

## Wisconsin Department of Natural Resources SWIMS Project Summary

### General Project Information

**Project ID:** LPL-058 (4010-1)  
**Name:** CLOVER LEAF LAKES PROTECTIVE ASSOCIATION: Grass Lake Management Planning  
**Type:** Lakes Grant  
**Subtype:** Large Scale Lake Planning  
**Status:** COMPLETE  
**Start Date:** 04/02/1991  
**End Date:** 06/30/1993  
**Purpose:** 1) Review existing data on lake and watershed to assess data gathering needs. 2) Initiate public involvement/information program including workshops, public meetings, newsletters, fact sheet distribution, local media.3) Conduct water quality monitoring in spring and summer at sites as described in the application. 4) Perform winter sampling at two sites as defined in the application. 5) Conduct macrophyte survey as described in the application.6) Collect sediment samples from the southern portion of the lake. 7) Prepare base map of lake and watershed including mapping land uses. 8) Final lake management plan will include summary of data gathered, public involvement activities,aquatic plant survey, base and land use maps, and management recommendations.

**Objective:**  
**Comments:**  
**Outcome:**  
**Study Design:**  
**QA Measures:**

### People

Name	Role	Status	Start Date	End Date	Organization	Comments
Cloverleaf Lakes Protective A	GRANT_RECIPII	ACTIVE	04/02/1991	06/30/1993	Cloverleaf Lakes Protective Association	

### Project Statuses

Date	Reported By	Status	Comments
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### Actions

Action	Detailed Description	Start	End Date	Status
Grant Awarded	1) Review existing data on lake and watershed to assess data gathering needs. 2) Initiate public involvement/information program including workshops, public meetings, newsletters, fact sheet distribution, local media.3) Conduct water quality monitoring in spring and summer at sites as described in the application. 4) Perform winter sampling at two sites as defined in the application. 5) Conduct macrophyte survey as described in the application.6) Collect sediment samples from the southern portion of the lake. 7) Prepare base map of lake and watershed including mapping land uses. 8) Final lake management plan will include summary of data gathered, public involvement activities,aquatic plant survey, base and land use maps, and management recommendations.	04/02/1991		COMPLETE
Informational Meetings	10100514	04/02/1991		PROPOSED
Develop/Distribute Newsletter	10100514	04/02/1991		PROPOSED
Hold Workshops	10100514	04/02/1991		PROPOSED
Monitor Water Quality or Sediment	10100514	04/02/1991		PROPOSED

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Action	Detailed Description	Start	End Date	Status
Data analysis, report production	10100514	04/02/1991		PROPOSED
Watershed Mapping or Assessment	10100514	04/02/1991		PROPOSED
Aquatic Plant Monitoring or Survey		04/02/1991	06/30/1993	PROPOSED
Lake Management Plan Development		04/02/1991	06/30/1993	PROPOSED

### Monitoring Stations

Station ID	Name	Comments
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### Assessment Units

WBIC	Segment	Local Name	Official Name
299000	1	Un Spring	Cloverleaf Chain
299200	1	Grass Lake (Cloverleaf Chain)	Grass 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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### Documents

Title	Description	Author	Published	Comments
Lake Management Plan - Grass Lake - Shawano County, Wisconsin	Grass Lake, Shawano County, is the middle lake of a three lake "chain" known as the Cloverleaf Lakes. The primary source of lake inflow is groundwater. This, combined with a primarily wooded residential or forested watershed, results in a relatively low potential for non-point source inputs of nutrients and sediment from the watershed. Water quality was fair to good for all parameters measured; transparency, nutrients and chlorophyll a indicated a mesotrophic status. Grass Lake stratified during summer and exhibited high nutrient levels and near-anoxic conditions near bottom in deeper portions of the basin. Higher nutrient levels were observed during a rain event in the small creek inflow on the north shore. This creek receives flow perennially from a spring in a forested area a few hundred meters from the lake and intermittently from roadside and agricultural areas during substantial rain or snowmelt events.	IPS Environmental and Analytical Services	06/30/1992	

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Title	Description	Author	Published	Comments
	<p>Macrophyte growth in Grass Lake is limited, except on an extensive shallow area along the south shore, to a rather narrow littoral zone. Water celery and clasping-leaf pondweed (relatively desirable from the viewpoint of habitat provision), are most common. Water milfoil, which may include Eurasian Milfoil (a nuisance exotic plant) was also relatively common. The shallow, highly productive south shore area probably provides food, cover and spawning habitat for the fishery. Sediment from this area and particularly in the channel to Pine Lake, contains significant amounts of organic matter. Protection of this area from indiscriminate power boat usage, which may destroy or fragment plants and resuspend sediment, should be considered. Overall management objectives should emphasize protection and improvement/enhancement of this already high quality resource.</p> <ul style="list-style-type: none"> <li>- Regular water quality monitoring should be continued to track water quality trends. Event monitoring should target creek inflows or other sources of overland drainage (parking areas, roads).</li> <li>- Riparian land owner education and diligence regarding runoff control and yard waste/fertilizer management should be encouraged to minimize sediment and nutrient inputs. Nutrient input from the creek during low flow conditions should be assessed.</li> <li>- Macrophyte management in near shore areas should be limited to localized manual harvest (if necessary or desired). Water milfoil species should be positively determined; Eurasian Milfoil, if present, should be selectively removed. Plant management should target nuisance species control.</li> </ul>			

**Budget**

Combined Budgets:  
 Combined SLOH:  
 Combined Total:

**Funding**

Organization	Source	Type	Amount	Start Date	End Date
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