

Prairie Crossing Homeowner's Association ENVIRONMENTAL MANAGEMENT PLAN – 2012

In 2012 the Prairie Crossing Homeowner's Association will be responsible for the management of approximately 252 acres of common area land and 27 acres of lakes and ponds. The land and cover types is shown in the attached figure (Land Cover 2012).

Prairie Crossing Environmental Standards (adopted 2002)

The Prairie Crossing Homeowners' Association is committed to stewarding its common areas and natural areas such that the ecological health and functions improves every year until it reaches a "steady state" of sufficient quality that it enhances the surrounding open space in the Liberty Prairie Reserve.

We recognize that the successful integration of a vibrant human community and a healthy and diverse native ecosystem requires balance and compromise. At a minimum, all common area management decisions should consider the following points:

1. Aesthetic expectations should be consistent with a healthy, rural environment.
2. All management decisions should recognize the importance of the interconnections within an ecosystem. The health of the entire ecosystem should be the principle criteria.
3. It is usually cheaper to prevent a problem than to fix it. For example, it is far cheaper to prevent the overloading of the lake with nutrients and chemicals than it is to clean it up later.
4. Healthy native ecosystems contain low levels of weeds. Weeds are not all equal. Some weeds are transitory in the establishment of new plant communities. Others are pernicious and dramatically reduce the ecological health of the ecosystem. Decisions about weed management should include ecosystem threats as well as aesthetic threats.
5. Inputs that are not immediately used entirely by the intended plant community run off and become pollutants in downstream areas and water bodies.
6. No pesticides or fertilizers should be applied on common areas without being first reviewed (ingredient list, application procedures, MSD sheets) by the Environmental Consultant.
7. All proposed inputs for natural resource management should enhance the ultimate long-term biodiversity, stability and sustainability of the targeted ecosystem and affected ecosystems "downstream".

Prairies: The prairie areas are all planted, with oldest areas being 18 years old. Prairie area under management in 2012 is 171 acres.

Current Objective: Facilitate the development of stable, functional native ecosystems with broad plant diversity and minimal weed pressure that provide quality habitat for desired wildlife and aesthetically pleasing vistas.

Recommended 2012 Tasks/Practices Month Responsible Estimated Cost

Do Spring burns on priority areas (See PC Burn Priorities 2012)	April	Applied Ecological Services ETL managed volunteers	\$12,000
Do Fall burns on priority areas not completed in Spring and Fall priorities (See PC Burn Priorities 2012)	Nov & Dec	ETL managed volunteers	
Monitor and record major weed problems. reed canary grass, birds foot trefoil, teasel, <i>Phragmites</i> , and sweet clover.	Ongoing	& volunteers	Included
Selectively herbicide for specific weeds. Spring: Teasel, Reed canary grass, Birdsfoot trefoil Late summer: <i>Phragmites</i> , Reed canary grass	April/May Aug/Sept	& volunteers Contractors as needed based on evaluation during season	Need WO for Jim
Selective cut and herbicide invasive woody species (Buckthorn, <i>Malus sp</i> Box elder, Willow, Cottonwood on 1) North berm 2) SE lake edge 3) Trail exit to Prairie Trail at North Bay 4) west side of lake, north of Boat Dock (See PC Woody Invasives Priorities 2012)	April Nov-Jan	& volunteers Contractors for #1&2 (See PC Woody Invasives Priorities 2012)	Need bids
Strengthen volunteer environmental stewardship program Recruit 3 additional members.	Ongoing	Mike Sands & Jim O'Connor	Included
Continue selective prairie enhancement with addition of plugs.	May	Jim O'Connor & volunteers	\$1,500
Monitor use of nesting structures	May/June	volunteers	Included
Conduct appropriate homeowner education programs ie yard walks, prairie flower identification tours, seed gathering events	Summer Fall	Environmental Stewardship Committee	Included
Document all treatments in GIS database.	Ongoing	Environmental Team Leader	Included
Mow 2013 fire breaks	Nov	LPF managed labor	
Apply for 2013 burn permits	Sept	Environmental Team Leader	Included

Wetlands: The wetland and shoreline areas are all planted, with oldest areas being 18 years old. Current planted wetland and shoreline area that HOA is responsible for is almost 32 acres.

Current Objective: Facilitate the development of stable, functional native ecosystems with broad diversity and minimal weed pressure that provide quality habitat for desired wildlife and aesthetically pleasing vistas.

Recommended 2012 Tasks/Practices	Month	Responsible	Estimated Cost
Do priority burns in Fall 2012 (See PC Burn Priorities 2012)	Nov/Dec	ETL managed volunteers	
Monitoring and recording of major invasive weed problems. ID <i>Epilobium</i> , reed canary grass, Purple loosestrife, and <i>Phragmites</i> .	Ongoing	Jim O'Connor Joe Marencik Environmental Team Leader	Included
Selectively herbicide for specific weeds. Spring: Reed canary grass. Summer: <i>Epilobium</i> , Purple loosestrife. Fall: <i>Phragmites</i> , Reed-canary grass.	Spring Summer Fall	Jim O'Connor Environmental Stewardship Committee Contractors as needed	Need WO
Do spring monitoring and addling of goose nests. Permits received for egg addling.	April-June	Integrated Lakes Management	\$1,500
Write and publish appropriate stories in Newsletter	Monthly	Joe Marencik, Environmental Stewardship Committee	Included
Continue to document spread and effectiveness of <i>Galerucella</i> beetles	July	Joe Marencik, Jim O'Connor Mike Sands	Included
Document all treatments in GIS database.	Ongoing	Environmental Team Leader	Included
Review wetland restoration & lake edge stabilization grant opportunities	Ongoing	Joe Marencik, Mike Sands	Included

Hedgerows: The hedgerows are remnants from the prior use of the farm land. The principal tree species are Osage Orange, Hackberry, Black Cherry, Mulberry, Norway Maple, Red Maple, Box Elder and Silver Maples. The lower shrub layer is dominated by invasive buckthorn, honeysuckle and wild grape. The current acreage approximately 4 acres.

Current Objective: Provide aesthetically pleasing and ecologically valuable habitat. Encourage the growth of existing healthy native tree species that provide attractive landscape features and quality habitat for desired wildlife with a minimum of weed species. Over time, replace the lower value Norway & Silver Maples, Mulberries, and Boxelders with native oaks, hackberries, sourgums, etc.

Recommended 2012 Tasks/Practices Month Responsible Estimated Cost

Remove both species of Buckthorn, Honeysuckle in hedgerows along Harris Road. Cut and apply Garlon to stumps. Wick application of Garlon on small plants.	April	Jim O'Connor Environmental Stewardship Committee	Included
Remove Buckthorn, Honeysuckle, Multiflora Rose, Wild grape in hedgerows north of houses along Prairie Trail. Cut and apply Garlon to stumps. Wick application of Garlon on small plants.	Nov -Jan	Contractor	Need bid
Replant a limited number of oaks and native understory shrubs (red twig dogwood, hazelnut, sumac, viburnums) in hedgerow on west side of Harris Road entrance to compete with buckthorn.	Jun - July	Jim O'Connor & volunteers	\$2,000
In old farmstead south of Prairie Orchard, continue replanting with oaks, sassafras, sour gum, hackberries, redbuds	Jun - July	ETL managed staff, Volunteers PCCS students	\$2,000
Prune as necessary to eliminate dangerous or unsightly snags. Leave some snags for wildlife habitat where they present no human danger and are not a dis-amenity to adjacent homes.	May	Landscape Concepts Management	Need bid
Monitor use of nesting structures	Jan/May/June	Volunteers	Included
Document all treatments in GIS database.	Ongoing	Environmental Team Leader	Included

Lakes/Ponds: The ponds and lake were dug as part of the initial residential development. While serving as the end storage for storm water, their relationship with the wetlands and prairies allows for high quality habitat. The water quality has been maintained at a high standard, such that the IL DNR has stocked the ponds with 4 species of State listed fish species.

Current Objective: Maintain a high standard of water quality, diversity of aquatic vegetation and integrity of the shorelines. In addition to their use as habitat, the lakes are used for swimming, skating, fishing, and non-motorized boat traffic.

<i>Recommended 2012 Tasks/Practices</i>	<i>Month</i>	<i>Responsible</i>	<i>Estimated Cost</i>
Develop a proactive, multi-year program for aquatic weed control in Lake Leopold (See 2012 Lake Management options)	April/May	Joe Marencik Mike Sands	Included
Conduct Bathymetric studies for review of future lake remediation/dredging needs for Reserve Study	April	Integrated Lake Management Joe Marencik Mike Sands	\$3,950
Conduct whole lake herbicide treatment for Eurasian milfoil (Sonar) in early April with followup ‘bumps’ as needed through May	April-May	Integrated Lakes Management	\$3,730
Spot treatment for curlyleaf pondweed in late July/Early August (2,4-D or Manual)	July/August	Integrated Lake Management Joe Marencik	\$628/acre \$1,650/acre
Monitor extent of lake surface cover by filamentous algae for potential spot treatments	July/August	Integrated Lake Management Joe Marencik	Bid treatments as needed
Continue to monitor water quality monthly in Leopold Lake (DO, BOD, N, P, Cl, temperature, clarity, algae and zooplankton species composition).	April - Oct	Joe Marencik Lake management volunteers	Included
Monitor beach bacteria levels and manage beach as appropriate.	Summer	County Health Dept	
Monitoring for potentially toxic blue algae blooms	Summer	Joe Marencik Integrated Lakes Management	
Document muskrat damage to shoreline of pond and lake. Explore control alternatives.	June	Joe Marencik	
Monitor spring goose populations and addle goose eggs.	April-June	Integrated Lakes Management	\$1,500
Document all treatments with field sheets from ILM and recording in GIS database.	Ongoing	Environmental Team Leader	Included

Trails & Fences: Over 10 miles of crushed gravel surface trails have been constructed at Prairie Crossing. The perimeter trail running from Lake Forest Hospital around to the Train Station, and the trail along Harris Road are public regional trails that have been conveyed to the Village of Grayslake. The internal trails are the property of the HOA.

Current Objective: The trails provide recreational opportunities for walking, jogging, bicycling, and limited horseback riding. Additionally, they provide pedestrian and bicycle commuting opportunities.

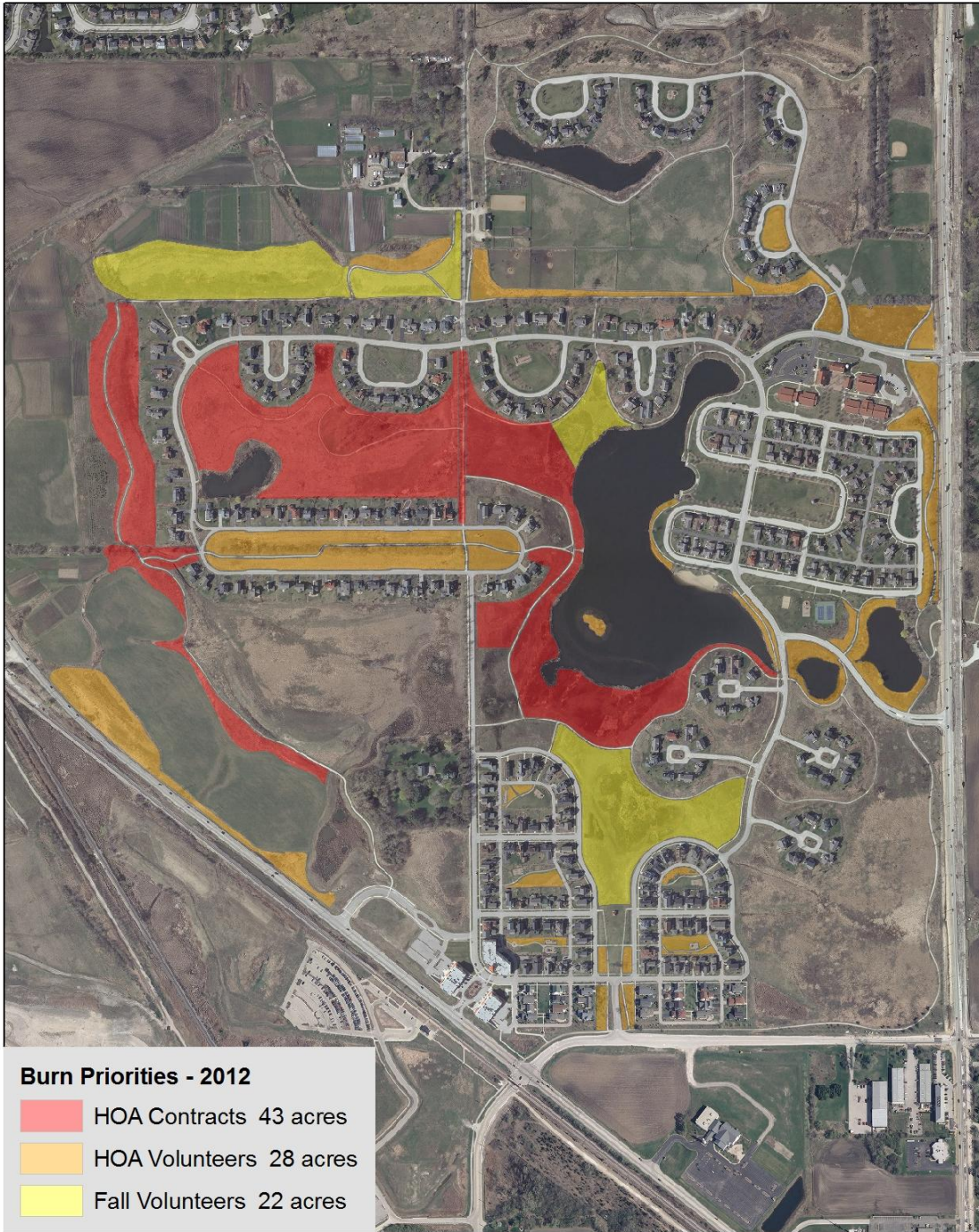
<i>Recommended 2011 Tasks/Practices</i>	<i>Month</i>	<i>Responsible</i>	<i>Contract/Cost</i>
Develop long term trail restoration & maintenance plan	May-Jun	Consultant to be hired by Board	
Mow trail edges (3 ft) in August & Sept,	August & Sept	Landscape Concepts	In LCM Bid
Apply two seasonal (May & August) applications of RoundUp plus marker for weed control.	May & August	Landscape Concepts	\$2,500
Repairs of surface as needed (see Trail Maintenance Priorities 2012) 1) washouts 2) drainage issues		Bill Pogson Landscape Concepts	
Monitor and replace degraded split rail fence sections along Route 45 & Casey Road	April then Ongoing	LPF managed labor	

PCHOA Land Cover



Burn Priorities - 2012

93 acres



2012 PCHOA Burns

51.3 acres

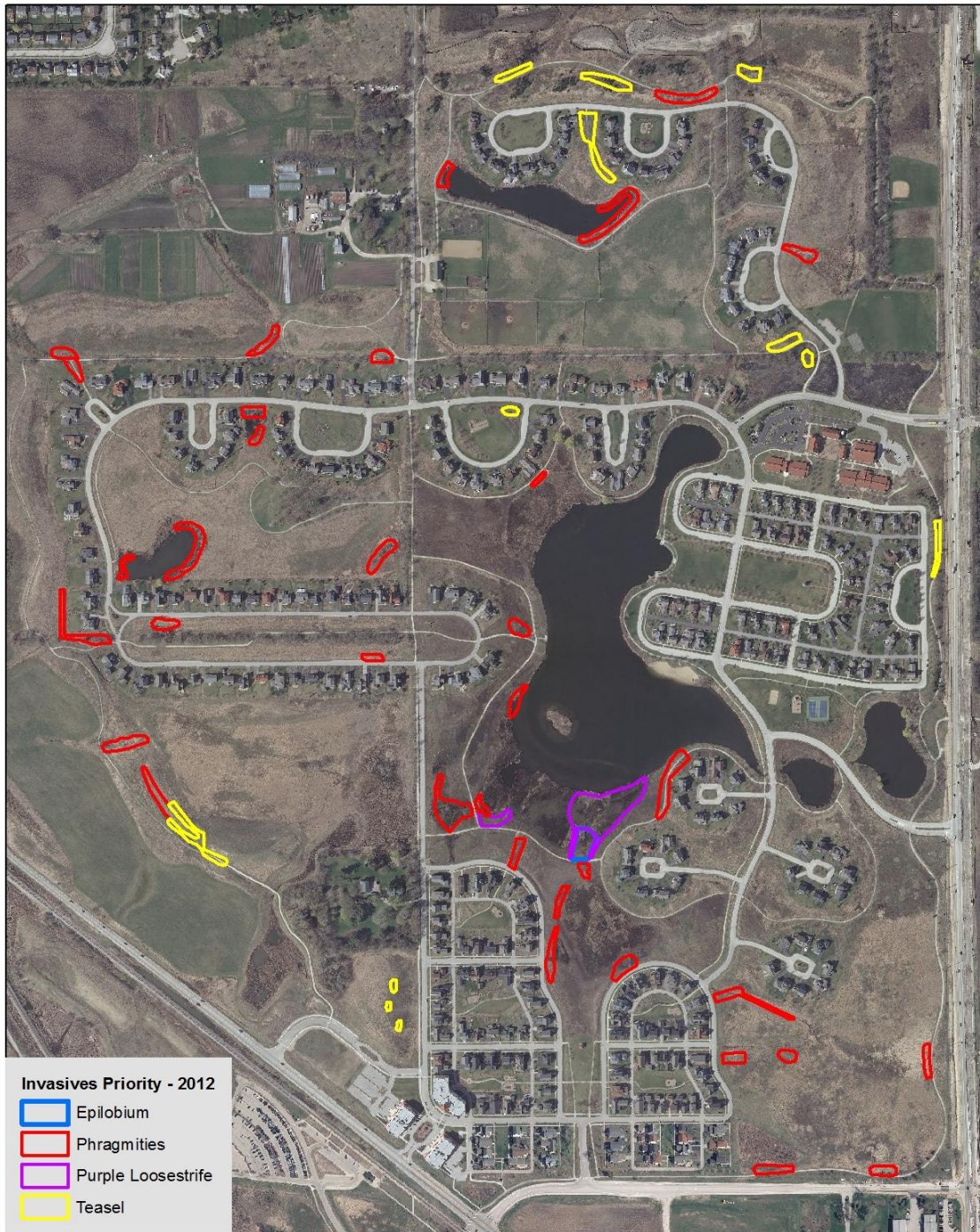


- AES - 30.3 acres
- HOA - 21.0 acres

0 500 1,000 2,000 Feet

1 inch = 600 feet

Invasive Species Priorities - 2012



Woody Invasives Priorities - 2012



Proposed 2012 Lake Leopold Management Plan

As outlined this past fall in an update to the Board, Lake Leopold is currently at the point where the issue of nuisance aquatic plant growth in the lake needs to be managed. In the past, there has been very little need for management. When the need has arisen, small-scale spot treatments have been used in select areas of the lake, namely the beach and some of the swimming lanes (i.e., out to the raft and between buoys). Additionally, there is an insect biocontrol agent (milfoil weevil) present in the lake to help control the Eurasian Water Milfoil (EWM), which is one of two problematic non-native weeds in the lake. Unfortunately, the weevil does not appear to be working on a reliable basis as the EWM continues to increase in density, spreading throughout the lake. Furthermore, in recent years, an aggressive native species, coontail, has also started to become problematic. Due to high water clarity both of these species are capable of growing throughout the lake and achieving 100% surface coverage. This would result in lake wide conditions similar to what was seen this past summer (2012) in the north end of the lake (extensive mats of plants covered by filamentous algae). This would significantly impact not only the ecological health of the lake but the also overall aesthetics and recreational use. As a result, the time has come for the HOA to take a more active role in the management of the lake. When developing an effective lake management plan, it's best to focus on the larger picture and not just the current problem/year. Outlined below are two options for the first year of a multiyear lake management plan. Management activities during subsequent years are partially dependent on the efficacy of this season's plan. In the end, the ultimate goal is to aggressively reduce EWM and coontail to the point where management is only needed on a periodic basis and even then, on a much smaller scale than what is proposed below.

As with the ongoing management of our prairie systems, there are several approaches that could be taken. Outlined below are two options that the Environmental Management Team believes should be strongly considered. Cost projections are based on existing proposals from ILM. In addition to these options, which target nuisance vegetation, spot treatments for filamentous algae will more than likely be required on an as needed basis. It is possible that some areas of the lake will experience an increase in filamentous algae once the nuisance vegetation is reduced. In past year, these blooms have been confined to the northern end of the lake. The approximate cost is for these algaecide applications would be \$130/acre.

Year 1

Option 1 – Whole lake treatment with follow up spot treatments

While Eurasian Water Milfoil and coontail are both problematic, they both require different approaches to be successfully managed. The EWM can be managed with a whole lake treatment utilizing an aquatic herbicide called fluridone (trade name Sonar). This treatment would take place in the early spring when only the EWM is actively growing, thus reducing off target injury to desirable plants, which is especially important

since the whole lake would be treated. Furthermore, the rate of application would specifically target EWM, which is sensitive to lower concentrations than the desirable, native species. Concentrations of fluridone must be maintained over a period of time 30-45 days, so subsequent testing and follow up, “bump” applications would be needed.

The coontail will not be impacted by the fluridone due to the timing and the low concentrations (concentrations high enough to kill coontail would also impact the beneficial, native species in the lake). As a result, coontail will need to be managed separately with spot treatments using 2,4-D granular herbicide. Due to the biology of aquatic plants, coontail would be one of the few species impacted by the treatment. Depending on the location on the treatment areas, lily pads and any remaining EWM would likely be impacted as well. These spot treatments would be used throughout the lake in areas where coontail is problematic and would take place in the July-August time frame. Based on the growth in the lake last year, it would be best to budget for at least 2 - 3 acres of spot treatments.

Cost: Whole Lake Treatment - \$3,726 (whole lake application and associated testing and one follow up application)

Spot treatments – \$628.13/acre

Option 2 – Whole lake treatment with follow up mechanical removal

Under this option, the EWM would be managed utilizing a whole lake herbicide treatment as outline above. However, the coontail would be addressed utilizing mechanical harvesting. A small floating pontoon barge equipped with a cutter bar would be placed in the lake and the coontail would be cut and removed. The removed vegetation would be disposed of onsite at the farm to reduce overall costs. The amount of coontail removed would be dependent the extent of its growth in the coming season. However, based on last year, it would be best to budget for at least 2-3 acres of removal. The main areas of the lake that would be targeted would be the north end, including the bottleneck and the north bay, as well as areas along the east shore including the crescent overlook. An added bonus of the mechanical harvesting is that any filamentous algae associated with the coontail would also be removed, which would partially eliminate the need for spot treatments with algaecide.

Cost: Whole Lake Treatment - \$3,726 (whole lake application and associated testing and one follow up application)

Mechanical Harvesting - \$1,650/acre (actually priced out on a per day basis with approximately an acre per day removed)

Recommendation: Approve quickly the whole lake Sonar treatment so that ILM can start ASAP. Water temperature is ideal for immediate treatment. Followup spot treatment options of Mechanical Harvesting or 2-4 D treatment can be discussed at future meetings.

Year 2 & Beyond

Next year's (2013) management plan will be driven partially by the conditions in the lake after the above management activities take place and partially by what is observed early on in the 2013 season. While a whole lake treatment will not eradicate EWM from the lake, there is a good possibility that if successful, the lake would not need another whole lake treatment during 2013 (or even 2014). For 2013, the coontail will be more of a wait and see what the year brings situation. Since we are not treating the whole lake for coontail (just the problematic areas), there is more of a likelihood that it will need to be managed more often. Additionally, with out the added competition from the EWM, coontail densities may increase.

Another lake issue that the Board should be made aware of is the growing amount of nutrient rich, organic muck that has started to accumulate in parts of the lake due to the large biomass of dying plant and algae material. As plants and algae die-off, they settle to the bottom where their stored nutrients act as a source for further plant and algae growth (which, when they die further add to the source, and so on, and so on creating a self perpetuating condition). This is one of the main reasons the north end of the lake is experiencing the bulk of the plant and filamentous algae problems since this is historically where the bulk of the nuisance growth has occurred mainly due to the shallow nature of this part of the lake. This organic muck is unrelated to the sedimentation problem ("filling in" of the lake) that the board has discussed in the past. Under the direction of the board, a separate proposal for the small scale, spot removal of this muck can be presented at a later date. Realistically, due to planning and logistics, these activities would not take place this year but should be targeted to sometime during the next couple of years.

Lake Leopold Weed Impairment - 2012



Trail Maintenance Priorities - 2012



- Priorities
- Regional Trails
- Trails

1 inch = 450 feet