

Wisconsin Department of Natural Resources
SWIMS Project Summary

General Project Information

Project ID: SCR_01_CMP10

Name: Proposed SCR Bottom withdrawal pipe alterations at Devils Lake (Sauk Co.)

Type: Targeted Monitoring

Subtype: Watershed Project

Status: INACTIVE

Start Date: 7/1/2009

End Date: 6/30/2010

Purpose: Devil's Lake, a Discovery Lake and the gem of Wisconsin's most popular State Park, has a pump installed to both remove phosphorus to improve water quality as well as control flooding, which is a chronic problem. This project is the most cost-effective means to proactively control this flooding. It will re-construct the siphon pipe system at Devils Lake by lowering the portion of the siphon that is above the Ordinary High Water Mark (OHWM) lake level so that the pipe will fully flow as a gravity feed flow system whenever the lake level is above the OHWM. This entails digging up approximately 900 feet of the 1,350-ft long land section of the siphon pipe (total length 5,500 ft, HDPE pipe OD 20-in.) and lowering (retrenching and regarding) the highest point by about 4.4 feet. An additional butterfly flow valve will be installed to provide dual control of the pipe system for safety and operational purposes.

The total cost for this re-construction is \$48,000. This includes retrenching the pipe; purchasing the flow valve, associated hardware and manhole extensions; post-construction landscaping and blacktopping two park road sections; repair and stabilization of the channel walls near the upstream and railroad trestle intakes to the water pipe system used to divert clean bluff water into the lake, and miscellaneous costs including electrical work at the high point manhole. The work will be done principally by the local construction company (Heartland Utilities, Inc.) that won the original competitive bid to install the siphon system in 2002, and who returned to modify the siphon pipe and diversion pipe near shore in the fall of 2003 when lake levels were lower. A quote has been obtained for the new proposed re-construction work and the DNR-SCR region engineer (John Olson) has verified that the existing engineering drawings and pipe specifications are adequate to do the reconstruction. He also has sanctioned this project as the most cost-effective solution to proactively prevent flooding in the park.

Objective: Lowering the siphon pipe so that it can fully function as a gravity feed outflow system will allow the system to be turned on at any time and used at full flow capacity whenever water withdrawals are needed to prevent flooding in the park. The pipe re-construction work will take about a week and can commence (based on the contractors availability) once the flow valve has been ordered and delivered. Once the reconstruction work is done the pipe will be fully functional regardless of when the landscaping, blacktopping and other miscellaneous work is completed.

Comments: Please see additional background and comments in attached document.

Outcome: This is vitally important given that severe flooding in the park is occurring regularly as a result of climate change causing a big increase in the frequency and magnitude of extreme rainfall events. It will reduce downstream flooding pressure, too, and reduce damage to infrastructure and homes. The lowered pipe will operate more efficiently as a siphon (with minimal vacuum leak) for the removal of phosphorus (P) during the fall withdrawal period. It will also prevent the frequent and expensive maintenance of the existing pump system. Shoreline erosion will be minimized, historic buildings will no longer be damaged by high water, and water quality will no longer suffer from sewage overflows. Preventing these problems are critical to Devil's Lake State Park.

Study Design:

QA Measures:

People						
Name	Role	Status	Start Date	End Date	Organization	Comments
Lathrop, Richard C	PROJECT_LEAD	ACTIVE	7/1/2009	6/30/2010	Wisconsin DNR	

Project Statuses

Date	Reported By	Status	Comments
------	-------------	--------	----------

Wisconsin Department of Natural Resources

SWIMS Project Summary

Project Status Detail

Answer Set: DEFAULT

Question	Answer
1. Project Category (SP 12 (Measure W); 303(d) Waters; Continuation (TMDL, Use Designation); New Projects; Wetlands, CBSM	Continuation of lake restoration project
2. Regional Priority by Category (ex: SP12-1, SP12-2, etc.)	SCR1-1
3. Number of Sample Sites (Enter the station IDs if you know them).	0
4. Number of Sample Events (Indicate how many trips into the field you anticipate for this project).	0
5. Proposed Dates for Sample Collection	0
6. List applicable databases and who will enter data?	0
7. FTE Hours (Funds) Needed	0
8. LTE Hours (Funds) Needed	0
9. Supplies - Describe in Detail	0
10. Describe Travel Needed	Will be funded under Science Services administration fund.
11. UWSP Macroinvertebrate Samples (How Many?)	0
12. Additional Contractual dollars - Who? What? and How much?	\$48,000 total cost is all contractual to the local Hearland Utilities, Inc. out of Baraboo.
13. Equipment - What is needed and Why? (New Equipment, Cost?)	0
14. Capital Equipment >\$5,000 - Describe needed equipment [Note: Federal funds cannot be used to purchase capital equipment].	0
15. State Lab of Hygiene Analyses: Describe the number, type of parameters - See Worksheet	0
16. Partner Contributions: Describe any funding provided by other DNR programs or non-DNR contributions.	The Friends of Devil's Lake is very supportive, and will strive to raise funds to cover 25% of the cost, so the actual cost will be between \$36,000 and \$48,000.
17. Total Year 1 (Please itemize: \$LTE + \$SLOH + \$Equipment + \$Travel + \$UWSP Lab + \$Other) = _____	\$48,000 max, all contractual. An unknown portion of this will be matched by local friends group.
18. Total Year 2 (Please itemize: \$LTE + \$SLOH + \$Equipment + \$Travel + \$UWSP Lab + \$Other) = _____	\$0
19. Project Total (Please itemize: \$LTE + \$SLOH + \$Equipment + \$Travel + \$UWSP Lab + \$Other) = _____	Total \$48,000
20. Additional Comments	Pipe reconstruction: \$24,800 Materials: \$7,800 Asphalt repair/disposal: \$4,600 Turf restoration: \$3,600 Diversion pipe repairs \$4,000 Misc. \$3,200 Total \$48,000
21. Did you receive special projects funding during FY 2009?	no
22. If yes to question 17, did you complete the projects including data entry and reports? If not, why not?	
23. Reviewer Notes: Identify questions or issues with project (use during review period)	
24. Reviewer Decision: Is this project recommended for funding?	Yes

Actions

Wisconsin Department of Natural Resources
SWIMS Project Summary

Action	Detailed Description	Start Date	End Date	Status
Protect Headwaters and Springs	Improve the pumping system that both removes nutrients to restore water quality and helps manage lake levels to protect shoreline, buildings, parking lots, and downstream homes and communities during floods.	7/1/2009	6/30/2010	PROPOSED

Monitoring Stations

Station ID	Name	Comments
------------	------	----------

Assessment Units

WBIC	Segment	Local Name	Official Name
980900	1	Devils Lake	Devils Lake

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
DEVILS LAKE COMMENTS				
PROPOSED BUDGET				
PROPOSED BUDGET DETAILS				

Budget

Combined Budgets:
Combined WSLH:
Combined Total: \$0.00

Funding

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