NORTH CANNON RIVER
WATERSHED MANAGEMENT ORGANIZATION

BOARD OF MANAGERS
Wednesday, July 17, 2024

Tour 6:00 pm
Chub Creek at Dixie Ave in Randolph
(See attached map)

Meeting 7:00 pm
Hampton Townhall
5450 260th Street East
Randolph, MN

Annual Tour: Lindsey Albright, Dakota SWCD, Water Monitoring at Chub Creek, Dixie Ave Randolph, MN. In case of inclement weather, notice will be emailed to Board of Managers and partners the morning of July 17th. If forecast shows severe weather the tour will be cancelled. See attached map for details on meeting location, please note there is construction in Randolph.

* Indicates that support materials are included within the packet

1. **Call to Order**
2. **Approval of Agenda**
3. **Audience**
   Anyone in the audience wishing to address the Board regarding an item that is not on the agenda may come forward at this time.
4. **Consent Agenda**
   4.1 April 17, 2024 Meeting Minutes*
   4.2 Invoices for Payment*
   4.3 Year-to-Date Financial Summary*
5. **New Business**
   5.1 2023 Water Monitoring Report*
   5.2 Cannon River Watershed Flooding Discussion
   5.3 Waterford Quarry Proposal Update
6. **Member Community Reports**
7. **Agenda Items and Location for November 20, 2024 Meeting**
8. **Adjournment**

Tour meeting location is on Dixie Ave at the Chub Creek bridge. The road is gravel with space to park alongside the road.
Please be aware there is construction in Randolph on County Road 88 (292nd St).
Enter Randolph from the East and follow red arrows to avoid construction.

NORTH CANNON RIVER
WATERSHED MANAGEMENT ORGANIZATION

DRAFT MINUTES

BOARD OF MANAGERS

April 17, 2024
7:00 p.m.
Castle Rock Townhall

NCRWMO Managers Present:		Others Present:
Jeff Reed	Douglas Township	Ashley Gallagher, Dakota County SWCD Staff
Frank Wergin	Waterford Township	Jayne Hager Dee, Dakota County SWCD Board
Wayne Peterson	Greenvale Township	Greg Langer, Greenvale Resident
Dan Peine	Hampton Township	Tom Wirtzfeld, Greenvale Resident
Heather Mavencamp	Castle Rock Township	Sandy Weber, Castle Rock Resident
Todd Carlock	City of Randolph	Alan Kraus, Clean River Partners
Tom Krauter	Randolph Township	

1. **Call to Order**
   Vice Chair Peterson called the meeting to order at 7:03 p.m.

2. **Approval of Agenda**
   Motion by Reed, second by Peine to approve the agenda. Motion carried.

3. **Election of Chair**
   Vice Chair Peterson thanked Weber for her time on the Board. He opened nominations for Chair. Peine nominated Jeff Reed. Peterson called for any other nominations, hearing none, nominations were closed.

   Motion by Peine, second by Wergin to cast a white ballot for Jeff Reed for Chair. Motion carried.

4. **Audience**
   Chair asked if there was anyone in the audience that wished to address the Board on an item that is not on the agenda. No comments were made.

5. **Consent Agenda**
   No discussion on consent.

   Motion by Wergin, second by Peine to approve the consent agenda. Motion carried.

6. **New Business**

   6.1 Presentation on Soil Health
   Gallagher provided a presentation on Soil Health, what practices improve soil health, and how to track improvements. The Soil and Water Conservation District Soil Health Program has approximately three-times the amount of funding requests as there is funding available. SWCD Supervisor Dee commented on the success and willingness of farmers, also that more funding will be coming. If interested, it is always good to reach out to the SWCD. There was a question about where projects are located. There is an SWCD projects map online where anyone can

explore what has been implemented in the county. There are also many federally funded projects but that information is not in the map as it is considered private data when using federal funds.

6.2 Information on the CRWJPB Annual Report
Administrator provided an overview of the report, no action needed, information only. There is an online project map for CRWJPO projects.

6.3 Appoint Representative to the CRWJPB
Weber and Administrator provided an overview of the Board, meeting schedule, and responsibilities. Reed is willing to serve as the NCRWMO representative to the CRWJPB.

Motion by Peine, second by Peterson to appoint Reed as the NCRWMO representative to the CRWJPB. Motion carried.

6.4 Information on Wetland Health Evaluation Program (WHEP)
NCRWMO has sponsored the monitoring of two wetlands for many years. It is a great opportunity for volunteers to learn about the watershed, and the WMO gets data on the quality of wetlands. The WHEP program is currently looking for volunteers. Registration is online through Dakota County.

6.5 Waterford Quarry Proposal Timeline Review
The NCRWMO Board previously supported tracking the environmental review process and potentially submitting comments. There are no upcoming comment periods. There have been meetings, both township meetings and citizen group meetings. Weber provided updates on the citizen group, and people can reach out to her for signs. Wergin provided updates on the meetings held recently at the Northfield Ballroom. While Waterford has a current moratorium on mining, Bryan Rock has applied for an Interim Use Permit. There was discussion on dewatering and Chub Creek flows. There is a USGS station that monitors levels, which can then be converted to flows with USGS rating curve.

7. Agenda Items and Location for July 17, 2024 Tour and Meeting
Administrator will coordinate a tour and meeting location. Have not been to Hampton or Douglas lately, and both have new townhalls.

8. Member Community Reports
Hampton will have an open house for their new townhall before their next regular meeting.

Work continues in Randolph on the sanitary sewer project. Funding is from state, and county covering highway 88 portion. Will be 2026 before hookups even begin. Treatment ponds will be north of town.

9. Adjournment - Motion by Wergin, second by Carlock to adjourn the meeting. Motion carried. Meeting adjourned at 8:10 p.m.

DAKOTA COUNTY
SOIL & WATER
CONSERVATION DISTRICT

Invoice

Dakota County Soil & Water Conservation District
4100 220th Street West, Ste 102
Farmington, MN 55024
(651) 480-7777
DakotaSWCD.Accounting@CO.Dakota.MN.US

DATE	INVOICE #
7/1/2024	3398

BILL TO

North Cannon River WMO
Frank Wergin, Treasurer
30468 Canada Avenue
Northfield, MN 55057

AGREEMENT	BILLING PERIOD	TERMS
2024 Agreement	Apr - Jun 2024	Net 30 Days

DESCRIPTION	HRS/COUNT	RATE	AMOUNT
ADMINISTRATION			
Financial Reports & Budget Performance; Board Meeting Preparation; July Tour, and Waterford EAW & General Correspondence.	26.5	95.00	2,517.50
Fees: Paper, Printing and Postage	1	25.00	25.00
Watershed Management Plan: draft resolution for adoption, general coordination and send watershed plan to Met Council	0	95.00	0.00
EDUCATION AND OUTREACH			
Fees: Website Hosting	0	900.00	0.00
Website Maintenance	0.5	95.00	47.50
Advocacy and Outreach	1.5	95.00	142.50
Landscaping for Clean Water Classes, Materials and Maintenance	1	1,900.00	1,900.00
Workshops			
Fees:	0	0.00	0.00
TECHNICAL ASSISTANCE			
Water Monitoring	5.5	95.00	522.50
Fees: Sonde Calibration, PH Buffer and Conductivity Solution	1	85.71	85.71
Landscaping for Clean Water Technical Assistance	0	600.00	0.00
Conservation Projects Technical Assistance	0	1,000.00	0.00
COST SHARE			
Landscaping for Clean Water Grants:	0	250.00	0.00
Cost Share Programs for Landowners:	0	0.00	0.00

It's been a pleasure working with you!

Total $5,240.71

North Cannon River Watershed Management Organization

January 1, 2024 to July 17, 2024

Revenue and Expense Summary

General Fund	01/17/24	04/17/24	07/17/24	11/20/24	Final Entries	Annual Total	2024 Budget
Revenues							
Member Allocations			$ 40,363.04			$ 40,363.04	$ 41,000.00
Interest - Savings Account		$ 8.22	$ 6.54			$ 14.76	$ 300.00
Total Revenues:	**$ -**	**$ 8.22**	**$ 40,369.58**	**$ -**	**$ -**	**$ 40,377.80**	**$ 41,300.00**
Expenses							
Administrative Services	$ 4,264.90	$ 3,822.50	$ 2,542.50			$ 10,629.90	$ 17,250.00
Organizational Dues	$ 500.00					$ 500.00	$ 500.00
Advocacy, Education, Outreach						$ -	$ 2,375.00
Support Existing E &O			$ 190.00			$ 190.00	$ 2,700.00
CS-Agricultural Projects	$ 4,000.00	$ 1,000.00				$ 5,000.00	$ 4,000.00
CS-Landscaping for Wtr Quality			$ 1,900.00			$ 1,900.00	$ 4,450.00
Water Quality Monitoring	$ 998.88	$ 1,117.89	$ 608.21			$ 2,724.98	$ 10,525.00
5th Generation WM Plan						$ -	$ 1,500.00
Total Expenses:	**$ 9,763.78**	**$ 5,940.39**	**$ 5,240.71**	**$ -**	**$ -**	**$ 20,944.88**	**$ 43,300.00**
Use of Fund Balance							$ 11,500.00
Net Surplus / (-) Deficit	**$ (9,763.78)**	**$ (5,932.17)**	**$ 35,128.87**	**$ -**	**$ -**	**$ 19,432.92**	**$ (2,000.00)**

North Cannon River Watershed Management Organization

January 1, 2024 to July 17, 2024

Balance Sheet

Assets		
Cash in Checking		$87.46
Cash in Savings		$26,020.93
Total Cash:	**$**	**26,108.39**
Accounts Receivable		$636.95
Total Accounts Receivable:	**$**	**636.95**
Total Assets:	**$**	**26,745.34**
Liabilities and Equity		
Accounts Payable	$	5,240.71
Total Accounts Payable:	**$**	**5,240.71**
Equity		
General Fund Balance January 1	$	31,392.68
Net Surplus / (-) Deficit	$	19,432.92
Total Equity:	**$**	**50,825.60**
Total Liabilities and Equity:	**$**	**56,066.31**

2023 Water Monitoring Report

NORTH CANNON RIVER WATERSHED MANAGEMENT ORGANIZATION

Dakota COUNTY

Monitoring Sites

Chub Creek - 4 sites
Pine Creek - 1 sites
Trout Brook - 3 sites

Monitoring Frequency

1x per month; April through October

Monitoring Parameters

Physical - Chlorophyll-a, Conductivity, Dissolved Oxygen, pH, Sediment, Temperature
Nutrients - Nitrates, Phosphorus
Bacteria - E. coli
Stage, Streamflow, Continuous temperature

Monitoring sites are located near the pour points of each of the smaller subwatersheds

Water quality monitoring at **locations throughout the watersheds** and of several **chemical and physical parameters** enables local decision makers and state agencies to **evaluate stream health** in order to **implement appropriate management strategies** to better protect and improve overall health.

Report prepared on behalf of the North Cannon River Watershed Management Organization and Dakota County Parks Department by the Dakota County Soil and Water Conservation District

DAKOTA COUNTY SOIL & WATER CONSERVATION DISTRICT

Chub Creek Watershed

Chub Creek originates in Chub Lake, a natural 274-acre lake with a large adjacent wetland. Major tributaries include Dutch Creek, Mud Creek, and the North Branch of Chub Creek. The subwatershed is generally flat and the streams meander slowly through the landscape.

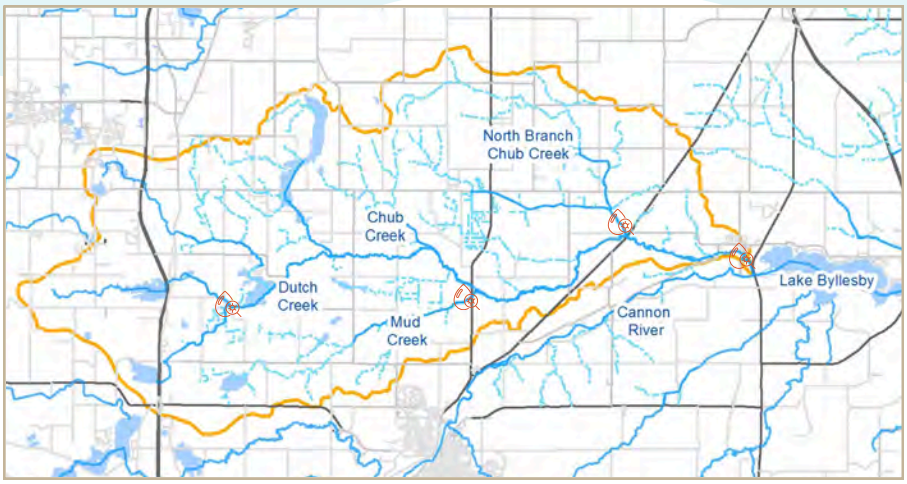
Monitoring Locations

Dutch Creek (DUTCH300)
- Dutch Creek at 300th Street W

Mud Creek (MUD3)
- Mud Creek at Highway 3

North Branch Chub Creek (NB47)
- North Branch Chub Creek at Highway 47

Chub Creek (Chub PMS)
- Chub Creek on Dixie Ave



2023 monitoring locations

Impairments

Chub Creek
- Macroinvertebrates (2014)
- Fishes (2014)
- Fecal Coliform (1994, 2006)

Mud Creek
- Fecal Coliform (2006)

Dutch Creek
- Macroinvertebrates (2016)
- Fishes (2016)

Mud Creek

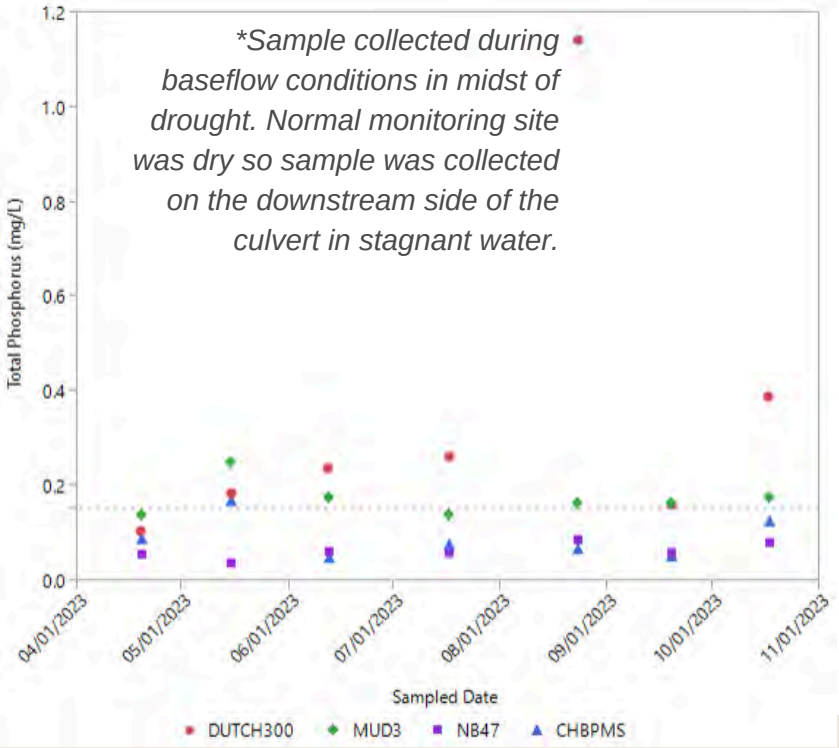
2023 Field Measurements

Water quality data ranges collected at monitoring sites in Chub Creek watershed

Parameter	Desired Range	Dutch Creek Range	Mud Creek Range	NB Chub Creek Range	Chub Creek Range
Temperature (degC)	Less than 30	6.18 - 23.26	6.95 - 19.402	5.91 - 20.3	7.36 - 26.24
Dissolved Oxygen (mg/L)	Greater than 5.0	1.51 - 7.28	0.86 - 9.36	7.75 - 10.45	7.11 - 10.67
Transparency (cm)	Greater than 25	60 - >100	99 - >100	89 - >100	61 - >100
Conductivity (uS/cm)	Less than 698	560 - 754	506 - 829	550 - 591	575 - 674
pH (S.U.)	6.5 to 9.0	6.94 - 7.7	7.07 - 7.61	7.35 - 7.78	7.6 - 8.1

Phosphorus

Total Phosphorus (TP) includes all forms of phosphorus; particulate and dissolved. The **state standard of 0.15 mg/L** (grey dotted line on graph to right) was **exceeded several times at the sites on Dutch and Mud Creeks**. **No exceedances were recorded at the North Branch monitoring site and the mainstem Chub site only had one exceedance** during the field season. Phosphorus levels increased throughout the season at Dutch Creek, whereas the other sites had a higher degree of variability and stayed below or close to the state standard during all monitoring events.



Nitrates

Much of the Chub Creek watershed is characterized by coarse soils which make the shallow groundwater more susceptible to nitrate pollution. Some nitrate in streams is natural, but natural levels are generally around 0.5-2 mg/L. Nitrate leaching can result in contamination of shallow groundwater where private drinking water wells may be located.

The Environmental Protection Agency has set a nitrate standard of ≤10 mg/L in drinking water to protect human health. Nitrate concentrations in **Chub Creek, Dutch Creek, and Mud Creek did not exceed the drinking water standard** at any point during the monitoring season. Water samples collected on the **North Branch of Chub Creek exceeded the standard in two samples** and were **above 8 mg/L for four of the other five efforts**.

Total Suspended Solids

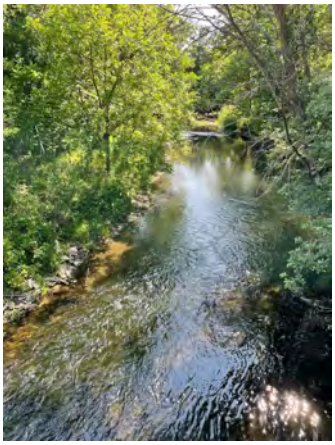
All but one water sample collected met the TSS state standard of 65 mg/L. Dutch Creek exceeded the standard for TSS (and other parameters) during the August monitoring event. Secchi tube readings were consistently >100cm though each site had one event that was less than that.

Chlorophyll-a

Chlorophyll-a serves as an indirect indicator of nutrient levels in a river due to the relationship between water quality and algae biomass. **Chlorophyll-a levels throughout the watershed are low, except at Dutch Creek** in August when the sample was five times the standard (≤35 ug/L).

E. coli

E. coli levels throughout the watershed were lowest in the spring and fall. It is believed that the cold water experienced during these months is likely to contribute to stunting the population growth of the bacteria. Throughout the season, **only seven of 21 samples collected were within the state standard of ≤126 organisms/100mL**. The highest measured value occurred in July - 1,733 organisms/100mL, almost 14 times higher than the state standard - at the monitoring site on Chub Creek, the most downstream site in the watershed.



Chub Creek

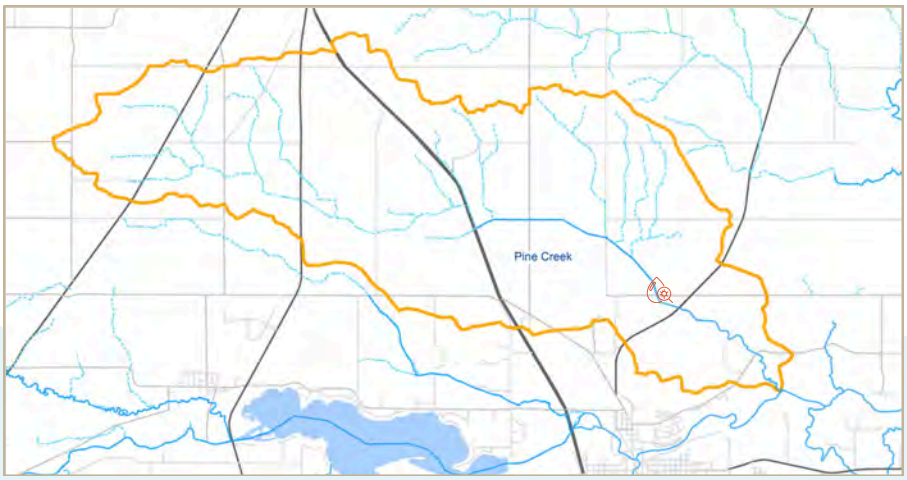
Pine Creek Watershed

Pine Creek watershed drains approximately 21 square miles of flat, agricultural land. Most of the creek's length was ditched and straightened to create County Ditch #1 in 1960. The creek is designated by the MNDNR as a trout stream downstream of Highway 52.

Monitoring Location

Pine Creek (PC3)

- Pine Creek at 280th Street



2023 monitoring location

Impairments

Pine Creek

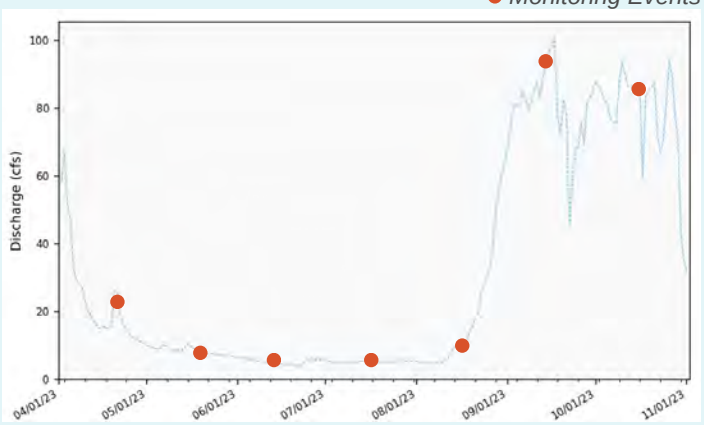
- Nitrates (2010)

Pine Creek

2023 Field Measurements

Water quality data range collected at the Pine Creek monitoring site

Parameter	Desired Range	Pine Creek Range
Temperature (degC)	Less than 30	7.62 - 15.98
Dissolved Oxygen (mg/L)	Greater than 5.0	6.27 - 10.67
Transparency (cm)	Greater than 25	76 - >100
Conductivity (uS/cm)	Less than 698	587 - 746
pH (S.U.)	6.5 to 9.0	7.19 - 7.56



MNDNR hydrologists deploy continuous temperature and water level monitoring equipment at this site year round.

Phosphorus

Total Phosphorus (TP) includes all forms of phosphorus; particulate and dissolved. **No exceedances of the state standard of 0.150 mg/L were recorded during the monitoring season.** Phosphorus level was highest (0.078 mg/L) in June.

Nitrates

Although nitrates occur naturally in soil and water, excess levels of nitrates are considered to be a contaminant of ground and surface waters. Most sources of excess nitrates come from human activity including agricultural activities, human wastes, and industrial pollution. Nitrate leaching (movement of nitrate and water through soils) can result in contamination of shallow groundwater where private drinking water wells may be located. The federal standard for nitrate is ≤10 mg/L in drinking water to protect human health.

Nitrate concentrations in Pine Creek exceeded the federal standard in all months, but May and June. Nitrate levels have been consistently high since monitoring began in 2006, consistently exceeding the standard throughout the monitoring season. Some variation does occur, but low levels are rare and most likely related to rain events.

Total Suspended Solids

Total suspended solids (TSS) levels were well within the proposed state standard of 65 mg/L at PC3, although the standard may have been exceeded on days when samples were not collected. Historical data supports the findings from 2023. Levels were low throughout the monitoring season (far below the state standard), with occasional increases likely due to the increased amount of sediment in the creek coming off the land after rainfall events.

Chlorophyll-a

Chlorophyll-a serves as an indirect indicator of nutrient levels in a river due to the relationship between water quality and algae biomass (high chlorophyll = high nutrients). **Chlorophyll-a levels at the site on Pine Creek was well below the state standard of ≤35 ug/L** throughout the season.

E. coli

***E. coli* levels in 2023 were in line with historical levels in Pine Creek** - levels were below or near the state standard in the spring and summer when bacteria growth is stunted by cold water temperatures. Higher water levels during the late summer and early fall most likely resulted in elevated *E. coli* readings in those months, but the reason behind the quick rise and sustained water level increase is currently unknown (increased irrigation due to drought?; downstream blockage?).

Three of the four *E. coli* samples collected this season exceeded the state standard of ≤126 organisms/100mL. The highest measured value occurred in August - 387 organisms/100mL - almost three times higher than the state standard.

Trout Brook Watershed

Trout Brook is a groundwater-fed stream located in southeast Dakota County. The majority of its perennial flow is contained within the Miesville Ravine Park Reserve, and enters the Cannon River immediately after leaving the park. The lower section is a MNDNR-designated trout streams.

Monitoring Locations

Trout Brook (TB1)

- Unnamed Tributary to Trout Brook at Miesville Trail

Trout Brook (TB2)

- Trout Brook at Miesville Trail

Trout Brook (TB3)

- Trout Brook at Orlando Trail

2023 monitoring locations

Impairments

Mainstem

- Turbidity (2006)
- Nitrates (2010 and 2018)
- Macroinvertebrate (2014)

East branch - unnamed tributary

- Nitrates (2024)

Trout Brook - TB3 (left) & TB1 (right)

2023 Field Measurements

Water quality data ranges collected at monitoring sites in Trout Brook watershed

Parameter	Desired Range	TB1 Range	TB2 Range	TB3 Range
Temperature (degC)	Less than 30	8.37 - 10.62	7.62 - 12.30	7.57 - 12.54
Dissolved Oxygen (mg/L)	Greater than 5.0	8 - 12.46	8.09 - 12.78	9.3 - 11.86
Transparency (cm)	Greater than 25	>100	>100	>100
Conductivity (uS/cm)	Less than 698	660 - 705	701 - 771	649 - 701
pH (S.U.)	6.5 to 9.0	7.1 - 7.46	7.56 - 7.73	7.45 - 8.01

Phosphorus

Total Phosphorus (TP) includes all forms of phosphorus; particulate and dissolved. **No exceedances of the state standard of 0.150 mg/L were recorded at any of the monitoring sites during the monitoring season.** Phosphorus levels were lowest in April and May and showed the highest degree of variability at TB2 (upstream site on the mainstem).

Trout Brook - TB3

Nitrates

Trout Brook is found in a karst landscape, a geologic system that is characterized by underground drainage systems such as caves and sinkholes, and dotted with springs. Bedrock fracturing and thin layers of soil contribute to rapid groundwater velocities and short residence times, making water quality a major concern, as land use practices can have a direct, and almost immediate, impact on groundwater. Nitrate leaching can result in contamination of shallow groundwater where private drinking water wells may be located. The federal standard for nitrate is ≤10 mg/L in drinking water to protect human health.

Trout Brook - TB1

Nitrate levels exceeded the drinking water standard at all monitoring sites in all months (winter sampling included). TB2 had the highest nitrate levels of the three stream monitoring sites, with concentrations two times the federal standard. **Since monitoring of these sites began in 1999, nitrate concentrations at all three sites - TB1 (east branch), TB2 (west branch), and TB3 (main stem) - have shown an increasing trend over time.**

Total Suspended Solids

For all monitoring sites in 2023, the TSS levels were well within the state standard of 65 mg/L (standard may have been exceeded on days when samples were not collected). Secchi tube readings record during each event show a strong correlation between water transparency and TSS levels as is expected.

Chlorophyll-a

Chlorophyll-a serves as an indirect indicator of nutrient levels in a river due to the relationship between water quality and algae biomass (high chlorophyll = high nutrients). **Chlorophyll-a levels at all sites in the watershed were well below the state standard of ≤35 ug/L** throughout the season.

E. coli

Throughout the season, **TB1 had *E. coli* levels far below the standard of ≤126 organisms/100mL. Half of the samples at TB2 and TB3 were above the standard,** a few were right below, and the rest were well below. Samples in June and August were highest at all three sites.

Trout Brook Groundwater

Trout Brook is found in a karst landscape, a geologic system that is characterized by underground drainage systems such as caves and sinkholes, and dotted with springs. Four sentinel springs have been monitored for nitrate on a semi-regular basis since 1985.

Monitoring Locations

Listed Upstream to Downstream

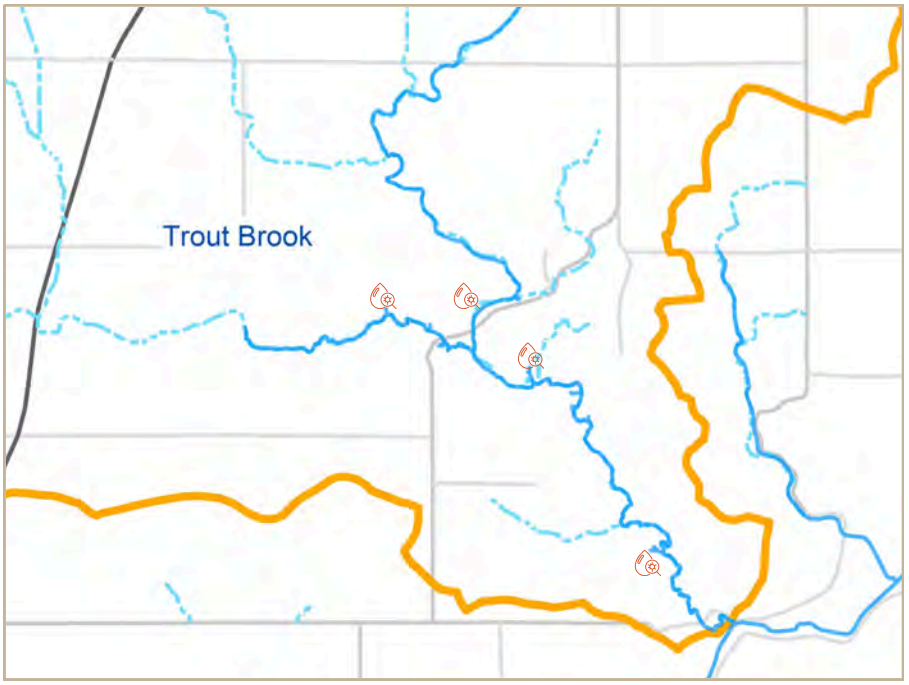
Fox Spring (mainstem)

LeDuc Spring (unnamed trib)

Beaver Spring

Swede Spring

Starting in 2018, monitoring frequency increased from once per year to quarterly. Increased sampling frequency results in higher resolution dataset that provides a more robust understanding of nitrate levels throughout the watershed.



2023 monitoring locations

2023 Field Measurements

Water quality data ranges collected at Trout Brook spring monitoring sites

Parameter	Fox Spring	LeDuc Spring	Beaver Spring	Swede Spring
Temperature (degC)	9.1 - 9.48	8.63 - 8.85	9.01 - 9.21	8.65 - 9.03
Dissolved Oxygen (mg/L)	8.33 - 8.63	6.85 - 7.3	9.15 - 9.6	6.63 - 7.17
Conductivity (uS/cm)	732 - 791	663 - 732	699 - 754	588 - 636
Nitrate (mg/L)	**23.4 - 25.9**	**16.5 - 19.7**	**19.4 - 21.9**	**8.21 - 11.4**
Trending	Increasing 0.15 mg/L/yr	Increasing 0.33 mg/L/yr	Increasing 0.33 mg/L/yr	Increasing 0.15 mg/L/yr

Beaver Spring

Fox Spring

All four spring monitoring sites show increasing nitrate concentration trends over time. Fox Spring (top of the watershed; upstream TB2) has the highest levels of all four sites. Swede Spring (bottom of the watershed; upstream of TB3) has the lowest nitrate levels in the watershed. All sites have nitrate levels above the state drinking water standard (10 mg/L).