

WISCONSIN DEPARTMENT OF NATURAL RESOURCES
LAKE MANAGEMENT PLANNING GRANT PROGRAM

Application Materials

*Manitowish Chain of Lakes
Management Planning Project
Phase IIIb*

Prepared for the

**North Lakeland
Discovery Center**

February 1, 2014

Onterra, LLC
Lake Management Planning

INTRODUCTION

The Manitowish Chain of Lakes consists of 10 lakes located in and just east of the Town of Manitowish Waters in Vilas County, and three additional lakes located below the Rest Lake Dam (Map 1). While many of the lakes have been untouched by invasive plant species, curly-leaf pondweed (*Potamogeton crispus*) was identified in Island Lake and Rice Creek in 2010; the channel between Island Lake and Spider Lake in 2011, and Spider Lake proper and Stone Lake during the spring of 2012. In spring of 2013, volunteers located curly-leaf pondweed in Manitowish Lake, as well as the Manitowish River between Rest Lake and Stone Lake. These sightings were confirmed by Onterra ecologists in June of 2013, with further occurrences being mapped within the Manitowish River. Though no rooted curly-leaf pondweed has been found in Rest Lake, volunteers have discovered floating fragments in this waterbody.

Curly-leaf pondweed is also present in Harris Lake and Wilson Lake, which are in close proximity to proposed project lakes. Additionally, the exotic Eurasian water milfoil (*Myriophyllum spicatum*) exists in Upper Gresham Lake, approximately 7 miles southeast of the chain. Herbicide treatments have occurred on the Manitowish Chain of Lakes which have aimed to control curly-leaf pondweed in several areas. Specifics on these treatment may be found in a 2012 and 2013 Manitowish Chain CLP Treatment Report.

The North Lakeland Discovery Center (NLDC – <http://www.discoverycenter.net>) is a non-profit environmental education center founded in 1996 that connects people with nature in Wisconsin's Northwoods. Their mission is to promote stewardship of the region's natural and cultural resources. The NLDC and North Lakeland School District co-lease the expansive property from the WDNR within the Northern Highland American Legion State Forest. The grounds and facilities are a former Youth Conservation Corps (YCC) camp, originally opened in 1962, and are located on the shores of the 25-acre Statehouse Lake and offers 20 km of trails transversing 66 acres for recreationalists to enjoy year-round. Among their many year-round educational offerings, they conduct citizen-based monitoring programs and on-going life-long learning opportunities. Citizen-based monitoring programs have historically included AIS educational outreach and monitoring in collaboration with the Manitowish Waters Lakes Association and the Town of Manitowish Waters.

In 2010, solidifying past partnerships, the Manitowish Waters Lakes Association (MWLA), NLDC, and the Town of Manitowish Waters formed the Town Aquatic Invasive Species Partnership (TAISP) consisting of the three entities in order to effectively address AIS in area waters and wetlands through education, prevention and control. In addition, the Town of Boulder Junction has committed as a partner for this project, as a portion of the Manitowish Chain of Lakes is within the town's borders. Historically, these established partnerships are extremely effective; with each partner meeting or exceeding roles and agreement objectives yearly.

The towns commit funds every year for AIS education, prevention, and control efforts. The towns also provide other support such as facility use, annual feedback to partners, volunteer recruitment aid, and dissemination of AIS information at town-owned facilities, boat landings, and appropriate venues. The NLDC serves as the primary contact for AIS collaboration in the Manitowish Waters area and serves as technical advisor to the towns and MWLA through the

hiring of an invasive species coordinator, a water education intern, and Clean Boats Clean Waters inspector. The NLDC provides services including administration, education, monitoring, control, volunteer training, and coordination. The MWLA aids in recruiting volunteers and integrates AIS information into public education materials, meetings, and other venues.

The TAISP wishes to create individualized management plans for each chain lake including three lakes below the Rest Lake Dam (Benson, Sturgeon, and Vance Lakes) and all associated river sections, as well as a chain-wide management plan. The creation of individualized management plans fits into both the TAISP's mission which is "...to prevent the spread of AIS into the Town's waters and to monitor and control or eliminate the AIS present in the Town's waters" and the association's purpose, which is "...to maintain, protect and enhance the quality of the Manitowish Waters Chain of Lakes and other waters in Manitowish Waters township for the benefit of the members and the general public." This would be a multi-phased project as depicted in Map 1 and outlined in Tables 1 and 2.

The following project aims to conduct the management planning activities and studies on the Phase III lakes (Wild Rice Lake, Alder Lake, and two sections of the Trout River). Wild Rice Lake is partially located within Lac du Flambeau Reservation boundaries. In addition to the comprehensive studies completed on the aforementioned lakes, early-season AIS surveys would be conducted on the waterbodies adjacent to those containing CLP; including Island Lake, Rice Creek, Spider Lake, Manitowish Lake, Stone Lake and the Manitowish River. An additional early-season AIS survey will take place on Rest Lake due to concerns over the presence of floating curly-leaf pondweed fragments that were found there in 2013. The TAISP wishes to complete these management plans for several reasons. First, a significant amount of CLP has been discovered within Island Lake and Rice Creek and to a lesser extent in other lakes, making it appropriate to develop a long-term control plan for these waters. Second, many of the other project lakes are believed to be free of submergent aquatic invasive plant species and the TAISP would like to develop a plan to keep this the case. Also, the TAISP understands that the Wisconsin Department of Natural Resources (WDNR) can respond more quickly and accurately to address an invasive species establishment if a lake has management plan in place. Lastly, the TAISP understands the value in gaining a better understanding of the overall condition of the lakes.

All but two of the lakes within the Manitowish Chain of Lakes are designated as Areas of Special Natural Resource Interest (ASNRI). These lakes are known to include occurrences of rare species that are threatened or of special concern within the National Heritage Inventory, including sparse flowered sedge (*Carex tenuiflora*), Robbins' Spike-rush (*Eleocharis robbinsii*) and Northeastern Bladderwort (*Utricularia resupinata*). Parts of the lakes are bordered by the Northern Highland State Forest, an area established in 1925 to protect the headwaters of the Wisconsin, Flambeau, and Manitowish Rivers. Several stretches of water within this system are of special concern/interest also; Papoose Creek is a Class 2 trout stream, Vance Lake/Manitowish River as it leaves Rest Lake is classified as an Exceptional Resource Water (ERW) by the WDNR as per NR 102, and the Manitowish River upstream of Island Lake is categorized as an Outstanding Resource Water (ORW) per NR 102.

Many visitors gather at Rest Lake Park during the summer to watch the Skiing Skeeters water ski shows or at the Frank B. Koller Memorial Park to either fish off of the public fishing pier or view

live music as part of the “Music in the Park Sunday Concert Series” that runs throughout the summer. An ice fishing contest is held as a part of the Winterfest Rendezvous activities. Numerous other fishing tournaments are held on the chain of lakes including the World Championship Musky Classic, the Bob McClellan Memorial Fishing Tournament, and the Pro-MAC™ (Professional Muskie Angler Circuit™) Qualifier Tournament. Visitors and locals also gather at Little Star Beach, a public beach and park facility on Little Star Lake, during the summer months. Others will come from miles away and stay at one of the 20+ resorts that can be found on the chain of lakes. According to MWLA members there are 6 paved launch points on the chain as well as a carry-in point that provide at least 55 parking spots as well as road space for parking. As defined by NR 1.91, the Chain lakes meet **minimum** public boating access by having one or more access sites with 1 car-trailer unit per 35 open water acres. Between the launch and carry-in access points, public educational opportunities at the NLDC, and numerous public beach and park access areas, there are more than ample opportunities for recreationalists to enjoy the Manitowish Chain of Lakes.

The proposed project sponsor, the NLDC, is highly engaged in many actions leading to the protection of the Manitowish Chain of Lakes. These efforts include:

- Generously providing its expertise in AIS monitoring training, as well as vessels and monitoring equipment (rakes, aquatic plant identification books, snorkels, crayfish traps, Secchi disks, etc.) to be used by these trained volunteers.
- Engaging and training volunteers for each lake (designated as a “lake captain” and “deckhands”) to conduct AIS monitoring. The lake captain oversees volunteer monitoring efforts for their specific lake, and supplies summary reports of work conducted as needed to the NLDC. The NLDC compiles and tracks all volunteer hours.
- Identifying, mapping, and monitoring suspected AIS in the area.
- Growing beetles in a 12’ by 12’ tent and 60+ pots to use as a bio-control tool for combating purple loosestrife
- Combating purple loosestrife in the initial year of finding or in smaller areas by clipping flower heads.
- Participating in Clean Boats, Clean Waters Program, recruiting and training volunteers.
- Partnering with local schools to provide an educational hands-on AIS experience for school children.
- Conducting AIS public education outreach and publicity campaign including presence at community events in the surrounding area and speaking engagements at chamber, town boards, and lakes association meetings. Maintain a press, radio, website, and social media presence regarding AIS information and efforts in the area.
- Offering other AIS related programs, including a northern regional Project RED (Riverine Early Detectors) Workshop, Wisconsin Headwaters Invasive Species Partnership Workshop, Lake Stewards Program, Lake Invaders Program, Purple Loosestrife Workshop, Regional Aquatic Vegetation Workshop, Youth Alien Invaders program, and a rusty crayfish boil.
- Sponsoring a rain garden project on Statehouse Lake, with the intention of reducing runoff and erosion into the lake.

- Partnering with the Vilas County Land and Conservation District to implement demonstration shoreline restoration projects on Statehouse Lake, with the intention of demonstrating techniques for reducing upland runoff into lakes and for minimizing erosion of shorelines through the installation of littoral buffers that mitigate the effects of wind and wave action.
- Coordinating a citizen science lake level monitoring program during the ice-off season for 40+ lakes in Vilas County in partnership with the UW- Trout Lake Research Station. NLDC is responsible for volunteer coordination and communication; training volunteers; and installation, removal and calibration of lake level gauges.

The NLDC continuously partners with the MWLA on educational projects that serve to enhance the Manitowish Chain of Lakes ecosystem as well. Since incorporation in 1992, the MWLA has also been actively involved in preserving and improving this ecosystem with involvement in numerous activities:

- A walleye stocking program in conjunction with the WDNR.
- Participation in the Wisconsin Association of Lakes.
- Assisting in a UW-Stevens Point study of fish spawning and migration in the chain.
- An active CBCW campaign.
- CLMN water quality monitoring for four lakes on the chain.
- A grant-supported project to restore the Rest Lake Park Shoreline.
- Funding, constructing, and placing fish cribs and spawning structures in chain waters.
- Sponsoring a Boater's Safety Course held at the NLDC or Manitowish Waters Community Center with curriculum including AIS education provided by the NLDC.
- Sponsoring AIS and Boater Safety announcements at the Skiing Skeeter twice weekly ski shows.
- Assist with a purple loosestrife beetle rearing program in conjunction with the NLDC.
- Collaboration with other entities to recruit and train volunteers for AIS surveys (Lake Captain program described below).
- Contributing funding for AIS and water-related environmental education programming for the North Lakeland Elementary School.

Every year, the MWLA, NLDC, and Town of Manitowish Waters hire an AIS coordinator and a water education intern to provide educational programs, training workshops, educational materials, volunteer coordination, and reports on these efforts. The Town of Manitowish Waters contributed \$10,000 in both 2010 and 2011 to support this effort and increased its budget to \$30,000 in 2012 and 2013. The Town of Boulder Junction committed \$5,000 in funding for 2012 and 2013, targeted at preventing the spread of curly-leaf pondweed in Rice Creek, Island Lake, and Wild Rice Lake as these areas are within its jurisdictional boundaries. This funding level is also proposed within the 2014 towns budgets. The Town of Boulder Junction already financially supports Eurasian water milfoil treatment in the nearby Gresham Chain. Additionally, the Town of Manitowish Waters partnered with the Town of Lac Du Flambeau in 2010 to receive a grant for AIS watercraft inspection, education, and lake monitoring. Together,

the TAISP partners serve as caretakers of the Manitowish Chain of Lakes, and stand together in efforts to protect and enhance this unique resource.

PROJECT GOALS

The scope of work described below outlines a project and study design that looks at the lakes from more of an ecosystem perspective than managing their aquatic plants alone. The scope outlines assessments of the lakes' plants, watershed, shoreline condition, and water quality. It also describes the integration of available fisheries information, past aquatic plant and water quality assessments, and an intensive stakeholder participation component. The study components would provide the baseline data required to assess the lakes' ecosystem's condition, while the stakeholder participation portion would shed light on the expectations and needs of the chain's users. The combination of these components and communications with WDNR specialists would allow a long-term and implementable plan to be created for the Manitowish Chain of Lakes.

The work required to develop the plan would rely on partnerships between the WDNR, the NLDC, the MWLA, and local municipalities as described in detail above.

Overall, the studies outlined in the following proposal would provide the TAISP with the following information:

- The drainage area definition (watershed) for the lakes.
- The potential point-sources of pollution that may be affecting the lakes.
- The areas of the lakes' watershed that may be supplying excessive amounts of sediment and nutrients.
- A determination of plant community diversity for each lake and how the lakes' diversity compares with other lakes in the region.
- An identification and location of important plant communities (emergent, submergent, floating-leaf) within each lake (and stream section) and a listing of the dominant species within those communities.
- The identification and location of any rare or threatened plant species within the chain.
- A determination of where exotic plant species (e.g., Eurasian water milfoil, curly-leaf pondweed, purple loosestrife) occur in and around the chain.
- Of the plant species found in the lakes, their abundances relative to each other.
- A summary and analysis of specific chemicals found in the lakes, how these concentrations compare with other lakes in the region, and what these concentrations indicate concerning the health of each lake.
- An analysis of the limiting plant nutrient (phosphorus or nitrogen) in the lakes.
- The trophic state (e.g., oligotrophic, mesotrophic, eutrophic) of each lake.
- A summary of recent historic fisheries data, biological information relating to specific fish species, and how it applies to the management plan.

- A listing of management options that may be utilized to protect and enhance the important and sensitive areas of the chain.
- The steps that could be taken to help improve the chain lakes, such as work in the watershed (e.g., agricultural best management practices), shoreland restoration opportunities, in-lake native plant introductions, etc.
- The funding sources available to assist in the implementation of the pertinent management and protection options that are outlined in the management plan.
- An outline of how Onterra would assist the TAISP in implementing and funding the management plan.

Table 1. Lake and point-intercept survey specifics. Also see Map 1.

Waterbody	Area (acres)	Shoreline (mi)	Point-Intercept Resolution (m)	Total Points
Rice Creek*	234	9	N/A	N/A
Island Lake*	1023	16.8	73	655
Spider Lake*	272	5.9	35	913
Clear Lake*	555	6.9	62	543
Fawn Lake*	74	2.8	37	207
Wild Rice Lake**	379	3.7	61	418
Alder Lake**	274	3.9	55	354
Manitowish Lake	506	7.6	39	1315
Little Star Lake	244	3.8	36	808
Stone Lake	139	3.6	40	345
Rest Lake/Papoose Creek*	640	8.2	55/25	964
Vance Lake	30	1.2	30	124
Sturgeon Lake	32	1.3	30	172
Benson Lake	28	1.1	30	123

*PI survey completed

**PI survey to be completed August 2014 as part of Phase III grant

Table 2. Project phasing and grant funding approach. Also see Map 1.

Manitowish Chain Management Planning Project Project Phasing and Grant Funding Approach			
Planning Phase	Grant Cycle	Components	Approximate Timeframe
Phase Ia	August 1, 2011	Rest Lake	Started Spring 2012
		Papoose Creek	
Phase Ib	February 1, 2012	Island Lake	Started Spring 2012
		Rice Creek	
		Spider Lake	
Phase IIa	August 1, 2012	Clear Lake Studies	Spring 2013 - Winter 2014
		Fawn Lake Studies	
		Stone Lake ESAIS (NLDC located CLP in 6/2012)	
		Stone-Rest Channel ESAIS	
		Manitowish Lake ESAIS	
		Hand-harvesting of Stone Lake CLP	
	NLDC AIS Activities	Fall 2012 - Winter 2013	
Phase IIb	February 1, 2013	NLDC AIS Activities	Spring 2013 - Spring 2014
		Phase-related Stakeholder Participation	
		Project Update Presentation	
		Data Analysis & Plan Development	
Phase IIIa	August 1, 2013	Wild Rice Lake Studies	Spring 2014 - Winter 2015
		Alder Lake Studies	
		Trout River Studies	
Phase IIIb	February 1, 2014	NLDC AIS Activities	Spring 2014 - Spring 2015
		Phase-related Stakeholder Participation	
		Data Analysis & Plan Development	
		Chain-wide Stakeholder Survey	
Phase IV		Manitowish Lake Studies	Spring 2015 - Winter 2016
		Little Star Lake Studies	
		Chain-wide Watershed Delineations	
		NLDC AIS Activities	
		Phase-related Stakeholder Participation	
		Project Update Presentation	
		Data Analysis & Plan Development	
Phase V		Stone Lake Studies	Spring 2016 - Summer 2017
		Vance Lake Studies	
		Sturgeon Lake Studies	
		Benson Lake Studies	
		Manitowish River Studies	
		Phase I-IV ESAIS Studies	
		NLDC AIS Activities	
		Phase-related Stakeholder Participation	
		Data Analysis & Plan Development	
		Chain-wide Fishery Data Compilation	
		Chain-wide Watershed Assessment	
		Compilation of Chain-wide Management Plan	
		Project Wrap-up Meeting	

PROJECT SCOPE

Stakeholder Participation & Education

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 management planning effort is intended to create an exchange of information between Onterra and the lake stakeholders, including those that own property on the lake and those that enjoy the lake through its public access. The exchange of information would flow bi-directionally between the lake stakeholders and the ecologists/planners. The ecologists/planners 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 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 a long-term and implementable lake management plan.

This component, as described below, would also help the ecologists/planners develop a better understanding of specific sociological needs within the association. For instance, if communication were lacking between the association board and its general membership a goal would be included within the management plan with specific actions addressing the deficiency. The need for specific or general educational initiatives would also be brought to light during this process so they too could be addressed within the management plan.

Further, during the planning process, current lake-related ordinances (at the county and town level) would be researched and discussed with the NLDC, MWLA, county, and towns. It is the experience of Onterra planners that lake residents often do not have a good understanding of ordinance specifics for their waterbody; therefore, the current ordinances would be discussed with the TAISP, as well as possible modifications to those ordinances or totally new ordinances that could be proposed to the town and/or county.

For this multi-phased project, stakeholder participation opportunities are intertwined throughout the timeline in order to solicit stakeholder thoughts, but also to keep them informed regarding the project.

Kick-off Meeting (Completed July 28, 2012)

Near the start of the project, a *Kick-off* meeting would be held to inform stakeholders about the project and its goals. This meeting would also provide an excellent educational opportunity that would grant an introduction to important concepts in lake ecology, such as the value and importance of a diverse aquatic plant community and the benefits of maintaining natural buffer areas around a lake. The Kick-off meeting would also provide an important forum allowing stakeholders to express their concerns and provide information about the Manitowish Chain of Lakes and their watershed to Onterra ecologists.

Stakeholder Survey – Phase III

Comments and opinions would be solicited from Manitowish Chain of Lakes stakeholders to gain important information regarding their understanding of the lakes and thoughts on how they should be managed. The information would be collected through a written survey/comment form supplied to each member household and lake property owner by mail. This information would be critical to the development of a realistic plan by supplying an indication of the needs of the stakeholders and their perspective on the management of the lakes. It would be the responsibility of the Planning Committee to prepare the survey mailing. The project budget includes tallying of survey results by a contracted professional. Onterra would create the survey content and lead the interpretation of the results. Below is an outline of these activities:

1. Onterra distributes standard survey to planning committee
2. Planning committee develops additional questions and options to be included within the survey
3. Onterra updates survey and submits to WDNR for approval
4. WDNR-approved survey is provided to planning committee
5. Planning committee prints survey, stuffs surveys in envelopes, and mails out surveys to distribution list they develop
6. Onterra provides customized Excel spreadsheet to the data entry contractor
7. Completed surveys are returned to the contractor and they tally results in provided electronic format
8. Excel spreadsheet of entered data is emailed to Onterra for analysis

Planning Meetings – Each Project Phase (Summer Following Data Collection)

Following the completion of the data collection and analysis of each project phase, a single meeting would be held in order to present the project's results and preliminary recommendations to a sub-committee (Planning or Steering Committee) of the TAISP. The Planning Committee would consist of representatives from the Board of Directors, as they represent the various lakes within the Manitowish Chain well. Additional members will be recruited as appropriate. The Planning Committee's job is to represent each lake and help complete a prioritized implementation plan for the respective lakes. These would be very important meetings because they would facilitate the combination of the technical aspects of the project phase and the prioritized goals of the lake stakeholders. If needed, a breakout session within the Planning Meeting would be facilitated by Onterra staff should an individual lake or lakes wish for discussion on a matter pertinent to their lake alone. The first of these meetings was held on October 21st at the NLDC offices. Project components of the Phase I studies were discussed for nearly five hours between Onterra staff, TAISP representatives and WDNR Lakes Coordinator Kevin Gauthier.

As alluded to above, each phase of the project would contain a planning meeting with the representatives from that phase's lakes. During that meeting, applicable management goals and actions would be developed for the individual lakes as applicable. However, during those

discussions, goals and actions more applicable to the chain as a whole may also be developed and over the course of the entire project, the chain-wide management goal and action list will become quite comprehensive. As each phase is completed, the chain-wide implementation plan would be developed and refined. Near the end of the project, that chain-wide implementation plan would be provided to all individuals that participated in a planning committee for their review. Using those reviews, the chain-wide implementation plan would be created for inclusion in the final management plan.

Written Project Updates

During the late summer of each project phase, a one to two page project update would be supplied to the TAISP for inclusion within the next newsletter of both the NLDC and the MWLA. Each update would contain a summary of the work that has been completed and that which is on the horizon. It would also contain highlights of interesting results from the studies that had been completed thus far.

Project Update Presentation – Phases II & IV (Summers 2013 & 2015)

The Project Update Meeting would include a brief summary of the work that had been completed up to that time. It would also include highlights of interesting results from the studies and meetings that had been completed. This meeting would be held following Phase II & Phase IV field studies. An update presentation occurred on July 27 2013 in conjunction with the Manitowish Waters Lake Association’s annual meeting. Over 100 people attended this meeting.

Wrap-up Meeting – Phase V (Summer 2017)

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 TAISP. 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 Manitowish Chain of Lakes ecosystem that could not be answered by Onterra ecologists before they were familiarized with the system.

Additional Public Information Forums

In addition to the meetings described above, public awareness of the project would be promoted by a NLDC- submitted news release to local newspapers, by an informative article provided to the association members through a special mailing, and by providing a progress report approximately halfway through the study. The latter two documents would be provided to the NLDC and association by Onterra. The initial news release would be used to inform stakeholders outside of the association membership that a management project is being conducted at the lake and that the association and WDNR are sponsoring and spearheading the project. The special mailing is often used to notify the association members that a lake management project will be occurring on the lake and to inform them of the kick-off meeting. In some cases, the article contains an educational topic aimed at increasing the membership’s general knowledge of lake stewardship or in some instances, for dispelling a specific myth or misunderstanding among the association members.

The project update would be in the form of a newsletter article or a special mailing and would contain information pertaining to what tasks had been completed in association with the lake management project. Study results may be included in the update, but they would be limited to those that would not be counter-productive to the planning process. Study results that could be included may refer to the fact that no exotic species were located in the lake or that measured water quality parameters are similar to those found in the past. Inappropriate results would include information that may raise undue concern among the general public. For example, the discovery of a new exotic species would be immediately relayed to the Planning Committee to discuss logical solutions to the problem before informing the general public.

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 (Kick-off, Project Update, and Wrap-up Meetings) and those involving a subcommittee of the association (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. Further, not all meetings can be facilitated by Onterra's founder, Tim Hoyman, some meetings and other project aspects would be handled by Onterra's other well-trained and experienced staff members.

Because the planning meetings involve a smaller group of people, we suggest 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 lakes.

Watershed Definition and Phosphorus Load Modeling (Phase V)

The first step in this component would be an accurate delineation of each lake's watershed. GIS software would be used to generate a map of existing land cover types located within the watershed. The acreage of land currently attributed to each cover type would then be input into the Wisconsin Lake Model Suite (WiLMS) and a partitioning of watershed phosphorus loading, based on land cover type would be calculated. The sources of phosphorus loading for the watershed would also be graphically displayed using GIS software.

Overall, this task is useful in accomplishing two goals; 1) to help target specific areas for improvement within the watershed, and 2) to bring a better understanding to the lake stakeholders concerning how each lake's watershed plays a key role in its water quality regardless if problems exist or not within the watershed. This task is being completed during the final phases of the project so sufficient water quality data can be collected on upstream lakes to facilitate more accurate modeling results. These more accurate results would be generated because upstream lakes would be treated as point-sources to the immediate downstream lake. In order to estimate each upstream lake's contribution to the immediate downstream lake, current water quality information is required; therefore, completing this task later in the project is more efficient as upstream water quality information would be available.

Lake Water Quality – Each Project Phase

Water quality conditions would be monitored within the Manitowish Chain of Lakes in order to complete the following:

- Assist in identifying potential water quality problems within the Manitowish Chain of Lakes, such as elevated nutrient levels, anaerobic conditions, etc.
- Determine the trophic state of the lake using the Trophic State Index (TSI).
 - Historic data would also be used to calculate TSI values for long-term trend analysis. This analysis would be useful in determining realistic target values for maintaining or improving the lake's water quality through watershed or in-lake management actions.
- Determine the limiting nutrient.
- Supplement and calibrate watershed assessment modeling.

Members of the MWLA currently collect data as a part of the Citizen's Lake Monitoring Network (CLMN) on some of the chain lakes. Currently, on two of the lakes (Clear and Little Star Lakes), volunteers collect water quality as a part of the Advanced CLMN Program. The trained volunteers would continue to collect samples using CLMN protocols; however, to facilitate consistent current water quality datasets for all chain lakes, Onterra staff would collect water quality as outlined in Table 1. Onterra staff would collect water samples at subsurface (S) and near bottom (B) depths and would occur once in spring, winter and fall and three times during the summer. This would allow determinations of limiting nutrients and internal nutrient dynamics to be made. The parameters to be measured, sample collection timing, designated collector, and cost coverage are contained in Table 2.

All samples requiring laboratory analysis would be processed through the Wisconsin State Laboratory of Hygiene (SLOH). The parameters to be measured, sample collection timing, designated collector, and cost coverage are contained in Table 3. Secchi disk transparency would also be included during each visit, as well as the creation of a temperature and dissolved oxygen profile.

Table 3. Water Quality Sample Parameters and Timing

Parameter	Spring		June		July		August		Fall		Winter	
	S	B	S	B	S	B	S	B	S	B	S	B
Dissolved Phosphorus	●	●			●	●					●	●
Total Phosphorus	●	●	●	●	●	●	●	●	●	●	●	●
Total Kjeldahl Nitrogen	●	●			●	●					●	●
Nitrate-Nitrite Nitrogen	●	●			●	●					●	●
Ammonia Nitrogen	●	●			●	●					●	●
Chlorophyll- <i>a</i>	●		●		●		●		●			
True Color	●				●							
Hardness	●				●							
Total Suspended Solids	●	●			●	●			●	●		
Laboratory Conductivity	●	●			●	●						
Laboratory pH	●	●			●	●						
Total Alkalinity	●	●			●	●						
Calcium	●				●							

Shoreline Assessment – Each Project Phase

Using a GPS data collector with sub-meter accuracy, the immediate shoreline of the Manitowish Chain of Lakes would be surveyed and classified based upon its potential to negatively impact the system. Examples of these negative qualities include shoreland areas that are maintained in an unnatural manner and impervious surfaces. The map created would attempt to prioritize areas for restoration that would likely have a benefit to the Manitowish Chain of Lakes ecosystem.

The resulting map would delineate the lake’s shoreline, from the water’s edge to approximately 35-foot shoreward, into one of five categories ranging from “Urbanized” to “Natural/Undeveloped”. Ultimately, the information would be used to prioritize areas for restoration and protection that would likely have a benefit to the Manitowish Chain of Lakes ecosystem.

As a part of the shoreline assessment survey, all incidences of coarse woody debris would be mapped as well. This type of structure is important habitat for fish and other aquatic organisms; therefore, this information would be useful in determining whether the lake management plan should include the enhancement of woody structure in the lake. Results would be displayed graphically on a map, and discussed within the management plan for the chain and each lake.

Aquatic Plant Surveys – Each Project Phase

Aquatic plants are very important because they are the foundation of the lake ecosystem; therefore, a complete and accurate assessment of the aquatic plant community is vital in every lake management project. In order to fully assess the aquatic plants, three different types of surveys would be performed: an early-season AIS survey, a point-intercept survey, and an aquatic plant community mapping survey. The early-season AIS survey is aimed at locating exotics early in the growing season while curly-leaf pondweed is at its peak growth and Eurasian water milfoil is higher in the water column than most native plants. The point-intercept survey is

a plot-based inventory intending to characterize the relative frequency of all plants, native and exotic, and is performed at the height of the growing season. The aquatic plant community mapping survey is completed following the comprehensive survey and provides a *snapshot* of each lakes' emergent and floating-leaf communities.

Overall, this task would serve to provide an accurate characterization of the chain's macrophyte community. It would indicate what species were present and where they were located, and allow for comparisons between chain lakes and with past and future surveys. It would also help to determine where and what types of aquatic plant control, protection, and enhancement methods would be appropriate for each lake.

Early-Season AIS Survey

This survey would focus upon locating curly-leaf pondweed (*Potamogeton crispus*), 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. Additionally, Eurasian water milfoil, which begins growing much earlier than most Wisconsin native plants, is often easily spotted from the surface during early summer as it towers above other lake plants. Therefore, an inventory would be conducted on each chain lake during the early summer to map curly-leaf pondweed and Eurasian water milfoil occurrences within the respective lake. Please note that this would not be a transect- or plot-based survey, but instead, would consist of a meander survey of the lake to locate these species. If curly-leaf pondweed is found, the colonies would be mapped utilizing sub-meter-accuracy GPS technology. A map depicting each colony's location and density (through color-gradients) would be created based upon the data collected in June. If Eurasian water milfoil is mapped during this survey, these sites would reassessed and the plants remapped later in the summer when Eurasian water milfoil is most likely at its peak biomass.

As indicated in Table 2 above, each lake contained within a project phase would have an early-season AIS survey completed on it. Further, in conjunction with the Phase III studies, early-season AIS surveys would be completed on all adjacent waterways that are currently known to support populations of CLP. During the final summer of the project (2016), the Phase I-IV lakes would be reassessed using this methodology (Table 2).

Comprehensive Surveys

Point-intercept Survey – Each Project Phase

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. Based on guidance from the WDNR, the point-spacings and total survey points as listed in Table 1 would be utilized to complete the surveys. Please note that WDNR staff completed point-intercept surveys of Island Lake and Rice Creek during the summer of 2011; therefore, those data would be utilized during this project. Also, with the exception of Rice Creek, which is known to contain curly-leaf pondweed, no other river sections would be studied using the point-intercept survey methodology.

The data collected would be analyzed by Onterra and used in the final report. To characterize spatial distribution, *relative frequency of occurrence* would be calculated for each species found within each lake. In addition, the plant communities of the chain 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. All data collected during the studies outlined here would be compared with data collected earlier on each lake.

Native and Exotic Plant Community Mapping – Each Project Phase

The aquatic vegetation community types within each lake and river section (e.g., emergent, submergent, and floating-leaved vegetation) would be mapped using the GPS technology described above, and would be based on dominant species (e.g., soft-stem bulrush, common arrowhead, large-leaf pondweed, etc.). In other words, the primary mapping unit would be the community type, but a secondary classification based on dominant species would be included on the vegetation maps. Particular attention would be paid to mapping wild rice beds within all chain lakes. The final map would show the location of each vegetation type in the lake in relation to the lake's bathymetry. It is these communities that respond the quickest to ecological changes in the lake and the survey would provide a baseline understanding of the relative locations of these communities.

Furthermore, additional maps would indicate the areas of the lake inhabited by exotic/invasive species such as Eurasian water milfoil (*Myriophyllum spicatum*) and purple loosestrife (*Lythrum salicaria*), should they be observed within the Manitowish Chain of Lakes.

Fisheries Data Integration – Phase V

Summary of Baseline Data

Available historic fisheries data within the past decade from the Great Lakes Indian Fish and Wildlife Commission (GLIFWC), and the WDNR would be compiled from the Manitowish Chain of Lakes. This would include information relating to fish stocking, creel surveys, comprehensive fish surveys, and spear harvest data. A list of the known fish species present in the lake along with general biological information pertaining to important fish species would be provided considering spawning habitat requirements, nursery areas, and food sources.

Integration within Management Plan

Although current fish data would not be collected, the compiled historic data along with the natural history information would be considered as it pertains to the management plan. As applicable, individual management actions within the implementation plan would be analyzed as they pertain to the health of the fish populations (e.g. timing of Eurasian water milfoil control practices, if discovered, to limit interference with spawning activities).

Professional *Dreissena* Mussel Monitoring – Each Project Phase

The WDNR samples over 100 waterbodies annually in search of larval and adult zebra and quagga mussels (both *Dreissena* sp.). Following discussions with the WDNR during the spring

of 2006, Onterra purchased the necessary equipment and was trained by WDNR staff to sample lakes in search of these mussels. During each lake visit, the water column would be sampled at three sites using a 64-micron mesh plankton net in search of larval mussels (veligers). Mussel monitoring would be completed during the community mapping survey. Samples would be preserved and packaged according to the methodology outlined in the 2005 WDNR publication, “*Dreissena* Mussel Monitoring Protocol.” Because ethyl alcohol is used in the preservation process, specific rules apply for shipment and arrangements have been made to hand-deliver samples to WDNR staff at the Northeast Region Headquarters in Green Bay where they would be responsible for shipment to the location of analysis. During these and other visits to the lake, Onterra would periodically search docks, piers, and other structures for adult forms of the mussels. Although Spider Lake was sampled for mussel veligers recently (in 2010), Island Lake was last sampled in 2006. Because the Manitowish Waters Chain of Lakes are borderline suitable for mussel establishment, as determined by modeling estimates completed by Wisconsin researchers, the results of a 2013 sample collection will be useful in future planning activities.

PROJECT DELIVERABLES

Two types of reports/plans would be completed as a result of this management planning effort. One type would be specific to a particular lake, while the other would be a compilation of the individual lake documents and an overview of the study results from the chain lakes as a whole.

We envision creating multiple types of documents as a result of this project and then combining those documents to create the individual lake plans and the chain-wide compilation. The following documents would be created:

Manitowish Chain of Lakes Management Plan – This document would contain an introduction to the project as a whole. It would describe how the project came about and why it is important. It would also outline the results of the studies as they pertain to all of the lakes studied within the project. By reading this section, the reader would gain an overall knowledge of the project and its results on a more general, chain-wide basis. Maps depicting the entire Chain of Lakes (project location, watershed, exotic plant inventories, etc.) would be included within this section as well.

Lake-specific Results and Conclusions – This document would outline the results of each lake’s studies and the analysis of those results. It would also describe what conclusions were drawn based upon those results. Finally, this section would include the lake-specific maps described in the project scope. By reading this document, the reader would gain an understanding of the lake in particular and how that information pertains to the management of that lake. Maps depicting each lake’s aquatic plant communities and exotic plant inventories (if applicable) would be included within each individual lake section.

Lake-specific Implementation Plan – This document would contain an implementation plan outlining the specifics on how the management goals and actions for that lake would be completed. Duplications of management goals and actions would of course exist between different lakes. However, lake-specific management goals and actions would also be included to assure that each lake’s particular management needs are met. By reading this section, the reader

would understand not only the steps that would be taken to meet the management goals of the lake, but also who would be facilitating those steps and when they would be initiated.

Appendices – Appendices would be created containing the data collected during the studies. A separate set of appendices would be created for each lake’s aquatic plant, watershed, water quality, and stakeholder survey results. Further, a project-wide appendix would be made that would include all of the stakeholder participation materials.

A lake-specific report/plan would contain the *Manitowish Chain of Lakes Management Plan*, the lake’s *Lake-specific Results and Conclusions*, its *Lake-specific Implementation Plan*, and the *Appendices*. The chain-wide compilation would include the *Manitowish Chain of Lakes Management Plan* and copies of each of the lake-specific documents separated by tabs.

Three hardcopies of the chain-wide compilation would be supplied to the NLDC and single copy of each lake’s specific document would be supplied to the particular lake’s planning committee members. An additional hardcopy would be supplied to the Vilas County Land and Water Conservation Department. An electronic copy of the entire plan in Adobe’s Portable Document Format (PDF) would also be supplied to each entity and the WDNR on CD-ROM.

TENTATIVE PROJECT SCHEDULE

Table 4 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 and rely on availability of TAISP members, data supplied by outside sources, and progress made on preceding tasks.

Table 4. Approximate Project Schedule for 2014 – 2015.

Task	2014												2015											
	F	M	A	M	J	J	A	S	O	N	D	J	F	M	A	M	J	J	A	S	O	N	D	
Water Quality Sample																								
Early-Season AIS Survey																								
Comprehensive Plant Survey																								
Shoreline Assessments																								
Written Project Update																								
Data Analysis																								
Planning Comm. Meeting																								
Phase Report – First Draft																								
Phase Report – Final Draft																								

NORTH LAKELAND DISCOVERY CENTER AIS ACTIVITIES

Administration - In-Kind – Phase IIIb \$4,784

Plan and manage grants; manage funding agreements; and review or evaluate grants. Assess and approve contracts and payments in accordance to grants. Determine contractual terms and conditions, and payment arrangements. Meet, coordinate with, and report to TAISP partners. Monitor services and performance of contractors. Ensure that obligations for grants are met by all parties.

Bookkeeping/ Accounting - In-Kind - Phase IIIb \$1,574

Prepare payment, billing, and financial reports as necessary throughout project.

AIS Coordinator Salary and Employer Costs

Phase IIIa= \$5,760; In-Kind - \$3,071

Phase IIIb \$21,360; In-Kind - \$11,461

Implement TAISP AIS public education and monitoring program through the NLDC. Serve as primary contact and liaison between consultants, applicators, and the TAISP partners. Recruit, train, and track volunteer monitoring. Compile volunteer monitoring hours and equipment use. Conduct public outreach through community events and NLDC programs. Monitor area waters for AIS and identify potential AIS samples collected by volunteers. Conduct purple loosestrife bio-control beetle rearing program through the NLDC. Review and assist with development of grant applications and bid requests for work. Review project reports from contractors and communicate with partners regarding important findings. Oversee Water Education Intern and provide supplemental CBCW inspections.

Water Education Intern Salary/ Vehicle- Phase IIIb \$3,345 + \$500 = \$3,845

Assist with implementing the TAISP AIS program. Conduct supplemental Clean Boats Clean Waters program at boat landings on the Manitowish Waters Chain of Lakes during heavy use periods.

Supplies-

Phase IIIa \$4,200

Phase IIIb \$2,906

Monitoring vessels (pontoon boats, fishing boats, kayaks, and canoes), aquatic plant rakes, aquatic plant identification books and materials, snorkels, crayfish traps, block nets, hand pulling materials, bio-control supplies, signs and public education materials, office supplies, Secchi disks, water quality equipment, etc. Create and maintain AIS displays. Maintain and improve website.

Breakdown of Sponsor Efforts and Cash Costs
Administration- In-Kind – Phase IIIb \$4,784

125 hours Executive Director	Approximately 2.23 hours per week throughout the year	\$25.48/hour + employer costs
42 hours Executive Director	Approximately 2.23 hours per week throughout the year	\$25.48/hour + employer costs

Bookkeeping/ Accounting- In-Kind- Phase IIIb \$1,574

75 hours Bookkeeper/ Admin Asst.	Approximately 1.5 hours per week throughout the year	\$14/hour + employer costs
25 hours Bookkeeper/ Admin Asst.	Approximately 1.5 hours per week throughout the year	\$14/hr + employer costs

AIS Coordinator Salary- Total hours Phase IIIb- 40 hours per week- 7 months, 20 hours per week- 5 months.

Phase IIIb=

1300 hours= \$15,600; In-Kind- total \$8,514= \$5,850 salary + \$2,664 employer cost

450 hours= \$5,400; In-Kind- total \$2,947= \$2,025 salary + \$922 employer cost

1300 hours AIS Coordinator	40 hours per week- 7 months	\$12.00/hour
450 hours AIS Coordinator	20 hours per week- 5 months	
1300 hours AIS Coordinator	40 hours per week- 7 months	In-Kind- \$4.50 hour
450 hours AIS Coordinator	20 hours per week- 5 months	+ employer costs

Water Education Intern Salary/ vehicle- Phase IIIb \$3,345 + \$500 = \$3,845

560 hours Internship	40 hours for 14-weeks in summer @ \$850/ month	\$2,975/summer + \$370 employer costs
Van Use/ Mileage	1000 miles @ \$0.50/mile	\$450

Clean Boats Clean Waters Inspections- 2014

Paid Inspector (CBCW Grant #1)- 200 hours

Water Education Intern (Phase IIIb)- additional hours as needed during Statewide Landing Blitz.

**Supplies-
Phase IIIb= \$2,906**

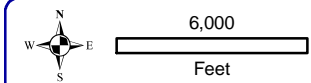
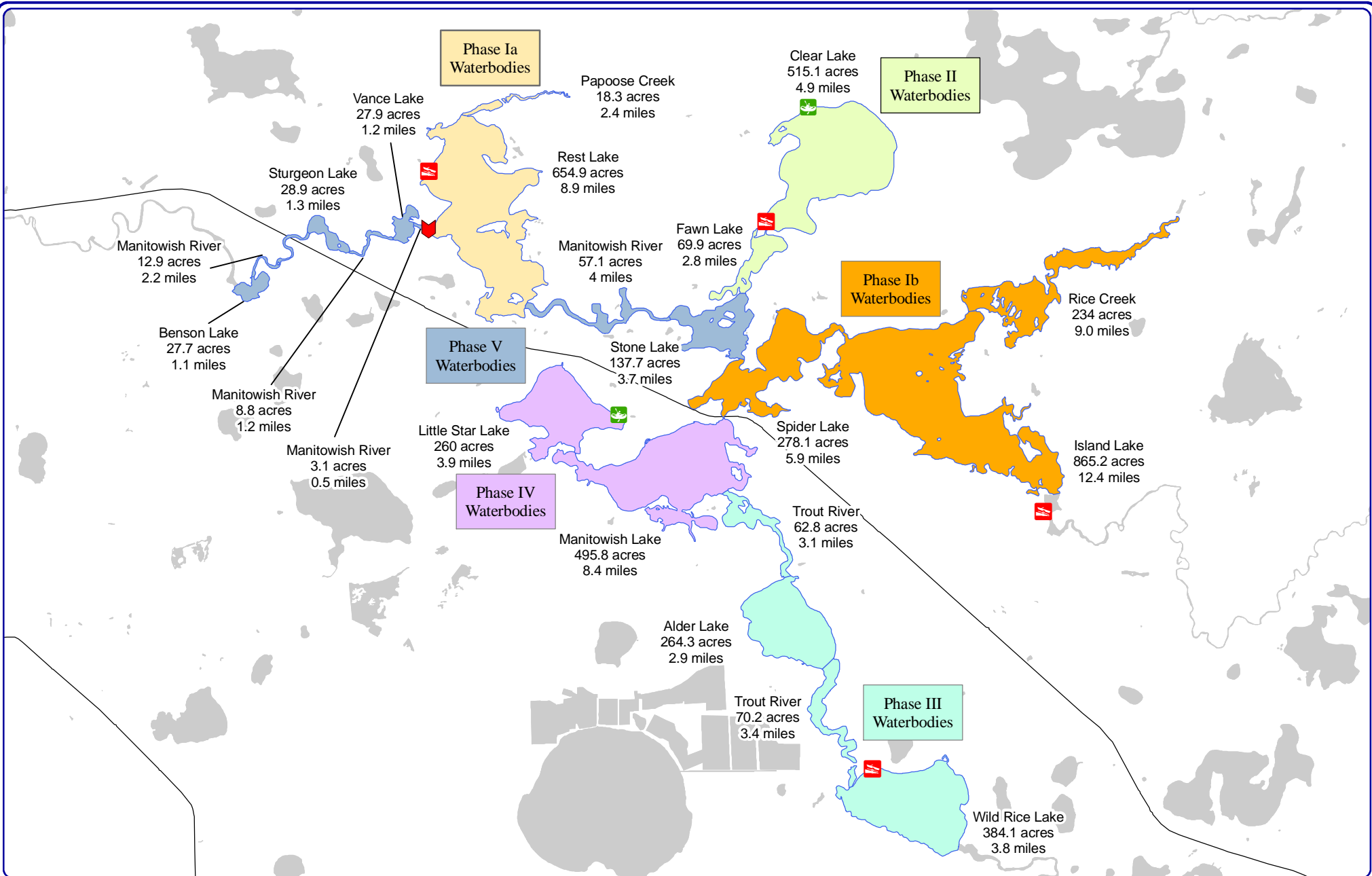
Website	Design, Update, and Maintenance \$25/ month- eleven months- \$275	\$275
Gas	1900 miles @ \$0.50/ mile	\$950
Volunteer Appreciation Rusty Crayfish Dinner	Dinner Supplies	\$300
Print Materials	1200 Copies Full-Color Flier for Chamber Newsletter- \$280 Cost to Insert into Chamber Newsletter- \$110 Laminated Program Fliers for Placement in Town- \$20	\$410
AIS Tank Supplies	Feed (Worms)- \$20	\$20
Purple Loosestrife Supplies	Chest Waders- 1 @ \$80/each = \$80 Zip Ties- 1 @ \$14/ package of 500= \$14 Duck Tape- 2 @ \$12/each = \$24 Rope- 3 @ \$6/100ft = \$18	\$157
Aquatic Rakes	+ \$21 Shipping Garden Rakes- 10 @ \$5/each, \$10/aquatic rake= \$50 Rope- \$6/100 feet= \$42 Screws- 5 @ \$0.20 each/aquatic rake (\$9/50 screws) = \$10 Zip Ties- 1 @ \$14/ 500 package = \$14	\$155
Training / Manuals/ Monitoring/ Detection Supplies	+ \$39 Shipping Plastic Sample Bags- 10 @ \$3/box (2 bags/deckhand) = \$30 Rite in the Rain Notebook- 10 @ \$4/each= \$40 Jump Drive- 2 @ \$6 = \$12 Lake Level Monitoring Fencepost- 5 for \$45 = \$45 Gauge- 5 @ \$35 = \$175 Nut- 20 @ \$0.5 each = \$10 Bolt- 2 boxes (5/box) @ \$7 = \$14 Lag Screw- 25/box = \$66 + \$22 Shipping	\$414
Interpretive Sign(s) Traveling Display	Wood Glue- 1 @ \$7 = \$7 Silicon Glue- 2 @ \$9 = \$18 Laminated Plant Displays/ Preserved Specimens- Laminated Display Materials- \$100 Hook Velcro- @ \$30/ 25ft = \$30 Glycerin- 7 @ \$10 = \$70	\$25 \$200

PROJECT COST BREAKDOWN

Manitowish Chain Management Planning Project - Phase IIIb - February 2014	Cash Costs	Donated Value
Consulting Services		
Project Administration & Communications	\$835.00	
Stakeholder Participation (No Update Meeting this Phase)	\$4,285.00	
Data Analysis and Report/Plan Creation	\$5,998.50	
Printing, Shipping, & Plant Vouchering Materials	\$441.00	
Travel (Lodging, Incidentals, & Mileage @ 0.58/mi)	\$570.00	
Stakeholder Survey Costs		
Chain-wide Stakeholder Survey Printing & Mailing	\$6,428.00	
Stakeholder Survey Tabulation (Contractor)	\$2,520.00	
North Lakeland Discovery Center Activities (see additional breakdown of NLDC Activities within Project Scope)		
Project Administration and Record Keeping		
Administration		\$4,784.00
Bookkeeping		\$1,574.00
AIS Coordinator		
AIS Coordinator Salary	\$21,000.00	\$11,461.00
Water Education Intern Salary	\$3,345.00	
CBCW Water Education Vehicle	\$500.00	
Supplies		
Website		
Website Design, Update and Maintenance (\$25/month, 11 months)	\$275.00	
Volunteer Appreciation		
Rust Crayfish Dinner Supplies	\$300.00	
AIS Monitoring Rakes		
Garden Rakes- 10 @ \$5/each, \$10/aquatic rake= \$50	\$50.00	
Rope- \$6/100 feet= \$42	\$42.00	
Screws- 5 @ \$0.20 each/aquatic rake (\$9/50 screws) = \$10	\$10.00	
Zip Ties- 1 @ \$14/ 500 package = \$14	\$14.00	
Shipping for AIS Monitoring Equipment (\$39)	\$39.00	
Print and Publicity Materials		
1200 Copies Full-Color Flier for Chamber Newsletter- \$280	\$280.00	
Cost to Insert into Chamber Newsletter- \$110	\$110.00	
Laminated Program Fliers for Placement in Town - \$20	\$20.00	

Project Cost Breakdown, continued

Supplies, continued		
Interpretive Sign(s)		
Wood Glue- 1 @ \$7 = \$7	\$7.00	
Silicon Glue- 2 @ \$9 = \$18	\$18.00	
AIS Tank Supplies		
Feed (worms) \$20	\$20.00	
Purple Loosestrife Supplies		
Chest Waders- 1 @ \$80/each = \$80	\$80.00	
Zip Ties - 1 @ \$14/package of 500 = \$14	\$14.00	
Duck Tape - 2 @ \$12/each = \$24	\$24.00	
Rope - 3 @ \$6/100ft = \$18	\$18.00	
Shipping for Purple Loosestrife Supplies (\$21)	\$21.00	
Traveling Display (Laminated Plant Displays / Preserved Specimens)		
Laminated Display Materials - \$100	\$100.00	
Hook Velcro - 1 @ \$30/25 ft = \$30	\$30.00	
Glycerin - 7 @ \$10 = \$70	\$70.00	
Training Manuals & Monitoring/Detection Supplies		
Plastic Sample Bags- 10 @ \$3/box (2 bags/deckhand) = \$30	\$30.00	
Rite in the Rain Notebook- 10 @ \$4/each= \$40	\$40.00	
Jump Drive - 2 @ \$6 = \$12	\$12.00	
Fencepost - 5 for \$45 = \$45	\$45.00	
Gauge - 5 @ \$35 = \$175	\$175.00	
Nut - 20 @ \$0.5 each = \$10	\$10.00	
Bolt - 2 boxes (5/box) @ \$7 = \$14	\$14.00	
Lag Screw - 25/box = \$66	\$66.00	
Shipping for Training and Monitoring/Detection Supplies (\$22)	\$22.00	
Gasoline		
Misc. gasoline use (1,900 miles @ \$0.50/mile)	\$950.00	
<i>Subtotal</i>	\$48,828.50	\$17,819.00
Total Project	\$66,647.50	
State Share Requested - AIS EPP Grant (75% - cannot exceed cash costs)	\$48,828.50	



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

Sources:
 Data: Roads and Hydro: WDNR
 Map Date: July 18, 2012
 Filename: ManitowishChainVilas_Location_LGformat.mxd



- Legend**
- Public Access - Carry-in
 - Public Access - Ramp
 - Dam Location

Map 1
 Manitowish Waters Chain of Lakes
 Vilas County, Wisconsin
**Proposed Phased Management
 Planning Approach**

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 Infestation Control

Legislative District Numbers		To determine your legislative district, go to http://165.189.139.210/WAML/ Type in complete address, next screen shows information
Senate	Assembly	
12	34	

Section II: Applicant Information

Applicant			Type of Eligible Lake or River Applicants			
North Lakeland Discovery Center			<input type="checkbox"/> County	<input type="checkbox"/> Tribe	<input type="checkbox"/> Other Gov't Unit	<input type="checkbox"/> Federal
Waterbody Name			<input type="checkbox"/> City	<input type="checkbox"/> Sanitary Dist.	<input type="checkbox"/> Nonprofit Org.	<input type="checkbox"/> State
Wild Rice Lake, Alder Lake, Trout River			<input type="checkbox"/> Village	<input type="checkbox"/> Dist.	<input type="checkbox"/> College, School, etc.	<input type="checkbox"/> Other
Project County/Township/Section/Range			<input type="checkbox"/> Town	<input checked="" type="checkbox"/> Assoc.		
Wild Rice - Vilas/T41N/R06E/S5,6; T41N/05E/S1						
Alder - Vilas/T42N/05E/S36,25						
Authorized Representative Named by Resolution			Project Contact Name			
Sarah Johnson			Tim Hoyman			
Authorized Representative Title			Project Contact Title			
Director - NLDC			Aquatic Ecologist, Onterra, LLC			
Address			Address			
P.O. Box 237			815 Prosper Road			
City	State	ZIP Code	City	State	ZIP Code	
Manitowish Waters	WI	54545	De Pere	WI	54115	
Daytime Phone (area code)	Evening Phone (area code)	Daytime Phone (area code)		Evening Phone (area code)		
715-543-2085	715-543-2085	920.338.8860				
E-Mail Address			E-Mail Address			
sarah@discoverycenter.net			thoyman@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 <input type="checkbox"/> Yes <input type="checkbox"/> No	Environmental Grants Specialist Approval / Date	
Eligible Project <input type="checkbox"/> Yes <input type="checkbox"/> No	Eligible Applicant <input type="checkbox"/> Yes <input type="checkbox"/> No	Project Priority Rank	Research / Demo Project <input type="checkbox"/> Yes <input type="checkbox"/> No
Prior Grant Award(s) <input type="checkbox"/> Yes <input type="checkbox"/> No	Fiscal Year(s)	Amount Received to Date \$	Project Awarded <input type="checkbox"/> Yes <input type="checkbox"/> No

Section III: Project Information

Project Title Manitowish Chain of Lakes Management Planning Project - Phase IIIa	Proposed Ending Date June 30, 2016
---	---------------------------------------

Other Management Units	Letter of Support	Other Management Units	Letter of Support
1. Vilas County LWCD	<input checked="" type="checkbox"/>	4.	<input type="checkbox"/>
2. Town of Boulder Junction	<input checked="" type="checkbox"/>	5.	<input type="checkbox"/>
3. Town of Manitowish Waters	<input checked="" type="checkbox"/>	6.	<input type="checkbox"/>

Section IV: Public Access

Number of Public Vehicle Trailer Parking Spaces Available at Public Access Sites: 55+

Number of Public Access Sites Including Boat Launches and Walk-ins: 7

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 (Discovery Center)	\$21,000.00	\$11,461.00	
2. Consulting services (Onterra)	\$12,129.50		
3. Purchased services	\$2,520.00		
4. Other purchased services (specify)			
5. Plant material			
6. Supplies (specify): (NLDC Supplies and Stakeholder Survey Printing/Mailing))	\$9,334.00		
7. Depreciation on equipment			
8. Hourly equipment use charges			
9. State Lab of Hygiene (SLOH) Costs	\$2,815.56		
10. Non-SLOH Lab Costs			
11. Other (specify) (Volunteer In-kind Labor)		\$9,636.00	
12. Subtotals (Sum each column)	\$48,828.50	\$17,819.00	
13. Total Project Cost Estimate (sum of column 1 plus sum of column 2)	\$66,647.50		
14. State Share Requested (up to 75% of total costs may be requested)	\$48,828.50		

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:

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 not 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
Sarah Johnson

Signature of Authorized Representative

Title of Authorized Representative
Director - NLDC

Date Signed



Vilas County Land & Water Conservation

330 Court Street • Eagle River, WI 54521

715-479-3747 • Fax: 715-479-3627 • www.vilaslandandwater.org

3 September, 2013

Mr. Kevin J. Gauthier, Sr.,
Wisconsin Department of Natural Resources
8770 Hwy J
Woodruff, WI 54568

Dear Mr. Gauthier,

I am writing on behalf of the Manitowish Chain of Lakes Management Planning Grant Proposal. The *Vilas County Land and Water Conservation Department* supports this initiative and feels strongly that it is an important component in overall efforts to protect Vilas County area lakes.

The North Lakeland Discovery Center (NLDC), the Manitowish Waters Lakes Association (MWLA), and the Town of Manitowish Waters have partnered to form the Town Aquatic Invasive Species Partnership (TAISP). The TAISP is proposing to collaborate with Onterra, LLC to address lake management planning of lakes within the Manitowish Chain of Lakes at a landscape level as well as to develop individualized management plans for each lake in the Chain. Overall, the full scope of the project will address the Chain from an ecosystem perspective which will give the partners the tools to manage each lake and the watershed at different landscape scales depending on the issues they address. These tools include environmental data, information on stakeholder interests, and an educational component for lake shore owners and lake users. We are confident that this project will succeed due to the energetic and informed leadership of the partners involved.

Our department finds that comprehensive projects like the one proposed both: a) develop baseline data necessary for the development of sustainable management planning and b) create an educated citizenry that is willing and able to participate in that management. Both components are invaluable in the protection and wise use of the land and water resources of Vilas County.

We also support the completion of a Chain-wide project because it will satisfy many goals set forth in the 2010-2014 Vilas County Land and Water Resource Management Plan. Specific goals addressed through the proposed project are listed here: Goal 2 *Protect aquatic and terrestrial ecosystems from non-native invasive species*; Goal 3 *Monitor and protect surface waters from impacts of land disturbance, non-point source pollution, and degradation*; Goal 6 *Educate the public about natural resources and promote sound stewardship practices*.

To make the scope of the project more manageable it has been divided into phases. Each Phase proposes to conduct management planning studies and activities on a subset of water bodies that make up the Manitowish Waters Chain of Lakes. There are additional Phases that address Aquatic Invasive Species through surveys and treatment (where necessary), AIS educational and control activities through the NLDC, MWLA, and TAISP, the stakeholder

surveys of Chain Riparians, watershed delineation of the whole chain, as well as data analysis and plan development. These Phases stretch through Spring 2017.

The Vilas County Land and Water Conservation Department supports this whole initiative in its entirety and at each Phase. As always, we will provide assistance as needed throughout the life of the project. If you have any questions about our supporting role in the project, please do not hesitate in contacting me at (715) 479-3747 or mashee@co.vilas.wi.us.

Thank you for considering this excellent project for grant funding.
Sincerely,

Quita Sheehan

Mariquita Sheehan
Vilas County Conservation Specialist

CC: Dan Cibulka, Onterra LLC



Post Office Box 616
Boulder Junction, WI 54512-0616
Phone (715) 385-2220
Fax (715) 385-9129

August 20th 2012

Mr. Kevin Gauthier, Sr.
WDNR Lake Coordinator: Northern Region
107 Sutliff Avenue
Rhineland, WI 54501

Mr, Gauthier:

As the Town Chairman of Boulder Junction I would like to reiterate our pledge of full support regarding the ongoing lake management for the Manitowish Chain of lakes.

As you are aware, Boulder Junction has a long history of supporting lake associations and other entities involved with combating invasive species on our lands and lake.

Please accept this letter pledging our support for the current and ongoing efforts to protect and preserve this wonderful resource shared between Boulder Junction, Manitowish Waters and their lake association.

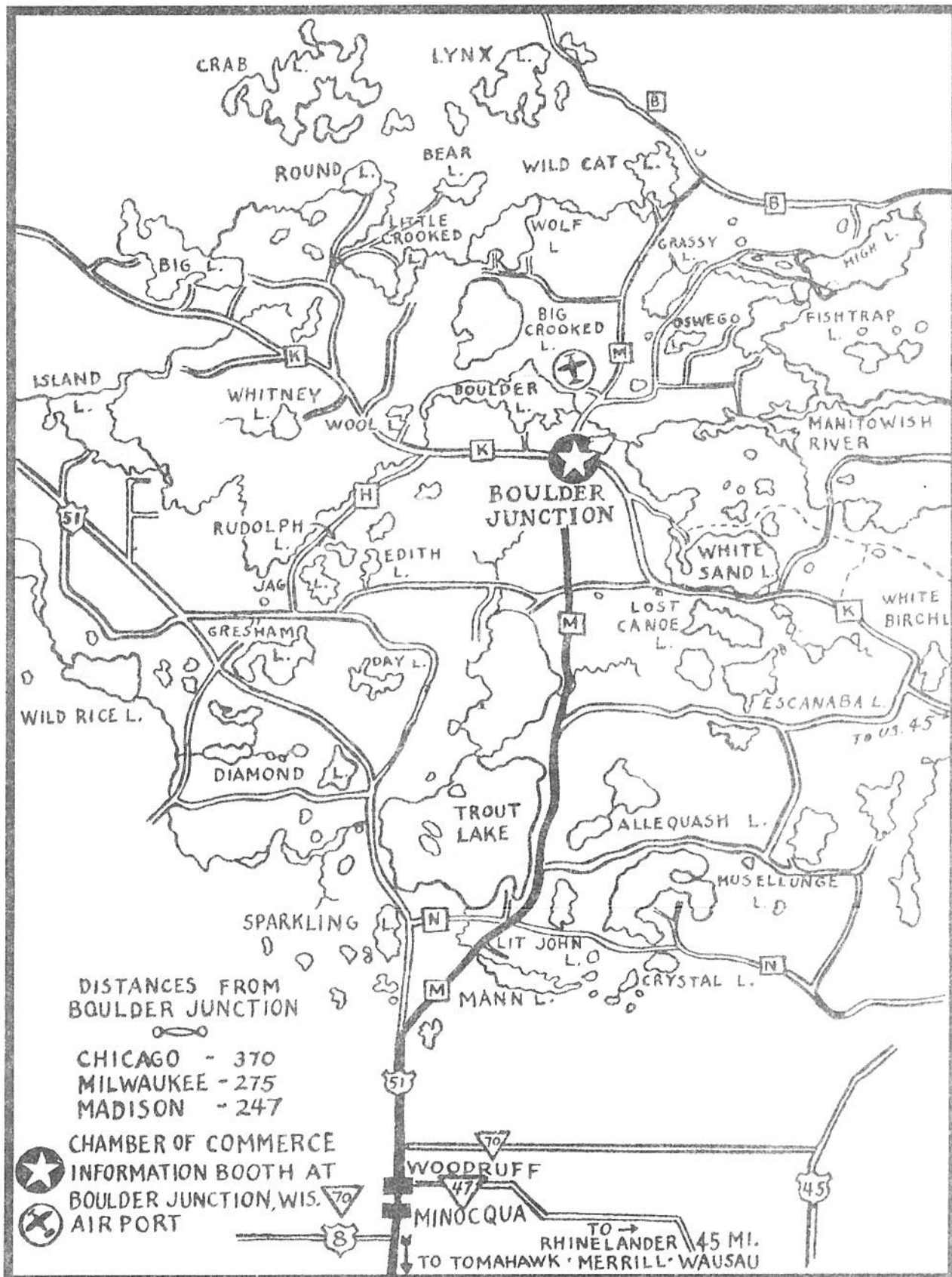
Sincerely,

A handwritten signature in cursive script that reads "Charlie Spencer".

Charlie Spencer
Boulder Junction Town Chairman



BOULDER JUNCTION, VILAS COUNTY, WISCONSIN



This region has 194 lakes and all within a 9 mile radius. There are muskie, walleye, bass, panfish and trout lakes. Wild deer, some 7800, make their homes here. Famous white deer are more often seen here than in any other part of the state. Both fisherman and families will find this a perfect vacation spot, within a day's drive of most of their homes. This frontier region with its fine resorts and cottage camps will appeal to you. Come to Boulder Junction and you will return to the city refreshed and delighted.



MANITOWISH WATERS LAKES ASSOCIATION, INC.

P.O. Box 286 • Manitowish Waters, WI 54545

July 25, 2012

President:
Karen Dixon
Manitowish R.
715-543-8141

Vice President:
Tom Joseph
Rest Lake
715-543-8362

Treasurer:
Eleanor Butler
Alder Lake
715-543-8401

Secretary:
Marilyn Gabert
Lake Manitowish
715-543-8224

Directors:

Jim Banovetz
Wild Rice Lake
715-385-2812

Bob Becker
Spider Lake
715-543-2219

Greg Holt
Benson Lake
715-543-8168

Barry Hopkins
Rest Lake
715-904-0480

Tom Kramer
Hwy 51
715-904-0182

Merry Perkins
Sturgeon Lake
715-543-2048

Jim Reichert
Alder Lake
715-543-2647

Robert Stowers
Manitowish Lake
715-543-2284

Fred Theisen
Island Lake
715-543-8860

Kevin Gauthier
Wisconsin Department of Natural Resources
107 Sutcliff Avenue
Rhineland, WI 54501-3349

Dear Mr. Gauthier,

The Manitowish Waters Lakes Association (MWLA) firmly supports the multi-phased management planning project on the Manitowish Waters Chain of Lakes and the efforts of the North Lakeland Discovery Center (NLDC) in its application for an Aquatic Invasive Species (AIS) Education, Planning, and Prevention Grant.

We share the belief of the NLDC and the Town of Manitowish Waters that, through AIS education, prevention, and control, we can be proactive and prepare to deal with issues affecting our lakes, including declining water quality and aquatic invasive species infestations, before these issues become unmanageable.

We acknowledge that the quality of all lakes in the Township of Manitowish Waters, including all the lakes in the Manitowish Chain, is crucial to our local economy by providing year-round recreational activities for both residents and tourists. Therefore, the Town AIS Partnership (TAISP), consisting of the Town of Manitowish Waters, the NLDC, and the MWLA, in conjunction with the Town of Boulder Junction, has agreed to work in partnership toward a comprehensive lake management plan for the entire Manitowish

Manitowish Chain

Chain. We feel that the AIS Education, Planning, and Prevention Grant will be a very important step in that process.

The MWLA's partnership with the Town of Manitowish Waters and the NLDC has proven to be a very strong one. The MWLA had provided past assistance such as, but not limited to, recruitment of volunteers, dissemination of information, educational programs, applications for grants, and financial contributions.

In summary, the MWLA strongly urges you to approve the AIS Education grant application submitted by the North Lakeland Discovery Center. We feel it is imperative that we continue to work together in partnership with local, county and state entities to protect our most valuable resource from the threat of AIS.

Thank you for your support in this effort.

Best regards,

A handwritten signature in cursive script that reads "Karen Dixon".

Karen Dixon
President, Manitowish Waters Lakes Association

Aquatic Invasive Species Control Grants Education, Prevention and Planning Ranking Questions	Ranking Points	Manitowish Chain Phase IIIb	Notes
A. The degree to which the project includes a prevention and control strategy. (8 points possible)			
<p>1) The project includes a well described, community-focused, educational outreach effort on aquatic invasive species and prevention methods that implements a statewide education strategy or priority. This does not include routine passive outreach activities such as newsletters and press releases, websites or CBCW or CLMN training & monitoring activities. 1- 2 points (One point per activity)</p> <ul style="list-style-type: none"> • Media Campaign using a "Protect WI Waters/It's the Law" message • Landing Blitz -July 4th weekend • Installing new State AIS signs (rev. 2010) at boat landings • Establishing enforcement partnerships with local law enforcement 	1 point	1	MWLA & NLDC train Lake Captains and volunteers for lake sweeps.
<p>Activity 1</p> <p>Activity 2</p>	1 point	1	Numerous NLDC workshops
<p>2) The project will train volunteers to identify AIS and conduct water body surveillance monitoring for early detection using accepted WDNR or citizen-based monitoring (CLMN/Project RED, etc) protocols where data is being entered into SWIMS.</p>	1 point	1	Lake Captains and volunteers trained by NLDC
<p>3) The project will deliver a professional level monitoring report and map about the presence or absence of aquatic invasive and native species. [e.g. a point/intercept aquatic plant survey(s) or other DNR approved protocols appropriate for the target species. Not protocols in #2]</p>	1 point	1	PI & Peak biomass mapping
<p>4) The project includes (or the sponsor is already conducting) a Clean Boats, Clean Waters watercraft inspection program per the requirements of s. NR 198.22 (1)(d) or an approved Alternative Equivalent (see guidance)</p> <p>a) 1 point - if project waters are AIS free b) 2 points - if project waters have AIS c) 3 points - if the project is county or town wide involving multiple waters</p>	1 - 3 points	3	MWLA, NLDC and Town of Manitowish Waters combine efforts to train/provide CBCW volunteer and hire AIS Coordinator & water education intern.
<p>5) The project will conduct other complimentary source containment activities that go above and beyond minimum level of inspection and signage e.g. boat washing or cleaning stations, augmented enforcement.</p>	1 point	0	
B. The degree to which the project will prevent the spread of aquatic invasive species. (7 points possible – note 1a – 1d are not cumulative).			
<p>1a) The majority (50%) of project activity will take place on a Statewide AIS Source Water listed on the following table.</p> <p>OR</p>	5 points	got 1b	
<p>1b) The majority (50%) of the project will take place on a major AIS source water with high public use (lakes greater than 500 acres and all boat-able rivers that meet or exceed the minimum boating access criteria in NR 1.91(4) or wetlands greater than 500 acres in public ownership) OR; the project includes a Statewide AIS Source Water where less than 50% of the activities are directed.</p> <p>OR</p>	4 points	4	Meets minimum public boating, contains CLP, is 500+ acres
<p>1c) The majority (50%) of the project activity takes place on a significant AIS source water with high public use (lakes between 500 and 100 acres and all rivers that meet or exceed the minimum boating access criteria in NR 1.91(4); wade-able streams with public access or wetlands between 500 and 100 acres in public ownership).</p> <p>OR</p>	3 points	got 1b	
<p>1d) The majority (50%) of the project activity will take place on a minor AIS source water (lakes less than 100 acres that meet or exceed the minimum boating access criteria in NR 1.91(4); any river or stream with public access or; wetlands less than 100 acres in public ownership) OR any water determined to be a High Vulnerability Water as determined by Smart Prevention Analysis (for spiny water flea and zebra mussels only)</p>	2 points	got 1b	
<p>2) The project works to contain or plan the control of a NR40 prohibited species e.g Hydrilla, yellow floating heart, spiny water flea, red swamp crayfish, etc).</p>	2 points	0	N/A
C. The degree to which the project protects or improves the aquatic ecosystem's diversity, ecological stability or recreational uses. (3 points possible)			
<p>1a) Project will produce a management plan(s) that meets the specifications of s. NR 198.43(1) or a strategic plan if not waterbody-specific.</p> <p>OR</p>	2 points	2	Will produce management plan
<p>1b) Project implements a Department-approved AIS plan</p>	1 point	0	
<p>2) Project area has a high degree of native biodiversity or is critical habitat, as expressed by:</p> <ul style="list-style-type: none"> • an above eco-region average aquatic or wetland plant FQI • the presence of a listed aquatic species (NHI endangered, threatened or watch) • is an ERW or ORW water • has a Sensitive Area or Critical Habitat designation • is within or adjacent to a State Natural Area, State Park, other publicly owned unique natural area or such an area owned/managed by a nonprofit conservation organization (e.g., Nature Conservancy). 	1 point	1	Many of the lakes are NHI ANSRI. Several ERW and ORW waters in chain. Northern Highland State Forest borders lake. 2012 PI Survey located <i>Nuphar microphylla</i> , <i>Potamogeton vaseyi</i> .
D. The stage of the AIS population in the water body. (2 points possible.)			
<p>1) Project addresses a pioneer population (as defined by s.198.12 (8)), or has previously been an early response project.</p>	2 points	2	Addresses new (2010) discovery of CLP in chain, newer discoveries in Manitowish Lake, Manitowish River. Also has EDR grant
E. The degree to which the project will likely to result in successful long-term prevention or control. (2 points possible)			
<p>1) Sponsor has demonstrated by previous actions that they are capable of managing projects successfully. Either they have a previous project history e.g. reports completed, on budget, on schedule, objectives achieved or they have been conducting the project activities without state financial assistance.</p>	1 point	1	Has conducted grant supported shoreline project, active CBCW & CLMN, fish programs with UWSP and WDNR, Lake Captain AIS Sweeps, EDR grant, etc. Sponsor is on track to complete Phase I and II on schedule.
<p>2) The sponsor has had a pre-application grant scoping consultation with the Department and the application is consistent with the results of those discussions.</p>	1 point	1	Numerous discussions

Aquatic Invasive Species Control Grants Education, Prevention and Planning Ranking Questions	Ranking Points	Manitowish Chain Phase IIIb	Notes
F. The availability of public access to, and public use of, the waterbody. [If regional scale, consider relative degree for significant water bodies] (2 points possible)			
1) Any lake of 100 surface acres or greater and any boat-able river that has more than the minimum public boating access as defined in s. NR 1.91(4) or any wetland greater than 50 acres in public ownership.	1 point	1	Seven public access sites with over 55 parking spaces - exceeds minimum access requirements
2) The water provides significant alternative public access and use opportunities that include two of the following at separate locations: public swimming beach; park or other public land with accessible frontage; public fishing pier or wildlife observation area; two or more private resorts, youth camps or sportsmen clubs; or where more than 50% of the lake or river shore in the project area is in public ownership.	1 point	1	Several beaches and parks, 20+ resorts, campground, NLDC opportunities for lake access and education
G. The degree to which the proposed project includes or is complemented by other management efforts including watershed pollution prevention and control, native vegetation protection and restoration and other actions that help control aquatic invasive species or resist future colonization. (2 points possible)			
1) Project is supported by existing, or will produce, create or improve local ordinances, lake rules or plans that protect habitat and aquatic resources and prevent the spread of aquatic invasive species (slow no wake ordinances, stormwater ordinances, runoff and nonpoint source pollution management plans).	1 point	0	
2) Applicant demonstrates that they have implemented (within the last 5 years) - or the project includes developing plans for - a shoreland restoration, habitat protection, sediment and nutrient control or other substantial lake stewardship activity that protects the lake ecosystem.	1 point	1	1. Shoreline restoration project completed on Rest Lake in 2005, with remedial work completed in 2012 (County sponsored, though the Town paid a portion of the project). 2. NLDC sponsored a rain garden project on Statehouse Lake intended to reduce runoff and help with erosion - 2008. 3. MWLA sponsored a fish crib building and placement project (winter of 2011 and 2012) on the Chain. 4. Shoreland areas will be evaluated within current project and will identify areas for restoration and/or protection.
3) The sponsor is a Green Tier Community Charter member. (City of Middleton, Bayfield, Fitchburg, Appleton, Weston, Monona, Eau Claire, La Crosse & the Village of Bayside)	1 point	0	
H. Community support and commitment, including past efforts to control aquatic invasive species. (5 points possible)			
1) This is demonstrated by requesting less than the maximum state share cost rate (cash costs) for the total project costs. No more than 25% of the project match can be in-kind or donated labor. The sponsor is requesting: 65% State Share (1 point <\$50K, 2 points >\$50K) OR 50% State Share (2 points <\$50K, 3 points >\$50K)	1 or 2 points 2 or 3 points	0 0	
2) Sponsor has previously implemented projects or control actions to reduce or eliminate AIS or that help support the success of the current proposal including enacting ordinances and has successfully completed all previously funded projects.	1 point	1	Lake captains & lake sweeps, CBCW, purple loosestrife efforts with NLDC Limited 2012 CLP Treatment, highly effective 2013 CLP treatment.
3) Project includes partnerships between the applicant and a local unit of government, school, lake or community organization or business (other than a contractor) that is committed in writing to providing important project resources (time or \$) and will not receive grant funding from the project.	1 point	1	Sponsor is NLDC, partnership exists between Town, NLDC and MWLA
I. Whether the sponsor has previously received a grant for a similar project for the same water body. (1 point possible)			
1) The sponsor has not received an AIS grant for essentially the same EPP project(s) (same activities, same species) in the last five years. This does not include Early Detection & Response.	1 point	0	
J. The degree to which the project will advance the knowledge and understanding of the prevention and control of aquatic invasive species. (1 point possible)			
1) Project has an evaluation component that will be conducted by an objective outside entity to assess project outcomes or is a participant in a Department-sponsored research and demonstration project on the AIS research priority list.	1 point	1	Consultant will monitor treatments conducted by third party applicant, herbicide concentration samples to be collected by volunteers as part of WDNR/USACOE study.

24

Overview

Category	Points
The degree to which the project includes a prevention and control strategy.	A 7 / 8
The degree to which the project will prevent the spread of aquatic invasive species.	B 4 / 7
The degree to which the project protects or improves the aquatic ecosystem's diversity, ecological stability or recreational uses.	C 3 / 3
The stage of the AIS population in the water body.	D 2 / 2
The degree to which the project will likely to result in successful long-term prevention or control.	E 2 / 2
The availability of public access to, and public use of, the waterbody.	F 2 / 2
The degree to which the proposed project includes or is complemented by other management efforts including watershed pollution prevention and control, native vegetation protection and restoration and other actions that help control aquatic invasive species or resist future colonization.	G 1 / 3
Community support and commitment, including past efforts to control aquatic invasive species.	H 2 / 5
Whether the sponsor has previously received a grant for a similar project for the same water body.	I 0 / 1
The degree to which the project will advance the knowledge and understanding of the prevention and control of aquatic invasive species.	J 1 / 1

24 / 34