2011

Lake Helen Management Plan

Lake Helen Planning Committee

8/20/2011

Plan approved by Lake Helen P & R District on May 23, 2009

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A special thanks to all those who helped to create the Lake Helen Management Plan and provided the necessary data in the Portage County Lake Study.

Lake Helen Lake Management Planning Committee Members and Resources

Lake Helen Protection and Rehabilitation District Representatives

Don Becker
Lee Moyer
James & Judy Ehlenbeck
Mark, Kyle & Vicki Brandenburg
Rick Meyers
Pat Boedecker
Del & Micki Anderson
Bill Pingel
Joe Weisbrod
Rob & Anne Hvizdak

Hunt 'em and Hook 'em Sportsmans Club

Steve Grill

University of Wisconsin –Stevens Point

Nancy Turyk – Center for Watershed Science and Education
Jen McNelly – Center for Watershed Science and Education

Wisconsin Department of Natural Resources

Patrick "Buzz" Sorge – Lake Management Specialist
Scott Provost – Water Resources Management Specialist
Tom Meronek – Fisheries Biologist

Portage County

Randy Slagg – Portage County Land Conservation Department

Portage County Lake Study Researchers/Authors

Dr. Bob Bell – Algae
Dr. Robert Freckman – Aquatic Plants and Upland Sensitive Areas
Dr. Tim Ginnett – Birds
Brad Bulin (Graduate Student) – Birds
Dr. Ron Crunkilton – Fish
Steve Bradley (Portage County Conservationist) – Land Use Coverages/Watersheds
Lynn Markham – Planning Assistance
Mike Hansen – Portage County Planning Assistance
Dr. Erik Wild – Reptiles and Amphibians/Near Shore Habitat
Rori Paloski (Graduate Student) – Reptiles and Amphibians/Near Shore Habitat
Becky Cook – Water Quality/Watersheds
Dr. Paul McGinley – Water Quality/Watersheds
Dr. Byron Shaw - Water Quality/Watersheds and Upland Sensitive Areas
Dick Stephens – Water Quality/Watersheds and Upland Sensitive Areas
Nancy Turyk – Water Quality/Watersheds/Final Report
Dr. Glenn Bowles – Near Shore Summary
Dr. Alan Haney – Upland Sensitive Areas
Dr. Vince Heig – Upland Sensitive Areas
Dr. Kent Hall – Upland Sensitive Areas

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Introduction

Lake Helen is situated in the northeast corner of Portage County, Wisconsin. Lake Helen is valued by those who use and enjoy the lake for its good water quality, natural beauty, peace and tranquility, quality fishing, and recreational opportunities.

In 2008, the Helen Lake Protection and Rehabilitation District (HLPRD) partnered with UW-Stevens Point to develop a lake management plan. The purpose of this plan was to learn about Lake Helen, identify factors important to Lake Helen District residents, and develop goals, objectives, and associated actions to protect and improve Lake Helen. The Lake Helen Management Planning Team consisted of Lake Helen Lake District members that were assisted by Portage County staff including the County Conservationist, Zoning Specialist, and Groundwater Specialist; the Wisconsin Department of Natural Resources Lake Management and Fisheries staff; and staff from the University of Wisconsin-Stevens Point Center for Watershed Science and Education and Center for Land Use Education. A survey was sent to District members to obtain their opinions about Lake Helen. Survey results were used throughout the planning process.

The purpose of this plan was to learn about Lake Helen, identify factors important to Lake Helen residents, and develop goals, objectives, and associated actions to protect and improve Lake Helen for future generations.

Background Information

Much of the background information on Lake Helen was taken from the Lake Helen section of the Portage County Lake Study (2005).

The complete document can be found at:
http://www.co.portage.wi.us/Planning&Zoning/lakes.html

Lake Helen is a groundwater drainage lake with moderately hard water, located two miles east of Rosholt in the town of Alban, Wisconsin. Lake Helen covers 87.4 acres, has an estimated volume of 599 acre-feet, and a maximum depth of 18 feet (WDNR 1972). One small tavern on the northeast side of the lake comprises the commercial development on the shoreline. A County Park with public access and picnic area are present on the northeast shore, with a boat-launch and a small swimming beach. The remaining shoreline primarily consists of residential development.

Watershed

Lake Helen's surface watershed, an area of land where water from precipitation drains from higher elevations towards Lake Helen, is approximately 500 acres. A large portion of the watershed is in non-irrigated agriculture (159 acres) or forest (89.6 acres) and 79 acres (16%), of the watershed is residential.

Residential development along the lakeshore boomed in the 1950s and 1960s increasing from nine acres in 1948, to 70 acres by 1968. Forest and wetland acreage has remained fairly constant since 1948.

A groundwater watershed is similar to a surface watershed, except that it is an area of land where the groundwater, instead of surface water, drains to Lake Helen. Often surface water watersheds and groundwater watersheds do not match each other, which is the case in Lake Helen. Lake Helen's groundwater watershed encompasses 443 acres of land to the northwest of the lake. According to 2002 data, land use within the groundwater watershed included 98 acres (22%) of non-irrigated cropland, 92 acres (21%) of forested areas and 57 acres (12%) of residential land use. Land use within the groundwater watershed increased in residential development sometime between 1948 and 1969. Other land uses have remained fairly constant.

Sensitive Areas

The sensitive areas associated with Lake Helen are defined by lands immediately around the lakeshore that would be significantly impacted by most disturbances or development. Near Lake Helen these areas include two wetlands adjacent to the banks of Lake Helen; one extending from the northeast side and the other from the southwest side at the point of the intermittent outflow; a steeply sloped area along the western lakeshore that would be prone to erosion, and a small County park that is located on the northeast shore (See Appendix A).

Critical Habitat Areas

The critical habitat areas identified for Lake Helen through the Lake Study were based on amphibian habitat; however, these same areas are also important to other aquatic and terrestrial species. The primary amphibian habitat is located in small sections on the south side of the lake and in the wetlands to the north of the lake. Key features of these habitat areas include protected wetlands with submergent and emergent vegetation. The HLPRD will work with the DNR to designate additional critical habitat around Lake Helen (See Appendix B).

Birds

Lakeshore development can negatively or positively affect habitat quality for birds depending on the ecological requirements of each species. Development can play a important role in providing resources unavailable to certain species in a more natural environment, yet eliminate other species' needs altogether, especially at the most extreme levels of environmental disturbance.

The 28 bird species found around Lake Helen can be divided into 2 general groups based on the type of habitat and resources they need or utilize. The first group of birds has a tendency to be found in developed areas. These species may take advantage of resources that are unique to urban environments such as birdfeeders.

The second group prefers more undeveloped sites. The majority of these bird species eat only insects (insectivores) and thus are likely to feed in more forested environments.

Shoreline

Only 5.5% of the shoreline around Lake Helen was considered vegetated shoreline. Vegetated shoreline was characterized as being upland areas with dense vegetation comprised of tall grasses or shrubs that lacks a rocky component. Alder shoreline was characterized as areas where alder dominates the shore zone; 1.6% of Lake Helen shoreline was classified as alder shoreline.

Around Lake Helen, 93% of the shoreline vegetation was considered to be disturbed. Of that, 15.8% of the lake's shoreline vegetation was considered moderately disturbed, these areas may contain a mowed lawn but have an intact overstory, and 77.1% was considered to be highly disturbed, these areas were defined as a beach, rip rap, seawall, or where the shore is mowed to the water line (See Appendix C).

The lack of vegetated shoreline surrounding Lake Helen is cause for concern due to the lack of habitat and the lack of runoff control. Runoff or excess water coming off hard surfaces such as roofs, driveways/roads, patios, and compacted soils that enter Lake Helen can carry a variety of pollutants with the water. Negative impacts on a lake due to runoff include: excess nutrients (such as phosphorus) in the lake, which can cause algae blooms and excessive plant growth and an increased amount of sediment in the lake, which can lead to cloudy or turbid water, sediment burying fish spawning areas and other critical habitat, and sediment transporting additional contaminants such as bacteria, debris, metals, and pesticides.

Survey respondents recognized the necessity of shoreline cover surrounding the lake. Fifty-four percent of survey respondents strongly agreed that removal of native shoreline and near shore aquatic plants increased shoreline erosion and 55% agreed that vegetative buffers reduced and removed sediments. However, the vast majority of respondents did not have stormwater and runoff management techniques in place but were interested in learning more about them.

Aquatic Plants

According to R. Freckmann, (UWSP) there were **23** species of aquatic macrophytes, or aquatic plants that have been identified in Lake Helen or wet areas of the adjacent shore. This is below average compared to the other Portage County lakes.

Lake Helen is surrounded by homes and cottages, leaving very little wet shore and little native vegetation. Eurasian water milfoil was identified in Lake Helen in the summer of 2008 but was hand pulled at that time. If not watched closely, this and other invasive aquatic species could quickly become established in the lake due to the lack of native plant cover.

Seventy-two percent of survey respondents agreed that the presence of native aquatic plants were essential to maintaining water quality and clarity in Lake Helen. When asked about of aquatic plants in Lake Helen, 38% felt that the amount of growth was excessive, 25% felt it was dense, 23% felt it was just right, and the remaining 13% were split between very little plant growth in the lake and the lake was choked with plants.

Water Quality

Water quality assessment of a lake involves a number of measures including temperature, dissolved oxygen, water chemistry, chlorophyll *a*, and algae. Each of these measures plays a part in the lakes overall water quality.

The temperature in Lake Helen was generally mixed from top to bottom, although it weakly stratified in July and August. Despite the lack of temperature stratification, dissolved oxygen concentrations fell below 5 mg/L (needed to support many aquatic species) at depths below 10 feet during the summer and late winter.

Water clarity is a measure of how deep light can penetrate the water. It is an aesthetic measure and is related to the depth that rooted aquatic plants can grow. Overall, water clarity in Lake Helen is considered fair, with periods of poorer water quality in the summer months. These fluctuations throughout the summer are normal as algae and aquatic plant populations and sedimentation increase and decrease. Disturbance of sediment by wind or boating activity also influence the water clarity in shallow lakes.

A variety of water chemistry measurements were used to characterize the water quality in Lake Helen. Lake Helen is considered a hard water lake due to inputs of calcium from groundwater. Nutrients (phosphorus and nitrogen) are important measures of water quality in lakes because they are used for growth by algae and aquatic plants.

For the most part total phosphorus was below problem levels of 30 ug/L; however, some concentrations were as high as 97 ug/L. This resulted in an algae bloom that negatively affected water clarity (See Phosphorus section). Inorganic nitrogen (NO_2+NO_3-N and NH_4) was above the 0.3 mg/L needed to fuel algae blooms throughout the summer.

The algal community when considered relative to the chlorophyll a, phosphorus, and nitrogen values for Lake Helen presents a picture of a barely oligotrophic or more likely mildly mesotrophic lake. The 30 genera identified during the sample periods were relatively common and with the exception of the cyanobacterium Microcystis. None of those that reached numerical dominance in the sample counts were associated with toxins or health issues. The water clarity was only fair and the large fraction of blue-green algae in the community should be seen as indicative of a lake that might be accelerating towards mesotrophic status (B. Bell).

Chloride levels, and to a lesser degree sodium and potassium levels, are commonly used as an indicator of how strongly a lake is being impacted by human activity. Both chloride and sodium levels are elevated in Lake Helen. Although these constituents are not detrimental to the aquatic ecosystem, they indicate that sources of contaminants (road salt, fertilizer, animal waste and/or septic system effluent) are entering the lake from either surface runoff or via groundwater.

Atrazine was found in low concentrations in the lake water (0.13 and 0.06 ppb). Some toxicity studies have indicated that even at these low levels reproductive system abnormalities can occur in frogs. The presence of Atrazine indicates that other agri-chemicals may also be entering Lake Helen.

When asked about changes in Lake Helen's water quality, survey respondents were split between a perceived decline and no change. Algae, aquatic plants, and litter were identified as the top three water quality problems and the use of fertilizer and heavy recreational use were identify by 44% of respondents as the top causes of water quality problems. Development, herbicides, erosion, vegetable and livestock agriculture were each perceived as causes for water quality problems by 24% of respondents.

Phosphorus

Phosphorus is an element that is essential to most living organisms in trace amounts, including plants. Sources of phosphorus can include naturally occurring phosphorus in soils, wetlands, small amounts in groundwater, agricultural runoff, urban runoff, domestic and industrial sewage, septic systems, and animal waste.

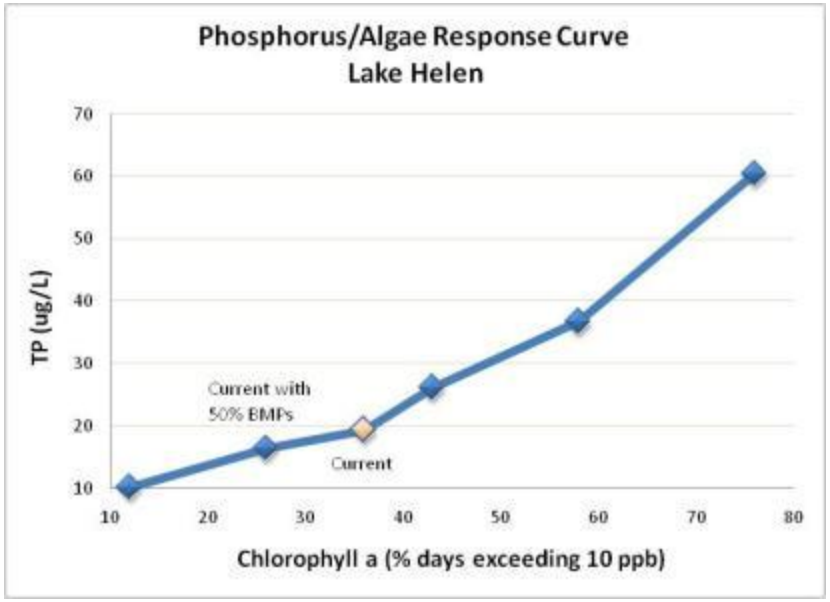
Phosphorus is the "limiting nutrient" in Lake Helen. Biological growth is most respondent to phosphorus due to its relative short supply with respect to other substances necessary for growth. However, increases of just a small amount of phosphorus results in increases in growth rates and abundance, especially in aquatic plants and algae.

Phosphorus concentrations in Lake Helen are variable throughout the year. Average total phosphorus (TP) for 2002-2004 was 18.9 ug/L, which falls below the problem level of 30 ug/L. Spring averages for total phosphorus (TP) were 24.7 ug/L, summer averages for TP were 20.8 ug/L, fall averages for TP were 17.5 ug/L, and winter averages for TP were 2.0 ug/L. However, readings as high as 97 ug/L were taken during July. Concentrations this high can contribute to or cause algae blooms in the lake. Although the average concentrations are below problem thresholds, they are slowly increasing over time. It is important to reduce phosphorus before it reaches problem levels.

The importance of managing phosphorus in the Lake Helen watershed is key to protecting the lake itself. Watershed activities that increase the

input of phosphorus to the lake include removing native vegetation (trees, bushes, and grasses), mowing grass and planting crops up to the water's edge, and increasing the amount of impervious surfaces. Phosphorus inputs to Lake Helen can be controlled through the use of Best Management Practices (BMP's) that minimize the movement of phosphorus to the lake.

The phosphorus response graph below shows how different land management strategies and hence phosphorus concentrations may affect the frequency of algae blooms (chlorophyll a) in Lake Helen. The current conditions in Lake Helen are highlighted. The frequency of blooms can be decreased by the implementation of best management practices on the current landscape. Conversely, changes in land uses and/or land use practices may readily increase the frequency of algae blooms that occur between May and September.



The category of "current with 50% BMPs" was the goal identified for Lake Helen. This category means that with the current level of development 50% of the developed land (residential, agricultural, infrastructure) in the watershed implement some form of best management practice to reduce runoff and connectedness. This should result in a decrease of phosphorus to 17 ug/L and most importantly, a decrease in algae blooms to fewer than 25% of growing season days (measured by chlorophyll a concentrations greater than 10 ug/L). Naturally, it is desirable for new development within the watershed to employ similar parctices.

Recreation

Lake Helen is used for many different types of recreation. According to respondents of the citizen survey, the most popular activities at Lake Helen include enjoying the scenery, walking, swimming, fishing, using Lake Helen as a place of solitude, and enjoying wildlife. Recreational boating on Lake Helen included motor boating (60%), canoeing/kayaking (42%), water skiing (29%), sailing (5%), and jet skiing (5%).

The majority of respondents (62%) described their recreational/boating experience on the lake as having a moderate amount of disturbance. Eighty-two percent of survey respondents also indicated that they were satisfied with the current slow no-wake period on Lake Helen which runs from 4 pm to 10 am.

Goals and Objectives

The following goals and objectives are derived from the values and concerns of the members of the Lake Helen P and R District based on the science used to assess Lake Helen and its ecosystem. Implementing the goals and actions in the Lake Helen Management Plan will protect what resident's value most for current and future generations. These goals are intended to be met through implementation, education, encouragement, and incentives.

Resources that are listed within the plan include primary organizations or individuals that would be able to provide information, suggestions, or services to accomplish the goals and objectives.

A management plan is a living document that changes over time to meet the current needs, challenges, and desires. **The goals, objectives, and actions listed in this plan will be reviewed annually in the fall and updated with any necessary changes.**

Watershed and Water Quality

The residents and users of Lake Helen desire to have clean water to use and enjoy for generations to come. Survey respondents felt that the overall water quality in Lake Helen was good. Data shows that water quality has improved since the 1970's but additional improvement would make conditions in the lake more resilient. Protecting and improving water quality will be done through reducing stormwater runoff which in turn reduces sediment and phosphorus inputs to and in the lake. Reducing phosphorus will reduce the frequency of algae blooms and improve water clarity.

Goal 1

Reduce phosphorus loading from residential areas and the watershed to reduce the frequency of algae blooms (to fewer than 25% of growing season days with chlorophyll a concentrations greater than 10 ug/L). This goal will be achieved when monitoring indicates that median summer (5 samples/summer) total phosphorus levels are 17 ug/L for 3 consecutive years.

Objective 1.1: Reduce average summer total phosphorus to 17 ug/L. This will be accomplished by reducing annual phosphorus loading to Lake Helen by 24 lbs; from an annual total of 121 lbs to 97 lbs.

Actions	Lead person/group	Start/end dates	Resources
Continue to provide information about septic systems and holding tanks, needed maintenance, signs of failing systems, potential nutrient discharge into the lake, who to contact if system appears to be failing, and pumpers who process the pumped product instead of field-applying.	Lake District Commission	Ongoing	County Planning and Zoning Dept County on-site wastewater specialist
Continue to test and monitor water in culverts and ditches that enter the lake during spring runoff. If results are high, then consider treatment options.	Monitoring Committee	Ongoing	UWSP Center for Watershed Science and Education (CWSE) can do testing. DNR can offer grant monies.
Share the results of water quality data and the informational brochure "Understanding Lake Data" with citizens through the use of the website.	Website Administrator	Ongoing	UWEX Lakes UWSP Center for Watershed Science and Education

Goal 2

Improve water quality and water clarity. This goal will be achieved when landowners have installed runoff control practices and the shoreland goals are achieved (Please refer to Shoreland section to see goal).

Objective 2.1: Waterfront property owners install stormwater management practices, to reduce runoff to the lake.

Actions	Lead person/group	Start/end dates	Resources
Work to continue installing rain gardens between homes and the lake to reduce runoff.	Lake Residents	Ongoing	County Land Conservation Dept has technical expertise for developing plans.
Continue to provide information about the values of native vegetation near the lake and rain gardens	Lake District Newsletter, annual meetings, and picnics	Ongoing	County Land Conservation Dept
Participate in the County & DNR shoreline planting program	Lake Residents	2011	County Land Conservation Dept
Support the County Land Conservation Dept in their efforts to reduce phosphorus to the lake by supporting water quality based nutrient management plans and best management practices	County Land Conservation Dept. and County Parks Dept.	Ongoing	County Land Conservation Dept

Objective 2.2: Develop ownership/responsibility for management of runoff and the quality of Lake Helen for every landowner in the surface watershed and groundwater watershed.

Action	Lead person/group	Start/end dates	Resources
Continue to provide landowners with information that lets them know they are IN the Lake Helen watershed and that they are responsible for the runoff from their property.	Lake District	Ongoing	UWSP CWSE, County UWEX CNRD educator
Develop and distribute list of green (phosphorus-free, biodegradable) cleaning products for Newsletter and online	Newsletter Editor	Newsletter	Lake District UWSP CWSE

Objective2. 3: Explore other potential sources of pollution, such as chloride.

Action	Lead person/group	Start/end dates	Resources
Continue to explore other sources of possible contamination to Lake Helen.	Lake District	Ongoing	UWSP CWSE

Shorelands

Shorelands are some of the most important habitat for terrestrial and aquatic wildlife, including birds, near lakes. They also help to slow runoff moving to the lake and filter runoff before it enters the lake. Restoring and protecting shorelands help to provide scenery and solitude, as well as natural space for lake residents to enjoy nature. Most of the shoreland around Lake Helen is highly developed and lacks natural buffers. The majority of survey respondents realize that the removal of native shoreland plants increased erosion and the presence of vegetative buffers reduced runoff and removed sediments. Therefore, resident may be willing to restore buffers and protect shoreland plants.

Goal 3

Create, restore and protect healthy, stable shoreland habitats near and around Lake Helen. This goal will be achieved when 50% of the shoreline is vegetated.

Objective 3.1: All landowners are knowledgeable about the importance of shoreland habitat to Lake Helen's ecosystem.

Action	Lead person/group	Start/end dates	Resources
Continue to provide information about the current rules for shoreland zoning.	Lake District Commission and work with other lake groups	Ongoing	County Planning and Zoning*
Provide lake residents with information about the values of native vegetation near the lake.	Newsletter Editor	Ongoing	Portage County* Identify demonstration Sites Other lakes with sites
Participate in the Portage County shoreland zoning revisions	Lake District Commission	2011	County Planning and Zoning

*Portage County has shoreland zoning ordinances in place that cover development near shorelines, vegetation removal, excavation and filling, wetland districts and non-compliant properties. To view the ordinances in full visit: http://www.co.portage.wi.us/Ordinances/Chapter%207.pdf

For more information regarding shoreland zoning in Portage County or to receive information about shoreland programs and projects you can contact:Portage County Planning and Zoning 1462 Strongs Avenue Stevens Point, WI 54481 715-346-1334

Objective3. 2: Protect existing primary amphibian areas identified in Portage County Lake Study (http://www.co.portage.wi.us/plzo/lakes.html) and identify other important habitat.

Action	Lead person/group	Start/end dates	Resources
Work with the County Parks Department to preserve and protect frog habitat (cattail area that also serves as infiltration area) in the County Park.	Lake District Commission	Ongoing	County Parks Dept
Work with the town to protect habitat at town public boat landing. Consider tree drops to provide habitat	Lake District President will talk with Town.	Ongoing	Town of Alban
Continue to provide information on why identified sensitive areas are important. Keep the identified habitat areas and describe their value as part of lake walk.	Head of lake walk committee	Ongoing	County Parks Dept

Aquatic plants

Fish and other aquatic and water dependent terrestrial life depend on aquatic plants for habitat, food, and spawning areas. Healthy aquatic plant communities also limit the establishment of invasive aquatic species along with a vigilant watch to prevent invasive species from entering and becoming established in Lake Helen. The families of lake residents and users enjoy Lake Helen's fishery and wildlife viewing. Healthy, native communities of aquatic plants are important to provide these opportunities. The residents of Lake Helen feel that native aquatic plants play an important role in a healthy eco-system. The majority of survey respondents felt that the presence of aquatic plants was essential to maintaining the water quality and water clarity of Lake Helen.

Goal 4

Maintain the diversity and quality of native aquatic plants and prevent the establishment of invasive aquatic species through the sustainable management of aquatic plants for fish and wildlife habitat and to protect water quality. This goal will be achieved when aquatic plant surveys indicated that 2-5 foot zone of the lake is at least 80% vegetated for two consecutive surveys.

Objective 4.1: Minimize disturbed areas of native aquatic vegetation.

Actions	Lead person/group	Start/end dates	Resources
Continue to provide information about the value of native aquatic plants and the consequences of removing native plant communities.	Newsletter Editor/Website	Ongoing	UWEX Lakes Program County Parks Dept
Host speakers on aquatic plants	Lake District Commission	Ongoing	DNR
Conduct a plant survey of Lake Helen a minimum of every seven years. Look at partnering with other lakes in Portage County	Lake District Commission	Every 7 years or more often	DNR CWSE
Learn to distinguish between native and invasive aquatic plant species	Tie into training of volunteers	Ongoing	AIS coordinator RC&D

Objective 4.2: Prevent the introduction of any new aquatic invasive species into Lake Helen or prevent the distribution of EWM to other waterbodies.

Actions	Lead person/group	Start/end dates	Resources
Establish an Invasive Species Committee to deal with the management, control, and prevention of aquatic invasive species in Lake Helen	Lake District President	2011	UWEX Lakes Program AIS coordinator from RC&D
Establishing a Clean Boat-Clean Waters (CBCW) program. Have one or more trained persons at boat landing on Opening Fishing, Memorial and Labor Day weekends	Invasive Species Committee	Ongoing	UWEX Lakes Program AIS coordinator from RC&D County Parks Dept
Monitor for new invasive aquatic species and eradicate as needed.	Lake District Commission President & Invasive Species Committee	Ongoing	AIS coordinator from RC&D Funding from the DNR Follow Rapid Response Plan
Maintain updated Aquatic Invasive Rapid Response Plan.	Lake District Commission	Ongoing	UWSP and UWEX Lakes Program DNR AIS coordinator from RC&D
Work with other lakes, UWEX Lakes, and AIS coordinator on marketing (coasters, bags, posters, etc.) to prevent the spread of Aquatic Invasive Species.	Lake District Commission	Ongoing	UWEX Lakes Program AIS Coordinator from RC&D UWSP CWSE could help with grant writing and developing marketing resources

Objective 4.3: Control the Eurasian watermilfoil in Lake Helen to a management population and try to prevent the spread throughout the lake.

Actions	Lead person/group	Start/end dates	Resources
Continue to monitor EWM in Lake Helen and map the populations.	Invasive Species Committee	Ongoing	AIS Coordinator from RC&D
Continue to eradicate EWM in Lake Helen through a variety of means	Invasive Species Committee	Ongoing	AIS Coordinator from RC&D
Create and aquatic plant management plant to outline methods of managing the EWM in Lake Helen	Invasive Species Committee	2012	UWSP CWSE AIS Coordinator from RC&D
Apply for a rapid response grant to help with the costs of EWM management on Lake Helen	Invasive Species Committee	2011	UWSP CWSE AIS Coordinator from RC&D
Explore the use of additional weevils for control of EWM in Lake Helen	Invasive Species Committee	2012	UWSP CWSE AIS Coordinator from RC&D

Fisheries

Healthy lake ecosystems are valuable natural resources for all lake users. It is important to maintain a good fishery so that anglers and families are able catch fish now and for many generations. Fishing is one of the top recreational activities on Lake Helen and is valued by lake users. The majority of survey respondents felt that fishing in Lake Helen was average and had stayed the same or declined. Fish communities will be protected and improved by maintaining and improving the quality of in-lake and shoreland habitat, aquatic plant communities, and good water quality.

Goal 5

To have balanced healthy fish communities maintained through sustainable management practices.

Objective 5.1: Improve shallow water fish habitat through tree falls and near shore habitat in 30% of Lake Helen.

Actions	Lead person/group	Start/end dates	Resources
Add/restore fish habitat including tree drops on residential properties and town access points.	Fisheries Committee	Ongoing	DNR Hunt 'em and hook 'em.
Provide information about why fish habitat is needed and what can be done to improve habitat.	Fisheries Committee	Ongoing	DNR

Objective 5.2: Work with DNR to determine lake specific fisheries goals.

Actions	Lead person/group	Start/end dates	Resources
Work with DNR using local lake data to develop lake-specific fishery recommendations.	Fisheries Committee	Ongoing	DNR
Work with DNR to get recommendations about fish-stocking and if it makes sense for Lake Helen.	Fisheries Committee	Ongoing	DNR Hunt 'em and hook 'em.

Recreation

Lake Helen residents enjoy many different recreational opportunities on Lake Helen. Based on survey results, the most popular recreational activities on Lake Helen included enjoying scenery, walking, swimming, solitude, fishing, wildlife, and boating. Recreational needs and uses on the lake will likely continue to increase as populations and development in the area increases. It is important to provide safe recreational opportunities while still protecting water quality and lake habitats and minimizing conflicts between uses.

Goal 6

Maintain and enhance low-impact activities on Lake Helen that promote a sense of community and allow all users to enjoy the lake.

Objective 6.1: Maintain and develop new activities on Lake Helen that promote a sense of community.

Action	Lead person/group	Start/end dates	Resources
Continue to organize lake picnic and other annual social event to re-establish community.	Lake Picnic Organizer	Annually in the summer	
Maintain the lake walk around Lake Helen Explore ways to make the lake walk safer: Consider reducing speed limit; increasing number of speed limit signs; borrowing county speed limit radar display; adding walking lane when road is redone.	Head of Lake Walk Committee	Ongoing	Town of Alban Portage County Highway Dept

Objective 6.2: Reduce conflict by accommodating different types of recreational use on Lake Helen.

Action	Lead person/group	Start/end dates	Resources
Maintain slow no-wake from 4pm-10am. Working smoothly and is supported by residents and landowners.	Lake District Commission	Ongoing	DNR (for enforcement)

Informational Opportunities

Many of the goals in this plan involve the distribution and dissemination of information to residents to help them make informed land management decisions, request assistance from local municipalities and other stakeholders. A large percentage of the Lake District residents are part time users which creates some challenges and requires creativity. Increased information and communication will help achieve the goals and objectives listed throughout this document.

Goal 7

Create informational and communication opportunities for Lake Helen landowners and users to develop interactions with others that are involved in decisions that affect Lake Helen.

Objective 7.1: Provide information about lake stewardship to new and existing landowners and residents on Lake Helen.

Action	Lead person/group	Start/end dates	Resources
Distribute welcome packets to new landowners. Include no wake times, no wake speed within 100 feet of shoreline, pier planner, shoreland zoning rules and rationale for regulations.	Welcome packet coordinator	Ongoing	UWEX Lakes Program Portage County other lake groups
Coordinate with County Register of Deeds to learn about and contact new property owners on Lake Helen. Possibly list new landowners on website	Welcome packet coordinator	Ongoing	Town of Alban

Objective 7.2: Increase communications between all Lake Helen Residents, Town, County, and professionals.

Action	Lead person/group	Start/end dates	Resources
Convert newsletter to an electronic newsletter with paper copies still sent to those without a computer. Create at least two newsletters annually.	Lake District Secretary	Ongoing	
Maintain the lake district website at www.lakehelendistrict.com Add pertinent links to the Portage County Lakes , UWEX Lakes, and informational websites	Website Coordinator	Ongoing	
Encourage Lake District Commissioners, landowners, and new people to attend annual Wisconsin Lake Conference; Provide financial incentives from the District. Advertise on website	Lake District Commission	Ongoing	UWEX Lakes
Support the formation of a Portage County Lakes group for lakes to come together and collaborate on issues	Lake District Commission	Ongoing	UWSP CWSE
Work to improve communication among the town, county, WDNR, RC&D, and Lake District.	Lake District Commission	Ongoing	
Try and have representation from the lake district at the town and county meetings	Lake District Commission	Ongoing	
Create committees for projects and create job descriptions for all lake district commissioners, board members, and committees	Lake District Commission	2011	
Create and maintain a central e-mail address for all Lake Helen Lake District information that all district commissioners have access to so that information can be seen and shared.	Lake District Commission	2011	

Updates and Revisions

Goal 8

Keep the information and resources within the Lake Helen Lake Management Plan current and up to date.

Action	Lead person/group	Start/end dates	Resources
Annually review the Lake Helen Lake Management Plan and update the plan with new or revised areas of concern, action items, dates, lead person/group, and resources.	Lake District Commission	Annually in the fall	

Understanding and planning for how our actions affect others is a key step in battling to protect and conserve Lake Helen as a valuable natural resource. We would like to thank you for taking the time to read through this plan, which is a sign of your dedication to these efforts.

We would also like to thank all those that participated in the planning process and gave freely of their time and expertise in order to create this plan.

If you wish to find additional or updated information about Lake Helen, an electronic version of this document, or information on the Lake Helen Lake Protection and Rehabilitation District please visit: www.lakehelendistrict.com and http://www.co.portage.wi.us/Planning&Zoning/PCL/Main%20Page/Main%20Page.shtm

Lake Helen Invasive Species Rapid Response Plan (2011)

Survey/Monitor

1. **Learn to survey/monitor the lake** from:

   Water Resources Management Specialist
   Wisconsin Dept. of Natural Resources
   Scott Provost
   473 Griffith Ave.
   Wisconsin Rapids, WI, 54494
   Phone: 715-421-7881
   E-Mail: Scott.provost@wisconsin.gov

   Portage County Aquatic Invasive Species (AIS) Coordinator
   Golden Sands RC& D
   Amy Thorstenson
   1462 Strongs Ave.
   Stevens Point, WI 54481
   Phone: 715-343-6278

2. **Survey the Lake monthly/seasonally/annually**

What to Do When You Find a Suspected Invasive Species

1. **Collect Specimens or Take Pictures**

   - Collect, press and dry a complete sample. This method is best because a plant expert can then examine the specimen.

   Or --

   - Collect a fresh sample. Enclose in a plastic bag with a moist paper towel and refrigerate.

   Or --

   - Take detailed photos (digital or film) and send them by mail or email.

   Regardless of method used, provide as much information as possible. Try to include flowers, seeds or fruit, buds, full leaves, stems roots and other distinctive features. In photos, place a coin, pencil or ruler for scale. Deliver or send specimen ASAP.

   Note Location
   (Provide one or more of the following)

   - Latitude & Longitude
   - UTM (Universal Transverse Mercator) coordinates
   - County, Township, Range, Section, Part-section
   - Precise written site description, noting nearest city & road names, landmarks, local topography

   If possible, give the exact geographic location using a GPS (global positioning system) unit, topographic map, or the Wisconsin Gazetteer map book. If using a map, include a photocopy with a dot showing the plant's location. You can use TopoZone.com to find the precise location on a digital topographic map. Click the cursor on the exact collection site and note the coordinates (choose UTM or Latitude/Longitude).

2. **To Positively I.D. the species send or bring specimen and additional information:**

- Collection date & county
- Your name, address, phone, email
- Exact location (Latitude/Longitude or UTM preferred, or Township/Range/Section)
- Plant name (common or scientific)
- Land ownership (if known)
- Population description (estimate number of plants, area covered)
- Habitat type(s) where found (forest, field, prairie, wetland, open water)

Send or bring specimen to:

Portage County AIS Coordinator
Golden Sands RC& D
Amy Thorstenson
1462 Strongs Ave.
Stevens Point, WI 54481
Phone: 715-343-6214

UW-Stevens Point Herbarium
301 Daniel O. Trainer Natural Resources Building
Stevens Point, WI 54481
Phone: 715-346-4248
E-Mail: ejudziew@uwsp.edu

Wisconsin Dept. Natural Resources
Invasive Plant Education, Early Detection,
and Mapping Specialist
Brendon Panke
WI Dept. of Natural Resources
P.O. Box 7921
Madison, WI 53707-7921
Phone: (608) 267-7438
E-Mail: invasiveplants@mailplus.wisc.edu

3. **Once a positive I.D. has been made** it is important that all people listed below are immediately notified with the positive identification of an invasive species. These will include

Lake District President
Contact: Del Anderson
Address: 3043 W Lake Helen Dr. Rosholt, WI 54473
Telephone: (715)-677-4215
E-mail: delnmicki@yahoo.com

Wisconsin Department of Natural Resources
Water Resources Management Specialist
Scott Provost
Address: 473 Griffith Ave. Wisconsin Rapids, WI, 54494
Phone: 715-421-7881
E-Mail: Scott.provost@wisconsin.gov
Who will contact them: Lake District President

Portage County AIS Coordinator
Golden Sands RC& D
Address: 1462 Strongs Ave. Stevens Point, WI 54481
Phone: 715-343-6214
Who will contact them: Lake District President

The town in which the waterbody is situated
Town of: Alban
Contact: Mike Zdroik
Phone: (715)-677-3873
Who will contact them: Lake District President

The Lake District Commissioners will decide if and when the following should be contacted:

Lake Residents, newspapers, and notices at the access points to Lake Helen.

Literature Cited

Fassbender, R.L., and L.M. Nelson. 1971. Surface Water Resources of Portage County. Wisconsin Department of Natural Resources, Madison, Wisconsin.

Turyk, N; R. Bell; R. Cook; T. Ginnett; R. Crunkilton; L. Markham; P. McGinle; B. Shaw; and E. Wild; 2006. Final report to Portage County and Wisconsin DNR. http://www.co.portage.wi.us/plzo/lakes.html

Glossary

Algae:

One-celled (phytoplankton) or multicellular plants either suspended in water (Plankton) or attached to rocks and other substrates (periphyton). Their abundance, as measured by the amount of chlorophyll a (green pigment) in an open water sample, is commonly used to classify the trophic status of a lake. Numerous species occur. Algae are an essential part of the lake ecosystem and provides the food base for most lake organisms, including fish. Phytoplankton populations vary widely from day to day, as life cycles are short.

Atrazine:

A widely used herbicide.

Blue-Green Algae:

Algae that are often associated with problem blooms in lakes. Some produce chemicals toxic to other organisms, including humans. They often form floating scum as they die. Many can fix nitrogen (N2) from the air to provide their own nutrient.

Calcium (Ca++):

The most abundant cation found in Wisconsin lakes. Its abundance is related to the presence of calcium-bearing minerals in the lake watershed. Reported as milligrams per liter (mg/1) as calcium carbonate (CaCO3), or milligrams per liter as calcium ion (Ca++).

Chloride (Cl-):

Chlorine in the chloride ion (Cl-) form has very different properties from chlorine gas (Cl2), which is used for disinfecting. The chloride ion (Cl-) in lake water is commonly considered an indicator of human activity. Agricultural chemicals, human and animal wastes, and road salt are the major sources of chloride in lake water.

Chlorophyll a:

Green pigment present in all plant life and necessary for photosynthesis. The amount present in lake water depends on the amount of algae and is therefore used as a common indicator of algae and water quality.

Clarity:

see "Secchi disc."

Color:

Measured in color units that relate to a standard. A yellow-brown natural color is associated with lakes or rivers receiving wetland drainage. The average color value for Wisconsin lakes is 39 units, with the color of state lakes ranging from zero to 320 units. Color also affects light penetration and therefore the depth at which plants can grow.

Concentration units:

express the amount of a chemical dissolved in water. The most common ways chemical data is expressed is in milligrams per liter (mg/l) and micrograms per liter (ug/l). One milligram per liter is equal to one part per million (ppm). To convert micrograms per liter (ug/l) to milligrams per liter (mg/l), divide by 1000 (e.g. 30 ug/l = 0.03 mg/1). To convert milligrams per liter (mg/l) to micrograms per liter (ug/l), multiply by 1000 (e.g. 0.5 mg/l = 500 ug/l). Microequivalents per liter (ueq/l) is also sometimes used, especially for alkalinity; it is calculated by dividing the weight of the compound by 1000 and then dividing that number into the milligrams per liter.

Cyanobacteria:

See “Blue-Green Algae”

Dissolved Oxygen:

The amount of oxygen dissolved or carried in the water.

Drainage Basin:

The total land area that drains towards a lake.

Drainage lakes:

Lakes fed primarily by streams and with outlets into streams or rivers. They are more subject to surface runoff problems but generally have shorter residence times than seepage lakes. Watershed protection is usually needed to manage lake water quality.

Emergent:

A plant rooted in shallow water and having most of its vegetative growth above water.

Eutrophication:

The process by which lakes and streams are enriched by nutrients, and the resulting increase in plant and algae. The extent to which this process has occurred is reflected in a lake's trophic classification: oligotrophic (nutrient poor), mesotrophic (moderately productive), and eutrophic (very productive and fertile).

Groundwater drainage lake:

Often referred to a spring-fed lake, has large amounts of groundwater as its source, and a surface outlet. Areas of high groundwater inflow may be visible as springs or sand boils. Groundwater drainage lakes often have intermediate retention times with water quality dependent on groundwater quality.

Hardness:

The quantity of multivalent cations (cations with more than one +), primarily calcium (Ca++) and magnesium (Mg++) in the water expressed as milligrams per liter of CaCO3. Amount of hardness relates to the presence of soluble minerals, especially limestone, in the lake watershed.

Intermittent:

Coming and going at intervals, not continuous.

Macrophytes:

see "Rooted aquatic plants."

Marl:

White to gray accumulation on lake bottoms caused by precipitation of calcium carbonate (CaCO3) in hard water lakes. Marl may contain many snail and clam shells, which are also calcium carbonate. While it gradually fills in lakes, marl also precipitates phosphorus, resulting in low algae populations and good water clarity. In the past, marl was recovered and used to lime agricultural fields.

Mesotrophic:

A lake with an intermediate level of productivity. Commonly a clear water lakes and ponds with beds of submerged aquatic plants and mediums levels of nutrients. See also “eutrophication”.

Nitrate (NO3-):

An inorganic form of nitrogen important for plant growth. Nitrate often contaminates groundwater when water originates from manure, fertilized fields, lawns or septic systems. High levels of nitrate-nitrogen (over 10 mg/L) are dangerous to infants and expectant mothers. A concentration of nitrate-nitrogen (NO3-N) plus ammonium-nitrogen (NH4-N) of 0.3 mg/L in spring will support summer algae blooms if enough phosphorus is present.

Oligotrophic:

Lakes with low productivity, the result of low nutrients. Often these lakes have very clear waters with lots of oxygen and little vegetative growth. See also “eutrophication”.

Overturn:

Fall cooling and spring warming of surface water increases density, and gradually makes temperature and density uniform from top to bottom. This allows wind and wave action to mix the entire lake. Mixing allows bottom waters to contact the atmosphere, raising the water's oxygen content. However, warming may occur too rapidly in the spring for mixing to be effective, especially in small sheltered kettle lakes.

Phosphorus:

Key nutrient influencing plant growth in more than 80% of Wisconsin lakes. Soluble reactive phosphorus is the amount of phosphorus in solution that is available to plants. Total phosphorus includes the amount of phosphorus in solution (reactive) and in particulate form.

Rooted Aquatic Plants: (macrophytes)

Refers to higher (multi-celled) plants growing in or near water. Macrophytes are beneficial to lakes because they produce oxygen and provide substrate for fish habitat and aquatic insects. Overabundance of such plants, especially problem species, is related to shallow water depth and high nutrient levels.

Secchi Disc (Secchi Disk):

An 8-inch diameter plate with alternating quadrants painted black and white that is used to measure water clarity (light penetration). The disc is lowered into water until it disappears from view. It is then raised until just visible. An average of the two depths, taken from the shaded side of the boat, is recorded as the Secchi disc reading. For best results, the readings should be taken on sunny, calm days.

Sedimentation:

Materials are deposited after settling out of the water.

Stratification:

The layering of water due to differences in density. Water's greatest density occurs at 39 Deg.F (4 Deg.C). As water warms during the summer, it remains near the surface while colder water remains near the bottom. Wind mixing determines the thickness of the warm surface water layer (epilimnion), which usually extends to a depth of about 20 ft. The narrow transition zone between the epilimnion and cold bottom water (hypolimnion) is called the metalimnion or thermocline.

Watershed:

See “drainage Basin

Appendix A

Lake Helen Sensitive Areas

Appendix B

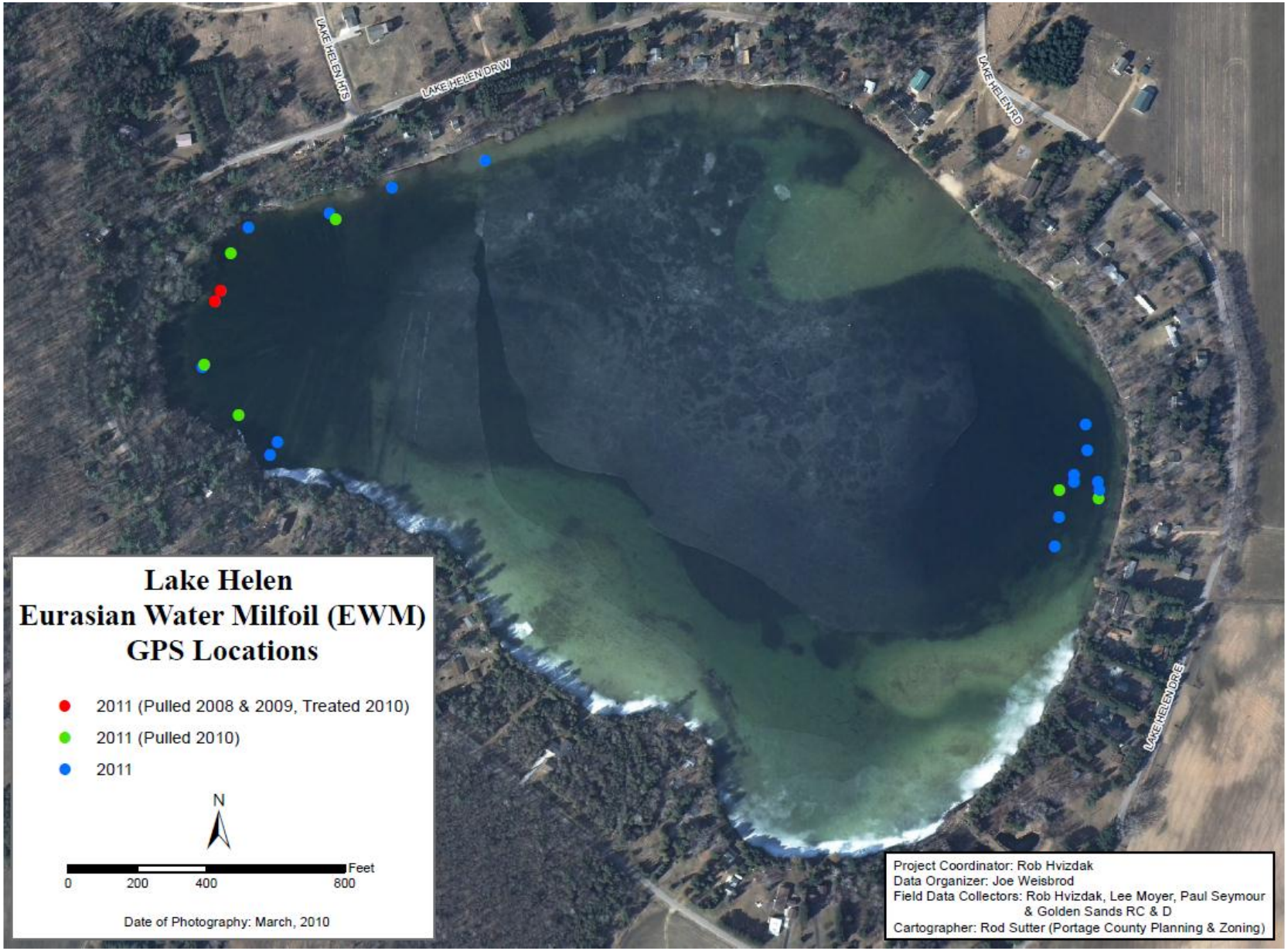
Lake Helen Critical Habitat Areas (UWSP)

Appendix C

Lake Helen Shoreline

Appendix D

Map of Eurasian watermilfoil in Lake Helen



Portage County Lake Information Directory

Algae - Blue-Green
Contact: Scott Provost, Wisconsin Department of Natural Resources
Phone: 715-421-7881
Address: WDNR 473 Griffith Ave. Wisconsin Rapids, WI 54494
E-mail: scott.provost@wisconsin.gov
Website:
http://dnr.wi.gov/lakes/bluegreenalgae/

Contact: Portage County Health & Human Services Department
Phone: 715-345-5350
Address: 817 Whiting Ave. Stevens Point, WI 54481
E-mail: PCHHSD@co.portage.wi.us

Aquatic Invasive Species /Clean Boats Clean Water
Contact: Amy Thorstenson, Golden Sands RC&D
Phone: 715-343-6278

Contact: Amy Thorstenson, Golden Sands RC&D
Phone: 715-346-1264
E-mail: thorstea@co.portage.wi.us

Address: 1462 Strongs Ave. Stevens Point, WI 54481

Websites:
http://www.goldensandsrcd.org/
http://dnr.wi.gov/invasives/

Aquatic Plant Management (Native and Invasive)
Contact: Scott Provost, Wisconsin Department of Natural Resources
Phone: 715-421-7881
Address: WDNR 473 Griffith Ave. Wisconsin Rapids, WI 54494
E-mail: scott.provost@wisconsin.gov
Website: http://dnr.wi.gov/lakes/plants/

Aquatic Plant Identification
Contact: Amy Thorstenson, Golden Sands RC&D
Phone: 715-346-1264
E-mail: thorstea@co.portage.wi.us
Address: 1462 Strongs Ave. Stevens Point, WI 54481
Website: http://www.goldensandsrcd.org/

Contact: Scott Provost, Wisconsin Department of Natural Resources
Phone: 715-421-7881
Address: WDNR 473 Griffith Ave. Wisconsin Rapids, WI 54494
E-mail: scott.provost@wisconsin.gov
Website: http://dnr.wi.gov/lakes/plants/

Aquatic Plant Surveys
Contact: Scott Provost, Wisconsin Department of Natural Resources
Phone: 715-421-7881
Address: WDNR 473 Griffith Ave. Wisconsin Rapids, WI 54494
E-mail: scott.provost@wisconsin.gov
Website: http://dnr.wi.gov/lakes/plants/

Best Management Practices (Raingardens, shoreland buffers, agricultural practices, runoff controls)
Contact: Randy Slagg, Portage County Land Conservation Department
Phone: 715-346-1334
Address: 1462 Strongs Ave. Stevens Point, WI 54481
E-mail: Planning&Zoning@co.portage.wi.us
Website:
http://www.co.portage.wi.us/planningzoning/

Boat Landings (County)
Contact: Gary Speckmann, Portage County Parks
Phone: 715-346-1433
Address: 1903 County Hwy Y Stevens Point, WI 54481
E-mail: parks@co.portage.wi.us
Website: http://www.co.portage.wi.us/parks/

Boat Landings (State)
Contact: Tom Meronek, Wisconsin Department of Natural Resources
Phone:715-359-7582
Address: 5103 Rib Mt. Drive, Wausau, WI 54401
E-mail: Thomas.Meronek@wisconsin.gov
Website:
http://dnr.wi.gov/org/land/facilities/boataccess/

Boat Landings (Town)
Contact the clerk for the specific town/village in which the boat landing is located.

Build-Out Scenarios
Contact: Dan McFarlane, Center for Land Use Education UWSP
Phone: 715-346-5254
Address: 211 TNR UWSP 800 Reserve St. Stevens Point, WI 54481
E-mail: Dan.McFarlane@uwsp.edu

Conservation Easements
Contact: North Central Conservancy Trust
Phone: 715-341-7741
Address: P.O. Box 124 Stevens Point, WI 54481
E-mail: info@ncctwi.org
Website: http://www.ncctwi.org/

Contact: Northeast Wisconsin Land Trust
Phone: 920-738-7265
Address: 14 Tri-Park Way Building 1, Suite 1 Appleton, WI 54913
E-mail: newlt@newlt.org
Website: http://www.newlt.org/

Contact: Gathering Waters Conservancy
Phone: 608-251-9131
Address: 211 S. Paterson St. Suite 270 Madison, WI 53703
E-mail: info@gatheringwaters.org
Website: http://gatheringwaters.org/

Contact: NRCS Stevens Point Service Center
Phone: 715-346-1325
Address: 1462 Strongs Ave. Stevens Point, WI 54481

Critical Habitat and Sensitive Areas
Contact: Buzz Sorge, Wisconsin Department of Natural Resources
Phone: 715-839-3794
Address: P.O Box 4001 Eau Claire, WI 54702
E-mail: Patrick.Sorge@wisconsin.gov
Website:
http://dnr.wi.gov/lakes/criticalhabitat/

Dams
Contact: Joe Behlen, Wisconsin Department of Natural Resources
Phone: 715-421-9940
Address: 473 Griffith Ave. Wisconsin Rapids, WI 54494
E-mail: joseph.behlen@wisconsin.gov
Website:
http://dnr.wi.gov/org/water/wm/dsfm/dams/

Fertilizers/Soil Testing
Contact: Ken Schroeder, Portage County UW-Extension
Phone: 715-346-1316
Address: 817 Whiting Ave. Stevens Point, WI 54481
E-mail: Ken.Schroeder@ces.uwex.edu
Website:
http://www.uwex.edu/ces/cty/portage/ag/index.html

Fisheries (management, habitat)
Contact: Tom Meronek, Wisconsin Department of Natural Resources
Phone:715-359-7582
Address: 5103 Rib Mt. Drive, Wausau, WI 54401
E-mail: Thomas.Meronek@wisconsin.gov
Website: http://dnr.wi.gov/fish/

Fish Surveys
Contact: Tom Meronek, Wisconsin Department of Natural Resources
Phone:715-359-7582
Address: 5103 Rib Mt. Drive, Wausau, WI 54401
E-mail: Thomas.Meronek@wisconsin.gov
Website: http://dnr.wi.gov/fish/

Fish Surveys Cont.
Contact: Nancy Turyk, Center for Watershed Science and Education UWSP
Phone: 715-346-4155
Address: 216 TNR 800 Reserve St. Stevens Point, WI 54481
E-mail: nturyk@uwsp.edu

Grants
Contact: Buzz Sorge, Wisconsin Department of Natural Resources
Phone: 715-839-3794
Address: P.O Box 4001 Eau Claire, WI 54702
E-mail: Patrick.Sorge@wisconsin.gov
Website:

Contact: Steve Bradley, Portage County Conservationist
Phone: 715-346-1334
Address: 1462 Strongs Ave. Stevens Point, WI 54481
E-mail: bradleys@co.portage.wi.us

Green Household and Cleaning Products
Contact: Jen Stewart, Portage County UW-Extension
Phone: 715-346-1316
Address: 817 Whiting Ave. Stevens Point, WI 54481
E-mail: Jennifer.stewart@ces.uwex.edu
Website: http://portage.uwex.edu/index.html

Groundwater
Contact: Ray Schmidt, Portage County Groundwater Specialist
Phone: 715-346-1334
Address: 1462 Strongs Ave. Stevens Point, WI 54481
E-mail: schmidtr@co.portage.wi.us
Website:
http://www.co.portage.wi.us/groundwater/undrstnd/index.htm

Contact: Kevin Masarik, Center for Watershed Science and Education UWSP
Phone: 715-346-4276
Address: 224 TNR 800 Reserve St. Stevens Point, WI 54481
E-mail: kmasarik@uwsp.edu
Website: http://www.uwsp.edu/cnr/watersheds/

High Capacity Wells
Contact: Ray Schmidt, Portage County Groundwater Specialist
Phone: 715-346-1334
Address: 1462 Strongs Ave. Stevens Point, WI 54481
E-mail: schmidtr@co.portage.wi.us

Contact: Scott Provost, Wisconsin Department of Natural Resources
Phone: 715-421-7881
Address: WDNR 473 Griffith Ave. Wisconsin Rapids, WI 54494
E-mail: scott.provost@wisconsin.gov
Website:
http://prodoasext.dnr.wi.gov/inter1/hicap$.startup

Informational Packets
Contact: Jen McNelly, Center for Watershed Science and Education UWSP
Phone: 715-346-2722
Address: 224 TNR UWSP 800 Reserve St. Stevens Point, WI 54481
E-mail: pclakes@uwsp.edu

Lake Groups – Friends, Associations, Districts
Contact: Patrick Goggin, UWEX Lakes
Phone: 715-295-8903
Address: 203 TNR 800 Reserve St. Stevens Point, WI 54481
E-mail: pgoggin@uwsp.edu
Website:
http://www.uwsp.edu/cnr/uwexlakes/organizations/

Contact: Susan Tesarik, Wisconsin Association of Lakes
Phone: 1-800-542-5253
Address: 4513 Vernon Blvd. Suite 101 Madison, WI 53705
E-mail: lakeinfo@wisconsinlakes.org
Website: http://wisconsinlakes.org/

Lake Levels
See: Groundwater

Lake Related Violations (No-wake, transporting invasives, etc.)
Contact: Barry Meister or Jon Sharbarth, Wisconsin Department of Natural Resources State Conservation Wardens
Phone: 715-344-2752
Address: 301 Cedar St. Stevens Point, WI 54481
Website: http://dnr.wi.gov/org/es/enforcement/

Land Use Plans and Zoning Ordinances
Contact: Chris Mrdutt,Tracy Pelky, Jeff Schuler, Chuck Lucht Portage County Planning and Zoning
Phone: 715-346-1334
Address: 1462 Strongs Ave. Stevens Point, WI 54481
E-mail: Planning&Zoning@co.portage.wi.us
Website: http://www.co.portage.wi.us/planningzoning/

Contact: Center for Land Use Education, UWSP
Phone: 715-346-3783
Address: TNR 208 800 Reserve St. Stevens Point, WI 54481
E-mail: Center.for.Land.Use.Education@uwsp.edu
Website: http://www.uwsp.edu/cnr/landcenter/

Nutrient Management Plans
Contact: Randy Slagg, Portage County Land Conservation Department
Phone: 715-346-1334
Address: 1462 Strongs Ave. Stevens Point, WI 54481
E-mail: Planning&Zoning@co.portage.wi.us
Websites: http://www.co.portage.wi.us/planningzoning/ http://dnr.wi.gov/runoff/ag/manure.html

Parks (County)
Contact: Gary Speckmann, Portage County Parks
Phone: 715-346-1433
Address: 1903 County Hwy Y Stevens Point, WI 54481
E-mail: parks@co.portage.wi.us
Website: http://www.co.portage.wi.us/parks/

Purchase of Development Rights
Contact: North Central Conservancy Trust
Phone: 715-341-7741
Address: P.O. Box 124 Stevens Point, WI 54481
E-mail: info@ncctwi.org
Website: http://www.ncctwi.org/

Contact: Northeast Wisconsin Land Trust
Phone: 920-738-7265
Address: 14 Tri-Park Way Building 1, Suite 1 Appleton, WI 54913
E-mail: newlt@newlt.org
Website: http://www.newlt.org/

Purchase of Land
Contact: Buzz Sorge, Wisconsin Department of Natural Resources
Phone: 715-839-3794
Address: P.O Box 4001 Eau Claire, WI 54702
E-mail: Patrick.Sorge@wisconsin.gov
Website: http://dnr.wi.gov/org/land/facilities/realestate/acquire.html

Rain Barrels – Order
Contact: Golden Sands RC&D
Phone: 715-343-6215
Address: 1462 Strongs Ave. Stevens Point, WI 54481
Website: http://www.goldensandsrcd.org/downloads/rain_barrel_order_form.pdf

Rain Gardens and Runoff
Contact: Randy Slagg, Portage County Land Conservation Department
Phone: 715-346-1334
Address: 1462 Strongs Ave. Stevens Point, WI 54481
E-mail: Planning&Zoning@co.portage.wi.us
Website: http://dnr.wi.gov/runoff/rg/

Rain Gardens and Runoff Cont.
Contact: Ken Schroeder, Portage County UW-Extension
Phone: 715-346-1316
Address: 817 Whiting Ave. Stevens Point, WI 54481
E-mail: Ken.Schroeder@ces.uwex.edu
Website: http://portage.uwex.edu/index.html

Septic Systems
Contact: Ralph Loeffler, Portage County Planning and Zoning
Phone: 715-346-1334
Address: 1462 Strongs Ave. Stevens Point, WI 54481
E-mail: Planning&Zoning@co.portage.wi.us
Website:
http://www.co.portage.wi.us/planningzoning/

Shoreland Management
Contact: Randy Slagg, Portage County Land Conservation Department
Phone: 715-346-1334
Address: 1462 Strongs Ave. Stevens Point, WI 54481
E-mail: Planning&Zoning@co.portage.wi.us
Website:
http://www.co.portage.wi.us/planningzoning/

Shoreland Vegetation
Contact: Randy Slagg, Portage County Land Conservation Department
Phone: 715-346-1334
Address: 1462 Strongs Ave. Stevens Point, WI 54481
E-mail: Planning&Zoning@co.portage.wi.us
Websites:
http://dnr.wi.gov/org/water/wm/dsfm/shore/

http://www.uwsp.edu/cnr/uwexlakes/ecology/shorelands/default.asp

Shoreland Zoning Ordinances
See: Zoning Ordinances

Soil Fertility Testing
Contact: Ken Schroeder, Portage County UW-Extension
Phone: 715-346-1316
Address: 817 Whiting Ave. Stevens Point, WI 54481
E-mail: Ken.Schroeder@ces.uwex.edu
Website: http://portage.uwex.edu/index.html

Water Quality Monitoring
Contact: Nancy Turyk, Center for Watershed Science and Education UWSP
Phone: 715-346-4155
Address: 216 TNR 800 Reserve St. Stevens Point, WI 54481
E-mail: nturyk@uwsp.edu
Website:
http://watermonitoring.uwex.edu/index.html

Water Quality Problems
Contact: Buzz Sorge, Wisconsin Department of Natural Resources
Phone: 715-839-3794
Address: P.O Box 4001 Eau Claire, WI 54702
E-mail: Patrick.Sorge@wisconsin.gov
Website:
http://dnr.wi.gov/environmentprotect/water.html

Contact: Nancy Turyk, Center for Watershed Science and Education UWSP
Phone: 715-346-4155
Address: 216 TNR 800 Reserve St. Stevens Point, WI 54481
E-mail: nturyk@uwsp.edu

Wetlands
Contact: Keith Patrick, Wisconsin Department of Natural Resources
Phone: 715-241-7502
Address: 5301 Rib Mt. Drive Wausau, WI 54401
E-mail: keith.patrick@wisconsin.gov
Website: http://dnr.wi.gov/wetlands/

Wetland Inventory
Contact: Dr. Robert Freckmann, UWSP Freckmann Herbarium
Phone: 715-346-2637
Address: 310 TNR UWSP 800 Reserve St. Stevens Point, WI 54481
E-mail: rfreckma@uwsp.edu

Woody Habitat
Contact: Keith Patrick, Wisconsin Department of Natural Resources
Phone: 715-241-7502
Address: 5301 Rib Mt. Drive Wausau, WI 54401
E-mail: keith.patrick@wisconsin.gov

Contact: Tom Meronek, Wisconsin Department of Natural Resources
Phone:715-359-7582
Address: 5103 Rib Mt. Drive, Wausau, WI 54401
E-mail: Thomas.Meronek@wisconsin.gov

If you are looking for any information that is not listed in this directory please contact:
Jen McNelly, UWSP Center for Watershed Science and Education
224 TNR UWSP 800 Reserve St. Stevens Point, WI 54481
Phone: 715-346-2722
E-mail: pclakes@uwsp.edu

Portage County Lake Organizations

DuBay Property Owners Association
President: Wayne Gresl
Address: 1977 Gramham Ln. Mosinee, WI 54455
Type: Lake Association

Friends of Lake Emily
President: Jerry Shulfer
Address: 8886 Edgewater Dr Amherst Junction, WI 54407
Type: Lake Association

Lake Helen Protection and Rehabilitation District
Chair: Del Anderson
Address: P.O. Box 126 Rosholt, WI 54473
Website: http://www.lakehelendistrict.com
Type: Lake District

Lake Jacqueline Protection and Rehabilitation District
President: Jack Adams
Address: 4460 County Rd. J North Custer, WI 54423
Type: Lake District

Lakehurst Dev/Eau Pleine Flowage
President: Donna Hennemen
Address: 1488 Lake Hurst Rd Mosinee, WI 54455
Type: Other

McDill Inland Lake Protection and Rehabilitation District
President: Jack Negaard
Address: 3325 Yvonne Dr. Stevens Point, WI 54481
Website: http://webpages.charter.net/mcdillpond/McDillPond.htm
Type: Lake District

Rinehart Lake Association
President: Anne Abbot
Address: 1180 S. Lake Rd. Amherst Junction, WI 54407
Type: Lake Association

Tree Lake Association
President: Mike Omernik
Address: 4639 Tree Lake Rosholt, WI 54473
Website: http://treelake.net63.net/
Type: Lake Association

Village of Plover – Springville Pond Management Committee
Chair:
Address: 2400 Post Rd. Plover, WI 54467
Website: http://www.ploverwi.gov/
Type: Other