

Wisconsin Department of Natural Resources SWIMS Project Summary

General Project Information

Project ID: East_TWA_1_2014&19
Name: Big Green Lake TWA WQM Plan (2017) 2019
Type: Targeted Watershed Approach
Subtype: Effectiveness (BMP, Other)
Status: COMPLETE
Start Date: 03/01/2019
End Date: 12/31/2020
Purpose: This TWA will reassess the water quality of the southern Big Green Lake sub-watershed (HUC-12 040302010902) after watershed and instream BMP work was completed to evaluate its effectiveness. A TWA in this HUC 12 was assessed in 2014 for baseline (pre-restoration) data.
Objective: The 2014 TWA (See attached document) involved collection of a baseline water quality assessment on the south side of Big Green Lake including total phosphorus (TP), habitat, fish, and aquatic macroinvertebrates. In 2019, the intent of the TWA is to repeat the TP, habitat, fish and macroinvertebrate monitoring to compare the aquatic community and nutrient concentrations pre/post BMP installation.
Comments: This is a 1-year project. This is a reassessment of the area sampled in 2014 prior to the installation of BMPs.
Outcome: All inorganic chemistry and macroinvertebrate data will be entered into SWIMS. All fish and habitat data will be entered into the FMDB by Water Resources staff.

A final report comparing the 2014 TWA to the 2019 TWA will be uploaded into SWIMS by 12/31/2020.

This TWA supports Big Green Lake's partners' efforts to reduce the TP entering the lake. The Big Green Lake LMP Team is comprised of Green Lake Association, NRCS, USGS, Green Lake and Fond du Lac County LWCDs, and Green Lake Sanitary District. This also meets the monitoring plan recommendations within the submitted 9KE application.

Study Design: Methods, Equipment and Quality Assurance:

Collection of TP, habitat, fish, continuous temperature, and aquatic macroinvertebrates used standard DNR data collection methods and samples were sent to certified laboratories in the state. No specific in-field duplicates, replicates or blanks were collected for the study; however quality assurance sampling procedures were used in the collection and preservation of samples for all parameters.

QA Measures: Standard DNR and SLOH protocols will be followed. No field blanks, spikes or duplicates will be collected for this study.

People

Name	Role	Status	Start Date	End Date	Organization	Comments
BOLHA, DAVID A	COORDINATOR	ACTIVE	01/01/2014	12/31/2022	Wisconsin DNR	
Helmuth, Lisa D	PRESENTER	COMPLETE	03/01/2019	12/31/2022	Wisconsin DNR	
Kleeman, ZACHARY K	TEAM_MEMBER	COMPLETE	03/01/2019	01/15/2020	Wisconsin DNR	
MAASS, JEREMY L	TEAM_MEMBER	INACTIVE	01/01/2014	12/31/2022	Wisconsin DNR	

Project Statuses

Date	Reported By	Status	Comments
12/14/2015	Lisa Helmuth	Complete	Looks complete but needs final report
12/16/2015	DAVID BOLHA	Complete	
12/17/2015	Lisa Helmuth	Complete	final report uploaded!
02/01/2019	DAVID BOLHA	Proposed	Reopened Project for continued TWA Monitoring
04/11/2019	DAVID BOLHA	Active	Ongoing resampling of area to assess improvements.
01/16/2020	DAVID BOLHA	Progress: 75-100% Complete	
01/14/2021	DAVID BOLHA	Final Report Needed	
12/08/2021	DAVID BOLHA	Complete	2020 Big Green TWA Report Completed and added to the

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Date	Reported By	Status	Comments
			project. 2019-2020 Monitoring Project Complete

Project Status Detail

Answer Set: DEFAULT

Question	Answer
1. Number of Sample Sites (Enter the station IDs if you know them).	8 locations sampled in 2019 10021317 (Roy US O) 10041576 (Roy DS O) 243026 (Spring Creek) 10012583 (Wuerches) 10041578 (Un Trib to Hill from Scott Hill) 10042146 (Un Trib to White from Scott Hill) 243059 (White Creek) 10033838 (Hill Creek)
2. Number of Sample Events (Indicate how many trips into the field you anticipate for this project).	15 field work events 3 for fish 3 for habitat 6 for nutrient samples 1 for bugs 2 for thermistors
3. Proposed Dates for Sample Collection	Fish and Habitat FY20 July through September Bugs FY20 October TP May through October (1/month) Thermistors May deployment and October retrieval
4. List applicable databases and who will enter data?	lisa helmuth, LTES
5. Did you receive competitive projects funding in the previous year?	
6. If yes to question 5, did you complete the projects including data entry and reports as necessary? If not, why not?	Yes
7. Reviewer Notes: Identify questions or issues with project (use during review period)	In 2019, the intent of the TWA is to repeat the TP, habitat, fish and macroinvertebrate monitoring to compare the aquatic community and nutrient concentrations pre/post BMP installation.
8. Reviewer Decision: Is this project recommended for funding?	Yes

Actions

Action	Detailed Description	Start	End Date	Status
Monitor Targeted Watershed Area (TWA)	Big Green Lake [HUC12]	01/01/2014	12/31/2020	COMPLETE
Grant Awarded	Monitoring the Big Green Lake watershed will be used for comparison of future monitoring after watershed enhancements have been made to improve water quality in Silver Creek and reduce the nutrient and suspended solids load into Big Green Lake. Considerable creek restoration and watershed best management practice work was conducted and is projected for the future by multiple agencies, including Green Lake County Land Conservation Department (Green Lake County LCD) and Natural Resource Conservation Service (NRCS).	01/01/2014	12/31/2020	PROPOSED

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Action	Detailed Description	Start	End Date	Status
Monitor Baseline Survey	This Targeted Watershed Assessment will address needs for baseline water quality monitoring of the HUC 12 watershed on the south side of Big Green Lake.	01/01/2014	12/31/2020	COMPLETE
Monitor Watershed (Status,Sources,Impairments)	Monitoring the Big Green Lake watershed will be used for comparison of future monitoring after watershed enhancements have been made to improve water quality in Silver Creek and reduce the nutrient and suspended solids load into Big Green Lake. Considerable creek restoration and watershed best management practice work was conducted and is projected for the future by multiple agencies, including Green Lake County Land Conservation Department (Green Lake County LCD) and Natural Resource Conservation Service (NRCS).	01/01/2014	12/31/2020	COMPLETE
Details:	Parameter	Value/Amount	Units	Comments
	Total Nitrogen			
	Total Phosphorus			
	Total Suspended Solids			
Water Quality Planning	Watershed based assessment and planning	07/01/2014	12/31/2022	COMPLETE
Monitor or Propose 303(d) Listing		01/09/2018	12/31/2020	IN_PROGRESS
Engage Volunteers in Monitoring/Restoration		01/09/2018	09/01/2025	IN_PROGRESS

Monitoring Stations

Station ID	Name	Comments
10030583	Dakin Creek - Maug Road	
10037918	Dakin Creek at Brooklyn G Rd	
10051172	Hill Creek at Lakeview Road	
10033838	Hill Creek upstream Spring Grove Rd	
10021317	Roy Creek 200 Feet Above Cth O	
10041576	Roy Creek DS County Hwy O	
10021299	Silver Creek At Douglas St (Hwy 44)	
203080	Silver Creek At Koro Rd	
10015911	Silver Creek Ds Scott Street Dam	
10041510	Silver Creek at County KK	
243026	Spring Creek at Cth K (Bi)	
10012583	Unnamed Creek (Wuerches Creek) North Side Of Cty B Near State Hwy 73	
10020701	Unnamed Creek-200 Feet Below Luedke Rd. (Wuerches Cr.)	
10040834	Unnamed Trib (5026964) to Silver Creek US Arcade Rd	
10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)	
10041509	Unnamed Trib to Silver Creek at County KK (WBIC 147700)	
10041508	Unnamed Trib to Silver Creek at HWY 23 (WBIC 146900)	
10041506	Unnamed Trib to Silver Creek at HWY23 (WBIC 5027015)	

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Station ID	Name	Comments
10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)	
10016330	Unnamed Trib. To Silver Creek At Trail	
10052650	Unnamed Tributary to Silver Creek DS Brooklyn G Rd and 4th Inline Pond (WBIC 5026724)	
10041507	Unnamed Tributary to Silver Creek at Murray Rd (WBIC 147000)	
243059	White Creek -At Spring Grove Rd Near Mouth Of Green Lake WI	

Assessment Units

WBIC	Segment	Local Name	Official Name
146200	1	Hill Creek	Hill Creek
146600	1	White Creek	White Creek
146700	1	Dakin Creek	Dakin Creek
146800	1	Silver Creek	Silver Creek
146800	2	Silver Creek	Silver Creek
146900	1	Unnamed Trib to Silver Creek	Unnamed
147000	1	Unnamed Trib to Silver Creek	Unnamed
147400	1	North Tributary to Silver Creek	Unnamed
147700	1	Unnamed Trib to Silver Creek	Unnamed
148000	1	Spring Creek	Spring Creek
148200	1	Roy Creek	Roy Creek
148300	1	Wuerches Creek	Unnamed
5026724	1	Unnamed Stream	Unnamed
5026964	1	Local Water	Unnamed
5027015	1	Unnamed Trib to Silver Creek	Unnamed
5027219	1	Unnamed Trib to Hill Creek	Unnamed
5027243	1	Unnamed Trib to White Creek	Unnamed

Lab Account Codes

Account Code	Description	Start Date	End Date
WQ002	TARGETED WATERSHED ASSESSMENTS	03/26/2014	12/31/2099
WQ031	Green Lake 2019	01/11/2019	12/31/2019

Forms

Form Code	Form Name
CONTINUOUS	Continuous Data Upload
INORGANIC	Inorganic Lab - Field Data

Methods

Method Code	Description
DNR-FPM APPENDIX B INORGANIC SAMPLE SHIPPER INSTRUCTIONS	Inorganic Sample Shipper Instructions 1998
MACROINVERTEBRATE BASELINE PROTOCOLS	Macroinvertebrate Baseline D-frame Kick Net 2004
HESTER_DENDY	Standardized Collection and Assessment of Macroinvertebrates in Nonwadeable Rivers of Wisconsin
GRAB SAMPLE PROCEDURES	USEPA Watershed Pilot - Grab Samples 2011

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Method Code

USEPA WATERSHED PILOT
GRAB SAMPLE

Description

Water Grab Sample Guidelines and Procedures 2005

Fieldwork Events

Start Date	Status	Field ID	Station ID	Station Name
05/17/2014 07:35	COMPLETE	NA	243026	Spring Creek at Cth K (Bi)
05/17/2014 07:49	COMPLETE	NA	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
05/17/2014 07:55	COMPLETE	NA	10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
06/15/2014 12:55	COMPLETE	NA	243026	Spring Creek at Cth K (Bi)
06/15/2014 13:11	COMPLETE	NA	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
06/15/2014 13:17	COMPLETE	NA	10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
07/15/2014 13:37	COMPLETE	NA	243026	Spring Creek at Cth K (Bi)
07/15/2014 13:47	COMPLETE	NA	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
07/15/2014 13:53	COMPLETE	NA	10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
08/18/2014 12:45	COMPLETE	NA	243026	Spring Creek at Cth K (Bi)
08/18/2014 12:55	COMPLETE	NA	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
08/18/2014 13:01	COMPLETE	NA	10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
09/13/2014 15:00	COMPLETE	NA	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
09/13/2014 15:12	COMPLETE	NA	243026	Spring Creek at Cth K (Bi)
09/25/2014 09:00	COMPLETE	NA	10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
10/07/2014	COMPLETE		10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
10/07/2014	COMPLETE		243059	White Creek -At Spring Grove Rd Near Mouth Of Green Lake WI
10/07/2014	COMPLETE		10021317	Roy Creek 200 Feet Above Cth O
10/07/2014	COMPLETE		10041576	Roy Creek DS County Hwy O
10/07/2014	COMPLETE		243026	Spring Creek at Cth K (Bi)
10/07/2014	COMPLETE		10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
10/12/2014 16:59	COMPLETE	NA	243026	Spring Creek at Cth K (Bi)
10/12/2014 17:09	COMPLETE	NA	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
10/15/2014 09:30	COMPLETE	NA	10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
05/13/2019 10:35	COMPLETE	UCWC-2019-MAY	10012583	Unnamed Creek (Wuerches Creek) North Side Of Cty B Near State Hwy 73
05/13/2019 10:45	COMPLETE	RCCO-2019-MAY	10021317	Roy Creek 200 Feet Above Cth O
05/13/2019 11:00	COMPLETE	SCCK-2019-MAY	243026	Spring Creek at Cth K (Bi)
05/24/2019 10:20	COMPLETE	UTHC-2019-MAY	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
05/27/2019 10:10	COMPLETE	UTWC-2019-MAY	10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
05/27/2019 10:30	COMPLETE	HCSGR-2019-MAY	10033838	Hill Creek upstream Spring Grove Rd
05/27/2019 10:40	COMPLETE	WCSGR-2019-MAY	243059	White Creek -At Spring Grove Rd Near Mouth Of Green Lake WI
06/11/2019 08:40	COMPLETE	UCWC-2019-JUNE	10012583	Unnamed Creek (Wuerches Creek) North Side Of Cty B Near State Hwy 73
06/11/2019 08:49	COMPLETE	RCCO-2019-JUNE	10021317	Roy Creek 200 Feet Above Cth O
06/11/2019 09:02	COMPLETE	SCCK-2019-JUNE	243026	Spring Creek at Cth K (Bi)
06/29/2019 09:00	COMPLETE	UTWC-2019-MAY	10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)

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Start Date	Status	Field ID	Station ID	Station Name
				5027243)
06/29/2019 09:12	COMPLETE	UTHC-2019-JUNE	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
06/29/2019 09:21	COMPLETE	HCSGR-2019-JUNE	10033838	Hill Creek upstream Spring Grove Rd
06/29/2019 09:28	COMPLETE	WCSGR-2019-JUNI	243059	White Creek -At Spring Grove Rd Near Mouth Of Green Lake WI
07/03/2019	COMPLETE		10037918	Dakin Creek at Brooklyn G Rd
07/03/2019	COMPLETE		10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
07/13/2019 11:44	COMPLETE	UTHC-2019-JULY	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
07/15/2019 09:10	COMPLETE	RCCO-2019-JULY	10021317	Roy Creek 200 Feet Above Cth O
07/23/2019	COMPLETE		10030583	Dakin Creek - Maug Road
07/31/2019 11:32	COMPLETE	WCSGR-2019-JULY	243059	White Creek -At Spring Grove Rd Near Mouth Of Green Lake WI
07/31/2019 11:34	COMPLETE	HCSGR-2019-AUG	10033838	Hill Creek upstream Spring Grove Rd
07/31/2019 11:40	COMPLETE	UTWC-2019-JULY	10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
08/14/2019 09:15	COMPLETE	UCWC-2019-AUGU	10012583	Unnamed Creek (Wuerches Creek) North Side Of Cty B Near State Hwy 73
08/14/2019 09:50	COMPLETE	SCCK-2019-AUGU	243026	Spring Creek at Cth K (Bi)
08/23/2019	COMPLETE		10021317	Roy Creek 200 Feet Above Cth O
08/23/2019	COMPLETE		10041576	Roy Creek DS County Hwy O
08/28/2019 12:50	COMPLETE	UTWC-2019-AUGU	10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
08/28/2019 13:05	COMPLETE	UTHC-2019-AUGU	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
08/28/2019 13:20	COMPLETE	HCSGR-2019-AUG	10033838	Hill Creek upstream Spring Grove Rd
08/28/2019 13:30	COMPLETE	WCSGR-2019-AUG	243059	White Creek -At Spring Grove Rd Near Mouth Of Green Lake WI
09/04/2019 08:55	COMPLETE	UNNAMED TRIB	10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
09/04/2019 09:05	COMPLETE	UNNAMED TRIB TO	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
09/04/2019 09:10	COMPLETE	HILL CREEK	10033838	Hill Creek upstream Spring Grove Rd
09/04/2019 09:20	COMPLETE	WHITE CREEK	243059	White Creek -At Spring Grove Rd Near Mouth Of Green Lake WI
09/16/2019 09:20	COMPLETE	UCWC-2019-SEPT	10012583	Unnamed Creek (Wuerches Creek) North Side Of Cty B Near State Hwy 73
09/16/2019 09:35	COMPLETE	RCCO-2019-SEPT	10021317	Roy Creek 200 Feet Above Cth O
09/16/2019 09:55	COMPLETE	SCCK-2019-SEPT	243026	Spring Creek at Cth K (Bi)
10/01/2019 15:40	COMPLETE	UTWC-2019-SEPT	10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)
10/01/2019 15:46	COMPLETE	UTHC-2019-SEPT	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
10/01/2019 15:53	COMPLETE	MCSGR-2019-SEP	10033838	Hill Creek upstream Spring Grove Rd
10/01/2019 16:00	COMPLETE	WCSGR-2019-SEP	243059	White Creek -At Spring Grove Rd Near Mouth Of Green Lake WI
10/14/2019 09:30	COMPLETE	UCWC-2019-OCTO	10012583	Unnamed Creek (Wuerches Creek) North Side Of Cty B Near State Hwy 73
10/14/2019 09:40	COMPLETE	RCCO-2019-OCTO	10021317	Roy Creek 200 Feet Above Cth O
10/14/2019 09:50	COMPLETE	SCCK-2019-OCTO	243026	Spring Creek at Cth K (Bi)
10/24/2019	COMPLETE		10021317	Roy Creek 200 Feet Above Cth O
10/24/2019	COMPLETE		10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
10/24/2019	COMPLETE		10012583	Unnamed Creek (Wuerches Creek) North Side Of Cty B Near State Hwy 73
10/24/2019	COMPLETE		243026	Spring Creek at Cth K (Bi)

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Start Date	Status	Field ID	Station ID	Station Name
10/24/2019	COMPLETE		10041576	Roy Creek DS County Hwy O
10/24/2019	COMPLETE		10051172	Hill Creek at Lakeview Road
11/03/2019 11:27	COMPLETE	WCSGR-2019-OCT	243059	White Creek -At Spring Grove Rd Near Mouth Of Green Lake WI
11/03/2019 16:15	COMPLETE	UTHC-2019-OCTOE	10041578	Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)
11/03/2019 16:33	COMPLETE	HCSGR-2019-OCTC	10033838	Hill Creek upstream Spring Grove Rd
11/07/2019	COMPLETE		243059	White Creek -At Spring Grove Rd Near Mouth Of Green Lake WI
11/07/2019	COMPLETE		10042146	Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)

Documents

Title	Description	Author	Published	Comments
2014 Total Phosphorus Monitoring Report - Spring Creek @ County K	This Targeted Watershed Assessment (TWA) will address needs for baseline water quality monitoring of the watershed on the south side of Big Green Lake. This watershed discharges between 15-30% of the Total Phosphorus load into Big Green Lake. Considerable stream restoration and watershed BMP work has been done and is projected for the future by multiple agencies, including Green Lake County LWCD and NRCS.	Lindsey Albright	02/04/2015	
2014 Total Phosphorus Monitoring Report - Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)	This Targeted Watershed Assessment (TWA) will address needs for baseline water quality monitoring of the watershed on the south side of Big Green Lake. This watershed discharges between 15-30% of the Total Phosphorus load into Big Green Lake. Considerable stream restoration and watershed BMP work has been done and is projected for the future by multiple agencies, including Green Lake County LWCD and NRCS.	Lindsey Albright	02/04/2015	
2019 Total Phosphorus Monitoring Report - Hill Creek upstream Spring Grove Rd	This TWA will reassess the water quality of the southern Big Green Lake sub-watershed (HUC-12 040302010902) after watershed and instream BMP work was completed to evaluate its effectiveness. A TWA in this HUC 12 was assessed in 2014 for baseline (pre-restoration) data.	Ilana Haimes	02/13/2020	
2019 Total Phosphorus Monitoring Report - Roy Creek 200 Feet Above Cth O	This TWA will reassess the water quality of the southern Big Green Lake sub-watershed (HUC-12 040302010902) after watershed and instream BMP work was completed to evaluate its effectiveness. A TWA in this HUC 12 was assessed in 2014 for baseline (pre-restoration) data.	Ilana Haimes	02/14/2020	
2019 Total Phosphorus	This TWA will reassess the water	Ilana Haimes	02/14/2020	

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Title	Description	Author	Published	Comments
Monitoring Report - Spring Creek at Cth K (Bi)	quality of the southern Big Green Lake sub-watershed (HUC-12 040302010902) after watershed and instream BMP work was completed to evaluate its effectiveness. A TWA in this HUC 12 was assessed in 2014 for baseline (pre-restoration) data.			
2019 Total Phosphorus Monitoring Report - Unnamed Creek (Wuerches Creek) North Side Of Cty B Near State Hwy 73	This TWA will reassess the water quality of the southern Big Green Lake sub-watershed (HUC-12 040302010902) after watershed and instream BMP work was completed to evaluate its effectiveness. A TWA in this HUC 12 was assessed in 2014 for baseline (pre-restoration) data.	Ilana Haimes	02/14/2020	
2019 Total Phosphorus Monitoring Report - Unnamed Trib to Hill Cr US Scott Hill Rd (WBIC 5027219)	This TWA will reassess the water quality of the southern Big Green Lake sub-watershed (HUC-12 040302010902) after watershed and instream BMP work was completed to evaluate its effectiveness. A TWA in this HUC 12 was assessed in 2014 for baseline (pre-restoration) data.	Ilana Haimes	02/13/2020	
2019 Total Phosphorus Monitoring Report - Unnamed Trib to White Creek US Scott Hill Rd (WBIC 5027243)	This TWA will reassess the water quality of the southern Big Green Lake sub-watershed (HUC-12 040302010902) after watershed and instream BMP work was completed to evaluate its effectiveness. A TWA in this HUC 12 was assessed in 2014 for baseline (pre-restoration) data.	Ilana Haimes	02/13/2020	
2019 Total Phosphorus Monitoring Report - White Creek -At Spring Grove Rd Near Mouth Of Green Lake WI	This TWA will reassess the water quality of the southern Big Green Lake sub-watershed (HUC-12 040302010902) after watershed and instream BMP work was completed to evaluate its effectiveness. A TWA in this HUC 12 was assessed in 2014 for baseline (pre-restoration) data.	Ilana Haimes	02/13/2020	
An Assessment of Hill, Roy, Silver, and Wuerches Creeks	2011 Field Season	Ted Johnson, Adam Nickel, Eric Evensen		
An Example of Streambank Restoration on Roy Creek near County O (Green Lake LCD) 2014 (148200)	An Example of Streambank Restoration on Roy Creek near County O (Green Lake LCD) 2014 (148200)	Bolha, Dave	01/01/2017	
An Example of Unstable Banks on Roy Creek near County O (Green Lake LCD) (148200) 2017 photo	An Example of Unstable Banks on Roy Creek near County O (Green Lake LCD) (148200) 2017 photo	Bolha, Dave	01/01/2017	
Big Green Lake TWA WQM PLAN 2017 (UF07)	Assessments and recommendations for the Watershed. Big Green Lake TWA WQM PLAN 2017	Bolha, Dave	11/21/2017	
Big Green Lake TWA WQM Plan 2017 [UF07] Presentation	Big Green Lake TWA WQM Plan 2017 [UF07] Presentation	WDNR	08/10/2017	

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Big Green Targeted Watershed Report 2020	TWA Report for monitoring in streams on South side of Big Green Lake conducted in 2019-2020	David Bolha	12/08/2021	
NWQI Monitoring Watershed Identification	2013 NWQI Watershed Selection	Tim Asplund, Corinne Billings		
Southern Big Green Lake Targeted Watershed Assessment Monitoring Report 3200-2015-35	Southern Big Green Lake Targeted Watershed Assessment (Green Lake (Big Green) - 146100)	Bolha, David	12/04/2015	
TWA Monitoring Location Map	TWA Monitoring Locations	Bolha, David	01/17/2014	

Budget

Budget Description: January through June 2014 Budget **Start Date:** 01/01/2014 **End Date:** 06/30/2014

Code	Description	Quantity	Units	Unit Cost	Total Cost	Comments
FTE	FTE Hours	20	Hours	\$0.00	\$0.00	
LTE SAL	LTE Salary	0	Hours	\$13.00	\$0.00	
LTE FR	LTE Fringe				\$0.00	
LTE IND	LTE Indirect				\$0.00	
LTE TOT	LTE Total Cost				\$0.00	
SUPPLY	Supplies	1		\$40.00	\$40.00	Shipping Cost
EQUIP	Equipment				\$0.00	
MILEAGE	Mileage	100	Miles	\$0.62	\$62.00	
MEAL	Meals	0	Meals	\$10.00	\$0.00	
LODGE	Lodging				\$0.00	
TRAVEL	Travel Total				\$62.00	
BUG	Bug Contracts				\$0.00	
OTHER	Other Contracts				\$0.00	
USGS	USGS Costs				\$0.00	
TOTAL	Total Cost (excludes SLOH)				\$102.00	

Test Code	Description	Test Group	# Planned	Unit Cost	Total Cost
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Total SLOH Lab Costs: \$0.00
Total Budget: \$102.00

Budget Description: July through December 2014 Budget **Start Date:** 07/01/2014 **End Date:** 12/31/2014

Code	Description	Quantity	Units	Unit Cost	Total Cost	Comments
FTE	FTE Hours	110	Hours	\$0.00	\$0.00	
LTE SAL	LTE Salary	120	Hours	\$13.00	\$1,560.00	
LTE FR	LTE Fringe				\$385.32	
LTE IND	LTE Indirect				\$314.56	
LTE TOT	LTE Total Cost				\$2,259.88	
SUPPLY	Supplies	1		\$120.00	\$120.00	Quart Jars, Batteries, and Shipping Cost
EQUIP	Equipment				\$0.00	
MILEAGE	Mileage	700	Miles	\$0.62	\$434.00	
MEAL	Meals	16	Meals	\$10.00	\$160.00	

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LODGE	Lodging				\$0.00	
TRAVEL	Travel Total				\$594.00	
BUG	Bug Contracts	7		\$180.00	\$1,260.00	
OTHER	Other Contracts				\$0.00	
USGS	USGS Costs				\$0.00	
TOTAL	Total Cost (excludes SLOH)				\$4,233.88	

Test Code	Description	Test Group	# Planned	Unit Cost	Total Cost
Total SLOH Lab Costs:	\$0.00				
Total Budget:	\$4,233.88				

Budget Description: FY19 **Start Date: 03/01/2019** **End Date: 06/30/2019**

Code	Description	Quantity	Units	Unit Cost	Total Cost	Comments
FTE	FTE Hours	40	Hours	\$0.00	\$0.00	
LTE SAL	LTE Salary	30	Hours	\$14.00	\$420.00	
LTE FR	LTE Fringe				\$103.74	
LTE IND	LTE Indirect				\$84.69	
LTE TOT	LTE Total Cost				\$608.43	
SUPPLY	Supplies	1		\$100.00	\$100.00	WIR Paper, shipping, and ice
EQUIP	Equipment	1		\$150.00	\$150.00	waders
MILEAGE	Mileage	400	Miles	\$0.51	\$204.00	
MEAL	Meals	10	Meals	\$10.00	\$100.00	
LODGE	Lodging				\$0.00	
TRAVEL	Travel Total				\$304.00	
BUG	Bug Contracts				\$0.00	
OTHER	Other Contracts				\$0.00	
USGS	USGS Costs				\$0.00	
TOTAL	Total Cost (excludes SLOH)				\$1,162.43	

Test Code	Description	Test Group	# Planned	Unit Cost	Total Cost
ICC52010	PHOSPHORUS TOTAL	INORGANIC CHEMISTRY	14	\$26.00	\$364.00

Total SLOH Lab Costs:	\$364.00
Total Budget:	\$1,526.43

Budget Description: FY20 **Start Date: 07/01/2019** **End Date: 12/31/2019**

Code	Description	Quantity	Units	Unit Cost	Total Cost	Comments
FTE	FTE Hours	150	Hours	\$0.00	\$0.00	
LTE SAL	LTE Salary	150	Hours	\$14.00	\$2,100.00	
LTE FR	LTE Fringe				\$518.70	
LTE IND	LTE Indirect				\$423.44	
LTE TOT	LTE Total Cost				\$3,042.14	
SUPPLY	Supplies	1		\$100.00	\$100.00	shipping and ice
EQUIP	Equipment	1		\$120.00	\$120.00	Ethanol

Wisconsin Department of Natural Resources SWIMS Project Summary

Code	Description	Quantity	Units	Unit Cost	Total Cost	Comments
MILEAGE	Mileage	1200	Miles	\$0.51	\$612.00	
MEAL	Meals	30	Meals	\$10.00	\$300.00	
LODGE	Lodging				\$0.00	
TRAVEL	Travel Total				\$912.00	
BUG	Bug Contracts	8		\$65.00	\$520.00	
OTHER	Other Contracts				\$0.00	
USGS	USGS Costs				\$0.00	
TOTAL	Total Cost (excludes SLOH)				\$4,694.14	

Test Code	Description	Test Group	# Planned	Unit Cost	Total Cost
ICC52010	PHOSPHORUS TOTAL	INORGANIC CHEMISTRY	28	\$26.00	\$728.00

Total SLOH Lab Costs: \$728.00
Total Budget: \$5,422.14

Combined Budgets: \$10,192.45
Combined SLOH: \$1,092.00
Combined Total: \$11,284.45

Funding

Organization	Source	Type	Amount	Start Date	End Date
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