

Wisconsin Department of Natural Resources SWIMS Project Summary

General Project Information

Project ID: LPT50516
Name: GREEN LAKE ASSOCIATION, INC.: LMI-Big Green Lake D&F Water Quality Improvements
Type: Lakes Grant
Subtype: Lake Protection Grant
Status: ACTIVE
Start Date: 04/15/2016
End Date: 12/31/2020
Purpose: The Green Lake Association is sponsoring a lake protection grant on Big Green Lake in Green Lake County. The main goal of this D&F Study is to study the metalimnetic oxygen minima issue, determine biological / chemical causative mechanisms and create models to assess degree of potential water quality improvements from management actions. The following work activities will be completed: 1. Install and monitor continuous-sampling mooring buoys, Conduct sediment core analysis of sediment oxygen demand and physical parameters, Conduct sediment core analysis of radionuclide and biogeochemical tracers, Continue water column profiles and stream monitoring, Expand ongoing sampling with additional chemical sampling, Conduct biological sampling & Use Biofish to describe horizontal variations of water quality.
 2. Develop an empirical eutrophication model with coupled hydrodynamic lake model
 a. Review historic data, conduct sensitivity analysis to quantify response of TP & DO to changes in identified driver(s), Identify the reductions needed to achieve WQ goals, Develop alternative management strategies to achieve WQ goals & Evaluate and rank alternative strategies
 b. Determine the feasibility of meeting WQ goals, recommend alternative management strategies and monitor for changes, Update the LMP.
 3. Communicate findings to lake stakeholders (local & statewide), give presentation at Lake Conference, post info on websites
 The following deliverables (products) will result from this grant: 1. Final Report submitted to local DNR Lakes Biologist (1 digital copy / two hard copies). Report to include: Results of sediment core analysis; Water chemistry results; Biological sampling dataset; Various modeling results; Phosphorus response curves; Management recommendations; Update LMP; Communicate results with stakeholders.
 This scope summarizes the project detail provided in the application and does not negate tasks/deliverables described therein
 Amendment: Add development of new bathymetric map

Objective:
Comments: Grantee is GREEN LAKE ASSOCIATION, INC.
Outcome:
Study Design:
QA Measures:

People

Name	Role	Status	Start Date	End Date	Organization	Comments
Green Lake Association Inc,	GRANT_RECIP	ACTIVE	06/02/2016		Green Lake Association Inc	
Prellwitz, Stephanie	APPLICANT	ACTIVE	06/02/2016			
Siebers, Ben	LEAD_EQUIPME	ACTIVE	06/02/2016		USGS	
State Lab of Hygiene,	LABORATORY	ACTIVE	06/02/2016		State Lab of Hygiene	

Project Statuses

Date	Reported By	Status	Comments
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Actions

Action	Detailed Description	Start	End Date	Status
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Action	Detailed Description	Start	End Date	Status
Lakes Protection Grant	The Green Lake Association is sponsoring a lake protection grant on Big Green Lake in Green Lake County. The main goal of this D&F Study is to study the metalimnetic oxygen minima issue, determine biological / chemical causative mechanisms and create models to assess degree of potential water quality improvements from management actions.	04/15/2016	05/02/2018	COMPLETE
Grant Awarded	<p>The Green Lake Association is sponsoring a lake protection grant on Big Green Lake in Green Lake County. The main goal of this D&F Study is to study the metalimnetic oxygen minima issue, determine biological / chemical causative mechanisms and create models to assess degree of potential water quality improvements from management actions.</p> <p>The following work activities will be completed:</p> <ol style="list-style-type: none"> 1. Install and monitor continuous-sampling mooring buoys, Conduct sediment core analysis of sediment oxygen demand and physical parameters, Conduct sediment core analysis of radionuclide and biogeochemical tracers, Continue water column profiles and stream monitoring, Expand ongoing sampling with additional chemical sampling, Conduct biological sampling & Use Biofish to describe horizontal variations of water quality. 2. Develop an empirical eutrophication model with coupled hydrodynamic lake model <ol style="list-style-type: none"> a. Review historic data, conduct sensitivity analysis to quantify response of TP & DO to changes in identified driver(s), Identify the reductions needed to achieve WQ goals, Develop alternative management strategies to achieve WQ goals & Evaluate and rank alternative strategies b. Determine the feasibility of meeting WQ goals, recommend alternative management strategies and monitor for changes, Update the LMP. 3. Communicate findings to lake stakeholders (local & statewide), give presentation at Lake Conference, post info on websites. 	04/15/2016	06/30/2019	COMPLETE

Monitoring Stations

Station ID	Name	Comments
243049	Green Lake - West Basin - Deep Hole (USGS)	

Assessment Units

WBIC	Segment	Local Name	Official Name
146100	1	Green Lake (Big Green)	Green Lake
146100	6	Pilgrim Center Beach, Green Lake	Green Lake

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WBIC	Segment	Local Name	Official Name
146100	9	Green Lake (Northern Lobe)	Green Lake
146800	3	Silver Creek Mouth	Silver Creek
146800	5	Silver Cr Spaulding, Kmart Beach	Silver Creek
3000531	1	Local Water	Unnamed
5026636	1	Unnamed Stream	Unnamed

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
05/10/2017 12:00	COMPLETE	GD5-1	243049	Green Lake - West Basin - Deep Hole (USGS)
05/10/2017 12:01	COMPLETE	GD5-8CHL	243049	Green Lake - West Basin - Deep Hole (USGS)
05/10/2017 12:05	COMPLETE	GD5-2	243049	Green Lake - West Basin - Deep Hole (USGS)
05/10/2017 12:05	COMPLETE	GD5-Z1	243049	Green Lake - West Basin - Deep Hole (USGS)
05/10/2017 12:08	COMPLETE	GD5-3	243049	Green Lake - West Basin - Deep Hole (USGS)
05/10/2017 12:10	COMPLETE	GD5-Z2	243049	Green Lake - West Basin - Deep Hole (USGS)
05/10/2017 12:20	COMPLETE	GD5-5	243049	Green Lake - West Basin - Deep Hole (USGS)
05/10/2017 12:20	COMPLETE	GD5-Z3	243049	Green Lake - West Basin - Deep Hole (USGS)
05/10/2017 12:50	COMPLETE	GD5-6	243049	Green Lake - West Basin - Deep Hole (USGS)
05/10/2017 13:07	COMPLETE	GD5-7	243049	Green Lake - West Basin - Deep Hole (USGS)
06/07/2017 10:00	COMPLETE	GD6-1	243049	Green Lake - West Basin - Deep Hole (USGS)
06/07/2017 10:01	COMPLETE	GD6-CHL	243049	Green Lake - West Basin - Deep Hole (USGS)
06/07/2017 10:02	COMPLETE	GD6-2	243049	Green Lake - West Basin - Deep Hole (USGS)
06/07/2017 10:02	COMPLETE	GD6-Z1	243049	Green Lake - West Basin - Deep Hole (USGS)
06/07/2017 10:04	COMPLETE	GD6-3	243049	Green Lake - West Basin - Deep Hole (USGS)
06/07/2017 10:06	COMPLETE	GD6-4	243049	Green Lake - West Basin - Deep Hole (USGS)
06/07/2017 10:06	COMPLETE	GD6-Z2	243049	Green Lake - West Basin - Deep Hole (USGS)
06/07/2017 10:12	COMPLETE	GD6-5	243049	Green Lake - West Basin - Deep Hole (USGS)
06/07/2017 10:12	COMPLETE	GD6-Z3	243049	Green Lake - West Basin - Deep Hole (USGS)
06/07/2017 10:50	COMPLETE	GD6-6	243049	Green Lake - West Basin - Deep Hole (USGS)
06/07/2017 11:07	COMPLETE	GD6-7	243049	Green Lake - West Basin - Deep Hole (USGS)
07/11/2017 12:00	COMPLETE	GD7-1	243049	Green Lake - West Basin - Deep Hole (USGS)
07/11/2017 12:04	COMPLETE	GD7-2	243049	Green Lake - West Basin - Deep Hole (USGS)
07/11/2017 12:04	COMPLETE	GD7-Z1	243049	Green Lake - West Basin - Deep Hole (USGS)
07/11/2017 12:09	COMPLETE	GD7-3	243049	Green Lake - West Basin - Deep Hole (USGS)
07/11/2017 12:11	COMPLETE	GD7-4	243049	Green Lake - West Basin - Deep Hole (USGS)
07/11/2017 12:11	COMPLETE	GD7-8	243049	Green Lake - West Basin - Deep Hole (USGS)
07/11/2017 12:11	COMPLETE	GD7-Z2	243049	Green Lake - West Basin - Deep Hole (USGS)
07/11/2017 12:15	COMPLETE	GD7-5	243049	Green Lake - West Basin - Deep Hole (USGS)
07/11/2017 12:15	COMPLETE	GD7-Z3	243049	Green Lake - West Basin - Deep Hole (USGS)

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Start Date	Status	Field ID	Station ID	Station Name
07/11/2017 12:50	COMPLETE	GD7-6	243049	Green Lake - West Basin - Deep Hole (USGS)
07/11/2017 13:07	COMPLETE	GD7-7	243049	Green Lake - West Basin - Deep Hole (USGS)
08/08/2017 10:00	COMPLETE	GD8-1	243049	Green Lake - West Basin - Deep Hole (USGS)
08/08/2017 10:04	COMPLETE	GD8-2	243049	Green Lake - West Basin - Deep Hole (USGS)
08/08/2017 10:04	COMPLETE	GD8-Z1	243049	Green Lake - West Basin - Deep Hole (USGS)
08/08/2017 10:08	COMPLETE	GD8-3	243049	Green Lake - West Basin - Deep Hole (USGS)
08/08/2017 10:11	COMPLETE	GD8-4	243049	Green Lake - West Basin - Deep Hole (USGS)
08/08/2017 10:11	COMPLETE	GD8-8	243049	Green Lake - West Basin - Deep Hole (USGS)
08/08/2017 10:11	COMPLETE	GD8-Z2	243049	Green Lake - West Basin - Deep Hole (USGS)
08/08/2017 10:15	COMPLETE	GD8-5	243049	Green Lake - West Basin - Deep Hole (USGS)
08/08/2017 10:15	COMPLETE	GD8-Z3	243049	Green Lake - West Basin - Deep Hole (USGS)
08/08/2017 10:50	COMPLETE	GD8-6	243049	Green Lake - West Basin - Deep Hole (USGS)
08/08/2017 11:07	COMPLETE	GD8-7	243049	Green Lake - West Basin - Deep Hole (USGS)
09/13/2017 12:06	COMPLETE	GD9-Z1	243049	Green Lake - West Basin - Deep Hole (USGS)
09/13/2017 12:14	COMPLETE	GD9-Z2	243049	Green Lake - West Basin - Deep Hole (USGS)
09/13/2017 12:16	COMPLETE	GD9-Z3	243049	Green Lake - West Basin - Deep Hole (USGS)

Documents

Title	Description	Author	Published	Comments
Final GLA SOD Values with rerun 1st set	Sediment oxygen demand results.	State Laboratory of Hygiene	11/08/2016	
Sediment Oxygen Demand for Samples from the Green Lake Association	Write-up of how oxygen demand was determine on sediment samples.	State Laboratory of Hygiene	09/30/2016	
Surface Water Grant Project Lab Costs (LPT50516)	Lab costs for grant received by Green Lake Association.			

Budget

Combined Budgets:
Combined SLOH:
Combined Total:

Funding

Organization	Source	Type	Amount	Start Date	End Date
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