Vision *an overall statement for what you want Big Blake Lake to look like*

Big Blake Lake is a sustainable, healthy environment for people, recreation, wildlife, and native plants. Engaged and informed stakeholders protect the lake and its watershed.

Guiding Principles *provide guidance on how the lake management plan will be implemented*

Lake management decisions are data driven and evidence-based to incorporate an analysis of past, present, and future data and are implemented in a manner that will limit unintended negative environmental impacts

Member education, engagement, and neighbor-to-neighbor communications for all generations are important to meet the vision of and manage the future of Big Blake Lake

Clear and concise multi-channel communications to members express the ever evolving nature of lake management and the complexity of issues

**Goal 1: Reduce nuisance algae and plant growth by reducing watershed and internal sources of phosphorus

*Big Blake Lake is currently on Wisconsin’s Impaired Waters List under the Federal Clean Water Act, Section 303(d). Watershed and internal sources of phosphorus should be reduced such that Big Blake Lake is removed from the Impaired Waters List as indicated by an in-lake average seasonal total phosphorus concentration of 40 µg/L and in-lake chlorophyll value of less than 20 µg/L for 30% of the days in the sampling season. Harvesting of curly leaf pondweed removes nutrients from Big Blake Lake which would otherwise contribute to internal sources of phosphorus.***

Objective 1. Support harvesting of curly leaf pondweed to remove nutrients from Big Blake Lake

* *Develop and deliver an educational message to explain the relationship between harvesting and phosphorus removal from Big Blake Lake*
* *Review and update the Big Blake Lake harvesting plan on an annual basis*
* *Complete and submit Form 3200-113:Mechanical/Manual Aquatic Plant Control Application*

Objective 2. Install at least 10 shoreline native plantings, diversion practices, rock infiltration practices or rain gardens per year

* *Provide an educational message regarding the importance of native vegetation, diversion practices, and rock infiltration practices to reduce watershed sources of phosphorus*
* *Organize an educational session highlighting simple changes to properties that will improve Big Blake Lake*
* *Offer free annual Healthy Lakes property audits to identify property owners interested in installing practices*
* *Prepare a Healthy Lakes Grant application to provide technical assistance and cost sharing to fund practices by 75%*
* *Determine a 25% match for the Healthy Lakes Grant (District on behalf of individual property owners or individual property owners)*
* *Recognize shoreline property owners who have installed practices*
* *Organize a tour of properties where successful practices have been installed*

Objective 3. Evaluate the purchase of highly erodible/ecologically sensitive land if option arises

* *Research and explore the formation of a conservancy*
* *Research and explore grant opportunities for acquiring land*
* *Form a subteam to oversee the purchase of high erodible/ecologically sensitive land*
* *If possible, provide recreational uses if land is purchased*

Objective 4. Engage the agricultural community as a partner in reducing watershed runoff

* *Work with the Polk County Land and Water Resources Department to identify agricultural producers in the Big Blake Lake watershed*
* *Develop a program to incentivize the installation of farmland best management practices*
* *Develop and deliver an educational message to explain the need and purpose of the program*
* *Recognize agricultural producers who have participated in the program*
* *Prepare a Lake Planning Grant application to fund soil sampling on agricultural fields in the watershed and determine a match for the grant*

Objective 5. Ensure that stakeholders understand the relationship between boat traffic and phosphorus release from the sediment

* *Develop and deliver an educational message to members of the District*
* *Develop and deliver an educational message to anglers in fishing tournaments*

Objective 6. Upgrade non-compliant septic systems by engaging and educating 100% of shoreline property owners

* *Develop and deliver an educational message regarding the relationship between failing septic systems and increased watershed sources of phosphorus*
* *Conduct a septic survey to determine the impact of septic systems on the lake and identify non-compliant septic systems*
* *Identify shoreline property owners willing to upgrade their septic system*
* *Prepare a Lake Protection Grant to fund upgrades to septic systems*
* *Determine a match for a Lake Protection Grant (District or individual property owners)*
* *Recognize shoreline property owners who have participated in the program*

**Goal 2: Reduce curly-leaf pondweed coverage and density to restore reasonable uses of the lake while promoting the recovery of the beneficial native plant community and protecting sensitive areas from disturbances**

***The current harvesting program should be continued with the goal of reducing curly-leaf pondweed sample site frequency of occurrence at sites shallower than the maximum depth of plants to 60% in harvested areas or an average density of 1. As a measure of the recovery of the native plant community, FQI should be maintained at 20 or greater.***

***The harvesting program will follow the guidelines of the Big Blake Lake Aquatic Invasive Species Management Plan, 2007-2011. At the time this plan was written, harvesting was not allowed within 100 feet of the shoreline. In 2008, the Big Blake Lake Aquatic Plant Management Plan was amended as a result of concerns regarding navigational issues. At this time the change was made to allow harvesting towards the shore to a minimum depth of 36 inches, with no minimum distance from shore. Additionally, in allowing harvesting near shore, no chemical herbicide permits will be considered as harvesting to minimum depths of 36 inches should allow adequate navigational opportunities.***

Objective 1. Ensure that the timing and location of harvesting is appropriate

* *Complete and submit Form 3200-113:Mechanical/Manual Aquatic Plant Control Application*
* *Notify Aquatic Plant Specialist, Mark Sundeen at 715-635-4074, 4 working days prior to anticipated start of the harvesting operation, or provide a schedule of harvesting on request*
* *Mechanical harvesting is only allowed in the areas specified and approved in the annual permit letter from WDNR and as they appear on the map submitted in the permit application*
* *Harvesting does not include sensitive areas and areas with a water depth of less than 36 inches*
* *Harvesting should occur before turion formation and deposition*
* *Harvesting will occur in the intensive management sites designated in the 2007 study regardless of apparent extend of CLP as a basis to measure progress of the program*
* *All late season cutting (that allowed in the permit after June 15th) should be allowed only at a depth greater than 5-feet of the lake nearest the rice beds.*
* *During or after the spring CLP harvesting is completed, harvesting will be allowed in navigation channels to be selected and agreed on by the Lake District, its’ plant monitoring consultant, and the DNR.*
* *Nuisance mid-summer native plant coverage, primarily coontail, may be harvested*
* *All aquatic plants cut must be removed immediately from the water and disposal of the harvested aquatic plants must be located in department approved areas and must be in accordance with any applicable county and local regulations.*

Objective 2. Allow individual riparian owners to manually remove vegetation if adequate navigational opportunities are not provided with the harvester

* *Manual removal will be done by hand or hand-held devices without the use or aid of external or auxiliary power*
* *Manual removal cannot exceed 30 feet in width and can only be done where the shore is being used for a dock or swim raft*
* *The 30 foot wide removal zone cannot be moved, relocated, or expanded with the intent to gradually increase the area of plants removed*
* *Wild rice may not be manually removed*

Objective 3. Monitor the success of the harvesting program

* *The WDNR harvesting permit, all maps of sensitive areas, identified navigation channels, and of the intensive management sites will be carried on board the harvester while operating at all times.*
* *GPS coordinates will be established to delineate all harvesting sites, and the harvesting record will be maintained and provided or made available at the end of the season.*
* *Annual spring and summer point intercept surveys and a turion study will be completed to determine if CLP reduction goals are being met and to assess improvements in the native plant community*
* *If goals aren’t being met, a committee will convene and adapt the goals and objectives as necessary*

Objective 4. Plant control will prevent harm to important fish spawning and nursery habitat and prevent direct removal or indirect harm to wild rice

* *Sensitive area A will have no active management*
* *Sensitive area B may have a primary navigation channel cut into it (4 finger channels branching from a primary channel to 4 properties, 25 feet wide at maximum) after Memorial Day when fish have completed spawning*
* *Sensitive area C includes vegetation that may include wild rice and will have no active management until after a site survey is made to determine what if any effects management may have on wild rice and after a consultation about the effects of management on wild rice is done with the Voigt Task Force*
* *Inspection of Sensitive Area C will take place in June by DNR and St. Croix Tribal DNR to determine potential impacts on wild rice growing in that area if harvesting of navigational lanes to riparian areas were permitted*
* *Harvesting will not take place in areas with water depth of less than 36 inches*

**Goal 3: Provide information and education with the intent of changing stakeholder behaviors to protect Big Blake Lake**

Objective 1. Use existing channels to deliver at least one focused educational message per year to meet the goals of this plan

* *Articles in the Big Blake Lake Bugle*
* *Webpages on the Big Blake Lake website*
* *Emails to the Big Blake Lake list serve*
* *Presentations and brochures at the Big Blake Lake Spring and Annual Meeting*
* *Press releases in local newspapers*
* *Special educational sessions such as pontoon classrooms, Healthy Lakes workshops, and CBCW trainings*
* *Posts on the Big Blake Lake Facebook page*

Objective 2. Explore new and innovative methods to provide information and education

* *For each focused educational message, develop at least one new method to communicate information*
	+ *Example: Tour of properties that have installed shoreline buffers and rain gardens*
	+ *Example: Stickers or signs to symbolize participation in a program as a way to start a conversation with neighbors*

**Goal 4: Prevent the introduction of new invasive species and eradicate newly introduced invasive species**

Objective 1. Ensure that lake residents and users understand the steps necessary to prevent invasive species

* *Continue a successful Clean Boats, Clean Water monitoring and education program at each boat landing using volunteers and paid inspectors*
* *Participate in additional WDNR statewide programs including the Landing Blitz and Drain Campaign*
* *Ensure that signage at the boat landings is in place each year and updated as necessary*
* *Distribute brochures and the waterproof Big Blake Lake map with aquatic invasive species information*
* *Work with the Polk County Sheriff’s Department to encourage enforcement of the Do Not Transport Ordinance*

Objective 2. Implement an annual monitoring program to quickly identify the introduction of new invasive species

* *Attend the Polk County Citizen Lake Monitoring Network Training for invasive species which trains volunteers to identify and monitor for aquatic invasive species*
* *Provide training for harvester operators regarding new aquatic invasive species identification*
* *Form a committee of volunteers to monitor for invasive species over the course of the growing season with a focus on boat landings and other areas with high potential for introduction*
* *Contract with professionals to implement a monitoring program for aquatic invasive species*
* *Develop and implement a rapid response plan so that new populations are addressed quickly and efficiently*

**Goal 5: Evaluate the progress of lake management efforts and needs through monitoring**

Objective 1. Continue current data collection efforts to evaluate progress

* *Ensure that Citizen Lake Monitoring Volunteer is in place each year to collect phosphorus, chlorophyll, and secchi data*
* *Conduct yearly spring and summer aquatic plant point intercept surveys to determine if CLP reduction goals are being met and if the native plant community is improving*

Objective 2. Expand data collection efforts depending on needs

* *Monitor culverts to determine phosphorus loads and identify the need for sediment basins*
* *Conduct a shoreline inventory to document areas of natural vegetation, lawn, and erosion along the shoreline of Big Blake Lake*
* *Repeat the 2013-15 water quality study in five to ten years*
* *Collect a sediment core in the south basin*
* *Implement a turion study to document effectiveness of reducing CLP with harvesting*
* *Implement a septic survey on all septic systems on the lake*

**Goal 6: Protect, maintain, and enhance fish and wildlife habitat**

Objective 1. Maintain and enhance desirable populations of game fish in Big Blake Lake by installing 5 habitat improvements such as fish sticks

* *Work with fisheries biologist to determine locations for fish sticks and other habitat improvements*
* *Identify property owners interested in installing fish sticks and other habitat improvements*
* *Prepare a Healthy Lakes Grant application to fund the installation of fish sticks*
* *Recognize shoreline property owners who have installed fish sticks and other habitat improvements*
* *Develop and deliver an educational message regarding the importance of leaving trees and branches that fall into the lake for the habitat they provide to fish*
* *Promote the growth of native aquatic plants*
* *Explore stocking options for Big Blake Lake*

Objective 2. Restore 10 developed shorelines to more native habitats per year

* *Provide an educational message regarding the importance of native vegetation for fish and wildlife habitat*
* *Conduct a shoreline inventory to document areas of natural vegetation, lawn, and erosion along the shoreline of Big Blake Lake and prioritize sites for projects*
* *Develop a program to provide incentives to property owners who quit mowing a portion of their shoreline*
* *See actions under Goal 1, Objective 2*

**Goal 7: Sustain the implementation of the plan**

Objective 1. Form teams to ensure that the goals of the plan are met

* *Water quality team*
	+ *Land acquisition subteam*
	+ *Healthy Lakes subteam*
* *Fish and wildlife team*
* *Information and education team*
* *Aquatic invasive species team*
* *Aquatic plant team*

Objective 2. Continue to seek funding to implement the Big Blake Lake Management Plan

* *Apply for WDNR Lake Planning , Lake Protection, and Aquatic Invasive Species Grants*
* *Leverage current partner efforts to strengthen grant applications*
* *Identify additional funding sources and partners to expand opportunities for action*