

## INTRODUCTION

Onterra, LLC (Onterra) is pleased to provide this proposal for studies and reports related to *Aquatic Plant Management Planning* for Lake Puckaway, Marquette-Green Lake Counties. Specifically, the proposed project design is tailored to meet the goals and the needs of the Lake Puckaway Protection & Rehabilitation District (LPPRD) in creating a realistic and implementable aquatic plant management plan.

**Please note:** This project would not officially begin until the spring of 2025. The Surface Water Planning Grant application would be due on the next available cycle of November 15, 2024.

Overall, the scope of work detailed in this proposal would provide the LPPRD with the information bulleted below. Information contained in earlier reports for Lake Puckaway would be used for comparisons where applicable.

- A determination of plant community diversity for the lake and how the lake's diversity compares with other lakes in the region and state.
- An identification and location of important plant communities (emergent, submergent, floating-leaf) within the lake and an indication of the dominant species within those communities.
- The identification and location of any rare or threatened plant species within the lake.
- Analysis of aquatic plant management and protection alternatives.
- Specific strategies aimed at managing nuisance aquatic plants.
- The funding sources available to assist in the implementation of the pertinent management and protection options that are outlined in the aquatic plant management plan.
- An outline of how Onterra would assist the LPPRD in implementing and funding the management plan.

## PROJECT SCOPE

### Stakeholder Participation

Stakeholder participation is a very important element in any environmental planning exercise. It is important not only from the perspective of informing participants and stakeholders about the project, but also from the standpoint of enhancing their understanding of natural ecosystems and their value to a healthy environment. If participants do not understand the value of the natural ecosystem, they will not strive to protect or enhance it.

This component of the planning effort is intended to create an exchange of information between Onterra and the lake stakeholders. The exchange of information would flow bidirectionally between the lake stakeholders and Onterra staff. Onterra would provide information and guidance to help stakeholders understand the ecosystem more fully and to prepare them for the development of realistic goals and objectives concerning the aquatic plant management of their lake. The stakeholders would provide information pertaining to their use of the lake and their management

expectations. In the end, this information would be combined to create an implementable aquatic plant management plan.

### **Planning Committee**

Communication between Onterra staff and lake group is essential to creating an effective and realistic management plan. To facilitate this interaction, Onterra asks that the district create a “Planning Committee” to act as the primary conduit of interaction between the lake group and Onterra.

The Planning Committee fills several roles within the planning process, including:

- Review of riparian stakeholder survey
- Meeting with Onterra staff to learn about the study results and assist in creating the framework of the implementation plan.
- Reviewing and providing comments on the draft of the aquatic plant management plan.

The lake district is responsible for recruiting the committee members. Typically, the committee should include roughly 8-10 members. Having a diverse group of people as the Planning Committee membership is important to transparency in the process and the development of a realistic and representative management plan; therefore, the committee should be made up of a cross-section of people from the lake. Limiting the recruitment of couples, proportion of board members, and people of similar ages and area of the lake will assure the diverse group of people that would fulfill the committee. More information regarding the Planning Meetings can be found below.

### **Planning Meetings**

Following the completion of data analysis, two planning meetings (face-to-face) between Onterra and the Planning Committee would be conducted to facilitate the following:

- An in-depth knowledge of the aquatic plant community of Lake Puckaway among the Planning Committee members.
- An understanding of suitable management alternatives for exotic and native plant control and their possible outcomes.
- The development of realistic goals for the management of aquatic plants within the lake.
- The creation of an *Implementation Plan* containing specific management actions that would guide the LPPRD in meeting their aquatic plant management goals.

The first planning committee meeting would include a detailed presentation of the study results and conclusions. During the second meeting, a discussion would be facilitated by the Onterra ecologist to generate a draft set of realistic aquatic plant management goals for the lake. The discussion would continue to develop specific actions the LPPRD would take to meet those goals. The end-product of these discussions would be the Implementation Plan which would be included in the aquatic plant management plan for the lake. The final task of the Planning Committee would be to review the draft aquatic plant management plan/report and provide comments before it is finalized and presented to the district board of directors, general membership, and WDNR.

## **Wrap-up Meeting**

At the conclusion of the project, Onterra would facilitate a *Wrap-up Meeting* to present the findings and recommendations of the study and corresponding management plan to the district. The presentation would be in an easy-to-follow format that would explain the study results and the reasons as to why certain alternatives were selected for inclusion within the plan. It would also allow stakeholders to express concerns and ask specific questions about the Lake Puckaway ecosystem that could not be answered by Onterra ecologists before they were refamiliarized with the system.

## **Special Note on Meeting Schedule**

As described above, stakeholder participation is an important aspect of a management planning project. Two types of meetings are outlined in the paragraphs above: those involving the general public (Wrap-up Meeting) and those involving a subcommittee of the district (planning meetings). In an effort to maximize attendance at the meetings involving the general public, Onterra suggests that those meetings be held on a Saturday. Onterra staff members enjoy spending their holiday weekends with their families just as our clients enjoy spending those same weekends with their families at the lake; therefore, **Onterra cannot schedule meetings for holiday weekends.**

Because the planning meetings involve a smaller group of people, we plan that these **meetings be held during a weekday afternoon or evening**, preferably Monday – Thursday. Often, these meetings are held on a Thursday afternoon at a residence or other location on or near the lake.

## **Aquatic Plant Surveys**

Aquatic plants are very important because they are the foundation of the lake ecosystem; therefore, a complete and accurate assessment of the full aquatic plant community is vital in every aquatic plant management project. Three aquatic plant surveys would be completed as a part of this project, a pre-implementation survey, completed prior to any 2025 aquatic plant management activities, a point-intercept survey, like those completed by Onterra in 2015, 2020, and 2022, and a post implementation survey completed after the 2025 aquatic plant management activities.

### ***Pre-Implementation Survey***

Onterra staff would visit Lake Puckaway 1-2 weeks prior to the start of the 2025 management activities. All areas targeted for herbicide treatment and mechanical harvesting would be surveyed for plant abundance and composition. Notes, pictures, and spatial data would be used to document the conditions.

### ***Point-intercept Survey***

A comprehensive survey of aquatic macrophytes is used to characterize the existing communities within the lake and includes inventories of emergent, submergent, and floating-leaved aquatic plants within the lake. The point-intercept method as described in Recommended Baseline Monitoring of Aquatic Plants in Wisconsin: Sampling Design, Field and Laboratory Procedures, Data Entry, and Analysis, and Applications (WDNR PUB-SS-1068 2010) would be used to complete this study. The survey would be completed with a point spacing of 155 meters, resulting in approximately 872 sample locations.

The data would be analyzed by Onterra and used in the management plan along with past surveys conducted during earlier projects. To characterize spatial distribution, *relative frequency of occurrence* would be calculated for each species found within the lake. In addition, the plant communities of the lake would be compared to those of other lakes in the ecoregion and the state using the Floristic Quality Assessment (FQA) procedures described in Nichols (1998). In general, the FQA evaluates the species found in a lake with those found in a natural, undisturbed system; indicating the health of the current plant community in the lake.

### ***Eurasian Watermilfoil Mapping Survey***

Onterra crews would map canopied (matted) Eurasian watermilfoil beds late in the growing season of 2025. Only colonies over 100 feet in diameter would be included in the survey. The purpose of this survey would be to produce a baseline map indicating the most dominant areas of Eurasian water milfoil in Puckaway Lake during 2025.

### ***Post Implementation Survey***

Following the completion of the 2025 management activities, Onterra staff would again visit the lake to survey all areas that were targeted for herbicide treatment and mechanical harvesting. As completed during the pre-implementation survey, plant abundance and composition would be documented with notes, pictures, and spatial data. The completion of this survey would shed light the usefulness and longevity of the management actions.

## **PROJECT DELIVERABLES**

The final product for this project would be a single report that would include the methodologies and results of the tasks described above; a discussion concerning those results as they apply to the management of aquatic plants in Lake Puckaway; and the full-color maps described in the Project Scope. The implementation plan would detail the goals developed by the LPPRD and the actions it would take to meet those goals. The completion of this plan would qualify the lake for potential funding through WDNR grant programs.

**Please note:** This project's timeline would not allow for the LPPRD to seek WDNR grant funds for an herbicide treatment in 2026. The earliest an herbicide treatment utilizing state grants could be implemented would be 2027 following the submittal of a grant application in November 2026.

Upon finalization of the report and acceptance by the WDNR, the LPPRD and department would receive the management plan and supporting documents in Adobe's Portable Document Format (PDF). No hardcopies would be provided.

Please note that Onterra does not supply reports, plans, or presentations in an editable format. The point-intercept survey results would be provided to the WDNR in their standard format. Further, after the finalization of the plan, Onterra would supply the figures, tables, and maps in jpeg or PDF format for the lake group and department to use with proper citation.

## TENTATIVE PROJECT SCHEDULE

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. The meeting times would be very flexible.

**Table 1. Approximate Project Schedule for 2025 – 2026.**

Task	2025												2026											
	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S				
Pre-Implementation Survey																								
Point-Intercept Plant Survey																								
Post Implementation Survey																								
Eurasian Watermilfoil Mapping																								
Data Analysis																								
Planning Comm. Meeting																								
Plan – First Draft																								
Plan – Final Draft																								
Wrap-up Meeting																								

## VOLUNTEER AND IN-KIND OPPORTUNITIES

The use of volunteers within a lake management project is important for two reasons; first and foremost, it gives stakeholders the opportunity to be involved with the project and as a result increases their understanding of the lake while providing ownership in the project. Second, if the management project is being partially funded through a WDNR grant, the volunteer involvement stands as in-kind labor and offsets the local share of the project.

In order for volunteer efforts to be considered as an in-kind match, those efforts must be clearly outlined within the grant application and play an integral role within the project. Applicable volunteer efforts would include participation at project meetings, planning committee work, etc. Within the project described here, we believe the following opportunities exist as detailed in Table 2.

Table 2. Possible in-kind match opportunities for project.

Task/Item	Quantity	Cost/ Unit	In-kind Match
Planning Comm. – Plan Development	8 peop. x 8 hours = 64 hrs	\$15.00	\$960.00
Wrap-up Mtg Attendance	60 peop. x 2 hours = 120 hrs	\$15.00	\$1,800.00
LPPRD Grant Project Administration	2 peop. x 25 hours = 50 hrs	\$15.00	\$750.00
<b>Total Estimated In-kind Match</b>			<b>\$3,510.00</b>

## PROJECT COST ESTIMATE

The cost for completing the study and management plan is outlined in Table 3, including, travel time billed at ½ normal rates and mileage at \$0.72/mi.

<b>Table 3. Project Cost Estimate</b>		
<b>Surface Water Planning Grant</b>		
	<b>Cash Cost</b>	<b>Donated Value</b>
<b>Onterra Fees</b>		
General Project Communications	\$930.00	
Planning & Wrap-up Meetings	\$3,590.00	
2025 Pre-Implementation Survey	\$1,705.00	
Point-Intercept Survey	\$9,495.00	
2025 Post Implementation Survey	\$1,825.00	
Canopied Eurasian Watermilfoil Mapping Survey	\$3,155.00	
Data Analysis & Report/Plan Creation	\$5,120.00	
Onterra Printing, Shipping & Voucher Materials	\$75.00	
Travel (Lodging, Incidentals, & Mileage @ 0.72/mi)	\$2,440.00	
<i>Subtotal</i>	<i>\$28,335.00</i>	<i>\$0.00</i>
<b>Other Fees</b>		
LPPRD Project-Related Printing Costs	\$200.00	
<i>Subtotal</i>	<i>\$200.00</i>	
<b>Volunteer &amp; In-kind Match Opportunities</b>		
Planning Comm. – Plan Development		\$960.00
Wrap-up Mtg Attendance		\$1,800.00
LPPRD Grant Project Administration		\$750.00
<i>Subtotal</i>	<i>\$28,535.00</i>	<i>\$3,510.00</i>
<b>Project Total</b>	<b>\$32,045.00</b>	
<b>Surface Water Planning Grant Specifics (2 Grants)</b>		
WDNR Portion (67%)		\$20,000.00
Local Match (33%)		\$12,045.00
<b>Actual Cash Cost to LPPRD</b>		<b>\$8,535.00</b>
WDNR Planning Grant Prepayment to LPPRD		\$15,000.00
Total Cash Outlay by LPPRD During Project		\$13,535.00
Final Reimbursement to LPPRD Following Project Completion		\$6,470.15

As related in the Table 3 above, the total project cash cost before the grant is applied, would be \$32,045 if all components were included within the project. Further, after the grant is applied, there would be approximately \$8,535 in net cash costs to the LPPRD.

**Please note the following:**

- Onterra’s contracts are completed on a lump-sum basis billed periodically as work is completed.
- Payment is due within 15 days of the invoice date.
- Travel wages are proposed based on ½ billable rates and are included within the respective component requiring travel.

- Travel mileage is based on \$0.72 per mile.
- To receive \$20,000 in state funding, two grants would be applied for with the WDNR. This is acceptable because of the size of the lake's littoral area.
- This is a reimbursement grant program, so the sponsor would have some cash outlay before receiving reimbursement. See below for more information.

## GRANT WRITING ASSISTANCE

The project outlined above would qualify for partial funding through the Surface Water Planning Grant Category, which has a maximum award of \$10,000 for each grant. Specifically, the WDNR would cover 20,000 of the total costs involved with the project spread over two grants.

In Table 3 above, project costs, as they relate to a grant-funded project are listed:

**WDNR Portion** accounts for \$20,000 of the project total which includes all cash costs and in-kind contributions (donated value).

**Local Match** is the amount of the project total that is responsibility of the project sponsor (LPPRD) and includes both in-kind and cash costs.

**Actual Cash Cost to LPPRD** is the net amount of cash costs the LPPRD would incur if the project was completed according to budget and all in-kind volunteer labor was completed as outlined.

**WDNR Prepayment to LPPRD** is the amount of money the WDNR would provide to the LPPRD before the project begins. This amount equates to 75% of the WDNR Portion.

### Important Grant-Related Information:

Please note that the grant is truly a reimbursement program, meaning that after the prepayment is spent, the LPPRD would need to incur costs and then file for reimbursements upon project completion and acceptance of the report by the WDNR. See "Total Cash Outlay by LPPRD Before Reimbursement" in Table 3 for an estimate of this amount.

Onterra would write the grant applications, at no charge if the LPPRD agrees to use Onterra as their consultant to complete the studies and management plan if the project is funded. Please note that the LPPRD would not be obligated to complete the project with Onterra if the grant is not approved.

**Please Note:** No part of these proposal materials may be used for the creation of a Request for Proposal, Grant Application, or any other purpose, without the permission of Onterra, LLC.