

Wisconsin Department of Natural Resources
SWIMS Project Summary

General Project Information

5/8/2024

Wisconsin Department of Natural Resources SWIMS Project Summary

Project ID: North_TWA_5_2018

Name: Bear and Bluff Creek Targeted Watershed Assessment, Douglas County

Type: Targeted Watershed Approach

Subtype: Evaluation (TP SSC, Stressor, Bioassess)

Status: COMPLETE

Start Date: 1/1/2018

End Date: 12/31/2019

Purpose: This project, located in North District, involved monitoring in two HUC 12 watersheds using the targeted watershed assessment approach in 2018 -- Bear Creek (a.k.a. Allouez Bay-Frontal Lake Superior) and Bluff Creek. Both of these watersheds drain into Allouez Bay. Allouez Bay water quality, sediment quality and biological communities (benthic invertebrates and fish) were monitored in 2017. Allouez Bay has high phosphorus and suspended solids concentrations, and high turbidity.

Read the Bear and Bluff Creeks Targeted Watershed Assessment: A Water Quality Plan to Restore Wisconsin Watersheds..

Water quality at the mouths of Bear and Bluff Creeks was also monitored in 2017. Both creeks have high phosphorus and suspended solids concentrations and high turbidity. Bear and Bluff Creek are on the impaired waters list due to high phosphorus concentrations. Total phosphorus (TP) concentrations as high as 987 ug/l were measured in Bluff Creek in 2017. A large cattle raising operation is present in the Bluff Creek watershed and may be a significant TP source. A rail yard at a taconite storage facility is believed to be the source of occasional iron concentration spikes observed in Bluff Creek.

Some fish and macroinvertebrate community work was previously done by DNR for both creeks in 2009-10:

- 5 sites in Bluff Creek watershed for fish
- 6 sites in Bluff Creek watershed for macroinvertebrates (4 sites with 2 years of data)
- 4 sites in the Bear Creek watershed for fish
- 4 sites in Bear Creek watershed for macroinvertebrates (2 sites with 2 years of data)

Fish IBI's were variable, ranging from poor to good. Macroinvertebrate sample MIBI ratings were good to excellent at all but one site, which was fair.

The goal of future monitoring in these two watersheds is to:

- Identify significant nutrient and sediment source areas by monitoring water quality at multiple sites affected by differing land uses. This could help direct and justify water quality improvement efforts.
- Conduct additional fish surveys to enlarge this data set.
- Monitor iron concentrations in runoff from the taconite storage facility railyard (this will depend on the ability to obtain access).

Objective: Project for Northern District TWAs. The objective was to create a complete dataset of water quality monitoring to understand watershed condition.

Comments: Proposed project for Northern District TWAs

Outcome: Proposed project for Northern District TWAs

Study Design: Proposed project for Northern District TWAs:

Water quality monitoring: 12 sites (TBD) divided between the 2 watersheds, sampled once per month, May-Oct.= 72 samples
Field parameters – temp, DO, pH, cond, turbidity
Lab parameters – E. coli (\$38), TP (\$25), TN (\$29), TSS (\$22) (\$114 per sample; E. coli testing at UW-Superior; \$76 per sample for SLOH)

Fish surveys: 3 sites (TBD) for Bear Creek watershed and 2 sites (TBD) for Bluff Creek watershed.

Iron sampling at rail yard 4 iron samples @ \$50 (SLOH) = \$200

QA Measures: Standard DNR and SLOH protocols will be followed.

5/8/2024

Wisconsin Department of Natural Resources SWIMS Project Summary

| People | | | | | | |
|---------------------|-------------|----------|------------|------------|---------------|----------|
| Name | Role | Status | Start Date | End Date | Organization | Comments |
| AARTILA, THOMAS P | SUPERVISOR | COMPLETE | 1/4/2018 | 2/27/2024 | Wisconsin DNR | |
| Helmuth, Lisa D | COORDINATOR | INACTIVE | 1/1/2018 | 12/31/2019 | Wisconsin DNR | |
| ROBERTS, MADELINE E | COORDINATOR | ACTIVE | 1/1/2018 | 12/31/2019 | Wisconsin DNR | |
| Roesler, Craig P | COORDINATOR | COMPLETE | 1/1/2018 | 1/15/2020 | Wisconsin DNR | |

| Project Statuses | | | |
|------------------|---------------|-----------------------|---|
| Date | Reported By | Status | Comments |
| 2/1/2018 | Craig Roesler | Proposed | |
| 1/15/2020 | Lisa Helmuth | Public Comment Period | https://prodoasint.dnr.wi.gov/swims/editDocument.do?id=214892083 |
| 3/16/2020 | Lisa Helmuth | Public Comment Period | |

Project Status Detail

| Actions | | | | | |
|---|----------------------|--|------------|------------|----------|
| Action | Detailed Description | | Start Date | End Date | Status |
| Monitor Targeted Watershed Area (TWA) | | | 1/1/2018 | 12/31/2019 | COMPLETE |
| Monitor or Assess Watershed Condition | | | 1/1/2018 | 12/31/2019 | COMPLETE |
| Monitor Fish Community | | | 1/1/2018 | 12/31/2019 | COMPLETE |
| Monitor Baseline Survey | | | 1/1/2018 | 12/31/2019 | COMPLETE |
| Monitor Water Quality or Sediment | | | 1/1/2018 | 12/31/2019 | COMPLETE |
| Monitor Aquatic Biology | | | 1/1/2018 | 12/31/2019 | COMPLETE |
| Monitor Watershed (Status,Sources,Impairments) | | | 1/1/2018 | 12/31/2019 | COMPLETE |

| Monitoring Stations | | |
|---------------------|---|----------|
| Station ID | Name | Comments |
| 10050952 | Bear Ck at CTH K | |
| 10029779 | Bear Creek NE of Hwy 2/53 | |
| 10038884 | Bear Creek US of CTH Z | |
| 10029778 | Bear Creek at CTH Z | |
| 10048234 | Bear Creek upstream Hwy 2/53 | |
| 10015470 | Bear Creek- Upstream City Limits Rd- Station #1 | |
| 10017177 | Birch Creek at Cty Rd C | |
| 163231 | Bluff Creek - County Highway C | |
| 10040432 | Bluff Creek at City Limits Rd | |
| 10031958 | Bluff Creek at end of City Limits Road | |

5/8/2024

Wisconsin Department of Natural Resources SWIMS Project Summary

| | | |
|----------|---|--|
| 10030045 | Bluff Creek ~500 m above Powerline behind Allouez Taconite Fac. | |
| 10015462 | Bluff Creek- Upstream Hwy Z- Station #1 | |
| 10015463 | Bluff Creek- Upstream Valley Brook Rd- Station #2 | |
| 10010049 | Hay Meadow Creek - Haymeadow Creek at 2nd St. | |
| 10030050 | Unnamed Trib to Bluff Creek ~200 meters above confluence off CTH A. | |
| 10032011 | Unnamed Tributary to Bluff Creek at Lyman Lake Road | |
| 10048235 | Unnamed stream at Moccasin Mike Rd | |
| 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z | |
| 10040736 | Unnamed trib to Bluff Ck 110m DS Valley Brook Rd | |
| 10051098 | Unnamed trib to Bluff Creek at Huppert Rd | |
| 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd | |
| 10050949 | Unnamed tributary to Bluff Ck at CTH C near Pine St. | |
| 10050950 | Unnamed tributary to Bluff Ck at CTH C near Windmill Rd | |
| 10050951 | Unnamed tributary to Bluff Ck at unnamed road | |

Assessment Units

| WBIC | Segment | Local Name | Official Name |
|---------|---------|------------------|------------------|
| 1409800 | 1 | Hay Meadow Creek | Hay Meadow Creek |
| 2833200 | 1 | Bluff Creek | Bluff Creek |
| 2833400 | 1 | Unnamed | Unnamed |
| 2833500 | 1 | Birch Creek | Birch Creek |
| 2833900 | 1 | Unnamed Stream | Unnamed |
| 2834200 | 1 | Unnamed Stream | Unnamed |
| 2834300 | 1 | Unnamed Stream | Unnamed |
| 2834600 | 1 | Bear Creek | Bear Creek |
| 2834700 | 1 | Unnamed | Unnamed |
| 2834800 | 1 | Local Water | Unnamed |
| 2835100 | 1 | Unnamed | Unnamed |

Lab Account Codes

| Account Code | Description | Start Date | End Date |
|--------------|--------------------------------|------------|------------|
| WQ002 | TARGETED WATERSHED ASSESSMENTS | 1/1/2018 | 12/31/2019 |

Forms

| Form Code | Form Name |
|----------------------|----------------------|
| FIELD CHEMISTRY FORM | Field Chemistry Form |

Wisconsin Department of Natural Resources
SWIMS Project Summary

| | |
|----------------------|--|
| FISH ASSEMBLAGE 2018 | Fish Assemblage 2018 |
| CBSM-TEST | Macroinvertebrate Field Data |
| QUAL_FISH_HAB_LESS10 | Qualitative Fish Habitat Less Than 10 M |
| QUAL_FISH_HAB_MORE10 | Qualitative Fish Habitat More Than 10 M |
| STREAM_CHAR | Stream Characteristics Form (Qualitative Habitat) (form 3600-183 Back) |
| STREAM_MON | Stream Monitoring (Temp, DO, Trans, Flow) |
| WAV_BI | WAV Citizen Monitoring Biotic Index |

Methods

| Method Code | Method Description |
|--|---|
| DNR-FPM-2201 | Conductivity Instantaneous Field Meters 1993 |
| DNR-FPM 2101 DISSOLVED OXYGEN METERS | Dissolved Oxygen Meters |
| ELECTROFISHING: BACKPACK SHOCKER | Electrofishing: Backpack Shocker |
| DNR-FPM-SONDES2006 | Multi-Parameter Continuous Meter (Sondes) Guidelines 2006 |
| NUTRIENT SAMPLING STREAMS 2015 | Nutrient Sampling SOPs (3.2) WQ Monitoring 2015 |
| DNR-FPM 1001.3 BENTHIC INVERTEBRATE SAMPLING - D-FRAME NET, KICK SAMPLES | Stream Sampling Methods |
| GRAB SAMPLE PROCEDURES USEPA WATERSHED PILOT | USEPA Watershed Pilot - Grab Samples 2011 |
| GRAB SAMPLE | Water Grab Sample Guidelines and Procedures 2005 |

Fieldwork Events

| Start Date | Status | Field ID | Station ID | Station Name |
|-----------------|----------|----------|------------|--|
| 5/22/2018 9:00 | COMPLETE | BE-12 | 10048234 | Bear Creek upstream Hwy 2/53 |
| 5/22/2018 9:00 | COMPLETE | BE-12 | 10048234 | Bear Creek upstream Hwy 2/53 |
| 5/22/2018 9:15 | COMPLETE | BE-11 | 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd |
| 5/22/2018 9:15 | COMPLETE | BE-11 | 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd |
| 5/22/2018 10:00 | COMPLETE | BL-1 | 10040432 | Bluff Creek at City Limits Rd |
| 5/22/2018 10:00 | COMPLETE | BL-1 | 10040432 | Bluff Creek at City Limits Rd |
| 5/22/2018 10:15 | COMPLETE | BE-9 | 10038884 | Bear Creek US of CTH Z |
| 5/22/2018 10:15 | COMPLETE | BE-9 | 10038884 | Bear Creek US of CTH Z |
| 5/22/2018 10:30 | COMPLETE | BE-10 | 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z |
| 5/22/2018 10:30 | COMPLETE | BE-10 | 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z |
| 5/22/2018 10:50 | COMPLETE | BE-8 | 10050952 | Bear Ck at CTH K |
| 5/22/2018 11:10 | COMPLETE | BL-6 | 10017177 | Birch Creek at Cty Rd C |

5/8/2024

Wisconsin Department of Natural Resources

SWIMS Project Summary

| | | | | |
|-----------------|----------|--------------|----------|---|
| 5/22/2018 11:30 | COMPLETE | BE-8 | 10050952 | Bear Ck at CTH K |
| 5/22/2018 11:30 | COMPLETE | BL-7 | 10051098 | Unnamed trib to Bluff Creek at Huppert Rd |
| 5/22/2018 11:30 | COMPLETE | BL-7 | 10051098 | Unnamed trib to Bluff Creek at Huppert Rd |
| 5/22/2018 11:45 | COMPLETE | BL-5 | 10050950 | Unnamed tributary to Bluff Ck at CTH C near Windmill Rd |
| 5/22/2018 11:45 | COMPLETE | BL-5 | 10050950 | Unnamed tributary to Bluff Ck at CTH C near Windmill Rd |
| 5/22/2018 11:45 | COMPLETE | BL-6 | 10017177 | Birch Creek at Cty Rd C |
| 5/22/2018 12:00 | COMPLETE | BL-4 | 163231 | Bluff Creek - County Highway C |
| 5/22/2018 12:05 | COMPLETE | BL-4 | 163231 | Bluff Creek - County Highway C |
| 5/22/2018 12:15 | COMPLETE | BL-3 | 10050949 | Unnamed tributary to Bluff Ck at CTH C near Pine St. |
| 5/22/2018 12:15 | COMPLETE | BL-3 | 10050949 | Unnamed tributary to Bluff Ck at CTH C near Pine St. |
| 5/22/2018 12:40 | COMPLETE | BL-2 | 10040736 | Unnamed trib to Bluff Ck 110m DS Valley Brook Rd |
| 5/22/2018 12:45 | COMPLETE | BL-2 | 10040736 | Unnamed trib to Bluff Ck 110m DS Valley Brook Rd |
| 6/12/2018 9:20 | COMPLETE | BE-11 | 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd |
| 6/12/2018 9:20 | COMPLETE | BE-11 | 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd |
| 6/12/2018 9:40 | COMPLETE | BE-12 | 10048234 | Bear Creek upstream Hwy 2/53 |
| 6/12/2018 9:40 | COMPLETE | BE-12 | 10048234 | Bear Creek upstream Hwy 2/53 |
| 6/12/2018 10:00 | COMPLETE | BL-1 | 10040432 | Bluff Creek at City Limits Rd |
| 6/12/2018 10:00 | COMPLETE | BL-110040432 | 10040432 | Bluff Creek at City Limits Rd |
| 6/12/2018 10:25 | COMPLETE | BE-9 | 10038884 | Bear Creek US of CTH Z |
| 6/12/2018 10:45 | COMPLETE | BE-10 | 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z |
| 6/12/2018 10:45 | COMPLETE | BE-10 | 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z |
| 6/12/2018 11:00 | COMPLETE | BE-8 | 10050952 | Bear Ck at CTH K |
| 6/12/2018 11:00 | COMPLETE | BE-8 | 10050952 | Bear Ck at CTH K |
| 6/12/2018 11:10 | COMPLETE | BL-6 | 10017177 | Birch Creek at Cty Rd C |
| 6/12/2018 11:10 | COMPLETE | BL-6 | 10017177 | Birch Creek at Cty Rd C |
| 6/12/2018 11:30 | COMPLETE | BL-7 | 10051098 | Unnamed trib to Bluff Creek at Huppert Rd |
| 6/12/2018 11:30 | COMPLETE | BL-7 | 10051098 | Unnamed trib to Bluff Creek at Huppert Rd |
| 6/12/2018 11:45 | COMPLETE | BL-5 | 10050950 | Unnamed tributary to Bluff Ck at CTH C near Windmill Rd |
| 6/12/2018 11:45 | COMPLETE | BL-5 | 10050950 | Unnamed tributary to Bluff Ck at CTH C near Windmill Rd |
| 6/12/2018 12:05 | COMPLETE | BL-4 | 163231 | Bluff Creek - County Highway C |
| 6/12/2018 12:05 | COMPLETE | BL-4 | 163231 | Bluff Creek - County Highway C |
| 6/12/2018 12:20 | COMPLETE | BL-3 | 10050949 | Unnamed tributary to Bluff Ck at CTH C near Pine St. |
| 6/12/2018 12:20 | COMPLETE | BL-3 | 10050949 | Unnamed tributary to Bluff Ck at CTH C near Pine St. |
| 6/12/2018 12:40 | COMPLETE | BL-2 | 10040736 | Unnamed trib to Bluff Ck 110m DS Valley Brook Rd |
| 6/12/2018 12:40 | COMPLETE | BL-2 | 10040736 | Unnamed trib to Bluff Ck 110m DS Valley Brook Rd |

5/8/2024

Wisconsin Department of Natural Resources SWIMS Project Summary

| | | | | |
|-----------------|----------|-------|----------|---|
| 6/27/2018 | COMPLETE | | 10048235 | Unnamed stream at Moccasin Mike Rd |
| 6/27/2018 | COMPLETE | | 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd |
| 6/27/2018 | COMPLETE | | 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z |
| 7/6/2018 | COMPLETE | | 10029779 | Bear Creek NE of Hwy 2/53 |
| 7/9/2018 | COMPLETE | | 10031958 | Bluff Creek at end of City Limits Road |
| 7/26/2018 9:20 | COMPLETE | BE-11 | 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd |
| 7/26/2018 9:40 | COMPLETE | BE-12 | 10048234 | Bear Creek upstream Hwy 2/53 |
| 7/26/2018 10:00 | COMPLETE | BE-11 | 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd |
| 7/26/2018 10:00 | COMPLETE | BL-1 | 10040432 | Bluff Creek at City Limits Rd |
| 7/26/2018 10:10 | COMPLETE | BE-12 | 10048234 | Bear Creek upstream Hwy 2/53 |
| 7/26/2018 10:25 | COMPLETE | BE-9 | 10038884 | Bear Creek US of CTH Z |
| 7/26/2018 10:30 | COMPLETE | BL-1 | 10040432 | Bluff Creek at City Limits Rd |
| 7/26/2018 10:45 | COMPLETE | BE-10 | 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z |
| 7/26/2018 11:00 | COMPLETE | BE-8 | 10050952 | Bear Ck at CTH K |
| 7/26/2018 11:00 | COMPLETE | BE-9 | 10038884 | Bear Creek US of CTH Z |
| 7/26/2018 11:10 | COMPLETE | BL-6 | 10017177 | Birch Creek at Cty Rd C |
| 7/26/2018 11:15 | COMPLETE | BE-10 | 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z |
| 7/26/2018 11:30 | COMPLETE | BE-8 | 10050952 | Bear Ck at CTH K |
| 7/26/2018 11:30 | COMPLETE | BL-7 | 10051098 | Unnamed trib to Bluff Creek at Huppert Rd |
| 7/26/2018 11:45 | COMPLETE | BL-5 | 10050950 | Unnamed tributary to Bluff Ck at CTH C near Windmill Rd |
| 7/26/2018 11:45 | COMPLETE | BL-6 | 10017177 | Birch Creek at Cty Rd C |
| 7/26/2018 11:55 | COMPLETE | BL-7 | 10051098 | Unnamed trib to Bluff Creek at Huppert Rd |
| 7/26/2018 12:05 | COMPLETE | BL-4 | 163231 | Bluff Creek - County Highway C |
| 7/26/2018 12:15 | COMPLETE | BL-5 | 10050950 | Unnamed tributary to Bluff Ck at CTH C near Windmill Rd |
| 7/26/2018 12:20 | COMPLETE | BL-3 | 10050949 | Unnamed tributary to Bluff Ck at CTH C near Pine St. |
| 7/26/2018 12:30 | COMPLETE | BL-4 | 163231 | Bluff Creek - County Highway C |
| 7/26/2018 12:40 | COMPLETE | BL-2 | 10040736 | Unnamed trib to Bluff Ck 110m DS Valley Brook Rd |
| 7/26/2018 12:40 | COMPLETE | BL-3 | 10050949 | Unnamed tributary to Bluff Ck at CTH C near Pine St. |
| 7/26/2018 13:00 | COMPLETE | BL-2 | 10040736 | Unnamed trib to Bluff Ck 110m DS Valley Brook Rd |
| 8/28/2018 9:30 | COMPLETE | BE-11 | 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd |
| 8/28/2018 10:00 | COMPLETE | BE-12 | 10048234 | Bear Creek upstream Hwy 2/53 |
| 8/28/2018 10:20 | COMPLETE | BL-1 | 10040432 | Bluff Creek at City Limits Rd |
| 8/28/2018 11:00 | COMPLETE | BE-9 | 10038884 | Bear Creek US of CTH Z |
| 8/28/2018 11:20 | COMPLETE | BE-10 | 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z |
| 8/28/2018 11:40 | COMPLETE | BE-8 | 10050952 | Bear Ck at CTH K |

5/8/2024

Wisconsin Department of Natural Resources SWIMS Project Summary

| | | | | |
|------------------|----------|-------|----------|---|
| 8/28/2018 12:00 | COMPLETE | BL-6 | 10017177 | Birch Creek at Cty Rd C |
| 8/28/2018 12:20 | COMPLETE | BL-7 | 10051098 | Unnamed trib to Bluff Creek at Huppert Rd |
| 8/28/2018 12:45 | COMPLETE | BL-5 | 10050950 | Unnamed tributary to Bluff Ck at CTH C near Windmill Rd |
| 8/28/2018 13:00 | COMPLETE | BL-4 | 163231 | Bluff Creek - County Highway C |
| 8/28/2018 13:20 | COMPLETE | BL-3 | 10050949 | Unnamed tributary to Bluff Ck at CTH C near Pine St. |
| 8/28/2018 13:45 | COMPLETE | BL-2 | 10040736 | Unnamed trib to Bluff Ck 110m DS Valley Brook Rd |
| 10/5/2018 0:45 | COMPLETE | BL-4 | 163231 | Bluff Creek - County Highway C |
| 10/5/2018 10:00 | COMPLETE | BE-11 | 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd |
| 10/5/2018 10:00 | COMPLETE | BE-11 | 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd |
| 10/5/2018 10:20 | COMPLETE | BE-12 | 10048234 | Bear Creek upstream Hwy 2/53 |
| 10/5/2018 10:20 | COMPLETE | BE-12 | 10048234 | Bear Creek upstream Hwy 2/53 |
| 10/5/2018 10:40 | COMPLETE | BL-1 | 10040432 | Bluff Creek at City Limits Rd |
| 10/5/2018 10:40 | COMPLETE | BL-1 | 10040432 | Bluff Creek at City Limits Rd |
| 10/5/2018 11:10 | COMPLETE | BE-9 | 10038884 | Bear Creek US of CTH Z |
| 10/5/2018 11:10 | COMPLETE | BE-9 | 10038884 | Bear Creek US of CTH Z |
| 10/5/2018 11:30 | COMPLETE | BE-10 | 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z |
| 10/5/2018 11:30 | COMPLETE | BE-10 | 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z |
| 10/5/2018 11:40 | COMPLETE | BE-8 | 10050952 | Bear Ck at CTH K |
| 10/5/2018 11:40 | COMPLETE | BE-8 | 10050952 | Bear Ck at CTH K |
| 10/5/2018 11:55 | COMPLETE | BL-6 | 10017177 | Birch Creek at Cty Rd C |
| 10/5/2018 11:55 | COMPLETE | BL-6 | 10017177 | Birch Creek at Cty Rd C |
| 10/5/2018 12:15 | COMPLETE | BL-7 | 10051098 | Unnamed trib to Bluff Creek at Huppert Rd |
| 10/5/2018 12:15 | COMPLETE | BL-7 | 10051098 | Unnamed trib to Bluff Creek at Huppert Rd |
| 10/5/2018 12:30 | COMPLETE | BL-5 | 10050950 | Unnamed tributary to Bluff Ck at CTH C near Windmill Rd |
| 10/5/2018 12:30 | COMPLETE | BL-5 | 10050950 | Unnamed tributary to Bluff Ck at CTH C near Windmill Rd |
| 10/5/2018 12:45 | COMPLETE | BL-4 | 163231 | Bluff Creek - County Highway C |
| 10/5/2018 13:00 | COMPLETE | BL-3 | 10050949 | Unnamed tributary to Bluff Ck at CTH C near Pine St. |
| 10/5/2018 13:00 | COMPLETE | BL-3 | 10050949 | Unnamed tributary to Bluff Ck at CTH C near Pine St. |
| 10/5/2018 13:15 | COMPLETE | BL-2 | 10040736 | Unnamed trib to Bluff Ck 110m DS Valley Brook Rd |
| 10/5/2018 13:15 | COMPLETE | BL-2 | 10040736 | Unnamed trib to Bluff Ck 110m DS Valley Brook Rd |
| 10/10/2018 10:15 | COMPLETE | BE-11 | 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd |
| 10/10/2018 10:15 | COMPLETE | BE-11 | 10050953 | Unnamed tributary to Bear Ck at Moccasin Mike Rd |
| 10/10/2018 10:30 | COMPLETE | BE-12 | 10048234 | Bear Creek upstream Hwy 2/53 |
| 10/10/2018 10:30 | COMPLETE | BE-12 | 10048234 | Bear Creek upstream Hwy 2/53 |
| 10/10/2018 10:50 | COMPLETE | BL-1 | 10040432 | Bluff Creek at City Limits Rd |

Wisconsin Department of Natural Resources SWIMS Project Summary

| | | | | |
|------------------|----------|-------|----------|---|
| 10/10/2018 10:50 | COMPLETE | BL-1 | 10040432 | Bluff Creek at City Limits Rd |
| 10/10/2018 11:15 | COMPLETE | BE-9 | 10038884 | Bear Creek US of CTH Z |
| 10/10/2018 11:15 | COMPLETE | BE-9 | 10038884 | Bear Creek US of CTH Z |
| 10/10/2018 11:30 | COMPLETE | BE-10 | 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z |
| 10/10/2018 11:30 | COMPLETE | BE-10 | 10030043 | Unnamed trib to Bear Cr. below culvert at CTH Z |
| 10/10/2018 11:45 | COMPLETE | BE-8 | 10050952 | Bear Ck at CTH K |
| 10/10/2018 11:45 | COMPLETE | BE-8 | 10050952 | Bear Ck at CTH K |
| 10/10/2018 12:00 | COMPLETE | BL-6 | 10017177 | Birch Creek at Cty Rd C |
| 10/10/2018 12:05 | COMPLETE | BL-6 | 10017177 | Birch Creek at Cty Rd C |
| 10/10/2018 12:15 | COMPLETE | BL-7 | 10051098 | Unnamed trib to Bluff Creek at Huppert Rd |
| 10/10/2018 12:15 | COMPLETE | BL-7 | 10051098 | Unnamed trib to Bluff Creek at Huppert Rd |
| 10/10/2018 12:40 | COMPLETE | BL-5 | 10050950 | Unnamed tributary to Bluff Ck at CTH C near Windmill Rd |
| 10/10/2018 12:40 | COMPLETE | BL-5 | 10050950 | Unnamed tributary to Bluff Ck at CTH C near Windmill Rd |
| 10/10/2018 13:00 | COMPLETE | BL-4 | 163231 | Bluff Creek - County Highway C |
| 10/10/2018 13:00 | COMPLETE | BL-4 | 163231 | Bluff Creek - County Highway C |
| 10/10/2018 13:15 | COMPLETE | BL-3 | 10050949 | Unnamed tributary to Bluff Ck at CTH C near Pine St. |
| 10/10/2018 13:15 | COMPLETE | BL-3 | 10050949 | Unnamed tributary to Bluff Ck at CTH C near Pine St. |
| 10/10/2018 13:30 | COMPLETE | BL-2 | 10040736 | Unnamed trib to Bluff Ck 110m DS Valley Brook Rd |
| 10/10/2018 13:30 | COMPLETE | BL-2 | 10040736 | Unnamed trib to Bluff Ck 110m DS Valley Brook Rd |

Documents

| Title | Description | Author | Published | Comments |
|---|---|----------------|------------|----------|
| 10050953 bear creek tributary at moccasin mike road | | crum,bryan | 12/12/2018 | |
| BEAR CK AT CTH K 10-31-18 (002) PHOTO | BEAR CK AT CTH K 10-31-18 | Roesler, Craig | 10/16/2019 | |
| BEAR CK AT CTH Z 10-31-18 | BEAR CK AT CTH Z 10-31-18 | Roesler, Craig | 10/16/2019 | |
| BEAR CK AT HWY 2,53 10-31-18 | BEAR CK AT HWY 2,53 10-31-18 | Roesler, Craig | 10/16/2019 | |
| BEAR CK TRIB AT MOCCASIN MIKE RD 10-31-18 | BEAR CK TRIB AT MOCCASIN MIKE RD 10-31-18 | Roesler, Craig | 10/16/2019 | |
| BEAR CREEK DURING HIGH FLOW AT HIGHWAY 2 AND 53 10-3-17 | BEAR CREEK DURING HIGH FLOW AT HIGHWAY 2 AND 53 10-3-17 | Roesler, Craig | 10/16/2019 | |
| BEAR CREEK WITH MODERATE FLOW AT HWY 2 AND 53 10-11-17 | BEAR CREEK WITH MODERATE FLOW AT HWY 2 AND 53 10-11-17 | Roesler, Craig | 10/16/2019 | |
| BEAR TRIB AT CTH Z 10-31-18 | BEAR TRIB AT CTH Z 10-31-18 | Roesler, Craig | 10/16/2019 | |

| | | | | |
|---|--|---|------------|--|
| Bear and Bluff Creeks Targeted Watershed Assessment: A Water Quality Plan to Restore Wisconsin Watersheds | Bear and Bluff Creeks Watershed Assessment: A Water Quality Plan to Restore Wisconsin Watersheds | Roesler, Craig and Lisa Kosmond Helmuth | 12/20/2019 | |
|---|--|---|------------|--|

| | | | | |
|---|--|--|----------------------|---------------------|
| Budget | | | | |
| Budget Description: Bear and Bluff Creek TWA budget | | | Start Date: 5/1/2018 | End Date: 6/30/2018 |

| Code | Description | Quantity | Units | Unit Cost | Total Cost | Comments |
|---------|----------------------------|----------|-------|-----------|------------|---------------|
| FTE | FTE Hours | 150 | Hours | \$0.00 | \$0.00 | |
| LTE SAL | LTE Salary | 100 | Hours | \$16.00 | \$1,600.00 | |
| LTE FR | LTE Fringe | | | | \$395.20 | |
| LTE IND | LTE Indirect | | | | \$322.62 | |
| LTE TOT | LTE Total Cost | | | | \$2,317.82 | |
| SUPPLY | Supplies | 4 | | \$30.00 | \$120.00 | shipping, ice |
| EQUIP | Equipment | | | | \$0.00 | |
| MILEAGE | Mileage | 840 | Miles | \$0.45 | \$378.00 | |
| MEAL | Meals | 12 | Meals | \$9.00 | \$108.00 | |
| LODGE | Lodging | | | | \$0.00 | |
| TRAVEL | Travel Total | | | | \$486.00 | |
| BUG | Bug Contracts | | | | \$0.00 | |
| OTHER | Other Contracts | 24 | | \$38.00 | \$912.00 | |
| USGS | USGS Costs | | | | \$0.00 | |
| TOTAL | Total Cost (excludes SLOH) | | | | \$3,835.82 | |

Total WSLH Lab Costs: \$0.00

Total Budget: \$3,835.82

Wisconsin Department of Natural Resources
SWIMS Project Summary

| | | |
|--|-----------------------------|-----------------------------|
| Budget Description: Bear and Bluff Creeks TWA's | Start Date: 7/1/2018 | End Date: 12/31/2018 |
|--|-----------------------------|-----------------------------|

| Code | Description | Quantity | Units | Unit Cost | Total Cost | Comments |
|---------|----------------------------|----------|-------|-----------|------------|-----------------------------|
| FTE | FTE Hours | 150 | Hours | \$0.00 | \$0.00 | |
| LTE SAL | LTE Salary | 200 | Hours | \$16.00 | \$3,200.00 | |
| LTE FR | LTE Fringe | | | | \$790.40 | |
| LTE IND | LTE Indirect | | | | \$645.25 | |
| LTE TOT | LTE Total Cost | | | | \$4,635.65 | |
| SUPPLY | Supplies | 6 | | \$30.00 | \$180.00 | sample shipping, ice |
| EQUIP | Equipment | | | | \$0.00 | |
| MILEAGE | Mileage | 1120 | Miles | \$0.45 | \$504.00 | |
| MEAL | Meals | 16 | Meals | \$9.00 | \$144.00 | |
| LODGE | Lodging | | | | \$0.00 | |
| TRAVEL | Travel Total | | | | \$648.00 | |
| BUG | Bug Contracts | | | | \$0.00 | |
| OTHER | Other Contracts | 48 | | \$38.00 | \$1,824.00 | UW-Superior E. coli testing |
| USGS | USGS Costs | | | | \$0.00 | |
| TOTAL | Total Cost (excludes SLOH) | | | | \$7,287.65 | |

Total WSLH Lab Costs: \$0.00
Total Budget: \$7,287.65

Combined Budgets: \$11,123.47
Combined WSLH: \$0.00
Combined Total: \$11,123.47

| Funding | | | | | |
|--------------|--------|------|--------|------------|----------|
| Organization | Source | Type | Amount | Start Date | End Date |