

Wisconsin Department of Natural Resources SWIMS Project Summary

General Project Information

Project ID: ACEI-141-13

Name: UNIVERSITY OF WISCONSIN-MADISON: Whole Lake Mixing to Remove Invasive Rainbow Smelt in Crystal Lk: final phase

Type: Aquatic Invasives Grant

Subtype: Aquatic Invasives Research Grant

Status: COMPLETE

Start Date: 4/1/2013

End Date: 12/31/2016

Purpose: UW-Madison Center for Limnology is sponsoring the final ACEI Research and Demonstration grant to study Crystal Lake, in Vilas County. The project will focus on mixing Crystal Lake to remove smelt and restore the ecosystem that existed prior to smelt invasion. If successful, this project will be used as a model to apply to other smelt removal projects.

Project activities include: 1) Build Gradual Entrainment Lake Inverters (GELI\2019s) and mixing system; 2) Hire undergraduates each summer; 3) Mix Crystal Lake for three summers (2012-2015); 4) Monitor physical and chemical limnology weekly and every ten minutes (with automated sensor networks); 5) Monitor fish community every 2 weeks, benthos every month, and zooplankton every week; 6) Public education and outreach \2013 build an exhibit for Crystal Lake Nature Center, lead 2 interpretive Naturalist sessions, news releases, website updates, workshops, WI Lakes Convention presentation, and K-12 educational events; 7) Annual summaries and a final report.

Project deliverables include: 1) Mixing system; 2) Hired students; 3) Limnological, fish, benthos, and zooplankton monitoring data; 4) potential extirpation of rainbow smelt; 5) Public education and outreach \2013 informational materials, presentations, media outreach, web-based materials, K-12 education, and undergraduate education; 6) Annual summaries and final report.

Specific conditions for this project: Annual summaries and final report needs Dept review and approval.

WDNR Lakes Management Coordinator will be provided with an electronic (pdf or word) copy of annual summaries, final report, all education and outreach materials, and all data and maps from project.

Objective:

Comments: Grantee is UNIVERSITY OF WISCONSIN-MADISON

Outcome:

Study Design:

QA Measures:

People

Name	Role	Status	Start Date	End Date	Organization	Comments
UW-MADISON,	GRANT_RECIPIENT	ACTIVE	6/17/2013		UW-MADISON	

Project Statuses

Date	Reported By	Status	Comments
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Actions

Action	Detailed Description	Start Date	End Date	Status
Project Deliverable	Annual Reports	4/1/2013	6/30/2015	PROPOSED
Hold Workshops		4/1/2013	6/30/2015	PROPOSED

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Monitoring Ecosystem	Monitor physical and chemical limnology weekly & every 10 mins with automated sensor network; Monitor Benthos every month; Zooplankton weekly	4/1/2013	6/30/2015	PROPOSED
Issue News/Media Release		4/1/2013	6/30/2015	PROPOSED
Project Deliverable	Final Report	4/1/2013	6/30/2015	PROPOSED
Grant Awarded		4/1/2013	6/30/2015	COMPLETE
Control Invasive Species		4/1/2013	6/30/2015	PROPOSED
Aquatic Invasives Research	UNIVERSITY OF WISCONSIN-MADISON: Whole Lake Mixing to Remove Invasive Rainbow Smelt in Crystal Lake: final phase. Build Gradual Entrainment Lake Interters and mixing system and mix lake for 3 years	4/1/2013	6/30/2015	COMPLETE
Information and Education	build exhibit for Crystal Lake Nature Center; Lead interpretive Naturalist Sessions; WI Lake Convention presentation; K-12 educational events; Website updates	4/1/2013	6/30/2015	PROPOSED
Monitor Fish Community	monitor fish community every 2 weeks	4/1/2013	6/30/2015	PROPOSED

Monitoring Stations

Station ID	Name	Comments
10006233	Crystal Lake	

Assessment Units

WBIC	Segment	Local Name	Official Name
1842400	1	Crystal Lake (T41n R07e S27)	Crystal Lake
1842400	2	Crystal Lake - Campground Beach Right	Crystal Lake
1842400	3	Crystal Lake - Campground Beach Left	Crystal 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

Title	Description	Author	Published	Comments
Crystal Lake Mixing Project Final Report		Jake Vander Zanden		

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Experimental mixing of a north-temperate lake: testing the thermal limits of non-native rainbow smelt, a cold-water fish	Factsheet for research on whole-lake mixing as a control method for non-native rainbow smelt.	AIS Research Team	10/1/2020	
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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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