



CEDAR LAKE PROTECTION AND REHABILITATION DISTRICT

CEDAR LAKE DAM

Many questions and concerns are expressed on the ownership, responsibility and operation of the dam and adjoining shoreline. The dam on Cedar Creek was authorized and constructed in 1949 to control the lake level and thereby benefit Cedar Lake's fishery, aquatic and shoreline plants, and the property owners of the lake and creek. As a result of a vote at the 1985 Cedar Lake annual meeting, the DNR issued a finding of Fact & Order on July 8, 1987, establishing agreed upon maximum and normal water levels.

Also approved was an Operational Manual that specifies the operation of the dam to maintain these ordered levels. The assigned dam keeper(s), currently Dick Hoppe and Stuart Nelson, are the responsible parties to adhere to these rules and regulations. The dam is monitored and accordingly adjusted on a daily basis to achieve the proper lake level.

The dam is owned by the lake district and the west shoreline is owned by Phyllis Menke, who generously donated to the east shoreline and the adjoining 63.5 acres to Star Prairie Land Preservation Trust. The land trust has the legal responsibility to enforce the donor's deed covenants, including, but not limited to, Preserving the land for educational purposes. Star Prairie Fish & Game voluntarily maintains the land, the dam decking and rail.

Please respect all of these fine people, their property rights, and their obligations, by not using the dam or adjoining shoreline for personal or recreational purposes. We have had recent complaints of trespassing and vandalism. The Cedar Lake board wants to assist in more closely monitoring and reporting these activities. Please help us by your individual respect and reminders to others.

WISCONSIN SHORELAND PROTECTION PROGRAM

Shoreland Zoning(NR-115) was updated in 2010, after 7 years of debate and public input. Individual counties now have until February, 2012 to modify current county

ordinances to meet or exceed new standards. Local ordinances may remain the same if they are more restrictive than the updated regulations. Lake advocates must ensure that this opportunity to modify, does not become the opportunity to use "state mandates" to repeal and weaken past regulatory gains.

Some standards that remain the same are:

- The Shoreland Zone is 1000 ft. from lakes
- A 75' set back is required
- Minimum lot size is 20,000 square ft. for homes with private septic systems.

Some of the major changes are:

- More explicit standards for vegetation removal
- Some 2nd story or vertical expansions of pre-existing (non-conforming) homes closer that 75' is allowable
- Unlimited interior repairs or modifications
- Expansion of existing building "footprint" will have to be environmentally mitigated
- Maximum vertical height is 35'
- New caps on impervious surfaces such as pavement, roofs, and decks

Stay involved and stay informed online from UW-Extension Lakes (www.uwsp.edu/cnr/uwexplakes) and Wisconsin Lakes (www.wisconsinlakes.org)

LAKE STUDY UPDATE

A comprehensive water quality study was conducted on Cedar Lake, Wisconsin, in 2009 and 2010, in order to identify important sources of phosphorus to the lake for management. Field crews from the Engineer Research and Development Center - Eau Galle Aquatic Ecology Laboratory (a part of the U.S. Army Corps of Engineers) and the Wisconsin DNR sampled the lake and tributary inflows every week or two during the summer to determine how much phosphorus was going into the lake from the watershed and when algae blooms were occurring. Dam keeper(s), Stuart Nelson & Dick Hoppe, from the Cedar Lake Protection and Rehabilitation District sampled the Cedar Lake out flow and collected precipitation information for the study.

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Researchers found that most of the phosphorus input to the lake was coming from the sediments. During the summer, the bottom of the lake lost oxygen due to bacterial breakdown of the decaying algae (very common in most lakes). This typical summer pattern caused phosphorus bound to iron in sediment to be released, where it slowly diffused into the bottom waters (hypolimnion or the colder deep-water layer) of the lake. As is accumulated in the hypolimnion over the summer, periods of cold fronts and higher winds mixed the phosphorus into the surface waters (epilimnion or the warmer surface-water layer) where it fertilized algae growth. Mixing of phosphorus into the epilimnion was frequent during both years, causing nuisance algae blooms, especially during the late summer and early fall.

The aeration system was designed to maintain oxygen in the hypolimnion of the lake in order to prevent its accumulation and mixing into the epilimnion. While it was effective in the early 1990's, its efficiency appeared to decline over the years. Scientists do not know exactly why the aeration system did not solve the problem in Cedar Lake, however, they believe it may have been due to a combination of factors. The chemistry of the lake is better understood now and we believe that the aeration system was needed to maintain oxygenated conditions throughout the entire hypolimnion in order to completely prevent phosphorus accumulation. Less than complete aeration probably resulted in some phosphorus buildup during the summer which could then be mixed into the surface waters for algal fertilization.

Fortunately, there are other tools for managing this type of phosphorus fertilization problem. A chemical called aluminum sulfate (alum) has been widely used in lakes to bind the phosphorus in the sediment and remove it from recycling back into the hypolimnion. Alum is added to a lake by a boat equipped with injector nozzles. The alum reacts with the lake water to form aluminum hydroxides, a milky white precipitate that rapidly settles to the lake bottom and binds the phosphorus from recycling for decades. Many lakes have been successfully treated with alum with resulting major declines in algal blooms and increases in water clarity. Most treatments have been performed on small lakes, much smaller than Cedar, because cost is a factor. However, alum treatment can represent an important investment to future improvements in water quality, enhanced enjoyment and recreation, and increased growth in the local economy.

The Lake District Board wishes to thank Buzz Surge of the DNR, and Bill James of the Army Corps of Engineers for managing the project initiated by the late Jack Hayes of the Cedar Lake District Board.

WISCONSIN'S PIER REGULATIONS

In the summer of 2008, new legislation concerning the placement of piers on Wisconsin waterways went into effect. Piers have been a hot topic in the news since 2004 when the Wisconsin Legislature updated the regulations by setting size requirements for piers to be exempt from permitting. The new 2008 legislation expands the configuration options for piers to be exempt, provides greater flexibility in the number of boat slips allowed for commercial and multifamily lots, and creates a registration system to grandfather piers placed before 2004 that no longer meet today's standards. Historically and still today, most piers do not require a permit or fee from the Department of Natural Resources. All information you need to know about WI pier regulations can be found on the DNR web site: dnr.wi.gov/waterways

FISH CRIB REPORT

The Star Prairie Fish & Game, along with the Cedar Lake Protection District, decided not to build fish cribs this year. Early in the winter the ice conditions improved the additional heavy snows caused problems in cutting and hauling of brush which is used in the cribs. There are currently 268 Cribs in the lake with a final goal of 500. Hopefully next year will allow the build to continue.