



GREAT LAKES  
COALITION

## Michigan/Lake Michigan Chapter For Shoreline Preservation Newsletter – Winter 2011

### STATUS OF THE LAKE LEVELS STUDY

This newsletter will update everyone on the status of the International Upper Great Lakes Study. There are three phases to the study:

**St. Clair River:** It has been decided **NOT** to put restrictions in the river to raise the level of Lakes Michigan and Huron.

**Restoration:** Study completed. No recommendation. Public hearings held, like the one held in Douglas on June 18, 2011. IJC will hold additional hearings in 2012.

**Lake Superior Outflow to Lake Michigan:** Study completed. New plan recommended. IJC to hold hearings in 2012. See next article.

### NEW PLAN RECOMMENDED FOR LAKE SUPERIOR OUTFLOW TO LAKE MICHIGAN

The International Upper Great Lakes Study has recommended a new formula for setting the outflow from Lake Superior to Lake Michigan. They are calling it “Lake Superior Plan 2012”, but are open to suggestions for a better name.

The present “Plan 1977-A” is described in the article below. The new plan, if it is adopted, would not change things very much. If it had been in effect in 1986 when lake levels set a record high, it would have lowered levels 2 inches (5 centimeters). If it had been in effect in 1964 when levels set the record low, it would have raised them 1.6 inches (4 centimeters).

The range of Lake Superior would be the same under the new plan as it has been under the old plan. Lake Superior Levels would not go above elevation 603.21 ft above sea level (183.86 meters), because that would overflow the gates at the Soo; and they would not go below 599.60 ft. (182.76 meters) because it would interfere with navigation. The IJC told the study to keep it that way.

At the same time, the study recommended an “Adaptive Management” plan for continuous evaluation of lake levels so that they are better prepared for emergency situations.

They also recommended a Water Data Board that would keep records of all hydraulic information that was used in the study and may be developed by other agencies in the future. This board would have public members as well as government people on it.

The study took a quick look at “Lakewide Management”: what would it take to actually set desired levels for each of the five Great Lakes and then keep them there, no matter what rainfall and evaporation should be -- something like five-lake regulation in the old 1986 study. It was dismissed as unrealistic because of the cost of constructing flow bypasses and barriers.

The final Lake Superior report will be issued in March, 2012 and there will probably be public hearings on it after that.

The IJC will also take comments on Restoration (raising levels 20 inches) at the 2012 hearings, and **it will be important for Coalition members to attend**. We will request a hearing in Saugatuck and send out a special newsletter to let you when and where it will be held.

For more information on the Study, visit their website at: <http://www.iugls.org>

### **WHY HAS LAKE MICHIGAN GONE AS HIGH AS 3.48 FEET ABOVE ITS AVERAGE WHEREAS LAKE SUPERIOR HAS ONLY GONE 1.64 FEET ABOVE AVERAGE?**

**Answer:** The IJC controls it that way. Every month they set the outflow from Lake Superior by a formula, called Plan 1977-A. In simplified form, the outflow in cubic feet per second (CFS) is:

$$79,000 + 200,000(\text{Lake Superior, ft. above average}) - 72,000 (\text{Lake Michigan, ft. above average})$$

The long term average outflow is 79,000 CFS. So for example, if both Lake Superior and Lake Michigan were 1 foot above average, they would increase the outflow 200,000 CFS to let more water out of Lake Superior, but they would only hold back 72,000 CFS to alleviate the high level of Lake Michigan.

The result is that the range of levels, from high to low, on Lake Michigan is 6.30 ft. --- much more than the range of 3.90 ft. on Lake Superior. In fact, it says right on page 8 of Plan 1977-A that their goal is to have a range of Lake Michigan that is 1.9 times the range of Lake Superior.

**Why do they do this?** In 1914 the United States and Canada agreed that Lake Superior would not go higher than it has to avoid overflowing the gates at the Soo locks, and it would not go lower to avoid navigation problems in the St. Marys River below the locks.

This next paragraph is for math gurus only: We said the formula was simplified. The 79,000 CFS actually varies from 70,000 to 88,000 CFS because each month they use the average for that month instead of the long term average of 77,000. And likewise, the 72,000 varies from 56,000 to 81,000. (The 72,000 is the ratio of the standard deviations of monthly Lake Superior levels to Lake Michigan levels, times 200,000; the standard deviation is a measure of the past range of lake levels; and since the range of Lake Michigan levels has been more than the range of Lake Superior levels for the last 100 years, the formula insures that it will continue that way).

Some water level elevations, in ft. above sea level, taken from Table 2-3 of the St. Clair River report are:

	<u>Lake Superior</u>	<u>Lake Michigan</u>
Highest level	603.38 (1985)	582.35 (1986)
Average	601.74	578.87
Lowest level	599.48 (1926)	576.05 (1964)

## LAKE SUPERIOR COMPENSATING WORKS

The St. Marys River is the natural outlet of Lake Superior. Near Sault Ste. Marie, Ontario and Michigan, a rock ledge at the head of the St. Marys River Rapids is the natural control of the Lake Superior outflows. The rock ledge acts like a weir, which permits flows to increase and decrease relative to Lake Superior's level. This self-regulating feature, along with Lake Superior's immense storage capacity, makes the lake a highly naturally regulated water body.

This natural outflow control began to change as early as 1822, when water was diverted from just above the rapids for operation of a sawmill. A ship canal was constructed in 1855. Subsequently, various expansions to these facilities took place, culminating in the flow control facilities we see today. They now consist of three hydropower plants, five navigation locks and a 16-gated control structure (called the Compensating Works) at the head of the St. Marys Rapids.

Since the Compensating Works were completed in 1921, Lake Superior outflows have been regulated. This regulation is carried out by the [International Lake Superior Board of Control](#) in accordance with conditions specified by the [International Joint Commission](#). Lake Superior's outflows are adjusted monthly, taking into consideration the water levels of both Lake Superior and lakes Michigan and Huron (which are considered one unit hydrologically). The objective, called systemic regulation, is to help maintain the lake levels both upstream (Superior) and downstream (Michigan-Huron) close to their long-term seasonal averages, and to prevent any one of them from getting either extremely high or low. The regulated outflow is achieved by adjusting the flows through the three hydropower plants, after the amounts required for lockages, the St. Marys Rapids fishery and industries at Sault Ste. Marie are met. A minimum of one-half of one gate is kept open at the Compensating Works to maintain water in the rapids for fish spawning. More gates are opened when flows in the river exceed the capacities of the hydropower plants. Hydropower diversions and lockage data are compiled monthly by the Lake Superior Board.

For more information on the Lake Superior Compensating Works, you can visit the following links:

<http://www.iugls.org/highlight-compensating-works.aspx>

<http://www.great-lakes.net/envt/water/levels/smflowsref.html>

### THE DEATH OF SHIPPING?

(This article reprinted from the November 4, 2011 St. Joseph, Michigan *Herald-Palladium*)

By Scott Aiken (H-P Staff Writer)

Unless the federal government changes its position and budgets money for spring dredging, 2011 may be the last year for commercial shipping on the St. Joseph River harbor. "They're driving us to close up shop," said Lee Scherwitz, a member of the Harbor Authority. "Once it's gone, it's gone."

Harbor Authority members Thursday discussed the growing possibility that commercial shipping, a mainstay of the area's economy since the 1830s, may soon disappear. Without shipping, the cost of maintaining the harbor and its twin piers would shift from the federal government to local units. The Harbor Authority, an advisory panel, voted again to send letters to Michigan's U.S. senators and U.S. Rep. Fred Upton, R-St. Joseph, urging them to work to get funding.

Harbors situated on rivers require regular dredging to remove shoals, deposits of sand or gravel dropped by the current. Without dredging, harbors can quickly become too shallow to handle commercial ships and even large recreational boats.

Three commercial docks on the St. Joseph River harbor handle bulk commodities delivered by ship. Those commodities are mostly cement, stone, aggregate, sand and salt. Most of the materials are used in building and road construction.

Officials fear that the harbor will lose depth over the winter. “If we can’t get a ship in next spring, they’ll shut it down,” said Rick Moore, senior terminal manager at the Lafarge Corp. bulk cement facility in St. Joseph. The Lafarge dock is on the outer harbor, The Central Dock and Dock 63 facilities are on the inner harbor, which is more susceptible to shoaling.

Bills pending in the U.S. Senate and House would require the government to spend money in the Harbor Maintenance Trust Fund for its designated purpose. The infusion of funding would likely be adequate to keep harbors around the country in operation, officials said.

Set up in 1986, the fund is supported by taxes on all goods transported on water. But the government allocates only part of the money collected for harbor maintenance. It spends the rest for unrelated purposes.

The 2012 federal budget includes maintenance money for only three Michigan harbors. Grand Haven is the only Michigan port on Lake Michigan scheduled for dredging. St. Joseph, Holland and other harbors are not included on the funding list and could be shut down. John Gruchot, planning coordinator for the county, told the Harbor Authority that he learned at a recent conference that the Army Corps of Engineers lists the harbor as likely to shut down. “We’re like the Asian carp of dredging—don’t let this happen to you,” Gruchot said. The Harbor Authority directed Gruchot to contact the Corps to have the harbor’s name dropped from the list.

According to the Army Corps of Engineers, budget constraints will allow dredging only on Great Lakes ports that receive a minimum of 1 million tons of materials annually. The St. Joseph River harbor hit that threshold only one year.

## **WATER LEVELS**

Lake Michigan water level during October was 577.7 feet. The long term average is 578.9; therefore we are almost 1 foot below the long term average.

## **ANNUAL MEETING**

The Coalition held their Annual Membership Meeting on Monday, August 22, 2011 at the Douglas City Hall, Douglas, Michigan. A report was given on the status of the International Upper Great Lakes Study which has now been completed and which has recommended that no action be taken in Lake St. Clair. A restoration study of Lakes Michigan and Huron has found no good reason to raise water levels. The IJC will hold public meetings in 2012 and we will request one on the Saugatuck/Douglas area. In addition to attending meetings, it was recommended that Coalition members continue to write letters to the IJC to show our opposition to increasing water levels in Lake Michigan. An update on the Banks v. USA lawsuit reported that after a second trial held in April, this one for damages, the plaintiffs are awaiting a decision. The following directors were re-elected for three-year terms: John Boyd, John Ehret, Gay Peterson and Bill Somerville.

## BOARD ELECTS NEW OFFICERS

At the October 10, 2011 board of directors meeting, new officers were elected for one-year terms as follows:

Dr. Larry J. Robson, Grand Rapids, President  
Roger J. Smithe, Manistee, Vice President  
Joseph Milauckas, Saugatuck, Treasurer  
Marcia Wineberg, St. Joseph, Secretary

John "Ric" Curtis of Fennville was appointed to replace long-time director David Koeze who passed away this past year.

Other directors are:

John H. Boyd, Holland  
John B. Ehret, Stevensville  
Ray Oakes, Montague  
Gay Peterson, Montague  
William Somerville, Williamston

## MISSION STATEMENT

The Great Lakes Coalition (GLC) concentrates on water levels; natural sand supply to beaches, dunes, and bluffs; and coastal management. The objective is to preserve environmentally sound management of the coastal zone. Natural conditions have been changed by sometimes flawed government intervention and judgment. The GLC is a respected advocate for shoreline property owners that challenges inappropriate regulations and encourages beneficial government decisions.

**Time to renew your membership for 2012, or join us if not already a member:**

**Michigan/Lake Michigan Chapter-Great Lakes Coalition**  
**P. O. Box 429**  
**Saugatuck, MI 49453**  
**(269) 857-8945**

We are a 501(C) (3) tax-exempt organization  
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NAME \_\_\_\_\_

MAILING ADDRESS \_\_\_\_\_  
\_\_\_\_\_

LAKE PROPERTY ADDRESS IF DIFFERENT:  
\_\_\_\_\_

E-MAIL ADDRESS \_\_\_\_\_

**SUGGESTED MEMBERSHIP CONTRIBUTION:**    \_\_\_ \$35    \_\_\_ \$50    \_\_\_ \$100    \_\_\_ Other

**RETURN SERVICE REQUESTED**

[www.glc.org](http://www.glc.org)

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