

WISCONSIN NATURAL RESOURCES

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The Story *of Sandhill*

Managing the hunt

**Salute to 'salmon
of the springs'**

**Private lands,
public access**

Back in the day

Wartime shortages made every shot count.

Stephen Lars Kalmon

A family farm in Taylor County, in north central Wisconsin, has been home to writer Stephen Lars Kalmon for more than five decades. In his self-published book, “Barn Fire and World Fires: World War II,” Kalmon mixes history lessons with personal tales to paint a picture of life on the farm from late 1941 to the end of the war in 1945. Chapter 20 of the book, “.30-40 Shells, Shortages Make Home Economy Valuable,” recounts how families during wartime had to manage life with less of everything — including rifle cartridges for hunting. With ammunition in short supply, hunters had to maximize every shot.

Here are excerpts.

Each year of the war seemed to be more savage than the last in fighting around the world. Our national production of war materials was in full swing early on, used car numbers dwindled, bald tires were highly valued and consumer items were no more plentiful than last year.

Such shortages made patched clothing, home canning, meat in the brine barrel and home cooking and baking virtues of the highest order. Even though people had ration stamps in hand, very often items were not in stock when a purchase was necessary. Thus, war effort and sacrifice were made by all of us on the home front.

One of the many ways we were affected by rationing in the war years was that Dad felt strongly the shortage of ammunition for his Springfield .30-40 Krag. He loved to hunt and was good at it, but the year he had to go into hunting season with only one bullet was the year he did not take any wild shots: That bullet had to count.

The opening morning of hunting season, three or four of his hunting friends gathered at the house. Some had a few bullets, others a full magazine. No matter; for them, too, each shot taken would be one that laid down some meat.

Dad stood in the kitchen that morning leaning against the sink cabinet holding the one bullet in his hand. He gazed at it as if commanding it to bring down a deer.

We in the kitchen heard him pray quietly, a “Hesus, Maria, Yosef” and other words in Slavic that meant, “Make this bullet do its work, we all need meat.”

The small gang hunted three days before anyone even saw a deer and it was running so fast no one could get off a shot. Deer were scarce. It is likely that hunters feeding their families in the Depression kept the population down, and there were stories that some gangs hunted (illegally) at night and took their kills to sell in the big cities. Also, a natural but small population of timber wolves took a toll.

Finally, one day when none of the gang showed up, Dad went hunting alone. That evening he brought home a six-point buck. As usual, he came from the hunt near dark and we had chores about half-finished. He walked in the door of the barn with the buck on his shoulders, his Krag in one hand and an ear-to-ear grin on his face.

Mom grabbed the lantern off its nail, we took a break from milking and followed her to the milkhouse to admire the kill as it lay on the cement floor. Dennis counted the points and shouted, “It’s got six horns!” Franklin, older and wiser, said, “It’s not horns, Denny, these are called tines.” We admired its antlers as Dad told the story.

“Got him on top’a Big Hill. I snuck up the side quiet as a mouse, never broke a twig, you couldn’t a’heard me from 10 feet away.” Still grinning like a sunrise, he continued,



Stephen Lars Kalmon, right, is shown at age 14 after a successful hunt with his father, Steve, left, and his brother Allen. Being a good shot was especially important during times when hunting supplies were harder to come by and bringing home a deer was largely about putting fresh meat on the table.

KALMON FAMILY PHOTO

“When I could just peek over the top, I snuck some more, staying behind brush and trees hoping to see one standing there. Finally, I stood still and waited, hoping one would come along. There wasn’t a thing. So I just stood like a statue, and it wasn’t but a minute or two and this guy comes from straight up wind.

“All I could see at first was his horns, then the rest of him. He wasn’t more than a stone’s throw from me, maybe two, but it wasn’t far. I put up my gun,” and he raised his arm here in the barn just as he had held the gun in the woods, “and just as soon as I saw his horns, I was ready for him.

“Well, he’s walking and sniffing, eating a piece of grass or a twig, and then stops and looks at me. Just that quick, I fine-tuned my aim and squeezed off my last bullet. Boom! And he went down like a ton of bricks. Got him in the neck, didn’t ruin much meat. Look at that fat, will ya?” And Dad was still grinning.

He had carried that deer a good mile and a half. We kids and Mom, held by Dad’s story, had stood quietly looking at the deer and then at Dad. He was a good storyteller and we inwardly praised his hunting prowess and strength.

“Mom, are we going to have steak in the morning?” Allen asked with longing in his voice. We hadn’t had fresh meat for a while. Throughout the storytelling, we all had been thinking of the morning, when Mom would fry up a good piece of the hind quarter in bacon fat and we all would have a full belly of good meat. The buck was as round as a beer barrel. His meat was rimmed with fat and would be as good as venison could get. ❧

Stephen Lars Kalmon has worked as a freelance writer for publications including the Marshfield News-Herald. His book “Barn Fire and World Fires: World War II” was published in 2016.



ANNA HESS

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FRONT COVER: Sandhill Wildlife Area, the conservation legacy of Wallace and Hazel Grange, comprises more than 9,000 acres in central Wisconsin including wetlands, forests, prairies and oak barrens.

PHOTO BY SHANE RUCKER

BACK COVER: The North Fork of the Bad Axe River curves around the bluffs of Eagle Eye State Natural Area in Vernon County. For more information about the State Natural Areas Program visit dnr.wi.gov and search "SNA."

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Tracing Sandhill to its roots

JULIE HESS

HOW WALLACE AND HAZEL GRANGE BUILT A LEGACY OF PRESERVATION IN CENTRAL WISCONSIN.

Julie A. M. Hess and Anna N. Hess

When it comes to Wisconsin's history of ecological work, education and protection of natural resources, time has enshrined many names we remember with reverence, while still others remain relatively unknown. Two often overlooked greats from the state's early conservationist group were Wallace and Hazel Grange, who defied obstacles to preserve some of the most important marshland in Wisconsin.

Contemporaries and work colleagues of such better-known names as Aldo Leopold, Owen Gromme and Sigurd Olson, the Granges took a burning and barren section of drained central Wisconsin marshland and helped to create the beautiful and highly unique Sandhill Wildlife Area.

The couple had humble beginnings. Wallace Grange was born on Sept. 10, 1905, in Wheaton, Illinois, the fifth of six sons. At age 13, his minister father moved the family to the village of Crane in northern Wisconsin. Even as a young teen, Wallace already demonstrated an excellent ability to observe wildlife and spent a great deal of time in the outdoors trying to understand the local habitat.

Hazel was born in Lynn, Wisconsin, on July 3, 1905, the seventh of eight chil-

dren in a poor family. She was stricken by an unknown illness at an early age that made her unable to walk until the age of 3. In 1918, her mother died, and her father died three years later. Five of the sisters went to live in Ladysmith, where another married sister lived.

Both Wallace and Hazel attended Ladysmith High School. Hazel worked in a private home for her room and board. She became a prized pupil, with her primary focus on finishing high school in three years.

It was at Ladysmith High School that Wallace and Hazel were taught by E.M. Dahlberg, a pioneer conservationist who inspired students to pursue a love of nature. Wallace and Hazel became scholastic rivals. However, Wallace was smitten and started to court Hazel.

Early career

Wallace found work locally with a newspaper and began honing his writing skills. He sold an article on ruffed grouse to *Field and Stream* magazine based on three years of observed data. Later, these data were incorporated into a technical paper co-authored by Aldo Leopold, contributing to game management efforts for years to come.

Grange went on to attend the University of Wisconsin-Madison, funding his education in part by traveling to Florida to collect and catalog birds for the U.S. Biological Survey and later to the Rocky Mountains to record sheep numbers. During these projects, he continued to correspond with Hazel. Grange eventually transferred to the University of Michigan in Ann Arbor where, after many years, he finally proposed.

Wallace and Hazel wed in 1927. By 1928, their old teacher, E.M. Dahlberg, was the conservation commissioner in Wisconsin. After an interview and civil service exam, the 22-year-old Grange was offered a position by Dahlberg as the state's first superintendent of game, heading the Wisconsin Conservation Department's newly established Game Bureau.

Grange held this position for two years, during which time he established the state's first pheasant game farm, located in Door County on what is now Peninsula State Park property. He also developed complex plans to establish game



JOHN AHLHAUSER

Hazel and Wallace Grange operated the Sandhill Game Farm for nearly a quarter-century before offering the land — including their original cabin, top left — to the state of Wisconsin. The Granges are pictured here in May 1963, shortly after the land was sold and the Sandhill Wildlife Area was established.

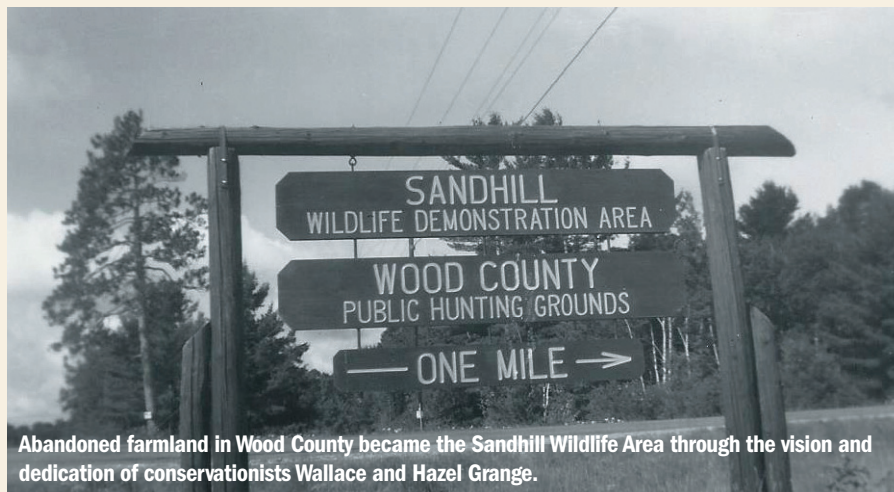
districts and wildlife refuges, as well as plans for winter feeding and game surveys. He suggested game plantings and was a proponent of reestablishing wild turkey and elk populations in Wisconsin.

Grange abruptly changed careers in 1930 when he accepted a two-year research position with the U.S. Biological Survey. He and Hazel moved to Washington, D.C., at the height of the Great Depression. There, Grange was able to make important contacts and hone his knowledge of game management.

Game farm and other adventures

In 1932, the couple returned to Wisconsin, moving to Door County to pursue Grange's dream of running a game farm. They established the farm near Bailey's Harbor, where they dealt with poor living conditions, harsh winters and hard physical labor. Their primary focus was rearing pheasants for live shipping and raising waterfowl.

During winter months, Grange would supplement the game farm income by heading to northern Minnesota to help with management of snowshoe hare populations. Upset with the government position of poisoning hares to reduce numbers, he developed a first-of-its-kind live-shipping business to send excess snowshoe hares to the East Coast to reestablish their dwindling populations. Hazel accompanied Wallace to the "rabbit camps" and assisted with camp cooking and live hare shipping preparations.



Abandoned farmland in Wood County became the Sandhill Wildlife Area through the vision and dedication of conservationists Wallace and Hazel Grange.

MILWAUKEE JOURNAL ARCHIVES

It was a complicated business involving much trial and error. Hares on some train cars experienced a very high mortality rate, while rates on other trains were low. After much study, Wallace discovered that the arrival status of the hares depended on how healthy the animals were upon trapping and factors such as shipping cage conditions and animal hydration.

In addition to his work with the hares and the Door County game farm, Grange also was busy buying up tax-delinquent abandoned farmland in Wood County — despite Hazel's objections. With capital in short supply on the game farm, she was not convinced the barren former marshland and sandy upland in central Wisconsin would be the game mecca Wallace insisted it could be.

Grange's vision was to turn this unappealing property into the original

game-rich territory it had been before settlement. After much negotiation with Hazel, the couple moved to Babcock in 1937 to begin another game enterprise on the former farmland.

New challenges at Sandhill

The task of reviving this treeless wasteland proved to be a daunting one. The first requirement of the game farm was to install 16 miles of 9-foot fence around the perimeter. This immediately drew opposition from local sportsmen, who had been using the property for free. This opposition was joined by skepticism from the conservation commission and conservation wardens, who filed a lawsuit.

Despite bitter objections, the lawsuits were negated and work continued on the farm, although vandalism of the fence recurred for many years. In the years that followed, the Granges built dikes and roads on the property to refill the shallow marshes and begin restoration of wildlife habitat. Wallace worked tirelessly on biotic surveys to determine how to return the land to its pre-settlement, abundant game conditions.

The primary focuses of the Sandhill Game Farm were deer, grouse and waterfowl. Some of these were live shipped to restore populations in areas with low animal numbers. Deer were shipped to Florida, Mississippi and Georgia as well as being sold to the restaurant market in Chicago.

By 1949, 10 years after first establishing the farm, the Granges were shipping 300 to 800 deer a year when the rest of the state continued to have very low deer populations. Wallace was adamant that proper management of both forest land and hunting was key to developing healthy game populations. The results were so outstanding that Aldo Leopold



JOHN AHLHAUSER

A sandhill crane at the newly created Sandhill Wildlife Area in June 1962.

would send graduate students to Sandhill to see the excellent example of game stewardship.

In 1946, the Granges obtained a heifer bison from the zoo in Racine. A bull was added in 1949 and by 1960, the herd consisted of nine animals. There was no commercial reason for having the bison herd; however, because this was an area where wood bison once roamed, it would prove to benefit the surrounding game conditions. Once, when interviewed by a Milwaukee reporter about it, Grange replied, "I just like them."

A wild menagerie

The Granges were famous for their menagerie of wild animals. Hazel especially loved her diverse pets and spent a great deal of time taming them. One pet included Foxy, wild caught when a vixen moved her den near the couple's farm. A fawn became a household pet when workers found the emaciated creature caught in a hollow log and Hazel nursed it back to health.

The most eclectic pets, though, were the skunks. At one point, there reportedly were 27 of the smelly black-and-white fluff balls. Only three of the animals were de-scented, so at some point the farm help and the Granges were all bombed by the fragrant pets.

As the story goes, while Wallace was off serving in the Pacific Theater with the Navy's Seabees and Hazel was away for business, the skunks "dug out" of their pens and escaped. According to Wallace, "This was undoubtedly the greatest mass release of skunks in history."

Silver, a female sandhill crane, became



JOHN AHLHAUSER

In this May 1963 photo, Wallace Grange feeds Silver, a resident sandhill crane who was popular with visitors to the Granges' game farm.



Bison were introduced to Sandhill Wildlife Area in the late 1940s and a small population remains today.

JULIE HESS

a particular favorite of visitors. Silver came to the Granges in egg form in 1953 from a nest that was going to be washed away. At the time, not a lot was known about the rare and endangered sandhill cranes, and the Granges had to determine the best ways to feed the chick and care for the crane as it grew. They kept her wings clipped in the spring and fall so she would not follow the wild populations of cranes.

Silver became famous at Sandhill for her handkerchief dance. Wallace would throw a loose handkerchief into the air while Silver would call out and dance wildly.

State benefits

In 1962, after nearly 25 years of running the game farm, the Granges approached the state of Wisconsin with the proposal to sell the property. The couple felt state ownership would be the best way to preserve the marshland and keep game management at the forefront.

The property was offered at a value of \$274,500, much less than the appraised value, and Gov. Gaylord Nelson signed

the purchase agreement. With strict requirements from the Granges, the property became the wildlife demonstration area and game refuge that it remains today. Visitors to the 9,150-acre Sandhill Wildlife Area can still appreciate the couple's vision by taking a hike on the Swamp Buck Trail or driving the Trumper Trail, among other outings.

Hazel and Wallace Grange quietly retired to Calio, North Dakota, after the sale of their Sandhill Game Farm. Wallace died in 1987. He was posthumously inducted into the Wisconsin Conservation Hall of Fame in 1993 in honor of his pioneering game management research. Hazel died in 1997.

Through good years and bad, the Great Depression, low capital, negative public opinion and controversy, the Granges persevered and created a vital legacy. ▮

Julie Hess belongs to Friends of Sandhill and is a senior paper process engineer, moonlighting as a naturalist during her spare time. Anna Hess is a natural resource manager for the Minnesota DNR. They both grew up wandering the wilds of Sandhill.

>>> GRANGES' WRITINGS

Through their busy game farm years, both Wallace and Hazel Grange found time to write. Wallace would escape to the rustic Sandhill cabin on the point of a marsh island to do the majority of his writing in those quiet surroundings.

He used his game farm experience and wildlife research background to write the landmark "The Way to Game Abundance" in 1949. The book looked at the use of fire for game management, the life cycles of game species and why populations fluctuated.

Grange followed up with the John Burroughs Medal-winning nature book "Those of the Forest" in 1953. The book followed the fictional life of a snowshoe hare and the intertwined lives of the forest animals. Wallace presented this book to Hazel as a 25th anniversary present. Nature books were not popular at the time, so Hazel formed the Flambeau Publishing Co., and printed 10,000 copies of "Those of the Forest."

Hazel wrote her own game farm memoirs from 1932-1946. "Live Arrival Guaranteed," likely her best-known piece, was not published until 1996. The Granges' books can still be found today.

A tribute to wetland management

A muskrat makes its way through a marsh at Sandhill Wildlife Area, home to dozens of wildlife, bird and plant species.

SHANE RUCKER

SANDHILL'S BOUNDLESS WILDLIFE IS NO ACCIDENT.

Julie A.M. Hess and Anna N. Hess

The ethereal call of the sandhill crane resonates across the central Wisconsin wetlands, just as it has for thousands of years. It is easy to take this beautiful sight and sound for granted, but over the last century the changing marsh landscape has not always been suitable for the marsh wildlife that many Wisconsinites have come to expect.

Central Wisconsin has the highest concentration of wetlands in the state. The Sandhill Wildlife Area, located near Babcock in Wood County, has been famous for these features since the property became a wildlife area in 1962.

Although on the surface it appears that these magnificent areas are self-sustaining, these marsh communities require ongoing wetland management to provide nesting and migratory habitat for various wetland-dependent birds. Flowage management of these emergent

marsh/wetland communities not only helps birds but also helps support a wide range of other wildlife such as furbearers, turtles and frogs.

Sandhill through time

The Sandhill Wildlife Area was once part of the bed of the former Glacial Lake Wisconsin. This ancient lake once covered approximately 1,800 miles and ranged from 70 to 150 feet deep.

Geologists believe that around 14,000 years ago an ice dam at the lower end of

the lake failed, leading to a catastrophic draining in the span of seven to 10 days. The lake left behind enormous deposits of sand, silt and clay that eventually became the extensive marshes and sandy upland forests of the wildlife area.

Early settlers logged the white pine, red pine and oak of the area from 1850 to 1880. Once the timber was removed farmers attempted to crop the marshes, thinking the dark organic marsh soils would support useful farming endeavors. These industries led to the full-scale draining of the swamps in the early 1890s. Steam-powered dredgers dug hundreds of drainage ditches, some still visible today.

Unfortunately for the farmers, these dark soils were highly acidic and drained poorly. These conditions along with very short growing seasons, killing frosts, uncontrolled fires and eventually the Great Depression forced many farmers to vacate their properties. The scars from these endeavors can still be seen today, as straight-lined canals and dikes, stretching for many miles.

During the 1930s and 1940s, Wallace and Hazel Grange purchased a total



Canals, ditches and dikes at Sandhill Wildlife Area are remnants of the futile farming endeavors attempted on the lands in the early 1900s.

SHANE RUCKER

of 9,150 acres of the abandoned marsh properties. The Granges, part of the early Wisconsin conservation group that included Aldo Leopold, enclosed the land with deer-proof fencing and established the Sandhill Game Farm.

Over the course of their ownership, the Granges did extensive work on the ditches and dikes to return water to the marshes. The couple managed the property for 24 years, raising deer, grouse and waterfowl for commercial purposes as well as studying and writing important game management guidelines.

In 1962, the property was sold to the state with the stipulation that it would be used as a wildlife demonstration area and a living laboratory. Sandhill's research profile has been vast, with extensive investigations of deer, ruffed grouse, beaver, fisher, porcupine, snowshoe hare, northern long-eared bat, golden-winged warbler and turtles.

Key habitat area

Among some of the many notable features of Sandhill is the expansive Gallagher Flowage. This flowage is 2,000 acres

of restored ditched and diked peatland bogs that serves as a critical nesting and staging area for thousands of migratory birds. These birds include the sandhill crane, Canada goose, whooping crane, American bittern, sora, green heron, wood duck, mallard, blue-winged teal, ring-necked duck and the American coot. The flowage also supports populations of muskrat, mink, otter and beaver.

In accordance with the original property deed with the Granges, this specific area is set aside as a refuge area to wildlife and no hunting or trapping is allowed. Thus, the area serves as important habitat for species, allowing populations to propagate and spread into surrounding areas.

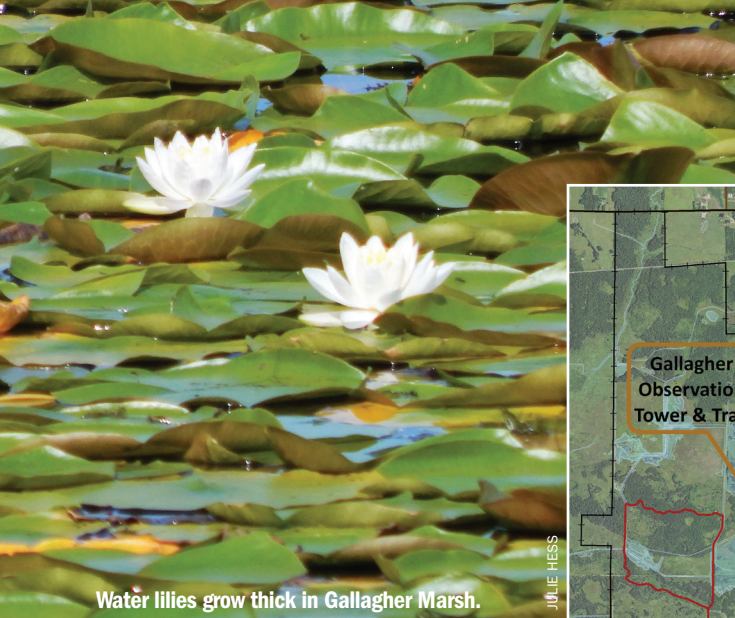
Open water areas of this marsh include emerged, submerged and floating aquatic plants. Common species include wild rice, cattail, bulrush, bur-reed, water lilies, water shield and pondweeds. The Gallagher Marsh also hosts the endangered spotted pondweed and the threatened algae-leaved pondweed.

Over time, several of these plant species, specifically the water lilies and water shield, have become too thick on the surface and negatively impact the quality of the marsh habitat for animals and other plant life. Water lilies and water shield are both native plants to Wisconsin. The yellow water lily is identified by the split in the leaf at the edge where the underwater stem attaches to the floating pad.

Gallagher Flowage, 2,000 acres of restored peatland bogs, provides critical habitat for thousands of migratory birds each year.



JULIE HESS



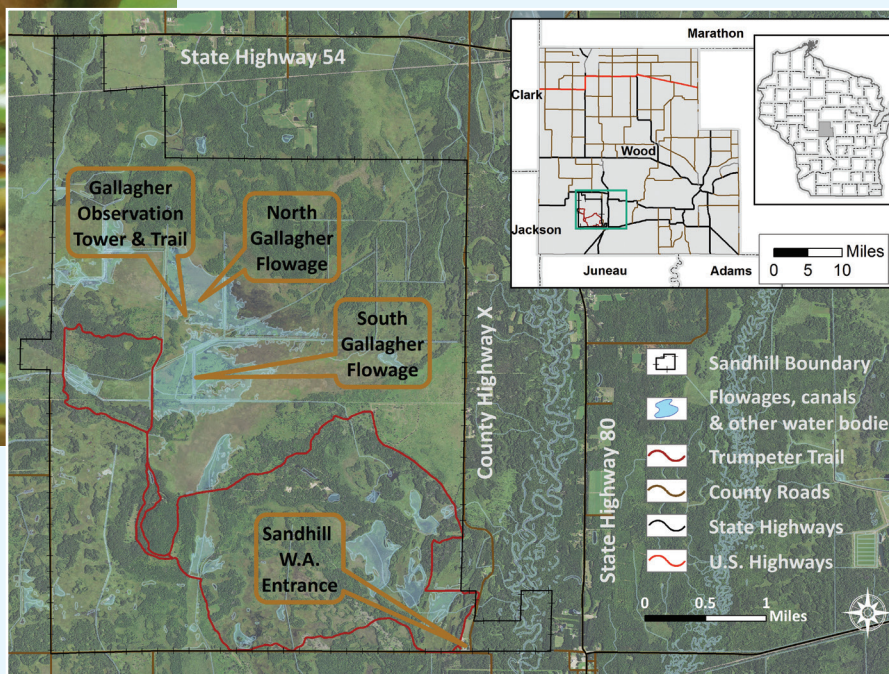
Water lilies grow thick in Gallagher Marsh.

JULIE HESS

Water shield can easily be mistaken for water lily, but the leaves of its pad are oval. Water shield, also known as dollar pad or water target, also has a unique thick coating of gelatinous slime that covers the young stems and the undersides of the leaves.

Due to its importance with wildlife, the Gallagher Marsh is subject to special flowage management techniques in order to maintain the diversity of these peatlands. Both water shield and water lilies propagate through rhizomes in the marsh bottom sediments. By drawing down the water levels for extended periods and drying out the soil, these rhizomes die out.

In April 2017, the Sandhill staff began the first water drawdown of the Gallagher Marsh in 15 years. Water levels on the marsh can be increased or decreased through several structures located along




ANNA HESS

Sandhill Wildlife Area comprises more than 9,000 acres in central Wisconsin's Wood County.

the internal dike system. These gates are slowly opened to release water in a controlled manner. The gates remained open throughout the summer growing season, creating mud flats by mid- to late summer. The marsh levels will be held down over winter.

To minimize the impact of low water levels on this important sandhill crane staging area, the water levels will be maintained in the adjacent flowages surrounding the Gallagher Marsh basin. Also, water is being maintained in the

ditches surrounding the marsh to mitigate impacts on the numerous turtles, frogs and other reptiles that make the marsh home.

Gallagher Marsh is at the head of the Sandhill watershed, so filling the basin is dependent on rainfall and winter snowpack. In spring 2018, the gates to the marsh will be closed, allowing the marsh to refill with water. During an average Wisconsin year, the basin should be filled back to normal levels by next summer, with more open water for the wildlife that use this important wetland. 

During the planned Gallagher Marsh drawdown, water levels sufficient to support the sandhill crane and other species will remain in adjacent areas.



SHANE RUCKER

Julie Hess belongs to the Friends of Sandhill and is a senior paper process engineer, moonlighting as a naturalist during her spare time. Anna Hess is a natural resource manager for the Minnesota DNR. Sandhill Wildlife Area staff contributed information on the workings of the site's flowages.

>>> MORE INFORMATION

Sandhill Wildlife Area is in Wood County in central Wisconsin, about 17 miles west of Wisconsin Rapids, with headquarters and visitor's entrance at 1715 County Highway X, Babcock. For details, including more about its history and wetlands management, visit dnr.wi.gov and search "Sandhill."



Aim for an antlerless state of mind

WHEN IT COMES TO DEER MANAGEMENT, EVERY HUNTER PLAYS A ROLE.

Story by Jeff Pritzl and photos by Linda Freshwaters Arndt

Every year since 1983, with one exception, Wisconsin deer hunters have harvested more antlerless deer than bucks when everything is tallied up at the end of each season. Shooting antlerless deer is certainly an accepted practice in general. Yet personal opinions and values that determine whether a hunter decides to squeeze the trigger on an antlerless deer are varied and complex.

Comfort level with taking antlerless deer is often associated with deer sighting frequency. Am I seeing more or fewer deer than previous years? Am I seeing more or fewer deer compared to my neighbors? Have deer become so numerous that browse damage to vegetation has become noticeable? Am I seeing more or fewer car-killed deer? And then there is the simple desire to put high-quality red meat in the freezer.

The spectrum of personal opinion on shooting antlerless deer ranges from thinking it's just wrong or unethical to shoot a female or young deer, to preferring young antlerless deer for the excellent venison

they provide. This diversity of opinion exists at the smallest scale within neighborhoods and hunting groups.

But in the end, when hunters have the option to shoot both bucks and antlerless deer, they tend to shoot slightly more antlerless deer. This makes sense because there are more antlerless deer available than bucks in the fall. However, hunters rarely shoot antlerless deer in proportion to their availability. This is where opinion, values and sometimes regulations and season frameworks influence the overall harvest.

Wisconsin has used a variable antlerless harvest quota system for more than a half

century to influence the number of antlerless deer taken each year and provide hunting opportunities. In some cases, the final quota — which is derived by forecasting the fall deer population and receiving public input on the desired harvest — is designed to move the local deer herd toward established population objectives.

But in many parts of Wisconsin, especially the highly productive regions where farm and forest are mixed in a matrix of prime deer habitat, antlerless harvest needs and prescribed antlerless quotas often exceed traditional hunter harvest behaviors.

In hunters' hands

County Deer Advisory Councils (CDACs) have been established to represent hunter and other community interests in deer management. They are charged with establishing an objective of raising, lowering or maintaining the deer population in their specific county.

During the first three years of CDAC implementation, 45 counties have established objectives to maintain or decrease their deer population. Although the CDAC process for establishing hunting season frameworks is working quite well, more than half the counties have found it difficult to achieve an antlerless harvest adequate to reach the population objective.

In the recent past before CDACs, when deer herd growth would exceed hunter harvest at high rates, harvest regulations would kick in to mandate antlerless harvest. Most hunters remember the Earn-A-Buck years. EAB was effective for herd control but generated what many hunters felt to be a poorer hunting experience because hunters were forced to do something they didn't necessarily wish to do based on their personal standards of a successful hunting season and because they did not agree with local deer population estimates that triggered the EAB season structure.

In many ways, the pushback against EAB is what inspired the creation of CDACs. The local community is now empowered to take significant ownership of the outcomes of deer management.

Ideally, antlerless harvest decisions can remain a voluntary choice, rather than a mandated requirement. However, discussions at CDAC meetings often include how to get hunters to voluntarily harvest more antlerless deer.

The right ratio

Maintaining a wildlife population, in this case deer, means that the number of animals leaving the population must be equal to the number of animals entering the population. We know that deer enter the population or are born at a 1:1 sex ratio of bucks to does. But an even 1:1 harvest ratio of bucks and antlerless deer does not create an equal harvest of bucks and does. Here's why:

Legal antlerless deer available for harvest during the hunting season include



Wisconsin has long used an antlerless quota system to enhance hunting opportunities.

both adult does and fawns (both buck and doe). In the highly productive deer regions of the state, as many as half of the antlerless deer going into the hunting season are fawns, and harvest statistics show they are half of the antlerless harvest as well.

Assuming most hunters don't distinguish between doe fawns and buck fawns (though some might), the total antlerless harvest would be comprised of 50 percent adult does, 25 percent doe fawns and 25 percent buck fawns. So a 1:1 harvest ratio of bucks to antlerless deer is actually about one buck for every .75 doe, which does not support proper population maintenance as noted.

Using this logic, maintaining a productive deer herd requires harvesting more antlerless deer than bucks. If the objective is to reduce the herd, it usually takes at least two antlerless deer harvested for each buck; three might be even better, depending on how quickly the herd is sought to be reduced.

Ultimately, this is what Earn-A-Buck was designed to do: increase the ratio of antlerless deer taken per buck taken. So the question now is can hunters voluntarily increase that harvest ratio when the CDAC and DNR call for it?

How many should we shoot?

Deer productivity varies from county to county, and certainly within counties as well. The DNR and CDACs monitor deer populations at the Deer Management Unit (DMU) level, usually the county.

Thanks to decades of mandatory deer registration and tracking of pre- and post-hunting season populations, we can accurately predict population growth potential for each unit. We are pretty darn good at estimating what the buck harvest will be before it happens — usually within 90 percent or better — and this ultimately drives the antlerless harvest goal each year.

The predicted buck harvest and established antlerless quota can be described as a ratio. For example, if the predicted buck harvest is 1,000 and the antlerless quota is 2,300, then the desired outcome at the end of all the deer seasons is a harvest ratio of 1:2.3.

Thinking of it this way, whether you assess your hunting harvest based on a chunk of real estate or among a group of hunters, for each antlered buck that is taken you can compare how your own antlerless harvest stacks up with the established objective of the DMU. Viewing personal harvest goals and results in terms of a ratio of bucks to antlerless deer takes into consideration the variability of deer densities within each DMU.

If you find your area is not living up to the forecasted deer population for the unit as a whole, you will likely see and shoot fewer, if any, bucks and you might understandably also shoot fewer, if any, antlerless deer.

Keep in mind that if you are choosing to pass up young bucks and may not harvest any this year, some antlerless deer still should be taken. Doing so will put delicious meat in your freezer, save a small buck to grow for one more year and

In cases where herd reduction is the objective, it usually requires taking two antlerless deer for each buck, with three often being even better.





In general each year, more antlerless deer than bucks are available for harvest in fall.

help your local herd reach its maximum capabilities for productivity, rut intensity, trophy potential and more.

If you are fortunate and find your hunting group filling the buck pole, it should indicate that a proportional number of antlerless deer need to be brought in, based on the ratio for your unit. For every hunter who bags just bucks in a highly productive unit, more hunters will need to shoot just antlerless deer to meet the desired harvest ratio.

Attend your CDAC meetings

Establishing an antlerless harvest quota and the hunting season framework needed to achieve it is a community decision. Becoming familiar with the desired harvest ratio of bucks to antlerless deer for your county or unit is a great starting point for your hunting group to plan for the season ahead. And a great place to share those conversations is with your fellow hunters at the annual CDAC meetings.

We all enter the hunting season with expectations, and our sense of satisfaction is influenced by how those expectations are met. Add an expectation to be part of the larger deer hunting community by becoming engaged and informed at CDAC meetings or monitoring the DNR CDAC web pages. Visit dnr.wi.gov and search keyword "CDAC."

Connecting your own state of mind to the goals of your community can add another layer of satisfaction to your overall hunting experience. 🍷

Jeff Pritzl oversees wildlife management for the DNR's Northeast District.

>>> DEER HUNTING DETAILS



ANDY KRAUSHAAR

Getting to know the basics about deer hunting in Wisconsin will help to ensure a safe and successful hunt. In addition to the information here, learn more about all things deer management, including complete 2017 Deer Hunting Regulations, by visiting dnr.wi.gov and searching keyword "deer."

2017 season dates

- 🦌 Archery and crossbow: Sept. 16-Jan. 7
- 🦌 Youth firearm: Oct. 7 and 8
- 🦌 Gun hunt for hunters with disabilities: Oct. 7-15
- 🦌 November gun deer hunt: Nov. 18-26
- 🦌 Muzzleloader hunt: Nov. 27-Dec. 6
- 🦌 Statewide December antlerless-only hunt, for all weapon types: Dec. 7-10
- 🦌 Antlerless-only Holiday Hunt, for all weapon types in units where offered: Dec. 24-Jan. 1

What's new this year?

- 🦌 Carcass tags, now printed on plain paper, are validated by removing the bottom portion.
- 🦌 North of Highway 64, ground blinds and tree stands may be left out overnight on DNR-managed lands.
- 🦌 The antlerless-only Holiday Hunt will be held in select Deer Management Units, Dec. 24-Jan. 1.
- 🦌 Oconto County is now closed to baiting and feeding deer.

Get licensed

You can choose from three general license types or select a license package that suits your needs.

- 🦌 Gun Deer License (legal firearm, bow or crossbow during a firearm season only). This includes one gun buck tag and Farmland (Zone 2) antlerless tag(s).
- 🦌 Crossbow License (crossbow only). This includes one bow buck tag and Farmland (Zone 2) antlerless tag(s).
- 🦌 Archer License (bow only). This includes one bow buck tag and Farmland (Zone 2) antlerless tag(s).

Note that hunters who purchase both an archer and a crossbow license will receive only one set of carcass tags. Buy licenses and print carcass tags through Go Wild (online at gowild.wi.gov), at a license agent (a \$2 processing fee may apply for printing tags) or at a DNR service center. For locations, visit dnr.wi.gov and search "service centers."

When purchasing a license, proof of hunter education is required for those born on or after Jan. 1, 1973, unless participating in the hunting mentorship program or unless the hunter has completed military basic training.

Carcass tags

Hunters must print and carry their paper carcass tags, no more than one physical copy of each individual carcass tag (as identified by unique tag number) while hunting. Three main carcass tag types are offered, but hunters may be eligible for one or more of the other antlerless tag types listed in the deer hunting regulations.

- ❖ Buck carcass tag: included with each license, weapon-specific (bow/crossbow or gun) and valid in any Deer Management Unit statewide.
- ❖ Farmland (Zone 2) antlerless carcass tag: included with each deer license (though not all DMUs may offer them), not weapon-specific. In Go Wild or at point of sale, choose a Farmland (Zone 2) DMU that has tags available, then choose a land type (public-access or private) for each tag.
- ❖ Bonus antlerless carcass tag: not included with a license and not weapon-specific. The cost for each tag is \$12 for residents, \$20 for non-residents and \$5 for youth ages 10 and 11. Bonus antlerless tags went on sale beginning Aug. 14, selling at the rate of one per hunter per day until sold out. To find current availability of bonus tags, go to dnr.wi.gov and search "antlerless tags."

You got a deer! What now?

- ❖ Immediately validate the appropriate paper carcass tag. Validate by detaching the bottom portion (the "validation stub") from the rest of the tag.
- ❖ You do not need to keep the bottom stub once the tag is validated.
- ❖ Protect the tag in a plastic zip-top bag to keep it intact and legible.
- ❖ If you leave it, tag it! Attach the validated carcass tag to the deer before you go. You do not need to attach the tag as long as you possess the validated tag and remain with the carcass, such as when dragging it out of the field.



Registration required

All deer harvested must be registered electronically through GameReg by 5 p.m. the day after recovery. Have your carcass tag number handy to enter at the start of the registration process. Keep the tag with the meat until all meat has been consumed.

Once your deer has been successfully registered, you will receive a 10-character confirmation number for your records. For white-tailed deer, all confirmation numbers begin with "W" and are issued in the format W12-345-6789.

Registration options include:

- ❖ Register online at gamereg.wi.gov (the fastest and easiest method), available 24 hours a day.
- ❖ Register by phone at 1-844-426-3734 (1-844-GAMEREG), also available 24 hours. When prompted, enter into your keypad the three-digit number corresponding to the county of kill. For example, for Adams County enter A-D-A by pressing "232." Find the numbers corresponding to the first three letters of each county at dnr.wi.gov, keyword "GameReg."
- ❖ Register in person. Find a station that offers a phone or computer for completing electronic registration at dnr.wi.gov, keywords "registration stations," or by calling 888-936-7463.

Chronic Wasting Disease

Wisconsin's deer need your help! To get your deer tested for CWD, visit dnr.wi.gov and search "CWD sampling" for a list of sampling stations. If you hunt in a CWD-affected area, search keyword "CWD" for special baiting/feeding and carcass transportation restrictions.

What else to know

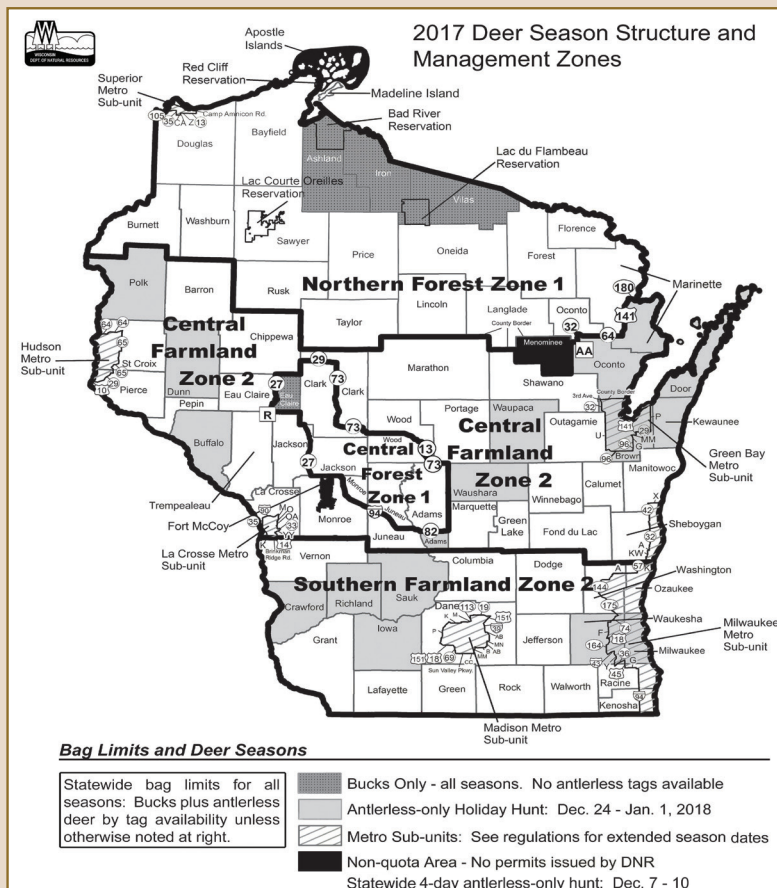
Know where you are hunting. Information required for proper tag use and harvest registration includes:

- ❖ Zone: Forest/Zone 1 or Farmland/Zone 2.
- ❖ Deer Management Unit: This is the county, in most cases, but also know if you are hunting within the boundaries of a designated metro sub-unit.
- ❖ Land type: public-access or private.

Have proof of hunting license. Carry one or more of the following: a paper copy, a department-approved PDF displayed on a mobile device, an authenticated Wisconsin driver's license or a Go Wild Conservation Card.

For paper carcass tags, carry one copy of a unique tag for each deer while hunting. Other methods of proof are not acceptable for carcass tags.

For group hunting, know which rules apply and which tags are valid. See page 22 of the Deer Hunting Regulations for details.





First hunt far from ordinary

Twin brothers Jordan, center, and Jared Anderson enjoy the end of a successful first hunt along with their father, Dave.

SENSE OF GRATITUDE PREVAILS AFTER SHARING IN AMAZING OUTING.

Story and photos by Bill Hirt

The picture in my mind is still vivid and it brings a smile to my face every time I think about it. I see the western sky fading as the day fast recedes into night. I hear the steady south wind rustling the leaves on the trees and the soft thud of acorns hitting the ground. I hear the nearly uncontrollable giggle of an excited teenage boy.

I see the muzzle blast and the barrel of a deer rifle jump. I hear the reassuring voice of our gracious host and landowner, Dave Draxler, saying, "He's down, he's down." Then, high-fives and congratulatory handshakes all around.

I have just witnessed an incredible ending to a very special hunt, with a young hunter bagging his first deer.

In any circumstances, this would be a major accomplishment for a young man on his first deer hunt. But what made this day even more special was that the young hunter involved this time had achieved this feat while sitting in a wheelchair.

I mention this not because he needs any sympathy, but just the opposite. I want people to realize how strong and capable this young man is.

Welcome opportunity

It was Oct. 10, 2015, a Saturday and the first day of that year's youth deer hunt in Wisconsin. I was invited along on an afternoon outing with Draxler and Jerry Fuehrer, who were hosting brothers Jordan and Jared Anderson, their father Dave Anderson, and their uncle Russ Anderson. This was to be the 13-year-old twins' first deer hunt, something they had eagerly awaited.

I had first met the Anderson boys about six months earlier while helping with a hunter safety class led by my friend Patrice Eyers and sponsored by Mill Creek Education and Gun Club in Milladore, in central Wisconsin. Jordan and Jared both have physical disabilities, which they have overcome with excep-

tional determination, intelligence and enthusiasm. When I was offered the opportunity to come along on this hunt, I happily accepted.

We would all meet at Draxler's cabin in Marathon County at 2 p.m. Draxler, Jordan, Jordan's father and I would hunt the property where the cabin sits, while Fuehrer, Jared and Jared's uncle would hunt another property nearby. Draxler and Fuehrer had constructed custom-built hunting blinds that summer adjacent to likely deer-feeding areas, specifically for this hunt.

By 2:30, we were settled in at our assigned posts. It was a warm, breezy fall day. For the first few hours, an occasional squirrel or blue jay working busily to store acorns for the winter made up the extent of our wildlife viewing opportunities. We passed time with muffled chit-chat every now and again as we waited for that special last half hour of shooting light, when the woods become a much more active place.

Bag a buck

Just as the sun was beginning to touch the horizon, I spied two deer, a doe and a fawn, stepping into the forest opening in front of our blind from the north. We waited quietly as the deer moved into clear view.

Ultimately, Jordan decided to pass on a shot, determined to make his first har-



A specially built hunting blind provides the right venue for Jordan Anderson to scan for deer in the woods of Marathon County during his inaugural hunting outing in October 2015.

vested deer a buck. As the western sky continued to fade, I thought to myself we might have made a mistake by not attempting to take that doe. Any first deer is a trophy and a prideful achievement in my mind.

Just then, with only a few minutes of shooting time left, Draxler spotted two more deer stepping out into the clearing. Upon inspecting them with binoculars, he declared they were both bucks.


Jordan, with a little assistance from his dad, took aim and pulled the trigger. He

bagged his first deer with one perfectly aimed shot.

For this hunt, Jordan had his gun mounted near his wheelchair in a stand-alone electric tripod that is aimed with the help of a joystick controlled by one hand.

Jordan moves the joystick while watching a monitor that displays the view through the rifle's scope. When he is ready to shoot, he draws air through a straw that then pushes a piston-like device against the gun's trigger. Remarkable!

As for Jared, although he didn't get a shot that day, he saw lots of deer and had a great time.

These twin brothers are outstanding individuals, and I am so glad to have met them. I also am forever grateful for the opportunity to tag along on their first deer hunt, and I would like to thank Draxler and Fuehrer for their help in making this hunt possible. It is one I will never forget. 

Bill Hirt is a DNR wildlife technician at the Mead Wildlife Area in central Wisconsin.

A standalone tripod near Jordan Anderson's wheelchair is mounted with a gun aimed via a screen monitor and joystick control and fired by using a straw that activates the trigger.



>>> ADAPTIVE OUTDOORS

For information about DNR's "Open the Outdoors" programs for those with disabilities, including accessible hunting opportunities, rules and support organizations, go to dnr.wi.gov and search "Open the Outdoors."



Pure beauty of the brook trout

ONLY PRISTINE STREAMS CAN SUPPORT THIS SPECIAL SPECIES.

Story and photos by Don Blegen

In a few spring-fed headwaters of our Wisconsin streams, there still exists a fish that symbolizes cold, pure water. In fact, that is the only place it can survive. This fish is the only native stream trout east of the Rockies, and it goes by a variety of names in different places: speckled trout, squaretail, native trout or brook trout.

Rainbow trout were imported from the West Coast. Brown trout were imported from Europe. Both can tolerate greater pollution and higher water temperatures than brook trout and have largely taken the place of the native brookies.

The brook trout can only survive in unpolluted streams whose summer temperatures do not rise above 65 degrees Fahrenheit even on the hottest days. In whatever stream it is still found, you can be sure that waterway is cold and pure. That is perhaps why its scientific name is *Salvelinus fontinalis*, which loosely trans-

lated from the Latin means “the little salmon of the springs.”

Kaleidoscope of colors

Brook trout run small. They rarely reach the size of mature rainbows or browns. This is partly because their natural habitat is small streams with limited food, but it is also because they don’t live as long.

A lucky and wary rainbow or brown trout can live 10 or 11 years before old age ends its life, while a brook trout’s full life span is about half that. A 16-inch rainbow or brown is a nice catch; a 16-inch

brookie is a trophy, pushing its ultimate life span.

Nevertheless, the brook trout remains special to many anglers. They are delicious. Many consider them the tastiest of all trout and salmon, and that is high praise indeed. They are special, too, because they are found in wild and unspoiled places, places that remind us of a pristine Wisconsin. And most of all, they are special because they are stunning.

Brook trout are arguably the most beautiful of North American game fish. Painters and photographers try in vain to capture their colors — especially the colors of a male brookie in full fall spawning colors.

Its back is the color of forest moss, covered with worm-like markings of lighter green. The flanks are covered with pale golden spots and brilliant scarlet speckles surrounded by haloes of sky blue. There is a scarlet and black band separating these spots from a snow-white belly. The lower fins and tail are a deep scarlet, edged by a striking charcoal and ivory trim. You have to hold such a fish in your hands to believe it.

That such a spectacular fish can be hard to spot in a stream seems beyond belief. But many a fisherman has looked

right at a brook trout without seeing it — until it spooks and heads for cover, disappearing in the blink of an eye.

Those worm-like markings on its back and all those multicolored spots break up a brookie's fishy shape. They help it blend into the stream's bottom of dappled sunlight and shadows filtered through alders and willows, making the fish virtually invisible.

Fall is spawning season

Brook trout have survived in pristine Wisconsin streams since the glaciers receded many thousands of years ago, spawning every fall. The spawning season begins in September and reaches full force in October, tapering off into November.

The fish pair off and begin preparing a spawning bed, or "redd," in a shallow gravel area. The female does most of the digging with her tail and fins, while the male spends most of his time driving off other competing males. The shallow depression escapes most of the current and is easily spotted from the surrounding darker stream bottom.

When the redd is finished, both fish simultaneously and repeatedly "shiver" into the depression, the female releasing a spurt of orange eggs into the redd, while the male releases a white cloud of milt containing thousands of swimming sperm cells. This happens again and again, until the female no longer has any eggs.

Fertilization is external, the tiny sperm cells penetrating and fertilizing most of the eggs in the redd. Before hatching, the little embryo "breathes" dissolved

oxygen from the surrounding water and gives off carbon dioxide. The embryo becomes more and more fishlike, with a large belly sac disfiguring its body. This sac contains a yolk with reserve food to keep the embryo alive and growing.

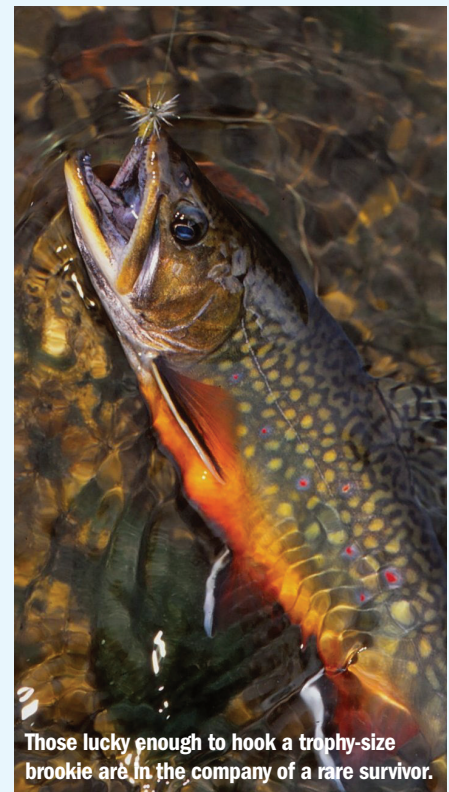
If there is a flood or high water during the late fall, the eggs may be swept downstream to their deaths. Silt may settle on the eggs in the redd, cutting off oxygen and suffocating the embryos, wiping out an entire year's class of fish.

A fragile existence

In a normal year, the embryos hatch from the eggs over the winter, still with large belly sacs, staying within the protection of the redd until the belly sac food is used up. When the food is gone, the tiny and now streamlined fish must leave the redd and catch their own food. They consume tiny crustaceans and insect larvae, while trying to avoid predators such as kingfishers, herons and larger trout. The mortality rate is high.

It may take survivors a year to reach a length of 3 or 4 inches and four years to reach 12 inches. Only one fish out of 1,000 in its annual class reaches 15 or 16 inches and that is only if it has a rich food supply.

So when a fisherman spots a 12-inch brookie holding in the current waiting for food to be swept its way — those gorgeous scarlet and ivory fins making tiny adjustments to keep it in position, its powerful tail ready to sweep after prey — he is looking at what might be the sole survivor of hundreds of eggs. That particular fish has eluded every predator that wanted to make it a meal: mink,



Those lucky enough to hook a trophy-size brookie are in the company of a rare survivor.

otters, herons, even anglers.

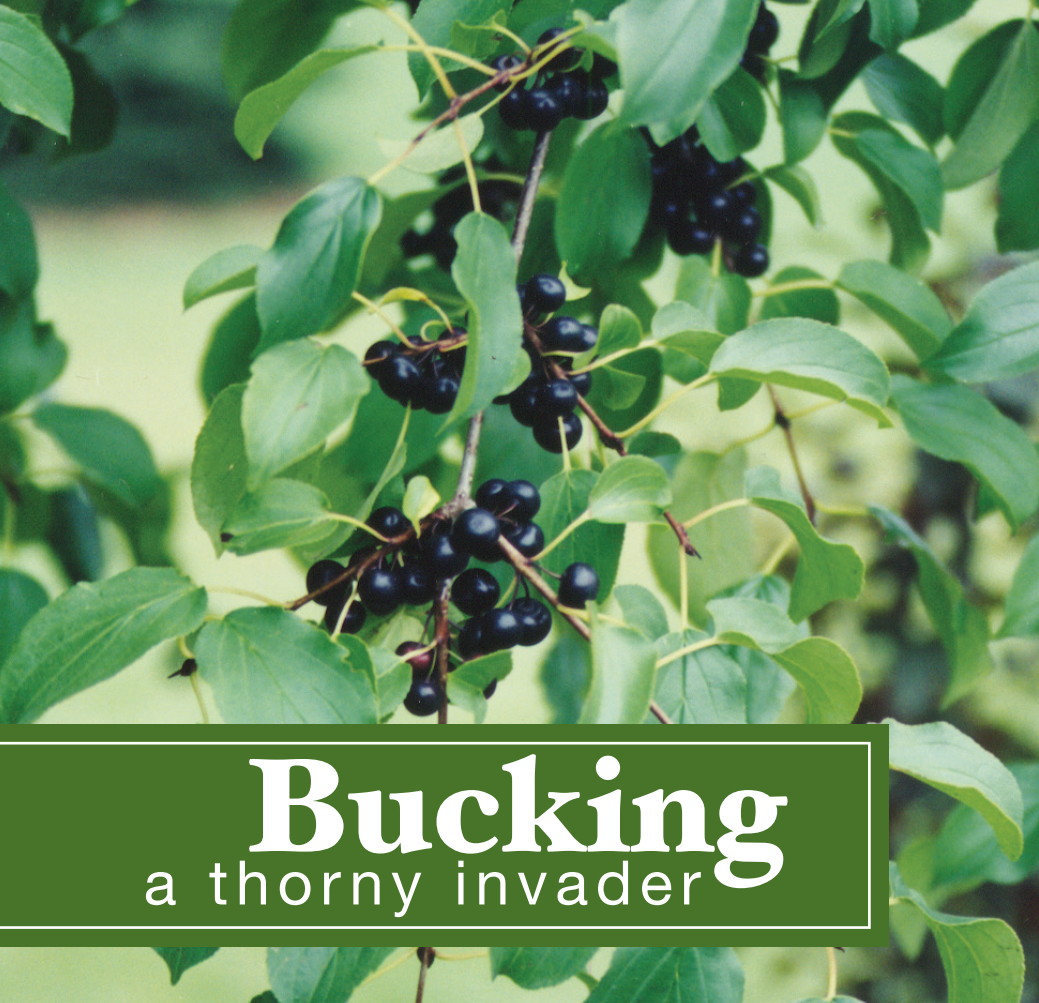
If he succeeds in not spooking the fish, not snagging a branch on his back cast but placing his fly just so, deceiving the fish into accepting his imitation insect as the real thing — if he manages all that and brings that living jewel to hand, the angler has a decision to make.

Keep it for dinner tonight or release this rare survivor to continue the ancient cycle of survival and reproduction that coming fall? It's his choice. 🍷

Don Blegen is a photographer, author and retired teacher of biology, English and photography who writes from Spring Valley.

The green, gold and scarlet-speckled coloring of the brook trout makes it difficult to see against the stream bottom.





Bucking

a thorny invader

TAKE TIME THIS FALL TO TACKLE THAT HOSTILE 'WALL OF BUCKTHORN.'

John Henningsen

For more than 100 years, buckthorn has been an increasingly virulent scourge to much of the woodlands of Wisconsin and neighboring states. The invasive plant from Europe thrives in a variety of soil and light conditions and has no known insect or animal enemies. Buckthorn out-competes most native plants.

Over a period of decades, the forest affected by buckthorn is often replaced by a mass of impenetrable brush up to 25 feet high that is inhospitable to most wildlife and of no value to our ecological system. It becomes a "wall of buckthorn," snuffing out valuable native flora, degrading wildlife and negatively impacting hunting grounds. You can no longer enjoy a casual walk through the woods.

Two species of invasive buckthorn with several common characteristics grow in Wisconsin. Both common and glossy buckthorn leaf out early in the spring, retain their leaves until very late in the fall and produce black berries with seeds

that are spread by mammals, birds and vehicles. The seeds can survive for many years; the berries look like choke cherries and are somewhat poisonous, causing diarrhea in both birds and humans.

Effective control of each type of buckthorn is best accomplished by spraying with an herbicide formula containing triclopyr. Fortunately, this chemical is not harmful to animals and will not kill grasses, although it will kill other non-targeted broadleaf plants.

Identification of species

Both common and glossy buckthorn were originally introduced or sold as ornamental plants. The prevalence of one

or the other is likely related to which of the two was promoted in the part of the state where it is now most widespread.

Common buckthorn (*Rhamnus cathartica*) is the most prevalent species in Wisconsin. In older plants the bark is very rough, similar to a cherry tree. Younger plants have a smoother bark, often with short, horizontal, light-colored streaks, called lenticels, on the stem. All but very young stems have an inner bark with a very characteristic orange color when cut or abraded with a knife. Distal branches are often V-shaped with a terminal spine of variable length. Leaves have small saw-toothed edges and about five curved, sickle-shaped leaf veins. Berries turn from green to black in the fall.

Glossy buckthorn (*Rhamnus frangula*/*Frangula alnus*) is more commonly found in lowlands. The branches have no terminal spine. Leaves have a smooth edge and about eight slightly curved parallel veins. The top side tends to be shiny and the undersurface may have a hairy velvet appearance. Berries turn from a reddish brown to black in the fall.

Buckthorn control

By far the most efficient and effective control methods for treating buckthorn utilize an herbicide spray containing triclopyr. A recently improved product also contains dicamba and MCPA and is effective against other invasives such as prickly ash, honeysuckle and garlic mustard, which can be sprayed at the same time as spraying for buckthorn.

Small seedlings of buckthorn can be pulled and removed by hand. However, except for very small patches, this and other mechanical methods of control are very labor-intensive and, therefore, are seldom used. Spraying has become the



Common buckthorn can be identified by berries that turn from green to black in fall and by inner bark that is orange in color when cut or scraped with a knife.



Invasive buckthorn pushes out native plants and creates a thick wall of brush that is of little value to the ecological system. Distinct distal branches can help to identify buckthorn for removal.



DNR FILES

JOHN HENNINGSEN

treatment method of choice. Commercial spraying is available but woodland owners can readily do it on their own.

Three commonly used modes of herbicide application — all using triclopyr — are very effective. The application of triclopyr differs largely on the basis of plant size and, secondly, on what kind of base liquid is used, usually water or diesel fuel. The goal of treatment is to get the triclopyr into the plant's vascular system.

The following mixture examples have been very successful. Please note, however, that federal law mandates herbicide users must always read and follow the herbicide label.

- **Foliage spraying** is for smaller plants as it requires spraying on 90 percent of the plant leaves. The mixture is 6 ounces of triclopyr to 1 gallon of water. MSO (methylated seed oil) mixed at 1 ounce per gallon can be added to aid absorption into the leaves.
- **Bark spraying** is for larger plants up to roughly a 4-inch stem diameter. It involves the circumferential spraying of the lower stem bark with about 4 inches of vertical spray coverage on the stem for each 1 inch of tree stem diameter. The mixture used is 20 percent triclopyr (one part) to 80 percent (four parts) ordinary diesel fuel. Or use bark oil instead of diesel — it is more expensive but doesn't smell as bad.
- **Cut stump spraying** is for trees larger than 4 inches in diameter. A chain saw is commonly used to cut the tree, followed by spraying the top of the stump. The mixture of triclopyr is the same as for bark spraying.

When using diesel fuel in any of the above applications, it's best to leave clothes and boots outside until washed and the smell dissipates. Domestic tranquility is thereby preserved.

Spraying is effective any time of year. However, because buckthorn holds on to its green leaves longer than most other plants, spraying is best done in late fall when the plants can easily be seen and identified in the woods. In addition, the herbicide-laced sap flows into the roots at that time of year and non-targeted plants have reached relative dormancy and are less affected by the herbicide. Look for the above-mentioned chemicals at any agricultural product store.

Using these suggested regimens, buckthorn plants will most certainly die within one year. Follow-up treatment is critical, however, because plants are always missed on the first go-around and new plants will germinate from dormant seeds. This new growth of small plants can be treated with the foliage spray the next year.

Infested areas usually require at least two to three successive years of treatment, with each year being easier. Subsequent monitoring is necessary indefinitely into the future. After the first year of treatment, an option is to carry two hand sprayers, one with foliage spray for smaller plants and one with bark spray for larger ones. A variety of sprayers can be used.

Make a plan — and stick to it

It's easy to get disheartened about treating buckthorn if your land contains several areas of infestation or the infestation has advanced into a "wall of buckthorn." If you appreciate that control is a long-

>>> BUCKTHORN TRAINING VIDEO

Want to learn more about tackling this nasty invasive? A volunteer army of buckthorn warriors called the Cedar Lake Control Project is the recipient of donations and grants from the Department of Natural Resources. A DNR Invasive Species Grant was used in part to produce a buckthorn eradication training video. The video was developed by students from the Northern Lakes Regional Academy in Rice Lake, and coordinated by the Cedar Lake Buckthorn Project and an advisory committee of concerned citizens. Visit their website at <https://cedarlakebuckthorn.wordpress.com/history-and-proliferation/buckthorn-training-video/>

term process, the sooner you start, the easier it is, even if only a small area can be treated each year. Readers are encouraged to develop a practical, individualized multi-year plan.

The first priority in such a plan is to identify and treat the female berry-producing plants regardless of the tree size. Once they are killed, you can move on to treat the rest. It also may be helpful to treat smaller areas completely before moving on, even if you have to delay treating some places until future years. As areas are treated, they can be identified by some sort of boundary such as trails, fences or other obvious landmarks.

For even greater advantage, share the treatment plan with your family. It can have spin-off rewards of intergenerational bonding, education and pride. 🌿

John Henningsen lives in Rice Lake and has extensive experience treating tracts of land that have been variably infested with buckthorn. He has received advice from many experts. Questions? Contact him at jthenningsen@charter.net.

>>> MORE INFORMATION

This article is intended to provide general guidance for landowners to protect their woods from invasive buckthorn plants. Before treating, readers are encouraged to consult guidelines on herbicides and seek advice from professionals such as provided by the DNR and UW-Extension. Visit dnr.wi.gov or hort.uwex.edu and search "buckthorn."

Public access pays big dividends



Property V280 in the Voluntary Public Access program is a 60-acre parcel in Columbia County owned by the Madison Audubon Society adjacent to Schoenberg Marsh and a U.S. Fish and Wildlife Service Waterfowl Production Area.

ANNE REIS

OPENING PRIVATE LANDS FOR PUBLIC ACTIVITY CREATES A WIN-WIN FOR OWNERS AND USERS ALIKE.

Anne Reis

In addition to publicly owned lands, Wisconsin's residents have extra opportunities to pursue hunting, fishing, trapping and wildlife observation on 31,000 acres of private lands leased for public access. More than 275 properties in 44 counties, on lands as varied as the state's topography, are included as part of the DNR's Voluntary Public Access and Habitat Incentive Program (VPA-HIP).

Take your hand lens and go for a wildflower walk through a prairie filled with pollinators in Juneau County (property V244), or cast your fly along the banks of the Class 1 Camp Creek in Richland County (V1). Bring your binoculars and look for bobolinks in the grasslands in Columbia County (V280). And if it's gun deer season, watch the sky brighten from your blind nestled along the edge of a wetland and corn field in Pierce County (V254).

These are just some of the private lands leased for public access in Wisconsin through VPA-HIP, which has been in

operation in the state since 2011. While many private landowners offer access to their lands to neighbors, friends or small groups for hunting, fishing or trapping, it takes a special generosity of spirit to open privately owned lands to the public 365 days of the year.

Private lands make up the majority of our great state. With VPA-HIP, the waters and wildlife of those lands are made available for the public. This creates a unique opportunity to collectively manage our public wildlife resources.

Funds for VPA-HIP are available through the federal 2014 Farm Bill, in

which Congress reauthorized monies to be used for voluntary access programs across the country. Along with Wisconsin's program, notable access arrangements in the Midwest and Plains states include South Dakota's Walk-In Area program, North Dakota's PLOTS (Private Land Open to Sportsmen), Michigan's Hunting Access Program and Iowa's Habitat and Access Program.

These programs are multi-faceted relationships among state and federal government agencies, landowners, non-profit organizations, recreational user groups and other partners. The underlying motivation for funding these programs at the federal level is to remove the barrier to access that many users experience and to help recruit, retain and re-engage people for wildlife-dependent recreation.

Program allows access

In Wisconsin, the Department of Natural Resources manages the land access program and funds are provided by the U.S. Department of Agriculture's Natural Resources Conservation Service (NRCS). Currently, 200 landowners are enrolled in the program and many have been participating since 2011-12.

Some participating landowners own property adjacent to county, state or federal lands, and the inclusion of those private lands provides better access to these public properties. In fact, a handful of

VPA-HIP properties are embedded in the middle of state or federally owned lands.

One VPA landowner, for instance, has a 10-acre in-holding in the Jackson Marsh Wildlife area, a parcel that was acquired in a tavern in the 1940s by trading a horse. Hunters likely do not even know they are on private lands when on this property.

Other properties are distinct recreation destinations and have their own draw for users. Beverly Krejci and Ronald Zimmerman of Marathon County have been enrolled in VPA-HIP since February 2012. Their property in Harrison Township can best be described as multi-use because it includes a rotational grazing operation, two-thirds of a mile of Class 1 trout stream and 100-plus acres of forest.

Their motivation for enrolling in VPA comes from the lease payment, which helps to maintain farm infrastructure. But Krejci and Zimmerman also have a land ethic with public access in mind. They see themselves as stewards of the land and have a history of educating the public on rotational grazing practices, including presentations at conferences and pasture walks.

Before enrollment in VPA-HIP, they believed people had been sneaking onto their property. After signing up, they noted that land users seemed more comfortable approaching them to ask about access, even though according to the rules of the program, users do not need to ask for permission first.

All of the interactions Krejci and Zimmerman have had with hunters and users have been positive. Recently, a counselor from a nearby youth home brought



MATT AHRENS

Beverly Krejci and Ronald Zimmerman have had their multi-use property in Marathon County (V182) enrolled in the DNR's Voluntary Public Access and Habitat Incentive Program since 2012.

kids to the land to provide mentoring and instruction on how to hunt and how to talk to landowners.

Positive feedback

While leased private lands in the VPA program account for only 0.6 percent of the total lands open to public hunting, data from a recent survey shows that hunters are indeed utilizing these parcels. Many users report they visit the same property multiple times throughout the year and indicate they would use the property again in the future.

Survey responses from landowners show that most want to keep hunting traditions alive in Wisconsin and to provide hunting opportunities to those who do not own hunting land. Of those responding to the survey, 85 percent indicated they are satisfied or very satisfied with the VPA program.

The VPA program alleviates some of the crowding issues found on pub-

lic lands, decreases drive time to hunting opportunities and stimulates local economies via recreational user spending (gas, food, equipment and supplies), while also providing financial incentives directly to private landowners. Most existing leases are good until August 2020.

Wildlife incentives

The intent of VPA-HIP is not only to allow more public access to private lands, but also to create wildlife habitat by providing financial incentives to landowners for eligible NRCS practices. This improves local conditions for wildlife and provides a better quality user experience.

Lease amounts paid to landowners participating in the program are calculated per acre and vary by land type, with base rates of \$3 per acre for agriculture land, \$10 for grassland and wetland, and \$15 for forest land. In addition, landowners may elect to participate in a variety of wildlife habitat enhancement activities that pay additional incentives.

For example, landowners may choose to participate in prescribed burns (\$171 per acre) and planting pollinator habitat (\$970 per acre on cropland). Other landowners may elect to plant a short-term wildlife food plot on cropland for an incentive of \$595 per acre. These plots can be installed for just one year or for the length of the lease.

Other habitat practices from which landowners can choose include establishment of native grass and wildflowers, brush management and invasive species control.

Addressing concerns

A common concern for VPA landowners and their neighbors is the idea they might become overrun with hunters.

Hunting is among the activities popular on lands that are privately owned but open for use through the state's public access program.



DNR FILES



DNR FILES

Signs like this one clearly mark areas that are “Private Lands Leased for Public Access” through the federally funded and DNR-managed Voluntary Public Access program. Users may enter on foot only and must follow all hunting, fishing and trapping regulations.

Based on VPA-HIP user surveys, the average number of other users encountered on a trip to a VPA property is 1.7. On a large property, there is more than enough space to accommodate multiple users. On a smaller property, hunters generally know how best to space themselves and move on if there is not enough room.

A second landowner concern is having liability for accidental death or injuries to users. However, Section 895.52 of Wisconsin statutes protects landowners from responsibility for injury or death of individuals participating in outdoor recreation on their property. Courts have consistently interpreted this statute to protect landowners to encourage them to allow others to recreate on their lands.

A third worry of VPA landowners involves the courtesy of users. All visitors are encouraged to follow the program’s code of conduct including adhering to posted boundaries to prevent trespassing, parking only in designated areas or

safely along right-of-ways, and traveling only by foot. Hunters must maintain a shooting buffer of 300 feet around houses and buildings and use only temporary blinds and stands that are removed daily.

All users are asked to pick up litter and leave wild edibles to the wildlife. Showing respect and gratitude to VPA landowners is a given. The user code of conduct is essential for the long-term sustainability of the program. It takes just one bad interaction with a user to cause a landowner to drop out.

Footville success story

One of the largest concentrations of VPA lands is within the Footville Wildlife Area near Evansville in Rock County. Footville is a 7,500-acre wildlife area representing a complex of 38 VPA properties with a few hundred acres of public access easements and DNR-owned wildlife habitat.

This area is unique in that it is the only large VPA complex in Wisconsin and

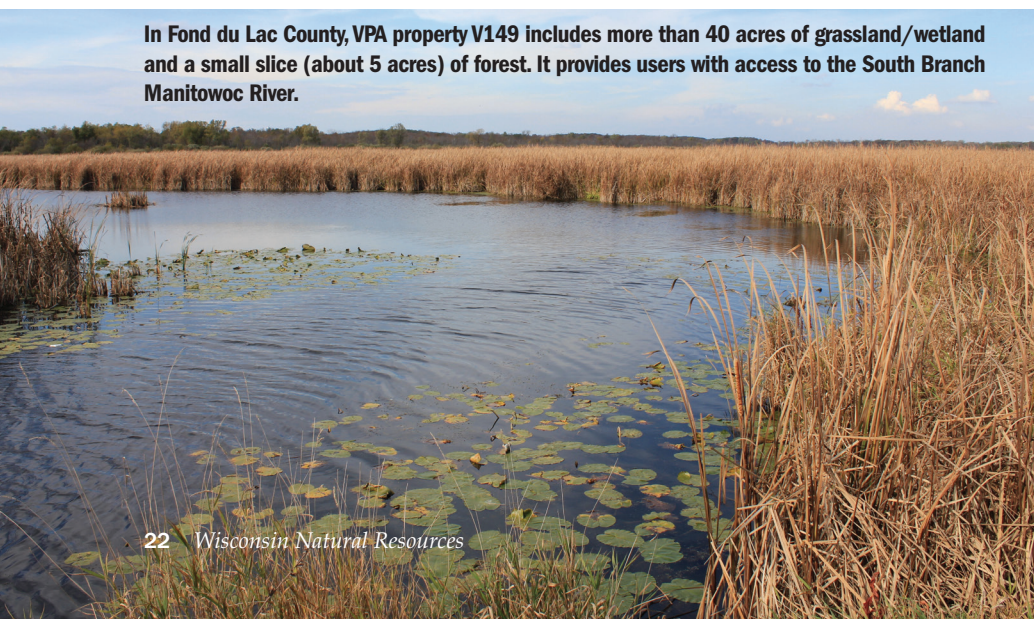
represents 22 percent of the land enrolled in the program. Most of the land is in agricultural production with about 25 percent in grassland/wetland cover.

This property is stocked with pheasants on an annual basis, so it is a prime location for pheasant hunting. The local Pheasants Forever chapter is actively involved in creating and maintaining the existing habitat and many of the group’s members use the properties for hunting.

The majority of the Footville VPA landowners have provided public access since the 1970s and ’80s through the now-retired Public Hunting Grounds program. As with most VPA-HIP participants, there is a culture of public access among these landowners that goes hand-in-hand with the goals of the program. ❧

DNR wildlife biologist Anne Reis is coordinator of the state’s Voluntary Public Access and Habitat Incentive Program. Wildlife biologist Tim Lizotte also contributed to this story.


In Fond du Lac County, VPA property V149 includes more than 40 acres of grassland/wetland and a small slice (about 5 acres) of forest. It provides users with access to the South Branch Manitowoc River.



MORE INFORMATION

The DNR’s Voluntary Public Access and Habitat Incentive Program is open for new enrollment. For information, check dnr.wi.gov and search “VPA.” Landowners can apply to enroll via the website or by contacting VPA-HIP coordinator Anne Reis at 608-279-6483 or email anne.reis@wisconsin.gov. The website also has information for users and the general public, including interactive maps to find VPA properties statewide.

DNR FILES



Cities such as La Crosse use trees for a variety of cost-saving reasons, not to mention beautifying the landscape.

From ashes to diversity

THROUGHOUT THE STATE, URBAN FORESTS PROVIDE A BOUNTY OF BENEFITS.

Adityarup Chakravorty

It started to drizzle as we searched for the tree we wanted — a beautiful chinquapin oak. We found it sandwiched between a sour gum and a Kentucky coffeetree, leaves glistening in the spring rain.

“That’s our guy,” Evan Slocum said. So I picked up the tree and we walked back to the hole we had dug in a stranger’s backyard.

I was out volunteering in the Bram’s Addition neighborhood on the south side of Madison with Slocum, founder and president of the Urban Tree Alliance nonprofit group. For the past several hours, we had been driving around in a truck and planting a variety of saplings — musclewoods, pecans, catalpas, cucumber magnolias, ironwoods — in backyards, by front porches and at the edges of small lawns.

And it’s not just us. Across the state, nonprofit organizations, municipalities, university researchers and private citizens are coming together to increase the size, health and diversity of Wisconsin’s urban forests.

Appreciating assets

The maples, oaks, ashes, honey locusts and other trees that line Wisconsin streets and shade our backyards are very different from the mango, tamarind, plumeria and coconut trees I grew up around in Kolkata, India. But whether in a giant tropical metropolis or a small Wisconsin village, urban forests provide a bounty of health and social benefits, far beyond what it costs to plant and maintain them.

“The money and resources spent on urban forests is repaid with interest,” said Richard Hauer, a professor of urban forestry at the University of Wisconsin-Stevens Point. “Trees are the only assets in an urban environment that appreciate with time, and while it may take 10 to 20 years for a tree to pay off the initial investment, on average, every dollar spent on urban forests is repaid three times.”

Of course, money doesn’t grow on trees, as the old saying goes. Urban forests repay us not with cash but with a host of social, economic, environmental and health benefits. According to a 2012 review that looked at 115 research papers, some of the more common ways urban forests impact our lives include: providing shade on those hot summer days and reducing temperatures and urban heat-island effects; moderating storm water runoff and flooding; increasing property values and aesthetics; and lowering energy use in our homes and businesses.

Perhaps most importantly, urban forests play a crucial role in keeping us healthy. They sequester carbon, filter the air and remove pollutants — such as carbon monoxide, ozone, nitrogen dioxide and particulate matter — that can cause or worsen health issues, including asthma, bronchitis and other respiratory problems.

“I think people get it that trees are good for urban environments,” Hauer said, “but they are often surprised by the magnitude of those benefits.”

For example, a 2014 study estimated that urban forests in Wisconsin removed more than 7 tons of air pollution in a year, with an associated value of about \$48 million. According to 2013 figures from the U.S. Forest Service, Milwaukee’s urban forest saves the city \$15 million a year by reducing storm water runoff. And the public trees in the Fox Valley area



Reducing storm water runoff is just one valuable function of urban forests.

save the cities in that region — Appleton, Greenville, Kaukauna, Kimberly, Little Chute, Menasha and Neenah — almost \$1.5 million per year in energy costs.

I wanted to get a more personalized estimate of the value an urban tree brings. There is a beautiful black walnut tree right outside my bedroom window, and I used an online tool at itreetools.org/ to calculate how much value it provided last year.

Turns out, this single tree contributed \$167 in storm water, pollution and energy savings, not to mention giving me the gift of waking up to the gentle swish of green leaves swaying and fluttering in a warm summer breeze.

A deadly emerald

So, go urban forests, right? Absolutely yes, and Wisconsin does have fairly extensive urban forests. The DNR's "Urban Forests of Wisconsin, 2012" report found there were about 42.8 million trees in Wisconsin's urban forests — that's nearly 11 trees for each person living in census-designated urban areas in the state.

But we can't miss the trees for the forest. While the size and extent of urban forests are undeniably important, some tiny new visitors to America's shores have made it vital that we take a closer



The emerald ash borer (enlarged to show detail) has ruined ash trees statewide.

DEBBIE MILLER USDA FOREST SERVICE

look at how best to plan for both healthy and diverse urban forests.

One of these international interlopers is smaller than a penny, yet it can kill trees that are thousands of times its own size. The emerald ash borer (EAB) is a jewel beetle, native to the forests of northern China, Mongolia and eastern Russia. It probably arrived in the United States as a passenger on shipping pallets or packaging material.

Adult emerald ash borers are an iridescent green and are relatively harmless, chomping on ash leaves for dinner; their larvae are another matter entirely. The EAB lays its eggs in cracks and crevices of the bark of ash trees. When the eggs hatch, the larvae bore through the bark into the living tissue of the trees. Their feeding creates long, serpentine tunnels that disrupt the ability of trees to transport water and nutrients.

In areas where the EAB is native, ash trees have coevolved with it, and the two are able to coexist. But in North America, emerald ash borers have been cutting a swath through the native ash populations, tunneling them into nonexistence.

There are millions of ash trees in Wisconsin. The DNR's 2012 "Urban Forests" report estimated that 7.6 percent of trees in the state's urban areas were ashes. In Green Bay, ash trees made up more than 21 percent of street trees in 2009, and about 900,000 of the Madison-area's urban trees were green or white ashes as of 2015.

The effect of the EAB will only become more apparent with time, Slocum said. "We don't always notice ash trees, but this spring there were many ash trees that didn't leaf in Madison, and now we notice them."

Strength in diversity

Devastation by an invasive species is not new, though. In the 1950s, streets in towns and cities across the United States were lined with majestic elm trees. Then came Dutch elm disease, and within a generation, the elms were gone.

"I remember the tree cathedrals over our local streets," Jay Weiss of Cambridge said, "and I remember what the Dutch elm disease did to them."

Trees can suffer a variety of diseases and destruction from invasive species — the photo below shows the damaging bark tunnels of emerald ash borer larvae — which is why diversity in planting is so important.



KEVIN WESTPHAL



DNR FILES



KEVIN WESTPHAL

In Cedarburg and cities all over the state, fall brings a blast of added color thanks to the existence of urban forests.

Now, Weiss is working to make sure the Cambridge urban forest is more resilient in the face of the emerald ash borer's onslaught. He founded the Cambridge Tree Project, which provides affordable trees to the public and uses profits to bolster the urban forest in the parks, schools and streets of Cambridge and nearby Rockdale.

The project has greatly increased the diversity of the village's urban forest: In 2006, maple and ash trees comprised 70 percent of the Cambridge community forest. Today, that number is down to 22 percent, which means that a single pest or disease will not be able to wreak large-scale destruction.

"We now have over 100 species planted throughout our village: sassafras, persimmon, bald cypress, tupelo and 14 different oaks, to name a few," Weiss said. "It's basically an arboretum experience at every turn, with each block and park dotted with interesting trees."

Street trees or trees in public places make up only a part of the urban forest. In Madison, for example, "the majority of ash trees — maybe as much as 70 to 75 percent of them — are on private properties," Jeremy Kane, associate director of the Urban Tree Alliance, said.

The Urban Tree Alliance has been providing free trees to residents of several neighborhoods in Madison and neigh-

boring Fitchburg to expand the canopy cover and increase the diversity of trees on private properties.

"We work with individuals and take into account the planting area and surroundings to choose appropriate trees," Kane said. "People really value that they are able to have a say in choosing what tree they want."

Greening Milwaukee is a Milwaukee nonprofit with a similar goal: making the Cream City greener. It has various programs it says are designed to "promote greening activities that improve the

urban environment, educate and train citizens, and increase community wealth." Through its Adopt-a-Tree Initiative, Greening Milwaukee provides one free tree every growing season to residents and property owners in Milwaukee.

A more diverse urban forest is more resilient not only to pests or diseases but also to environmental factors, such as ice storms.

"Black walnut trees, for example, are coarse-branched and better able to withstand damage from ice storms than, say, elm trees," Hauer said. "And I think we can all agree that ice storms can be a huge factor in Wisconsin."

Partnerships pay off

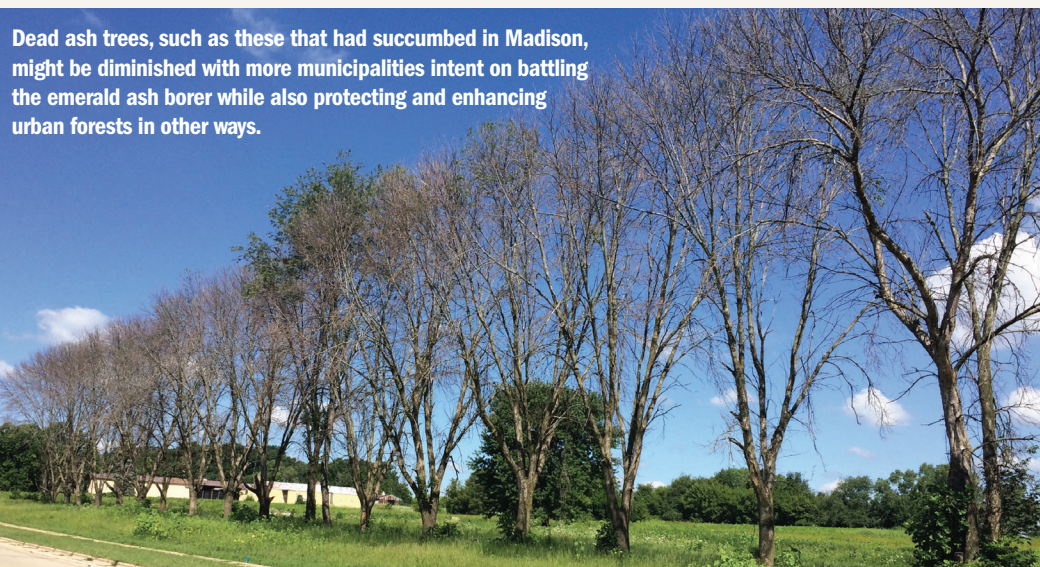
The onslaught of the emerald ash borer and a renewed interest in maintaining and expanding our community forests has led to a slew of partnerships between citizens, government bodies and organizations. Municipalities across Wisconsin are finding that these partnerships can help balance budgets while allowing them to continue to manage and diversify their urban forests.

For Kevin Westphal, city forester for Cedarburg, near Milwaukee, canopy retention was the best choice to deal with the EAB.

"We calculated that it's cheaper for Cedarburg to keep our ash trees alive than replace them," he said. "So whenever possible, we are trying to keep alive healthy ash trees with good growing space, and the majority of our ash trees are surviving with treatment."

But Cedarburg and Westphal realized the municipality could not do it by itself

Dead ash trees, such as these that had succumbed in Madison, might be diminished with more municipalities intent on battling the emerald ash borer while also protecting and enhancing urban forests in other ways.



JEREMY KANE



ALEXIS BOURGEOIS

Evan Slocum of the Urban Tree Alliance, left, and author Adityarup Chakravorty plant a Kentucky coffeetree sapling in the Bram's Addition neighborhood of Madison. The Urban Tree Alliance is among a growing number of groups dedicated to improving Wisconsin's urban forests.

— the city needed help. “We established Cedarburg Green, a nonprofit organization, because we understood that city tax dollars would not be enough to meet our upcoming urban forestry needs,” Westphal said.

Planting, maintenance, education and outreach all require funds to be carried out effectively. “Increasing canopy cover and a healthy urban forest improves lives of residents and visitors, so we wanted to bring them in to help us,” Westphal said.

In addition to private funding, grants

and support from the DNR have allowed many communities to pursue urban forestry initiatives. The DNR offers urban forestry grants to cities, villages, towns, counties, tribes and 501(c) (3) nonprofit organizations involved in or conducting projects in Wisconsin.

The City of Horicon was one of the recipients of an urban forestry grant from the DNR in 2016, which allowed the city to subsidize property owners with \$50 or 50 percent of the cost of a new tree. The EAB has not yet been detected in Horicon, but volunteer city forester Ted Pyrek suspects it’s just not been found yet. Horicon city officials participated in DNR urban forestry training for municipalities a couple of years ago, which motivated the city to proactively plan for the emerald ash borer and diversify the community forest.

“Our goal is to replace all the 250-300 ash trees in Horicon,” Pyrek said. “And in their place, we are planting a diverse array of trees, not only maples.”

In and around Oshkosh, the Oshkosh Area Community Foundation has planted more than 2,400 trees over the past

several years. Bill Wyman, foundation president and CEO, said that “partnership between the DNR, the city, the foundation and community members and private individuals was vital for us to be able to carry out this project.”

Over the past three years, the DNR has awarded more than 100 urban forestry grants totaling more than \$1.5 million. Some of these funds supported my own tree-planting trip around Madison neighborhoods with Slocum and the Urban Tree Alliance.

I often find myself thinking about those trees we planted, especially the chinquapin oaks, which are my favorite. They can live for 200 years, and I hope that long after my time on Earth is done, they continue to grace the urban forest of this city I have come to love. 🌳

Adityarup “Rup” Chakravorty has a Ph.D. in cellular and molecular biology. He works as an associate university relations specialist at the University of Wisconsin-Madison’s Waisman Center and as a freelance science writer.

>>> A COMMUNITY TREE TELL-ALL

Ever wonder what kind of tree that is just outside your office building or near your favorite city park bench? If you live in one of the 44 municipalities with data now available on the Wisconsin Community Tree Map, you can find out easily with a quick web-based search.

The recently launched online tree map, part of DNR’s Wisconsin Urban Forest Assessment Program (WisUFA), offers access to a wealth of information about urban forests in participating communities. The searchable map identifies every inventoried tree with information such as species, diameter and health condition as well as overhead and some street view photos.

Did you know, for example, that Freeman maples dominate West Wisconsin Avenue near Milwaukee’s Marquette University campus, or that a vast majority of Appleton’s 490 white oaks are found in the city’s Pierce Park? Onalaska has 228 blue spruce on record, most of them in the Onalaska Cemetery, and Chippewa Falls has documented 1,150 green ash trees and just two Scotch pines.

The Community Tree Map lists nearly 425,000 trees — including the recently mapped State Capitol Park grounds — in inventories kept by organizations, usually municipalities, to help manage urban forests. The new application also is connected to the U.S. Forest Service’s i-Tree database, which tracks the benefits of urban trees.



ERIK BARBER

The Community Tree Map includes information about trees such as those at the State Capitol, recorded through the work of people like DNR’s Brian Wahl.

Jeff Roe, DNR urban forestry team leader, said the map is an excellent resource for informing the public while aiding communities in urban forestry efforts. “This new tool will help explain the value of urban forests and their ability to improve air quality, reduce energy use, increase property values and control storm water,” Roe said. “This will help communities make data-driven decisions for their urban forest management strategies.”

The Wisconsin Community Tree Map is a work in progress, with more tree data to be added as it becomes available. Communities that want to upload or update their inventories, or are interested in creating one, can contact DNRUrbanForestryAssessment@wisconsin.gov.

To access the map and learn more about DNR’s WisUFA program and other urban forestry work, go to dnr.wi.gov and search “urban forest inventory.”

Keeping it wild:

Outdoor food and forays

NO-FAIL DUCK AND GOOSE COOKING

John Motoviloff

Among the many misconceptions about preparing wild ducks and geese for the table is that they are fatty, like domestic fowl, and need aggressive cooking in a hot oven. In fact, wildfowl are lean to a fault and need to be wrapped in bacon, marinated or slow-roasted to preserve their unique flavor and texture. My aim is to dispel the culinary myths and show readers it's easy to do ducks and geese right in the kitchen.

Preflight in the duck marsh

The adage "You get out of it what you put into it" has never been more true than when handling gamebirds in warm weather — especially during the first week of the regular season and during early goose/teal seasons, when temperatures may reach 80 degrees or more.

Hunters in these conditions should first gut birds on the spot by making a small incision at the base of the breastbone and removing the heart, liver and gall. Second, they should keep their birds in the shade until a cooler or refrigeration is available. This helps ensure birds are at their best for eating.

To pluck or skin

The next step in handling wildfowl is deciding whether to skin or pluck. While I know it takes more time, I do pluck the vast majority of ducks and geese that I harvest. Exceptions are certain diving ducks such as bufflehead and goldeneye whose strong taste is exaggerated by leaving the skin on, badly shot-up birds where a bloody flavor is likely to penetrate the whole bird, and the occasional tough old honker that's full of pinfeathers.

No way around it, plucked ducks look prettier on the table than skinned or breasted birds. The skin and the fat beneath it also help to lock in precious



In wildfowl hunting, a good retriever brings a lot to the table.

STEPHEN MILLER

moisture during cooking; flavors from waste grain, wild rice or water celery also are retained in the skin and fat.

Plucking wild ducks is just like removing feathers from a chicken. Begin with a whole bird. Remove feathers from the rear to the head. Pluck up the neck as far as you plan to use. Now, pluck up to — and slightly beyond — the feet and the wing-joint closest to the body. Keep in mind that state and federal regulations require that the head or one fully feathered wing must remain attached to the carcass while birds are in transit from the field to home or camp.

Snip off the wings, head and feet. Rinse the inside in cold running water. Your bird is ready to be cooked or frozen. Wrap the bird using a commercial vacuum sealer or freezer paper, pressing out as much excess air as possible.

Pluck ducks "dry" or by dipping them into a few gallons of hot water into which the requisite amount of paraffin or a teaspoon of dish soap has been added. This aids in giving birds a cleaner appearance

and removing in-grown feathers. However, it takes more time and preparation. Each hunter will have to experiment and see what works best for him or her.

Skinning is simply a matter of pulling back the skin from the flesh. It's best done when the bird is still warm. Hunters must choose between two skinning options: removing the breast and discarding the carcass, or skinning the bird and using it either whole or in pieces. For small ducks such as teal, there's little left on the carcass after breasting. For geese and big ducks such as mallards, there's generally enough for soup or gumbo. The breast, of course, makes a first-rate fillet.

Flash-cook or slow roast

Another surprise about wild duck is its redness. It's closer in taste and texture to steak than to white-fleshed chicken or pheasant. I'll take a rare-grilled mallard over the finest steak available! Duck and goose meat is packed with flavor.

The best two cooking methods are flash-cooked breast and slow-roasted whole. I've often taken breast fillets from the bird right to the charcoal grill, adding only a sprinkling of salt and pepper. Reviews are always rave. This has nothing to do with me and everything to do with the quality of the ingredients and heeding the collective wisdom of duck hunters: Don't overcook.

More refined — or less adventure-some — palettes might seek a marinade. Anything you use on steak will work on duck or goose. Italian salad dressing, Teriyaki sauce, three parts Worcestershire sauce to one part peanut oil, or the equivalent in wine and olive oil will fit the bill. Sear it over hot coals or in a hot skillet for a few minutes so it crusts on the outside but remains rare inside. Do the same on the other, then let it rest and you're good to go.

Roasting whole or halved ducks, sparsely seasoned, is another tried-and-true method. However, a cautionary note is in order. While crispy/rare duck is a delight for aficionados, it's probably a poor choice for first-timers and formal dinner parties. Eating is going to be messy and primitive.

Slow-roasted duck has become one of my go-to game recipes. Pot roast flavors come through as the bird cooks in its own juice until it's fork-tender. I begin by soaking ducks in cold, salted

water for an hour before cooking. I then pat the birds dry, stuff them lightly and put them into a covered roasting pan breast-side down in a 250-degree oven. For browner birds, bring the heat up to 425 degrees and brush the breast with butter. ❧

John Motoviloff is a hunter, fisher, forager and proud Wisconsin transplant. He also wrote "Wild Rice Goose and Other Dishes of the Upper Midwest" (University of Wisconsin Press, 2014).

SLOW-ROASTED DUCK

Sea salt

Fresh-ground black pepper

Dried thyme

4 small (teal or wood duck) or 2 large (mallard, gadwall, canvasback) ducks

Peanut oil

1 onion, peeled and chopped

2 apples, peeled and chopped

1 stalk celery, chopped

1 quart beef broth (hot)

1. Preheat oven to 250 degrees; pour hot beef broth in roaster and place it in oven.
2. Season ducks; preheat peanut oil in a large skillet. Brown ducks well on all sides in batches, two at a time; remove and allow to cool.
3. Stuff ducks with chopped vegetables and apple and place breast side down in the roaster so they are partially covered with broth.
4. Roast, covered, until meat begins to pull away from bone.
5. Make gravy, if desired, by thickening broth with flour or cornstarch.

>>> WATERFOWL HUNTING

For information on waterfowl hunting in Wisconsin, including population estimates, hunting regulations, zone maps, species identification tips and season dates, visit dnr.wi.gov and search "waterfowl hunting."

SYMBIOTIC DE-BUGGING

I am an amateur photographer and nature lover. I recently had the opportunity to take several very interesting pictures of a pregnant doe with a red-winged blackbird repeatedly landing on her and picking insects off of her back and head.

Dane Thompson
Marshfield

Thanks for sharing your photo, Dane. DNR deer experts we contacted haven't seen this before and aren't sure it's common behavior. We would like to hear from other readers who may have witnessed this kind of symbiotic behavior between birds and mammals. Please send your stories or photos to Readers Write at the address listed on these pages.



SICK CORMORANT?

My wife and I were camping in Peninsula State Park last fall at a waterside site. We had a very windy afternoon and night. When I walked down to the water in the morning, I found this cormorant tucked under a tree. I was able to get within a couple of feet and take these pictures. At first I thought it was sick, but I think it was just resting from the windy night. I came back a while later and it was gone. Does this seem plausible?

Rob Schulz
Schofield



Ryan Brady, DNR Breeding Bird Atlas spokesperson, replied: It's possible the bird was severely weakened by the previous night's winds but since you were able to get so close it's more likely the bird was injured or ill. Knowing with certainty is difficult without more details.

FIVE LITTLE BEARS

As a subscriber to Wisconsin Natural Resources magazine, I thought I would send this unique picture. It is not every day you see a mama bear with five cubs. She and her five cubs have been spotted on several other area trail cameras as well.

Mike Nicksic
Marshfield



BLUEBIRD ATTACK

This photo is of a male bluebird attacking my game camera near Blanchardville.

Lester Grossen
Monroe



GIDDY-UP!

I just sat down after reeling out the garden hose to water our garden and by chance I noticed this tree frog hop onto the hose. Looks like he is going for a ride on a big blue snake.

Jeff Baker
North Prairie



BUTTERFLY FUN

The McGraths ("Retired teachers net recognition for butterfly efforts," August 2017) had their annual open house and we took two of our grandchildren, ages 6 and 3. Kathy gave them each a monarch inside her living room and the girls released them on the front steps.

Six-year-old Ashley had learned about monarchs in kindergarten and was really excited about the visit. She even confirmed with Kathy that monarchs are poisonous for birds to consume and birds don't eat them or other non-poisonous butterflies that look like monarchs. (I didn't know that!) Our daughter took these pictures. The McGraths had already released about 230 monarchs this summer.

Vern Borth
Wisconsin Rapids



MONARCH LOVE

This photo was taken in Big Flats. We were driving our Polaris through our 105-acre property when I saw this strange insect flying in front of us. My husband stopped immediately and I jumped out. By then this weird insect sat on a small red pine. When I stepped closer to take a photo I saw that it was in fact two monarchs "stuck" together. They were mating. I could go very close to them. By the way, this area was burned in 2005. We had the trees removed and replant every year since then. A lot of milkweed grows here now. The flowers smell like a fine perfume. Every month from April to September we have different wildflowers blooming. (I like it better than when the forest was standing.) A few years ago I kept 27 monarch eggs. They all became monarchs. The most difficult thing was finding milkweed to feed them every day. The caterpillars eat constantly!



Ferny Keller
Big Flats



SNAKES ALIVE!

Went fishing on a familiar stream today for an hour, wanting to fish an easy stretch alone. Saw only little ones but was still fun. Found this old root cellar in my wandering. It had a spring near it. I found it near a trout stream I was about to fish on the Crawford / Richland county line. The root cellar would be an excellent place to keep salted venison and fish to get through a rough Wisconsin winter. Just upstream a few years back, I considered crawling through an old culvert to get around crawling over a tall barbed-wire fence. Changed my mind when the floor of the culvert came alive with snakes when I glanced in there. Had to be 20 snakes. I had a flashback to that culvert when I considered going in this structure.

Len Harris
Richland Center

HAWKS IN THE BALANCE

My husband and I are fortunate to have a pair of red-tailed hawks that return to a nest on our property each spring, adding a few more sticks with every passing of the seasons. By the time the fledglings are born, however, all of the leaves have filled in on the trees and the nest is no longer visible. Over this past winter, a large neighboring tree fell, leaving the nest exposed for us to see. On a very windy day, I caught a glimpse of this little guy working on his balancing act approximately 80 feet up in the air. You can see mom keeping watch off to the right. After this picture was taken he remained in the nest with his mom for another week, and by late June they were both gone.



Kristen Ward
New Berlin

COMMENT ON A STORY?

Send your letters to: Readers Write, WNR magazine, P.O. Box 7921, Madison, WI 53707. Or email letters to dnrmagazine@wisconsin.gov. Limit letters to 250 words and include your name and the community from which you are writing.

NO ACCESS TO THE WEB?

Don't have access to a link we mention in a story? Let us know when you want to follow a link we list. We'll do what we can to get you a copy of the material if it is available free of charge and is relatively short in length.

Traveler

Striking fall color tours take shape in many ways.

Andrea Zani

With the arrival of autumn, Wisconsin is bursting with more brilliant colors than a Matisse palette. From the aspens and maples of the northwest to the oaks and other hardwoods of the Driftless Area and the southeast, the state is covered in trees that don radiant coats each fall.

October is a peak time for viewing this technicolor show and there are many ways to do so. Hiking a state park is an easy one. Pick a park, any park, and there are bound to be vibrant vistas everywhere. The same goes for state properties such as trails and recreation areas and Wisconsin's 14 state forests, where dazzling colors light up the landscape at this time of year.

To make the most of autumn's glory, take a page from that old 1980s film "Planes, Trains & Automobiles." The oddball comedy with Steve Martin and John Candy fea-

tured all modes of transportation; this fall it's possible to pick any — or all — of those to take in what the season has to offer.

Bird's-eye view

It's not exactly an airplane, but the vantage point provided by the **Comet Sky Ride** at Wausau's Rib Mountain State Park can serve as a close substitute.

The Comet is actually the regular ski lift at Granite Peak Ski Area, located within the park at 3605 N. Mountain Road. It carries riders to the top of Rib Mountain, where they can step off and enjoy the

fall color scenes before hopping back on for the slow and easy ride back to base.

Rides are offered on weekends through Oct. 15, 11 a.m. to 5 p.m., \$11 (free for ages 3-5). Check skigranitepeak.com or call 715-845-2846.

Also worth noting: Rib Mountain, like several state

parks, has an observation tower that provides excellent views of the area's fall color terrain. The Rib Mountain tower rises 60 feet high on the park's Gray Trail. Check dnr.wi.gov and search "Rib Mountain."

Those with no fear of heights might consider one of many scenic **airplane tours** or **hot-air balloon rides** to behold fall's glory from on high, and a growing number of **zip-line experiences** will take adventurers right to the radiant treetops. There are fall color **boat tours** too, for visitors so inclined.

The Department of Tourism has information on all of these options. Check the website at travelwisconsin.com and search "fall colors" for dozens of ideas, or call 800-432-8747.

Leaf-peeper locomotives

There are several rail options for fall color lovers. Here are a few notables.

Near Spooner, in the northwest, the **Wisconsin Great Northern Railroad**, N6639 Dilly Lake Road in Trego, offers a variety of train rides throughout autumn, including short sightseeing tours, dining



Rib Mountain



Mid-Continent Railway

MID-CONTINENT RAILWAY



DNR FILES

trains and even overnight stays. Prices vary by trip. Check spoonertrainride.com or call 715-635-3200.

Mid-Continent Railway, E8948 Museum Road in North Freedom, has an Autumn

Color Weekend of rides in the Sauk County countryside, Oct. 6-8. Regular 55-minute rides are available with coach and first-class options, and there also is a Saturday night dinner train. Coach fare is \$20 for adults, \$18 for seniors, \$15 for students and \$10 for children 3-12 (add \$2 for caboose seating). First-class fare is \$42; ages 2 and under are free. The dinner train is \$77 or \$87 per person, depending on beverage choice. Check midcontinent.org or call 800-930-1385.

The **East Troy Electric Railroad** operates on a 7½-mile stretch of railway in southeast Wisconsin, with fall service continuing on weekends through Nov. 5. Trains depart each Saturday and Sunday from the East Troy Depot, 2002 Church St., and riders also may board in Mukwonago at the Elegant Farmer bakery, 1545 Main St., or Indian Head Park. Fares are \$12.50 for ages 15-64, \$10.50 for 65-plus, \$8 for 3-14, and free for 2 and under. Evening dinner trains and family-friendly pizza trains also are available, with reservations required. Check easttroyrr.org or call 262-642-3263.

The Great Pumpkin Train comes to the **National Railroad Museum**, 2285 S.

Broadway in Green Bay, on Oct. 14 and 21, with live entertainment, family activities and a vintage train ride. The museum also offers its regular rides on weekends through October. Cost, including museum admission and 25-minute ride, is \$12 for adults, \$11 for seniors, \$9.50 for 2-12 and free for under 2. Check nationalrrmuseum.org or call 920-437-7623.

In Wisconsin Dells, the **Riverside & Great Northern Railway**, N115 County Road N, is a fun option, especially for younger children. The 15-inch-gauge steam train winds along a 3-mile route through wooded areas near the Wisconsin River, and a Pumpkin Train on Saturdays and Sundays in October has free "pumpplings" for ages 12 and under. Rides are \$12 for adults, \$9 for seniors, \$8 for 4-12 and free for 3 and under. Check dellstrain.com or call 608-254-6367.

As a side note for those planning an outing with smaller children, the Dells train is only a couple of miles from Rocky Arbor State Park, which has the perfect hiking trail for young visitors, a 1-mile nature trail that's full of color in fall. Check dnr.wi.gov

and search "Rocky Arbor."

Hit the road

Finally, the automobile is likely the most popular choice for those in search of fall colors. When seeking out those vivid shades of red, yellow, orange, ocher, burgundy and more, there's no better choice than Wisconsin's **Rustic Roads**.

The state has 119 so-designated roads winding through 59 counties and totaling 722 miles. The Department of Transportation provides signage marking Rustic Roads in a program that began more than 40 years ago to highlight the state's scenic countryside.

According to the DOT, every Rustic Road has "outstanding natural features along its borders such as rugged terrain, native vegetation, native wildlife or include open areas with agricultural vistas." All roads are at least 2 miles long with a maximum speed of 45 mph. Roads may be gravel, dirt or paved surface and all are "lightly traveled local access roads, serving the adjacent property owners and those wishing to travel by auto, bicycle or hiking for purposes of recreational enjoyment."

For details on Rustic Roads, including a list of sites with maps and descriptions, check wisconsin.gov/rusticroads.

Andrea Zani is assistant editor of Wisconsin Natural Resources magazine.



Rustic Roads

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PEAK PERFORMANCE

To maximize your fall color viewing experience, check out the Department of Tourism's Fall Color Report — travelwisconsin.com/fall-color-report. The report is updated weekly throughout fall and provides estimated peak color times for each region of the state, along with information on area events, attractions and dining and lodging options.



EAGLE EYE STATE NATURAL AREA

Thomas A. Meyer
State Natural Areas Program

This preserve, deep in the Driftless Area of Vernon County, gets its name from a narrow, horizontal slit weathered from a sandstone outcrop perched atop the summit of a curving ridge, 250 feet above the river floodplain. The bedrock ridge is forested with restorable oak woodland and oak savanna, and small pockets of dry prairie are still present on the ridge's spine. Prescribed fire and brushing to remove woody understory species are expanding the prairie areas and improving the quality and diversity of the woodland and savanna complex. Low cliffs and small rock shelters add diversity to the site and provide habitat for cliff-dwelling plant species. At the base of the ridge, a thread of the North Fork of the Bad Axe River meanders through wetlands and former agricultural fields slated for restoration. The river is a Class II trout stream, holding a diverse fishery that includes brown and rainbow trout, northern pike, smallmouth and largemouth bass, and panfish. Although the ecological values of the site are noteworthy, the natural area is known primarily for its cultural significance. Eagle Eye lies within the Cade Archaeological District, a site on the National Register of Historic Places. Seven Native American effigy mounds are found on the south-facing flank of the ridge facing the river. They include a bear, panther, turtle, a pair of birds and two linear mounds, all of which date to approximately A.D. 1050. An adjacent, elevated terrace above the river floodplain shows evidence of historic agriculture.



Eagle Eye is owned by the Mississippi Valley Conservancy and was designated State Natural Area #675 in 2016. It was protected through a partnership between MVC, the

Mississippi Valley Archaeology Center, the Archaeological Conservancy and DNR. The Knowles-Nelson Stewardship Program provided matching funds to acquire the land. There are no designated trails or other facilities on the property. Visit dnr.wi.gov and search "Eagle Eye" for a map, access directions and more information about this site and the State Natural Areas Program.

