# SID Update

## Belle Creek Watershed

**August 2025**

The purpose of Cycle 2 stressor identification (SID) work is to perform SID in a way that supports Cycle 2 watershed restoration and protection efforts, with an emphasis on meeting local partner needs, protection of biotic integrity, and identifying changes in biotic condition. Cycle 2 SID work is designed and executed to add value to local partner implementation planning efforts. SID staff will seek to strengthen local partnerships and provide scientific analyses and recommendations in a format and timeframe that is most useful to local partners.

Belle Creek Watershed was identified for Cycle 2 SID work via conversations with local partners and professional judgment from the Minnesota Pollution Control Agency (MPCA) staff. Factors that led to selection included:

- Belle Creek is a Tier 1 priority issue/area in the Cannon River Comprehensive Watershed Management Plan (CWMP). Belle Creek was identified as a Tier 1 priority because it's a groundwater sensitive area, a coldwater trout stream, has turbidity and *E. coli* impairments, is a top 25% total nitrogen (TN) and total phosphorus (TP) yielding subwatershed, and drains to a large river recreation area.
- Biological protection as Belle Creek has healthy biological communities that are meeting standards (except for a small headwater tributary that has a macroinvertebrate impairment).

Goals for Cycle 2 SID work in Belle Creek Watershed included:

- Summarize current chemical, biological, and physical conditions and identify changes between Cycle 1 (2011) and Cycle 2 (2022).
- Identify stressors and pollutant sources that are currently impacting biological communities and/or threaten future biological condition.
- Identify any "hot spots" or areas contributing a disproportionate amount of a pollutant.
- Identify and prioritize protection/restoration areas.
- Provide value to local planning efforts.

Cycle 1 SID Summary:

- There were no biological impairments identified in the Belle Creek Watershed in Cycle 1; therefore, no Cycle 1 SID was conducted.

Cycle 2 SID Summary:

- Cycle 2 SID was conducted on Unnamed Creek (AUID -721); this macroinvertebrate impairment was deferred in Cycle 1 due to channelization but was included in the 2020 opt-in assessments after adoption of the Tiered Aquatic Life Uses (TALU) framework.

- Habitat and flow alteration were identified as stressors. Nitrate, eutrophication, and TSS were inconclusive; temperature and DO were not stressors.

This SID update document summarizes biological condition and provides monitoring highlights for Belle Creek Watershed and stressor conclusions for Unnamed Creek (AUID -721). This document is designed to complement existing Cannon River Watershed reports (e.g. the Cannon River Watershed Restoration and Protection Strategy (WRAPS) and Cannon River CWMP), which should also be used to inform watershed work; these documents contain information such as priority issues, priority areas, and pollutant loading data which are critical in prioritizing implementation work.

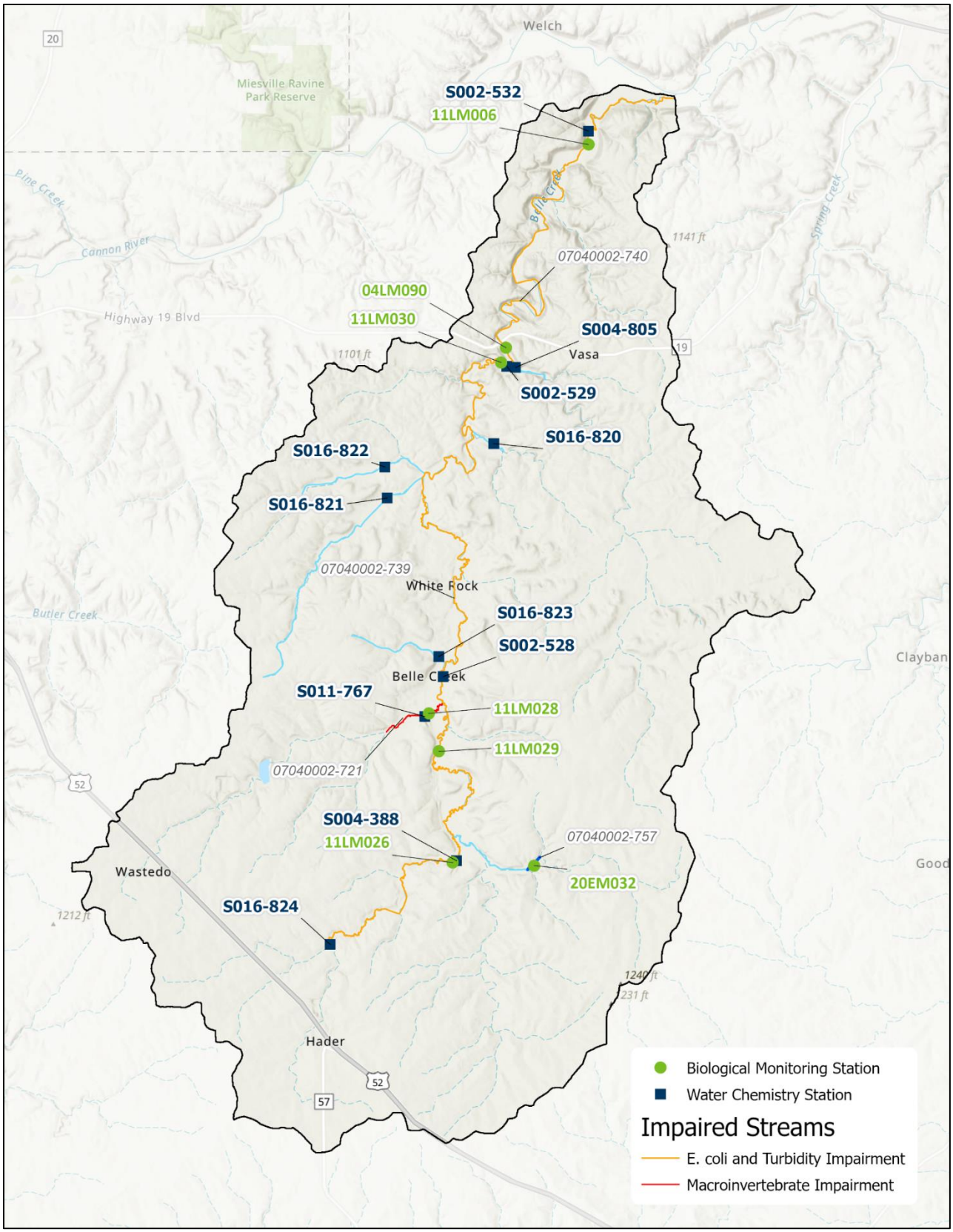
## Biological Communities

Most fish and macroinvertebrate communities in the Belle Creek Watershed are healthy and meeting standards, with only one biological impairment (macroinvertebrates) located in the upper part of the watershed on Unnamed Creek (AUID -721) (Table 1, Figure 1). Stations 11LM029, 11LM030, 04LM090, and 11LM006 were sampled in Cycle 1 and Cycle 2; most macroinvertebrate index of biotic integrity (MIBI) scores were higher in Cycle 2 whereas fish index of biological integrity (FIBI) scores were more mixed (some higher and some lower in Cycle 2). In general, flies/non-biting midges, caddisflies, and riffle beetles dominated most of the Cycle 2 macroinvertebrate samples and the fish community was primarily comprised of Cyprinidae (shiners, dace, minnows, stonerollers, chubs), Percidae (darters), white sucker, and brown trout.

**Table 1: Fish and macroinvertebrate IBI scores in Belle Creek Watershed.**

| Waterbody | AUID | Biological Stations | Biological Impairment | Class | FIBI | FIBI Threshol | FIBI Year | MIBI | MIBI Threshol | MIBI Year |
|---|---|---|---|---|---|---|---|---|---|---|
| Unnamed Creek | 721 | 11LM028 | Macroinvertebrates | 2Bg | 73.3 | 55 | 2011 | 28 | 37 | 2011 |
| Belle Creek | 739 | 11LM026 | | 2Bg | 49.5 | 55 | 2011 | 39.8 | 37 | 2011 |
| | | 11LM029 | | | 82.1 | 55 | 2011 | 29 | 37 | 2011 |
| | | | | | 65.6 | | 2022 | 47.9 | | 2022 |
| | | 11LM030 | | | 57.5 | 50 | 2011 | 35.9 | 37 | 2011 |
| | | | | | 67.8 | | 2022 | 40 | | 2022 |
| Belle Creek | 740 | 04LM090 | | 2Ag | 49.2 | 50 | 2004 | 60 | 43 | 2004 |
| | | | | | 45.6 | | 2011 | 52.5 | | 2011 |
| | | | | | 51.5 | | 2014 | 55 | | 2011 |
| | | | | | 60 | | 2016 | 38.2 | | 2014 |
| | | | | | 65.8 | | 2021 | 24.1 | | 2016 |
| | | | | | 56.2 | | 2022 | 25.1 | | 2016 |
| | | | | | | | | 52.8 | | 2018 |
| | | | | | | | | 57.2 | | 2020 |
| | | | | | | | | 51 | | 2022 |
| | | 11LM006 | | | 56.8 | 50 | 2011 | 41.3 | 43 | 2011 |
| | | | | | 49.1 | | 2022 | 47.5 | | 2011 |
| | | | | | | | | 60.6 | | 2022 |
| Unnamed Creek | 757 | 20EM032 | | 2Bg | - | - | - | 37.7 | 37 | 2020 |

**Figure 1: Belle Creek Watershed monitoring stations and impairments.**



## Monitoring Highlights

Stream Temperature

- Several instantaneous (point) measurements have been collected throughout the watershed with a maximum value of 30°C (483 samples from 2003 - 2023) in the warmwater stream reaches, and 27°C (614 samples from 1999 – 2023) in the coldwater portion. There were 0 values above 30°C (daily average warmwater standard) in the warmwater reaches, and 25 (4%) values above 22°C (brown trout may be physiologically stressed from 19°C to 22°C (Bell 2006)) in the coldwater reach. Also, continuous temperature data was collected in 2023 at stations S002-528 (warmwater), S002-529 (warmwater), and S002-532 (coldwater) with 0.1% and 0% of values above 30°C and 3.6% above 22°C (26% of the coldwater values were above 19°C) respectively. In general, stream temperature decreased moving downstream (Figure 2). All Cycle 2 fish temperature metrics for coldwater were worse than average, whereas most warmwater metrics were better than average. Overall, although signs of temperature stress exist, current stream temperatures are supporting healthy (meeting standards) warmwater biota in the upper portion of Belle Creek (except for Unnamed Creek, AUID -721) and coldwater biota in the lower portion of Belle Creek. However, measures to protect stream temperature in the lower coldwater portion of Belle Creek are important for future biological health; increases in stream temperature could potentially degrade and impair those currently healthy coldwater communities.

Nitrate

- Nitrate samples were collected across the watershed at eleven stations as part of Cycle 2 SID in 2022 and 2023, with a goal to sample various flow conditions and establish a range of nitrate concentrations (Figure 3). Concentrations ranged from 0.28 to 9.5 mg/L (average of 4.1 mg/L), and 0 of the 105 samples were above 10 mg/L (nitrate drinking water standard); worth noting is that draft nitrate standards for aquatic life are in development and the draft proposed chronic standard for warmwater is 8 mg/L and 5 mg/L for coldwater (https://www.pca.state.mn.us/sites/default/files/wq-s6-13.pdf). In general, concentrations were moderate – elevated in the headwaters of Belle Creek (S016-824), then decreased just downstream of the flood control structure (R-1) at station S004-388, and then gradually increase moving downstream towards the mouth of Belle Creek where concentrations are moderate with minimal variability (Figure 4).
- The farthest upstream station (S016-824) had the highest mainstem concentration and average (8.6 mg/L and 6.0 mg/L respectively); maximum concentrations across the other mainstem sites ranged from 5.6 to 6.0 mg/L, and average concentrations ranged from 1.9 to 3.8 mg/L. The flood control structure/pond (R-1) just downstream of station S016-824 is helping reduce concentrations (likely via denitrification); nitrate concentrations just downstream of R-1 at station S004-388 were always lower than concentrations above the structure at station S016-824 (1.9 mg/L average downstream compared to 6.0 mg/L average upstream) (Figure 5). Stations S004-805 and S011-767 are located on tributaries to Belle Creek, with much higher concentrations observed at station S004-805; average nitrate concentration at station S004-805 was 8.3 mg/L compared to 2.6 mg/L at station S011-767 (Figure 6). Samples were also collected on additional tributaries in 2023, but samples were limited due to lack of flow. Concentration dynamics varied between sites; concentrations at some sites were fairly consistent throughout the year, whereas other sites had higher concentrations in the spring that decreased in summer/fall. In general, there was more variability in concentrations in the upper portion of the watershed. Nitrate tolerant macroinvertebrates across the watershed range from 16% to 67% of the community, with Cycle 2 (2022) samples ranging from 16% to 38% of the community; nitrate tolerant macroinvertebrates decreased in Cycle 2. The macroinvertebrate impaired reach (AUID

-721) had low to moderate nitrate concentrations and nitrate tolerant macroinvertebrates just above the statewide median.

Habitat

- The MPCA Stream Habitat Assessment (MSHA) scores throughout the watershed range from 51.9 ("fair") to 82.5 ("good"); Cycle 2 (2022) scores range from 51.9 to 67.5 and MSHA scores decreased in Cycle 2. Bank erosion and embeddedness were documented in Cycle 2 and the amount of cover ranged from "sparse" to "moderate"; habitat examples from biological monitoring in 2022 can be seen in Figure 9. In general, Cycle 2 (2022) samples had elevated burrowers and legless individuals, and reduced climbers; this is often associated with lack of coarse substrate and/or woody debris/overhanging vegetation, excess fine substrate, embeddedness, etc. In general, most Cycle 2 (2022) fish habitat metrics were better than average. The macroinvertebrate impaired reach (AUID -721) had a "fair" MSHA score (59.8), elevated burrowers and legless individuals, and climbers and clingers were near the statewide median. Overall, habitat conditions are decent across much of the watershed, but macroinvertebrates do show signs of habitat stress.

Flow Alteration

- Most of Belle Creek Watershed is natural channels, with limited altered channels and predicted subsurface tile drainage (Figure 8). Although precipitation during Cycle 2 SID sampling (2022 – 26.4 inches, 2023 – 32.9 inches) was below the 1991 – 2020 normal value for Welch, MN (33.9 inches) (Minnesota State Climatology Office website), recent analysis conducted by the Minnesota Department of Natural Resources (DNR) for the Cannon River Watershed identified increasing trends in precipitation and streamflow (DNR 2023). Increases in precipitation and streamflow can impact many variables including habitat and nutrient/sediment loading, highlighting the importance of maintaining the flood control structures in Belle Creek Watershed; these structures can mitigate the impacts of higher precipitation and streamflow (i.e. flow alteration). Flow alteration is complex and can be affected by numerous variables (e.g. precipitation, land use, dams, wetland drainage, tile drainage, channelization, ground water and surface water appropriation, impervious surface, etc.), and ultimately impacts other potential stressors and the biology in Belle Creek Watershed.

TP/ Eutrophication

- TP samples were collected across the watershed at 11 stations as part of Cycle 2 SID in 2022 and 2023, with a goal to sample various flow conditions and establish a range of TP concentrations (Figure 7). Concentrations ranged from 0.016 to 7.06 mg/L, and 37 (35%) of the 105 samples exceeded the river eutrophication standard for the Central Region (0.1 mg/L). Each station had at least one exceedance with most stations having multiple exceedances, and exceedances occurred during various flow conditions. Extremely high exceedances (7.1 mg/L (S002-532) and 4.6 mg/L (S002-529)) were documented in the lower portion of Belle Creek during an event sample in May 2023. In general, TP concentrations tended to be lower moving downstream except during elevated flow conditions where the opposite was true. Also, concentrations were typically lower downstream (S004-388) of R-1 compared to upstream (S016-824), and concentrations were typically higher in the upstream tributary (S011-767) compared to the downstream tributary (S004-805) (Figure 4, Figure 5, and Figure 6). No recent chlorophyll-a or BOD samples have been collected, but 44 chlorophyll-*a* samples were collected from 2009-2010, which included one (2%) exceedance (25 µg/L) of the standard (18 µg/L). The exceedance occurred in the headwaters at station S004-388, just downstream of R-1. No continuous dissolved oxygen (DO) data has been collected in the watershed, but existing data has zero exceedances. Elevated TP has been documented, but additional supporting information is lacking and it's unclear if excess TP is resulting in eutrophication issues; although inconclusive as a stressor, it seems unlikely that eutrophication is responsible for the macroinvertebrate impairment (AUID -721).

## DO

- Several instantaneous (point) measurements were collected throughout the watershed in recent years (2008 through 2023), and zero were below the warmwater DO standard of 5 mg/L or the coldwater DO standard of 7 mg/L (minimum value of 7.1 mg/L, 193 samples). No continuous DO data has been collected in the watershed. In general, the fish and macroinvertebrates show minimal signs of DO stress, with generally few low DO tolerant individuals. The probability of meeting the DO standard based on the composition of the fish community ranged from 80% to 95% across the watershed. Overall, DO conditions appear suitable for the warmwater and coldwater biota in Belle Creek Watershed.

## TSS

- Total suspended solids (TSS) samples were collected across the watershed at 11 stations as part of Cycle 2 SID in 2022 and 2023, with a goal to sample various flow conditions and establish a range of TSS concentrations (Figure 8). Concentrations ranged from 1.2 to 8,500 mg/L, and 8 (8%) of the 105 samples exceeded the warmwater TSS standard (65 mg/L). In general, the exceedances occurred throughout the watershed during elevated flow conditions and concentrations were low during low flows. Extremely high exceedances (8,500 mg/L (S002-532) and 4,300 mg/L (S002-529)) were documented during an event sample in May 2023. Also, concentrations were typically lower downstream (S004-388) of R-1 compared to upstream (S016-824), and concentrations were typically higher in the upstream tributary (S011-767) compared to the downstream tributary (S004-805) (Figure 4, Figure 5, and Figure 6). TSS tolerant macroinvertebrates range from 6% to 54% of the community, with Cycle 2 (2022) samples ranging from 6% to 27%; TSS tolerant macroinvertebrates decreased in Cycle 2 at most stations. The probability of meeting the TSS standard based on the composition of the fish community ranged from 21% to 65%. Although elevated TSS concentrations have been documented and Belle Creek is impaired for turbidity, TSS is inconclusive as a stressor; there were no exceedances on the macroinvertebrate impaired reach (-721) and no strong biological signal of TSS stress. The ponds/flood control structures located in the macroinvertebrate impaired watershed appear to be minimizing the impact of TSS in this tributary. Regardless, sediment is still a concern across the Belle Creek Watershed as it can degrade/reduce available habitat.

**Figure 2. Stream temperature (°C) data from 2023 (June – October) deployments in Belle Creek Watershed; in general, stream temperature decreased moving downstream. Station S002-532 is located on the coldwater section of Belle Creek, and stations S002-529 and S002-528 are located on the warmwater section.**

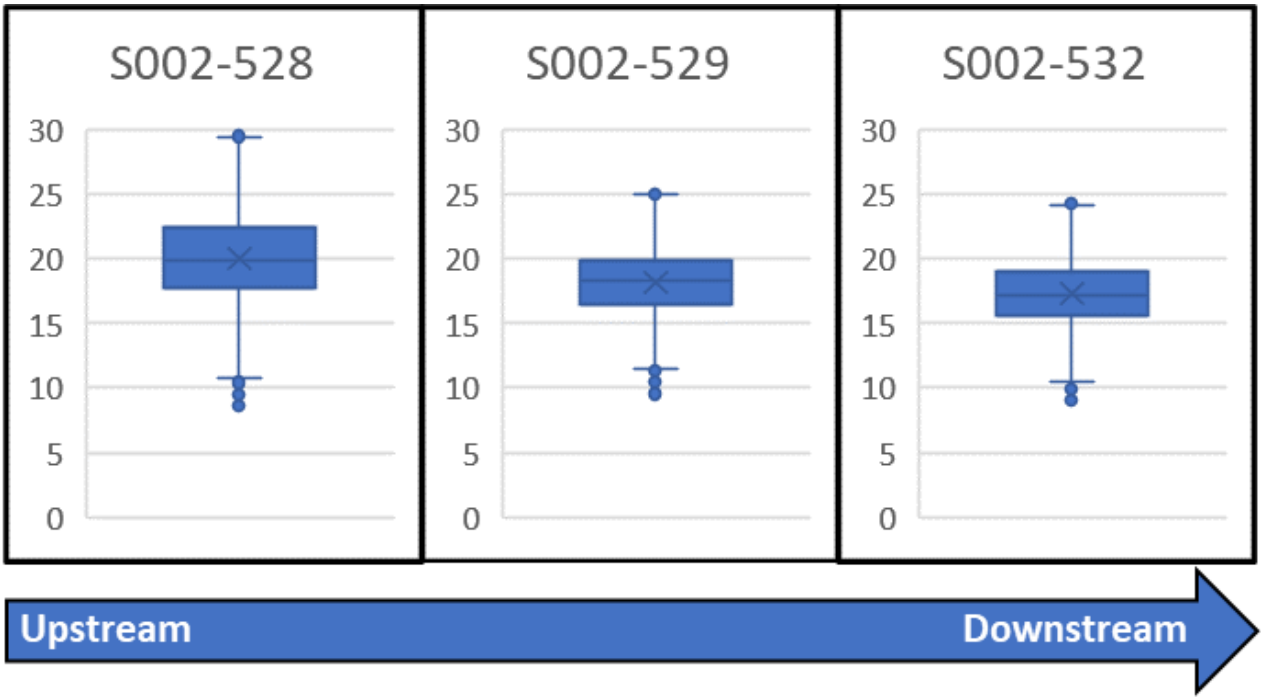



**Figure 3: The 2022 and 2023 nitrate concentrations in Belle Creek Watershed. The larger circles are mainstem Belle Creek sites whereas the smaller circles are sites located on tributaries to Belle Creek; some tributary sites were only sampled in 2023 and some only had a few samples due to lack of flow. Note how concentrations at some sites are fairly consistent throughout the year, whereas other sites have higher concentrations in the spring that decrease in summer/fall. The red line represents the nitrate drinking water standard (10 mg/L).**

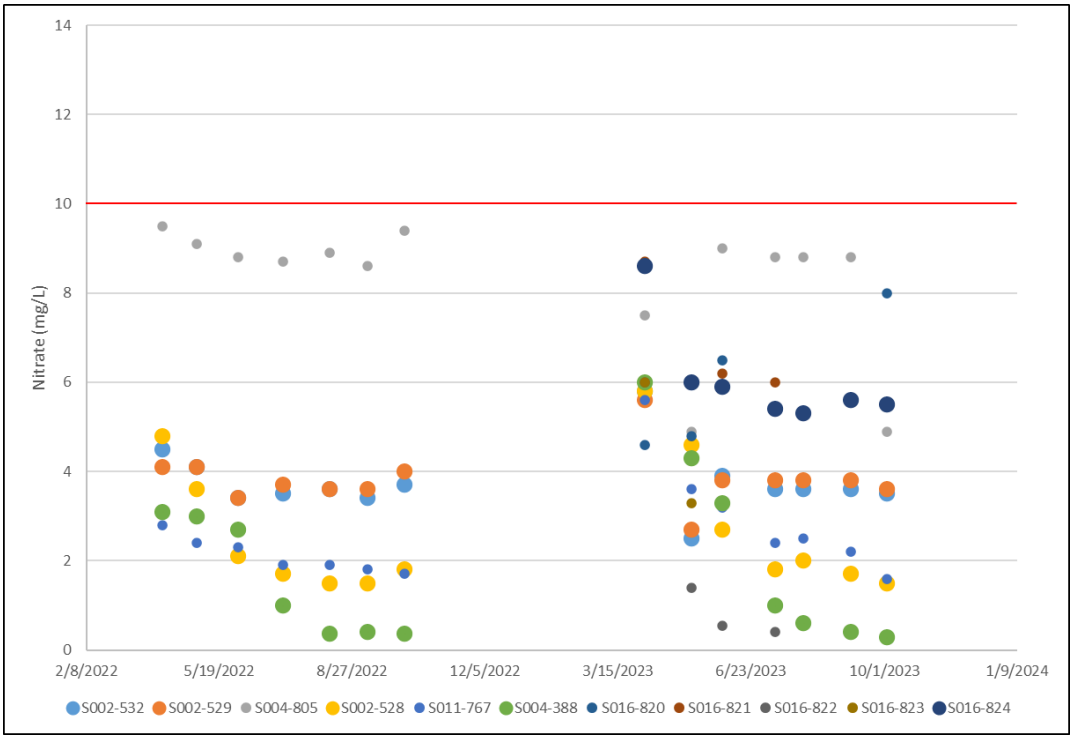


**Figure 4: 2022 and 2023 TSS (brown), TP (purple), and nitrate (green) concentrations (mg/L) on the mainstem of Belle Creek. The red lines represent the TSS standards (warmwater–65 mg/L, coldwater–10 mg/L), river eutrophication standard for the Central Region (0.1 mg/L), and nitrate drinking water standard (10 mg/L). The flood control structure pictured between S016-824 and S004-388 is R-1; in general, nutrient and sediment concentrations were lower downstream of R-1.**

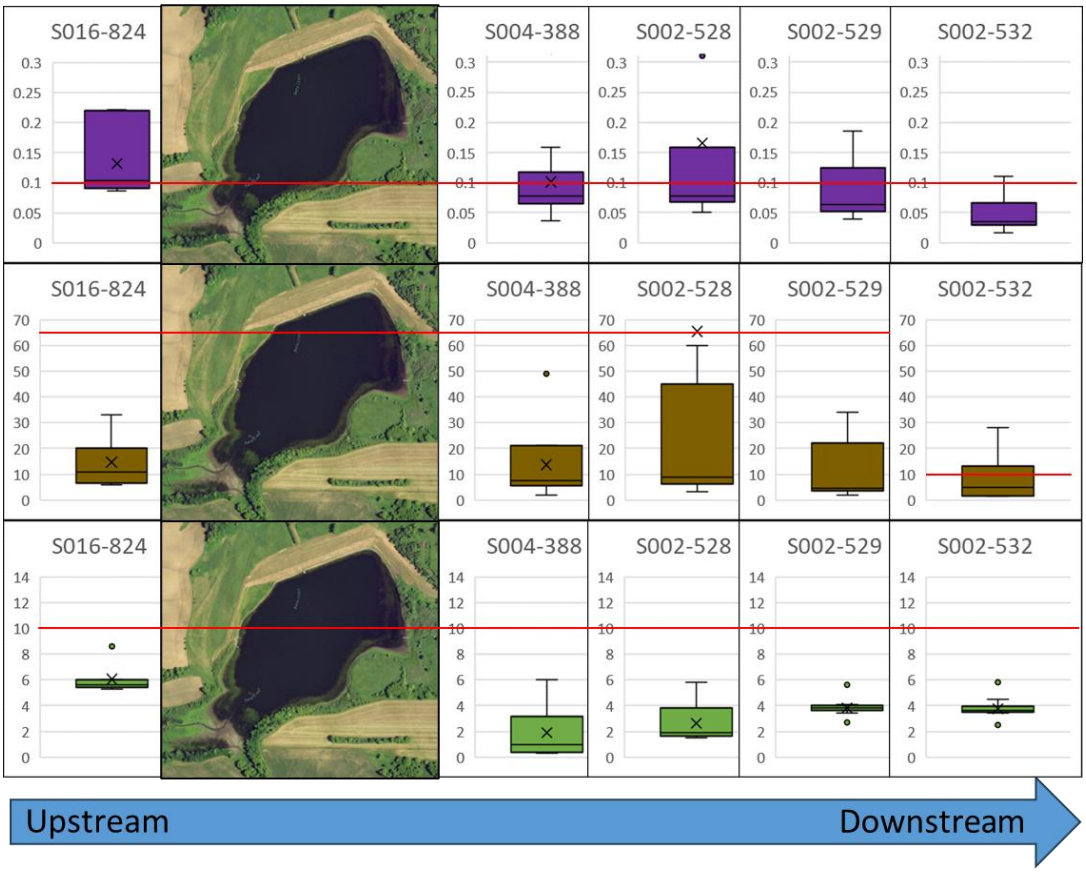


**Figure 5: The 2023 nitrate, TP, and TSS concentration (mg/L) comparisons upstream (S016-824) and downstream (S004-388) of R-1; concentrations were typically lower downstream of the flood control structure. Photo courtesy of Google Earth.**

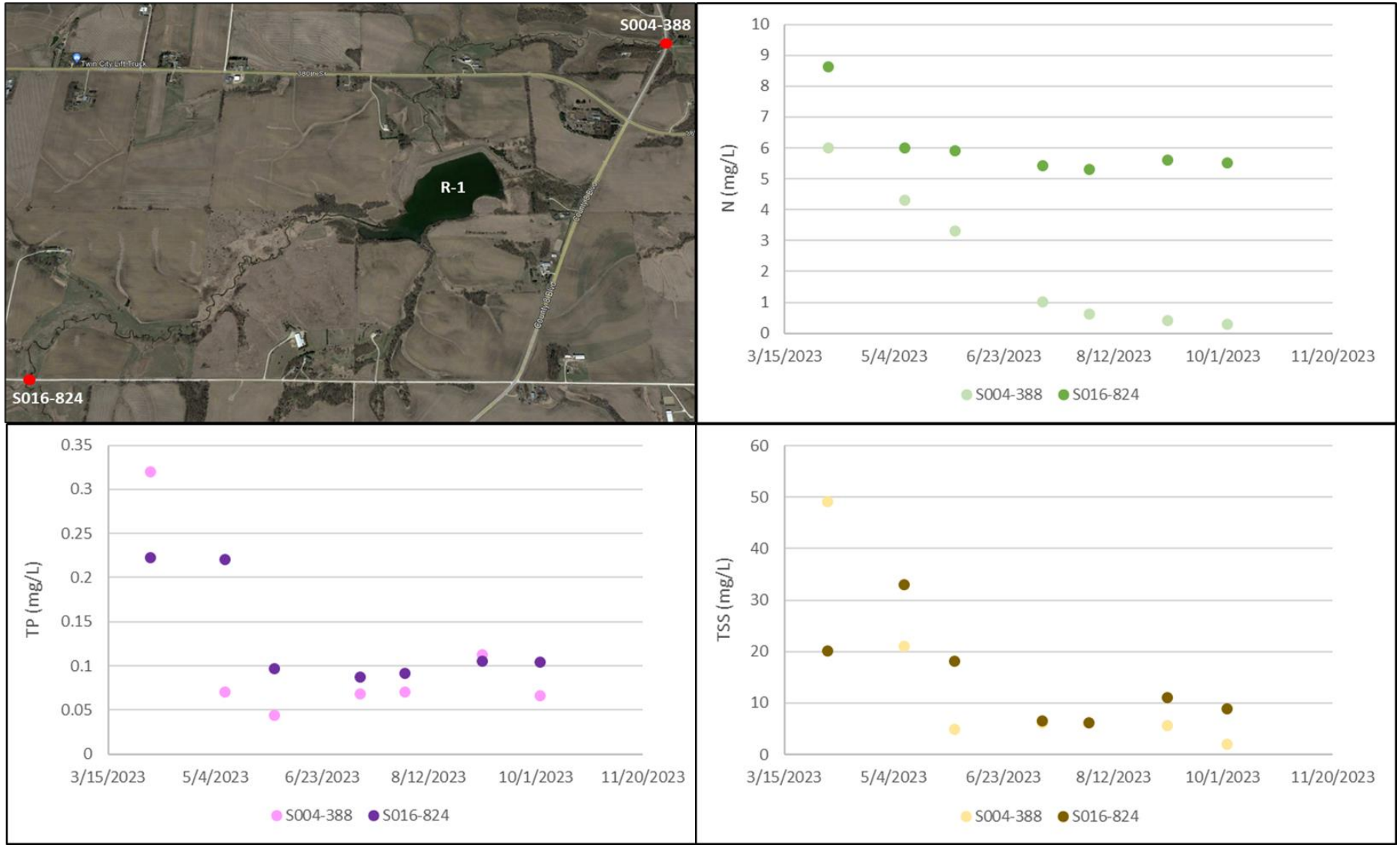


**Figure 6: 2022 and 2023 nitrate, TP, and TSS concentration (mg/L) comparisons for two tributaries to Belle Creek; the downstream tributary (S004-805) had significantly higher nitrate concentrations than the upstream tributary (S011-767), whereas TP and TSS concentrations were typically higher in the upstream tributary. The upstream tributary is the reach with the macroinvertebrate impairment.**

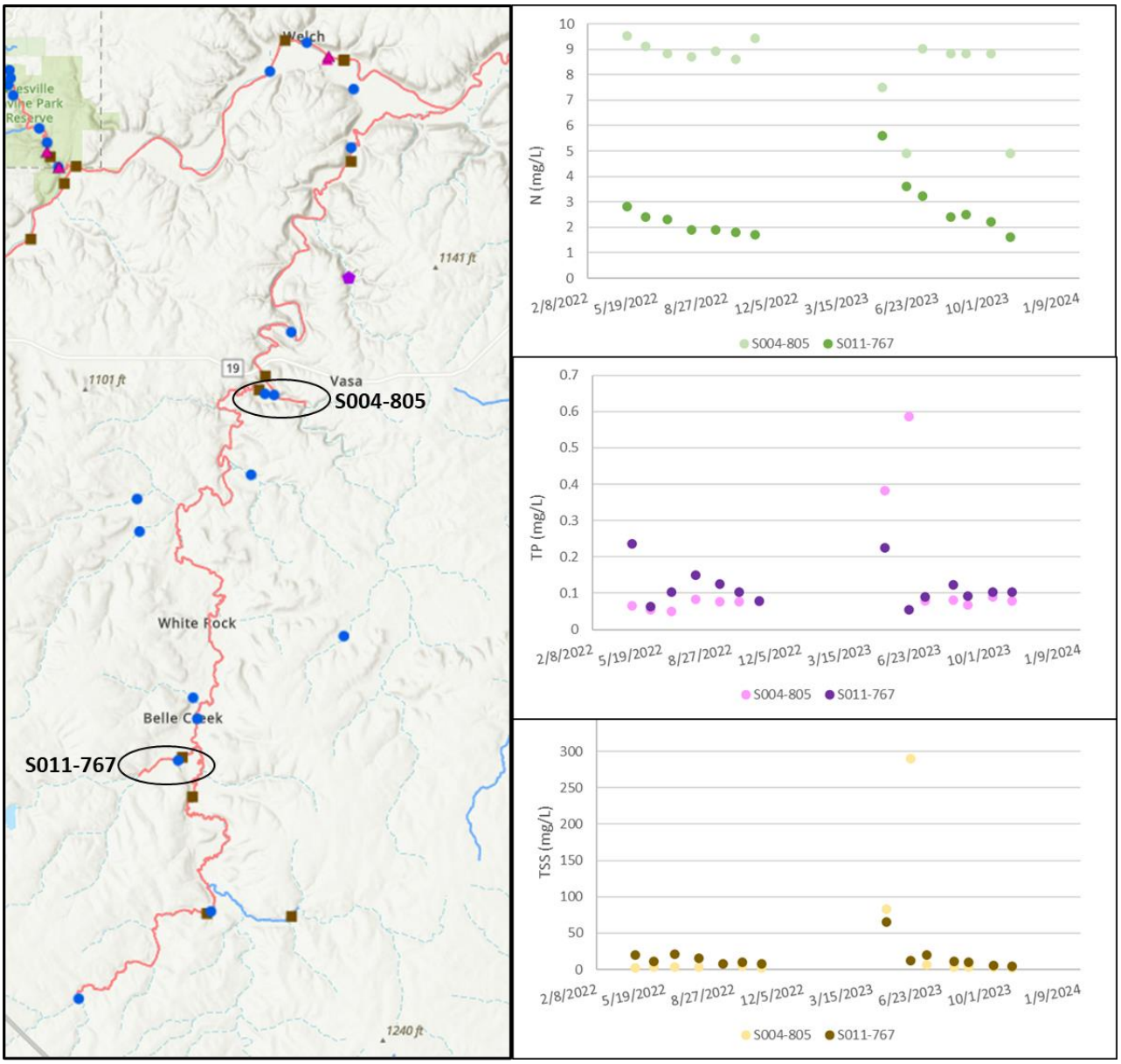


**Figure 7: 2022 and 2023 TP concentrations in Belle Creek Watershed. The larger circles are mainstem Belle Creek sites whereas the smaller circles are sites located on tributaries to Belle Creek; some tributary sites were only sampled in 2023 and some only had a few samples due to lack of flow. In general, TP concentrations tended to be lower moving downstream except during elevated flow conditions where the opposite was true. The red line represents the river eutrophication standard for the Central Region (0.1 mg/L).**

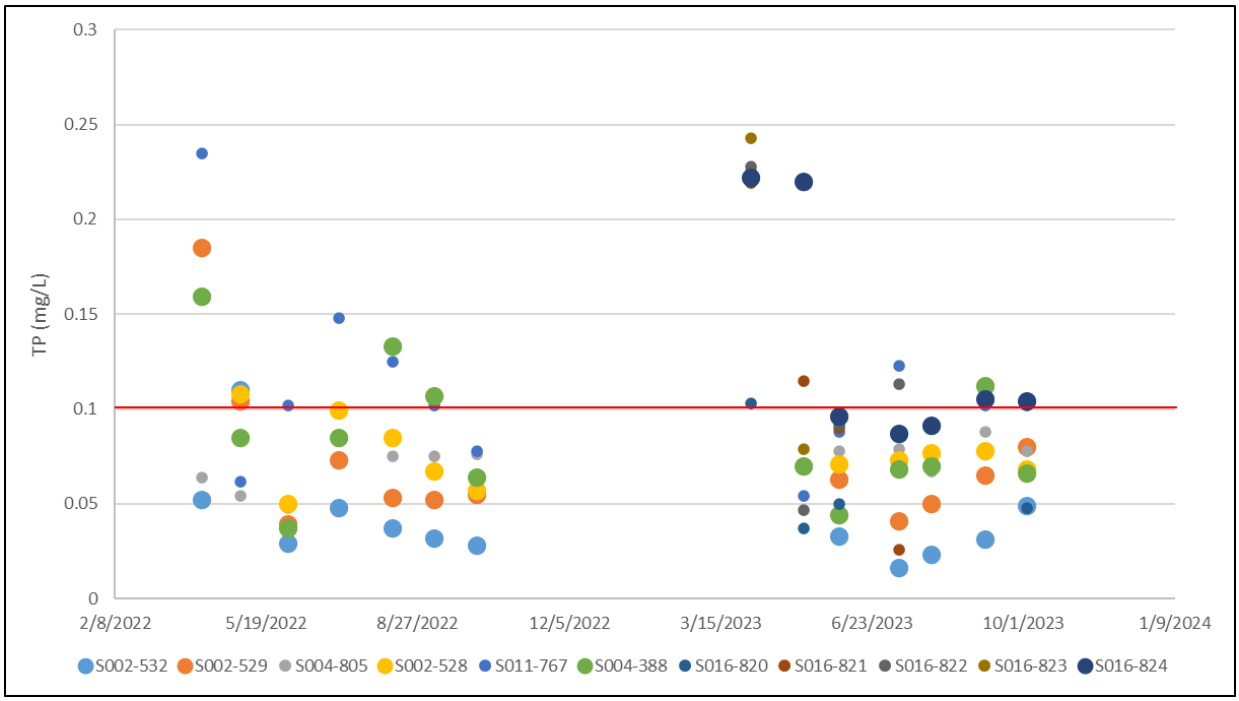



**Figure 8: 2022 and 2023 TSS concentrations in Belle Creek Watershed. The larger circles are mainstem Belle Creek sites whereas the smaller circles are sites located on tributaries to Belle Creek; some tributary sites were only sampled in 2023 and some only had a few samples due to lack of flow. Concentrations were typically below the standard during low flows with exceedances occurring during elevated flow conditions. The red lines represent the TSS standards (warmwater–65 mg/L, coldwater–10 mg/L).**

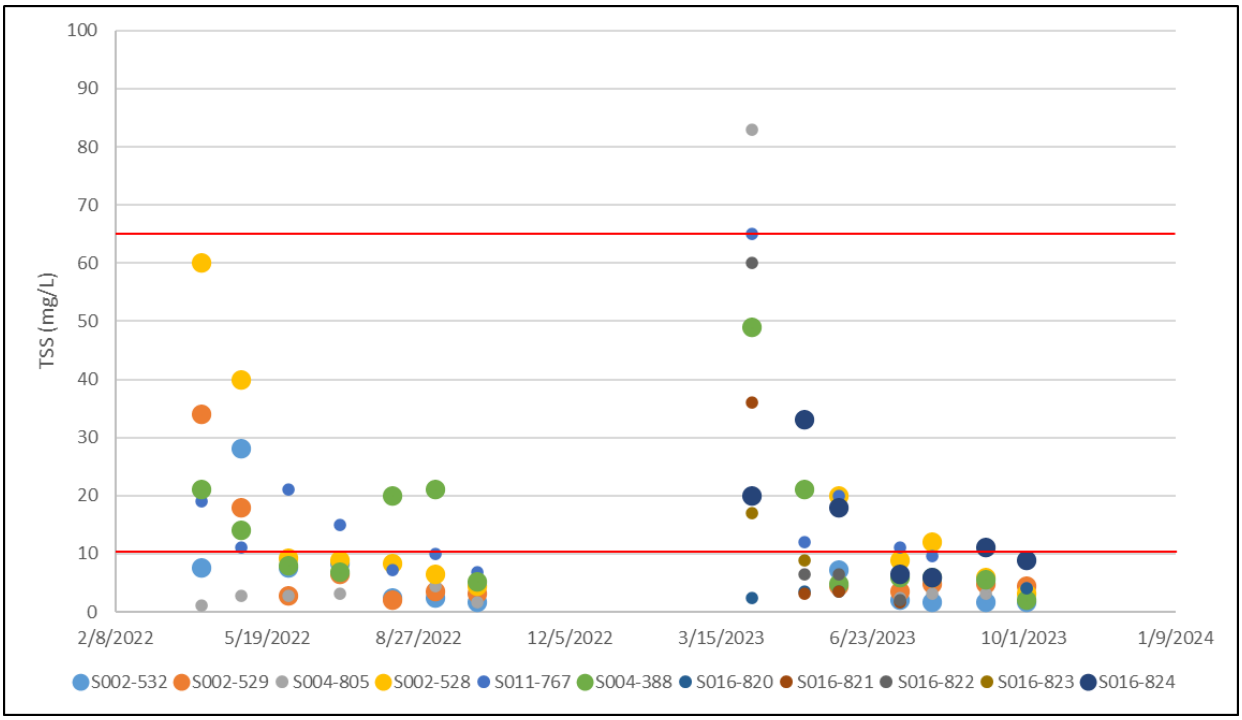
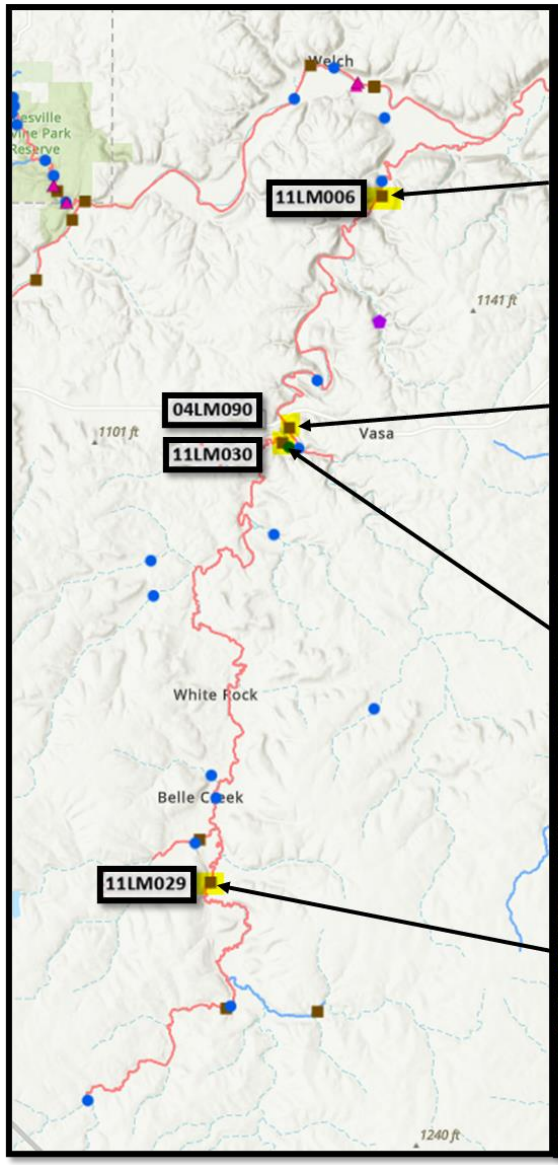


**Figure 9: Habitat examples from biological monitoring stations in Belle Creek Watershed in 2022, and macroinvertebrate metrics that respond to habitat stress. Overall, habitat scores were decent throughout the watershed, but macroinvertebrates did show some signs of habitat stress (elevated burrowers and legless, reduced climbers).**





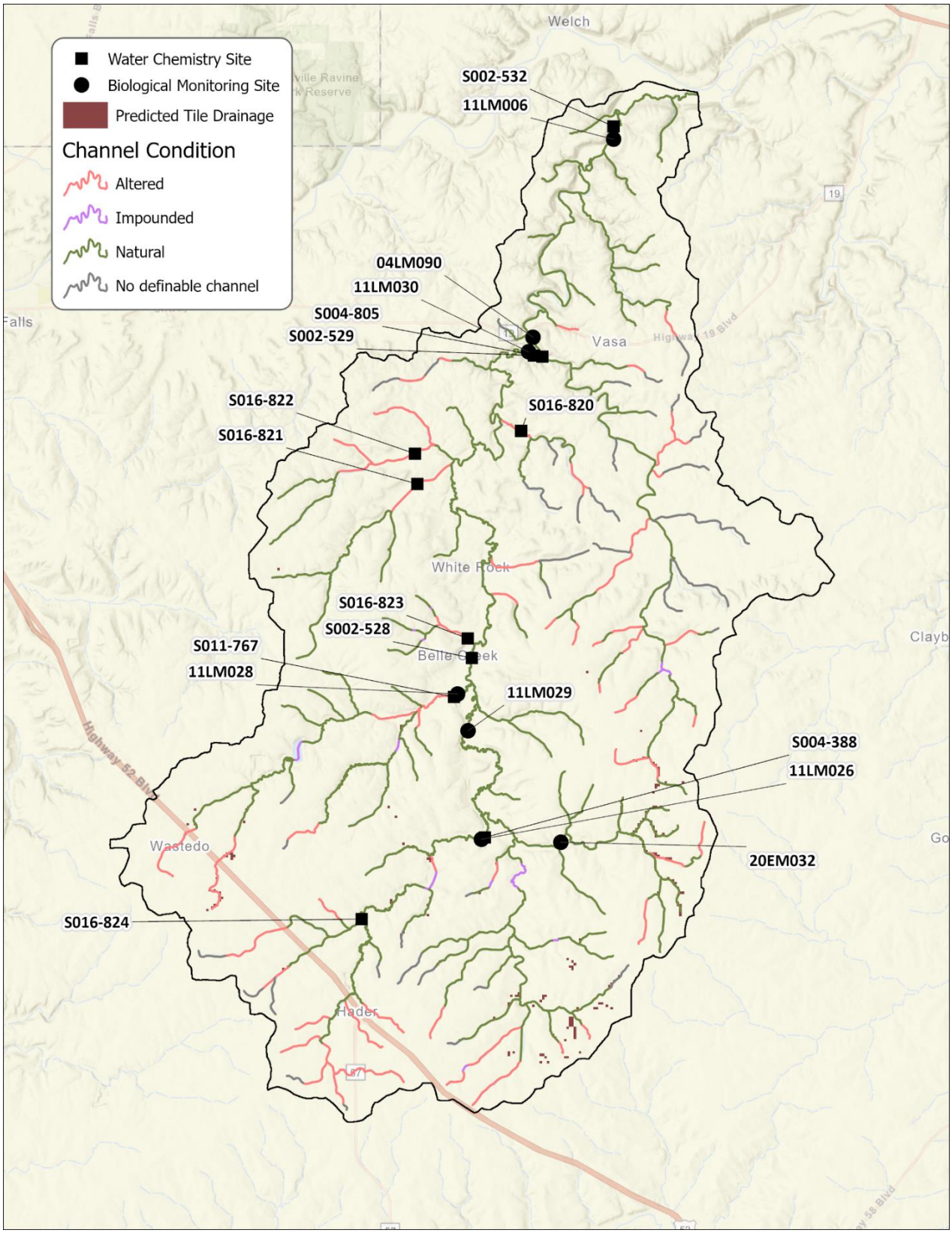
| | 11LM006 (2022) | Statewide Median | Expected Response to Stress |
|---|---|---|---|
| BurrowerPct | 5.3 | 2.9 | ↑ |
| ClimberPct | 1.9 | 6.0 | ↓ |
| ClingerPct | 58.8 | 46.6 | ↓ |
| LeglessPct | 43.4 | 22.8 | ↑ |


| | 04LM090 (2022) | Statewide Median | Expected Response to Stress |
|---|---|---|---|
| BurrowerPct | 8.3 | 2.9 | ↑ |
| ClimberPct | 1.2 | 6.0 | ↓ |
| ClingerPct | 71.6 | 46.6 | ↓ |
| LeglessPct | 62.7 | 22.8 | ↑ |


| | 11LM030 (2022) | Statewide Median | Expected Response to Stress |
|---|---|---|---|
| BurrowerPct | 9.2 | 5.5 | ↑ |
| ClimberPct | 1.0 | 11.9 | ↓ |
| ClingerPct | 70.8 | 49.4 | ↓ |
| LeglessPct | 49.8 | 31.4 | ↑ |


| | 11LM029 (2022) | Statewide Median | Expected Response to Stress |
|---|---|---|---|
| BurrowerPct | 6.5 | 5.5 | ↑ |
| ClimberPct | 20.4 | 11.9 | ↓ |
| ClingerPct | 61.6 | 49.4 | ↓ |
| LeglessPct | 59.1 | 31.4 | ↑ |

**Figure 10: Natural, altered, impounded, and no definable channel watercourses in Belle Creek Watershed, and tile drainage estimates in Belle Creek Watershed.**



## Summary

- Overall, the fish and macroinvertebrate communities are healthy and meeting standards in Belle Creek Watershed, with the exception of the macroinvertebrates in a small headwaters tributary (Unnamed Creek, AUID -721). Habitat and flow alteration are stressing the macroinvertebrates in Unnamed Creek (AUID -721), while stream temperature and DO are not currently stressors and nitrate, eutrophication, and TSS are inconclusive (Table 2).
- In general, nitrate concentrations were moderate – elevated in the headwaters of Belle Creek (S016-824), then decreased just downstream of the flood control structure (R-1) at station S004-388, and then gradually increase moving downstream towards the mouth of Belle Creek where concentrations were moderate with minimal variability (Figure 4). The downstream tributary (S004-805) had significantly higher concentrations than the upstream tributary (S011-767) (Figure 6); it's unknown why these differences in concentrations exist, but potential reasons include variation in nutrient management practices, feedlots and manure management, drainage area and land use (although similar between the two tributary watersheds), soils, hydrogeologic setting, and ponds/flood control structures.
- Nitrate concentration dynamics varied between sites; concentrations at some sites were fairly consistent throughout the year, whereas other sites had higher concentrations in the spring that decreased in summer/fall. In general, there was more variability in concentrations in the upper portion of the watershed.
- Overall, habitat scores were decent throughout the watershed, but macroinvertebrates did show some signs of habitat stress (elevated burrowers and legless, reduced climbers).
- Most of Belle Creek Watershed is natural channels (Figure 8) but increasing trends for precipitation and streamflow are a concern and highlight the need for water storage on the landscape; increases in precipitation and streamflow have the potential to alter multiple variables such as nutrient/sediment loading, bank erosion, and habitat. Maintaining the flood control structures in Belle Creek Watershed is critical as these structures help mitigate the impacts of higher precipitation and streamflow (and flow alteration).
- Elevated TP concentrations have been documented, but it's uncertain if they are stressing the fish and/or macroinvertebrate communities. Currently there is no clear link indicating that elevated TP concentrations are creating eutrophic conditions resulting in low DO environments. Exceedances occurred during various flow conditions.
- In general, TP concentrations tended to be lower moving downstream except during elevated flow conditions where the opposite was true. Also, concentrations were typically lower downstream (S004-388) of R-1 compared to upstream (S016-824), and concentrations were typically higher in the upstream tributary (S011-767) compared to the downstream tributary (S004-805) (Figure 4, Figure 5, and Figure 6).
- In general, TSS concentrations were low (below the standard) during low flow conditions. Although elevated TSS concentrations have been documented and Belle Creek is impaired for turbidity, TSS in inconclusive as a stressor; there were no exceedances on the macroinvertebrate impaired reach (-721) and no strong biological signal of TSS stress. The ponds/flood control structures located in the macroinvertebrate impaired watershed appear to be minimizing the impact of TSS in this tributary. Regardless, sediment is still a concern across the Belle Creek watershed as it can degrade/reduce available habitat. Likely sediment sources include runoff from agricultural fields and stream bank erosion.

- TSS concentrations were typically lower downstream (S004-388) of R-1 compared to upstream (S016-824), and concentrations were typically higher in the upstream tributary (S011-767) compared to the downstream tributary (S004-805) (Figure 4, Figure 5, and Figure 6).
- Although signs of temperature stress exist, current stream temperatures are supporting healthy (meeting standards) warmwater biota in the upper portion of Belle Creek (except for Unnamed Creek, AUID -721) and coldwater biota in the lower portion of Belle Creek. However, measures to protect stream temperature in the lower coldwater portion of Belle Creek are important for future biological health; increases in stream temperature could potentially degrade and impair those currently healthy coldwater communities.
- DO conditions are suitable for the warmwater and coldwater biota in Belle Creek Watershed; no exceedances have been documented. Collecting continuous DO data in the future would be useful in fully understanding the DO dynamics in the watershed.
- In general, nutrient and sediment concentrations were lower downstream of R-1 (Figure 5); R-1 and the additional flood control structures in Belle Creek Watershed are pivotal to the overall health of the watershed as they provide water and pollutant storage in the headwater areas of the watershed. Although not all flood control structures were monitored, it's reasonable to believe they have a similar impact to R-1 (reduced nitrate, TP, and TSS concentrations, reduced peak flows, etc.). Maintaining these structures is key to ensuring healthy fish and macroinvertebrate communities into the future.

**Table 2: Summary of stressors in the Belle Creek Watershed (• = stressor, ○ = inconclusive stressor, blank = not a stressor, NE = not evaluated).**

| Waterbody | AUID | Biological Stations | Biological Impairment | Class | Stressors | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Temperature | Nitrate | Eutrophication | DO | TSS | Habitat | Fish Passage | Flow Alteration |
| Unnamed Creek | 721 | 11LM028 | Macroinvertebrates | 2Bg | | ○ | ○ | | ○ | ● | NE | ● |
| Belle Creek | 739 | 11LM026,11LM029,11LM030 | | 2Bg | NE | NE | NE | NE | NE | NE | NE | NE |
| Belle Creek | 740 | 04LM090,11LM006 | | 2Ag | NE | NE | NE | NE | NE | NE | NE | NE |
| Unnamed Creek | 757 | 20EM032 | | 2Bg | NE | NE | NE | NE | NE | NE | NE | NE |

## References

Bell, J. 2006. "The Assessment of Thermal Impacts on Habitat Selection, Growth, Reproduction and Mortality in Brown Trout (*Salmo trutta L*): A Review of the Literature," Applied Ecological Services Inc., September 2006, 23 pp.

Minnesota Department of Natural Resources. 2023. Evaluation of Hydrologic Change (EHC) Technical Summary: Cannon River Watershed.

## For more information

For more information, go to https://www.pca.state.mn.us/watershed-information/cannon-river.

## Contact person

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