

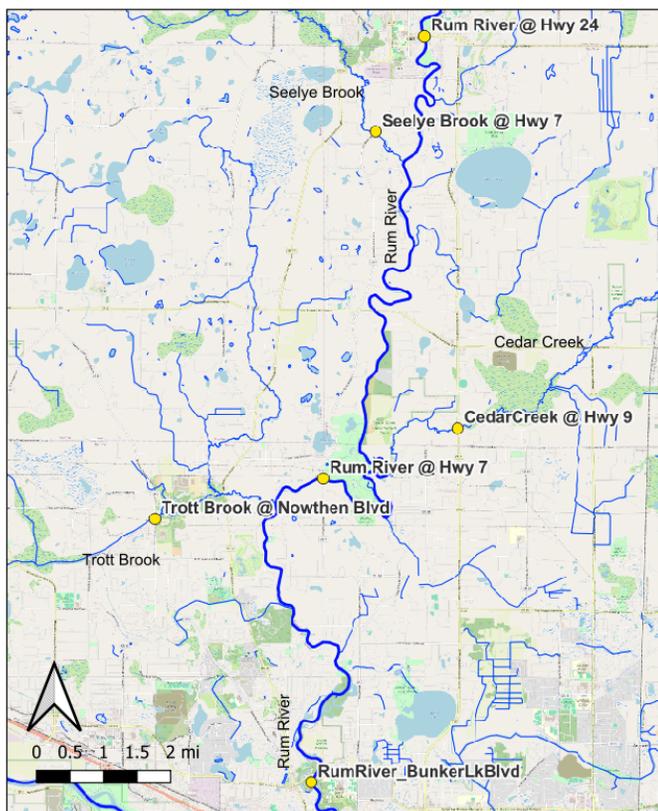
# Rum River & Tributaries

## 2025 Stream Water Quality Summary



### Background

The Rum River is one of Anoka County’s most valuable water resources. The river originates at Lake Mille Lacs, flowing through Mille Lacs and Isanti Counties before reaching the Anoka County area we monitored. It is designated as a state “scenic and recreational” river until it reaches southern Anoka County. It is used for many types of recreation. A large portion of western Anoka County drains to the Rum River including the subwatersheds of Seelye Brook, Trott Brook, Ford Brook, and Cedar Creek.



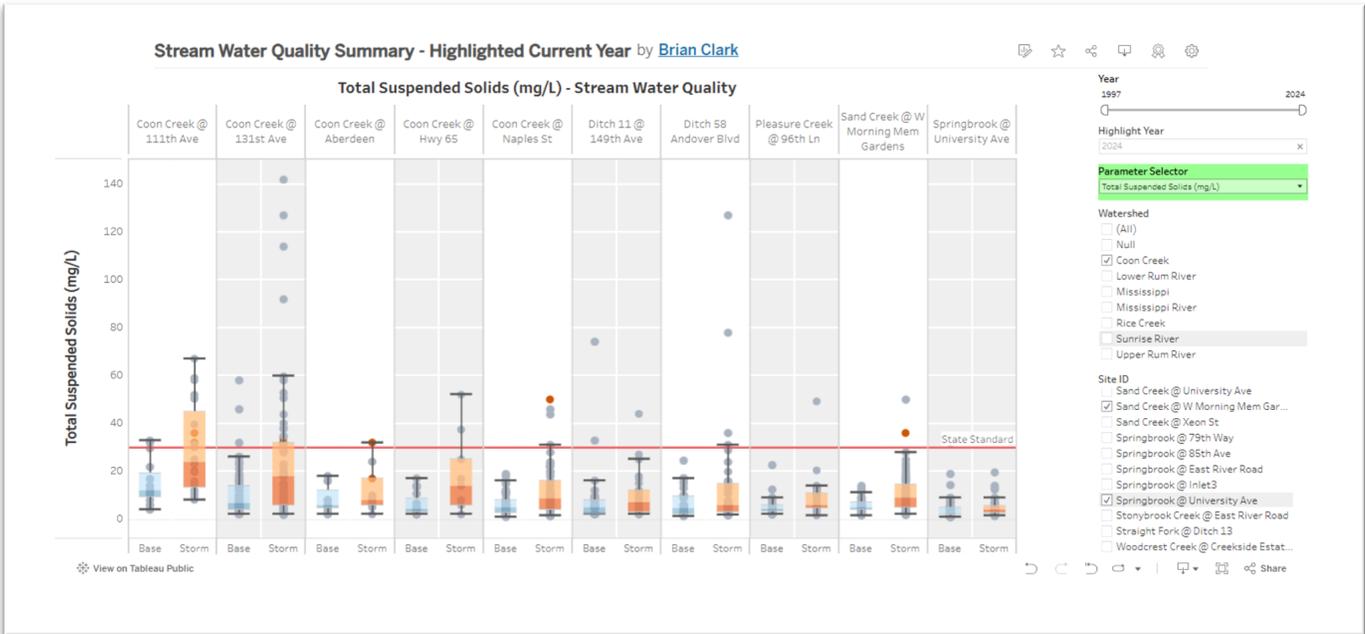
In 2025, water quality monitoring was completed at 6 sites to detect and identify water quality trends. Sites monitored included:

- Rum River at Hwy 24
- Rum River at Bunker Lake Blvd.
- Seelye Brook at Hwy 7
- Cedar Creek at Hwy 9
- Rum River at Hwy 7
- Trott Brook at Nowthen Blvd.

Parameters tested with portable meters included pH, specific conductivity, turbidity, temperature, DO, and salinity. Parameters tested by lab samples include TP, TSS, chlorides, hardness, sulfate, and *E. coli*. Select parameters are reported in this document. All data are available on the Tableau website (see next page).

# Tableau - How To View Data

ACD uses Tableau to visualize our stream water quality data. Historical and current data can be viewed through [ACD's Online Database](#).



To view a dataset of a particular site, check its respective box to the right of the graph under the “Site ID” header. Filtering by “Watershed” will limit the available sites in this table to the selected watersheds.

Additionally, the data can be filtered by year or range of years using the slider on the top right of the graph.

Use the “Parameter Selector” tool to switch between graphs of different parameters.

Use the “Highlight Year” tool to highlight data from a specific year. Data collected this year is colored in red.

Additionally, the full dataset or filtered portions of the dataset can be downloaded through Tableau. To download data, click the image shown below on the top ribbon of the graph.

## Rum River & Tributaries - Summary



In general, the Rum River water quality is good. Of greatest concern is that the river regularly exceeds state standards for total phosphorus (TP; 100  $\mu\text{g}/\text{L}$ ), and on average is only slightly better than the standard. With that said, phosphorus appears to have declined modestly in recent years. The following bullet points apply to the Rum River. For detail on the tributaries, please see the following pages.

- **Specific conductivity and chlorides**, which measure dissolved pollutants, are at healthy levels. Chloride is one dissolved pollutant of regional concern, although not yet elevated to concerning levels in the Rum River. Chloride, often linked to road deicing salts and water softener discharge, tends to increase over time and in urbanizing areas. Many communities implement “smart salting” strategies for road deicing to prevent elevated chlorides in the Rum River watershed. Periodic testing this parameter helps inform the current state and additional management needed.
- **Phosphorus** levels in recent years have regularly exceeded the state standard of 100  $\mu\text{g}/\text{L}$  at most sampled sites, but on average have been slightly lower than this threshold. 2025 averages were slightly higher than historical averages. Reducing phosphorus levels in the Rum River is a regional priority. A goal of a 5% total phosphorus reduction has been set in the Rum River Comprehensive Watershed Management Plan and other plans.
- **Total Suspended Solids (TSS)** and turbidity remained at acceptable levels in the Rum River and its monitored tributaries. Robust stormwater treatment within new developments and continued surveillance monitoring is recommended.
- **pH** was within the range considered normal and healthy for streams in this area.
- **Dissolved oxygen (DO)** remained above 5 mg/L. Below this concentration aquatic life can be negatively affected.

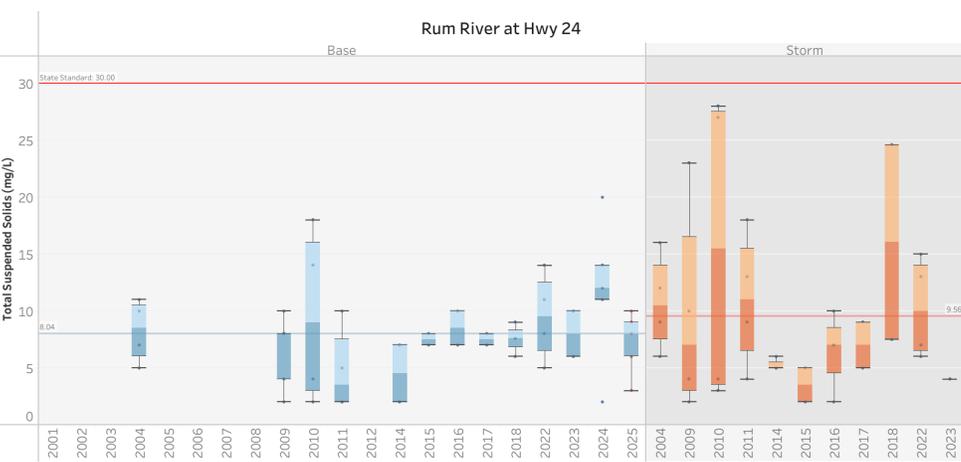
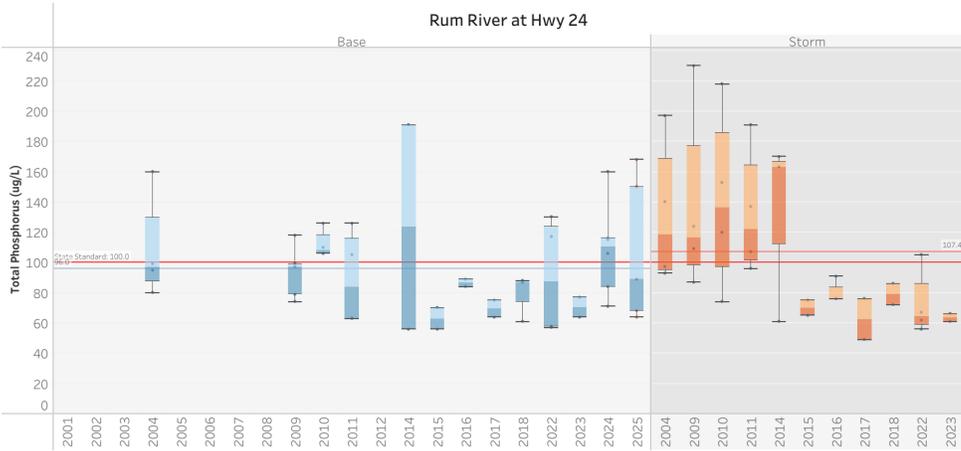
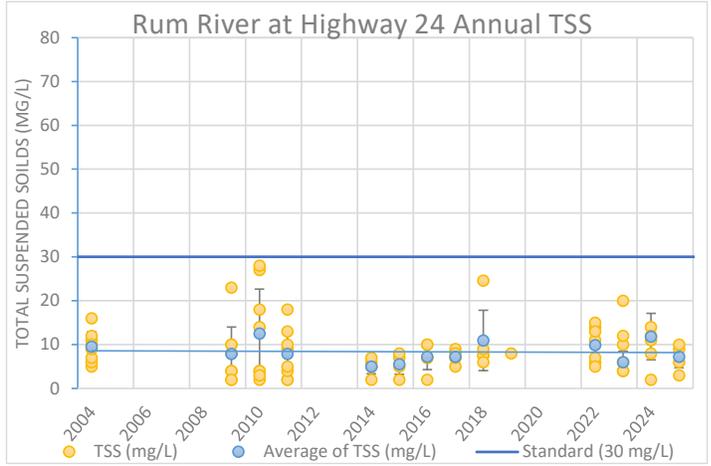
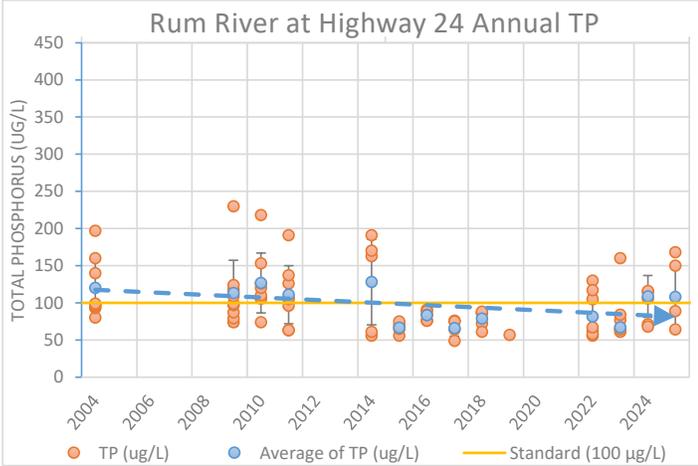
The next several pages analyze water quality at sites on the Rum River and tributaries to the River. The focus is on total phosphorus and total suspended solids, as those are the primary pollutants of concern.

# Rum River & Tributaries - Rum River at Highway 24

Regression Analysis Over-Time—Total phosphorus (TP) and total suspended solids (TSS) concentrations observed at the Rum River at Highway 24 monitoring site have not changed over-time in any statistically significant fashion. TP has an apparent downward trend, but it is not statistically significant ( $p < 0.08$ ).

The Rum River at Highway 24 monitoring site is a good example of a natural section of the Rum River. Flow conditions are typically moderate, supporting diverse aquatic habitats and making the area suitable for recreation such as paddling and angling. The riparian corridor near Highway 24 supports diverse wildlife — including turtles, mussels, migratory birds, and game fish — because of intact floodplain forest and connected wetlands.

This location is near the Rum River’s exit from Isanti County and entry into Anoka County. It also represents entry into the area managed by the Upper Rum River Watershed Management Organization. Areas downstream from this point have more residential and less agricultural land use than upstream river segments.

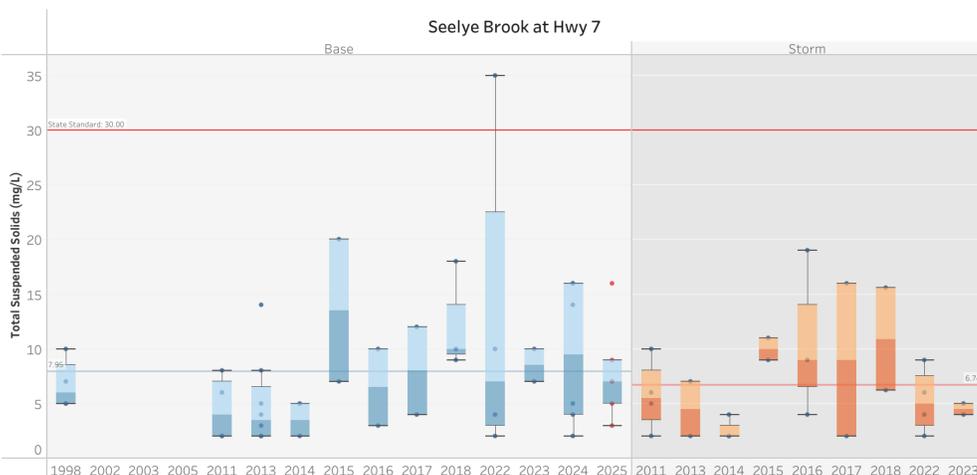
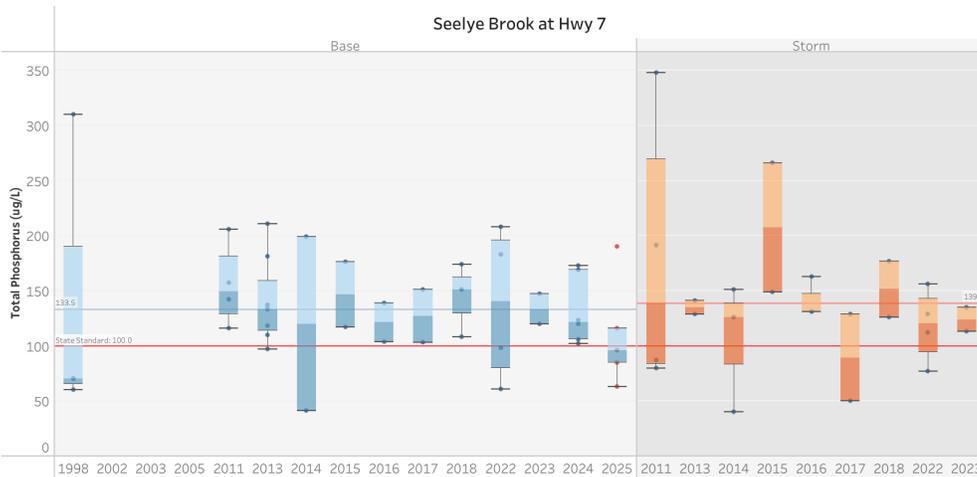
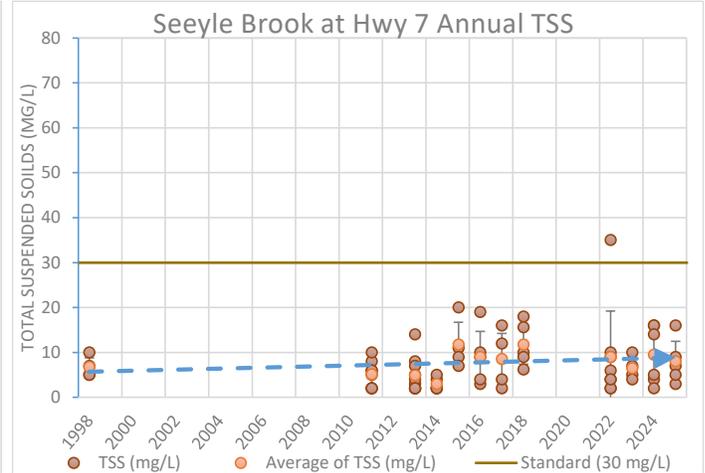
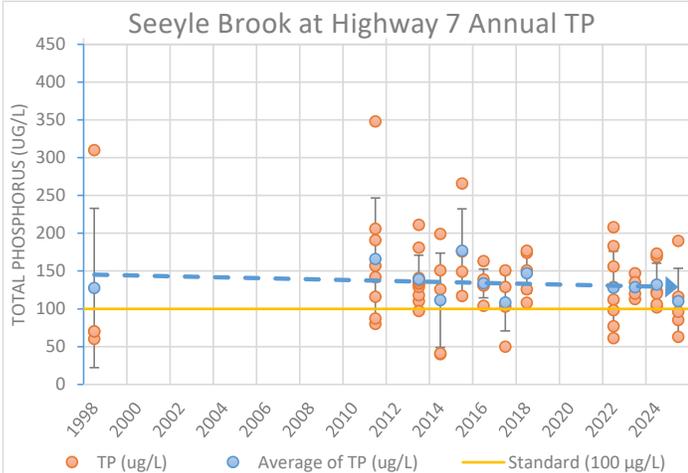


Rum River at Hwy 24		
Parameter	2025 Average	Historical Average
pH	7.95	7.83
Sp. Cond (mS/cm)	0.34	0.30
Turbidity (NTU)	2.56	8.41
DO (mg/L)	8.22	8.70
TP (ug/L)	107.8	100.89
Chloride (mg/L)	17	11.25
TSS (mg/L)	7.2	8.69
Chl-a (mg/L)	N/A	N/A
E. coli	119.25	100.12
Hardness (mg/L CaCO <sub>3</sub> )	121	123.5
Sulfate (mg/L)	N/A	11.51

# Rum River & Tributaries - Seelye Brook at Highway 7

Regression Analysis Over-Time—Total phosphorus (TP) and total suspended solids (TSS) concentrations observed at the Seelye Brook at Highway 7 monitoring site have not changed over-time in any statistically significant fashion.

Seelye Brook is a medium-sized stream tributary to the Rum River, flowing through western Anoka County. The Highway 7 monitoring site is near the City of St. Francis, where the brook passes under a road bridge. The watershed upstream of this point is a mix of rural residential development, agricultural land, forests, and small wetlands. A wide floodplain and riparian corridor habitat exist in many areas.



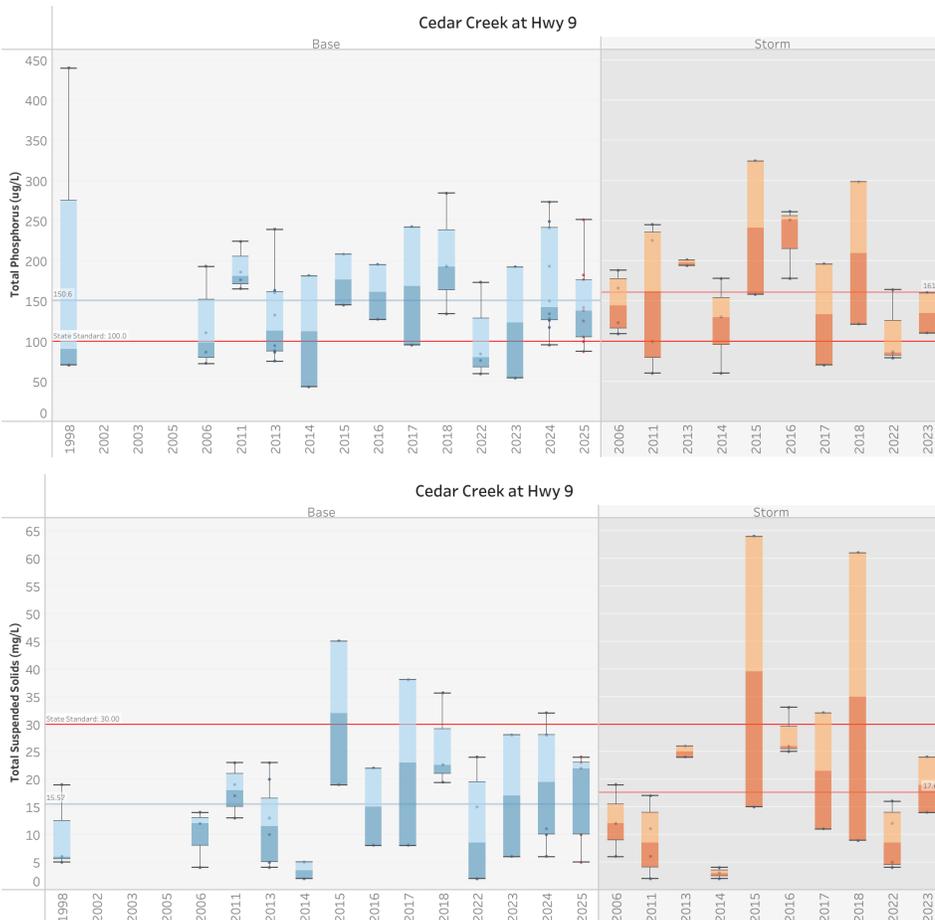
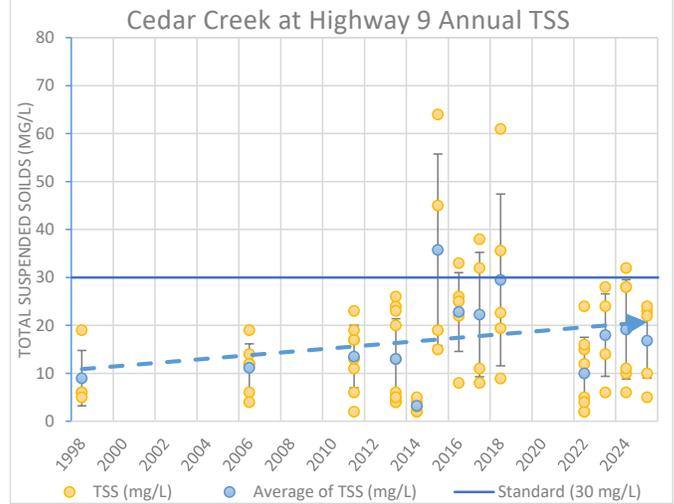
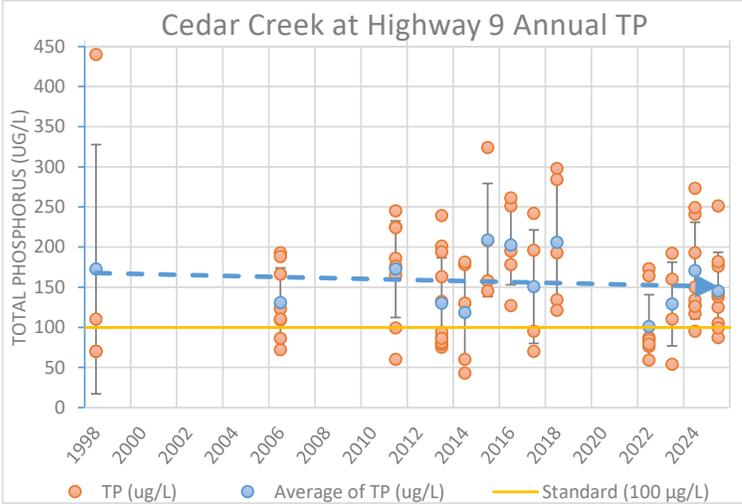
Seelye Brook at Hwy 7		
Parameter	2025 Average	Historical Average
pH	7.76	7.80
Sp. Cond (mS/cm)	0.48	0.44
Turbidity (NTU)	4.25	6.15
DO (mg/L)	7.21	7.75
TP (µg/L)	110	135.47
Chloride (mg/L)	31.3	27.05
TSS (mg/L)	8	7.52
Chl-a (mg/L)	N/A	N/A
E. coli	123.84	303.67
Hardness (mg/L CaCO <sub>3</sub> )	178	175.25
Sulfate (mg/L)	N/A	15.42

# Rum River & Tributaries - Cedar Creek at Highway 9

Regression Analysis Over-Time—Total phosphorus (TP) and total suspended solids (TSS) concentrations observed at the Cedar Creek at Highway 9 site have not changed over-time in a statistically significant fashion.

Cedar Creek starts in southern Isanti County and flows south through Anoka County before emptying into the Rum River. The watershed is largely wetlands and forests with scattered rural residential. The creek flows through areas of high-quality natural communities, including the Cedar Creek Ecosystem Science Reserve. At the Highway 9 monitoring site in the City of Oak Grove, the creek is one of the larger streams in the county at ~25 ft wide with depths commonly ranging from 2 to 5 feet.

Cedar Creek is impaired for high e. coli. This is surprising, given the watershed is mostly wetlands, forests, and rural residential. The wide floodplain on the stream prevents most active land use near the waterway. There is no apparent cause of the elevated e. coli, and because of this management efforts to correct it are few. It is speculated that natural sources of bacteria may be to blame.

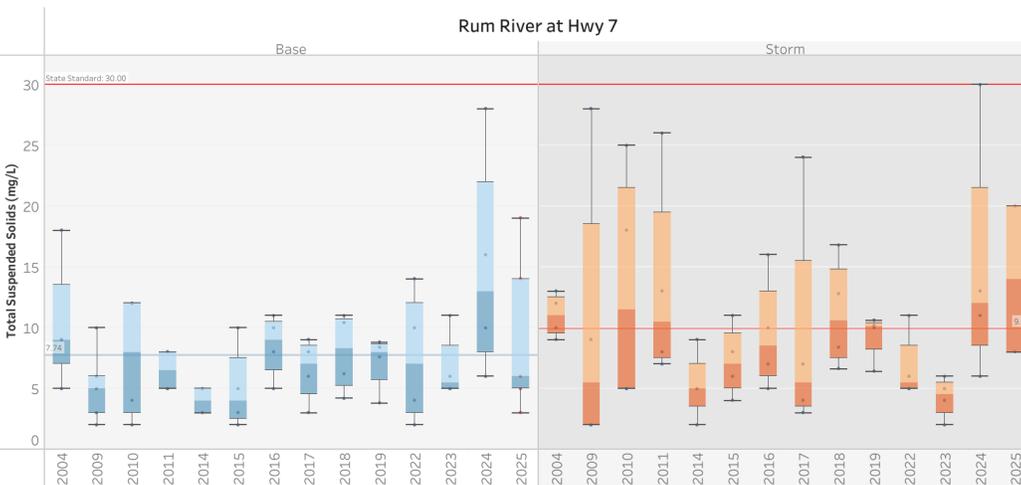
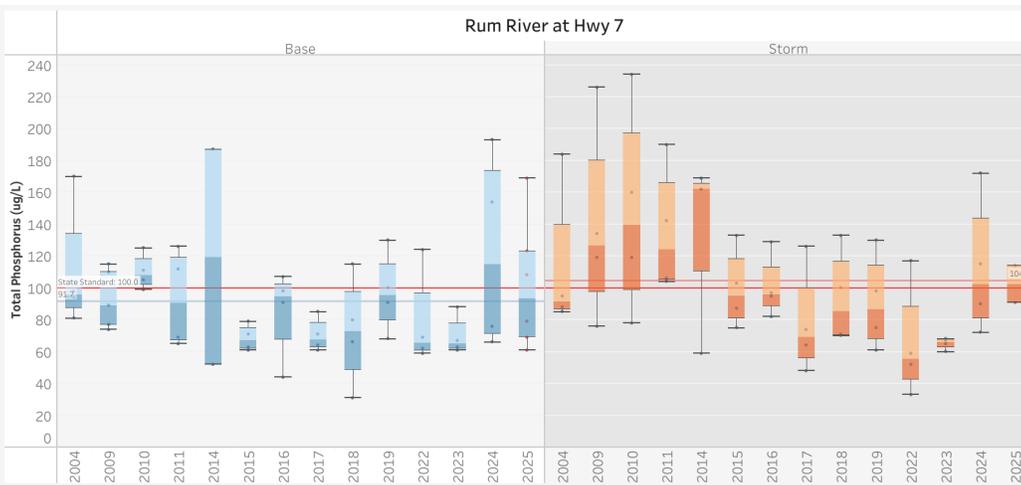
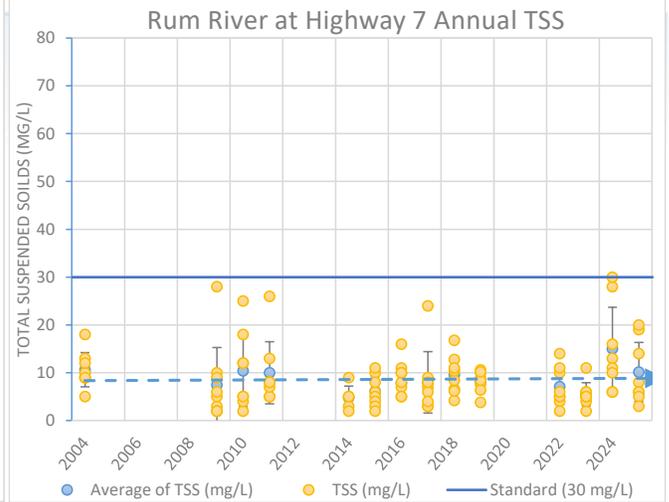
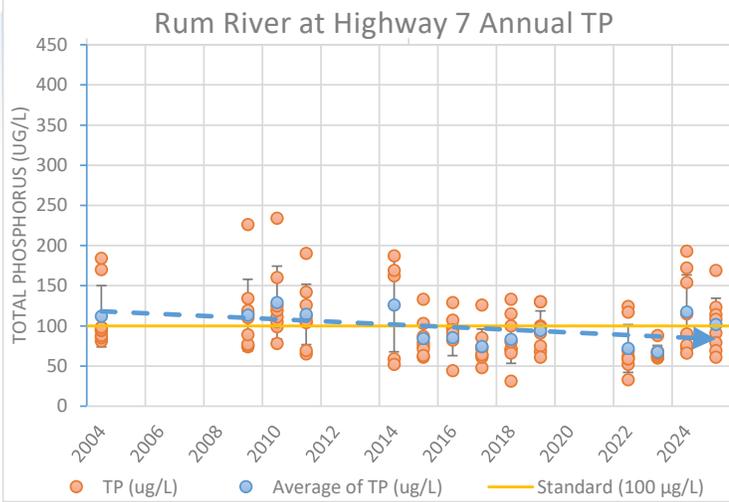


Cedar Creek at Hwy 9		
Parameter	2025 Average	Historical Average
pH	7.87	7.83
Sp. Cond (mS/cm)	0.49	0.41
Turbidity (NTU)	8.3	11.04
DO (mg/L)	7.75	7.68
TP (ug/L)	145	152.41
Chloride (mg.L)	29	23
TSS (mg/L)	16.8	16.13
Chl-a (mg/L)	3.44	3.24
E. coli	135.06	226.68
Hardness (mg/L)	166	171.94
Sulfate (mg/L)	N/A	19.58

# Rum River & Tributaries - Rum River at Highway 7

Regression Analysis Over Time: Total phosphorus levels observed at the Rum River at Highway 7 monitoring site show a downward trend that is close to being statistically significant ( $p < 0.08$ ). Total suspended solids (TSS) levels have not changed over the monitored time period.

The Rum River at Highway 7 monitoring site is a centralized location in Anoka County where upstream natural watershed conditions begin blending with increasing suburban influence. The site is just downstream of the confluence of Cedar Creek with the Rum River. The site is the approximate boundary between two watershed management authorities—the Upper and Lower Rum River Watershed Management Organizations.



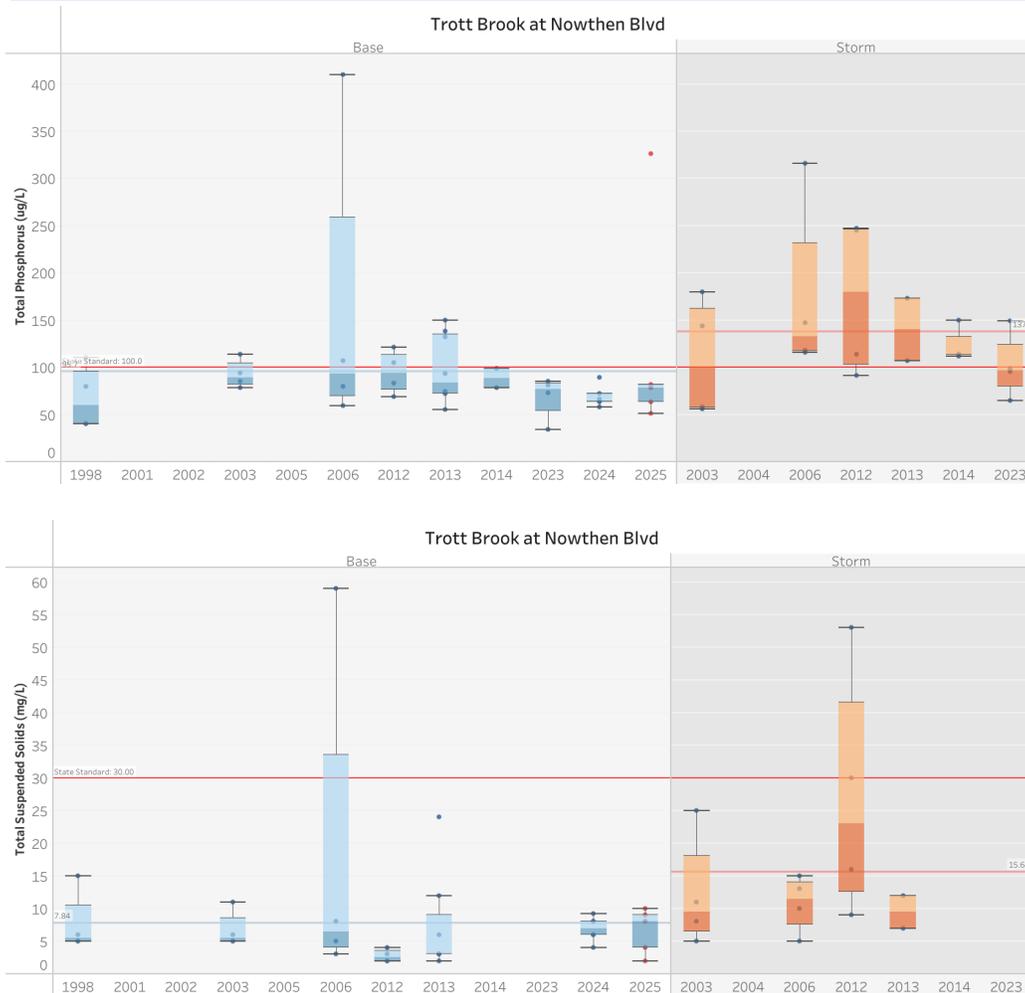
Rum River at Hwy 7		
Parameter	2025 Average	Historical Average
pH	8.05	7.84
Sp. Cond (mS/cm)	0.37	0.31
Turbidity (NTU)	3.43	8.75
DO (mg/L)	8.40	8.77
TP (ug/L)	101.75	98.01
Chloride (mg/L)	19.2	13.72
TSS (mg/L)	10.12	8.8

# Rum River & Tributaries - Trott Brook at Nowthen Blvd

Existing monitoring data for Trott Brook at Nowthen Blvd. are currently insufficient to conduct statistically valid analyses; additional sampling is needed to establish baseline conditions and trends.

Trott Brook is a medium-sized stream tributary to the Rum River. It originates in eastern Sherburne County and flows through the City of Ramsey in Anoka County. Historically, it was ditched and large segments are straightened. It retains a wide floodplain wetland buffer along side the stream in many areas. The watershed includes mostly rural and suburban areas with development. Recent land use changes have been from agriculture and forests to suburbanized.

Trott Brook has low oxygen and biotic impairments which appear to be largely due to the fact that the stream now acts as a ditch though large wetlands. Local watershed managers have generally adopted a medium-term strategy of seeking 5% reductions in total phosphorus in this stream as a way to incrementally improve Trott Brook and b) protect the Rum River.



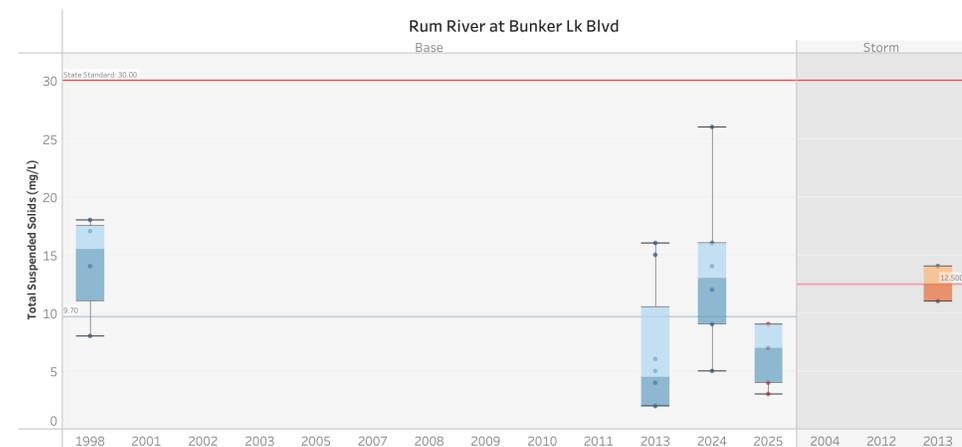
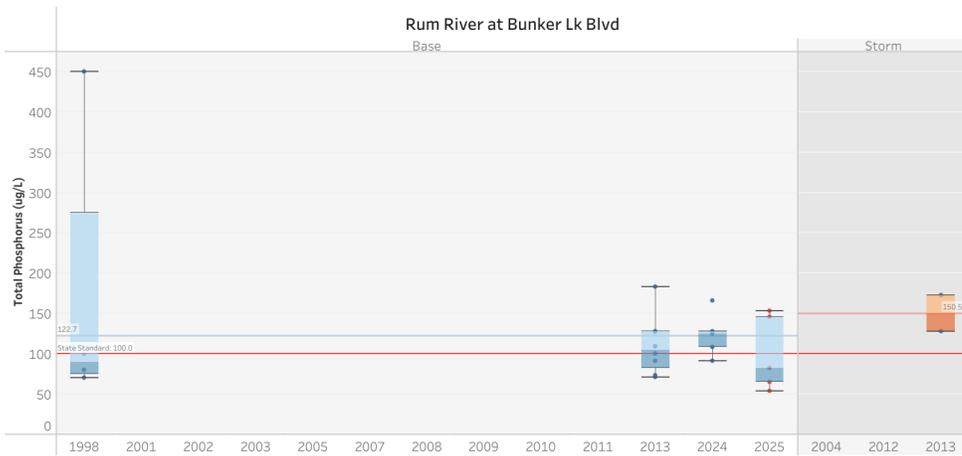
Trott Brook at Nowthen Blvd.		
Parameter	2025 Average	Historical Average
pH	7.65	7.66
Sp. Cond (mS/cm)	0.53	0.51
Turbidity (NTU)	2.95	3.82
DO (mg/L)	8.45	6.37
TP (ug/L)	120	109.98
Chloride (mg/L)	28	20.61
TSS (mg/L)	6.6	10.06
Chl-a (mg/L)	N/A	N/A
E. coli	148.26	96.75
Hardness (mg/L CaCO <sub>3</sub> )	255	214
Sulfate (mg/L)	12.25	14.75

# Rum River & Tributaries - Rum River at Bunker Lake Blvd

Existing monitoring data for the Bunker Lake Blvd. monitoring site are currently insufficient to conduct statistically valid analyses; additional sampling is needed to establish baseline conditions and trends.

This site on the Rum River is in a moderately developed suburban environment. While parks and natural areas occur, homes along the riverbank are more common. Urban stormwater drains into the river in greater volume in this area. Recreational use is high. This segment of the Rum supports diverse number of fish species (smallmouth bass, northern pike, panfish).

For users interested in water quality data for the outlet of the Rum River, we suggest viewing data collected by the Metropolitan Council. That site is as close as possible to the confluence with the Rum River. From approximately 2000 to 2020 it was monitored intensely, but that has been reduced.

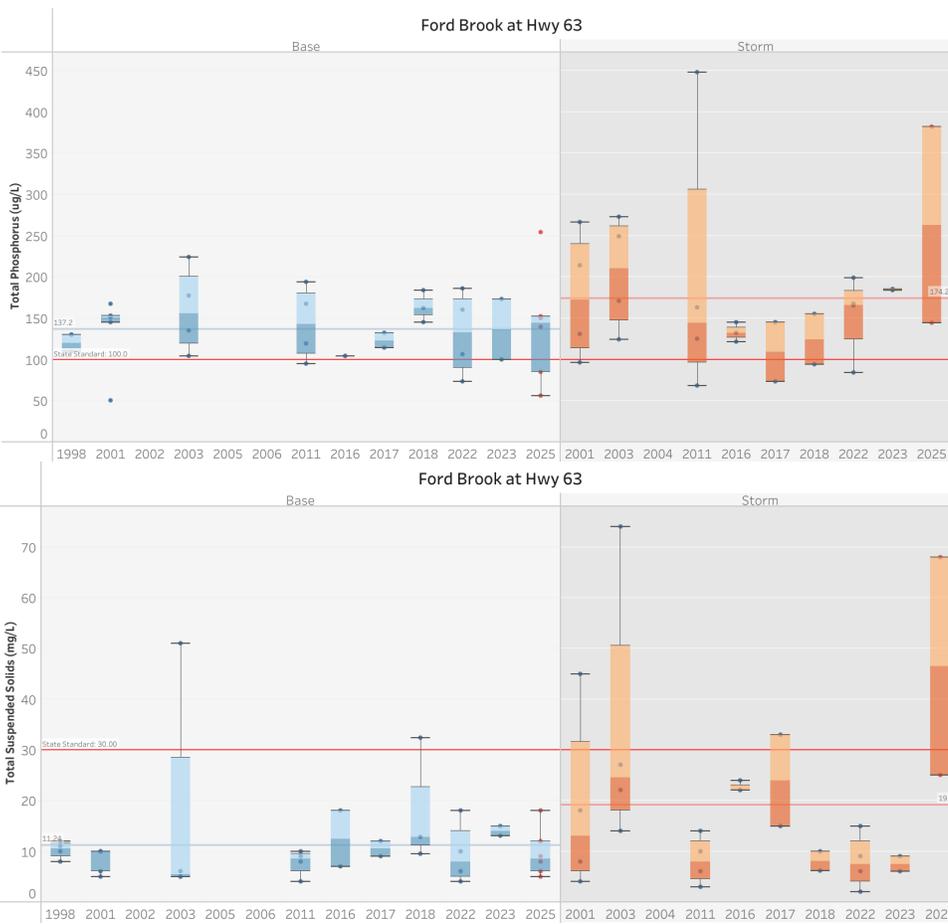
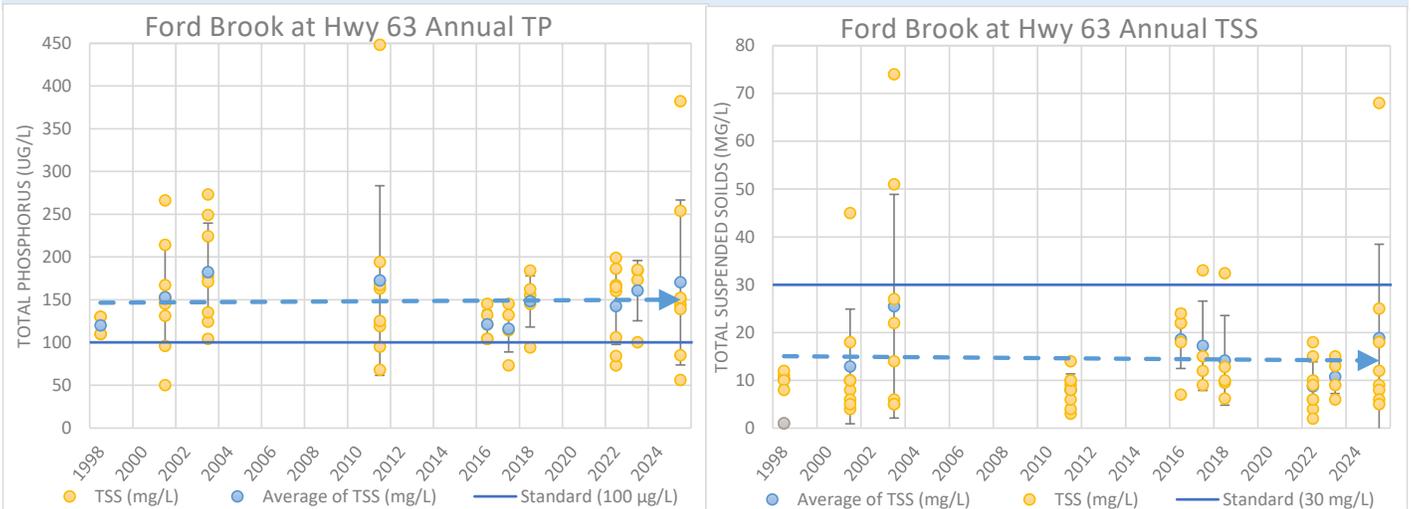


Rum River at Bunker Lake Blvd.		
Parameter	2025 Average	Historical Average
pH	7.94	7.99
Sp. Cond (mS/cm)	0.36	0.32
Turbidity (NTU)	2.20	6.92
DO (mg/L)	7.82	8.02
TP (ug/L)	100	125.04
Chloride (mg.L)	18.3	12.46
TSS (mg/L)	6.4	9.92
Chl-a (mg/L)	N/A	3.65
E. coli	75.66	94.95
Hardness (mg/L CaCO3)	144	120.98
Sulfate (mg/L)	N/A	12.39

# Rum River & Tributaries - Ford Brook at Highway 63

Regression Analysis Over-Time—Total phosphorus (TP) and total suspended solids (TSS) concentrations observed at the Ford Brook at Highway 63 site have not changed over-time in any statistically significant fashion.

Ford Brook is a medium-sized stream that flows primarily through the City of Nowthen. It joins Trott Brook which discharges to the Rum River a short distance later. The Upper Rum River Watershed Management Organization (URRWMO) views Ford Brook as an important water resource for water quality in the wider Rum River area. Management efforts that have increased in recent years are wetland restoration and soil health practices. Ford Brook is not designated as an impaired water by the MN Pollution Control Agency.



Ford Brook at Hwy63		
Parameter	2025 Average	Historical Average
pH	7.84	7.75
Sp. Cond (mS/cm)	0.49	0.49
Turbidity (NTU)	9.01	10.84
DO (mg/L)	7.55	7.70
TP (ug/L)	170.25	153.06
Chloride (mg.L)	N/A	23.32
TSS (mg/L)	18.87	14.63
Chl-a (mg/L)	N/A	N/A
E. coli	N/A	N/A
Hardness (mg/L CaCO3)	N/A	191
Sulfate (mg/L)	N/A	15.27

## Rum River & Tributaries - Trend Analysis

**Total Phosphorus (TP)—Trend Analysis:** The table below provides general statistics and ANOVA trend analysis for TP concentrations at three Rum River monitoring sites during all conditions, moving upstream to downstream. No statistically significant differences between any of the Rum River sites were observed.

ANOVA Matrix TP	Rum River at Hwy 24. n=110	Rum River at Hwy 7. n=79	Rum at Anoka Dam n=54
Rum River at Hwy 24. n=110		No Sig. Change p = 0.62	No Sig. Change p = 0.80
Rum River at Hwy 7. n=79			No Sig. Change p = 0.86
Rum at Anoka Dam n=54			

**Total Suspended Solids (TSS)—Trend Analysis:** The tables below provide general statistics and ANOVA trend analysis for TSS concentrations at three monitoring sites, during all conditions, moving upstream to downstream. No statistically significant differences between any of the Rum River sites were observed.

ANOVA Matrix TSS	Rum River at Hwy 24. n=79	Rum River at Hwy 7. n=110	Rum at Anoka Dam n=53
Rum River at Hwy 24. n=79		No Sig. Change p = 0.89	No Sig. Change p = 0.68
Rum River at Hwy 7. n=110			No Sig. Change p = 0.59
Rum at Anoka Dam n=53			