BETWEEN THE LINES

Fearing the future

Fungal disease threatens prospects for Wisconsin bats

ANNA MARIE LUX

TO HELP

Wisconsin residents may volunteer for two batmonitoring programs sponsored by the DNR. They are the summer colony roosting and acoustic monitoring programs.

For more information, contact Paul White at 608-267-0813 or Heather Kaarakka at 608-266-2576 or go online to **wiatri.net/Inventory/Bats/volunteer/**

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Three brown bats exit a barn owned by Justin Shultz near Milton.Shultz volunteers for the Wisconsin bat program,where he counts the bats in his barn throughout the summer to monitor their numbers.

MILTON

Justin Shultz may be witnessing a vanishing flight of nature. Nightly at dusk, he watches the first bat slip out of an opening in his family's 90-plus-year-old barn. Then a few more emerge as if to test the air. Soon, hundreds explode from their daytime roost and swirl upward like a plume of dark smoke to devour huge numbers of insects. "It takes about an hour for them all to leave," Shultz said. Earlier this month, he took part in the state's Great Wisconsin Bat Count and tallied more than 800 with a hand-held counter at his home north of

Photos by Anthony Wahl/**awahl@gazettextra.com**

Justin Shultz of Milton volunteers for the Wisconsin bat program, counting bats in his barn throughout the summer. His work and the work of other counters help keep tabs on the advance of white-nose syndrome in the state. The disease kills bats, which are critical to the ecosystem.

Milton. Most were little brown bats, which are one of four cave-dwelling bats on the state-threatenedspecies list. The count provides critical information from summer-roost locations

A group of little brown bats roosts in the barn owned by Justin Shultz near Milton on Monday evening.Shultz volunteers for the Wisconsin bat program,counting bats in his barn throughout the summer.

across Wisconsin as the state grapples with deadly white-nose syndrome. The disease has killed millions of hibernating bats in eastern and southern states and was discovered in Wisconsin in 2014. Shultz urges others to take part in the Department of Natural Resources counts. "You can help researchers understand bats and how the fungus is affecting them," he said. "You can have an impact."

A survey last winter found the fungus has spread to new hibernating sites and is starting to decimate state bat populations.

One site in Door County along the shoreline shows dramatic decline. More than 500 bats were counted last year, compared to only 25 this year.

"It is very likely that this decline is because of white-nose syndrome," said Heather Kaarakka, a conservation biologist with the DNR.

No one knows exactly how whitenose syndrome will impact state bats.

"However, it is very likely that we will see dramatic declines at most monitored summer sites as the disease progresses across Wisconsin," Kaarakka said.

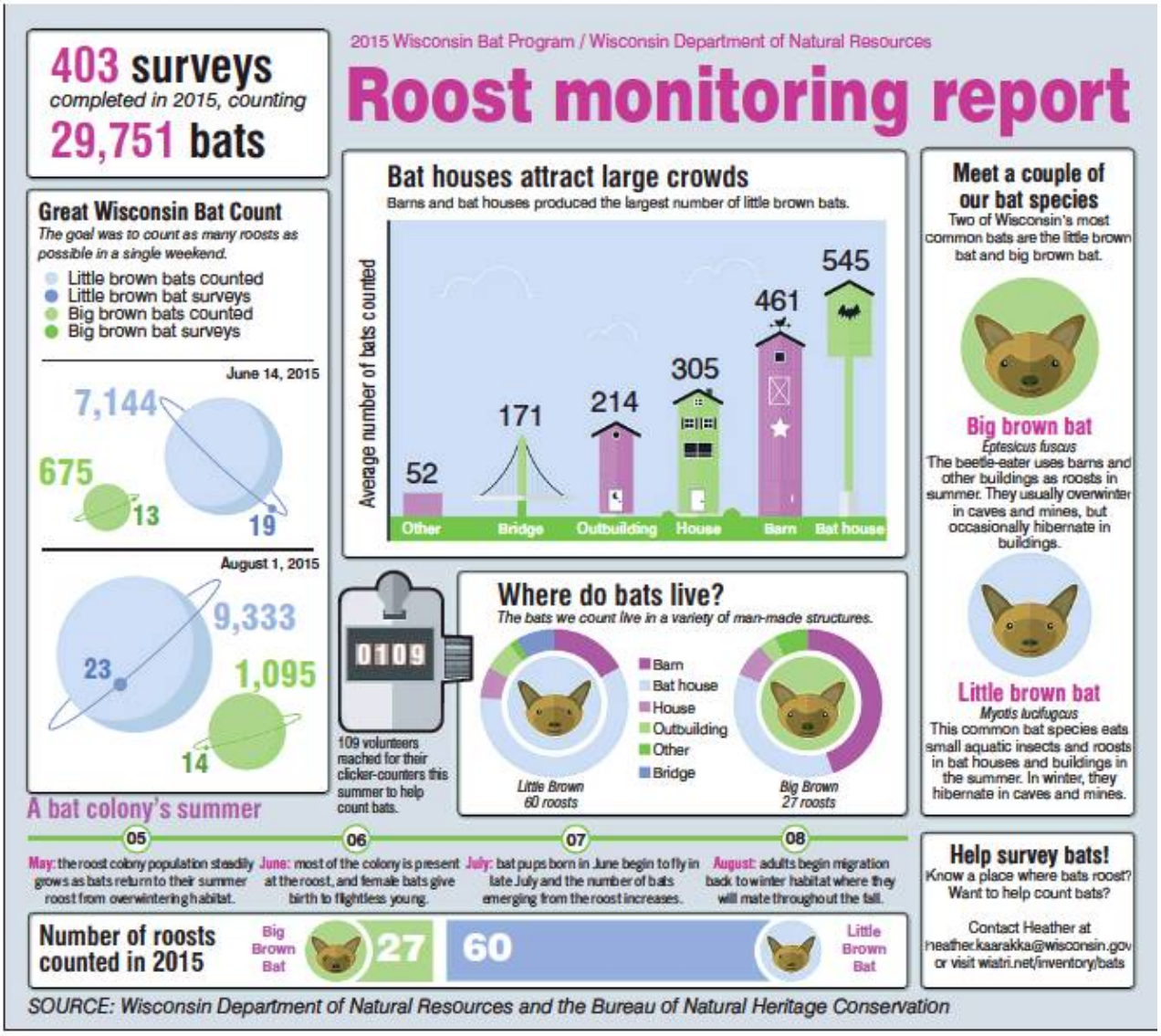
Surveys showed a 94 percent drop in bat populations at the Grant County mine where the disease was first detected two years ago. One site where the disease was found in 2015 had no bats this year.

The beneficial mammals play an important role in the state's ecosystems and economy because they have incredible appetites.

A 2011 North American study estimated that bats save Wisconsin agriculture between $658 million to $1.5 billion annually in pesticide costs because they devour so many insects.

"Bats eat a whole host of agricultural and forestry pests," Kaarakka said. "We don't know what will happen when they are reduced from the landscape."

The DNR's June bat count takes place before the babies, known as pups, begin to fly.



Totals were 9,742 little brown bats and 616 big brown bats.

Another count will take place in July.

Last year, volunteers tallied 7,144 little brown bats and 675 big brown bats at 34 roosts.

This year, the number of roost sites increased to 37.

"…Participation has gone up, which has boosted the numbers since last year, even though some sites counted significantly fewer bats than in previous years," Kaarakka explained.

White-nose syndrome does not affect people or other animals, but it causes hibernating bats to wake, use up their energy and die from starvation, dehydration or exposure to the elements.

Wisconsin has one of the highest concentrations of hibernating bats in the United States.

The fungus that causes whitenose syndrome is difficult to eliminate, said J. Paul White, DNR conservation biologist.

“We do not expect to find a single cure for the disease,” he said. “However, using a combination of effective disease treatments and management actions should reduce impacts on bats.”

Wisconsin partnered with different groups to test several treatment options, including vaccines, antifungal chemicals and probiotics.

Some treatments show promise, but their effectiveness is still being analyzed.

“Unfortunately, we already have observed bat mortality similar to what was seen in eastern states,” White said.

“We expect similar declines to continue as the disease invades new areas.”

Anna Marie Lux is a Sunday columnist for The Gazette. Call her with ideas or comments at 608-755-8264, or email ***amarielux@gazettextra.com****.*