Wisconsin Department of Natural Resources
SWIMS Project Summary

General Project Information

Project ID: East_8_CMP16_17

Name: Lake Winnebago and Up-River Lakes Aquatic Plant Sampling Protocol - Phase 2 (2017)

Type: Competitive Projects

Subtype: TMDL Monitoring

Status: ACTIVE

Start Date: 1/1/2016

End Date: 12/31/2018

Purpose: Currently, the health and areal extent of emergent and submersed plant communities in the Lake Winnebago System is largely unknown or at best, anecdotal in nature. Comprehensive sampling procedures (PI Survey) take too long to complete (almost 200,000 acres) and also cannot easily be repeated to assess long and short term trends in the plant communities. The up-coming TMDL will require restoration of the aquatic plant communities to 1) reduce internal loading and 2) filter and sequester external nutrient / sediment loads being introduced to the Up-River Lakes via the Fox and Wolf River Watersheds. A streamlined approach needs to be developed to annually quantify aquatic plant communities in representative areas throughout the system. This project will develop and field test a new quantitative sampling method developed in partnership with multiple DNR programs and outside stakeholders such as County LCD staff and local environmental groups.

Objective: This project is necessary because the aquatic plant community in Lake Winnebago and the up-river lakes is largely unknown. With TMDL's on the Lower Fox River, Upper Fox River and Wolf River aquatic plant data is going to be very valuable moving forward. This project will develop the protocol, determine location/number of sampling locations, determine polygon size at each location and the number of points within each polygon that is statistically valid.

WBIC's:
Lake Winnebago - 131100
Lake Butte des Morts - 139900
Lake Winneconne - 241600
Lake Poygan - 242800
Lake Puckaway - 158700

Comments: New Project
The first half of the project was completed for Lake Winnebago. The developed protocol is a hybrid of the point intercept method and Mississippi River plant sampling procedure.

The second phase of the project will identify random sampling locations on the Up River Pool Lakes. The Lake Winnebago System will then be fully sampled. Post sampling, any shortcomings of the sampling protocol will be corrected and/or modified. A final sampling protocol document will be written. Lastly, a final report will be up-loaded to the SWIMS database.

Outcome: The project outcome will be an Aquatic Plant Sampling protocol for Lake Winnebago and the up-river lakes. This project will also complete the first season of sampling once the protocol is finalized.

This data will be valuable for the current TMDL's.

Fisheries staff have been asking for this data for years. It will help them with spawning habitat and fish recruitment analysis.

Wildlife staff have also expressed interest in the data. Wildlife habitat for ducks and other shorebirds that regularly use the Lake Winnebago System.

Protocol and all data collected will be shared with a large amount of stakeholders.

1. TBD
2. No water quality samples associated with project
3. No water quality samples associated with project. Field work for project should be completed by 9/30/16.
4. 10/31/2016
5. 12/31/2016
6. SWIMS
7. Eric Evensen or Ted Johnson

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Study Design: This will be essentially a streamlined version of the Point Intercept Methodology with some important differences
- Method will likely need to use a stratified approach that is representative of the ranges for all habitat types.
- Sampling plots can be of different sizes
    - Some likely will be relatively large in size with a set sampling grid (so many points per unit area)
    - Could have some small sampling areas as well.

Sampling point selection will need to consider
- Water depth (deep water sites will be selected as well. Even if no plants exist currently. TMDL activities have the potential to increase water quality)
- Degree of wind exposure (energy)
- Spatial relationships to Stream and River inlets; break-walls, channels and other man-made structures. (Poygan breakwall before and after)
- Lake-bed substrate composition (% sand, silt, clay)
- Distance from shorelines
- Proximity to critical habitats (cane-beds)
- Proximity to cities and high public use areas.

Method will need to be field tested to determine:
- Time needed to complete work
- Do the actual results achieve established goals?
- Eliminate unforeseen variables that could effect results.

Meetings with local stakeholders
- Conservation clubs
- Winnebago steering team
- Others

QA Measures: Several DNR staff were consulted along with methodologies developed for the Mississippi River Pool Lakes. Polygons will be of sufficient size with the appropriate number of sampling points needed to determine statistical patterns over time. Aquatic Plants will be vouchered.

People

Name	Role	Status	Start Date	End Date	Organization	Comments
EVENSEN, ERIC D	PROJECT_LEAD	ACTIVE	1/1/2016	12/31/2018	Wisconsin DNR	
Johnson, Theodore M	PROJECT_LEAD	ACTIVE	1/1/2016	12/31/2018	Wisconsin DNR	
Kolasinski, Christopher E	DATA_ENTRY	ACTIVE	4/21/2017	12/31/2018	Wisconsin DNR	
McLennan, Robin	SUPERVISOR	COMPLETE	1/1/2016	12/31/2018	Wisconsin DNR	

Project Statuses

Date	Reported By	Status	Comments

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Project Status Detail

Answer Set: DEFAULT

Question	Answer
1. Number of Sample Sites (Enter the station IDs if you know them).	TBD Part of this project is to determine the protocol for sampling moving forward.
2. Number of Sample Events (Indicate how many trips into the field you anticipate for this project).	TBD (Many)
3. Proposed Dates for Sample Collection	TBD
4. List applicable databases and who will enter data?	SWIMS
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?	Yes, Final project report is still being written but will be completed soon.
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
Lake Management Plan Development		1/1/2016	12/31/2018	PROPOSED
TMDL (USEPA) Approved		1/1/2016	12/31/2018	PROPOSED
Best Management Practices, Implement	The project outcome will be an Aquatic Plant Sampling protocol for Lake Winnebago and the up-river lakes. This project will also complete the first season of sampling once the protocol is finalized.	1/1/2016	12/31/2018	IN_PROGRESS
TMDL Monitoring	Lake Winnebago and Up-River Lakes Aquatic Plant Sampling Protocol	1/1/2016	12/31/2018	IN_PROGRESS
Monitor Invasive Species		1/1/2016	12/31/2018	PROPOSED
Habitat Restoration - Lake		1/1/2016	12/31/2018	PROPOSED
Aquatic Plant Management Plan	The project outcome will be an Aquatic Plant Sampling protocol for Lake Winnebago and the up-river lakes. This project will also complete the first season of sampling once the protocol is finalized. This data will be valuable for the current TMDL's. Fisheries staff have been asking for this data for years. It will help them with spawning habitat and fish recruitment analysis. Wildlife staff have also expressed interest in the data. Wildlife habitat for ducks and other shorebirds that regularly use the Lake Winnebago System.	1/1/2016	12/31/2018	IN_PROGRESS
Aquatic Plant Monitoring or Survey		1/1/2016	12/31/2018	PROPOSED

Monitoring Stations

Station ID	Name	Comments

Assessment Units

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WBIC	Segment	Local Name	Official Name
131100	1	Lake Winnebago	Lake Winnebago

Lab Account Codes

Account Code	Description	Start Date	End Date

Forms

Form Code	Form Name

Methods

Method Code	Method Description

Fieldwork Events

Start Date	Status	Field ID	Station ID	Station Name

Documents

Title	Description	Author	Published	Comments

Budget

Budget Description: FY2016 **Start Date:** 7/1/2015 **End Date:** 6/30/2016

Code	Description	Quantity	Units	Unit Cost	Total Cost	Comments
FTE	FTE Hours	80	Hours	$0.00	$0.00	
LTE SAL	LTE Salary	80	Hours	$14.00	$1,120.00	
LTE FR	LTE Fringe				$276.64	
LTE IND	LTE Indirect				$225.84	
LTE TOT	LTE Total Cost				$1,622.48	
SUPPLY	Supplies	1		$75.00	$75.00	Lake map, batteries, rite-in-rain paper, etc
EQUIP	Equipment	1		$100.00	$100.00	New throwable plant rake
MILEAGE	Mileage	110	Miles	$0.72	$79.20	
MEAL	Meals	6	Meals	$7.00	$42.00	
LODGE	Lodging				$0.00	
TRAVEL	Travel Total				$121.20	
BUG	Bug Contracts				$0.00	
OTHER	Other Contracts				$0.00	
USGS	USGS Costs				$0.00	
TOTAL	Total Cost (excludes SLOH)				$1,918.68	

Total WSLH Lab Costs: $0.00

Total Budget: $1,918.68

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Budget Description: FY2017 **Start Date:** 7/1/2016 **End Date:** 6/30/2017

Code	Description	Quantity	Units	Unit Cost	Total Cost	Comments
FTE	FTE Hours	140	Hours	$0.00	$0.00	
LTE SAL	LTE Salary	180	Hours	$14.00	$2,520.00	Development of protocol, Testing protocol, Stakeholder meetings, Refinement of protocol, report write up
LTE FR	LTE Fringe				$622.44	
LTE IND	LTE Indirect				$508.13	
LTE TOT	LTE Total Cost				$3,650.57	
SUPPLY	Supplies	100			$0.00	misc. plant rake, ziploc bags, waterproof paper, batteries, etc
EQUIP	Equipment				$0.00	
MILEAGE	Mileage	200	Miles	$0.72	$144.00	
MEAL	Meals	12	Meals	$7.00	$84.00	
LODGE	Lodging				$0.00	
TRAVEL	Travel Total				$228.00	
BUG	Bug Contracts				$0.00	
OTHER	Other Contracts				$0.00	
USGS	USGS Costs				$0.00	
TOTAL	Total Cost (excludes SLOH)				$3,878.57	

Total WSLH Lab Costs: $0.00

Total Budget: $3,878.57

Combined Budgets: $5,797.25

Combined WSLH: $0.00

Combined Total: $5,797.25

Funding

Organization	Source	Type	Amount	Start Date	End Date