

## Wisconsin Department of Natural Resources SWIMS Project Summary

### General Project Information

**Project ID:** LPL-051 (4013-1)  
**Name:** CHAIN O'LAKES PROTECTIVE ASSOCIATION: Waupaca Lower Chain O Lakes Management Planning  
**Type:** Lakes Grant  
**Subtype:** Large Scale Lake Planning  
**Status:** COMPLETE  
**Start Date:** 04/01/1991  
**End Date:** 06/30/1994  
**Purpose:** 1) Review of existing data on Lower Chain O Lakes (Columbia, Beasley, Bass, Long, Ottman, and Youngs Lakes) and watershed to define data gaps and assess data gathering needs.2) Initiate public involvement/information program which may include workshops, public meetings, newsletters, local media, and fact sheet distribution.3) Perform water quality monitoring as described in application attachment.4) Macrophyte survey will be conducted as described in application.5) Prepare base maps of lakes and watershed; map land uses including soil disturbing uses, nonpoint pollution problems, and environmentally sensitive areas. Final Lake Mgmt plan will include summary of tasks above and management recommendations.  
**Objective:**  
**Comments:**  
**Outcome:**  
**Study Design:**  
**QA Measures:**

### People

Name	Role	Status	Start Date	End Date	Organization	Comments
IPS Environmental and Analy	OTHER	COMPLETE	04/01/1991	06/30/1994	IPS Environmental and Analytical Services	
Waupaca Chain O Lakes Ass	GRANT_RECIP	ACTIVE	04/01/1991	06/30/1994	Waupaca Chain O Lakes Association	

### Project Statuses

Date	Reported By	Status	Comments
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### Actions

Action	Detailed Description	Start	End Date	Status
Lake Management Plan Development		04/01/1991	06/30/1994	PROPOSED
Develop/Distribute Newsletter		04/01/1991	06/30/1994	PROPOSED
Develop/Distribute Brochures/Literature		04/01/1991	06/30/1994	PROPOSED
Monitor Water Quality or Sediment		04/01/1991	06/30/1994	PROPOSED
Watershed Mapping or Assessment		04/01/1991	06/30/1994	PROPOSED
Data analysis, report production	10100663	04/01/1991		PROPOSED

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Action	Detailed Description	Start	End Date	Status
Grant Awarded	1) Review of existing data on Lower Chain O Lakes (Columbia, Beasley, Bass, Long, Ottman, and Youngs Lakes) and watershed to define data gaps and assess data gathering needs.2) Initiate public involvement/information program which may include workshops, public meetings, newsletters, local media, and fact sheet distribution.3) Perform water quality monitoring as described in application attachment.4) Macrophyte survey will be conducted as described in application.5) Prepare base maps of lakes and watershed; map land uses including soil disturbing uses, nonpoint pollution problems, and environmentally sensitive areas. Final Lake Mgmt plan will include summary of tasks above and management recommendations.	04/01/1991		COMPLETE
Informational Meetings		04/01/1991	06/30/1994	PROPOSED
Watershed Mapping or Assessment	10100663	04/01/1991		PROPOSED
Hold Workshops	10100663	04/01/1991		PROPOSED

### Monitoring Stations

Station ID	Name	Comments
693104	Bass Lake - Waupaca Co - Deep Hole	
693106	Beasley Lake - Waupaca Co - Deep Hole	
693100	Columbia Lake - Deep Hole Waupaca Co	
693105	Ottman Lake - Deep Hole - Waupaca County	
693101	Youngs Lake Waupaca Co - Deep Hole	

### Assessment Units

WBIC	Segment	Local Name	Official Name
261200	1	Long Lake	Long Lake
262300	1	Beasley Lake	Beasley Lake
262400	1	Cary Millpond	Columbia Lake
264300	1	Youngs Lake	Youngs Lake
264500	1	Ottman Lake	Ottman Lake
5551281	2	Bass Lake	Bass 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	Description
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### Fieldwork Events

Start Date	Status	Field ID	Station ID	Station Name
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Start Date	Status	Field ID	Station ID	Station Name
01/30/1992	COMPLETE	1201S	693100	Columbia Lake - Deep Hole Waupaca Co
02/04/1992	COMPLETE	1205S	693106	Beasley Lake - Waupaca Co - Deep Hole
02/04/1992	COMPLETE	1206S	693104	Bass Lake - Waupaca Co - Deep Hole
02/04/1992	COMPLETE	1207S	693101	Youngs Lake Waupaca Co - Deep Hole
02/04/1992	COMPLETE	1208S	693105	Ottman Lake - Deep Hole - Waupaca County
09/22/1992 08:33	COMPLETE	1205S	693106	Beasley Lake - Waupaca Co - Deep Hole
09/22/1992 08:48	COMPLETE	1206M	693104	Bass Lake - Waupaca Co - Deep Hole
09/22/1992 08:55	COMPLETE	1207M	693101	Youngs Lake Waupaca Co - Deep Hole
09/22/1992 11:02	COMPLETE	1201S	693100	Columbia Lake - Deep Hole Waupaca Co
09/28/1992 08:23	COMPLETE	1208M	693105	Ottman Lake - Deep Hole - Waupaca County
02/02/1993 10:32	COMPLETE	1201S	693100	Columbia Lake - Deep Hole Waupaca Co
02/03/1993 08:38	COMPLETE	1206M	693104	Bass Lake - Waupaca Co - Deep Hole
02/03/1993 08:53	COMPLETE	1205S	693106	Beasley Lake - Waupaca Co - Deep Hole
02/03/1993 09:24	COMPLETE	1207M	693101	Youngs Lake Waupaca Co - Deep Hole
02/03/1993 10:32	COMPLETE	1208M	693105	Ottman Lake - Deep Hole - Waupaca County
05/19/1993 11:16	COMPLETE	1201S	693100	Columbia Lake - Deep Hole Waupaca Co
05/19/1993 12:15	COMPLETE	1206M	693104	Bass Lake - Waupaca Co - Deep Hole
05/20/1993 08:00	COMPLETE	1207M	693101	Youngs Lake Waupaca Co - Deep Hole
05/20/1993 08:16	COMPLETE	1205S	693106	Beasley Lake - Waupaca Co - Deep Hole
08/16/1993 09:10	COMPLETE	1206M	693104	Bass Lake - Waupaca Co - Deep Hole
08/16/1993 09:28	COMPLETE	1205S	693106	Beasley Lake - Waupaca Co - Deep Hole
08/16/1993 10:05	COMPLETE	1201S	693100	Columbia Lake - Deep Hole Waupaca Co
10/04/1993 10:58	COMPLETE	1205S	693106	Beasley Lake - Waupaca Co - Deep Hole
10/04/1993 11:10	COMPLETE	1206M	693104	Bass Lake - Waupaca Co - Deep Hole
10/04/1993 11:23	COMPLETE	1201S	693100	Columbia Lake - Deep Hole Waupaca Co
02/15/1994 12:30	COMPLETE	1205S	693106	Beasley Lake - Waupaca Co - Deep Hole
05/02/1994 10:38	COMPLETE	1201S	693100	Columbia Lake - Deep Hole Waupaca Co
05/03/1994 10:30	COMPLETE	1205B	693106	Beasley Lake - Waupaca Co - Deep Hole
05/03/1994 10:47	COMPLETE	1206S	693104	Bass Lake - Waupaca Co - Deep Hole
08/01/1994 11:15	COMPLETE	1201S	693100	Columbia Lake - Deep Hole Waupaca Co
08/01/1994 12:05	COMPLETE	1205S	693106	Beasley Lake - Waupaca Co - Deep Hole
08/01/1994 12:15	COMPLETE	1206M	693104	Bass Lake - Waupaca Co - Deep Hole
09/21/1994 09:55	COMPLETE	1201S	693100	Columbia Lake - Deep Hole Waupaca Co
09/21/1994 10:15	COMPLETE	1206M	693104	Bass Lake - Waupaca Co - Deep Hole
09/21/1994 10:20	COMPLETE	1205S	693106	Beasley Lake - Waupaca Co - Deep Hole

### Documents

Title	Description	Author	Published	Comments
Phase II Lower Chain O' Lakes Management Plan, Waupaca County, Wisconsin	The Lower Chain project group consists of Columbia, Ottman, Youngs, Beasley, Bass and Long 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	IPS Environmental Services	12/31/1995	

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	<p>excessive non-resident recreational use. An initial resource assessment was made in 1992 (Phase I Chain O' Lakes Management Plans); 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 subwatershed of the Tomorrow/Waupaca River basin which has recently been granted Priority Watershed Project Status. Variable, but generally low groundwater nitrate levels were observed in the Chain subwatershed 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. Lower Chain water quality monitoring during Phases I and II indicated in-lake nutrient levels below those expected for the region. The shallower well mixed lakes (Ottman, Bass, Youngs) had relatively higher nutrient readings, but levels were near or slightly above those typical of lake type and regional location. Lower Chain characteristics (relatively large watershed and direct or indirect drainage from all Chain project groups) suggests a relatively high potential for nutrient and sediment input from nonpoint sources. Water quality, except for a slight increase in total nitrogen in a downstream progression, remains similar throughout the Chain and apparently reflects the substantial groundwater input to the system. Lower 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</p>			

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	<p>public park or beach, and were evenly divided regarding the need for more water accessible restrooms. Purple loosestrife, an exotic potentially nuisance plant, was present and locally abundant in the Lower Chain. Water quality protection and water use conflict minimization are priority management objectives for the Lower Chain and all Chain O' Lakes residents. Specific recommendations for the Lower Chain include private well testing for nitrates and/or pesticides, more event sampling (coordinated with flow and rainfall monitoring) and removal or management of the purple loosestrife beds. Other recommendations are applicable to the Lower 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 are designed to identify potential problem areas or conflicts before they become widespread or severe.</p>			

### Budget

**Combined Budgets:**  
**Combined SLOH:**  
**Combined Total:**

### Funding

Organization	Source	Type	Amount	Start Date	End Date
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