

Instructions: Bold fields must be completed.

Station Summary

Waterbody Name THORNAPPLE RIVER		Waterbody ID Code 2360800	Sample ID (YYYYMMDD-CY-FD) 20190917-58-04
Sampling Location 80m downstream Thornapple Grade Rd			Database Key 206243688
SWIMS Station ID 10020731		SWIMS Station Name THORNAPPLE RIVER-170 YDS UPSTREAM OF THORNAPPLE GRADE RD.	
Latitude 45.65598	Longitude 90.98124	Lat/Long Determination Method (circle) SWIMS SWDV <u>GPS</u>	Datum Used if using GPS <u>WGS84</u> or NAD83
Basin (WMU) UPPER CHIPPEWA		Watershed Name THORNAPPLE RIVER	County SAWYER

Sample and Site Descriptors

Sample Collector (Last Name, First) JON KLEIST	Project Name NORTH DISTRICT NC STREAM STRATIFIED SITES 2019
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Sampling Device

D-Frame Kick Net
 Surber Sampler
 Eckman
 Ponar
 Artificial Substrate
 Hess Sampler
 Other: _____

Habitat Sampled

Riffle
 Run
 Pool
 Other
 Shoreline Composite
 Proportionally-Sampled Habitat
 Littoral Zone
 Profundal Zone
 Wetland

Total Sampling Time (min) 2	Estimated Area Sampled (m²) 2	Number of Samples in Composite 3	Replicate No. 1 of 1
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Reason For Sampling

Least Impacted Reference
 Baseline
 Impact / Treatment Site
 Control Site
 Trend
 Other: _____

Water Temp. (C) 19.2	D.O. (mg/l) 8.6	D.O. (% sat.) 97	pH (su) 7.2	Conductivity (umhos/cm) 59	Transparency (cm) >120
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Water Color <input type="checkbox"/> Clear <input type="checkbox"/> Turbid <input type="checkbox"/> Stained	Estimated Stream Velocity (m/s) <input type="checkbox"/> Slow (< 0.15 m/s) <input type="checkbox"/> Moderate (0.15 m/s - 0.5 m/s) <input checked="" type="checkbox"/> Fast (> 0.5 m/s)
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Measured Velocity 2.0 circle units m/s or f/s	Average Stream Depth of reach (m) 0.6	Average Stream Width of reach (m) 18
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Composition of Substrate Sampled (Percent):

Bedrock: _____ Boulders (basketball or larger): _____ Rubble (tennisball to basketball): 90 Gravel (ladybug to tennisball): 10
 Sand: _____ Clay: _____ Silt/Muck: _____ Overhanging Vegetation: _____
 Aquatic Macrophytes: _____ Leaf Snags: _____ Coarse Woody Debris: _____ Other (): _____

Embeddedness of Substrate at Sample Site (%) 0 **Canopy Cover at Sample Site (%)** 0

Stream and Watershed Descriptors

N = Not a problem
 U = Uncertain

PL = Present, Low Impact
 PH = Present, High Impact

Factors that may be influencing Water Resource Integrity		Local	Water-shed	Factors that may be influencing Water Resource Integrity		Local	Water-shed
Biological			Chemical				
Algae: - Diatoms / Periphyton				Chlorine			
- Filamentous Algae				Dissolved Oxygen			
- Planktonic Algae				Nutrients (P, N...)			
Iron Bacteria				Toxics: - Inorganic (Metals)			
Macrophytes				- Organic (PCBs, pesticides...)			
Slimes				Other - Specify:			
Other - Specify:				Sources of Stream Impacts			
				Bank Erosion			
				Point Source - Specify:			
				Pasturing of Livestock			
Physical				Runoff: - Barnyard			
Bank Erosion				- Construction			
Channelization: - Upstream				- Cropland			
- Downstream				- Urban			
Hydraulic Scour / Channel Incision				Septic Systems			
Impoundment: - Upstream				Tile Drainage - Organic Soils			
- Downstream				- Mineral Soils			
Low Flow				Springs			
Sedimentation				Tributary(s)			
Sludge				Wetland			
Thermal				Other - Specify:			
Turbidity							
Other - Specify:							

Comments

Special Instructions for Laboratory

For Lab Use Only

Sample Sorter <i>RRV</i>	Taxonomist <i>Dimick, Jeffrey</i>	Estimated Percent of Sample Sorted <i>3.3 %</i>
Date Processed <i>10/09/2020</i>	Specimens Saved <i>Subsample archived in ABC until Nov 2023</i>	

C202 A203

72 83 (175)

Taxa	Life Stage	Bench Tally	Count	Taxonomic Reference	Condition	Unique Taxon
<i>Aesopina pygmaea</i>	L	II	2	Klub 2016		
<i>Baetis intercalaris</i>	L	II	2	"		
<i>B. flavistriga</i> species complex	L	III	4	"		
<i>Baetisca</i>	L	I	1	Merrillum B 2019	imm	
<i>Caenis</i>	L	II	2	"	imm/imm	n=1, Y
<i>C. anceps</i>	L	I	1	Klub 2016		
<i>Ephemerella subvaria</i>	L	I	1	"		
<i>Eurylophella</i>	L	II	7	Merrillum B 2019	imm	
<i>Epeorus vittreus</i>	L	-	5	Klub 2016		
<i>Leucocysta</i>	L	XI	11	Merrillum B 2019		
<i>Maccaffertium</i>	L	XII	12	Klub 2016	imm	
<i>M. modestum</i>	L	-	5	"		
<i>M. vicarium</i>	L	III	24	"		
<i>Stenacron</i>	L	-I	6	Merrillum B 2019	imm	
<i>Paraleptophlebia</i>	L	XIII	13	Klub 2016		
<i>Ophiozomphus</i>	L	I	1	Merrillum B 2019	imm	
<i>Paracania</i>	L	I	1	"	imm	
<i>Isoperla</i>	L	I	1	"	imm	
<i>Acronuria lycorias</i>	L	II	2	Hitch 1974		
<i>Taeniopteryx</i>	L	II	2	Merrillum B 2019	imm	
<i>Ceratopsyche</i>	L	I	1	Hils 1995	imm	N
<i>C. bronata</i>	L	II	2	Schm Hils 1986		
<i>C. macosa macosa</i> form	L	I	1	"		
<i>Cheumatopsyche</i>	L	I	1	Merrillum B 2019		
<i>Hydropsyche</i>	L	I	1	Hils 1995	imm	
<i>Hydroptila</i>	L	II	2	Merrillum B 2019		
<i>Nigronia semicomis</i>	L	I	1	Neunzig 1966		
<i>Optiservus</i>	L	-	5	Merrillum B 2019	imm	N
<i>O. fastiditus</i>	L	I	1	Hils Schm 1992		
<i>O. rivittatus</i>	L, A	-I	6	"		
<i>Stenelmis</i>	L	III	4	Merrillum B 2019		N
<i>S. crenata</i>	A	III	4	Hils Schm 1992		
<i>Atherix variegata</i>	L	I	1	Hils 1995		
<i>Hemerodromia</i>	L	II	2	Merrillum B 2019		
<i>Simulium</i>	P	I	1	"		N
<i>S. jenningsi</i> species group	L	I	1	Adl et al 2004		
<i>S. venustum</i> species complex	L	I	1	"		
<i>Hexatoma</i>	L	III	3	Merrillum B 2019		

