



US Army Corps
of Engineers
Detroit District

Great Lakes Update

Remember Safety First at the Lakeshore

The Great Lakes offer many summertime recreational opportunities for boaters and beachgoers alike. Harbor and shoreline structures such as piers, jetties, and breakwaters attract many visitors looking to cool off near the water's edge. However, these navigation projects were designed to tame wave action, allowing easy access and shelter for vessels; they were not designed for recreational use. People who use these structures for recreational purposes must do so with extreme caution.



Figure 1: Pier at Grand Haven, MI

Wind and waves are the biggest safety hazards near piers, jetties, and other shoreline structures. When winds and seas are high, waves crash over the top of many structures. The Corps of Engineers recommends that the public stay off any navigation structure during high seas and strong winds. Surfaces can become wet and

slippery and the edges are sharp. The result of a trip on a pier could be deadly if a wave washes you into the water.



Figure 2: Waves washing over pier

On a hot summer day it is very tempting to go for a refreshing swim in one of our Great Lakes. Swimming near or jumping off Federal navigation structures is not advised, as unseen hazards are just below the water line. Broken concrete and stone weighing up to 40 tons is used to support the weight of the structures. These stones and concrete pieces jut out from the structure below the water surface. Powerful currents often flow around these structures, making them particularly dangerous for swimming. Swimmers risk hitting the rocks or getting thrown against them by strong waves.

The safe use of federally owned navigation structures is a priority of the U.S. Army Corps of Engineers. On April 23, 2004 a pier safety workshop was jointly hosted in Muskegon, MI by the U.S. Army Corps of Engineers and the U.S. Coast Guard. The emphasis of the workshop was to promote the safe use of navigation structures and to share what communities are doing to provide safety devices on their local piers.

The Corps of Engineers urges people to use common sense and caution near piers, jetties, and breakwaters and to monitor weather and wave conditions. Remember, the piers, jetties and breakwaters on the Great Lakes were not designed for recreational use. Use common sense and remember these safety tips:

- Closely monitor children
- Life jackets should be worn by young children and non-swimmers
- Do not dive off or swim around pier structures
- Stay off piers during high winds or when waves are washing over
- Avoid walking upon wet, slippery areas
- Do not get close to the edge
- Do not run or climb upon pier structures
- Use strollers and wheelchairs with caution
- No bikes or skates
- Local ordinances may prohibit swimming in navigation channels

Many Great Lake communities have installed life rings with throw ropes and emergency call boxes on their shoreline structures. Ladders and guardrails have also been installed at several locations in addition to warning signs and placards.

Rip Currents

Another hidden danger to swimmers along the Great Lakes shore is rip currents. Rip currents are powerful channels of water that form in the lake flowing away from the shoreline. They form during periods of high surf conditions when

waves break near shore, piling up water near the beach. Often, a sand bar or other off-shore obstruction prevents the water from immediately returning out to the lake.

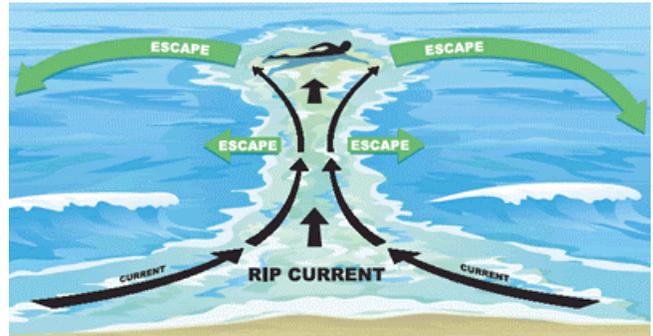


Figure 3: Rip current courtesy of NOAA

When enough water has piled up on the shore side of the sand bar, the water will force itself back out to the lake by forming a river-like section of water moving strongly away from the shore. The speed of the rip current moving away from the shore can be so fast that even the strongest swimmers cannot swim against the current.

Swimmers caught in a rip current can be carried out to sea in a matter of minutes. If this happens to you, it is important to relax and not panic. To escape a rip current, do not fight it by trying to swim into shore. Instead, swim parallel to shore until you are no longer caught in the current.

Many people drown while trying to save others from a rip current. It is safest to throw the drowning victim something that floats and shout instructions to them on how to escape the rip current.

The Great Lakes offer so many enjoyable recreation opportunities. Make sensible decisions when enjoying this natural resource in a safe and responsible manner this summer.

May Rainfall Leads to Increased Lake Levels

Every spring, a melting snowpack and spring rains increase runoff to the Great Lakes, which sends water levels into a seasonal rise. Typically, the seasonal rise begins in February (March for Lake Superior). The lakes reach their seasonal peak between June and September (depending on the lake). The rate of rise varies from year to year depending on the amount of snowmelt, runoff and precipitation. From February to early May 2004, the Great Lakes were rising at a normal rate.

May 2004 brought record rainfall to much of the Great Lakes basin. An unusually stagnant weather pattern that persisted across the middle of the Great Lakes basin set up the record-setting conditions. Several weak cold fronts stalled over the basin and were supplanted by warm, muggy, unstable air from the south. The result was a series of thunderstorms and heavy rains that moved through the basin throughout the month of May. The Lake Michigan-Huron basin was particularly hard hit. There was only one day in May with no recorded precipitation on the Lake Michigan-Huron basin.

Many precipitation records were broken or nearly broken throughout the basin in May. Individual stations breaking records were Detroit, MI with 8.46 inches; Flint, MI with 8.19 inches; Muskegon, MI with 9.59 inches; and Lansing, MI with 10.44 inches. Many locations in southeast and central Wisconsin approached record high precipitation totals for May, with many locations receiving over 8 inches of total rainfall.

The area weighted average rainfall over the entire Great Lakes basin was 5.73 inches, which is the wettest May on record. The average May precipitation for the Great Lakes basin is 2.95 inches.

The heavy rains this spring have had a significant effect on Great Lakes water levels. Over the month of May, Lake Michigan-Huron rose 9 inches, the largest such rise in the past 10 years. On average, Lake Michigan-Huron rises about 4 inches over the month of May. The other lakes rose between 5 and 7 inches each, which is also above average for this time of year.

The record amounts of rain led to extensive flooding across the Lower Peninsula of Michigan, southeastern Wisconsin, and northeastern Illinois. Record flooding was reported on the Clinton River, which is a tributary to Lake St. Clair. Major flooding was reported on the Huron River near Hamburg, MI; the Milwaukee River in Cedarburg and Milwaukee, WI; and at various locations on the Grand River from Lansing to its outlet into Lake Michigan at Grand Haven, MI.

Public Meetings

The St. Lawrence River Board of Control will hold its annual meeting with the public on July 21, from 7:00 to 10:00 pm. The meeting will be held at the Village Hall, 112 North Broad Street, Village of Sackets Harbor, New York.

The International Lake Ontario - St. Lawrence River Study will be holding meetings in many locations throughout the Lake Ontario basin in August and September. Details on the locations and times can be found at www.losl.org.

The International Niagara Board of Control will hold its annual meeting with the public the evening of September 22 in Buffalo, New York. Details on the location and times can be obtained from John Kangas at (312) 353-4333 or Len Falkiner at (905) 336-4947.

Delivery of the Monthly Bulletin

Periodically, the U.S. Army Corps of Engineers, Detroit District renews the mailing list that we use to deliver the Monthly Bulletin of Lake Levels for the Great Lakes. At this time, we are offering our subscribers the choice of continuing to receive the Bulletin in exactly the same manner as you currently receive it or to begin receiving an email every month when the updated Monthly Bulletin is available for printing/viewing on the Internet. This is typically several weeks earlier than the date that you receive the Bulletin through the mail. **In order to continue receiving the Monthly Bulletin, you must register using one of the methods below.** If you do not register, you will no longer receive the Monthly Bulletin by mail beginning in August 2004.

To Continue Receiving the Bulletin through the Mail

If you would like to continue receiving the Monthly Bulletin by mail, please visit the following website: <http://www.lre.usace.army.mil/reorder> to submit your name and address. If you do not have Internet access, mail us the form at the bottom of this page. **Your name will be automatically dropped from the Bulletin mailing list if you do not resubmit your name and address using the website or mailing us the form by July 31, 2004.**

To Sign up for Email Notification of the Bulletin

If you would like to start receiving email notification when the new Monthly Bulletin has been posted to our webpage, follow the directions below. The email notice will arrive in your inbox during the first week of the month, almost two weeks earlier than the standard mail subscribers receive their Bulletin.

Create a user name and password. The first step is to register as a user at our website. Go to www.lre.usace.army.mil/glhh. In the top right-hand corner, click on the word **Register**. A **Register New User** box will appear on your screen. Complete the required information and click **Register**. You are automatically brought to the News and Events page where you are now logged in under your username (as indicated in the top right-hand corner).

Subscribe to a forecast notification. From the **News and Events** page, click on **Great Lakes Information** on the left menu bar. Click on **Hydraulics and Hydrology**, and then click on **Forecasts** (located under **Water Levels**). Click on each forecast you are interested in receiving. Click on **subscribe** and you will be subscribed to receive email notification of the most recently updated water level forecasts.

NOTE: When you register as a user at our website, you are **NOT** automatically subscribed to the Monthly Bulletin. You must also follow the directions under the SUBSCRIBE TO A FORECAST NOTIFICATION section. This is a user-managed email list. If you ever want to cancel delivery or change your address, all you have to do is login to our webpage and change the information.

Please retain my name on the **Monthly Bulletin** of Lake Levels for the Great Lakes mailing list.

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