Wisconsin Department of Natural Resources
SWIMS Project Summary

General Project Information

Project ID: ACEI-058-09
Name: CITY OF EAU CLAIRE: Half-Moon CLP, Milfoil Research
Type: Aquatic Invasives Grant
Subtype: Aquatic Invasives Control
Status: COMPLETE
Start Date: 10/01/2008
End Date: 12/31/2011
Purpose: The City of Eau Claire proposes to contract with the Army Corps of Engineers to initiate a multi-year program of Endothall and 2, 4, D treatments and possible Alum Treatments with the objective of reducing internal Phosphorous loading and controlling Curly Leaf Pondweed and Eurasian Watermilfoil infestations in Half-Moon Lake in Eau Claire County. Major project elements to include: 1) Water quality monitoring, 2) seasonal treatments and plant impact assessments, 3) sediment and water quality sampling, and 4) development of long-term control strategy.
Objective:
Comments: Grantee is CITY OF EAU CLAIRE
Outcome:
Study Design:
QA Measures:

People

Name	Role	Status	Start Date	End Date	Organization	Comments
City of Eau Claire,	GRANT_RECIPII	COMPLETE	10/01/2008	12/31/2011	City of Eau Claire	

Project Statuses

Date	Reported By	Status	Comments

Actions

Action	Detailed Description	Start	End Date	Status
Monitor Invasive Species	26202108	10/01/2008		PROPOSED
Grant Awarded	ACEI-058-09	10/01/2008	12/31/2011	COMPLETE
Monitor Pre and Post Treatment	26202108	10/01/2008		PROPOSED
Monitor Water Quality or Sediment	26202108	10/01/2008		PROPOSED
Control Invasive Species	26202108	10/01/2008		PROPOSED
Aquatic Plant Monitoring or Survey	26202108	10/01/2008		PROPOSED

Monitoring Stations

Station ID	Name	Comments

Assessment Units

WBIC	Segment	Local Name	Official Name
2125400	1	Half Moon Lake	Halfmoon Lake

Lab Account Codes

Account Code	Description	Start Date	End Date
AS008	AQUATIC INVASIVE SPECIES (PLAN	01/01/1960	12/31/2099
AS009	AQUATIC INVASIVE SPECIES (PLAN	01/01/1960	12/31/2099
AS010	AQUATIC INVASIVE SPECIES (PLAN	01/01/1960	12/31/2099

Forms

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Form Code	Form Name

Methods

Method Code	Description

Fieldwork Events

Start Date	Status	Field ID	Station ID	Station Name

Documents

Title	Description	Author	Published	Comments
Aluminum Sulfate Application to Improve Under-Water Light Condition for Native Submersed Macrophyte Restoration: Alum to Phosphorus Binding Ratio Considerations	Re-establishment of persistent native submersed macrophyte populations in shallow systems is often complicated by invasions of nonnative canopy-forming species and eutrophic conditions that result in light limitation of growth. Exotic invasive species can often outcompete natives for light and nutrients, resulting in declines or complete elimination of desirable species populations over time (Madsen et al. 1991). However, efforts to control exotic macrophyte species may not improve growth conditions for native submersed macrophyte restoration if excessive cyanobacterial blooms maintain high light attenuation (James 2010). Additional management that targets reduction in algal biomass may be required in order to improve underwater light condition for native macrophyte growth and persistence. Since phosphorus (P) is generally regarded as the nutrient that limits algal growth, strategies to control P offer the most sustainable approach to improving algalinduced light attenuation in aquatic systems.	William F. James	10/01/2010	
Aluminum Sulfate-Sodium Aluminate Dosage Requirements for Half Moon Lake, Eau Claire, Wisconsin [2010 Final Report]	High phosphorus (P) flux from bottom sediments represents an important source in Half Moon Lake (Eau Claire, Wisconsin) that needs to be controlled in order to drive the system toward P-limitation of algal growth and improve underwater light condition for restoration of native submersed macrophytes. An aluminum (Al) sulfate-sodium aluminate (buffered alum) application represents an effective management technique for binding P in sediment and reducing flux into the water column for algal uptake in soft water lakes. The objectives of this technical document are to estimate the buffered alum dosage required to inactivate ~ 90% of the iron-bound P in the upper 5 cm sediment layer in Half Moon Lake.	Willaim F. James	04/22/2010	
Changes in the Aquatic Plant Community of Halfmoon Lake 2008-2014	The aquatic plant community of a lake is full of complex interactions that contribute to the overall health of an	Wisconsin Department of Natural Resources	02/01/2015	

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Title	Description	Author	Published	Comments
	aquatic ecosystem. Every level of the aquatic food chain from bacteria and invertebrates to fish and waterfowl are dependent upon aquatic plants to some degree for their survival (Engel, 1985; Wetzel, 2001). Photosynthesis and respiration are important in maintaining clear waters (Engel, 1990). Aquatic plants stabilize sediments and absorb wave action which in turn prevents turbidity caused by suspended sediments. Light penetration, excess nutrients from run-off, wave action and lake morphometry all affect the plant community of the littoral zone (Barko 1988; Duarte and Kalff, 1986). The importance of aquatic plants in an aquatic ecosystem creates the need to study the diversity, density and distribution of the aquatic plant community as well as an examination of the factors impacting the plant community.			
Management of Half Moon Lake, Wisconsin, for Improved Native Submersed Macrophyte Growth	Submersed macrophytes play an important structuring role in biological community dynamics and water quality conditions of aquatic ecosystems (Jeppesen et al. 1998). Submersed macrophyte communities promote increased light penetration and water clarity by dampening wave shear stress and stabilizing flocculent sediment from resuspension (Barko and James 1998). They also provide refugia for young fish and habitat for a diversity of invertebrates. These interactions and feedbacks foster a fishery dominated by piscivores, increased grazing pressure on pelagic phytoplankton, and high transparency; features that are desirable both from an ecosystem perspective and for aesthetic and recreational reasons.	William F. James	05/01/2010	

Budget

Combined Budgets:

Combined SLOH:

Combined Total:

Funding

Organization	Source	Type	Amount	Start Date	End Date