



# WISCONSIN CITIZEN-BASED MONITORING NETWORK NEWSLETTER



Fall 2021

## 10th Wisconsin Science Festival Oct. 21-24

The 10<sup>th</sup> Annual [Wisconsin Science Festival](#) will be celebrated across the state Oct. 21-24. Organizations and groups in Wisconsin can participate by hosting their own science-related events, including citizen-based monitoring (CBM) events. Webinars, talks, nature walks, wildlife monitoring, book discussions or any other science-themed event are good fits for the festival. There is still time for host groups to add their events



Leaves from a sycamore tree (*Platanus occidentalis*), one of many species that can be found in Wisconsin during the fall bioblitz. Photo: USFWS

to the Wisconsin Science Festival website and join others statewide in celebrating and promoting science. Events do not need to be created solely for the festival; regularly or previously scheduled science-themed events planned for Oct. 21-24 are welcome.

This year's festival will include a statewide "bioblitz." A bioblitz is an effort to record the presence of as many species as possible in a limited amount of time (in this case the four days of the festival). It can be a first introduction to observing and reporting and a stepping stone into more formal citizen-based monitoring projects. This year's bioblitz focuses on fungi, but observations of plants and animals are accepted and encouraged as well.

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## 10th Wisconsin Science Festival, Continued

Anyone in Wisconsin can participate in the bioblitz by photographing a species and submitting their observations to the festival's [project on iNaturalist](#). This can be done with a smartphone or from a computer.

### Research Roundup

#### Global Bird Abundance

Scientists from Australia recently estimated the abundance of almost every bird species on the planet. Using data from eBird, a global database of bird observations that often come from citizen scientists, they calculated that there are over 50 billion individual birds in the world, representing more than 9,700 species. Four of the five most abundant birds worldwide are common sights in Wisconsin: House sparrows, European starlings, ring-billed gulls and barns swallows. The fifth most abundant bird species, the glaucous gull, is a regular if not as common observation in the state.

The study found that these most abundant species had around 1 billion individuals, but populations of most bird species are much smaller. The authors estimated that 1,180 species had populations less than 5000 individuals. You can read the whole research paper and download a spreadsheet of population estimates for all 9,700 species [online](#).

#### Midwest Bumble Bee Population Declines

Researchers from the University of Wisconsin -Madison published a new paper assessing changes in Midwest bumble bee populations over the last 150 years. Using data from museum collections and citizen science observations, they found that the diversity and abundance of bumble bees have declined in conjunction with a decrease in the variety of agricultural crops and other changes to farming practices. It was once common to find many different vegetables, grains, and other crops in the region, but corn and soybeans make up the majority of cropland in the Midwest today, and counties with more species of agricultural crops tend to have more bumble bees. Read more about the research [here](#).

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The black and gold bumble bee (*Bombus auricomus*).  
Photo: Wisconsin DNR

## Research Roundup, Continued

### Wisconsin: A Key Area For Monarchs

Data from volunteers with Journey North, a CBM project based at the University of Wisconsin-Madison Arboretum, were used in a new study that examined the abundance of monarch butterflies across North America prior to their fall migration. The study's authors, all based in Canada, analyzed 25 years of reports of monarchs seen from July 15 to Aug. 15. By factoring in the abundance of volunteers in each region, the researchers determined the states and provinces with the highest portion of monarchs just before the fall migration began.

Wisconsin had the fifth highest number of monarchs, behind Minnesota, Texas, Ontario and Michigan. These five regions are some of the largest areas in the breeding range, indicating that the size of the state or province likely had a strong influence on how many monarchs were present. The authors suggest their results can be used to emphasize the importance of monarch conservation efforts in these key states and provinces, as well as to inform future research on the monarch population related to breeding range and migration. The full study is available online [here](#).

## Everyday Uses For CBM Data

CBM data are used every day, not just by professional scientists and land managers, but also by volunteers and other members of the public.

### Private Land Management

Perhaps the most prevalent use of CBM data is in land care and management. You can use CBM data from a number of sources to make decisions on how to care for your garden, yard, stream or other property. For many people, one of the most important decisions they make about their land is what to plant. What trees, shrubs and flowers will flourish in your area? Which ones are most popular with wildlife near you? There are countless guides and lists available to assist with selecting natives, creating pollinator habitat and planting to support other animals, but local information can be extremely useful in answering those questions.

For instance, precipitation can be key to the success or failure of a planting, and it can vary extensively within a region. The [Community Collaborative Rain, Hail & Snow Network](#) (CoCoRaHS) is a source of highly localized information that can be used to inform planting and landscaping decisions. The project routinely receives 300-400 detailed precipitation reports from Wisconsin volunteers every day.

If you want to attract certain animal species, CBM projects that share comments and

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## Everyday Uses For CBM Data, Continued

photographs of observations can provide useful information about what's working well for others in your town or county. Exploring local observations can provide insight into what trees attract your favorite songbirds, what flowers butterflies are visiting and much more. Projects like [eBird](#), [Journey North](#) and [iNaturalist](#) are excellent sources of this local information.

In addition to attracting native species, most people want to stop invasives from wreaking havoc on their land. You can use the [Wisconsin First Detector Network](#) to find what terrestrial invasive species have been reported in your area, how to identify them, and how to remove them. The Wisconsin Department of Natural Resources (DNR) provides similar information, often received from volunteers, on [aquatic invasive species](#). Keep watch for the invasives spreading in your area, so that you can identify and stop them before they become a problem.

If you regularly report observations on your property to a CBM project, you can compare your own results before and after activities like planting natives or pulling invasives. Most projects offer an online interface that lets you view your own submissions, making it easier to track changes in your observations over time.

### Planning A Trip

CBM data can inform trips of all kinds, from day trips for a hike to travel across the state

or country for a vacation.

One of the big draws of a camping trip or weekend at the cabin is the opportunity to stargaze. CBM data from several international projects can help you find the best night skies. [Globe at Night](#) volunteers track light pollution through observations of common constellations like Pegasus and Leo. Observations are mapped online and provide information on the quality of stargazing at spots across the world, including Wisconsin. [Dark Sky Meter](#) maps light pollution using a smartphone app, and the map of observations is available online.

Observations from species monitoring projects like eBird or the [Wisconsin Odonata Survey](#) can identify areas to visit if you're looking for a favorite species or one that is new to you. Observation dates can help you plan the timing of a visit; some projects receive and share records in real-time, allowing you to make last minute destination

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Lesser celandine (*Ranunculus ficaria*), a prohibited invasive species in Wisconsin. Photo: Brian Russart



## Everyday Uses For CBM Data, Continued

decisions. eBird's rare bird alerts are especially useful for birders who want to see or hear something out of the ordinary.

For those interested in enjoying Wisconsin's many lakes and rivers, data from CBM projects provide useful information on water quality for prospective boaters and swimmers. Water Action Volunteers and the Citizen Lake Monitoring Network contribute to long-term datasets on [streams](#) and [lakes](#), respectively. Information gathered by volunteers includes water clarity, chemistry and depth; it may also include data on habitat quality and presence of invasive species. Local projects also play an important role. Visitors to Madison's beaches can access real-time CBM data on water clarity, temperature and algal blooms for dozens of sites through the [Lake Forecast project](#).

### Learning Opportunities

CBM data offer tremendous opportunities to learn about nature. Local CBM data provides insight into weather, water quality, species presence and phenology in your area. Looking at photos and reading observation descriptions can boost your own identification skills. Many volunteers include comments in their observations about how they searched for and found a species of interest, or how they photographed or recorded it; these descriptions are excellent references if you are interested in making your own observations.

If you are developing your math, statistics or data visualization skills, consider practicing with data from a CBM project. Many projects have data available to download in a spreadsheet format; this includes CoCoRaHS, iNaturalist and the [Wisconsin Bumble Bee Brigade](#). These real-life datasets also make excellent resources for teachers and students.

With so many different uses for CBM data, there is sure to be one right for you. Check out the websites of projects that interest you, even if you don't volunteer with them, and start exploring.



Wisconsin streams are popular destinations. Photo: Peggy Compton