

## Wisconsin Department of Natural Resources SWIMS Project Summary

### General Project Information

**Project ID:** NOR\_04\_CMP09

**Name:** Chetek Chain of Lakes and Chetek subwatershed LC08- Diurnal D.O., pH, and Toxic Blue-green Algae assessment NOR\_

**Type:** Targeted Monitoring

**Subtype:** Special Project

**Status:** IN\_QA

**Start Date:** 07/01/2008

**End Date:** 06/30/2009

**Purpose:** Jim Cahow will collect water chemistry samples from all five lakes on the Chetek Chain and the Chetek River in late July and early August to assess toxic blue-green algae presence and abundance.

Diurnal D.O. and pH will also be monitored in the Chetek River at the same time period using YSI data sonds to assess surface water quality standard violations resulting in clear use impairments to the Chetek River which are the result of outflowing water from the Chetek Chain of Lakes.

**Objective:** Assess whether or not the Algae blooms on the Chetek Chain of Lakes in late July and early August contain dangerous species of Blue-green algae and if they are present do they produce dangerous enough levels of Blue-green algae toxins such as Microcystin to produce a clear risk to public safety resulting in a dangerous use impairment for swimming and other full body contact recreational activities.

The hypereutrophic conditions on the entire Chetek Chain of Lakes and Chetek River drive excess algae and macrophyte production which pose a serious threat to the recreationally important fishery with elevated pH's and diurnally suppressed D.O. levels which violate surface water standards meriting continued listing on the impaired waters list or 303d list. These surface water quality standard violations are a good indicator of potential future large-scale fish kills.

This study seeks to document the frequency and severity of Toxic Blue-green algae blooms and diurnal D.O. and pH standard violations assessing status of continued listing on impaired waters list or 303d list.

**Comments:** Project Category 3: Continuation of FY2007 Special Projects

**Outcome:** Closed out by Helmuth - 6/09 - data sent in by Joe Cunningham - attached to project. Algae & ChIA Samples will be collected on all five lakes: Prairie Lake, Mud Lake, Pokegama Lake, Chetek Lake, and Tenmile Lake. Samples will also be collected on the Chetek River.

Diurnal D.O. and pH will be monitored using YSI 6000 & YSI 600 xlm data sonds on the Chetek River at 4 1/2 Ave for a 3-4 week period in late July and August.

Lake samples will be collected on 2-3 separate weekly sampling events in late July and early August dependent upon bloom severity

Water chemistry data will be entered into SWIMS by the State Lab of Hygiene as analysis is completed. Sond data will be downloaded into the continuous monitoring database by LTE Nov08 to Feb09.

A status report will be written by Feb 09 recommending additional monitoring needs, continued 303d listing if appropriate, and any future TMDL actions needed.

### Project Statuses

Date	Reported By	Status	Comments
03/25/2008	JAMES CAHOW	Proposed	at your discretion

### Project Status Detail

Question	Answer
5. FTE Hours (Funds) Needed	160
6. LTE Hours (Funds) Needed	120
7. Supplies - Describe in Detail	Ice, postage for shipping samples, meter probe repairs or replacement,
8. Describe Travel Needed	3 blue green algae sampling events covering 5 lakes and one site on

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Question	Answer
9. UWSP Samples (Number)	the Chetek River. Diurnal D.O. monitoring will be done over a 3-4 week period requiring recalibration every 7-10 days with redeployment after calibration.
10. Additional Contractual dollars - Who? What? and How much?	A USGS Gauging station would help calculate loads- cost is approximately \$15,000
11. Equipment - What is needed and Why? (New Equipment, Cost?)	Two of the 4 data sonds are getting to be old and need to be replaced in the near future - replacement costs should be around \$5000 for two refurbished units
12. Capital Equipment >\$5,000 - Describe needed equipment [Note: Federal funds cannot be used to purchase capital equipment].	
13. State Lab of Hygiene Analyses: Describe the number and type of parameters - See Worksheet	3 sampling events on 5 lakes and one river site = 18 samples. Chlorophyl A, Algae speciation to determine if toxic blue-green species are present and if they are at high enough densities to merrit toxin analysis
14. Partner Contributions: Describe any funding provided by other DNR programs or non-DNR contributions.	USGS shares costs with gauging station setup reducing our costs to \$15,000. I am unsure of what costs USGS would be providing with setup.
18. Regional Priority by Category (ex: Cat. 1-1st, Cat. 2-2nd)	Cat. 3 - 2nd.

### People

Name	Role	Status	Start Date	End Date	Organization	Comments
CAHOW, JAMES M	COORDINATOR	ACTIVE	07/01/2008	06/30/2009	Wisconsin DNR	
CUNNINGHAM, JOSEPH L	COORDINATOR	ACTIVE	11/06/2008		Wisconsin DNR	

### Actions

Action	Detailed Description	Start Date	End Date	Status
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### Monitoring Stations

Station ID	Name	Comments
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### Assessment Units

WBIC	Segment	Local Name	Official Name
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### Lab Account Codes

Account Code	Description	Start Date	End Date
WT098	WATER QUALITY SPECIAL PROJECTS	07/01/2008	06/30/2009

### Forms

Form Code	Form Name
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### Methods

Method Code	Description
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### Fieldwork Events

Start Date	Status	Field ID	Station ID	Station Name
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## Wisconsin Department of Natural Resources SWIMS Project Summary

### Documents

Title	Description	Author	Published	Comments
CHETEK CHAIN SPECIAL PROJECT, 2008 NOR4_09		Cunningham, Joe	06/03/2009	Dataset was not updated to swims need to do that still
MONITORING BUDGET PROPOSAL NOR4_09	Use this template for budget	Project Author	01/15/2008	
		Cahow, Jim	03/25/2008	

### Budget

Code	Description	Quantity	Units	Unit Cost	Total Cost
Test Code	Description	Test Group	# Planned	Unit Cost	Total Cost

**Total SLOH Lab Costs:** \$0.00