

## Wisconsin Department of Natural Resources SWIMS Project Summary

**General Project Information**

**Project ID:** LPT56417  
**Name:** CITY OF EAU CLAIRE: LMI-Alum Treatment Half Moon Lake  
**Type:** Lakes Grant  
**Subtype:** Lake Protection Grant  
**Status:** COMPLETE  
**Start Date:** 04/15/2017  
**End Date:** 12/31/2019  
**Purpose:** The City of Eau Claire is sponsoring a Lake Management Planning Implementation project aimed to control internal sediment phosphorus loading in Halfmoon Lake by applying alum. The lake received an initial AL treatment in 2011 and was effective at maintaining TP WQ goals for three years, however after five years the effects have diminished. The initial alum treatment dosage was adequate however the floc did not sink into the upper sediment due to higher bulk density characteristics allowing upward P diffusion and decreasing binding efficiency of phosphorus. The second treatment is needed to bind available TP limiting the amount available to algae uptake. The City continues to address other sources of TP including stormwater management, rain gardens etc.

Project activities include: Apply a buffered AL dose to the western arm of Half Moon Lake that is encompassed by the 10 foot contour in late May or early June 2017. Dosage is based on sequestering the annual sediment P flux rate of 0.4g/m2 for 2 to 3 years and factors in an Al binding efficiency of 60% (James 2016 and 2017).

Project deliverables: The outcome of AL treatment to the western arm will be control of internal P loading and reduction of cyanobacterial biomass and chlorophyll to target levels. Limnological monitoring will be conducted to verify outcomes.

Special conditions:

1. The Half moon lake Team consisting of DNR, UW Stout, City of EC and Friends of Halfmoon Lake meet quarterly to assess current lake management actions. There continues to be open and ongoing communication with the group to inform residents on current lake conditions and management decisions.
2. All necessary permits must be issued prior to the project being implemented.

**Objective:**

**Comments:** Grantee is CITY OF EAU CLAIRE

**Outcome:**

**Study Design:**

**QA Measures:**

**People**

Name	Role	Status	Start Date	End Date	Organization	Comments
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**Project Statuses**

Date	Reported By	Status	Comments
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**Actions**

Action	Detailed Description	Start	End Date	Status
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## Wisconsin Department of Natural Resources SWIMS Project Summary

Action	Detailed Description	Start	End Date	Status
Lake Management Plan Implementation	The City of Eau Claire is sponsoring a Lake Management Planning Implementation project aimed to control internal sediment phosphorus loading in Halfmoon Lake by applying alum. The lake received an initial AL treatment in 2011 and was effective at maintaining TP WQ goals for three years, however after five years the effects have diminished. The initial alum treatment dosage was adequate however the floc did not sink into the upper sediment due to higher bulk density characteristics allowing upward P diffusion and decreasing binding efficiency of phosphorus.	04/15/2017	04/15/2018	COMPLETE
Grant Awarded	The City of Eau Claire is sponsoring a Lake Management Planning Implementation project aimed to control internal sediment phosphorus loading in Halfmoon Lake by applying alum. The lake received an initial AL treatment in 2011 and was effective at maintaining TP WQ goals for three years, however after five years the effects have diminished. The initial alum treatment dosage was adequate however the floc did not sink into the upper sediment due to higher bulk density characteristics allowing upward P diffusion and decreasing binding efficiency of phosphorus. The second treatment is needed to bind available TP limiting the amount available to algae uptake. The City continues to address other sources of TP including stormwater management, rain gardens etc.	04/25/2017	12/31/2017	COMPLETE

### Monitoring Stations

Station ID	Name	Comments
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### Assessment Units

WBIC	Segment	Local Name	Official Name
1807700	1	Un Lake	Unnamed
1807800	1	Un Lake	Unnamed
1820700	2	Hoyts Creek	Peeso Creek
1821600	1	Unnamed Trib to Peeso Cr	Unnamed
1822600	1	Session Valley Creek	Session Valley Creek
1823000	2	Lindsay Creek	Lindsay Creek
1823300	2	Big Creek	Big Creek
1823600	1	Adams Creek	Adams Creek
1825900	2	Pine Creek (T25N, R8W)	Pine Creek
1889900	1	Un Lake	Unnamed
1890000	1	Un Lake	Unnamed
1890600	1	Un Lake	Unnamed
1890700	1	Un Lake	Unnamed
1890720	1	Local Water	Unnamed
2050000	3	Chippewa River	Chippewa River
2050000	4	Chippewa R At Eau Claire	Chippewa River

## Wisconsin Department of Natural Resources SWIMS Project Summary

<b>WBIC</b>	<b>Segment</b>	<b>Local Name</b>	<b>Official Name</b>
2050000	5	Chippewa River	Chippewa River
2119000	3	Rock Creek	Rock Creek
2119000	4	Rock Creek	Rock Creek
2120300	2	Coon Creek	Coon Creek
2120700	1	Powell Lake	Powell Lake
2120800	3	Elk Creek	Elk Creek
2120800	4	Elk Creek	Elk Creek
2120800	5	Elk Creek	Elk Creek
2121000	1	Elk Creek Lake	Elk Creek Lake*
2122500	1	West Creek	West Creek
2122800	1	Local Water	Unnamed
2123500	1	Cooley Lake	Cooley Lake
2123600	1	Taylor Creek	Taylor Creek
2123700	1	Gravel Pit Pond	Gravel Pit Pond
2123800	1	Un Lake	Unnamed
2123900	1	Loves Creek	Loves Creek
2123900	2	Loves Creek	Loves Creek
2123900	3	Loves Creek	Loves Creek
2124000	1	Willow Creek	Willow Creek
2124300	1	Pine Creek	Pine Creek
2124400	1	Clear Creek	Clear Creek
2124500	1	Creek 12-12 (T25n, R9w)	Unnamed
2124600	1	Unnamed Trib to Loves Cr	Unnamed
2124700	1	Graham Creek	Graham Creek
2124800	1	Kelly Creek	Kelley Creek
2125100	1	Sherman Creek	Sherman Creek
2125400	1	Half Moon Lake	Halfmoon Lake
2125500	1	Little Niagara Creek	Little Niagara Creek
2125600	1	Eau Claire River	Eau Claire River
2125600	2	Eau Claire River	Eau Claire River
2125600	3	Eau Claire River	Eau Claire River
2125600	4	Eau Claire River	Eau Claire River
2125600	5	Eau Claire River	Eau Claire River
2125700	1	Otter Creek	Otter Creek
2126100	1	Un Lake	Unnamed
2126800	1	Beaver Creek	Beaver Creek
2127500	1	Kluckman Valley Creek	Kluckman Valley Creek
2128100	1	Lake Altoona	Altoona Lake
2128200	1	Fivemile Creek	Fivemile Creek
2128500	1	Sixmile Creek	Sixmile Creek
2128600	1	Ninemile Creek South	Ninemile Creek -South
2128700	1	Sevenmile Creek	Sevenmile Creek
2128900	1	Ninemile Creek North	Ninemile Creek -North
2128900	2	Ninemile Creek (North)	Ninemile Creek -North
2129300	1	Deinhammer Creek	Deinhammer Creek
2129400	1	Beaver Creek	Beaver Creek
2129400	3	Beaver Creek	Beaver Creek
2129500	1	Creek 16-12 (T27n, R7w)	Unnamed

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<b>WBIC</b>	<b>Segment</b>	<b>Local Name</b>	<b>Official Name</b>
2129600	1	Pine Creek (T27N, R7W)	Pine Creek
2129650	1	Creek 15-2 (T27n, R7w)	Unnamed
2129900	1	Fall Creek	Fall Creek
2129900	2	Fall Creek	Fall Creek
2130100	1	Fall Creek Pond	Fall Creek Pond
2130200	1	Rush Creek	Rush Creek
2130200	2	Rush Creek	Rush Creek
2130300	1	Bears Grass Creek	Bears Grass Creek
2130300	3	Bears Grass Creek	Bears Grass Creek
2130500	1	Sand Creek	Sand Creek
2130600	1	Bridge Creek	Bridge Creek
2130600	2	Bridge Creek	Bridge Creek
2130600	3	Bridge Creek	Bridge Creek
2130700	1	Browns Creek	Browns Creek
2130800	1	Un Lake	Unnamed
2131000	1	Dells Millpond (Rodell)	Dells Millpond (Rodell)
2131100	1	Thompson Valley Creek	Thompson Valley Creek
2131100	2	Thompson Valley Creek	Thompson Valley Creek
2131300	1	First Trestle Creek	First Trestle Creek
2131300	2	First Trestle Creek	First Trestle Creek
2131400	1	Diamond Valley Creek	Diamond Valley Creek
2131400	2	Diamond Valley Creek	Diamond Valley Creek
2131750	1	Unnamed Impoundment	Unnamed
2131900	1	Hay Creek (T25N R6W)	Hay Creek
2132700	1	Travis Creek	Travis Creek
2133200	1	Eau Claire Lake	Eau Claire Lake
2133300	2	Hay Creek	Hay Creek
2133300	3	Hay Creek	Hay Creek
2133400	1	Unnamed Creek 27-8 (T27N, R6W)	Cold Creek
2133500	1	Darrow Creek	Darrow Creek
2133700	1	Unnamed Pond (T27n R6w S2-2)	Unnamed
2134200	1	Muskrat Creek	Muskrat Creek
2134200	2	Muskrat Creek	Muskrat Creek
2134200	3	Muskrat Creek	Muskrat Creek
2134400	1	Unnamed Trib to Muskrat Cr	Unnamed
2134400	2	Unnamed Trib to Muskrat Cr	Unnamed
2134800	1	Hathaway Creek	Hathaway Creek
2134900	1	Whippoorwill Creek	Whippoorwill Creek
2135000	1	Coon Gut Creek	Coon Gut Creek
2135100	1	Coon Fork Creek	Coon Fk Creek
2135200	1	Pea Creek	Pea Creek
2135600	1	Coon Fork Flowage	Coon Fork Flowage
2135700	1	Black Creek	Black Creek
2135800	1	Travis Creek	Unnamed
2135900	1	Schoolhouse Creek	Schoolhouse Creek
2135900	2	Schoolhouse Creek	Schoolhouse Creek
2136000	1	McGaver Creek	McGaver Creek
2136200	1	Fairchild Pond	Fairchild Pond

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<b>WBIC</b>	<b>Segment</b>	<b>Local Name</b>	<b>Official Name</b>
2136600	1	Unnamed Creek	Unnamed
2136700	1	Local Water	Unnamed
2137000	1	South Fork Eau Claire River	South Fork Eau Claire River
2137100	1	Horse Creek	Horse Creek
2137100	2	Horse Creek	Horse Creek
2145400	1	North Fork Eau Claire	North Fork Eau Claire River
2145400	4	North Fork Eau Claire	North Fork Eau Claire River
2145500	1	Beeman Creek	Beeman Creek
2145600	1	Shambaugh Creek	Shambaugh Creek
2145700	1	Local Water	Unnamed
2145900	1	Loper Creek	Loper Creek
2146000	1	Wolf River	Wolf River
2146100	1	Swim Creek (Swan)	Swim Creek
2147800	1	Simes Creek	Simes Creek
2149900	1	Dells Pond	Dells Pond
2149900	2	Dells Pond	Dells Pond
2152600	1	Chippewa Falls Flowage	Chippewa Falls Flowage 5555
2153300	1	South Fork Paint Creek	South Fork Paint Creek
2154000	1	Alder Creek	Alder Creek
3000037	1	Local Water	Unnamed
5012705	1	Beaver Creek	Unnamed
5012788	1	Beaver Creek	Unnamed
5012913	1	Local Water	Unnamed
5012952	1	Local Water	Unnamed
5012990	1	Local Water	Unnamed
5013053	1	Local Water	Unnamed
5013091	1	Local Water	Unnamed
5013121	1	Unnamed Creek 29-16	Unnamed
5013271	1	Local Water	Unnamed
5013524	1	Local Water	Unnamed
5013600	1	Local Water	Unnamed
5013650	1	Local Water	Unnamed
5014606	1	Unnamed Trib to Lowes Cr	Unnamed
5015040	1	Local Water	Unnamed
5015165	1	Unnamed Trib to Black Creek	Unnamed
5537331	1	Local Water	Unnamed
5537394	1	Local Water	Unnamed
5537833	1	Local Water	Unnamed
5537860	1	Local Water	Unnamed
5537967	1	Local Water	Unnamed
5537983	1	Local Water	Unnamed
5538176	1	Local Water	Unnamed
5538383	1	Local Water	Unnamed
5538520	1	Local Water	Unnamed
5538808	1	Local Water	Unnamed
5538828	1	Local Water	Unnamed
5538840	1	Local Water	Unnamed
5538948	1	Local Water	Unnamed

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WBIC	Segment	Local Name	Official Name
5539002	1	Local Water	Unnamed
5539039	1	Local Water	Unnamed
5539069	1	Local Water	Unnamed
5539336	1	Local Water	Unnamed
5539342	1	Local Water	Unnamed
5539347	1	Local Water	Unnamed
5539381	1	Local Water	Unnamed
5539430	1	Local Water	Unnamed
5539620	1	Local Water	Unnamed
5539787	1	Local Water	Unnamed
5539920	1	Local Water	Unnamed
5540042	1	Local Water	Unnamed
5540147	1	Local Water	Unnamed
5540233	1	Local Water	Unnamed
5540259	1	Local Water	Unnamed
5540262	1	Local Water	Unnamed
5540434	1	Local Water	Unnamed
5541210	1	Local Water	Unnamed
5541323	1	Local Water	Unnamed
5541461	1	Local Water	Unnamed
5541582	1	Local Water	Unnamed
5541892	1	Local Water	Unnamed
5542097	1	Local Water	Unnamed
5542603	1	Local Water	Unnamed
5542688	1	Local Water	Unnamed
5542812	1	Local Water	Unnamed
5584482	1	Local Water	Unnamed
5584490	1	Local Water	Unnamed
5584570	1	Local Water	Unnamed
5590978	1	Local Water	Unnamed
5590996	1	Local Water	Unnamed
5590997	1	Local Water	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
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### Documents

Title	Description	Author	Published	Comments
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## Wisconsin Department of Natural Resources SWIMS Project Summary

### Budget

Combined Budgets:

Combined SLOH:

Combined Total:

### Funding

Organization	Source	Type	Amount	Start Date	End Date
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