

Wisconsin Department of Natural Resources
SWIMS Project Summary

General Project Information

Project ID: LPL-118 (2014-01)

Name: LAKE VIRGINIA MANAGEMENT DISTRICT: Lake Virginia Hydrologic and Water Budgets

Type: Lakes Grant

Subtype: Large Scale Lake Planning

Status: COMPLETE

Start Date: 10/11/1991

End Date: 8/1/1992

Purpose: 1) Prepare a generalized hydrologic budget. Review historical and recently collected water quality data. Develop a lake water quality model for dissolved oxygen to compare to historical oxygen depletion in lake.2) Inspect dam to identify leaks or potential leaks and conduct flow measurements to see if this contributes to low lake levels.3) Develop water budget to identify potential lake water losses. 4) Generate report summarizing findings and making management recommendations.5) Disseminate information to the public by newsletter mailing.

Objective:

Comments: Grantee is LAKE VIRGINIA MANAGEMENT DISTRICT

Outcome:

Study Design:

QA Measures:

People

Name	Role	Status	Start Date	End Date	Organization	Comments
Lake Virginia Management Distr	GRANT_RECIPIENT	ACTIVE	10/11/1991	8/1/1992	Lake Virginia Management District	
Owen Ayres and Associates, Inc	OTHER	COMPLETE	10/11/1991	8/1/1992	Owen Ayres and Associates, Inc.	

Project Statuses

Date	Reported By	Status	Comments
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Actions

Action	Detailed Description	Start Date	End Date	Status
Water Quality Modeling	10100627	10/11/1991		PROPOSED
Grant Awarded	1) Prepare a generalized hydrologic budget. Review historical and recently collected water quality data. Develop a lake water quality model for dissolved oxygen to compare to historical oxygen depletion in lake.2) Inspect dam to identify leaks or potential leaks and conduct flow measurements to see if this contributes to low lake levels.3) Develop water budget to identify potential lake water losses. 4) Generate report summarizing findings and making management recommendations.5) Disseminate information to the public by newsletter mailing.	10/11/1991		COMPLETE
Hydrologic Budget Development	10100627	10/11/1991		PROPOSED

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Data analysis, report production	10100627	10/11/1991		PROPOSED
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Monitoring Stations

Station ID	Name	Comments
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Assessment Units

WBIC	Segment	Local Name	Official Name
1278700	1	Virginia Lake	Virginia 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
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Documents

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Title	Description	Author	Published	Comments
Lake Virginia Lake Management Planning Study	Lake Virginia is located approximately two miles east o f Reedsburg, Wisconsin in Sauk County. The 35 acre lake is created by an earth embankment dam approximately 800 feet in length. The dam was constructed in 1970. The watershed has a total drainage area of 1,190 acres and consists mainly of agricultural land including three barnyards. Figure 1 shows a map of the watershed. An aeration system was installed prior to 1985 t o maintain oxygen levels in the lake. Two fish kills of unknown cause occurred in 1991. In the past several years, weeds have spread throughout the lake and are becoming a nuisance. Also, water levels have been three feet below normal pool level . Water quality issues include nutrient loadings, dissolved oxygen levels, water clarity, and weeds(macrophytes) . Phosphorus and nitrogen have been introduced to the lake from agricultural runoff, septic systems, and other sources and have led to water quality deterioration such as algae and weeds. Water quality is often measured by concentrations of total phosphorus and chlorophyll a and by Secchi depth readings. Secchi depth measures the clarity of the water by measuring the depth at which a black and white disk is visible . Chlorophyll a is a measure of algae present in the water. Water samples were taken periodically at the north and south shores by the DNR in 1991 and analyzed for several water quality parameters. Figure 1 shows the locations at which the samples were taken. Table 1 shows selected data that were obtained through laboratory analyses of the samples. Complete results of the sampling and analyses are contained in Appendix B.	Ayres Associates	5/31/1992	

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

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Funding					
Organization	Source	Type	Amount	Start Date	End Date