

NORTHWOODS JOURNAL – OCTOBER 2023

A Free Publication about Enjoying and Protecting Marinette County's Outdoor Life

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Fall Color Tour in Marinette County through Oct. 31st

<https://www.exploremarinettecounty.com/pages/fall-colors/> &
<https://www.facebook.com/ExploreMarinetteCounty/>

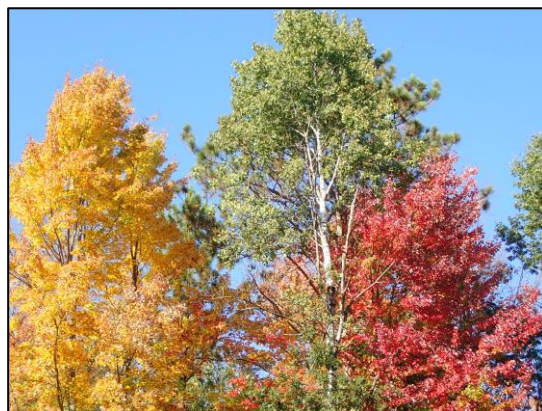


As the days get shorter and the nights turn cool, trees have begun their brilliant seasonal transformation to unique shades of red, yellow and orange. Wrap yourself in a blanket of fall hues as you explore Marinette County's canopied roadways and colorful trails! [Download the 2023 Fall Color Brochure.](#)

Driving Routes:

Wine, Cheese and Wildlife Route / Green Route / Coleman - Marinette

Follow the 70 miles southern Marinette County route to let your tastebuds abound with fall flavor! The Wine, Cheese and Wildlife Tour begins at US 141 and County M in Coleman, where guests can shop the Front Porch Market (Mon.– Sat.) for tasty Wisconsin cheese. Travel up to On a Whim in Crivitz to grab a bottle of wine to share with friends. Watch for wildlife in the hardwood lined fields and hike the Prairie Trail at Harmony Arboretum. Stop for wine at Forgotten Fire Winery and then drive the Green Bay shoreline to conclude the tour in the City of Marinette, which boasts several shopping and dining options.



Everything Autumn Route / Yellow Route / Niagara

Experience All Things Autumn on this 28-mile route, beginning at Riverside Park in the city of Niagara. Savor the magical aroma of fall with a one-mile hike on the Riverside Trail system along the beautiful Menominee River. As the tour descends south, stop for pictures at the Niagara bluffs and the photo booth at Long Slide County Park. Hike the natural shore of the Pemebonwon River to see how many waterfalls and rapids you can find.

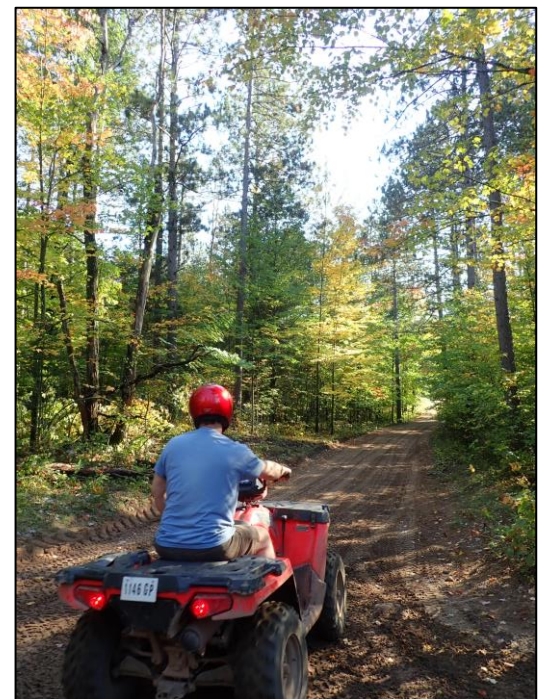
Complete your autumn experience with a stop at Pleasant View Orchard for crisp apples and fresh bakery.

WaterFALL Route / Red Route / Amberg - Crivitz

Stops along this scenic 65-mile route provide visitors with the opportunity to hike trails, enjoy waterfalls up close and explore the autumn beauty awaiting in each park. The WaterFall Tour begins at Dave's Falls, just off Highway 141 near Amberg and leads travelers to more magnificent waterfalls and scenic parks. This route travels south along Rustic Road 32, which you'll find canopied with wonder. Don't forget to snap a picture at the photo booths you'll find stationed around these parks!

ATV/UTV Routes:

Enjoy the twist and turns along bends of brilliant oranges and vibrant reds - these trail routes with take riders to various waterfalls and to picture worthy stops along the trails. [Download the 2023 Fall Color Brochure](#) for trail routes and information.



Join our mailing list to be sent a hard copy of 2023 Fall Colors Brochure when it's hot off the press! - [Click Here](#)

Find fall themed and other area events here: [Explore Marinette County Events](#)

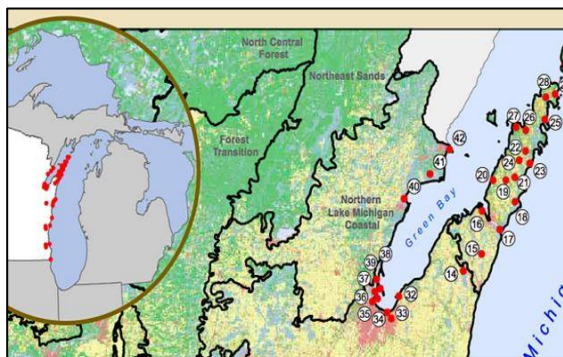
Some routes involve Marinette County Parks which require a parking pass. You can purchase a day pass (\$5/vehicle - cash only) at any park or you can purchase a day pass or annual pass in advance by [clicking here.](#)

**Not all restaurants & retailers are open daily, check hours for availability



Wild Things: It's Show Time for Fall Birds

<https://doorcountypulse.com/its-show-time-for-fall-birds/>



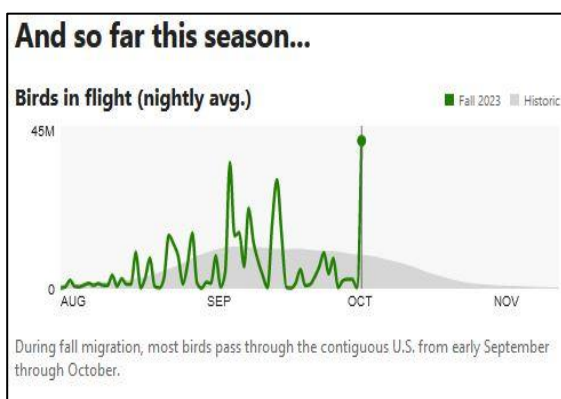
There are more than a dozen key migratory bird stopover sites identified along Lake Michigan and Green Bay shorelines of Door County. Source: Wisconsin Department of Natural Resources.

Millions of birds are moving through and into Wisconsin from their summertime homes in Canada, an early start to the fall colors that'll heat up in the coming weeks. The diversity of migrant birds, the distances some of them fly and their ability to navigate to their winter homes is hard to fathom.

North winds last month sent some birds packing from Canada. Some birds are early migrants, but others — depending on the species — will loaf here for the next few weeks or months, heading south as the temperatures drop and natural foods become harder to find.

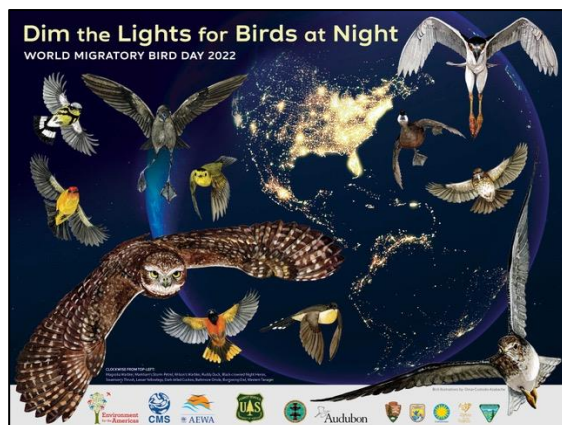
Colorful warblers and other songbirds will be abundant as they wing their way through, with many heading to Central and South America. Millions of birds fly overhead in the dark of the night. When the winds fire up from the south, they drop, stop and rest, offering sharp-eyed birders a great opportunity to see and photograph them.

In mid-September, it was estimated that nearly 15 million birds crossed Wisconsin in a single night, upping the season estimate to more than 230 million. That's according to an online resource known as BirdCast (birdcast.info/).



The Department of Natural Resources Bureau of Natural Heritage Conservation has a 96-page publication highlighting important migratory bird stopover sites along Lake Michigan, including more than two dozen in Door, Kewaunee and Brown counties. You can see it at widnr.widen.net/s/z5rfnpg5tz.

Lisa Gaumnitz, coordinator of SOS Save Our Songbirds, said the booklet was originally put together to spur planning and protection, but it can also help point people to good places to look for migrating birds. In the past 50 years, the Cornell Lab of Ornithology estimates that the North American bird population is down about 2.9 billion breeding adults. Some research estimates that cats alone kill about two billion birds annually in the U.S.



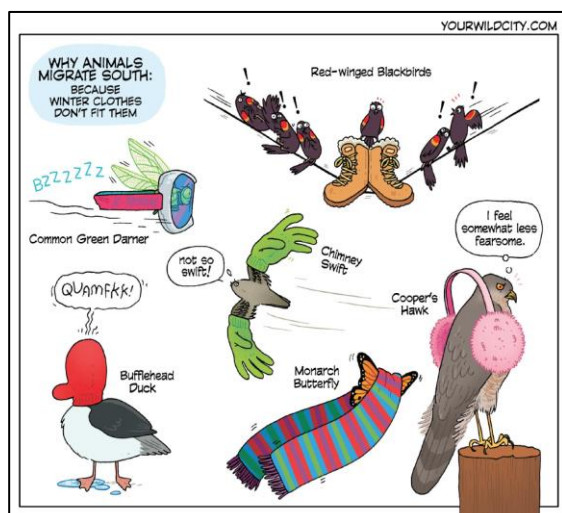
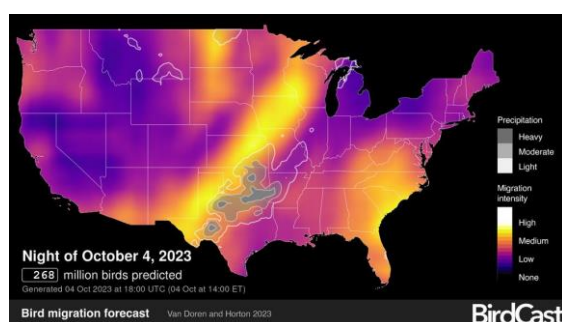
DNR Natural Heritage Conservation Program Biologist Ryan Brady said concerned birders should keep cats indoors, create habitat by planting native species, and investigate ways to reduce collisions with windows.



In her book, *Birdscaping in the Midwest*, Wisconsin author and avian and native plant expert Mariette Nowak encourages property owners to add native fruiting trees and shrubs to help fuel songbirds. Property owners can turn their yards into year-round feeding stations by planting natives. Add some of these "top 10" — like oaks, serviceberry, cherry, conifers, and various native wildflowers - and you'll attract more birds and give them food and shelter to raise a family, survive winter, or make the long flight south. Check out the list at p.widencdn.net/d0tla9/NH0533.

There are many online resources to guide you in purchasing and planting native plants, including this list from the DNR at widnr.widen.net/s/rfsbfc22w6/nh0698.

Meanwhile, birders can track nightly migration estimates and other data at dashboard.birdcast.info/region/US-WI, and check out what others are seeing at ebird.org/wi/home



2023 Marinette County Photo Contest!

<https://www.exploremarinettecounty.com/pages/photo-contest/>



Every month in 2023 the Marinette County Tourism & Parks Departments will be hosting a photo contest to highlight our areas natural resources. Winners will have their photos displayed on the Marinette County social media pages with the appropriate photo credit. Winning photos may also be featured in future print publications, such as the Marinette County Visitor Guide.

How do I Submit a Photo?

You can submit your photo(s) by posting them to your personal Facebook or Instagram account. You must add the two following Marinette County hashtags to your post in order to officially enter: [#exploremarinettecounty](https://www.facebook.com/exploremarinettecounty) and [#explorephotocontest](https://www.facebook.com/explorephotocontest). *Winner may be asked to supply their photos via email or different format for quality purposes.

What do I need to Know?

Photos must be taken within the borders of Marinette County. There may be some months wherein a theme is applied. For example, the month of May might have a wildflower theme. Whether there is or is not a theme for any given month will be announced alongside the previous month's winning photo.

Photos will be judged based on clarity, subject, lighting, creativity, and composition. Submissions must include the location where the photos were taken. Photographers are highly encouraged to utilize our county parks and public lands. If the primary subject of a photo is a plant or animal, then the name of said species should also be included with the submission, if the name is known.

Color, black and white, and filtered photos are welcome. Photo submissions for a given month, must be posted, with the necessary hashtags, by 11:59pm of the last day of that month. This contest is open to both residents and non-residents. Photos must be submitted by the photographer of said photos. The submission of any photo(s) is also an expression of consent for those photos to be used in future online and print publications at the will of Marinette County. Each month is a separate contest period. Winners from one month are still eligible for future submissions.

Any questions please email: explore@marinettecountywi.gov.



Bats – Fun Facts and Essential Bat Values

<https://www.merlintuttle.org/essential-bat-values/> & <https://www.merlintuttle.org/fun-bat-facts/>

Nearly 1,400 kinds of bats account for a fifth of all mammal species, ranging from [tiny bumblebee bats](#) weighing less than a U.S. penny to [giant flying foxes](#) with nearly six-foot wingspans. Below, check out some of our favorite facts about these amazing animals, and learn more about their impact on the world around us!



Above: a Kittie's Hog-nosed or bumblebee bat (*Craseonycteris thonglongyai*) from Thailand. It weighs only about 2 grams and is often referred to as the world's smallest mammal, but several other bat species and a species of shrew are of similar size. Below: Large flying foxes (*Pteropus vampyrus*) have wingspans of nearly six feet, the largest of any bat.



- Bat navigation systems (echolocation) are believed to be, on an ounce per ounce, watt per watt basis, billions of times more efficient than anything similar developed by humans.
- Bats have highly sophisticated social systems, strikingly similar to those of higher primates, elephants and dolphins, sharing information and food and even adopting orphans.
- Bats are quick learners with long memories. Frog-eating bats can identify frogs by their calls, can learn new calls in just minutes and remember them for at least two years without further repetition.
- Fishing bats can detect objects as fine as a human hair on a pond surface and use huge, flattened toes and claws to snatch minnows from the water.
- Pallid bats are immune even to the deadliest stings of scorpions and centipedes on which they feed.
- Bats can live up to 41 years in the wild, still able to chase down flying insects for dinner,

the equivalent of a human living to be 100, still able to hear well and run obstacle courses.

- Bats, not birds or bees, are the world's most effective long-distance pollinators, explaining why tropical plants often compete for their services.
- Tiny woolly bats live in colonial spider webs in Africa and serve as primary dispersers of young spiders to new locations.
- Big brown bats (below), and several other species, have special adaptations permitting them to survive sub-freezing body temperatures during winter hibernation.



- All bats are good swimmers, using their wings as oars.
- Round-eared bats of Latin America use their teeth and extra strong jaws to drill holes into arboreal termite nests where they live.
- Many rain forest bats, especially in Latin America, form their homes by cutting midribs of large leaves to form "tents."
- Medical science has much to learn from bats, given that they are normally immune to such maladies as cancer and arthritis, as well as to a wide variety of diseases.
- Many bats sing like birds during courtship, and Chapin's free-tailed bats even have showy crests of white hairs, normally hidden, that can be spread like a peacock spreads its tail.
- Because of their flexible wing membranes, bats are much more efficient and maneuverable flyers than birds or insects.

Essential Bat Values

Bats are the primary controllers of vast numbers of night-flying insects. Single colonies can consume tons of crop pests nightly, and they pollinate and carry seeds for many of our planet's most important plants. Read on to see just some of the ways that bats help make the world a nicer place to live!



Continued next page



October 24 – 31: Bat Week is an annual, international celebration of the role of bats in nature! Visit <https://batweek.org/> for more about this week-long event, learn about bats, and how you can help them!

Bat Week is an international, annual celebration designed to raise awareness about the need for bat conservation. Bats are amazing creatures that are vital to the health of our natural world and economy. Although we may not always see them, bats are hard at work all around the world each night - eating tons of insects, pollinating flowers, and spreading seeds that grow new plants and trees.



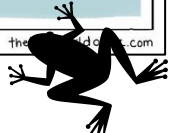
Resources & more information about bats:

- <https://www.batcon.org/> - Bat Conservation International organization
- <https://dnr.wisconsin.gov/topic/WildlifeHabitat/Bats> - WI DNR
- <https://www.fws.gov/story/bats-are-one-most-important-misunderstood-animals>
- <https://wiatri.net/inventory/bats/aboutBats/pdf/batsOfWisc.pdf> - The Wisconsin Aquatic & Terrestrial Resources Inventory
- <https://wiatri.net/inventory/bats/news/pdf/2022MayEcholocator.pdf>
- <https://mdc.mo.gov/magazines/xplor/2022-09/going-batty>
- <https://www.nps.gov/subjects/bats/index.htm> - National Park Service



Northwoods Journal Online

Want to read issues of the *Northwoods Journal* online? Go to www.marinettecounty.com and search for 'Northwoods Journal.' We can also send you an e-mail reminder when each new issue is posted online, or you can get a copy mailed to you. Copies are also available at the Land Information Department in the Marinette County Resources building in Marinette. Contact Anne Bartels, Information & Education Specialist at 715-732-7784 or email anne.bartels@marinettecountywi.gov.



Discover Public Land to Hunt This Season Using the DNR's Online Mapping Tools



The Wisconsin Department of Natural Resources (DNR) encourages the public to explore and hunt on public land this hunting season. Wisconsin is home to millions of acres of public land, and the majority is open to hunting.

Hunters can start their quest for new public hunting areas from the comfort of home using the DNR's [online public lands mapping tools](#). These tools provide information on state-owned properties, voluntary public access lands and more:

- [Public Access Lands Atlas](#) – The atlas includes all DNR properties and nearly all federal and county-owned lands. Hunters should contact landowners beforehand to verify hunting is allowed.
- [Fields and Forest Lands Interactive Game Bird Hunting Tool \(FFLIGHT\)](#) – Hunters can use this tool to locate young aspen and alder habitat, woodcock and ruffed grouse hunting areas, pheasant-stocked public hunting grounds and public-access dove fields.
- [Voluntary Public Access-Habitat Incentive Program \(VPA-HIP\) interactive map](#) – Funded by the U.S. Department of Agriculture, the VPA-HIP map provides landowners with financial incentives to open their properties year-round to public hunting access. Hunters should read the [guidelines for accessing VPA properties](#).
- [Map of lands enrolled in Managed Forest Law and Forest Crop Law](#) – This map is especially useful for scouting locations in the central and northern forests.

Once hunters have done their preliminary research online, the next step is to scout the habitat and search for wildlife sign. The DNR recommends hunters scout multiple options in case of changing weather conditions or added hunter pressure in an area.

As hunters head out to explore their public land, hunters are reminded that public lands are for everyone, and it is possible that other hunters and recreational users could be on the property. Follow these tips to ensure a safe and successful experience in Wisconsin's wild spaces:

- *Know the property boundaries and only hunt in legal areas.*
- *Follow leave no trace principles; this includes altering or cutting tree limbs.*
- *Be adaptable and have a backup plan.*
- *Be aware and respectful of other hunters, recreators and DNR staff.*
- *Follow the **TAB-K** rules of firearm safety to protect yourself and others:*

T - Treat every firearm as if it is loaded.

A - Always point the muzzle in a safe direction.

B - Be certain of your target, what's before it and what's beyond it.

K - Keep your finger outside the trigger guard until you are ready to shoot.

For more information on regulations, season dates, hunting hours and other helpful resources, visit the DNR's [Hunter Resources webpage](#).

DNR Hunting Webpage Offers One-Stop Shop for Hunting Resources



The Wisconsin Department of Natural Resources (DNR) reminds hunters that the [DNR's Hunting webpage](#) is a one-stop shop for everything a hunter needs to know before heading afield this season. Hunters can find relevant information on hunting regulations, hours, public lands and more on the mobile-friendly webpages. Hunters can also register harvests on [GameReg](#), the DNR's online game registration system.

Here's what hunters can find:

[Go Wild!](#) – Buying a license is the first step to hunting this fall. If they haven't already, hunters should buy their hunting licenses online on the Go Wild website (or in person at a license agent). Bonus harvest authorizations can also be purchased through Go Wild.

[Hunting Regulations And Hours](#) – The Fall 2023 - Spring 2024 Combined Hunting Regulations pamphlet is available online now, which includes hunting hours for the northern and southern parts of the state. [View a map of the zones on this webpage](#).

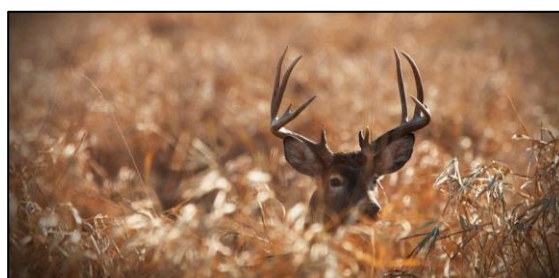
[Lands](#) – Hunting is allowed on many of the DNR's public properties. Additionally, some private lands are open to public hunting through programs like the Voluntary Public Access program, and they can all be found on the maps on this webpage.

[Safety Education](#) – Whether new to hunting or wanting a refresher before the season, this hunter education-themed page connects hunters to hunter safety resources. The DNR especially recommends the Learn To Hunt classes for newer hunters.

[First-Time Buyers Discount](#) – If it's a hunter's first time hunting (or their first time in the last decade), they can receive a discount on their hunting license this year. Don't miss this opportunity.

[Season Dates And Application Deadlines](#) – Hunters can look through the season dates for all game species and print a handout for easy reference.

In June, the [DNR announced the retirement of the Hunt Wild app](#), pushed a notification through the app, and directly emailed all users who registered an account with Hunt Wild. In case anyone missed those messages or has automatic updates turned off, the DNR encourages hunters to use the mobile-friendly hunting resources above. Most of these resources are also downloadable for offline access.



Bats, continued from page 3

Pest control

- ✓ Insect-eating bats save farmers approximately \$23 billion in annual agricultural losses in the United States alone.
- ✓ Just one bat can catch 1,000 mosquitoes in a single hour, helping reduce the spread of diseases such as West Nile virus.
- ✓ A colony of just 150 big brown bats can eat enough cucumber beetles in a single summer to prevent them from laying 33 million eggs that hatch into rootworms, a devastating crop pest.
- ✓ Bat pest control in Indonesia saves cocoa growers approximately \$780 million annually.

Seed Dispersal and Fertilizer

- ✓ Bats are primary reforesters of tropical clearings, sometimes dropping more than 95% of first "pioneer plant" seeds required to begin regrowth.
- ✓ Bat guano provides essential energy for countless cave microorganisms, many of which are of potentially great value for improving detergents, medicines, and waste detoxification.
- ✓ Bats disperse seeds for mangoes, peaches, and guavas – among many more fruits!

Pollination

- ✓ Hundreds of species of agave and cactus plants rely on bats for pollination.
- ✓ Mexico's entire tequila industry relies on a single species of bat-pollinated agave plant.
- ✓ Approximately 70 percent of all tropical fruits eaten by humans rely on bats as primary pollinators or seed dispersers in the wild, ranging from bananas and mangoes to peaches, cashews and dates.

Safeguarding Human Health & Prosperity

- ✓ Bats safeguard our health by [reducing dependence on dangerous pesticides](#) and by consuming disease carrying pests, including the mosquitoes that carry West Nile virus.
- ✓ Since even sick bats rarely bite unless handled, for anyone who simply leaves them alone, the odds of harm are extremely remote.
- ✓ Research on bats has contributed greatly to the advancement of medical technology and to improved navigational aids for the blind.
- ✓ ***Without large populations of bats to keep insects in check, pollinate flowers and carry seeds whole ecosystems upon which we ourselves depend could be seriously threatened.***



The Leaves, They Are a-Changing

<https://www.neefusa.org/story/climate-change/leaves-they-are-changing>



Every year, millions of Americans travel to public lands to catch a glimpse of colorful fall foliage as the seasons change. This hobby is far from new. Henry David Thoreau [wrote an essay](#) in 1862 about the inspiration he found in New England's vibrant leaves. In 1966, the term "leaf peeper" was [used for the first time](#) in a news column describing the beauty of Vermont in the fall. In modern times, the popularity of [leaf-peeping](#) tourism has continued to grow across the country. [Analysis from Appalachian State University](#) conservatively estimates that travelers hoping to catch a view of colorful leaves contribute more than \$30 billion dollars to local economies across 24 eastern states.



You don't necessarily have to travel far to experience autumn color for yourself. You can find it in cities and the countryside, parks, and woodlands—anywhere deciduous broadleaved trees drop their leaves for the winter. Find a park near you [using this list](#) of all the forests, woods, and shrublands managed by the National Park Service (NPS).

Weather Makes Leaf Peeping Unpredictable

September through December is generally the best time to go leaf peeping. [Three key factors](#) influence the color and brilliance of the fall leaves: leaf pigments, the length of nights, and the weather.

Temperature and moisture affect leaf color, leaf aging, and leaf death. A wet growing season followed by dry sunny days with cool nights produces the best fall colors, but varying combinations of temperature and moisture make each autumn unique. Rainfall makes the colors pop even more.

Lower temperatures [slow the production](#) of chlorophyll, which gives plants their green color. As chlorophyll declines, *carotenoid* (orange) and *xanthophyll* (yellow) pigments emerge. Increasing concentrations of sugar in the leaves creates red and purple hues.

Extreme weather events can affect fall foliage in several ways:

- 🌳 Drought stressors during the growing season, such as decreased forest productivity and increased insects and diseases, can trigger leaves to drop prematurely before they develop fall coloration.

- 🌳 Heavy winds and severe thunderstorms can cause leaves to fall before they change colors.
- 🌳 Freezing conditions, especially early frost, destroy a leaf's ability to produce red and purple colors.
- 🌳 Hurricanes can destroy trees and their foliage. For example, [Hurricane Ian](#) deposited salt on trees many miles inland, causing cell and tissue damage to leaves.
- 🌳 Wildfires, depending on their severity, can destroy the forest canopy.

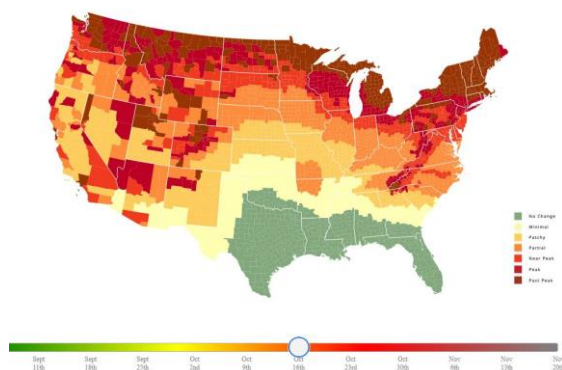


How Climate Change Affects the Leaves

Many factors can disrupt fall color displays. Scientists believe that in the coming years, higher temperatures, increased precipitation, increased cloud cover, and higher concentrations of nitrogen due to climate change will act together to mute fall colors. [Models predict](#) that by 2100, leaf coloring will be delayed an average of 13 days when compared to the present.

[Research shows](#) that warmer temperatures due to climate change have already delayed leaf coloring and leaf drop in New England. Warming temperatures have also been associated with the earlier onset of spring. The combination of an earlier spring and a delayed fall season has increased the active growing season.

Trees change color at different times throughout the year depending on their location. Generally, trees at higher elevations peak first since they are the first to experience shorter daylight hours. SmokyMountains.com provides an [annual fall foliage map](#) that serves as a visual planning guide to help travelers catch peak color wherever they call home.

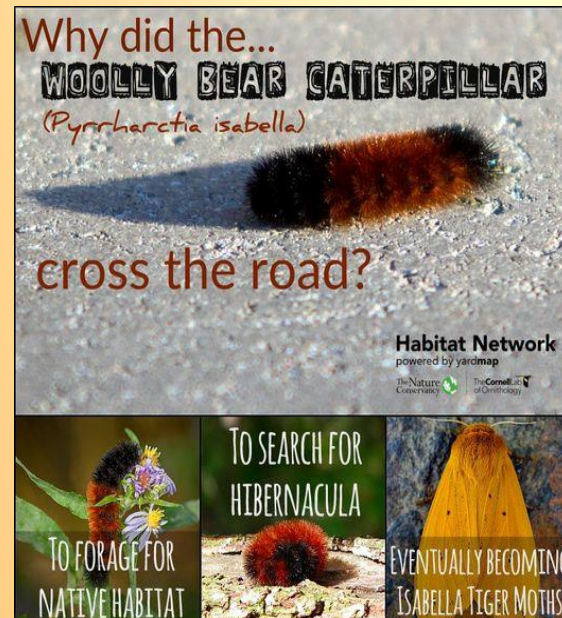


For more about fall foliage, visit:

- ✓ <https://www.travelwisconsin.com/fall-color-report>
- ✓ <https://www.nps.gov/articles/how-do-trees-change-in-the-fall.htm>
- ✓ <https://www.schlitzaudubon.org/2018/10/05/the-science-behind-fall-colors-in-wisconsin/>

Meet the Woolly Bear Caterpillar!

<https://www.facebook.com/TheHabitatNetwork> (posted 10/10/17)



Woolly bear caterpillars (*Pyrrharctia isabella*) are on the move this time of year, in search of their final meals of asters, birches, clover, corn, elms, maples, and sunflowers - before hunkering down for the freezing winter months. Also called fuzzy bears, woolly worms or banded woollies, depending on where you hail from, live in much of North America.

Yes, these caterpillars FREEZE and survive the hard Midwestern and Northeastern winters with a biological antifreeze called **cryoprotectant**. This adaptation, combined with seeking refuge in a hibernaculum of leaves, rocks or logs, even in the corners of your garage, ensures survival through winter and into the spring, when they "wake-up", forage, and eventually metamorphose into Isabella Tiger Moths.



According to folklore, the rusty band on a woolly's back predicts the severity of the winter. A narrow band means more severe weather, while a wider band foretells a mild season. Another version of the tale says the woollier the caterpillar's coat, the colder the winter will be.

The stories about these caterpillars' length of brown banding predicting the severity of the winter ahead are nothing but folklore. Instead, the banding tells us something about last spring, namely how warm it was. The caterpillar eats and molts several times before becoming the moth, *so the warmer the spring, the more eating, and molting, which results in longer, thicker brown bands on their abdomen. So, instead of "predicting the future", they are a visual representation of our previous spring weather.* "The caterpillar's coloring is not a predictor of future conditions," Daniels says, "but simply the result of a combination of things, including age."

Next time you see one crossing the road or sidewalk, try to avoid running over it. In fact, if you are willing and interested, encourage hibernacula with messy gardens this fall and provide them with overwintering habitat. Visit <https://www.thecaterpillarlab.org/single-post/2016-1-26-woollies-in-winter> for more information about woollies.



What's That in the Water? Freshwater Jellyfish!

<https://content.govdelivery.com/accounts/MIDNR/bulletins/3664ede> &
<https://www3.uwsp.edu/cnr/ap/UWEXLakes/Documents/programs/CLMN/publications/Ch9-Jellyfish.pdf>



As anglers, swimmers and other water recreation fans flock to Wisconsin and Michigan lakes and streams in summer or early fall, some may catch a glimpse of a common, though rarely seen invertebrate known as the **freshwater jellyfish**. Don't be concerned though — these jellyfish are not harmful to humans and are believed to have negligible adverse effects on the aquatic environment.

Freshwater jellyfish (*Craspedacusta sowerbyi*) are related to the various marine species of jellyfish, but in essence are not true jellyfish since they have a membrane called a velum that the marine species do not. Despite this difference, the appearance and movement of freshwater jellyfish mimic those of a true jellyfish. They are not native to North America, and are believed to be native to China and Asia. However, this species has been found throughout most of North America for well over a century and is considered to be a nonharmful member of our aquatic communities, and certainly an intriguing one.



The first documentation of freshwater jellyfish in Michigan occurred in 1933 from the Huron River in southeast Michigan. In Wisconsin, jellyfish were first reported from a farm pond near Baraboo, Sauk County. Wood ducks, rather than fish or plants, were thought to have carried the polyps or cysts to the pond. By 2006, 26 years later, jellyfish had been reported from 40 water basins: 37 natural lakes, 2 dugout ponds, and 1 creek. The list of waterbodies in Wisconsin where freshwater jellyfish have been reported can be found at <http://dnr.wi.gov/lakes/invasives/>.

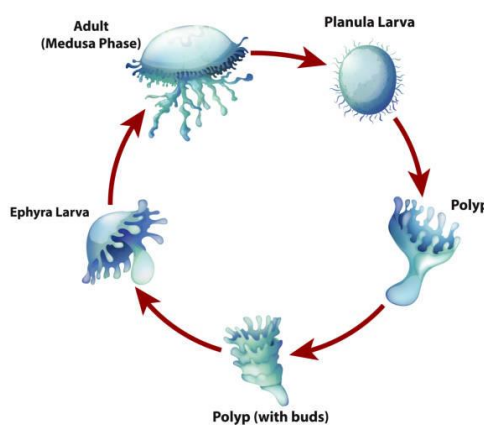
These "jellyfish waters" vary in size from tiny ponds to lakes of 9,842 acres (Lake Mendota) and lakes that are 236 feet deep (Big Green Lake). The freshwater jellyfish has been found in a variety of water types. They have been observed in waters ranging from crystal clear rock quarries to soupy green farm ponds. Preliminary research indicates that waters high in chloride do not favor the appearance of the freshwater jellyfish.

Freshwater jellyfish are polymorphic, meaning that there are multiple forms of the same entity within a population.

The jellyfish life cycle includes the following steps:

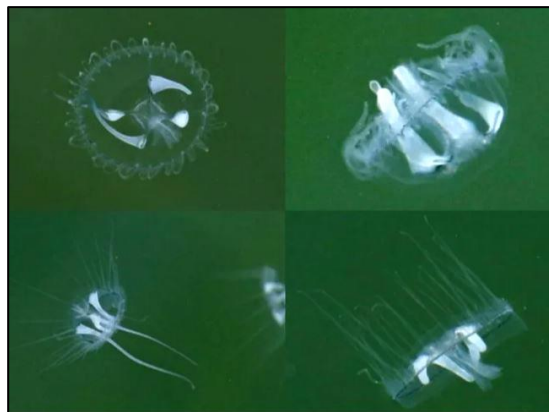
- The jellyfish spend winter in bodies of water in a **podocyst** resting stage.
- As conditions become more favorable, such as during spring, the podocysts develop into **polyps** and continue the life cycle with asexual reproduction.
- By late summer, polyps develop into the **medusa** stage, which most resembles a free-swimming jellyfish. Jellyfish in this stage take an umbrella-shaped form and can range in size from a penny to a quarter. This is the life stage that is visible to the human eye and often observed during late summer.

Life Cycle of Jellyfish



"These are the sightings that often trigger calls to local DNR offices from curious spotters who have caught the rare glimpse of the invertebrate," said Tim Cwalinski, the MI DNR's northern Lake Huron manager. "Though freshwater jellyfish do have stinging cells like the marine species, their tiny size means they lack the ability to sting, and so they're not harmful to people. It is also believed to be unlikely that freshwater jellyfish could consume enough zooplankton in our bodies of water to negatively compete with fish species."

Cwalinski said that we generally think our waterways are inhabited only by fish, aquatic plants, waterfowl and various invertebrates. However, there is an entire other spectrum of life under the surface, such as plankton, bryozoans and jellyfish. "If you're among those to observe a single medusa stage or colony of freshwater jellyfish this year in our lakes or slow-moving streams, consider yourself fortunate, don't panic, and understand this is simply an invertebrate that has inhabited most of our waterways for a century."



- ✓ <https://www3.uwsp.edu/cnr/ap/UWEXLakes/Documents/programs/CLMN/publications/Ch9-Jellyfish.pdf>
- ✓ <https://dnr.wi.gov/lakes/CLMN/miscpdfs/jellyfishsummary.pdf>

Northern Lights Activity Is Sky-High and Space Conditions Could Lead to Greatest Displays in 20 Years

<https://www.goodnewsnetwork.org/northern-lights-activity-is-sky-high-and-space-conditions-could-lead-to-greatest-displays-in-20-years/>



An international team monitoring the activity of the sun has predicted that the next two years will offer some of the most intense and frequent Northern Lights displays in a generation. Already this year the Earth's aurora has been seen in states like Wisconsin and Minnesota - far south of its normal showgrounds.

The key clue is the number of sunspots, disturbances on the surface of the sun that have been recorded for hundreds of years, and the more sunspots there are in a year, the greater the frequency that the poles will see the Aurora Borealis.

[The Solar Cycle 25 Prediction Panel](#) had predicted in the early 2000s that there would be 178 sunspots per month - the highest this rate had become this century - but throughout 2024 and 2025, that's likely to be much higher- between 220 and 227 per month.

Sunspots are dark blotches on the sun that mark areas of lower temperatures and strong magnetic distortions. These sunspots are often the future location of a coronal mass ejection, whereby the sun flings some of its material out into space. This creates what is commonly called "space weather."

Clashing with the Earth's magnetosphere, most of this weather is deflected away, but some of it creeps in where the magnetic field is weakest - the polar regions - hence the "Northern Lights;" although it also happens over the southern pole as well.

The upcoming autumnal equinox is an additional distortion of the magnetic field, and could lead to even more vivid colors for enthusiastic skywatchers and stargazers in the northern and southern reaches, although [NBC reports that even Arizona](#) has been seeing glimpses of the aurora.



To get alerts on aurora activity in our area, visit:

- <https://www.spaceweatherlive.com/en/aurora-alerts.html>
- <https://www.swpc.noaa.gov/products/aurora-30-minute-forecast>
- <https://www.gi.alaska.edu/monitors/aurora-forecast>
- <https://cdn.softservenews.com/Aurora.htm>



Don't Burn that Butterfly's Blankie! - Leaf Litter is the One Kind of 'Litter' Conservationists Encourage

<https://content.govdelivery.com/accounts/MIDNR/bulletins/3374e12>

A cold palace, solitude and a queen. This story may seem familiar, but we're not talking about magical Elsa from Disney's "Frozen." The queen in question is a bumblebee, and she has a request for you: When it comes to fall leaves, "let it go." Allow us to explain.

Fuzzy bumblebees that bounce from clovers to coneflowers are among many insects and wildlife that seek shelter over the winter. While some species, like the celebrated monarch butterfly with its colorful wing patterns resembling stained glass, make incredible journeys across the continent to warmer regions, many remain here. But where do they go when winter weather swaps out floating butterflies for drifting snowflakes? The answer is right below our feet.

The splendid fall color season leaves a stash of freshly fallen leaves on the ground. They're important for woodland species including insects, amphibians and small mammals over the cold months.



Who lives in leaves?

Picture a leaf pile. It looks kind of dead, brown and boring, right? That is exactly what wild bees, luna moths and salamanders want you to think. Luna moths and swallowtail butterflies cleverly disguise their cocoons as dried leaves. With their shabby, brown color and ragged texture, you'd never know there was a colorful, winged creature waiting inside.



Woolly bear caterpillars, creeping beetles and fluttering moths and butterflies all rely on leaves for different stages of their lives, whether they hide among the foliage or simply eat leaves.



Salamanders, toads and frogs have a similar strategy, burrowing under the leaves and into the moist ground to ride out the winter. So do the young of one of Michigan's rare turtle species. "Eastern box turtle hatchlings, Michigan's only true land-based turtle, hibernate under leaf litter their first winter after hatching," said DNR biologist Thomas Goniea. Unlike their aquatic counterparts, these black-and-yellow-patterned turtles can be found in the forest instead of lakes and ponds.

A cold palace fit for a queen

Like Elsa's dramatic retreat to her frozen palace, the bumblebee queen also seeks solitude in winter. As summer fades to fall, the bumblebee queen turns her attention to stocking up on pollen and nectar, building up fat and filling her honey stomach, which is a reservoir for honey. This gives her nutrition through the winter. She also needs a suitable underground burrow to hibernate in. Bumblebees are a social species, but the bumblebee queen hibernates alone. Bumblebees dig in vegetation and loose soil, so the location they choose is paramount. It must be protected, and never in a place that could be warmed by the winter sun, which could trick her into waking up too early.



Bumblebees, including the [rusty-patched bumblebee](#), which was added to the federal list of threatened and endangered species in 2017, are in decline due to a variety of factors. By leaving a layer of leaf litter, you'll provide a protected and shaded burrow for the bumblebee queen, helping ensure the next generation of bees in spring.

So, what would the bumblebee queen have you do? As you wrap up the garden year and pack away hammocks and outdoor furniture, try not to be too orderly – nature likes a bit of mess. Consider leaving fall leaves where they land or raking them into your garden beds instead of burning them. They will provide nutrients and control soil erosion while creating spaces for winter dwellers to snuggle up until spring. If you have enough space, establish a small "wild area" in a remote part of your yard where you toss fallen limbs, stumps and twigs to invite wildlife.

Native bees, butterflies, moths and spiders will take up residence. By providing carpenter bees with a natural wood source, you might even lure them away from doing their namesake work in your deck or siding. Many of these small insects are the base of the food chain and will support many other wildlife species, including frogs, toads, turtles, chipmunks and birds – all the way up to the "top of the food chain" species, such as the bald eagle, black bear and coyote.

Leaves aren't the only way you can help wildlife – with mason bees, think vertically. These gentle bees overwinter in the hollow stems of plants. Leaving perennial stems to wave and rattle in the breeze will give them places to hang out, and seedheads from flowers will provide



Small carpenter bee nesting in sumac stem.

treats for hungry chickadees and finches. Check out [Leave the Leaves to Benefit Wildlife](#) from the Xerces Society, a nonprofit organization dedicated to conserving invertebrate species like pollinators and other bugs, to learn more about the importance of fall leaves and plants to healthy ecosystems.



Eastern red bats will tuck their furry uropatagium, or tail membrane, over their bodies when torporing in the leaf layer during winter to help keep warm.

If you know your neighborhood homeowners' association will go bonkers at the thought of an unmaintained wild area, there are still ways to be kind to bugs and other wildlife as they prepare for the long winter. "Leaving the leaves doesn't mean sacrificing your yard to the wilderness," according to the Xerces Society's winter habitat webpage. Tidy your yard, but maintain habitat and leaf litter by raking leaves around the bases of trees and bushes. Stone or branch edging will help keep them in place even when the wind blows.



You can also choose plants with ornamental value that you won't need to cut down until spring. Leave them in the ground or place them in pots so they can be moved somewhere undisturbed through winter, like behind a shed. Bee balm, butterfly weed and coneflowers are picks that pollinators and songbirds will love. It's safe to clean stems up in the spring, when temperatures are consistently warm and new greenery has begun to reach upward out of the

Continued next page



Major Bird Collision Event in Chicago
<https://www.facebook.com/AmericanBirdConserve>



Volunteers found 964 birds on Thursday morning that died in collisions with Chicago's McCormick Place.

A major bird collision event occurred in Chicago on Thursday 10/5, killing countless migrating birds — so many that 1,000 died at a single building, the highest number on record. Weather patterns played a role in this event, but **the most critical issue is an ongoing threat to wild bird survival: glass and light.** Collisions with glass result in a staggering loss of up to 1 billion birds each year in the United States. It's a conservation crisis that the American Bird Conservancy is tackling head on.

And so can you! Learn what actions you can take to prevent bird collisions at home, in your community, and nationwide: <https://abcbirds.org/news/global-bird-rescue-week-2023/>.

Want something simple to do right now that will help birds? Tell your legislators to support the Federal Bird Safe Buildings Act: <https://act.abcbirds.org/.../take-action-bird-safe...> ABC also urges support for [Willowbrook Wildlife Center](#), which is providing care for hundreds of injured birds that survived the mass collisions event.

How to spot an injured bird

If the bird:

1. Allows you to pick it up
2. Cannot stand (like below)
3. Is not using both feet
4. Is squinting or shutting eyes (like below)
5. Has open-mouthed or heavy breathing
6. Has puffed up feathers, or tucks its head under its wings

It needs to be taken to a licensed Wildlife Rehab immediately to be treated.

For more information:

- <https://www.audubon.org/news/more-1000-birds-collided-single-chicago-building-one-night>
- <https://abcbirds.org/solutions/prevent-home-collisions/>
- <https://www.audubon.org/lights-out-program>

Pumpkins for Wildlife
<https://www.facebook.com/USFWS>



It's that time of year again - when people yell at strangers on the internet about proper pumpkin care and wildlife health. There's a lot of misinformation out there, so your favorite wildlife nerds at USFWS are sharing a friendly PSA below with key facts and considerations this spooky season.

Remember: Critters will likely eat (or at least nibble on!) your carved jack-o'-lanterns. Squirrels, raccoons, deer, moose, foxes, mice and insects might feast on the delicious orange porch snack you leave near your front door. "How nice of you!" they probably think as they eat their weight in slimy pumpkin goodness.

Painted pumpkins can make for an easier way to create a fun or creepy jack-o'-lantern. However, a painted pumpkin can potentially be toxic to wildlife if they eat it. If you choose to paint your pumpkin, please keep it indoors and away from any critters who might feast on its painted flesh. You can also explore nontoxic paint options made with natural ingredients when possible.

In recent years, social media users have posted various "tricks" to keep a carved pumpkin from rotting so quickly. Keep in mind that letting nature take its course is always an option. Carved pumpkins are eventually going to decompose one way or another. Always follow the directions of any product you're applying to a pumpkin for your safety and others' (including wildlife!).



DIY pumpkin composting - remove candles and any non-biodegradable decorations, and put your pumpkin in an out-of-the-way spot, crush it (the more you do, the faster it'll decompose), and let it be! You can pile leaves or straw on top to hide them if you like. They'll be gone by spring.

Leaf Litter, continued

mulch and leaf litter. If anyone asks why you're putting the rake away this fall and letting nature's colors decorate your yard, let them know that you're promoting littering – the good kind!



A blue-spotted salamander benefits from leaf litter to help it overwinter.

More resources:

- <https://www.fws.gov/story/2019-10/leaf-ing-space-wildlife>
- <https://blog.nwf.org/2023/10/seven-species-that-need-you-to-leave-the-leaves/>
- <https://www.purduelandscapereport.org/article/hidden-in-the-leaf-pile-luna-moths-woolly-bears-and-swallowtails-all-need-a-safe-place-to-hibernate/>
- <https://growingsmallfarms.ces.ncsu.edu/2023/04/provide-nesting-habitat-for-native-bees-through-plant-stems-in-your-garden/>

LEAVE THE LEAVES

The decomposition of fallen leaves returns nutrients to the soil, it's part of the vital ecological cycle that sustains both garden and woodland environments.

Organisms that break down the leaves, like fungi, insects, and other arthropods form a complex and vibrant food web, which are a food source for birds!

Leafcycling

Did you know there is an easy and environmentally friendly way to handle the leaves in your lawn? It's called leafcycling.

How Leafcycling Works

- Run your lawn mower over your fallen leaves.
- Let them lie on the lawn.
- The finely chopped leaves will decompose over time, becoming nutrients and fertilizer to help keep your soil healthy!

Leafcycling Has Multiple Benefits

- Leafcycling helps conserve water by preventing runoff.
- Healthy soil means a healthier lawn with easier upkeep.
- Leafcycling helps keep leaves out of storm drains, which improves water quality and benefits wildlife.

Besides chopping and shredding leaves to make mulch, you can also let the leaves lie in heavily wooded areas with native stands of trees. Healthy soil will benefit the roots of the trees!

#CleanGreenBaltCo

Baltimore County Executive Kevin Kamenetz & The Baltimore County Council



OCTOBER | 2023

OUTDOOR ALMANAC

1

With its molt nearly complete, the **American Goldfinch** has only a few remaining yellow breeding feathers. Its new wing feathers sport broad, pale edges and wing bars that, by next August, will be worn away almost completely, leaving an all-black wing.



2

Bumble bees are foraging on asters and goldenrods. The bright orangey yellow pollen of these late-blooming flowers makes their pollen baskets almost glow.

3

Red-bellied Woodpeckers and Blue Jays can both be seen gathering acorns to eat now and also to cache for the winter.

5

If you come across puffball mushrooms that look a little collapsed, give them a gentle poke with your finger or a stick. You may be rewarded with a puff of spores.

8

Dark-eyed Juncos and **White-throated Sparrows** start showing up at feeders.



13

Look closely at rotting logs to see the tiny fruiting bodies of wolf's milk slime mold, which are bright pink to purplish gray. Slime molds are not fungi but single-celled organisms that feed on fungi, bacteria, and other microorganisms.

15

While some Red-tailed Hawks stay in Massachusetts all year, those that migrate are some of the last hawks to fly south.

18

Woodchucks, a.k.a. groundhogs, are preparing for hibernation. To get ready for their slumber, they can eat up to one pound of vegetation a day!

19

Tiny and fast-moving Ruby-crowned and Golden-crowned Kinglets move through Massachusetts on their migration from northern forests to their wintering areas.

20

Eastern Chipmunks are busy storing nuts and seeds for winter. Instead of hibernating continuously through winter, chipmunks are sleepers, waking every few weeks to eat the food they stored.



21

After the sun goes down, look to the night sky to view the peak of the Orionids meteor shower.

23

North American Racers migrate from the field habitats they live in most of the year to forested slopes, where they overwinter in dens with other snakes.

26

Look for Harlequin Ducks and Common Goldeneyes arriving to spend the winter along the coast.

28

Full Moon.



31

Happy Halloween! Don't worry about any vampire bats in Massachusetts. Species that we do have, like Large Brown Bats and Eastern Red Bats, are preparing for hibernation in caves and cavities or traveling south.



massaudubon.org



October is
FIREWOOD MONTH

Want to know the best way to prevent the spread of invasive forest pests and diseases? **DON'T MOVE FIREWOOD!** Instead, buy it within 10 miles of where you plan to burn it.

Play Clean Go logo and DONTMOVEFIREWOOD.org logo.

Don't "dead-head" all of your flowering plants after their last bloom, as those seed heads can be an important source of food during the fall and winter.

you won scariest costume?

Scarecrows aren't even scary.

take it up with the judge.

I stand by my choice.

© liz.climo theworldofliz.com



U.S. Department of the Interior Aims to Help Restore Grassland Ecosystems and Bison Populations

Excerpts from <https://www.doi.gov/pressreleases/president-bidens-investing-america-agenda-help-restore-bison-populations-and-grassland>



In early September, the Department of the Interior announced \$5 million from President Biden's *Investing in America* agenda to support the restoration of bison populations and grassland ecosystems in Tribal communities. The funding will support Tribally-led initiatives to strengthen bison conservation and expansion, improve management of existing herds, and assist ecosystem restoration efforts in native grassland habitats. These investments are part of the administration's *America the Beautiful* initiative, which aims to restore, connect and conserve 30 percent of lands and waters by 2030.

The funding advances the Department's new [Grasslands Keystone Initiative](#), unveiled as part of a restoration and resilience framework that is guiding \$2 billion in investments from the Bipartisan Infrastructure Law and Inflation Reduction Act to restore lands and waters and advance climate resilience.

"The American bison is inextricably intertwined with Indigenous culture, grassland ecology and American history. While the overall recovery of bison over the last 130 years is a conservation success story, significant work remains to not only ensure that bison will remain a viable species but also to restore grassland ecosystems, strengthen rural economies dependent on grassland health and provide for the return of bison to Tribally owned and ancestral lands," said Secretary Deb Haaland. "This new funding from the Investing in America agenda will help support Tribal efforts to restore this iconic species and integrate Indigenous Knowledge into the Department's shared stewardship goals."



The investments announced today support [Secretary's Order 3410](#), which will enhance the Interior Department's work to restore wild and healthy populations of American bison and the prairie grassland ecosystem through collaboration among Department bureaus and partners such as other federal agencies, states, Tribes and landowners using the best available science and Indigenous Knowledge.

The funding includes \$3.5 million from the Inflation Reduction Act that will support the InterTribal Buffalo Council's herd development and apprenticeship program created by S.O. 3410. The Council is a collection of 80 Tribes in 20 states that facilitates the management of more than 20,000 buffalo.

An additional \$1.5 million from the Bipartisan Infrastructure Law is available through the Bureau of Indian Affairs to federally recognized Tribes and Tribal organizations to support Tribal bison herd expansion interests, including a focus on ecosystem restoration through bison conservation. For information on the application process, please visit the [BIA's Division of Natural Resources webpage](#).

American bison once numbered 60 million in North America, with the population anchored in what is now the central United States. Many Indigenous cultures, especially in areas where the species was most abundant, developed strong ties with bison and relied upon them for sustenance, shelter, and cultural and religious practices.



'Indians on the Bison Hunt' by Julius von Blaas

In the 19th century, bison were nearly driven to extinction through uncontrolled hunting and a U.S. policy of eradication tied to intentional harm against and control of Tribes. By 1889, only a few hundred wild bison remained. The persecution of bison contributed to the decline of healthy grassland ecosystems and, eventually, to the Dust Bowl in the 1930s. The loss of the keystone species, coupled with land conversion, led to declines of other important grassland wildlife, such as migratory birds and pollinators.



Beginning in the early 20th century with the support of President Theodore Roosevelt, conservationists and scientists made a collective effort to restore the American bison. Since then, collaborative conservation and restoration efforts have increased the number of wild bison in the United States from fewer than 500 to more than 15,000. The Interior Department currently manages 11,000 bison in herds across 4.6 million acres of U.S. public lands in 12 states, and will continue to work closely with state and Tribal wildlife and livestock managers to maintain healthy populations of grassland dependent species.

While the security of the species is a conservation success worth celebrating, bison exist well below historic numbers in vast stretches of grasslands ecosystems, extracting

Continued next page

Environmental Field Days for County's 4th Graders Held in September

Every year the Marinette County Land & Water Conservation Division of the Land Information Department holds an annual education event for 4th graders – Environmental Field Days. Students rotate through several stations and learn about various topics like forestry, wildfire control, insects, soil health, fisheries & fishing tips, composting, invasive species, and more. *This year, 420 students and 42 adults attended!*

There are four sites throughout the county – City Park in Marinette, Badger Park in Peshtigo, Lake Noquebay Park near Crivitz, and a site on county land in Dunbar. Teachers receive quiz questions from each station to review the information with students later in the classroom. EFD is a fun-filled event for students and adults alike!



Members of the Marinette High School Fishing Team show students lures, tip-ups and other fishing gear.



Derek Thorn, AIS Coordinator with the Lumberjack Resource Conservation & Development Council's 'FLOW' program discusses aquatic invasive species. Students are doing an activity to simulate how easy it is for invasive species to enter habitats.



WDNR Forester Andy Lange explains tree rings to students at Lake Noquebay Park



WDNR Forester Derrick Mcgee helps students use a fire hose after explaining how the DNR helps fight forest fires.

See more photos from the event at the [Marinette County Land Information Facebook page](#) at <https://www.facebook.com/people/Marinette-County-Land-Water-Conservation/100075727761451/>



Harmony Arboretum in the News, Pollinator Invitation Gardens (P.I.G.) Project Updates, and More



Harmony Arboretum and Demonstration Gardens in Peshtigo was recently featured in an episode of "Our Town" on WFRV channel 5 aired on Friday, October 6. Visit the website at <https://www.wearegreenbay.com/local5live/harmony-arboretum-is-a-top-destination-for-nature-lovers/> to see the video! Also at the property are hiking trails in the Harmony Hardwoods and on the demonstration prairie near the parking lot. It's a great place to visit this time of the year, and it's **FREE** to the public!

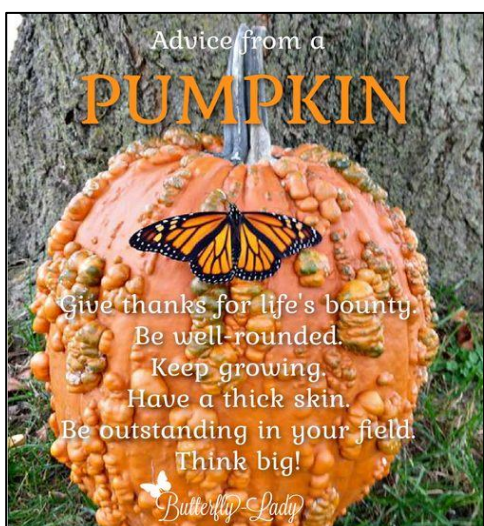
Peshtigo 4K visited Harmony in early October, and learned about Underground Animals and explored the Children's Learning Garden (below). Oconto 2nd grade will also be visiting in October and in spring, more school groups will visit as well.



Upcoming public programs at Harmony are several 'Astronomy at the Arboretum' nights:

- Tues. 10/17 from 6:30-8pm
- Tues. 11/14 from 5:30-7pm

For more about Harmony Arboretum, visit <https://www.marinettecountywi.gov/departments/land-information/environmental-education/harmony-arboretum/> or <https://marinette.extension.wisc.edu/horticulture/harmony-arboretum/>.



Area Pollinator Invitation Gardens ("P.I.G.") are looking good this time of year, too. "Project PIG" was created in 2020 during COVID through the Land & Water Conservation Division of the Marinette County Land Information Department. The goal was to get people outside, help relieve mental stress, and help pollinators & other wildlife. Most were residential but since then more have been added to public areas like parks and libraries.



Above: Red Arrow Park's horseshoe pits were converted into pollinator habitat near the pavilion, installed in 2022. Below, Inferno Fitness in Marinette, installed in 2021 and UW-GB Marinette campus (back parking lot) installed in 2020.



Next are photos of **new** pollinator gardens installed this summer & early fall.



Wausaukee Public Library, installed in late May.









Northeast Wisconsin Technical College, installed during August & early September.

Bison, continued

a heavy toll on the human cultures and ecosystems with which bison coevolved. This announcement will help advance bison restoration efforts to grasslands, which can enhance soil development, restore native plants and wildlife, and promote carbon sequestration, providing benefits for agriculture, outdoor recreation, and Tribes.



For more about bison and their recovery, visit:

-  <https://www.fws.gov/species/american-bison-bison-bison>
-  <https://www.nwf.org/Educational-Resources/Wildlife-Guide/Mammals/American-Bison>
-  <https://www.nwf.org/Latest-News/Press-Releases/2023/9-23-23-Indian-Buffalo-Management-Act>
-  <https://www.theguardian.com/environment/2018/dec/12/how-native-american-tribes-are-bringing-back-the-bison-from-brink-of-extinction>
-  <https://nationalzoo.si.edu/animals/american-bison>
-  <https://www.visittheusa.com/experience/where-bison-still-roam-usa>



Both in Marinette, Our Savior Lutheran Church (above) and the Marinette Public Library below, both installed in early September.



Stephenson Island area near the rear of the parking lot; below, the roundabout at hwy. 64/180 (it was originally planted last year, and had to be re-planted this year).



U.N. Report: Invasive Species Cost Global Economy \$423 Billion per Year

<https://www.reuters.com/business/environment/invasive-species-costs-global-economy-423-bln-per-year-un-report-2023-09-04/>

Fishing grounds choked by water hyacinths. Songbird eggs gobbled up by rats. Power plant pipes clogged by zebra mussels. And electrical lines downed by brown tree snakes. These are just a few examples of the environmental chaos sown by invasive species, whose spread around the world has seen economic damages quadruple every decade since 1970, scientists said.

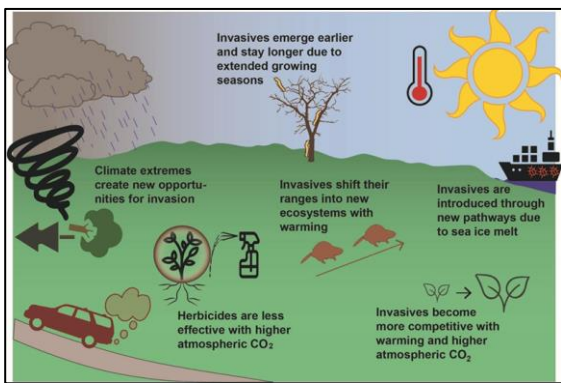
The team of 86 researchers from 49 countries released a four-year [assessment](#) of the global impacts of some 3,500 harmful invasive species, finding that economic costs now total at least \$423 billion every year, with the alien invaders playing a key role in 60% of recorded plant and animal extinctions.



In Australia, a cane toad sits inside a plastic bag after Graeme Sawyer, founder of the Northern Territory group known as Frog Watch, removed it from his trap.

"We also know this is a problem that is going to get much, much worse," said ecologist Helen Roy, co-chair of the United Nations Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES) report. Warmer temperatures under climate change are expected to further drive the expansion of invasive species.

Invasive species are plants or animals, often moved around by human activity, that take hold in an environment with deleterious effects. These range from outcompeting native wildlife, damaging infrastructure, and threatening human health and livelihoods. Impacts are often slow to materialize, but can be catastrophic when they do.



The deadly wildfires in Hawaii were driven by flammable [invasive grasses](#), scientists said, brought over from Africa as livestock pasture. Invasive [mosquito species](#), too, can spread diseases such as dengue, malaria, Zika, and West Nile. "Invasive species are affecting not only nature but also people and causing terrible loss of life," said report co-chair Anibal Pauchard of Chile's Institute of Ecology and Biodiversity.



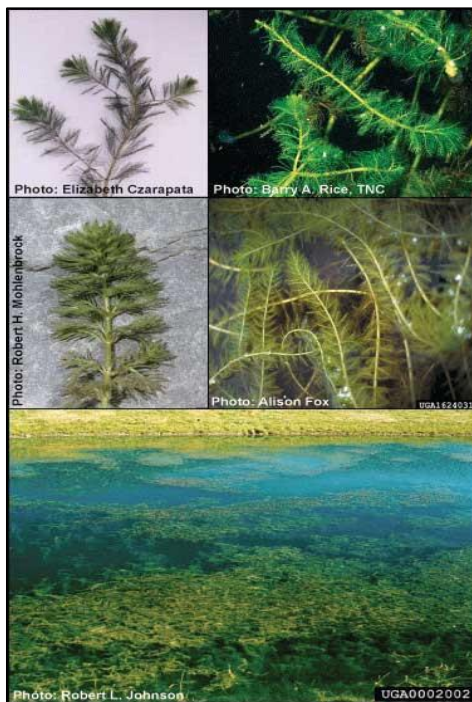
Eradicating Invaders

About three-quarters of the negative impacts from invasive species occur on land, especially in forests, woodlands, and farmed areas. While invasives can come in many forms, including microbes, invertebrates and plants, animals often have the greatest environmental impact, Roy said, particularly predators. On islands, many species have evolved without predators and are therefore "very naive," said Pauchard, with few defenses.

Getting rid of invasive species once they are established, however, is difficult. Some small islands have seen success in eradicating invasive rats and rabbits with trapping and poisonings. But larger populations that are quick to reproduce can be tricky. And invasive plants often leave their seeds lying dormant in the soil for years. Prevention measures through border biosecurity and import controls, scientists said, is most effective.



Above: Japanese Knotweed is one of Wisconsin's invasive terrestrial plants; below, Eurasian Water Milfoil is prevalent in Wisconsin's waterways.



Last December, the world's governments [committed](#) in the Kunming-Montreal Global Biodiversity Framework to reducing the introduction and establishment of priority invasive species by at least 50 percent by 2030.

For more about our local invasive species and what's being done about them visit:

- ✓ <https://dnr.wisconsin.gov/topic/Invasives>
- ✓ <https://dnr.wi.gov/topic/Invasives/photos/index.asp>
- ✓ <https://fyi.extension.wisc.edu/wifdn/learn/invasive-species-i-d-and-impacts/>
- ✓ <https://www.wrisc.org/>
- ✓ <https://www.misin.msu.edu/states/wisconsin/>

Notes from Our Wildlife Friends



It's better to let the real spiders do the decorating instead of using the fake spiderwebs . . . the fake spiderwebs can trap wildlife.

