

AUTUMN REFLECTIONS



TODAY'S WEATHER:

www.wunderground.com/us/mi/kewadin



REIMAGINED TNN WEBSITE
December 2, 2022.

Donation by credit or debit card AND ability to donate monthly.

Seamless browsing for laptop, tablet, smart phone, or desktop

Better readability and more pictures.

Improved graphics and imagery.

<http://www.townshipneighborsnetwork.com>

PLEASE DONATE TO TNN
A 501(c)(3) Charity
TNN operates virtually – all volunteers.



Blessings of the Season - Celebrate Traditions of Winter Solstice

<https://www.sunset.com/lifestyle/wellness/winter-solstice-rituals-nature#canyon-coffee-set>

Written by Nena Farrell DECEMBER 13, 2019 – EXCERPT; PLEASE READ THE ENTIRE ARTICLE

From a yule log to an evergreen wreath, celebrate the season's changes on December 21 with these ancient rituals that just might resemble the holiday traditions of today.



The shortest day of the year, Dec. 21, is around the corner, marking the end of fall and the official start of winter. The winter solstice is an ancient holiday known for rituals and traditions that celebrate nature and setting one's intentions for the coming season. Curious how to celebrate? Here are some customary ways to celebrate the solstice—you might notice that some resemble beloved Christmas traditions.

Make an Evergreen Yule Wreath – Whether it's for your yule altar or just for your doorway, **building a wreath** using winter evergreens like pine, fir, juniper, and cedar is a classic way to honor the season. In ancient cultures, evergreens were associated with protection and prosperity, making them popular choices for celebrating the end of the year and the beginning of winter.



Burn a Yule Log – Historically, the burning of the yule log was a **Nordic tradition**, where a whole tree (not just a log!) was brought into the home to burn for the entire 12 days of Christmas. Keep it safe in the modern era with a mini log for your hearth.



Decorate a Yule Tree – Sounds familiar, doesn't it? If you have one, you've likely already decorated your **Christmas tree** by Dec. 21, but in the old traditions, Yule trees were actually **living** outdoor trees that were decorated with hanging candles. The candles and any added **ornaments** were meant to symbolize the sun, moon, and stars, as well as remembrances of loved ones that were lost.

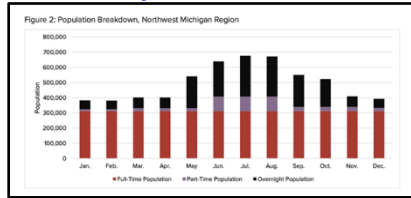
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Wishing you the blessings of the holiday season. Winter solstice is a time to remember family, friends, and neighbors who passed on. And to celebrate natural wonders. Take some time during the day to scatter seeds for local birds and wildlife to give back to your home's original community. Team TNN

SEASONAL INFLUX OF WORKERS, RESIDENTS, VISITORS IN REGION

By: Beth Milligan

<https://www.traverseticker.com/news/new-report-measures-seasonal-influx-of-workers-residents-visitors-across-region/>



Fulltime - Parttime - Overnight

The population of northwest Michigan rises and falls 295,000 in the summer with visitors making up 40 percent of region’s population in the July peak - new report: [Networks Northwest and Beckett & Raeder](#).

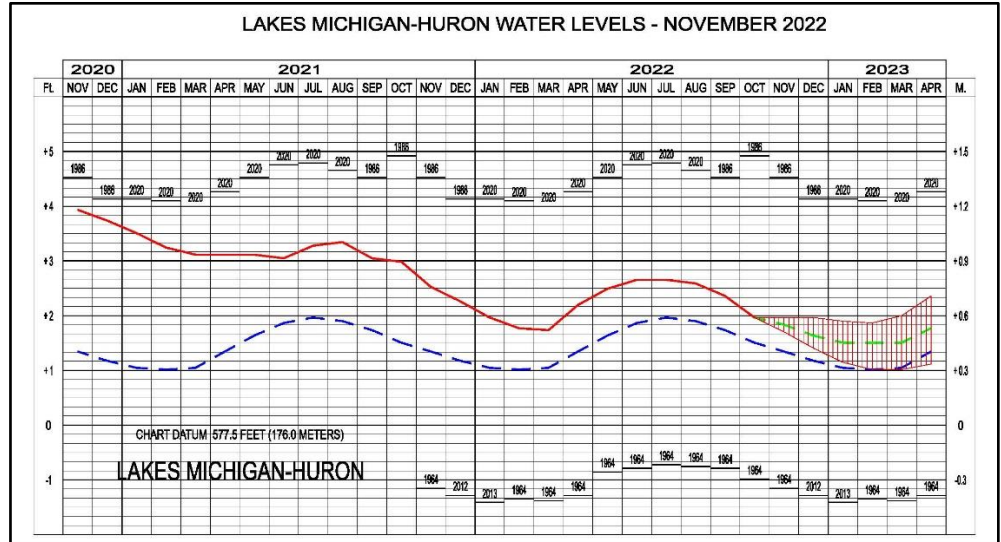
Seasonal impacts are particularly notable in Grand Traverse and Leelanau, which have the highest concentration of short-term rentals (STRs) in 10 counties.

According to the report, an increase of 295,000 people to the region in summer is driven “predominately by overnight visitors.” Of the 270,000 visitors during the July peak, “82 percent stay at hotels, motels, and campgrounds,” . “(18%) of overnight visitors stay in Short Term Rentals (STR). The region averages roughly 4,300 Short Term Rental listings and 213,000 room night.” monthly.

According to the report, (residency) by second homeowners in the region rises markedly from February low of 13,130 to 96,566 by June. “Seasonal regional, employment fluctuates as well,” “In July, there are an estimated 15,898 seasonal employees in the region, representing 10.4 percent of the total labor force.”

Off-season, **Antrim County** year-round population is 23,431. Summer peak is 60,000 owners of second homes and overnight visitors, return”. STRs host more guests than hotels in Antrim off-season due to winter business closings. Housing for seasonal workers is a challenge;”

[Local businesses like Short’s have secured seasonal housing for workers.](#)



Fore casted water levels for Lake Michigan-Huron is 2 inches below lake levels of a month ago and 12 inches below a year ago. Lake Superior is 9 inches above its level of a year ago. Lake Michigan-Huron is 6 inches above its he long-term average. It is in seasonal decline and is expected fall 6 inches by year-end. Source: US Army Corps of Engineers – Detroit Section



Plan ahead for Spring

Living on the Coast

PROTECTING INVESTMENT IN SHORELINE PROPERTY ON THE GREAT LAKES

BY: Sea Grant – University of Wisconsin and US Army Corps of Engineers – Detroit District
<https://www.lre.usace.army.mil/Portals/69/docs/GreatLakesInfo/docs/CoastalProgram/Living%20on%20the%20Coast%20Booklet.pdf?ver=2016-06-06-105107-683>

TNN research covers the Great Lakes and across the world for relevance to East GT Bay (EASTB). Actionable ideas seemed better in this Guide.

Shore protections should mimic nature in an area-based defense. Examples include the following that has been tried alongshore in EASTB.

- **Slow down wind erosion** with “wind breaks” – trees, bushes and screens that absorb wind energy - add your own screens. Mimic wind resistance that existed before your home was built.
- **Trip waves to dissipate wave energy** and release much of their destructive power. Waves can be tripped with submerged breakwaters (e.g. sills).
- **Sand fencing.** Build a dune or beach ridge with double fence rows (spaced 4X fence height). Stabilize dunes/beach with marram grass and willows.
- TNN ADDENDUM - **Sandbags provide temporary reefs**, groins, breakwaters, and headlands or revetments. Sandbags are a low cost way to experiment.
- **Rebuild nearshore shoals, reefs, and bars.** Such structures can be used to increase the life of re-nourished beaches. (Local Authorities: Extend the offshore reef rebuilt near ER Harbor in stages to Creswell Road).
- TNN ADDENDUM - **Plant marram beach grass - Armoring the shore** is an expensive last resort for land and vulnerable homes threatened by erosion or storm wave overtopping in crisis high water levels.

The people decide what works on their own property in cooperation with neighbors. Hundreds of small projects around East Grand Traverse Bay (EASTB) will over time reveal the real world of protecting investment in shore property for the generations.

TNN is a Pathway to Discovery
Antrim Island Coast - Grand Traverse Bay
Water Quality - Central to Community Life.
Relax Listen Experience Nurture
The beauty of this fragile jewel TNN works to protect and preserve for generations with solutions and policies informed by credible sources around the world.
Help TNN Support Our Community!
DONATE NOW!

**GRAND TRAVERSE BAY
UNDERWATER PRESERVE**



SHIPWRECKS - CULTURAL SITES – VIDEOS – INTERACTIVE MAPS
EXCERPT – Please Visit the GTBUP Website Below

MISSION STATEMENT

To sustain an Underwater Preserve by enhancing education, research and preservation of our Great Lakes and maritime heritage, and by the promotion of tourism and public recreation.

The GTB Underwater Preserve is a 501(c)(3) and is one of 14 underwater preserves in Michigan.

Grand Traverse Bay is strategically located for maritime transportation. Its water resources made it a wise and natural choice for early lumbering and manufacturing industries that built up along the shoreline.

The shelter of the Bay encouraged the subsequent growth of maritime commerce. These activities left remains of both sunken ships and commercial activity. Today the Bay holds the remains of several lost ships as well as near shore sites with evidence of businesses that once flourished along the waterfront.

<https://www.gtbup.org/#:~:text=Our%20Mission%20statement%3A%20To%20sustain,of%20tourism%20and%20public%20recreation.&text=The%20GTBUP%20is%20a%20501.14%20underwater%20preserves%20in%20Michigan>

EAST BAY AQUATIC LIFE

TNN RE-PRINT – Autumn 2020

By: Great Lakes Environmental Center

Conclusion: Very few macro-invertebrates were found near the East Bay shore due to the lack of diverse habitat for colonization



GONE! Total invertebrates ranged from 75 living in small woody debris to 8 in floating debris. Number of groups (taxa) ranged from 8 on small woody debris to 4 in small cobble.

HABITAT A woody plant was found rooted/living on the northern edge of the plot. This offered best habitat for macro invertebrate colonization. Small cobble and sand samples near shore and at 2.6 feet provide potential macro -invertebrate colonization. Afloat debris provided no opportunity.

Other Aquatic Life No birds, amphibians, fish, aquatic plants to 3.3 feet was seen. No large cobble crayfish habitat was found. (NOTE: Grandkids caught 6 crayfish - ½ native in July). A bald eagle was seen flying near shore.



LOCAL MITCHELL CREEK

No sampling at Creek mouth detached from East Bay. Large cobble above water nearshore sampled filamentous green algae confirmed as Cladophora; volume is normal for the Great Lakes and NOT indicative of nutrient loading.

See more on the re-imagined TNN website www.townshipneighborsnetwork.com

COLLAPSE OF THE GREAT LAKES FOOD WEB

Biological Scientists Discover New Clues

March 29, 2021 <https://seas.umich.edu/news/seas-scientists-discover-new-clues-collapse-great-lakes-food-web>



EXCERPT - Please Read Entire Article at the link above

Introduction of Zebra and related Quagga mussels to Great Lakes changed everything.

Beaches are now covered with shells, algae, and dead birds and fish washed up on the shoreline from botulism. such highly visible impacts divert our attention from other changes in the Great Lakes that are more evident in offshore waters.

In the depths of Lake Michigan, a small shrimp-like animal, half-inch-long Diporeia, was once the most abundant animal living in the lake bottom—average more than 7,000 animals per square meter. **(Actual Size)**



Diporeia was a keystone species, serving as the critical link between microscopic algae they ate and the renowned Great Lakes fisheries they fed. **Diporeia are nearly gone now. Their loss led to the collapse of the Great lakes food web.**

The answer was clear: Pre-invasion Diporeia fed almost exclusively on three types of microscopic diatom algae known for high lipid (fat) content abundant in spring and early summer.

During the mussel invasion, Diporeia was forced to shift its diet to smaller and much less nutritious diatom species, resulting in its eventual demise as young Diporeia were unable to survive to adulthood.

The change in food resources had started before the mussel invasion. Point source phosphorus control measures in late 1970s and 1980s had begun to limit algae growth in Lake Michigan.

Zebra and quagga mussels sped up that process, rapidly shifting how nutrients and energy are cycled and distributed in the lake, leading to dramatic changes in seasonality and abundance of those important and favored diatom food sources for Diporeia.