

2008 Preliminary Report on Large Project Considerations for the Sandstone Flowage Association

(Developed by the Board of Directors of the Sandstone Flowage Association)

Report Purpose: To initiate the exploration of potential large projects, with special focus on their cost benefit for the membership of the Sandstone Flowage Association.

Potential Projects: Lacking the resources to explore in depth all potential projects at one time it was decided to focus on our Aquatic Plant Problem as having the highest priority. Others considered were shore land erosion, gypsy moths, fish habitat and fish stocking.

Aquatic Plant Problem Overview:

- The history of plant issues and a comprehensive evaluation of current status were completed in 2006. A hard copy of this report can be loaned from Association Board Members. It is also available on the associations website www.sandstoneflowage.org
- 74 acres of plant beds have been identified and mapped, 52 as being dense in this 153 acre flowage. People often call these weeds however they are more correctly called plants and can be classified in two general categories, good and bad plants. Most of our plants are classified as good plants that benefit fish and wildlife. Bad plants (invasive species) have no good purpose, make recreational use difficult, and harm wildlife and fish populations.
- The most prevalent bad plant in the flowage is Eurasian Water Milfoil. An estimated 25 acres of Milfoil was present in the 2006 study. Other than small spots, there are currently 3 significant areas, all below the bridge. (11 acres adjacent to Hideaway Lane, 12 acres across the lake from this being a narrow strip going all the way upstream to the bridge and about 1 acre near the campground. A single Milfoil plant can produce 300,000 seeds in one season and can also be spread by floating plant pieces commonly caused by motor boat props. The result is significant expansion each year and thus milfoil can take over a lake. **This is a significant threat to the Sandstone Flowage since without remedial action this plant has the potential to take over a good share of the flowage.**

Remedial Challenges:

- Significantly different plant issues are present below the bridge as compared to above the bridge. Potential action also varies between these two locations due to type of plants present, size of area, water depth, velocity of the current and accessibility. Furthermore, different plant problems often exist between frontage owners.

- No single action or silver bullet exists to remedy all plant problems on this flowage because of ramifications and complexities involved.
- The DNR has specific regulations in regard to what can be done to good and bad plants. Since these plants are often in the same location this further complicates any action.
- Any project is likely to be quite costly.
- Some actions that could be taken could be perceived as benefiting some owners more than others, thus making project cost sharing acceptance difficult to accomplish. Any significant expenditure would seem to require all frontage owners' participation, not just association members to make cost sharing more reasonable.

Recommend Actions to Be Ruled Out as Not Cost Effective Or Possible:

- **Dyes and /or covers to reduce light**
- **Benthic barriers to cover bottom**
- **Drawdown**
- **Change dam flow from "run of river"**

Mechanical harvesting: This method is not unlike mowing a lawn thus an ongoing process. When done it is not unusual for it to be performed multiple times a year, year after year. A wide range of units are available from those fastening to a fishing boat to self propelled units. Small ones are more fragile and do not pick up plants that are cut. Large units cut swaths 6'-10' wide, 6' deep and pick up cut plants. Often an unintentional by product is having pieces float away and forming new plants. Paying for this service by the acre would be from \$300-\$500. Cost of purchasing larger units would be from \$50,000 to \$100,000 per unit. In addition there would be a cost to transport and dispose of these plants, the cost of an operator and the cost of maintenance. Mechanical harvesting is seen as a last resort action.

Recommended Action to Be Put on Indefinite Hold Pending More State of Wisconsin and National Research

Use of Weevils: A specific type of weevil often called the Milfoil weevil eats and or can kill milfoil. The good news is that to some degree they are found in all Wisconsin lakes, but usually not enough to eliminate milfoil. This is a natural way to deal with milfoil. The weevil is only the size of a sesame seed. It is native to America thus has no known adverse effects on nature. Weevils have been used in recent years both with and without success. Perhaps lack of good research and its relative new use commercially adds to this mixed experience. Purchasing weevils is expensive since each egg/larvae cost about \$1 each. One study suggests using 2-4 weevils per plant for best results. Apparently the current practice is to place weevils on by hand. In addition to this labor cost, is the cost of related services since they are sold as a package of services including onsite mapping/surveys. One company recommends a multiple year approach adding to the cost.

Recommended action to be studied further

Chemical use: Although very expensive and having the potential to involve the highest risk if not used properly, it could also be most cost effective for large areas. The DNR is unlikely to approve this method on good plants, especially above the bridge where this is the predominate type. The use of chemicals would seem to be best suited to kill milfoil. Even this potent method however does not eradicate Milfoil but it can significantly impact on it and increase the likelihood that good plants can compete with it and replace it. Chemicals cannot be used if a current exists thus likely to rule out use in portions of the flowage especially above the bridge, unless dam openings were coordinated with application. Chemical use is also problematic in areas where both good and bad plants grow, but this can be overcome if application is done while the good plants are still dormant. Typically the DNR only approves limited use of contact herbicides which are often less selective but also less likely to kill plant roots, which in turn increases the need for multiple applications and thus is not unlike the downside of weed harvesting.

To effectively treat large areas of milfoil the DNR can approve the use of 2-4-D, an herbicide that selectively controls milfoil while leaving the good (native) plants unharmed. To be used properly the treatments must take place very early (May) before the native plants have begun growing. Because 2-4-D kills the plant roots the treatment may have multi season control effects. Even with good control new plants from fragments can invade treated areas.

Even if more potent chemicals are used companies will not guarantee that more applications may not be needed over the years. Costs vary depending on the depth of water, type of plant, and the type of chemical used. When Milfoil is the primary target costs range from \$700-\$800 per acre. To put this into perspective if the 25 acres identified were treated using the strongest chemicals it would cost about \$20,000 for one application. DNR 75% grants are available but there is a lot of competition for these and usually are available for only one year. Eligibility requires that the lake association has developed short and long range goals and objectives in the form of a lake management plan. The aquatic evaluation plan that we have could be used as a foundation for this type of plan. If this grant was obtained it would cost our association about \$5,000 for one application. (Our projected association income for 2008 is about \$1300)

It should be noted that a number of our association members living along Hideaway Lane have had experience with the use of chemicals targeting milfoil. They have made group applications to the DNR and have privately paid for this to be done professionally. They have done this for the past four years. This needed to be repeated because the only type of chemical used provided only a seasonal, thus temporary fix. Furthermore DNR restrictions permitted the chemical to be only used only for 50 feet along each owner's property and out 150 feet. (Chemical drift however did provide for broader benefit than this distance.) This group is again applying to the DNR to use chemicals in 2008. They expect approval from the DNR to use the type of chemical that would kill milfoil. They plan on doing this for about 1000 feet along the shore and out in the lake about 150 feet. This area does not seem to show up on our aquatic plant map as having milfoil. The reason for this is that our aquatic plant study was done shortly after the above chemicals were used thus making milfoil in this specific narrow zone temporarily not apparent. The results of this last proposed action warrant careful watching since this experience may be helpful for future association planning.

Recommended Association Action to Take Place in 2008

Hand cut harvesting: This method is appropriate for very small areas adjacent to shore and can be used by frontage owners without a permit. DNR regulations limit removing any type of aquatic plant in this manner to 30 feet parallel to the shore, around piers, swimming areas etc. Apparently it can also be used for the width and the distance that is needed for a boat to reach navigable waters.

Home made devices can be used but the best seem to be those manufactured for this specific purpose. Purchased devices range from enlarged like lawn rakes to sharp cutting devices. The rakes come with various sized tines, ideally to pull the plant out by its roots. Many rakes also have float attachments for collecting floating plants. Devices solely designed for cutting plants require a separate means to collect the cut off plants. Most devices have a width of about 3 feet have long handles with a rope attached for tossing out, and pulling in. Rakes with tines 2-4 inches long are marketed for gravel lake bottoms and those 8 inches long for muck lake bottoms. Prices for lake rakes or cutters range from about \$75 to \$200 each. This method of harvesting appears to be a relatively simple and cost effective way to handle small areas. **The role of our association in regard to this method of harvesting will be acted upon by the general membership at our Memorial Day week end meeting.**

Summary and Board of Director Recommendations:

This report focused only on our Aquatic plant problem not on other potential projects for our flowage. It makes the conclusion that the invasive species (bad plant) Eurasian Water Milfoil appears to be the biggest threat to our flowage at this time. It also makes the conclusion that our plant problem has no clear cut man made solution. Some plant issues may change for better or worse by themselves or as part of a cycle, if no significant action is taken. If our membership assumes that by some stroke of luck Milfoil will disappear by itself then no further planning is necessary for remediation. If on the other hand it is believed that Milfoil is a real threat that will worsen if not dealt with, then more in -depth remedial research need to be explored. Our Board has taken the position that milfoil is a real threat and that further remedial action should be explored. It is with the latter in mind that our Board of Directors has ruled out all but three plant projects. The use of chemicals, although expensive, and not a silver bullet, seems to warrant more study because Milfoil is such a threat to the flowage. The use of weevils warrants being put on indefinite hold pending more state and national research. The Board is recommending that the membership use hand held harvesting devices for areas near piers and swimming areas. Regarding the latter, the role of our association could range from sharing information where these devices can be obtained, notifying members of other members already owning these devices so they can be seen, to subsidizing member purchase of these devices and /or the actual purchase of some for loaning out to members. **These recommendations will be acted upon at our Memorial Day weekend General Membership Meeting.**

Contact our Board Members if you cannot attend this meeting but have comments/concerns/suggestions!