

Wisconsin Department of Natural Resources
SWIMS Project Summary

General Project Information

Project ID: LPL160416

Name: HORSESHOE LAKE IMPROVEMENT ASSOCIATION: Horseshoe Lake Water Quality & Education Project

Type: Lakes Grant

Subtype: Large Scale Lake Planning

Status: COMPLETE

Start Date: 2/15/2016

End Date: 12/31/2017

Purpose: The Horseshoe Lake Improvement Association is sponsoring a water quality and education project for Horseshoe Lake.

Project deliverables include GIS data & maps of areas monitored, water quality and flow data, bed mapping data, shoreline and woody habitat data, sediment P release report, and a hybrid milfoil treatment report.

Specific project activities include: 1) Tributary and in-lake monitoring; 2) Precipitation monitoring; 3) Shoreline and woody habitat survey; 4) Lake sediment phosphorus release study; 5) AIS education; 6) Fall EWM bed mapping.

Special Conditions: 1) CLMN efforts should not be duplicated, and these data shall be included in the trends analysis and final reporting; 2) Sponsor shall contact DNR immediately if a new AIS is found; 3) All monitoring data shall be entered into SWIMS.

This scope summarizes the project detail provided in the application and does not negate tasks/deliverables described therein. The grant sponsor shall submit all data, records, and reports, including GIS-based maps and digital images, to the Department in a format specified by the regional Lakes Biologist.

Objective:

Comments: Grantee is HORSESHOE LAKE IMPROVEMENT ASSOCIATION

Outcome:

Study Design:

QA Measures:

People						
Name	Role	Status	Start Date	End Date	Organization	Comments
Blumer, David L	LEAD_EQUIPMENT	ACTIVE	4/15/2016		Lake Education and Planning Services (LEAPS)	
Horseshoe Lake Improvement Ass	GRANT_RECIPIENT	ACTIVE	4/15/2016		Horseshoe Lake Improvement Association	
Nygaard, Dale	TEAM_MEMBER	ACTIVE	7/18/2016			
Smith, Alex R	COORDINATOR	COMPLETE	4/15/2016		Wisconsin DNR	
Waldo, Joseph	TEAM_MEMBER	ACTIVE	7/18/2016			

Project Statuses

Date	Reported By	Status	Comments
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Actions

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Action	Detailed Description	Start Date	End Date	Status
Grant Awarded	<p>The Horseshoe Lake Improvement Association is sponsoring a water quality and education project for Horseshoe Lake.</p> <p>Project deliverables include GIS data & maps of areas monitored, water quality and flow data, bed mapping data, shoreline and woody habitat data, sediment P release report, and a hybrid milfoil treatment report.</p> <p>Specific project activities include: 1) Tributary and in-lake monitoring; 2) Precipitation monitoring; 3) Shoreline and woody habitat survey; 4) Lake sediment phosphorus release study; 5) AIS education; 6) Fall EWM bed mapping.</p>	2/15/2016	6/30/2017	COMPLETE

Monitoring Stations

Station ID	Name	Comments
493139	Horseshoe Lake - Deep Hole	
10044838	Horseshoe Lake - Greatwood Ln	
10044837	Horseshoe Lake - N Shore	
10044839	Horseshoe Lake - SW Shore	
10044891	Horseshoe Lake Tributary - Along road on south side of lake	

Assessment Units

WBIC	Segment	Local Name	Official Name
2630100	1	Horseshoe Lake	Horseshoe Lake

Lab Account Codes

Account Code	Description	Start Date	End Date
LM022	LAKE MANAGEMENT PLANNING GRANTS	3/27/2015	6/30/2016
LM023	LAKE MANAGEMENT PLANNING GRANTS	3/16/2016	6/30/2017

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
4/23/2016 11:30	COMPLETE	HL-DHB-APR1	493139	Horseshoe Lake - Deep Hole
4/23/2016 11:30	COMPLETE	HL-DHS-APR1	493139	Horseshoe Lake - Deep Hole
4/25/2016 17:00	COMPLETE	HTRB-GW-AP	10044838	Horseshoe Lake - Greatwood Ln

7/25/2024

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4/25/2016 17:00	COMPLETE	HTRB-NS-AP	10044837	Horseshoe Lake - N Shore
4/25/2016 17:00	COMPLETE	HTRB-SW-AP	10044839	Horseshoe Lake - SW Shore
5/13/2016 14:20	COMPLETE	HL-DHS-MAY1	493139	Horseshoe Lake - Deep Hole
5/28/2016 12:00	COMPLETE	HL-DHB-MAY2	493139	Horseshoe Lake - Deep Hole
5/28/2016 12:00	COMPLETE	HL-DHS-MAY2	493139	Horseshoe Lake - Deep Hole
6/14/2016 13:32	COMPLETE	HL-DHS-JUN1	493139	Horseshoe Lake - Deep Hole
6/26/2016 8:30	COMPLETE	HTRB-SS-MY	10044891	Horseshoe Lake Tributary - Along road on south side of lake
6/30/2016 15:00	COMPLETE	HL-DHB-JUN2	493139	Horseshoe Lake - Deep Hole
6/30/2016 15:00	COMPLETE	HL-DHS-JUN2	493139	Horseshoe Lake - Deep Hole
7/25/2016 19:20	COMPLETE	HL-DHS-JLY2	493139	Horseshoe Lake - Deep Hole
7/25/2016 19:22	COMPLETE	HL-DHB-JLY2	493139	Horseshoe Lake - Deep Hole
8/30/2016 19:46	COMPLETE	HL-DHS-AUG2	493139	Horseshoe Lake - Deep Hole
8/30/2016 19:50	COMPLETE	HL-DHB-AUG2	493139	Horseshoe Lake - Deep Hole
9/5/2016 16:15	COMPLETE	HL-DHS-SEP1	493139	Horseshoe Lake - Deep Hole
9/21/2016 8:37	COMPLETE	HL-DHS-SEP2	493139	Horseshoe Lake - Deep Hole
9/21/2016 8:41	COMPLETE	HL-DHB-SEP2	493139	Horseshoe Lake - Deep Hole
10/11/2016 10:06	COMPLETE	HL-DHS-OCT1	493139	Horseshoe Lake - Deep Hole
10/29/2016 10:25	COMPLETE	HL-DHS-OCT2	493139	Horseshoe Lake - Deep Hole
10/29/2016 10:30	COMPLETE	HL-DHB-OCT2	493139	Horseshoe Lake - Deep Hole

Documents

Title	Description	Author	Published	Comments
2016 AIS Surveillance Monitoring End of Season Report - Horseshoe Lake, Barron/Polk Co.		Dave Blumer - Marie Hauser	7/7/2017	
Horseshoe Lake Aquatic Plant Management Plan Approval Request		Alex Smith	6/16/2015	

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Horseshoe Lake, Barron and Polk Counties. 2016 Aquatic Plant Management and Lake Management Planning Grant Summary Report	This report discusses aquatic plant management activities completed by the Horseshoe Lake Public Inland Protection and Rehabilitation District (formerly the Horseshoe Lake Improvement Association) and Lake Education and Planning Services (LEAPS) during the 2016 season and provides a preliminary hybrid Eurasian watermilfoil (HWM) treatment plan for 2017. The 2017 treatment proposal provides the Association with the information needed to contract with a certified aquatic herbicide applicator to complete the necessary WDNR permitting and herbicide treatment. 2015 was the first year of implementation for the new Aquatic Plant Management Plan that was approved in early 2015.	Dave Blumer	7/10/2017	
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Internal Phosphorus Loading and Sediment Phosphorus Fractionation Analysis for Horseshoe Lake, Wisconsin	Sediment cores were collected from 3 stations in Horseshoe Lake in July, 2016, to examine phosphorus (P) release from sediment under anaerobic conditions and pools of mobile P fractions in the sediment. Overall, rates of P release under anaerobic conditions were moderate, ranging between 2.4 and 3.3 mg/m2 d. Labile organic P (i.e., sediment P that can be broken down to phosphate by bacteria) dominated the mobile P fraction in the upper 5-cm sediment layer at all stations followed by the iron-bound P fraction. Station 10 and 20 exhibited the highest labile organic and iron-bound P (i.e., subject to release and recycling) concentrations in the upper 5-cm layer. Iron-bound P at these stations fell near the median compared to other lakes. Labile organic P was high at all stations compared to the median. Station 10 and 20 sediment cores exhibited a slight surface concentration maximum in mobile P, suggesting the potential for modest internal P loading. Station 30 mobile P concentrations were relatively constant with increasing sediment depth. This information will need to be combined with information on hypolimnetic anoxia and the Fe:P in order to assess the importance of internal P loading to the P budget and algal blooms in Horseshoe Lake.	University of Wisconsin Stout	12/5/2016	
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Budget

Combined Budgets:

Combined WSLH:

Combined Total: \$0.00

Funding

Organization	Source	Type	Amount	Start Date	End Date
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