Wisconsin Department of Natural Resources
SWIMS Project Summary

General Project Information

Project ID: West_11_CMP18

Name: 2018 Lake Tomah Follow-Up Monitoring

Type: Competitive Projects

Subtype: Evaluation Monitoring

Status: COMPLETE

Start Date: 1/1/2018

End Date: 12/31/2099

Purpose: Lake Tomah and tributary streams have consistently high concentrations of phosphorus. Sources of TP include current NPS, legacy issues and potentially natural sources. Previous watershed and lake monitoring estimated watershed TP Loads however more watershed monitoring is needed to determine TP load contribution from baseflow versus storm events. Previous monitoring may not have accurately assessed TP loads from larger storm and runoff events due to timing issues. This study proposes to re-assess baseflow and event loads by using fixed period sampling to assess baseflow while also targeting storm and runoff events. Fixed period monthly and storm event sampling will occur at the inflow site. Camille Bruhn, the Eau Claire biologist (Chris), and field crew (Mycal, Caitlin, etc.), and volunteer monitors will collect the samples.

Objective: The objective of this project is to build upon the work previously completed on Lake Tomah and the surrounding watershed. The City of Tomah Lake Committee, the City of Tomah, and the Monroe County Land Conservation Department are active partners and have been working to solve this water quality issue for years and this project will support their efforts to decrease the phosphorus concentrations in Lake Tomah and the surrounding tributary subwatersheds. Re-assessing the TP load into Lake Tomah from the watershed is needed to 1) document loads not assessed during events in previous studies and 2) more accurately partition the baseflow and event TP load to the lake. This information will provide a better assessment of TP load controllability. This will allow for a greater understanding of how phosphorus moves into Lake Tomah from the surrounding subwatersheds. The following WBIC will be included in the sampling efforts: 1338500 (South Fork Lemonweir River).

Comments: This is a continuing project and will continue in FY18 and be completed by the end of FY19.

Outcome: This project supports the efforts of the City of Tomah Lake Committee, the City of Tomah, and the Monroe County Land Conservation Department to obtain additional information on phosphorus concentrations entering Lake Tomah. Fixed period baseflow and targeted storm and runoff event loading information can be assessed by monitoring flow and phosphorus concentrations in the South Fork Lemonweir River at County Highway CM. This will lead to a better understanding of how phosphorus moves into Lake Tomah from the watershed and what can be done to reduce phosphorus loading to the lake.

Study Design: Annual TP and sediment loads will be calculated by conducting fixed period monthly sampling and event sampling using standard flow equipment and a bridge sampling device. Tape down measurements will also be collected when flow is measured. A volunteer monitor will be used to collect the monthly grab samples. If a volunteer can not be located the sampling will need to be done by Department staff. A water level sensor and an air pressure sensor will be maintained at the previous load site to connect with the previous rating curve and continue building the curve. Streamflow monitoring will be completed during both baseflow and event flows to determine the accuracy of the depth sensor deployment and continue building the curve with higher events. Baseflow and event samples will be analyzed for TP, orthophosphate, and suspended solids; ammonia, NO2 + NO3 as Nitrogen, and TN will also be analyzed at baseflow. It is anticipated that seven events will be sampled but this will be dependent on climatic conditions. Event samples may consist of grab samples more than once throughout the event while staff are at the site. Camille Bruhn, the Eau Claire biologist (Chris), the field crew (Mycal, Caitlin, etc.), and volunteer monitors will collect the samples.

QA Measures: All standard DNR protocols will be followed.

People

Name	Role	Status	Start Date	End Date	Organization	Comments
BRILLOWSKI, CAITLIN M	TEAM_MEMBER	ACTIVE	1/1/2018	12/31/2099	Wisconsin DNR	
BRUHN, CAMILLE M	COORDINATOR	ACTIVE	1/1/2018	12/31/2020	Wisconsin DNR	
HAZUGA, MARK J	SUPERVISOR	COMPLETE	1/1/2018	8/14/2024	Wisconsin DNR	
RALEIGH, MYCAL C	TEAM_MEMBER	ACTIVE	1/1/2018	12/31/2099	Wisconsin DNR	

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WILLGER, CHRISTOPHER J	TEAM_MEMBER	ACTIVE	1/1/2018	12/31/2099	Wisconsin DNR	

Project Statuses

Date	Reported By	Status	Comments
1/31/2018	CAMILLE BRUHN	Proposed	This project to continue load monitoring during baseflow and storm events for the Lake Tomah watershed area is being proposed.

Project Status Detail

Answer Set: DEFAULT

Question	Answer
1. Number of Sample Sites (Enter the station IDs if you know them).	1 site- SWIMS ID 10011306
2. Number of Sample Events (Indicate how many trips into the field you anticipate for this project).	There will be 1 sample site (at CTH CM). I anticipate visiting the site about 12 times- 6 monthly samples (May and June) and 6 storm events.
3. Proposed Dates for Sample Collection	March through December, 2018
4. List applicable databases and who will enter data?	SWIMS- LTEs will enter data
5. Did you receive competitive projects funding in the previous year?	Yes
6. If yes to question 5, did you complete the projects including data entry and reports as necessary? If not, why not?	We have begun to look at the data, but more information is needed to draw conclusions. We need data on storm events between 50 and 400 cfs to continue building the regression curve.
7. Reviewer Notes: Identify questions or issues with project (use during review period)	
8. Reviewer Decision: Is this project recommended for funding?	

Actions

Action	Detailed Description	Start Date	End Date	Status
Monitor Water Quality or Sediment	This study proposes to re-assess baseflow and events loads by using fixed period sampling.	1/1/2018	12/31/2099	PROPOSED

Monitoring Stations

Station ID	Name	Comments
10011306	South Fork Lemonweir River - S.Fk. Lemonweir River Station #1 Bridge On Cth Cm	

Assessment Units

WBIC	Segment	Local Name	Official Name
1338500	3	South Fork Lemonweir River	South Fork Lemonweir River

Lab Account Codes

Account Code	Description	Start Date	End Date
WQ015	LOCAL NEEDS PROJECTS	4/22/2015	12/31/2099

Forms

Form Code	Form Name

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Methods

Method Code	Method Description
PRO_FLO	Flow Monitoring Pro Flow Meter 2013
GRAB SAMPLE	Water Grab Sample Guidelines and Procedures 2005

Fieldwork Events

Start Date	Status	Field ID	Station ID	Station Name
5/23/2018 9:30	COMPLETE	SFLR-2018-MAY	10011306	South Fork Lemonweir River - S.Fk. Lemonweir River Station #1 Bridge On Cth Cm
6/19/2018 12:35	COMPLETE	SFLR	10011306	South Fork Lemonweir River - S.Fk. Lemonweir River Station #1 Bridge On Cth Cm
6/25/2018 14:00	COMPLETE	SFLR-2018-JUNE	10011306	South Fork Lemonweir River - S.Fk. Lemonweir River Station #1 Bridge On Cth Cm
7/25/2018 9:40	COMPLETE	SFLR-2018-JULY	10011306	South Fork Lemonweir River - S.Fk. Lemonweir River Station #1 Bridge On Cth Cm
8/27/2018 9:37	COMPLETE	SFLR-2018-AUGUST	10011306	South Fork Lemonweir River - S.Fk. Lemonweir River Station #1 Bridge On Cth Cm
8/28/2018 15:30	COMPLETE	SFLR	10011306	South Fork Lemonweir River - S.Fk. Lemonweir River Station #1 Bridge On Cth Cm
8/29/2018 16:45	COMPLETE	SF LEMON	10011306	South Fork Lemonweir River - S.Fk. Lemonweir River Station #1 Bridge On Cth Cm
9/26/2018 9:40	COMPLETE	SFLR-2018-SEPTEMBER	10011306	South Fork Lemonweir River - S.Fk. Lemonweir River Station #1 Bridge On Cth Cm
10/9/2018 12:40	COMPLETE	SFLR1	10011306	South Fork Lemonweir River - S.Fk. Lemonweir River Station #1 Bridge On Cth Cm
10/10/2018 9:47	COMPLETE	SFLR	10011306	South Fork Lemonweir River - S.Fk. Lemonweir River Station #1 Bridge On Cth Cm

Documents

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Title	Description	Author	Published	Comments
2018 Total Phosphorus Monitoring Report - South Fork Lemonweir River - S.Fk. Lemonweir River Station #1 Bridge On Cth Cm	Lake Tomah and tributary streams have consistently high concentrations of phosphorus. Sources of TP include current NPS, legacy issues and potentially natural sources. Previous watershed and lake monitoring estimated watershed TP Loads however more watershed monitoring is needed to determine TP load contribution from baseflow versus storm events. Previous monitoring may not have accurately assessed TP loads from larger storm and runoff events due to timing issues. This study proposes to re-assess baseflow and event loads by using fixed period sampling to assess baseflow while also targeting storm and runoff events. Fixed period monthly and storm event sampling will occur at the inflow site. Camille Bruhn, the Eau Claire biologist (Chris), and field crew (Mycal, Caitlin, etc.), and volunteer monitors will collect the samples.	Ilana Haimes	1/23/2019	

Budget

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Budget Description: March-June FY2018 **Start Date:** 3/1/2018 **End Date:** 6/30/2018

Code	Description	Quantity	Units	Unit Cost	Total Cost	Comments
FTE	FTE Hours	55	Hours	$0.00	$0.00	6 days- 2 days of baseflow sampling, 2 runoff events, and 2 storm events
LTE SAL	LTE Salary	55	Hours	$15.00	$825.00	6 days- 2 days of baseflow sampling, 2 runoff events, and 2 storm events
LTE FR	LTE Fringe				$203.78	
LTE IND	LTE Indirect				$166.35	
LTE TOT	LTE Total Cost				$1,195.13	
SUPPLY	Supplies	1		$114.00	$114.00	($13 shipping x 6 trips)+($2 x 3 bags ice x 6 trips)
EQUIP	Equipment				$0.00	
MILEAGE	Mileage	900	Miles	$0.72	$648.00	180 miles round trip for LTE from EC x 2 trips. 90 miles round trip for myself & LTE x 6 trips.
MEAL	Meals	14	Meals	$10.00	$140.00	6 days in the field x 2 people (1 FTE, 1 LTE) + 2 storm days x 1 person (1 LTE)= 14
LODGE	Lodging				$0.00	
TRAVEL	Travel Total				$788.00	
BUG	Bug Contracts				$0.00	
OTHER	Other Contracts				$0.00	
USGS	USGS Costs				$0.00	
TOTAL	Total Cost (excludes SLOH)				$2,097.13	

Total WSLH Lab Costs: $0.00

Total Budget: $2,097.13

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Budget Description: July-December FY2019 **Start Date:** 7/1/2018 **End Date:** 12/31/2018

Code	Description	Quantity	Units	Unit Cost	Total Cost	Comments
FTE	FTE Hours	130	Hours	$0.00	$0.00	15 days- 6 days of baseflow sampling and 5 storm events. 4 days data entry, summary, and report writing.
LTE SAL	LTE Salary	130	Hours	$15.00	$1,950.00	15 days- 6 days of baseflow sampling and 5 storm events. 4 days data entry and proofing, data summary.
LTE FR	LTE Fringe				$481.65	
LTE IND	LTE Indirect				$393.20	
LTE TOT	LTE Total Cost				$2,824.85	
SUPPLY	Supplies	1		$209.00	$209.00	($13 shipping x 11 trips)+($2 x 3 bags ice x 11 trips)
EQUIP	Equipment				$0.00	
MILEAGE	Mileage	1890	Miles	$0.72	$1,360.80	180 miles round trip for LTE from EC x 5 trips. 90 miles round trip for myself & LTE x 11 trips.
MEAL	Meals	27	Meals	$10.00	$270.00	11 days in the field x 2 people=22 (1 FTE, 1 LTE) + 5 storm days x 1 person (1 LTE)= 27
LODGE	Lodging				$0.00	
TRAVEL	Travel Total				$1,630.80	
BUG	Bug Contracts				$0.00	
OTHER	Other Contracts				$0.00	
USGS	USGS Costs				$0.00	
TOTAL	Total Cost (excludes SLOH)				$4,664.65	

Total WSLH Lab Costs: $0.00

Total Budget: $4,664.65

Combined Budgets: $6,761.78

Combined WSLH: $0.00

Combined Total: $6,761.78

Funding

Organization	Source	Type	Amount	Start Date	End Date