

TODAY'S WEATHER:

www.wunderground.com/us/mi/kewadin

STORM CENTRAL

www.gtlakes.com/storm-central/

WIND MAP

<http://hint.fm/wind/>

GREAT LAKES ICE COVER

<https://www.glerl.noaa.gov/data/ice/>



Beach July 2015–water level 580.0

The natural shoreline is much loved even as erosion remains a problem alongshore the Antrim County East Bay coast and we struggle to maintain it.

Water level peaked in 1986; set new records for three years to 2020. As water's edge encroached, sections of modular boardwalk were either stored or taken by gale force winds and waves. This walkway guided grandchildren to avoid dry beach, bluff, Marram grass, and mixed cobble bird habitat. The boardwalk stretched 70 feet in 2015; 8 ft into the water in 2020.

Same beach July 2020–water level 582.2



PLEASE DONATE TO TNN, 501(c)(3)

Dear Neighbor,

TNN operates virtually – no physical facility and no employees. TNN engages support partners within the limits of resources.

TNN News curates articles to your interests. Your donation finances work to address challenges to lifestyle and environment.

We appreciate your commitment.

Mail check & form to TNN, P.O. Box 887, Elk Rapids, MI 49629- PAY PAL on website.

UPDATE: OFF-SHORE 'SILL TYPE' BREAKWATER-ANTRIM COUNTY COAST-COVED BEACH

By: Keith Termaat



Gales of November shifted sand inland across the sill type breakwater just off-shore. December saw more sand as did January.

Clockwise from top left: mid-December; mid-January, as built, preconstruction. Stake marks August OHWM



The breakwater is buried beneath two feet of new sand, except for the two-ton anchor rock.



covered by late summer. **At mid-winter, so far so good!**

January photo depicts much anticipated wind-blown sand, which had begun to accumulate. Marram grass in Spring should begin natural rebuilding of the low bluff. We hope small riprap along low bluff will be



MARCH 4, 2021 PHOTOS

Water level 580.64 – (OHWM 580.5) – Calm, sunny day.



Continued gains in the beach are seen. At left looking south, the beach is 40 to 50 feet in breadth (partly under pack ice). Photo below looks north.

Photo below left shows the 2-ton anchor rock slightly



exposed next to neighboring seawall. Sand has accreted in the corner formed by my bluff riprap and the seawall next door. But at times this sand has eroded by southwesterly gale force waves curling around the seawall as backwash.

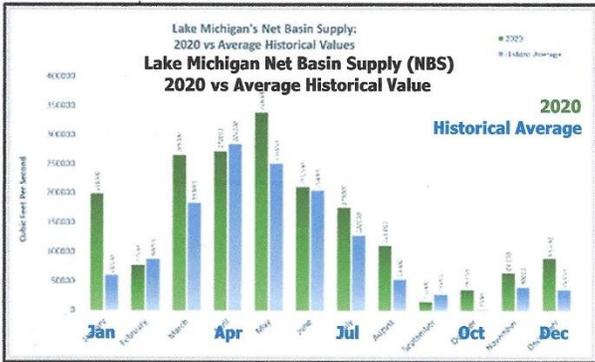


At right, the sill type break-water is easy on the north neighboring property between pine tree and deck. Formerly eroded



low bluff is almost completely filled in with sand. The bluff this side of the pine tree on my property is half-filled with sand.

For this coved beach protected by an offshore, sill type breakwater, the March thaw shows continued gains. **We will see what April and May bring!**



EXCERPT – “WATER LEVELS ON LAKE MICHIGAN-HURON”

BY: Kayla Wandsnider, Coastal Resilience Project Assistant, Wisconsin Sea Grant **Jan. 25, 2021**
<https://sewicoastalresilience.org/january-water-level-update/> **PLEASE READ ENTIRE ARTICLE**

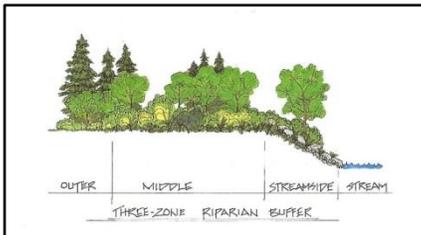
Water levels on all the Great Lakes have finally dipped below their monthly records as of January 22, 2021. Lake Michigan is now 4 inches below the highest recorded monthly average in January previously set in 1987. Additionally, the basin is 8 inches below mean water levels from a year ago. From this point and through the winter, water levels are expected to continue their seasonal decline.

Five things to know about water levels on Lake Michigan. January 2021.

Lake M-H Net Basin Supply. BY: US ACE

RIPARIAN BUFFER ZONE

The area of land adjacent to a lake, stream, river, or wetlands. Healthy margin areas nurture hydrophilic plants which protect water quality, ecology and biodiversity. Plan now to restore the riparian buffers on your land.



PLANT MARRAM BEACH GRASS
 Planting Time: March to May – Sep. to Dec.
 While Plants are dormant.



Courtesy of Olde Path Inc

<http://www.mydunegrass.com/about-dune-grass/planting-advice/>

What are the current water levels on Lake Michigan?

Water level of Lake Michigan as of January 22, 2021, is at 580.97 feet above sea level.

What is the outlook for future water levels?

US Army Corps of Engineers (USACE) predicts that all lakes will continue their seasonal water level declines through the winter due to seasonal evaporation. On average, water levels vary seasonally about one foot from a summer peak to a winter low.

What is behind Great Lakes water level fluctuations?

Net Basin Supply (NBS) accounts for water going into a lake as precipitation and runoff minus water leaving a lake due to evaporation from the surface. In general, when Net Basin Supply is positive, more water enters the lake than leaves, causing a rise in lake levels. Over the last five years, NBS has been positive, driving all the Great Lakes to rise

In December 2020, Lake Michigan water levels declined even with an above-average Net Basin Supply. **Potentially, this could have been caused by a higher outflow from the Lake Michigan-Huron basin to Lake Erie through the St. Clair River than usual.** (*emphasis added*) And this time of year has higher evaporation than other seasons. The combination of the two could have led to a water level decline.

Lake Michigan NBS for the year 2020 is cumulatively above average.

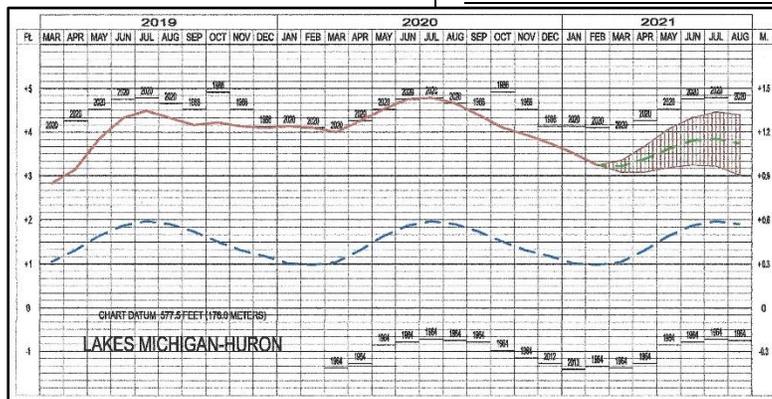
This means that there has been, in total, more water entering the Lake than leaving it compared to a normal year. This cumulative above-average NBS drove Lake Michigan to consistent monthly record highs throughout 2020. (Editor: *Chart at bottom of page shows record highs for Lake Michigan-Huron only for the first half of 2020.*)

What would make water levels go down?

USACE Detroit District’s Keith Kompoltowicz on March 12, 2020 : “A cool, dry fall would evaporate water from the lakes because lakes are relatively warm. As we move into the winter, we don’t want a healthy snowpack. We want a warm, snowless winter followed by a warm, dry spring. Big picture is that we’re looking at another year of very high and even record high water levels, and the impacts associated with those are going to remain.” (Editor: March 12 Forecast has been updated February 26. (See Chart at left.)

LAKE MICHIGAN-HURON WATER LEVEL – March 5, 2021. BY: US Army Corps of Engineers

<https://www.lre.usace.army.mil/Missions/Great-Lakes-Information/Great-Lakes-Water-Levels/Water-Level-Forecast/Monthly-Bulletin-of-Great-Lakes-Water-Levels/>



All Great Lakes are below year ago levels. Lakes Superior, Michigan-Huron, and Erie are 6, 9 and 15 inches below last year. Lake Ontario is 26 inches lower due to IJC policy change to release more water into the St. Lawrence River.

Lake Michigan-Huron is 1 inch lower than a month ago and is projected to rise 2 inches in April; Lake Superior is expected to remain the same.

All the lakes remain well above their monthly long-term average levels except Lake Ontario which is at average.



DROWNED 'High Water Mark' Ends Michigan.Gov Shore Regulation.

Based on reporting by Garrett Ellison, Mlive.com and [Michigan Legislature Report](#).

Nineteen months ago, Lake Michigan - Huron drowned the Ordinary-High-Water-Mark (580.5 feet above sea level).

This line in the sand defines the boundary of state authority to regulate shoreline construction. This invisible line has been underwater but recently resurfaced amid the seasonal water level decline of Lake Michigan-Huron. US Army Corps forecasts the line will submerge again this spring.

Michigan's Department of Environment, Great Lakes and Energy (EGLE) authority to regulate construction along its freshwater coast was upended after an environmental consultant formally challenged the State's authority to permit certain coastal projects.

EGLE accepted the underlying court ruling and requested legislation to reestablish regulatory jurisdiction. A 2020 bill in the Michigan Senate, amended in the House, approved by a House Committee died in the 'lame duck' legislative session.

Over the last several years, property owners have used various approaches to gain State and Federal permits to build shoreline reinforcement projects.

2022 TNN BOARD

Help TNN protect [resident lifestyles](#) along the Antrim Grand Traverse Bay coast and watershed. TNN serves Townships of Torch Lake, Milton, Elk Rapids, and Banks-Norwood to Elk Rapids. Director nominees are chosen from TNN members, donors, partners, and local leaders. Interested? Write: Keith Termaat. TNN.Mich@gmail.com.

RECENT 2020 GREAT LAKES REGULATION WINS:

Reported BY: Coalition to Protect the Great lakes Coalition2ProtectGr8LakesShore@gmail.com

STORM Act passes and is signed by the President! What it does: "The bipartisan STORM Act would offer states and cities the needed flexibility to provide low interest loans for projects that have the greatest impact and reduce risks for companies and communities in their area. This legislation would be an important step towards improving resilience and planning for communities across the country." (See story below)

WRDA, Water Resources Development Act passes and is signed by the President (as part of the omnibus spending plan).

SIGNED INTO LAW -THE 'STORM' ACT WILL BRING RELIEF FOR SHORELINE COMMUNITIES AFFECTED BY HIGH GREAT LAKE WATER LEVELS - - PLEASE READ ENTIRE ARTICLE.

BY: Mike Hardy - January 4, 2021 <https://thumbwind.com/2021/01/04/storm-act/>



On Friday, January 1, President Trump signed into law S. 3418 "Safeguarding Tomorrow through Ongoing Risk Mitigation Act", the "STORM Act." The bipartisan law authorizes the Federal Emergency Management Agency (FEMA) to provide capital grants to States to establish revolving funds to provide hazard mitigation assistance to reduce risks from disasters and natural hazards. The Law will bring relief for shoreline communities affected by high Great Lakes water levels.

Back in March (2020), Michigan Senator Gary Peters (D-MI) and Ron Johnson (R-WI), Ranking Member and Chairman of the Homeland Security and Governmental Affairs Committee introduced bipartisan legislation to provide support for local communities facing rising water levels, coastal erosion, and flooding that have put homes and property at risk, and caused millions of dollars in damages.

During 2020 the Great Lakes experienced record high-water levels, and communities in Michigan and Wisconsin continue to face serious shoreline erosion challenges that have destroyed homes and beaches and have even forced residents to relocate. Senators Peters and Johnson bipartisan bill established loans that local governments could access to help mitigate the impact of rising water levels, coastal erosion, and other damage caused by natural disasters in a more cost-effective way. Studies show that resilience and mitigation spending save taxpayers more than \$6 for every dollar invested.

Unlike existing FEMA grants, these low-interest loans would allow local governments to invest in resiliency and mitigation projects to reduce life and property loss, the cost of insurance, and disaster recovery payments. These loans would reach the communities more quickly than FEMA's traditional grants and provide local communities with the capital necessary to invest in more resilient infrastructure.

Along the Great Lakes, rising water level have flooded campgrounds and streets, caused boating problems due to submerged structures, and destroyed several beaches and homes. These disasters often cause long-term economic, social, and environmental effects for states and communities, including deaths, injuries, property destruction, and an increased burden on taxpayers. FEMA programs cannot assist with projects related to sustained high water levels and long-term shoreline erosion. The STORM Act will ensure that communities facing these hazards are eligible for loans to fund such mitigation projects.

