WISCONSIN DEPARTMENT OF NATURAL RESOURCES
AQUATIC INVASIVE SPECIES GRANT PROGRAM

Application Materials

Phillips Chain AIS Early Detection & Response Project - CLP

Prepared for the

Phillips Chain O' Lakes Association, Inc.

February 1, 2014

Onterra LLC
Lake Management Planning

815 Prosper Rd. , De Pere, WI 54115 Voice: 920.338.8860 Fax: 920.338.8865 www.onterra-eco.com

INTRODUCTION AND PROBLEM IDENTIFICATION

The Phillips Chain of Lakes, Price County, comprises four lakes with a surface area of nearly 1,216 acres (Map 1). These lakes are classified as an impoundment, and were formed through the damming of the Elk River. Before the dam was installed, Duroy, Elk, and Long Lakes were natural lakes and Wilson Lake did not exist. Instead, Wilson Creek flowed through the area and met the Elk River as a tributary stream. Although the lakes are connected, they vary greatly in many respects due to their morphology and substrate type.

First officially documented within Duroy Lake in 2000, EWM spread quickly and was documented in all four lakes by 2002. It has become of great concern to the Phillips Chain O' Lakes Association (PCOLA). In 2010 the first draft of the chain's management plan was completed. PCOLA initiated the WDNR grant-funded planning project with the assistance of Onterra, LLC. During the plan's studies, Eurasian water milfoil (EWM) was surveyed and mapped on all four lakes. The most advanced infestation was found on Wilson Lake, where in 2009 it occupied 180 acres (51%) of the lake. In that same year, EWM growth had covered 26 acres (12.4%) of Duroy Lake as well. Substrate and morphology factors likely keep EWM from reaching that level in Elk and Long Lakes, though in Long Lake 4 acres of the exotic plant was mapped in 2009. Looking at the chain as a whole, approximately 18% of the point-intercept locations contained EWM.

During late-summer 2013 surveys on Duroy Lake, Onterra ecologists encountered a number of curly-leaf pondweed (*Potamogeton crispus*; CLP) occurrences near the Squaw Creek and Elk River inlets (Map 2). All of these occurrences were comprised of *single or few plants* or *clumps of plants* (Photo 1). Like EWM, CLP is a non-native, invasive species, and this is the first documentation of this aquatic plant within the Phillips Chain of Lakes. Specimens were collected and sent to the UW-Stevens Point herbarium for verification. Given their location near the mouths of two inlets to Duroy Lake, it is likely these plants came from upstream populations of CLP that are present in Solberg, Big Dardis, and Musser Lakes. Given CLP's life cycle of reaching peak growth and then senescing by early summer, it was surprising, though unfortunate, to find so many apparently healthy plants in mid-August.

Photo 1. One of a number of curly-leaf pondweed clumps located in Duroy Lake during the August 2013 surveys.

The proposed project addresses the pioneer CLP population (as defined by s.198.12 (8)), through monitoring and volunteer-based hand-harvesting activities.

PROJECT GOALS

The chief goal of this management project is to understand the population of CLP within the Phillips Chain of Lakes through chain-wide surveys conducted when this plant is at its peak-growth stage in late-spring/early-summer.

PROJECT TIMELINE

Table 1 provides an approximate timeline for completion of the tasks. The schedule needs to be flexible to accommodate for weather, scheduling conflicts, etc., but it provides a general indication of the dates for completing the proposed components.

Table 1. Approximate Project Schedule

	2014				2015				
Task	**W**	**Sp**	**Su**	**F**	**W**	**Sp**	**Su**	**F**	**W**
Early-Season AIS Survey									
Hand-Removal Coordination & GPS Basemap Creation									
Volunteer-based Surveillance Monitoring & Hand-Removal									
Late-Summer Follow-up AIS Survey									
Annual AIS Monitoring Report									

PROJECT SCOPE

Early-Season AIS Survey (Late-Spring 2014-2015)

This survey would focus upon locating CLP, which has a very unusual life cycle compared to our native plants and is at peak biomass within Wisconsin lakes during late spring/early summer. Therefore, an inventory would be conducted during the early summer to map curly-leaf occurrences within the lake. Other AIS would also be mapped during this survey with specific notes being recorded as to whether finding should be revisited later in the summer. All areas found to contain EWM would be reassessed during the late-summer follow-up survey described below.

During these June surveys, the entire littoral zone of the Phillips Chain of Lakes would be searched for CLP and EWM. All incidences would be mapped with a sub-meter GPS data collector using either points or polygons, depending on the size of the finding. Large colonies over 40 feet in diameter would be mapped using polygons (areas), while small colonies, clumps of plants, and single plants would be mapped using points. Colonies marked with polygons would also be designated using a 5-tiered density scale from *Highly Scattered* to *Surface Matting*.

Late-summer Follow-up survey (Late-Summer 2014 & 2015)

This survey would include a focused meander survey of the littoral zone by professional ecologists, in which all areas of known AIS would be revisited. The life cycle of CLP is known to be variable in flowing water, which may have been why healthy CLP was located during the late-summer 2013 survey. Conducting both an early-season AIS survey and a late-summer follow-up survey would allow lake managers to fully understand the CLP population within the system. This late-summer survey would also allow for the EWM population to be assessed at its peak-growth stage.

All incidences would be mapped with a sub-meter GPS data collector using either points or polygons, depending on the size of the finding. Large colonies over 40 feet in diameter would be mapped using polygons (areas), while small colonies, clumps of plants, and single plants would be mapped using points. Colonies marked with polygons would also be designated using a 5-tiered density scale from *Highly Scattered* to *Surface Matting*.

STAKEHOLDER PARTICIPATION

Volunteer Surveys, Hand-Harvesting, & GPS Unit Purchase (Summer)

To conduct a successful hand-harvesting control program, volunteers must be provided with up-to-date and accurate location data of the target species. For this project, AIS location data would be provided through regular surveys competed by both professionals and volunteers.

Volunteers from the PCOLA have been actively monitoring aquatic invasive species within the Phillips Chain of Lakes for a number of years. The volunteers will continue to complete informal surveys of the lake during the project and their data would supplement professional monitoring as appropriate. These surveys would be completed by meandering the littoral zone and collecting data in areas that are not already marked on the association GPS.

As a part of the proposed project, the PCOLA would purchase a Garmin GPS Map78. This specific unit allows for Onterra staff to create and load alternate background maps (basemaps) for display during volunteer surveys. An example is shown in Photo 2 where EWM colonies of varying densities (colored polygons) along with herbicide treatment areas (black outlined-polygons) can be uploaded onto the lake group's GPS unit. The GPS unit would be updated following the early-season AIS survey each year.

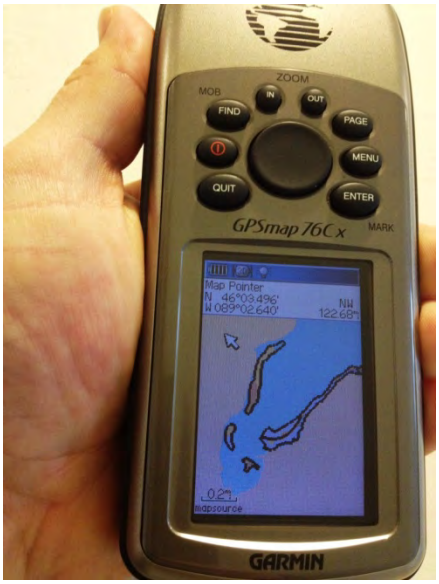


Photo 2. GPS unit with example basemap. Long Lake, Vilas County.

Hand-removal Control Strategy

Further, the PCOLA and Onterra would identify specific areas for CLP hand removal. Small isolated infestations can most appropriately be controlled using manual removal methods, likely through snorkeling efforts (too shallow and stained for scuba methods). In order for this technique to be successful, the entire plant (including the root) needs to be removed from the lake. During manual extraction, careful attention would need to be paid to all plant fragments that may detach during the control effort.

Volunteers conducting AIS surveillance monitoring would input all records into the online SWIMS database in accordance with CLMN protocols. This would include surveys where AIS were not identified. The PCOLA understands that this aspect needs to be completed in order to receive inkind credit for these activities.

If the two-year project determines that the stage of the CLP infestation is to large, or the logistics are too difficult for volunteer-based hand-removal methods to be effective, the PCOLA would investigate the services of professional hand-harvesting companies to target the CLP population within the lake. Funding for these efforts may be sought through an amendment to the proposed project grant, application for a Phase II AIS-EDR grant, or as part of a much larger AIS-Established Population Control Grant.

Clean Boats Clean Waters Program

Members of the PCOLA have been trained on Clean Boats Clean Waters protocols and would use that knowledge to train other volunteers from the lake to complete boat inspections at the main public landings on the Phillips Chain of Lakes. The intent of the boat inspections would not only be to prevent additional invasives from entering the lake through its public access point, but also to prevent the infestation of other waterways with invasives that originated in the chain. The PCOLA anticipates having volunteers covering the boat landings for more than 50 person-hours each year.

PROJECT DELIVERABLES

Annual AIS Monitoring Report

During the winter following implementation of the 2013-2014 monitoring and control plan, a brief report would be provided to the PCOLA and WDNR that would include maps detailing the survey findings and guidance for the following year's control strategy targeting AIS within the Phillips Chain of Lakes. All annual reports would be presented in electronic format only. Adobe's Portable Document Format (PDF) would be utilized as the report format for delivery via email.

Stakeholder Participation

Unless specifically indicated otherwise, the PCOLA would be responsible for providing the necessary deliverables for those components listed within the Stakeholder Participation Section (Volunteer Efforts Subcategory on cost breakdown table). The deliverables for these activities may include entering the appropriate information within the WDNR's Surface Water Integrated Monitoring System (SWIMS) or providing a brief narrative of the activities to the WDNR.

PROJECT COST BREAKDOWN

Phillips Chain AIS-EDR Project - New CLP Occurences	**Cash Costs**	**Donated Value**
Monitoring and Stakeholder Participation		
General Project Correspondence & Administration	$870.00	
2014 AIS Monitoring (Year 1)		
2014 Early-Season AIS Surveys - Late-Spring 2014	$3,745.00	
Hand-removal Coordination & GPS Basemap Creation	$230.00	
2014 Late-Summer Follow-up AIS Survey - Late-Summer 2014	$1,855.00	
2014 AIS Monitoring Report - Winter 2014/2015	$665.00	
2015 AIS Monitoring (Year 2)		
2015 Early-Season AIS Surveys - Late-Spring 2015	$3,745.00	
Hand-removal Coordination & GPS Basemap Creation	$230.00	
2015 Late-Summer Follow-up AIS Survey - Late-Summer 2015	$1,855.00	
2015 AIS Monitoring Report - Winter 2015/2016	$665.00	
Travel - Mileage (0.58/mile) & Incidentals	$1,115.00	
Monitoring and Stakeholder Participation Subtotal	***$14,975.00***	
Volunteer Efforts		
Clean Boats Clean Waters		
Watercraft Inspecitons (50 hours x 2 yrs)		$1,200.00
AIS Survalence Monitoring & Hand Removal		
GPS Unit Purchase	$300.00	
Volunteers (40hrs x 2 yrs)		$960.00
Volunteer Watercraft Use (2 days/yr @ $70/day x 2 yrs)		$280.00
Grant Project Administaration (20 hours x 2 yrs)		$480.00
Volunteer Efforts Subtotal	***$300.00***	***$2,920.00***
Project Subtotals	*$15,275.00*	*$2,920.00*
Total Project	**$18,195.00**	
State Share Requested (75%)	**$13,646.25**	

State of Wisconsin
Department of Natural Resources

Aquatic Invasive Species (AIS) Control Grant Application

Form 8700-307 (12/11)

Notice: Use of this form is required by the DNR for any application filed pursuant to ch. NR 198, Wis. Adm. Code. Personal information collected on this form, including such data as your name, address, phone number, etc., will be used for management and enforcement of DNR programs, and is not intended to be used for any other purpose. Information will be made accessible to requesters under Wisconsin's Open Records laws (s. 19.32-19.39, Wis. Stats.) and requirements.

Section I: Application Type

Check one:

☐ Education, Prevention & Planning ☒ Early Detection & Response ☐ Established Population Control

Legislative District Numbers	
Senate	Assembly
29	87

To determine your legislative district, go to
http://165.189.139.210/WAML//
Type in complete address, next screen shows information

Section II: Applicant Information

Applicant: Phillips Chain O'Lakes Association

Waterbody Name: Phillips Chain - DuRoy, Elk, Long & Wilson Lakes

Project County/Township/Section/Range: Price/T37N/S18, 07, 14, 13/R 01E, 01W

Type of Eligible Lake or River Applicants

☐ County ☐ Tribe ☐ Other Gov't Unit ☐ Federal
☐ City ☐ Sanitary Dist. ☐ Nonprofit Org. ☐ State
☐ Village ☐ Dist. ☐ College, School, etc. ☐ Other _____
☐ Town ☒ Assoc.

Authorized Representative Named by Resolution	Project Contact Name
Blake Pluemer	Eddie Heath
Authorized Representative Title	**Project Contact Title**
President	Aquatic Ecologist; Onterra, LLC
Address	**Address**
885 Elk Lake Drive	815 Prosper Road
City / State / ZIP Code	**City / State / ZIP Code**
Phillips / WI / 54555	De Pere / WI / 54115
Daytime Phone (area code)	**Evening Phone (area code)**
715.339.2188	715.339.2445
E-Mail Address	**E-Mail Address**
pluemercrew@pctcnet.net	eheath@onterra-eco.com

Mail Check to: (if different from applicant)

Name and Title	Address
Organization	**City / State / ZIP Code**

For DNR Use Only

Application Type	Date Received	Date Reviewed (AIS/LC/RC)	AIS/Lake/River Coordinator Approval/Date

Waterbody ID #	Adequate Public Access ☐ Yes ☐ No	Environmental Grants Specialist Approval / Date	
Eligible Project ☐ Yes ☐ No	**Eligible Applicant** ☐ Yes ☐ No	**Project Priority Rank**	**Research / Demo Project** ☐ Yes ☐ No
Prior Grant Award(s) ☐ Yes ☐ No	**Fiscal Year(s)**	**Amount Received to Date** $	**Project Awarded** ☐ Yes ☐ No

Aquatic Invasive Species (AIS) Control Grant Application

Section III: Project Information

Project Title	Proposed Ending Date
Phillips Chain of Lakes AIS Early Detection & Response Project - CLP	June 30, 2016

Other Management Units	Letter of Support	Other Management Units	Letter of Support
1. Price County Land Conservation	☐	4.	☐
2.	☐	5.	☐
3.	☐	6.	☐

Section IV: Public Access

Number of Public Vehicle Trailer Parking Spaces Available at Public Access Sites: 50+

Number of Public Access Sites Including Boat Launches and Walk-ins: 5 landings, 1 handicap pier, 1 adjacent public park, 1 beach

Section V: Cost Estimate and Grant Request

Section V must be completed or application will be returned. Details in support of Section V are welcome.	**Project Costs** Column 1 Cash Costs	Column 2 Donated Value	*DNR Use Only*
1. Salaries, wages and employee benefits			
2. Consulting services	$14,975.00		
3. Purchased services: Herbicide Applications			
4. Other purchased services (specify) : WDNR Permit Fees			
5. Plant material			
6. Supplies (specify):			
7. Depreciation on equipment			
8. Hourly equipment use charges			
9. State Lab of Hygiene (SLOH) Costs			
10. Non-SLOH Lab Costs			
11. Other (specify): GPS Unit/Volunteer In-kind Labor	$300.00	$2,920.00	
12. **Subtotals** (Sum each column)	*$15,275.00*	*$2,920.00*	
13. **Total Project Cost Estimate** (sum of **column 1** plus sum of **column 2)**	**$18,195.00**		
14. **State Share Requested (up to 75% of total costs may be requested)**	**$13,646.25**		

Subject to the following maximum grant amounts:

- Education, Prevention and Planning Projects—up to $150,000
- Early Detection and Response Projects—up to $20,000
- Established Infestation Control Projects—up to $200,000

Use of Federal funding as match: (check box below if applicable)

☐ We are using or planning to apply for Federal funds to be used as match.
If known, indicate source of funding:

Aquatic Invasive Species (AIS) Control Grant Application

Section VI: Attachments (check all that are included)

A. For all applicants: *(Refer to instructions for applicability.)*

- ☒ 1. Authorizing resolution
- ☒ 2. Letters of support
- ☒ 3. Map of project location and boundaries
- ☒ 4. Lake map with public access sites identified (per Section VI of this application and page 20 of the guidelines)
- ☒ 5. Itemized breakdown of expenses
- ☐ 6. For projects that entail sending samples to the State Laboratory of Hygiene (SLOH) only: a completed SLOH Projected Cost Form
- ☒ 7. Project scope/description:
  - ☒ a. Description of project area
  - ☒ b. Description of problem to be addressed by project
  - ☒ c. Discussion of project goal and objectives
  - ☒ d. Description of methods and activities
  - ☒ e. Description of project products or deliverables
  - ☒ f. Description of data to be collected, if applicable
  - ☒ g. Description of existing and proposed partnerships
  - ☒ h. Discussion of role of project in planning and/or management of lake
  - ☒ i. Timetable for implementation of key activities
  - ☒ j. Plan for sharing project results
  - ☒ k. Other information in support of project no described above

B. For applicants that are Lake Management Organizations (LMOs), River Management Organizations (RMOs) or Qualified Non-profit Organizations:

- ☐ 1. For first time applicant LMOs/RMOs only: A completed Form 8700-226 (Lake Association Organizational Application) or 8700-287 (River Management Organization Application)
- ☐ 2. For first time applicant Qualified Nonprofit Organizations only: Copy of IRS 501(c)(3) determination letter and copies of your Articles of Incorporation and Bylaws
- ☐ 3. List of national and/or statewide organizations with which you are affiliated
- ☐ 4. List of board members' names, including municipality and county of residence. Designate officers
- ☐ 5. Documentation of current financial status
- ☐ 6. Brochures, newsletters, annual reports or other information about your organization

C. Education, Prevention and Planning Projects: *(No additional attachments required.)*

D. Early Detection and Response Projects:

- ☐ 1. APM Permit

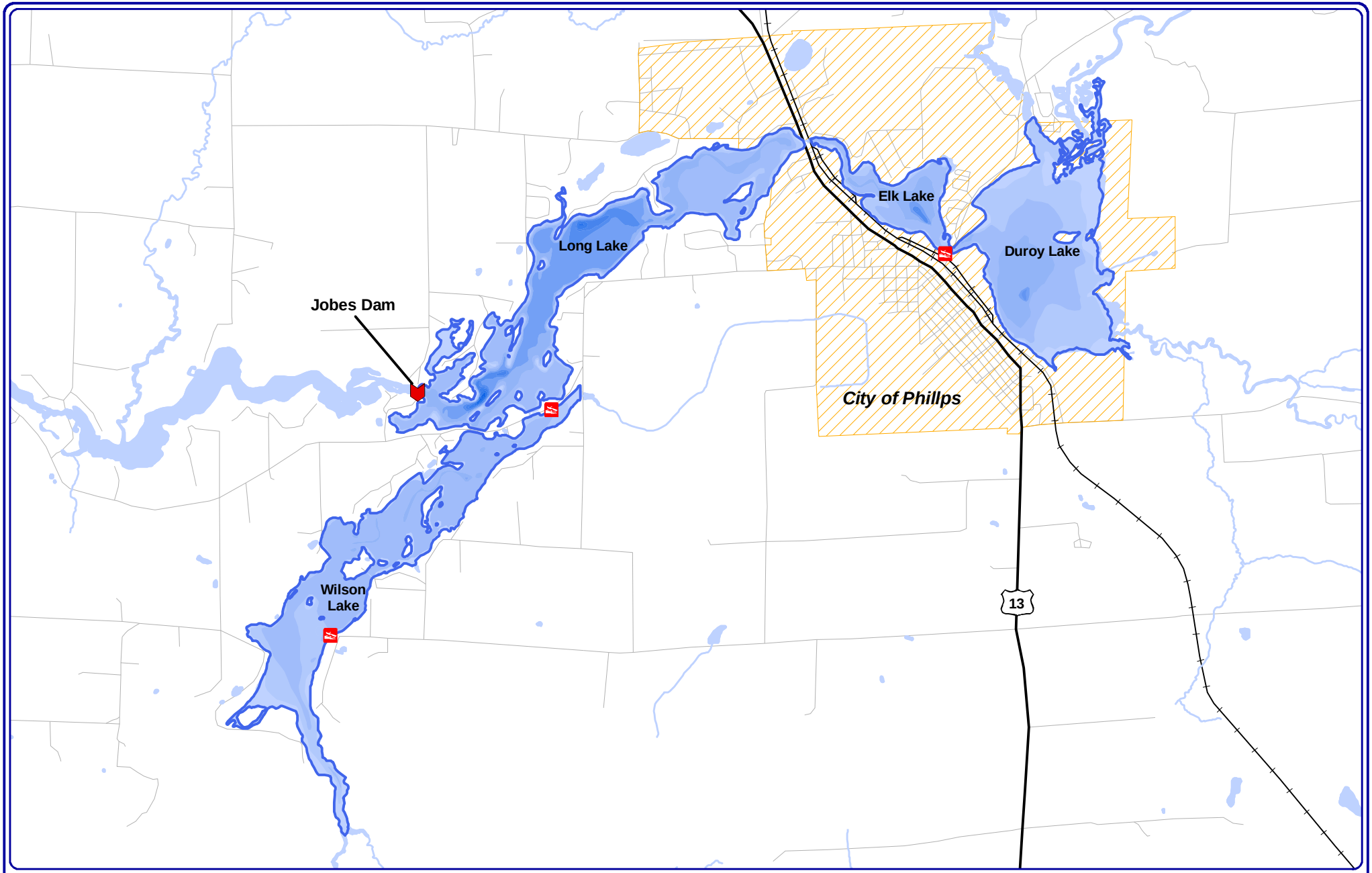
E. Established Infestation Control Projects:

- ☒ 1. Management Plan
- ☐ 2. APM Permit

Section VII: Certification

I certify that information on this application and all its attachments are true and correct and in conformity with applicable Wis. Statutes

Print/Type Name of Authorized Representative	Title of Authorized Representative
Blake J. Pluemer	President
Signature of Authorized Representative	Date Signed



3,000
Feet

Onterra LLC
Lake Management Planning
815 Prosper Road
De Pere, WI 54115
920.338.8860
www.onterra-eco.com

Sources:
Roads and Hydro: WDNR
Bathymetry: WDNR, digitized by Onterra
Map Date: January 30, 2013
Filename: Map1_PhillipsChain_Location.mxd

Project Location in Wisconsin

Legend

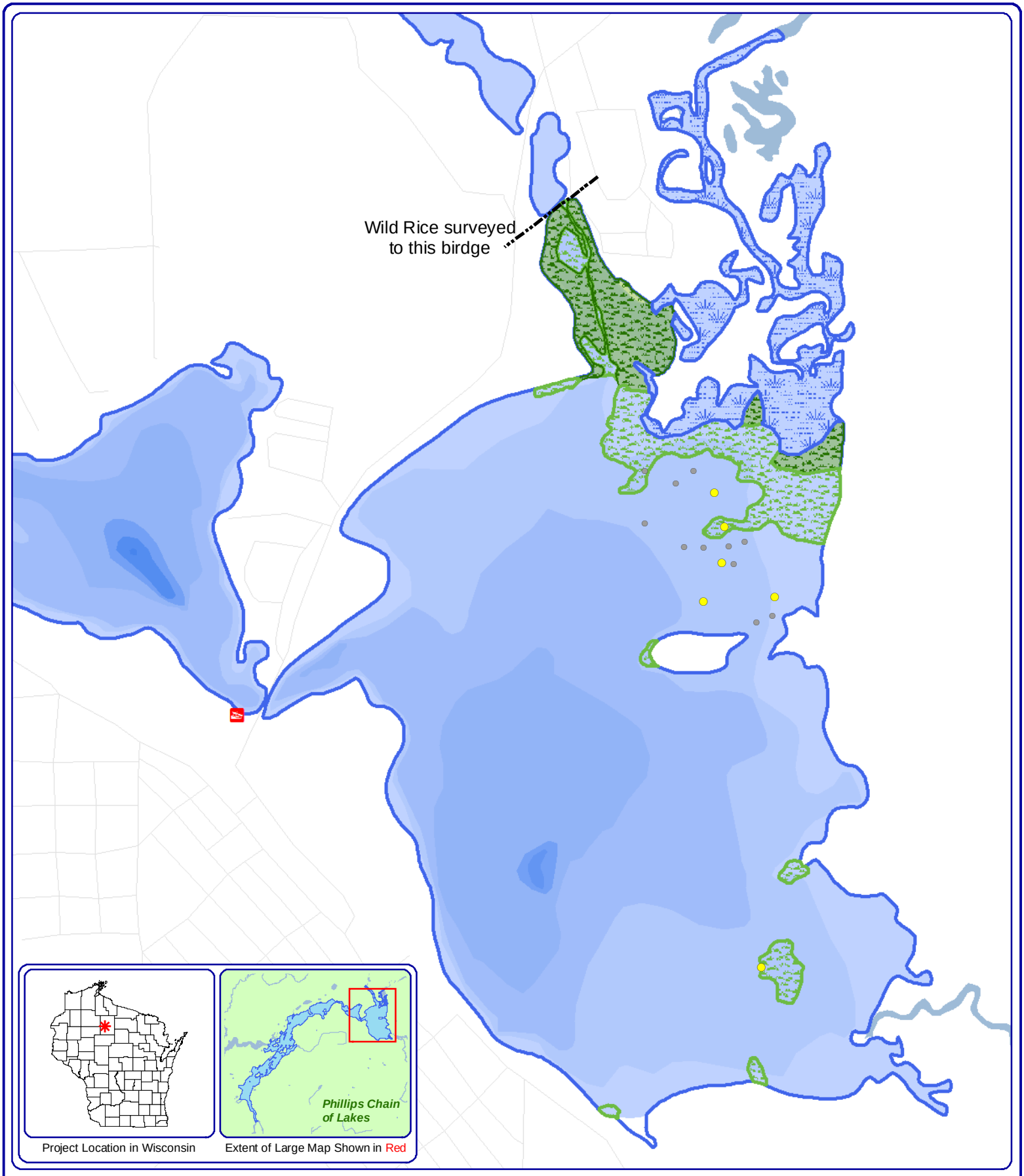
Project Boundaries

Map 1

Phillips Chain of Lakes

Price County, Wisconsin

Project Location and Boundaries



Project Location in Wisconsin

Extent of Large Map Shown in Red

N
W E
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1,000

Feet

Onterra LLC
Lake Management Planning
815 Prosper Road
De Pere, WI 54115
920.338.8860
www.onterra-eco.com

Sources:
Roads and Hydro: WDNR
Bathymetry: WDNR, digitized by Onterra
Aquatic Plants: Onterra, 2013
Map Date: January 10, 2014
Filename: Map5_Duroy_CLP_Aug13.mxd

Legend

2013 CLP (August 2013)

- Highly Scattered
- Scattered
- Dominant
- Highly Dominant
- Surface Matting
- Single or Few Plants
- Clumps of Plants
- Small Plant Colony
- Sparse Wild Rice
- Dense Wild Rice
- Adjacent Wetland

Map 2

Duroy Lake

Price County, Wisocnsin

2013 CLP Locations

Wisconsin Department of Natural Resources
Grant Project
Resolution

RESOLUTION OF Phillips Chain of Lakes Association, Inc.
Price County, Wisconsin

WHEREAS The Phillips Chain of Lakes, Price County, is an important resource used by the public for recreation and enjoyment of natural beauty; and

WHEREAS we recognize that a well-planned and holistic lake *and* aquatic invasive species management project will better the lake now and for future users, and

WHEREAS the control and prevention of aquatic invasive species are important to the health and well-being of the lake; and

WHEREAS we are qualified to carry out the responsibilities of the planning project

IT IS, THEREFORE, RESOLVED THAT:

The **Phillips Chain of Lakes Association, Inc. (PCOLA)** requests the funds and assistance available from the Wisconsin Department of Natural Resources under and

HEREBY AUTHORIZES **Blake Pluemer** to act on behalf of the **PCOLA** to: submit an application to the State of Wisconsin for financial aid for monitoring, planning and education purposes; sign documents; and take necessary action to undertake, direct, and complete an approved grant.

BE IT FURTHER RESOLVED THAT the **PCOLA** will meet the obligations of the planning project including timely publication of the results and meet the financial obligations under this grant including the prompt payment of our 75% commitment to project costs.

We understand the importance of a continuing management program for **The Phillips Chain of Lakes** and intend to proceed on that course.

Adopted this _____ day of _____, 20_____

By a vote of: _____ in favor _____ against _____ abstain

BY: _____
Blake Pluemer, President
Phillips Chain of Lakes Association, Inc.