

Wisconsin Department of Natural Resources
SWIMS Project Summary

General Project Information

Project ID: LPL-042 (4019-1)

Name: CHAIN O'LAKES PROTECTIVE ASSOCIATION: Upper Waupaca Chain O'Lakes Management Planning

Type: Lakes Grant

Subtype: Large Scale Lake Planning

Status: COMPLETE

Start Date: 4/1/1991

End Date: 6/30/1994

Purpose: REVIEW EXISTING DATA ON LAKES AND WATERSHED TO DEFINE DATA GAPS. INITIATE PUBLIC INVOLVEMENT/INFORMATION PROGRAM. WATER QUALITY MONITORING. PREPARE ANALYSIS OF CURRENT RECREATIONAL USE MANAGEMENT TECHNIQUES. BASE MAPS OF LAKE AND WATERSHED TO BE PREPARED. DRAFT AND FINAL LAKE MANAGEMENT PLANS TO BE DEVELOPED

Objective:

Comments: Grantee is CHAIN O'LAKES PROTECTIVE ASSOCIATION

Outcome:

Study Design:

QA Measures:

People

Name	Role	Status	Start Date	End Date	Organization	Comments
Waupaca Chain O Lakes Associat	GRANT_RECIPIENT	ACTIVE	4/1/1991	6/30/1994	Waupaca Chain O Lakes Association	

Project Statuses

Date	Reported By	Status	Comments
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Actions

Action	Detailed Description	Start Date	End Date	Status
Lake Management Plan Development		4/1/1991	6/30/1994	PROPOSED
Watershed Mapping or Assessment		4/1/1991	6/30/1994	PROPOSED
Data analysis, report production	10100661	4/1/1991		PROPOSED
Monitor Water Quality or Sediment	10100661	4/1/1991		PROPOSED
Information and Education		4/1/1991	6/30/1994	PROPOSED
Grant Awarded	Review existing data on lakes and watershed to define data gaps. Initiate public involvement/information program. Water quality monitoring. Prepare analysis of current recreational use management techniques. Base maps of lake and watershed to be prepared. Draft and final lake management plans to be developed.	4/1/1991		COMPLETE

Monitoring Stations

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Station ID	Name	Comments
693089	George Lake - Deep Hole - Waupaca Co	
693087	Otter Lake - Deep Hole - Waupaca Co	
693124	Rainbow Lake - Deep Hole	
693086	Sunset Lake - Deep Hole	
693088	Taylor Lake - Deep Hole	

Assessment Units

WBIC	Segment	Local Name	Official Name
261200	1	Long Lake	Long Lake
265300	1	Rainbow Lake (Chain)	Rainbow Lake
265400	1	George Lake	George Lake
265500	1	Sunset Lake	Sunset Lake
265600	1	Taylor Lake	Taylor Lake
265700	1	Otter Lake	Otter Lake

Lab Account Codes

Account Code	Description	Start Date	End Date
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Forms

Form Code	Form Name
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Methods

Method Code	Method Description
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Fieldwork Events

Start Date	Status	Field ID	Station ID	Station Name
5/31/1991	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
5/31/1991	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
8/8/1991	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
8/8/1991	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
9/6/1991	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
9/6/1991	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
1/30/1992	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
1/30/1992	COMPLETE	1002S	693089	George Lake - Deep Hole - Waupaca Co
1/30/1992	COMPLETE	1003S	693088	Taylor Lake - Deep Hole
1/30/1992	COMPLETE	1005S	693086	Sunset Lake - Deep Hole
2/4/1992	COMPLETE	1004S	693087	Otter Lake - Deep Hole - Waupaca Co
5/6/1992 10:50	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole

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5/6/1992 10:50	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
7/15/1992 10:30	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
9/23/1992 12:25	COMPLETE	1003S	693088	Taylor Lake - Deep Hole
9/23/1992 12:40	COMPLETE	1002S	693089	George Lake - Deep Hole - Waupaca Co
9/23/1992 12:50	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
9/23/1992 12:50	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
9/23/1992 13:13	COMPLETE	1005S	693086	Sunset Lake - Deep Hole
9/23/1992 13:32	COMPLETE	1004S	693087	Otter Lake - Deep Hole - Waupaca Co
2/2/1993 7:34	COMPLETE	1003B	693088	Taylor Lake - Deep Hole
2/2/1993 7:59	COMPLETE	1002B	693089	George Lake - Deep Hole - Waupaca Co
2/2/1993 8:17	COMPLETE	1004B	693087	Otter Lake - Deep Hole - Waupaca Co
2/2/1993 8:33	COMPLETE	1005B	693086	Sunset Lake - Deep Hole
2/2/1993 9:00	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
2/2/1993 9:00	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
5/20/1993 9:45	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
5/20/1993 9:45	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
5/20/1993 10:15	COMPLETE	1005S	693086	Sunset Lake - Deep Hole
5/20/1993 10:45	COMPLETE	1004S	693087	Otter Lake - Deep Hole - Waupaca Co
5/20/1993 11:15	COMPLETE	1003S	693088	Taylor Lake - Deep Hole
5/20/1993 12:15	COMPLETE	1002S	693089	George Lake - Deep Hole - Waupaca Co
8/17/1993 11:10	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
8/17/1993 11:10	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
8/17/1993 11:30	COMPLETE	1005S	693086	Sunset Lake - Deep Hole
8/17/1993 11:59	COMPLETE	1004S	693087	Otter Lake - Deep Hole - Waupaca Co
8/17/1993 12:29	COMPLETE	1003S	693088	Taylor Lake - Deep Hole
10/6/1993 10:38	COMPLETE	1003S	693088	Taylor Lake - Deep Hole
10/6/1993 11:02	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
10/6/1993 11:02	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
10/6/1993 11:30	COMPLETE	1005S	693086	Sunset Lake - Deep Hole
10/6/1993 11:45	COMPLETE	1004S	693087	Otter Lake - Deep Hole - Waupaca Co
1/24/1994 9:24	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
1/24/1994 9:24	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
1/24/1994 9:46	COMPLETE	1003S	693088	Taylor Lake - Deep Hole
1/24/1994 10:10	COMPLETE	1004S	693087	Otter Lake - Deep Hole - Waupaca Co
1/24/1994 10:30	COMPLETE	1005S	693086	Sunset Lake - Deep Hole

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5/3/1994 7:45	COMPLETE	1004S	693087	Otter Lake - Deep Hole - Waupaca Co
5/3/1994 8:01	COMPLETE	1003S	693088	Taylor Lake - Deep Hole
5/3/1994 8:33	COMPLETE	1005S	693086	Sunset Lake - Deep Hole
5/3/1994 8:45	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
5/3/1994 8:45	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
8/3/1994 7:33	COMPLETE	1003S	693088	Taylor Lake - Deep Hole
8/3/1994 8:00	COMPLETE	1004S	693087	Otter Lake - Deep Hole - Waupaca Co
8/3/1994 8:35	COMPLETE	1005S	693086	Sunset Lake - Deep Hole
8/3/1994 8:55	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
8/3/1994 8:55	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
9/22/1994	COMPLETE	1004B	693087	Otter Lake - Deep Hole - Waupaca Co
9/22/1994 8:30	COMPLETE	1003S	693088	Taylor Lake - Deep Hole
9/22/1994 8:50	COMPLETE	1004S	693087	Otter Lake - Deep Hole - Waupaca Co
9/22/1994 9:10	COMPLETE	1001B	693124	Rainbow Lake - Deep Hole
9/22/1994 9:10	COMPLETE	1001S	693124	Rainbow Lake - Deep Hole
9/22/1994 10:00	COMPLETE	1005S	693086	Sunset Lake - Deep Hole

Documents

Title	Description	Author	Published	Comments
Phase II - Upper Chain O' Lakes Management Plan - Waupaca County, Wisconsin	The Upper Chain project group consists of Otter, Taylor, George, Sunset and Rainbow Lakes of the Chain O' Lakes, a group of 22 mostly interconnected relatively small lakes in Waupaca County, Wisconsin. Water quality is good to very good and related to substantial groundwater inflow. Water quality, along with the Chain's proximity to population centers, contribute to highly developed shoreline areas (many permanent residential) and periodic high to excessive non-resident recreational use. An initial resource assessment was made in 1992 (Phase I Chain O' Lakes Management Plan); this document supplements the 1992 report with Phase II efforts toward development of a comprehensive lake management plan. The Chain O' Lakes watershed, primarily agricultural but with significant forested and wetland areas, is a sub watershed of the Tomorrow/Waupaca River basin which has recently been granted Priority Watershed Project Status. Variable, but	IPS Environmental and Analytical Services	12/31/1995	

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generally low groundwater nitrate levels were observed in the Chain sub watershed during the appraisal phase of the Priority Watershed Project. Overland flow nutrient and sediment inputs were estimated to be lower than expected, but field estimates for nutrients were substantially higher. Lake modeling for some Chain lakes indicated a natural process of phosphorus removal by marl precipitation. Upper Chain water quality monitoring during Phases I and II indicated in-lake nutrient levels below those expected for the region. Otter Lake continued to have relatively higher nutrients, which may reflect basin differences between it and other Upper Chain lakes. The King storm sewer was estimated to contribute a relatively small amount of nutrients. Upper Chain recreational use survey results were similar to those of the Chain O' Lakes overall and various resident user groups. Results indicated periodic excessive use during summer weekends or holidays with perceived safety problems and diminished recreational enjoyment of the resource related primarily to non-resident or commercial watercraft. Water safety enforcement was considered adequate at all times, slightly less so during periods of peak use, and no clear consensus was evident regarding the need for additional regulation. Residents agreed there was adequate access, disagreed with the need for a public park or swimming beach, and were evenly divided regarding the need for more water accessible public restrooms. Purple loosestrife, an exotic potentially nuisance plant, was present and locally abundant in the Upper Chain. Water quality protection and water use conflict minimization are priority management objectives for the Upper Chain and all Chain O' Lakes residents. Specific recommendations for the Upper Chain include private well testing for nitrates and/or pesticides, more event sampling (coordinated with flow and rainfall monitoring) at the storm sewer inflow, and removal or

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	management of the purple loosestife beds. Other recommendations are applicable to the Upper and other Chain project groups and emphasize continued focus and expanded involvement (designated Chain O' Lakes Property Owners Association individuals or committees) in watershed-wide surface water and groundwater quality issues, use management, and exotic species control. These recommendations, which include trend monitoring for water quality, are designed to identify potential problem areas or conflicts before they become widespread or severe.			
Phase II Upper Chain O'lakes Management Plan	Lakes Planning Report	Ips Environmental And Analytical Services	12/1/1995	

Budget

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

Funding

Organization	Source	Type	Amount	Start Date	End Date
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