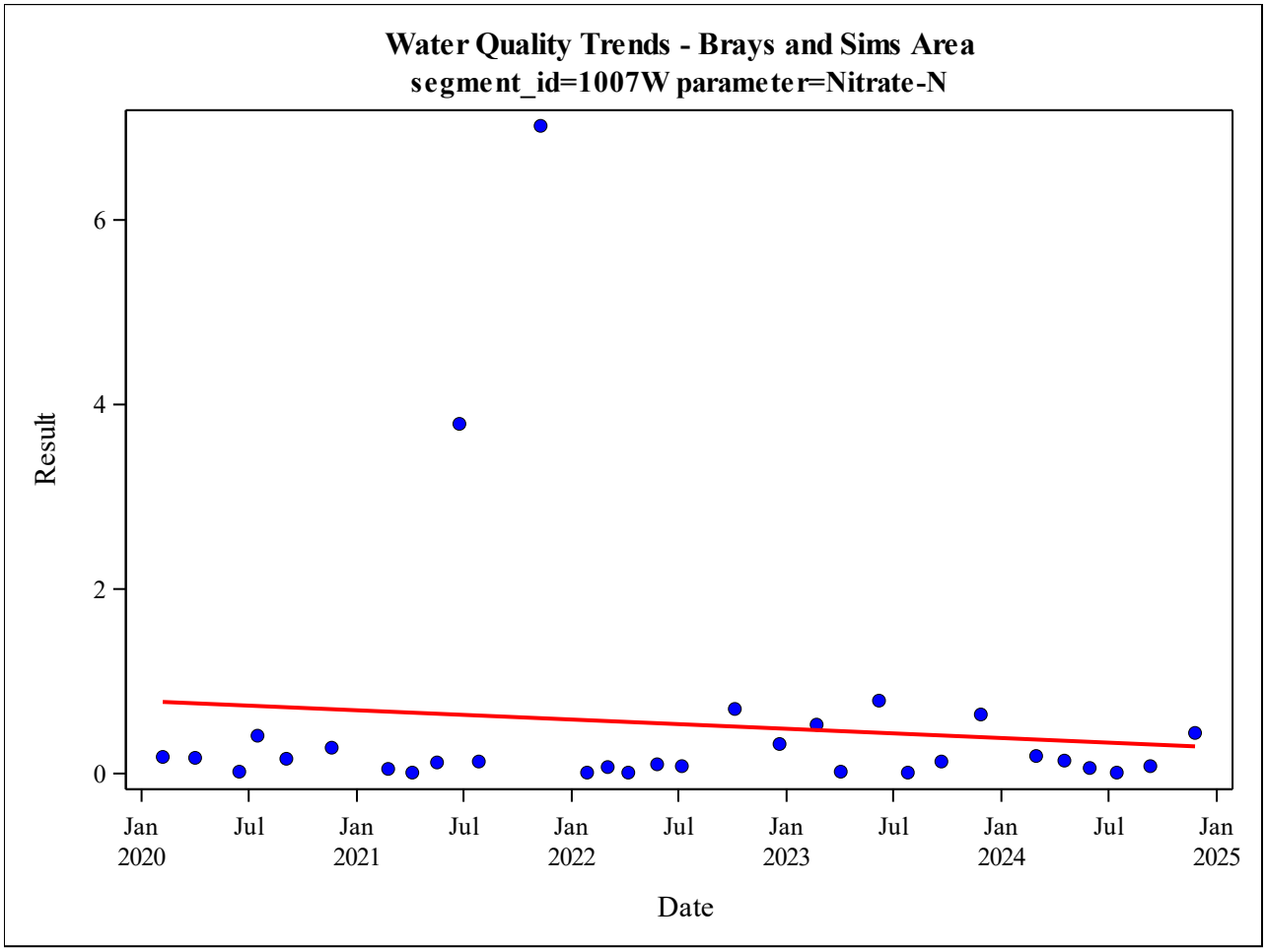


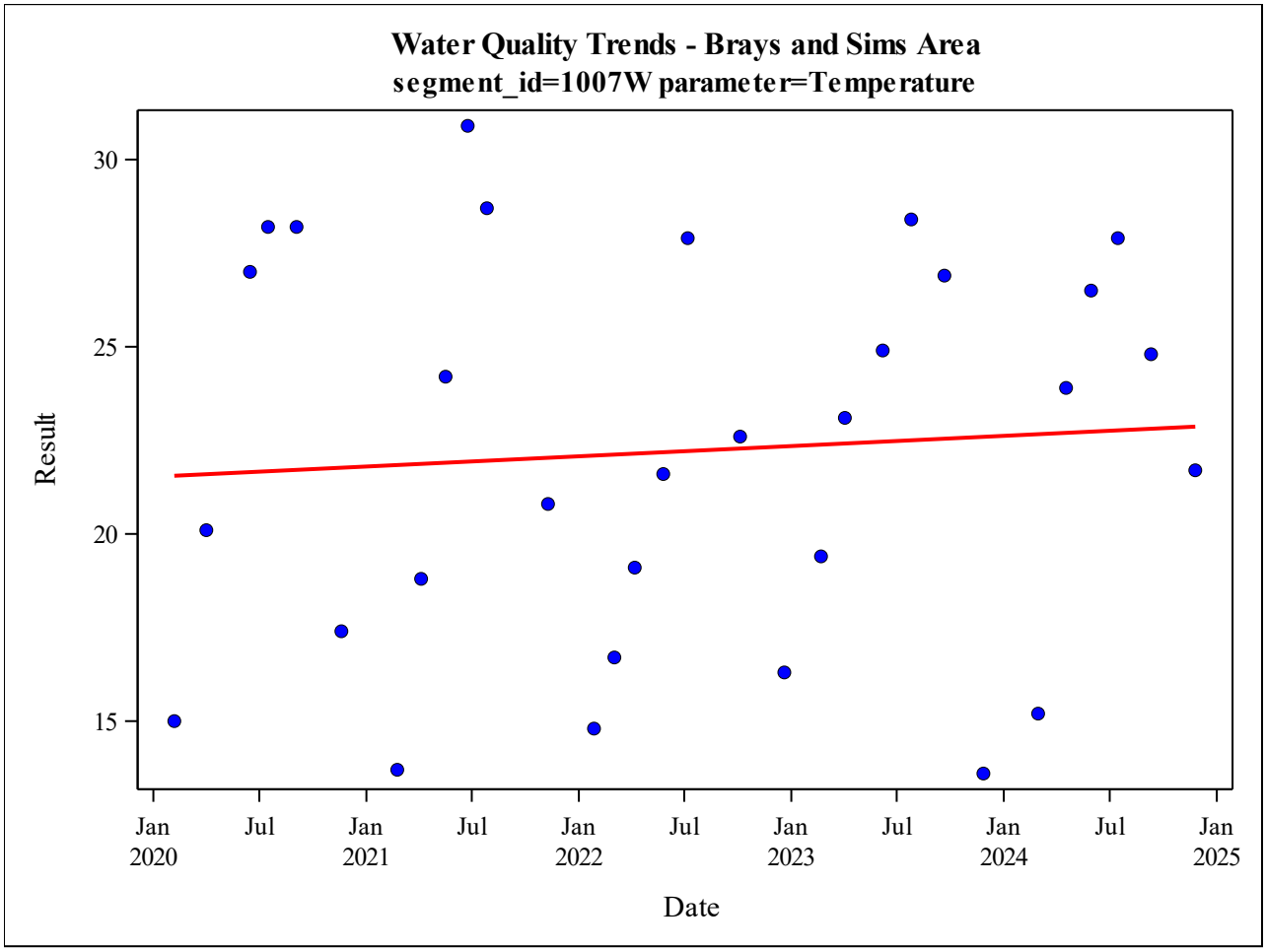

Water Quality Trends - Brays and Sims Area
segment_id=1007W parameter=Dissolved Oxygen (24-hour Mean/ Grab Screening Level)
Result
10
8
6
4
2
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date

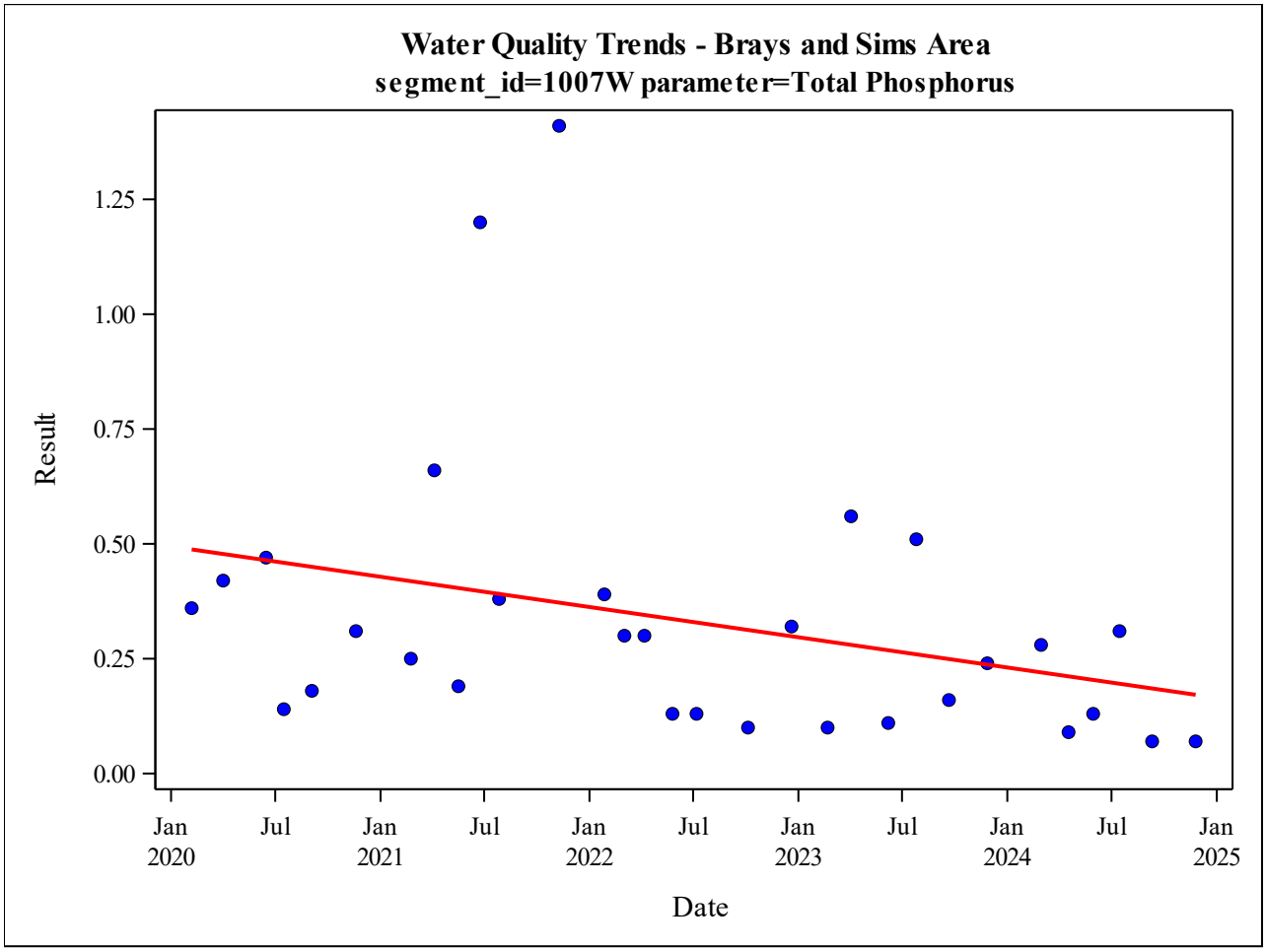

Water Quality Trends - Brays and Sims Area
segment_id=1007W parameter=Dissolved Oxygen (24-hour Minimum / Grab Minimum)
Result
2
01Oct
2024
02Oct
03Oct
Date

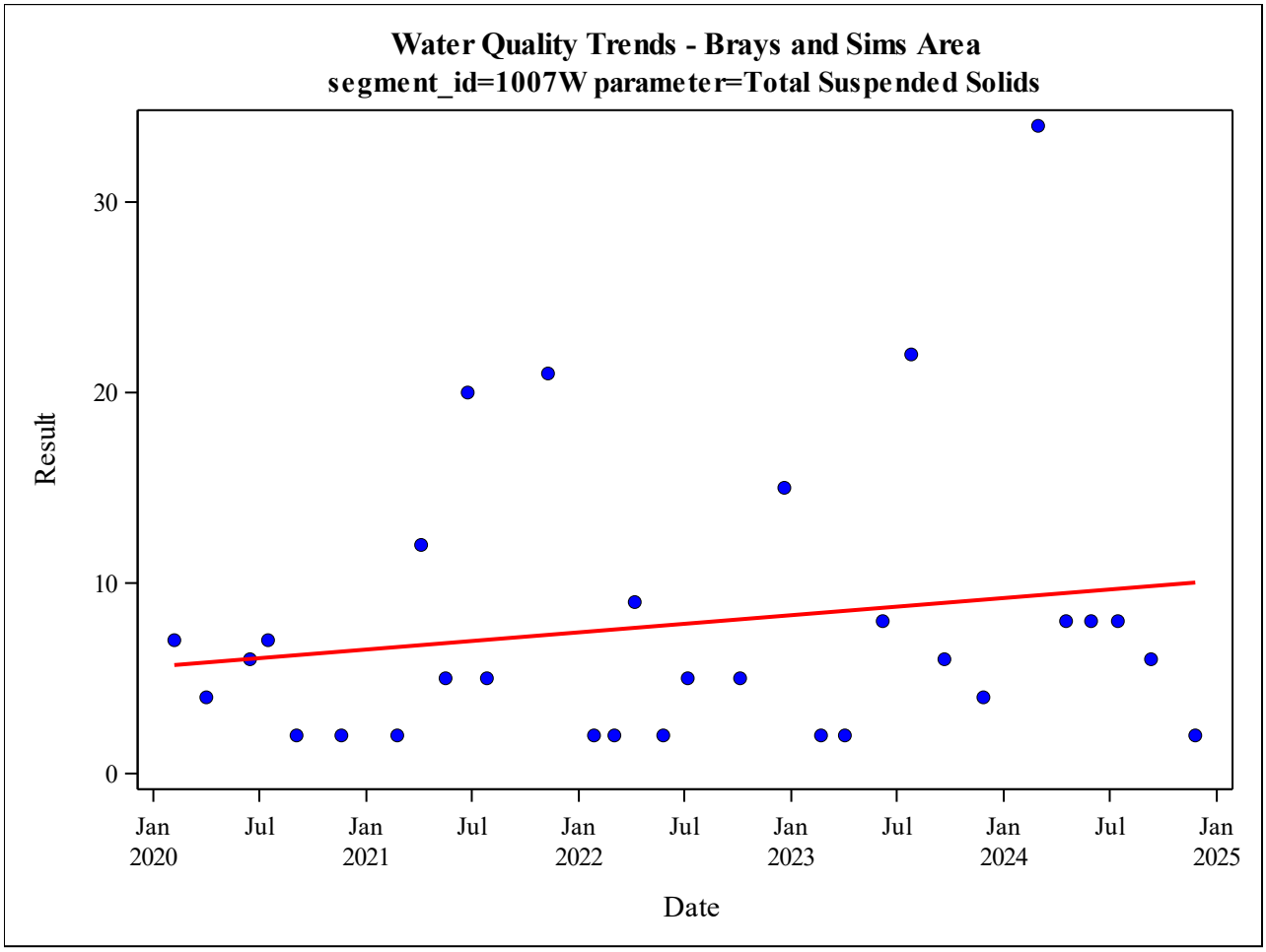

Water Quality Trends - Brays and Sims Area
segment_id=1007W parameter=E. Coli
Result
250000
200000
150000
100000
50000
0
Jan
2020
Jul
Jan
2021
Jul
Jan
2022
Jul
Jan
2023
Jul
Jan
2024
Jul
Jan
2025
Date

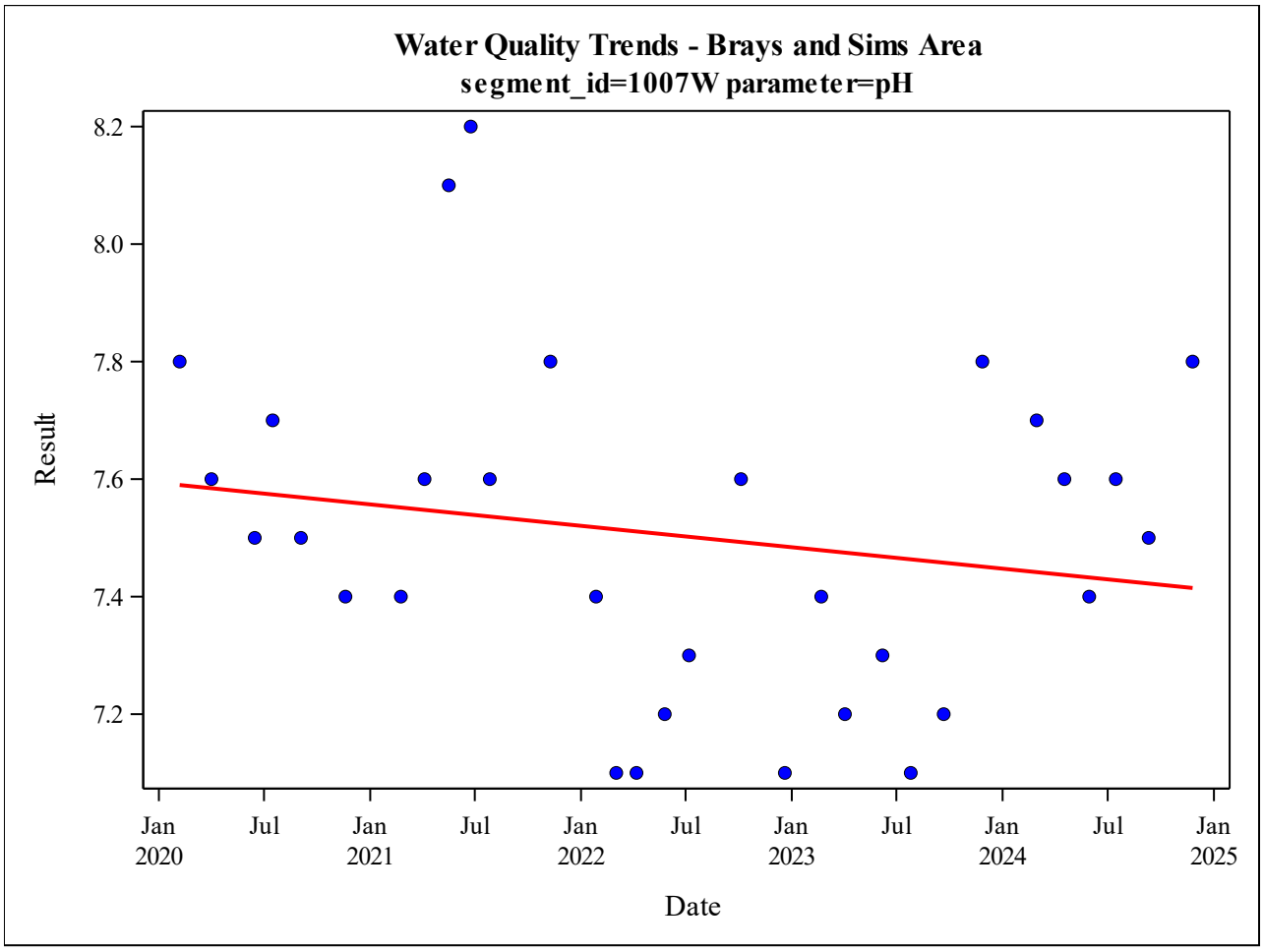

Water Quality Trends - Brays and Sims Area
segment_id=1007W parameter=Instantaneous Flow
Result
0.1
30Sep
2024
01Oct
02Oct
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007W parameter=Nitrate-N
Result
6
4
2
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007W parameter=Temperature
Result
30
25
20
15
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007W parameter=Total Phosphorus
Result
1.25
1.00
0.75
0.50
0.25
0.00
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007W parameter=Total Suspended Solids
Result
30
20
10
0
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date


Water Quality Trends - Brays and Sims Area
segment_id=1007W parameter=pH
Result
8.2
8.0
7.8
7.6
7.4
7.2
Jan 2020
Jul
Jan 2021
Jul
Jan 2022
Jul
Jan 2023
Jul
Jan 2024
Jul
Jan 2025
Date