From the Field - News and photographs from the 2025 summer field season

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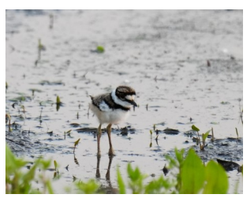
Black Tern on PFW sign. The USFWS Partners for Fish and Wildlife Program employs biologists who help plan & design habitat restoration projects geared toward benefiting species like migratory birds, and endangered and threatened species. Black Terns have declined throughout their range in North America and in Minnesota they have experienced a loss of 96% of the state's population over the last 53 years – declining some ~5% per year. The loss and deterioration in quality of wetlands is considered the primary factor responsible for the tern's decline, so seeing terns in a recently restored wetland restoration site in Pine County was a wonderful treat this summer! This is an adult who is molting out of breeding plumage. (photo credit: Shayna Vendela)

Look closely! You can see a crab spider with an insect catch on this Black -eyed Susan in a first year CRP planting.
(photo credit: Shayna Vendela)

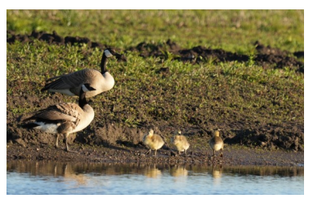
Bear Creek in St Croix state park. Monitored once a month!

Pine SWCD Water Resource Technicians monitor 12 streams and rivers across Pine County. Tracking water clarity throughout the spring, summer and fall is important for understanding normal trends and identifying potential changes over time.

You can help too! The MPCA relies on volunteers to expand water monitoring efforts across the state. No experience is needed, and training is provided. To learn more or sign up, visit the Minnesota Pollution Control Agency's website, and look for the Volunteer Water Monitor program.
(photo credit: Krista Arne)



Baby Killdeer (left) & family of Geese (right), spending time at a wetland restoration site in Pine County. (photo credit: Shayna Vendela)



Do you have natural resource goals for your property, or questions about current or future projects? The Pine SWCD offers free site visits to help landowners like you.

Our staff includes two foresters, a water resource technician, an agriculture technician, and a Pheasants Forever Farm Bill Wildlife Biologist—ready to provide on-site, technical assistance tailored to your land and your goals.

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The Pine SWCD Newsletter
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2025 Outstanding Conservationist of the Year- Heather Donoho

The Pine SWCD is proud to announce that Jon and Carin Stevens of Maple Grove Farm in Rock Creek, Minnesota, have been named the 2025 Outstanding Conservationists of the Year. Maple Grove Farm was selected for its strong commitment to regenerative farming and leadership in soil health advocacy.

Jon and Carin Stevens on their farm in Rock Creek, MN. Photo credit: Heather Donoho

Maple Grove Farm began in 1879 as a homestead and logging operation, named for the maple trees that once covered the land. Over time, the trees were cleared to build homes and establish fields for a dairy farm. In the early 2000s, the dairy transitioned into a conventional corn and soybean row -crop operation. By 2011, Jon and Carin had begun their journey into regenerative agriculture.

Over the past 14 years, the Stevens have adopted practices such as strip-till, precision nutrient management, rotational grazing, winter bale feeding, diverse crop rotations, cover crops, and field borders. They first began experimenting with no-till in 2011.

"As a kid," Jon recalls, "we had a bunch of washouts in the spring, and in the summer, we'd watch the dust blow off the fields. We just thought that was normal."

Continued on page 4...

Inside this issue:

Protecting Our Forests, One Step at a Time

Minnesota's forests are facing new challenges—from invasive pests like the Emerald Ash Borer to aggressive plants like buckthorn. While each problem is different, the solution starts with the same idea: taking action now to protect the health, diversity, and resilience of our woodlands. By replacing vulnerable trees with a variety of hardy species and removing invasive plants before they spread further, we can ensure our forests remain strong and vibrant for generations to come.

Common buckthorn
Photo Credit: MN DNR

"BUCKTHORN CROWDS OUT NATIVE PLANTS, SHRUBS, AND TREES, DISRUPTING WILDLIFE HABITATS AND NATURAL FOREST CYCLES. "

Glossy buckthorn
Photo Credit: MN DNR

Buckthorn Background & Removal - Eddie Johnson

Buckthorn has become a significant problem across Minnesota and other parts of the country. In our state, there are two invasive, non-native species—**Common Buckthorn** and **Glossy Buckthorn.**

Originally brought from Europe as popular hedge plants, buckthorn spread rapidly when birds ate the berries and dispersed the seeds. Over time, it invaded forests, parks, and roadsides, forming dense thickets.

Buckthorn crowds out native plants, shrubs, and trees, disrupting wildlife habitats and natural forest cycles. For these reasons, it's important to remove buckthorn and replace it with native species.

Removal Methods
There are several effective ways to control buckthorn:

1. Cut Stump Treatment
Cut the stem near the ground and immediately treat the freshly cut surface with herbicide (triclopyr or glyphosate, sold under names like *Garlon-4* or *Rodeo*). Best done July–October on plants over 2 inches in diameter.

2. Biological Control – Goats
Goats will eat leaves, shoots, and berries, and can even digest the seeds so they can't sprout. Works best for plants under 7 feet tall.

3. Basal Bark Treatment
Apply a mix of triclopyr ester and an oil dilutant (kerosene or diesel) to the bark from the root collar up about 2 feet. Best for stems under 5 inches in diameter.

4. Hand Pulling *(Most Effective)*
Pull plants out by the root to prevent regrowth—no chemicals needed. For larger plants, use a buckthorn puller.

Tip: Whenever possible, pull by hand to avoid chemicals and protect water quality. Use herbicides only when plants are too large to remove mechanically.

Bottom Line:
Pull whenever you can. If the plants are too large, use mechanical or chemical treatments depending on size. The earlier buckthorn is removed, the easier it is to restore healthy, diverse habitats for wildlife.

Pine SWCD Forestry & Wildlife Directory Update

Pine SWCD is updating our directory of contractors and businesses that work in Pine County. This resource helps landowners find services and learn what's available locally. You can view the directory at : www.pineswcd.com/forestry (scroll to the bottom of the page).

If you are a business or contractor involved in forestry, wildlife, or restoration projects in forests, wildlife openings, or near water features, scan the QR code or email eddie.johnson@pinecountymn.gov to receive a survey link. This survey helps us gather the right details to include in the directory. Paper copies are also available.

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Native Plant Highlight: Indian Ghost Pipe - Krista Arne

If you've ever walked through shady woodlands and spotted a small, white, waxy plant that almost looks like a mushroom, you may have encountered Indian Ghost Pipe (Monotropa uniflora). Despite its appearance, this fascinating species is not a fungus—it's a unique flowering plant.

Unlike most plants, Indian Ghost Pipe does not contain chlorophyll and cannot make its own food. Instead, it forms a special relationship with underground fungi, which in turn connects to nearby tree roots. Through this hidden network, Ghost Pipe draws its nutrients from the forest ecosystem.

Ghost Pipe typically grows in moist, shaded forests and blooms from early summer into fall. Each stem produces a single, nodding white flower that eventually turns black as it ages.

So, if you come across this eerie, beautiful plant on a hike, take only a photo—its ghostly presence is a reminder of the hidden connections that sustain our forests.

Photo Credit: Krista Arne

"UNLIKE MOST PLANTS, INDIAN GHOST PIPE DOES NOT CONTAIN CHLOROPHYLL "

Your Land, Your Legacy: Making a Succession Plan For Your Land - Alexis Monti

What will happen to your land when it comes time to pass it on? What do you want to happen to it? Do you have a plan to make that goal happen? If you've answered NO to any of these questions, you're not alone.

The decisions you and your successors make for your land - to farm it, keep it natural, develop it, subdivide it, timber harvest, etc. - can have a huge difference on your legacy, family, and community. Regardless of your goals, you can plan for your legacy and protect those decisions by creating a succession plan.

Land transfer and estate planning are important processes but are often complex and complicated (although far less complicated than transferring your land without a plan). This has caused up to two thirds of landowners to be unprepared when the time comes to pass on their land, and with many approaching retirement and fewer younger folks eager to take over, the need has never been more urgent. Failing to create a succession plan can result in significant family tension, legal difficulties, unexpected tax burdens, probate delays, and potential loss of land and legacy.

For the first time in years, a free estate planning workshop is coming to Pine County to help landowners through the process. You're invited to join Wild Rivers Conservancy, the Trust for Public Land, Minnesota Land Trust, University of Minnesota Extension, and Pine County Soil and Water Conservation District for our **Estate Planning Workshop on Saturday, October 4th 10am-12pm** at Pine County Government Center. During the workshop, we will be covering planning basics as well as topics such as taxes, wills, power of attorney, permanent land protection, and more! We will have a Q/A session at the end for you to get your questions answered by the experts.

Interested? Please register at https://tinyurl.com/estate-planning-for-landowners or visit the Wild Rivers Conservancy website for more details. Hope to see you there!

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Native Animal Highlight: Black Bears - Shayna Vendela

Photo Credit: Shayna Vendela

"HABITAT MANAGEMENT SHOULD FOCUS ON PROVIDING A DIVERSITY OF FOOD SOURCES, WHICH BENEFITS NOT ONLY BEARS BUT MANY OTHER WILDLIFE SPECIES."

Black bears are large omnivorous mammals with broad heads, small eyes, stout legs, and short tails. Adult sizes vary greatly, typically between 150–500 pounds, depending on sex, age, health, and—of course—the time of year. In fact, bears emerging in the spring are often 30% lighter after the long winter. Most black bears are indeed black, but color variations exist: brown and tan individuals are not uncommon, and in places like Alaska and British Columbia, "blue-phase" and white-coated "spirit" bears can also be found.

In winter, black bears enter a state called torpor—often confused with true hibernation. I know what you're thinking- black bears don't hibernate?!? Don't worry! It is extremely common to think that. Unlike hibernators such as wood frogs or groundhogs, which enter a deep, constant sleep and dramatically reduce their body temperature, bears remain in a lighter state of dormancy. This allows them to wake if disturbed, defend themselves, and even give birth in their dens. Black bears also experience delayed implantation: while mating occurs between late May and July, the fertilized egg does not implant until November, ensuring cubs are born around January while the mother is still in the den.

Photo Credit: MN DNR

If you'd like to promote black bears on your land, consider habitat management practices such as creating forest openings and using prescribed fire. These actions encourage early successional plants, including wild fruits and other foods, which are especially valuable in May and June when ants and their pupae make up part of the bear's diet. During good berry years, bears are often found in clearcuts, swamp edges, roadsides, powerline rights-of-way, and natural forest openings where sunlight fuels berry production. In the fall, mature oak stands provide an important, long-lasting food source; bears have been documented traveling more than 20 miles to reach them. Lowland areas also provide critical forage during spring and summer. Overall, habitat management should focus on providing a diversity of food sources, which benefits not only bears but many other wildlife species as well. Establishing forest corridors also helps bears move safely while searching for food.

Did you know Minnesota holds the record for the world's oldest known wild bear? Each fall, the DNR reminds hunters not to shoot collared or tagged research bears, noting that long-term data collection is most valuable when collars remain on bears for multiple years. All but three of the collared bears in the current study are female.

One of those collared bears, Bear No. 56, is a remarkable example. First collared in July 1981 at an estimated age of seven, she lived until the summer of 2013—nearly 40 years old—outliving every other bear in the DNR's decades-long study. She gave birth until age 25, producing 22 cubs, 21 of which survived to at least 1.5 years old. Her legacy continued through her descendants: one daughter lived 19 years and had 22 cubs, while a granddaughter lived 23 years and raised 28 cubs.

Researcher Dave Garshelis credits Bear No. 56's longevity to her avoidance of people, infrequent visits to bait sites, and the public notices that discouraged hunters from shooting collared bears. Out of more than 60,000 bear teeth collected from hunters in Minnesota, only three belonged to bears over 30 years old. The average harvested bear is under four. Bear No. 56 still holds the record as the oldest known wild bear of any species in the world.

Bear No. 56
Photo Credit: MN DNR

Prescribed Burn Association

Are you a landowner in Pine County interested in burning your property and helping other land-owners burn theirs? Contact Shayna Vendela at svendela@pheasantsforever.org to get put on the list of interested landowners. Those on the list will be contacted as the PBA forms and when the burns start. To learn more about PBAs visit https://minnesotapf.net/fire/pba/

Emerald Ash Borer Continues It's March Through the State - Nick Foss

As of this summer, four additional Minnesota counties have confirmed Emerald Ash Borer (EAB) infestations. The Minnesota Department of Natural Resources has verified cases in Meeker, Murray, Otter Tail, and Wadena counties for the first time. With these new confirmations, EAB is now present in 58 of Minnesota's 87 counties. The Minnesota Department of Agriculture will begin expanding current quarantine areas in an effort to slow the spread.

Emerald Ash Borer was first detected in Minnesota in 2009, following its initial discovery in Detroit, Michigan, during the 1990s. Since then, the small green insect has steadily spread northward across the state. EAB was first confirmed in Pine County in 2023.

Native to northeast Asia, EAB coexists with the Manchurian ash tree, which has developed natural defenses against the insect over thousands of years. Unfortunately, our native ash species—white, green, and black ash—lack these defenses. As a result, infected trees face a 99.9% mortality rate, according to studies from Michigan.

Because of this, it is critical to prepare for the impacts of EAB in our county in order to protect the woodlands and forested areas we value.

To learn more about prevention and management strategies, contact your SWCD forester or read about the Ash replacement tree bundle featured below.

2026 Tree Sale: New Bundle Available! - Eddie Johnson

Our 2026 tree sale is just around the corner, and we're excited to announce a brand-new **Ash Replacement Tree Bundle!**

As many of you know, the Emerald Ash Borer (EAB) is an invasive beetle that has been spreading across Minnesota and is now moving into Pine County. EAB targets ash trees, boring into the trunk and laying eggs in late summer. The larvae hatch within weeks, overwinter inside the tree, and in spring begin tunneling under the bark. This feeding damages the tree's ability to transport water and nutrients, eventually killing it. Adult beetles leave behind distinctive D-shaped exit holes before flying to infect other ash trees.

While it is not recommended to remove ash trees before they die—unless you can use the wood—now is the time to start planning for replacements. By planting new trees in sunny openings or other suitable spots on your property, you can ensure your land remains covered and healthy for years to come.

Why plant a mix of species?
A diverse forest is more resilient to pests and diseases. When only one or two tree species dominate an area, a single invasive pest can cause severe losses. By planting five or more species, you help protect your property, improve wildlife habitat, and keep your forest thriving.

What's in the Ash Replacement Bundle?
Our new bundle includes five species that thrive in the same conditions as ash trees, especially in moist soils:

- Silver Maple – Thrives in wet soils and floodplains, and actually prefers these conditions.
- Swamp White Oak – Common near rivers and lakes; tolerant of moist environments.
- Hackberry – Drought resistant yet flood-tolerant; adaptable to many conditions.
- Black Spruce – Provides valuable year-round cover for wildlife; grows well in swampy areas.
- Cottonwood (male) – Fast-growing, floodplain species common along rivers and lakes, without the nuisance of cottony seeds.

Planting these species now will help keep our forests intact even after EAB takes its toll on ash populations.

If you'd like to order the Ash Replacement Bundle or have questions about ash trees, contact eddie.johnson@pinecountymn.gov to join our mailing list. **Order forms will be mailed and posted online by January 1**.

Photo Credit: David Cappaert, Bugwood.org

"OUR NEW BUNDLE INCLUDES FIVE SPECIES THAT THRIVE IN THE SAME CONDITIONS AS ASH TREES, ESPECIALLY IN MOIST SOILS."

Photo Credit: MN Department of Ag

2025 Outstanding Conservationist of the Year - Continued from Page 1

Photo Credit: Heather Donoho

"BEYOND THEIR OWN OPERATION, THE STEVENS ARE PASSIONATE ADVOCATES FOR SOIL HEALTH."

Photo Credit: Heather Donoho

Side-by-side trials comparing conventional tillage with no-till showed that yields were the same, but no-till eliminated multiple tillage passes. "I thought, 'this isn't a bad deal.'"

The turning point came in 2014 during a cold, wet spring. "We could drive across the no-till ground to plant between rains," Jon explains, "but the conventional ground was still a sloppy mess." That experience convinced him to transition 100% of their acres to no-till or strip-till.

In 2018, Carin diversified the farm by reintroducing cattle. An EQIP grant helped offset the investment in infrastructure for a rotational grazing system. This change not only reconnected them to the biology of their soil but also created new flexibility in their marketing plan. Every acre either supports cattle directly or receives manure through their diverse crop rotation. Pastures and hay fields remain in place for four to five years before rotating into corn, then beans, then back into pasture or hay. This system reduces inputs and adds stability by avoiding dependence on the ups and downs of grain or cattle prices alone.

Their shift to strip-till also transformed their nutrient management strategy. By banding fertilizer in the strip at planting, they were able to immediately reduce phosphorus and potassium applications. Curious about how much further they could go, Jon began testing reduced-rate fertilizer applications alongside plant tissue testing. He found that targeted foliar applications during the growing season often produced better yields than blanket applications. Today, some acres require no fertilizer at all, depending on soil tests and crop needs.

For Jon—who calls himself "an experimenter"—cover crops are the next step in their soil health journey. He has tested them through Pine SWCD and EQIP cost-share programs and plans to continue experimenting until he finds the best fit.

Beyond their own operation, the Stevens are passionate advocates for soil health. They host annual field days, give presentations across the Upper Midwest, create educational YouTube videos, and mentor fellow farmers. "It's funny," Jon says. "Ten years ago, there was a lot of pushback—people told us, 'that doesn't work here.' Now, farmers are starting to ask questions instead."

Congratulations to Jon and Carin Stevens—brave, innovative, and committed regenerative farmers who continue to improve their land, their community, and the future of agriculture.

Cookout on the Farm Aims to Inspire Conservation Action - Melanie Bomier, BWSR

On a hot August night in Sandstone, more than 100 farmers, neighbors, and residents of the Kettle River/Upper St. Croix watershed gathered for *Cookout on the Farm*, hosted by the Pine County Soil & Water Conservation District. The evening highlighted both the challenges and successes local farmers face in implementing conservation practices—and the many resources available to help landowners protect water quality.

"The goal of the event was to build community and raise awareness of local farming best management practices," said Heather Donoho, Pine SWCD agriculture technician and event coordinator.

Working with farmers is central to the Kettle River/Upper St. Croix Comprehensive Watershed Management Plan. A key finding of the planning process—that peer-to-peer education helps increase conservation adoption—inspired Donoho to create the event.

Mark and Shannon Watrin, whose family has operated a 500-cow Holstein dairy near Grindstone Lake since 1945, agreed to host. Their farm has a strong culture of conservation and currently implements many of the practices identified as watershed priorities: soil health, nutrient management, rotational grazing, cover crops, diverse crop rotations, reduced tillage, and expanded buffers. The Watrin Farm is certified through the Minnesota Agricultural Water Quality Certification Program and works closely with the Pine SWCD, the Minnesota Department of Agriculture, and USDA NRCS.

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Cookout on the Farm Aims to Inspire Conservation Action - Continued from Page 4

During his presentation, Mark Watrin described the farm's conservation journey. While implementing new practices required effort, equipment changes, and a willingness to adapt, they ultimately paid off through healthier soils, higher yields, and reduced costs. Nutrient management has been especially important—protecting Grindstone Lake while also saving money on fertilizer. "They make it easy and don't force anything on you," Watrin said of NRCS and MDA staff. "They work with you on what is best for your operation."

He also discussed the unique challenges of farming in Pine County, where shorter growing seasons make some soil health practices more difficult than in southern Minnesota. Cover crops, however, turned out to be a surprise success. "I like seeing green in my fields at times of the year when everything else is brown," he said, noting their value for both soil health and livestock feed.

"Conservation is a process, not a destination," Watrin reminded the audience, encouraging farmers to "just try one new thing every year" and explore available programs to reduce the risks of change. His own farm started small with nutrient management and buffers before moving on to cover crops and rotational grazing.

In addition to the Watrins' story, the event featured presentations from NRCS, MDA, University of Minnesota Extension, and Pine and Carlton County SWCDs. Speakers provided technical information, funding options, and educational resources to help producers get started.

Pine SWCD and its partners plan to continue supporting landowners with conservation programs, funding opportunities, and peer-to-peer learning to protect water quality in the Kettle River and Upper St. Croix watershed.

Mark Watrin addresses Cookout on the Farm attendees, Aug. 2025
Photo Credit: Heather Donoho

Exploring the Snake River in Pine County - Krista Arne

The Snake River, Pine County's second-longest river, carries with it both natural beauty and a long history. Stretching from north of McGrath to the St. Croix River, the Snake falls 440 feet—a drop averaging 5.2 feet per mile. Much of this descent happens near the upper and lower reaches, leaving the middle section with a gentler, winding stream. The river ranges from 20 to 250 feet wide, making each stretch unique for recreation and wildlife.

Fish and Wildlife

The Snake River is home to a diverse mix of fish and wildlife. Anglers may find walleye, northern pike, smallmouth bass, catfish, panfish, and even lake (rock) sturgeons in its waters.

Along the riverbanks and in the surrounding forests, wildlife abounds. White-tailed deer, black bears, fox, beaver, muskrat, otter, bobcats, coyotes, mink, and raccoons are all part of the landscape. Bird enthusiasts can spot ruffed grouse, numerous waterfowls, and a variety of songbirds.

A River Rich in History

The Snake River also carries deep cultural significance. The Ojibwe called it Kanabec—meaning "snake"—a name connected to their conflicts with the Dakota people who once lived upriver. In the 18th and 19th centuries, the river became a vital route for the fur trade, followed by the logging industry. Remnants of that era, such as the Old Bean logging dam and campsite, still offer glimpses into Pine County's past.

The Snake River continues to shape the landscape and community of Pine County, offering beauty and opportunity at every bend.

Please feel free to reach out if you have concerns about your Snake River streambank or would like more information on establishing a native plant buffer.

Krista Arne, Water Resource Technician
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Photo Credit: Krista Arne

"THE SNAKE RIVER CONTINUES TO SHAPE THE LANDSCAPE AND COMMUNITY OF PINE COUNTY."

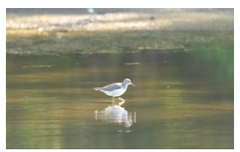

Photo Credit: Shayna Vendela