

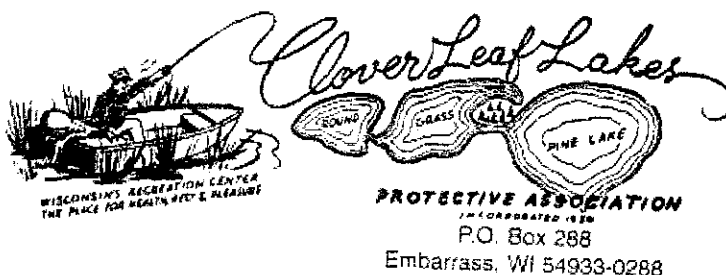


**LONG-RANGE
COMPREHENSIVE LAKE
MANAGEMENT PLAN**

**STUDY GROUP
SUMMARY REPORTS**

February, 2006

"Preserving our lakes for future generations"



February, 2006

Dear Cloverleaf Lake Residents:

The project of authoring our own Lake Management Plan started with YOU!

About two years ago a survey appeared in our newsletter asking you, as lake residents, what your likes, dislikes, and concerns were regarding living on the Cloverleaf Lakes. We realized from your responses that in order to preserve those things you liked, (e.g. natural beauty, peace and quiet); manage those things that you disliked, (e.g. the high speed of some boats through the channel); and address your concerns, (e.g. excessive "weed" growth), a proactive long-term management plan would be needed. This plan needed to include management strategies that can be identified, implemented, amended as needed and perpetuated through the years.

It has been through the direction and in-depth study by lake residents and professional consultants that this product, **Long-Range Comprehensive Lake Management Plan**, is being presented to you. A special thanks goes to those who gave their time and energy to develop this plan.

Bob Tomashek
President
Cloverleaf Lakes Protective Association

Special Thanks to the nearly 30 lake residents who spent a year working on this plan and to the five lake professionals who volunteered their time to assist the study teams.

INTRODUCTION

This summary report contains materials related to the Cloverleaf Lakes Study that led to the CLPA's *Long-Range Comprehensive Lake Management Plan*.

The first meeting to design the study group process was held on December 10, 2004. The study teams were initiated on February 21, 2005 and concluded their work on February 23, 2006.

Each of the five study groups was led by a trained facilitator and assisted by a professional resource person. These teams met monthly for a year to study issues related to their content areas (*aquatic plants, invasive/nuisance species, recreational use, water quality/habitat, and watershed*). As a result of careful examination, each team made recommendations to the Cloverleaf Lakes Protective Association.

The finding and recommendations of the study teams is what comprises the CLPA long range plan. The purpose of the plan is to

"Preserve our lakes for future generations"

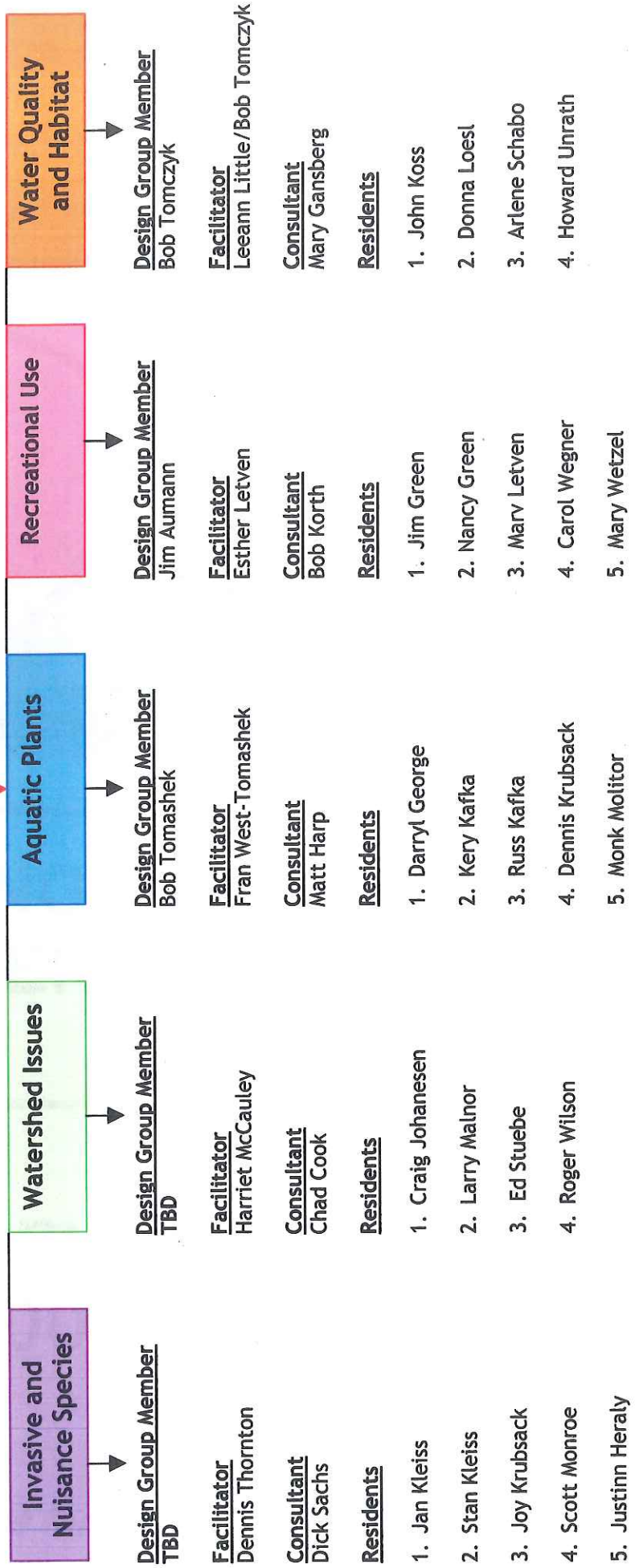
A SHARED VISION FOR MANAGING THE SUSTAINABILITY OF CLOVERLEAF LAKES

Cloverleaf Lakes Protective Association (CLPA) Board

Design Group

Residents: Jim Aumann, Esther Letven, Leeann Little, Harriet McCauley, Dennis Thornton, Bob Tomashek, Bob Tomczyk
Consultants: Chad Cook, Mary Gansberg, Matt Harp, Bob Korth, Richard Sachs

Facilitator Team: Esther Letven, Leeann Little, Harriet McCauley, Dennis Thornton, Fran Tomashek-West





FINDINGS AND RECOMMENDATIONS

Study Team Materials 2005

"Preserving our lakes for future generations"

AQUATIC PLANT STUDY GROUP SUMMARY

Scope of Study

The Aquatic Plant Study Group (APSG) made up of Daryl George, LaVerne Molitor, Dennis Krubsack, Kery & Russ Kafka, Bob Tomashek, consultant Matt Harp and facilitated by Fran West started meeting on February 21, 2005. After a thorough review of the 1992 lake studies, the 2003 Aquatic Plant Management Plan (APM) and the WDNR Sensitive Area Study for the Cloverleaf Lakes and extensive discussion the group focused on the control of the aquatic invasive species plants that were presently in the lake. Discussion about the other plants in the lake, referred to as native aquatic plants did not reveal many problems. Native plants in our lakes grow abundantly even after chemical treatment for invasive species. Every property owner has the right by State statutes to clear a 30 foot section in front of their property for their individual purposes like swimming, fishing and boating.

Findings

The aquatic invasive species plants the lake is presently fighting are Eurasian Water Milfoil (EWM) and Curly Leaf Pond Weed (CLPW). The treatment for EWM started about three seasons ago. The treatment of CLPW will start this coming season (2006). EWM is an aggressive plant that forms in colonies that grow up to the surface of the water. If this plant is left unchecked it interferes with the recreational activities of the lake and makes the shallower parts of the lake, those areas ten feet deep or less, a virtual swamp. This plant is impossible to kill off completely and continuous annual treatment is required to keep it under control. CLPW is not as aggressive as EWM but it also will take over portions of the lake and grows in very dense clumps.

The key thought of the group was that the management of the effort to control these invasive species was not a one season effort but an effort that is required season after season. The management of these plants requires funding and interaction with the Town of Belle Plaine, the Wisconsin Department of Natural Resources (WDNR) and the private company that will do the surveying and treatment. Funding currently is provided by the Lake Association, the Town and through State grants. This management activity is a function that requires knowledge of and ongoing interaction with the organizations that will fund and perform the treatment.

Recommendation

Recognizing that perpetuating the interaction of key organizations is of paramount importance to the successful management of the aquatic invasive species plants in our lakes, a recommendation to form an ongoing three person action committee was developed. This action committee will function with staggered terms giving the newest person time to become educated on what has to be done before being put in the responsible position of actually doing the tasks.

The responsibilities of the action committee are to:

1. oversee the acquisition of the funds, through grant writing and grant submission to the WDNR and other agencies that provide grants, presenting the financial needs of the program to the Town and the CLPA;
2. interacting with entities that perform survey and treatment services;
3. keeping the APM updated by keeping abreast of best practices in the control of invasive aquatic plants;
4. developing and implementing recommendations for protection of sensitive areas; and
5. educating the public through perpetuation of the Clean Boat Clean Waters (CBCW) program, writing news articles, and training presentations to schools and other lake user groups.

This recommendation was adopted by the CLPA Board of Directors. The first members of the APSG Action Committee are as follows:

Bob Tomashek - 1 year term; Daryl George - 2 year term; Kery Kafka - 3 year term

INVASIVE AND NUISANCE SPECIES STUDY GROUP SUMMARY

Scope of Study

The Invasive and Nuisance Species Study Group made up of Jan Kleiss, Stan Kleiss, Joy Krubsack, Scott Monroe, Justinn Heraly, consultant Dick Sachs and facilitated by Dennis Thornton started meeting on February 21, 2005 and concluded on January 12, 2006. The group spent time learning how to address the invasive and nuisance species threatening native populations. The invasive species studied included: zebra mussels, rusty crayfish, purple loosestrife, and gypsy moths. The nuisance species studied were: deer, mosquitoes, muskrats, and Canada geese.

Findings

Cloverleaf Lakes, like much of Wisconsin, have several species of animals and plants that are unwanted and are threatening native populations. Here are the areas this group studied during 2005-06 and a brief summary of its recommendations to the Cloverleaf Lakes Protective Association Board:

- **Zebra mussels:** These invaders have not yet been found in the lakes, but are common in the Great Lakes and nearby Shawano Lake. Recommendation: Continue the boat inspection program to educate boaters and expand it by hiring a part-time employee during the summer to supervise, coordinate volunteers, schedule, record data and serve during busy boating times.
- **Rusty crayfish:** This invasive was discovered in the lakes in 2005. The CLPA participated in a statewide survey of crayfish and also started a trapping program. Recommendation: Continue monitoring, trap crayfish as needed and encourage catch-and-release fishing so the larger fish can eat crayfish.
- **Purple loosestrife:** This invasive plant is found in marshland. It is not a major threat to the lakes at this point. Recommendation: If it spreads, pulling out plants or bringing in loosestrife-eating beetles can be effective.
- **Gypsy moths:** These moths can quickly eat all the leaves off trees and they have been found in small numbers here. Recommendation: Continue the Town of Belle Plaine's program of education and monitoring. Effective treatments include chemicals, wrapping trees to trap caterpillars and destroying egg masses.
- **Deer:** These animals are enjoyed in small numbers, but can destroy ornamental shrubs and flowers. Recommendation: Fencing and planting species the deer dislike are methods of control.
- **Mosquitoes:** The lake association has a sprayer that can be used to control these pests, but some residents object to the chemicals used. Recommendation: Continue the CLPA's policy of spraying if and when Shawano County declares the presence of West Nile Virus.
- **Muskrats:** This native species burrows into waterfront banks and can cause damage. Recommendation: Continue CLPA's policy of encouraging trapping to hold down numbers, paying a \$5 per muskrat bounty. Effective deterrents include riprapping shorelines as well as trapping.
- **Canada geese:** Like deer, residents enjoy geese in moderation, but an excessive number of "resident" geese leaves messes on lawns and pollution in the lakes. Recommendation: Residents can create lawn buffer zones or natural shorelines. There are also chemicals that geese dislike to be used on lawns.

One other area that the study group pursued is a frog study that group member Justinn Heraly conducted in the spring of 2005. He found a healthy and abundant population of frogs, which is an indicator species for environmental concerns. This study can be replicated in the future to determine whether the frog population remains healthy.

RECREATIONAL USE STUDY GROUP SUMMARY

Scope of Study

The Recreational Use Study Group made up of Jim Aumann, Jim Green, Nancy Green, Marv Letven, Carol Wegner, Mary Wetzel, consultant Bob Korth and facilitated by Esther Letven started meeting on February 21, 2005 and concluded on November 22, 2005. After becoming familiar with the concepts of biological and social carrying capacities, the group worked on determining the impact of recreational use on our lakes. A watercraft census was taken, a resident survey of lake usage was conducted, and the boat launch data was examined.

Findings

There is little evidence that using our lakes for recreational purposes is having a detrimental effect on the biology of the lakes. Until biological indicators are identified and measured over time, it is difficult to assess the impact of boating, etc. on the health of the lake system.

To assess lake residents' perception of the recreational use of our lakes (social carrying capacity), a survey was sent to 414 lake area residents. A 59% return rate was an exceptional response and lends credibility to the survey. The majority of respondents (53%) reported that "enjoying the view, peace, tranquility, and wildlife" was the most important to them. The combined recreational uses of the lakes accounted for 27%. The survey found the balance between tranquility and recreational use was not a problem during the weekdays. Summer weekends were identified as more heavily used for recreational purposes. However, only 20% felt the lakes were overused (or worse) on weekends. The survey confirmed the group's expectation that Cloverleaf Lakes is not viewed as overused. This survey will serve as a baseline should the CLPA choose to repeat it in future years.

A watercraft census (counting number and types of boats on the lakes at specific and varied time periods) matched well with the survey data. Three different time periods for data collections confirmed that few boats are on the lakes during the week, while weekends are busier, but not overly crowded.

Recommendations

In the end, the Recreational Use Study Team recommended strategies that would monitor the relationship between the biological health of the lakes and the use of recreational vehicles. Unless the indicators point to deterioration in the wellness of the lakes, no additional ordinances should be passed to regulate the recreational use of the lakes. In addition, the Study Team recommended strategies to educate boaters about their responsibility in maintaining a healthy lake system. The specific recommendations are:

6. Develop a measurable set of biological indicators. Establish a baseline and a schedule of regular measurements.
7. Develop an educational marketing campaign so those who use the lakes understand the rules, ordinances, and courtesies of using a lake.
8. Check signage around the lakes for ambiguity and make necessary adjustments.
9. Develop a database system that includes all boat monitoring data, including the past two years.
10. Promote boating safety courses in the area, and determine the feasibility of offering a boating course for children on our lakes.
11. Develop a "seek and find" water trail brochure.
12. Post signage at the boat launch reminding ice fishermen to remove their trash. Post reminders on shanties.
13. Appoint a person to represent CLPA at legislative hearings and other meetings.

Members of the Study Team agreed to transition into the Recreational Use Action Team.

WATER QUALITY AND HABITAT STUDY GROUP SUMMARY

Scope of Study

The Water Quality and Habitat Study Group is composed of six members: DNR Specialist Mary Gansberg (consultant), John Koss, Howard Unrath, Donna Loesl, Arlene Schabo and Bob Tomczyk. Originally our facilitator was Leeann Little. However, Leeann was forced to resign for personal reasons and was replaced by Esther Letven and Fran West-Tomashek. Initially our progress in prioritizing problems and developing recommendations was slow due to changing committee members and meeting time conflicts. However, once these problems resolved, progress was made.

Findings

At the initial meeting the group discussed and identified a number of possible problems thought to negatively affect the water quality and habitat of the lakes. Subsequent in-depth discussions led to a consensus agreement in the group that the three areas of greatest concern were: Management of Carp, Sediment, and Phosphorous. Progress was made on generating action reports and developing recommendations in each of these areas by the following group members: Donna Loesl investigated the Carp issue, Howard Unrath, John Koss and Arlene Schabo focused on the issue of Phosphorous, and Bob Tomczyk focused on the issue of Sediments.

The study group realizes that there are a number of other concerns that could and should be addressed. Members of the Water Quality and Habitat Group will step forward to volunteer for a Long Term Working Committee to follow up on the recommendations coming forth from the study group and continue research on other concerns that were identified which might need to be addressed in the future.

Recommendations

1. The growing number of Carp in the lakes. Carp have no predators. They multiply wildly, completely displacing native species in some lakes, destroying native vegetation, increasing water turbidity, lowering oxygen levels and starving out young largemouth bass. (Supporting notes and data available)

Recommendation:

- a. Continue to observe carp situation in early spring when they start to spawn.
- b. Encourage bow hunters to shoot carp in Cloverleaf Lakes.
- c. Contact DNR to obtain Carp census.

2. Declining water clarity in the Cloverleaf Lakes. The shallow nature of Pine Lake, (39% five foot or less, Grass lake, 50% five foot or less), in consort with increasing recreational use, results in reduced water clarity because bottom sediments are being churned up. (Supporting notes and data available.)

Recommendation:

- a. Develop a lake use plan for recreational boating on the Cloverleaf Lakes. For the purposes of maintaining the level of recreational boating and also improving/maintaining water clarity we need to develop a recreational water use plan. The plan will need to include recreational practices that reduce turbidity.

3. Phosphorous/Nutrients in Cloverleaf Lakes. Too much phosphorous in lakes may lead to excessive plant growth, algal blooms, and poor water clarity. (Supporting notes and data available).

Recommendation:

- a. Develop phosphorous/nutrient management program for the Cloverleaf Lakes.

WATERSHED ISSUES STUDY GROUP SUMMARY

Scope of Study

The Watershed Issues Group included: UW Extension Educator Chad Cook (consultant), Craig Johannesen, Larry Malnor, Ed Stuebe, Roger Wilson and facilitator Harriet McCauley. The study looked at those pollutants making their way into the lakes that are detrimental to the health of Cloverleaf Lakes. These substances include nutrients (primarily phosphorus), sediment, and potentially petroleum products, household hazardous chemicals, and non-household hazardous chemicals.

Findings

The pollutants listed above either enter our lakes primarily through human activities. The Watershed Issues group believes most of these pollutants originate relatively close to our lakes rather than coming from areas of the watershed further from the lakes.

Both the amount of development and its proximity to the lakes are factors that increase the likelihood of pollutants entering the lakes. Development creates impervious surfaces. Rooftops and paved roads, driveways, and parking lots prevent infiltration of rain and snowmelt. Additionally, as development occurs, it often means the vegetation of a particular area is also changed. Natural vegetation patterns (trees, shrubs, and smaller plants) have changed into maintained lawns in many cases. This change promotes runoff rather than infiltration. So, combining the change in vegetation around the lakes with the large areas of impervious surfaces dramatically increases the amount of water running off the land and into the lakes.

Improper (and even proper) use, storage, and disposal of pollutants around our lakes make them available for transport into the water. When the increased amount of runoff comes in contact with pollutants, it has the potential to carry the pollutants along with it. Since the pollutants are predominantly used near the lakes, they are more likely to enter the lakes with the runoff.

Recommendations

General

1. Develop a directory for all property owners with permitting information.
2. Implement a program to test wells to see if water flowing into the lakes is contaminated.
3. Implement a program to test soil samples.
4. Enforce existing regulations.
5. Provide a comprehensive packet of information to new residents.
6. Periodically test the inflows to Cloverleaf Lakes for basic water quality parameters.
7. Develop partnership with evaluation specialists so programs implemented are effective.
8. Set up a "lake fair" to educate residents.

Specific

1. **Nutrients:** Several recommendations were made to eliminate the use of phosphorus-containing fertilizers, encourage the use of vegetated buffers, rain barrel, and rain gardens (to decrease runoff into lakes), and the proper disposal of yard waste.
2. **Sediment:** These recommendations educated residents on the impact of sediments to the lakes, and encouraged the use of other devices (in addition to #1 above) such as ponds or porous pavement to reduce runoff. These recommendations also promoted the use of proper types and amounts of vegetation as well as best management practices during earth disturbing activities.
3. **Petroleum Products:** Identify and distribute information on proper disposal locations and techniques while encouraging compliance with storage tank regulations.
4. **Hazardous Chemicals:** Promote the county's Clean Sweep program and alternatives to road salt in the winter.

**Cloverleaf Lakes
Long-Range Comprehensive Lake Management Plan**

FINDINGS AND RECOMMENDATIONS

AQUATIC PLANTS GROUP

| Finding | Recommendation | Implementation |
|--|---|---|
| Invasion of unwanted species puts the long-term health of the lakes at-risk. | Form a permanent Action Committee to provide a proactive management approach for monitoring and controlling invasive species. | Management strategies: <ol style="list-style-type: none"> 1. Monitor annually. 2. Educate residents. 3. Treat invasive species. 4. Identify sustainable funding to support financial demands of treatment program. |

INVASIVE AND NUISANCE SPECIES GROUP

| Findings | Recommendations | Implementation |
|--|--|---|
| 1. Zebra mussels have been discovered in Shawano Lake. Boaters could easily introduce them into our Lakes. | Continue and upgrade the boat monitoring at the boat launch by: <ol style="list-style-type: none"> 1. Hiring part time coordinator; 2. Continue use of trained volunteers; 3. Provide materials at boat launch to encourage boats to wash before entering Cloverleaf Lakes if coming from an infested lake; 4. Monitor zebra mussel infestation annually; 5. Annually update written materials at boat launch to include warnings of newly infested lakes; 6. Include information in Welcome Wagon materials. | <ol style="list-style-type: none"> 1. Apply for DNR Invasive Species Grant to fund part time college student as the program coordinator. 2. Set up a washing point for boats coming into lakes. 3. Continue to encourage local volunteers to help. 4. Determine proper avenue of response to authorities if an infested boat is launched into Cloverleaf Lakes. |

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| <p>2. Rusty Crayfish have been found in Cloverleaf Lakes.</p> | <p>Initiate an aggressive program combining trapping large crayfish and having bass and perch prey on smaller crayfish.</p> | <ol style="list-style-type: none"> 1. Monitor annually. 2. Buy traps and encourage trapping by residents. 3. Do plant studies to look for effect of rusties. 4. Encourage catch/release of fish that feed on rusties. 5. As divers check for EMW also check for rusties. 6. Remove rocks that are serving as spawning beds. |
| <p>3. Gypsy moths have been found in the Cloverleaf Lakes area during 2003 and 2004. The moths produce egg masses that hatch into caterpillars. The caterpillars defoliate trees and produce a sticky mess.</p> | <p>Ask the Belle Plaine gypsy moth coordinator to verify that caterpillars are gypsy moths. If so, have him recommend treatment methods.</p> | <p>Educate residents about how to get rid of egg masses, caterpillars, and adult gypsy moths.</p> |
| <p>4. A frog study in spring 2005 found that every species of frog and toad living in Wisconsin are found in and around Cloverleaf Lakes. Frogs are an "indicator species" that give hints about the health of the environment.</p> | <p>Using this study as a baseline, replicate the study periodically to determine if there is an increase or decrease in frog population.</p> | <p>Ask a biology or environmental sciences student or college class to conduct a similar survey duplicating the conditions, then compare the results.</p> |
| <p>5. Mosquitoes: Our lakes and surrounding marshland produce mosquitoes that, depending on their numbers, can negatively affect citizen activity, especially children. Mosquitoes are also carriers of disease.</p> | <ol style="list-style-type: none"> 1. Provide residents with information on how to protect themselves and guests from mosquitoes. 2. Develop a treatment methodology dependent on the level of the threat of mosquito-borne diseases. | <ol style="list-style-type: none"> 1. Watch for diseases in birds and mosquitoes. 2. Eliminate large and small breeding sites. 3. Educate about personal measures to prevent or reduce exposure. 4. Spray to control infestation if adult mosquito population is deemed a serious threat. 5. Encourage residents to install houses for insect-eating birds. 6. Research the potential of the newly introduced propane mosquito traps. |

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| <p>6. The local population of Whitetail Deer has expanded to become a nuisance for lake residents.</p> | <p>Inform lake residents of deer-proofing landscapes and deer-resistant landscape plants.</p> | <p>See complete recommendation for implementation strategies.</p> |
| <p>7. Muskrats make their homes in dens along shorelines, which can cause considerable damage and erosion to lake property.</p> | <p>Muskrat population should be controlled through shoreline protection and trapping.</p> | <ol style="list-style-type: none"> 1. Continue to pay \$5 bounty for trapped muskrats. 2. Continue to hire trapper to do wide coverage trapping toward end of open water season. 3. Continue to apply to DNR for annual permit to trap or destroy muskrats causing damage. 4. Maintain list of area trappers. 5. Give residents information about shoreline protection. |
| <p>8. As resident geese populations increase, their populations have developed into infected neighborhoods with destroyed natural habitats, personal danger from aggressive/protective mother geese and health risks from mass droppings in the water systems and to the humans around them.</p> | <ul style="list-style-type: none"> • Educate residents so they do not feed the geese or provide a safe environment that will encourage them to stay. • Suggest methods for landowners to control geese population growth. | <p>See complete recommendation for strategies to reduce geese population.</p> |

RECREATIONAL USE GROUP

| Findings | Recommendations | Implementation |
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| <p>1. Biological Indicators: Cloverleaf Lakes is a healthy biological system. Unless indicators change over time, no additional constraints should be put on recreational use of lakes.</p> | <p>Develop a measurable set of biological indicators. Establish a baseline and a schedule of regular measurements.</p> | <ol style="list-style-type: none"> 1. Develop indicators. 2. Establish baseline measures of indicators and measurement time frames. 3. Monitor for changes in indicators; determine cause of change. |

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| <p>2. Education & Marketing: Residents are not all aware of lake ordinances and DNR requirements. Increased compliance would maintain peace and tranquility.</p> | <p>Develop an educational/marketing approach about:</p> <ul style="list-style-type: none"> • Concept of public lake • Concept of carrying capacity • Slow no-wake ordinance in channel • Water levels • Fees for boat launch • Boating rules • Night lighting | <ol style="list-style-type: none"> 1. Establish a marketing/education committee. 2. Ask committee to develop an educational project to address issues identified by this team and the others. |
| <p>3. Signage: Signage is unclear which leads to ambiguity about no-wake rules.</p> | <p>Check signage for ambiguity and make adjustments.</p> | <p>Appoint a sub-committee to review signage and recommend changes.</p> |
| <p>4. Boat Monitor Data: Boat monitoring data is valuable; however, it remains in raw form. It is not possible to analyze patterns and trends.</p> | <p>Develop a database system that includes all boat monitoring data, including the past two years.</p> | <ol style="list-style-type: none"> 1. Set up database system. 2. Enter past data. 3. Regularly enter data during boating season. 4. Train a local volunteer to extrapolate data as needed. |
| <p>5. Boat Safety Course: Boat safety courses will increase awareness of boating rules.</p> | <ol style="list-style-type: none"> 1. Offer local boating course for children. 2. Promote courses being offered in the region. | <ol style="list-style-type: none"> 1. Determine feasibility of children's boating course on Cloverleaf Lakes. 2. Promote other courses in newsletter. |
| <p>6. Water Trail: Many residents and their guests are unaware of our lake "treasures."</p> | <p>Develop a "seek and find" water trail document.</p> | <p>Education/Marketing Committee asked to consider develop of document that could be used with residents and their guests as well as in new resident's welcome packets.</p> |
| <p>7. Ice Fishing Garbage: Ice fishermen leave debris which ends up entering the lakes.</p> | <p>Post signage at boat launch reminding ice fishermen to remove their trash. Post reminders on shanties.</p> | <p>Make a sign for boat launch and post reminders on shanties.</p> |

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| <p>8. Legislative Observer: CLPA needs to stay informed about legislative issues affecting the lakes. It is also critical that the CLPA have a voice at hearings.</p> | <p>Appoint a person to represent CLPA at legislative hearings and other meetings.</p> | <p>Appoint a legislative liaison who makes periodic reports to CLPA.</p> |
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WATERSHED ISSUES GROUP

| Findings | Recommendations | Implementation |
|---|--|---|
| <p>1. Nutrients: Nutrients often applied to lawns/gardens, as well as those found in grass clippings and leaves, find their way into lake causing nuisance algae blooms or dense mats of vegetation.</p> | <ol style="list-style-type: none"> 1. Encourage elimination of phosphorous-containing fertilizers. 2. Consider town ordinance banning phosphorous fertilizers. 3. Encourage vegetated buffers. 4. Educate about ordinances re tree/shrubbery cutting. 5. Encourage use of rain gardens and rain barrels. 6. Educate on proper use of fertilizer. 7. Educate on proper disposal of yard waste. | <ol style="list-style-type: none"> 1. Hold a "lake fair" with materials to educate. 2. Develop directory with information on permits, ordinances, resources. 3. Encourage use of rain gardens through brochures. 4. Furnish brochures describing proper use of fertilizers. 5. Furnish directions to the burning and compost site. |
| <p>2. Petroleum Products: These products are a problem when improperly stored, used, and disposed of near or in lakes.</p> | <ol style="list-style-type: none"> 1. Identify and distribute information on proper disposal locations and techniques. 2. Encourage compliance with storage tank regulations. | <p>Distribute information sheets regarding the regulations and disposal methods to lake residents.</p> |
| <p>3. Sediment: Removal of natural shoreline vegetation and increased runoff contribute to the flow of sediment into lakes.</p> | <ol style="list-style-type: none"> 1. Educate residents on impacts of sediments. 2. Encourage use of vegetated buffers to decrease runoff. 3. Encourage use of other devices (ponds, porous pavers) to reduce runoff. 4. Promote proper types and amounts of vegetation. | <p>Make publications available to all lake property owners.</p> |

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| | 5. Promote best management practices when earth-disturbing activities are done. | |
| 4. Hazardous Chemicals: Household and non-household (road salt) chemicals can impact the lakes through improper storage, use, and disposal. | <ol style="list-style-type: none"> Promote county's Clean Sweep Program. Encourage Shawano County to establish a more local Clean Sweep collection point. Start a healthy driveway campaign to promote alternatives to using road salt. Ask Shawano Co. Highway Dept if an alternative to road salt is feasible. | <p>Use newsletter, e-mail, and brochures to educate about alternatives to road salt and times and places of Clean Sweep Program.</p> <p>Establish a committee to have a dialogue with Shawano County officials re Clean Sweep Program and alternatives to road salt.</p> |
| General: Testing wells and soil samples would provide residents with evidence of the need to abide by ordinances and regulations. | <ol style="list-style-type: none"> Develop a directory with all information on permits, violations, enforcement, and information numbers. Implement well testing program. Establish baseline data and subsequent testing. Implement soil testing programs. Establish baseline data and subsequent testing. Enforce existing zoning regulations regarding land and brush clearing around lakes. Promote use of various types of birdhouses to attract birds that are insect feeders. | <ol style="list-style-type: none"> Develop an action committee to produce directory. Contact Center for Watershed Science and Education for well testing. Soil testing can be handled by taking soil samples to the Soil and Forage Center. Printed reminders of zoning laws regarding land and brush clearing could be included in packets and newsletters. Packets and lake fairs could include instructions on how to build birdhouses. |

WATER QUALITY AND HABITAT GROUP

Spring spawn spot rotenone w/ black wels

| Findings | Recommendations | Implementation |
|---|---|--|
| Carp: There is a growing population of carp in Cloverleaf Lakes. Since they have no predators, they multiply wildly, completely displacing native species, destroying native vegetation, increasing water turbidity, lowering oxygen levels, and starving out largemouth bass. | <ol style="list-style-type: none"> Continue to observe the carp situation in early spring when they start to spawn. Encourage bow hunters to shoot carp and see if carp shoots could be done in Cloverleaf Lakes. Contact DNR to obtain Carp census. | <ol style="list-style-type: none"> Get in touch with bow hunter groups that do carp shoots. Offer a bounty for carp. Encourage fishing for carp. Publicize problem and gain interest in eliminating carp. Monitor regularly so elimination can occur when needed. |
| Sediment: The shallow nature of Pine and Grass Lakes in combination with increasing recreational use, is resulting in reduced water clarity because bottom sediments are being churned up. | <p>Develop a lake use plan for recreational boating that reduces turbidity, such as:</p> <ol style="list-style-type: none"> Water skiing where water depths are more than 5' Not motoring at full throttle within 150' of shoreline Extend slow-no-wake restricted areas Educate residents and visitors | <ol style="list-style-type: none"> Develop a Recreational Water Use Plan. Establish a long-term working committee to create and establish practices to improve and maintain water clarity. Use newsletters, signage, and brochures to educate users of the lakes. |
| Phosphorous: Too much phosphorus in lakes leads to excessive plant growth, algae blooms, and poor water clarity. | <p>Develop phosphorus/ nutrient mgt program to address the following long-term issues:</p> <ol style="list-style-type: none"> Land use planning Public education Protection/restoration of shoreland vegetation & buffer zone areas Stormwater/runoff Lawn/garden care Proper fertilizer Recreational use Lake monitoring | <ol style="list-style-type: none"> Develop strategies to control phosphorus/ nutrient levels. Establish a long-term committee to deal with water quality issues. Galvanize community interest. Monitor phosphorus levels and overall water quality in Cloverleaf Lakes watershed. Identify an entity to manage & regulate water quality issues. |



February, 2006

Dear Cloverleaf Lake Residents:

Now that you have had an opportunity to review the **Long-Range Comprehensive Lake Management Plan**, we know that you have questions on what the next steps in the implementation process will be.

Plan implementation will be a gradual process that will require people and resources. Successful implementation requires the following:

- A Lake Board that is willing to change management style. Lake Management has primarily been done by the members on the Lake Board. The Plan requires that management be carried out through various action committees that will be reporting to the Board.
- Lake residents who will volunteer their time and talents to help manage this lake. The tasks involved in Plan implementation are too large and complex for the Lake Board to take on by themselves. Gone are the days when a few Board members can understand, manage and perform the tasks necessary to manage the lakes.

It is due to a concerted effort by lake residents that the Plan has come this far. It proves that this type of effort produces results and from what we have seen to-date, there is no question that residents of the Cloverleaf Lakes are DOERS!

Join us and help us take this **Long-Range Comprehensive Lake Management Plan** to the next level so that we can go forward and "Preserve Our Lakes for Future Generations!"

Bob Tomashek
President
Cloverleaf Lakes Protective Association