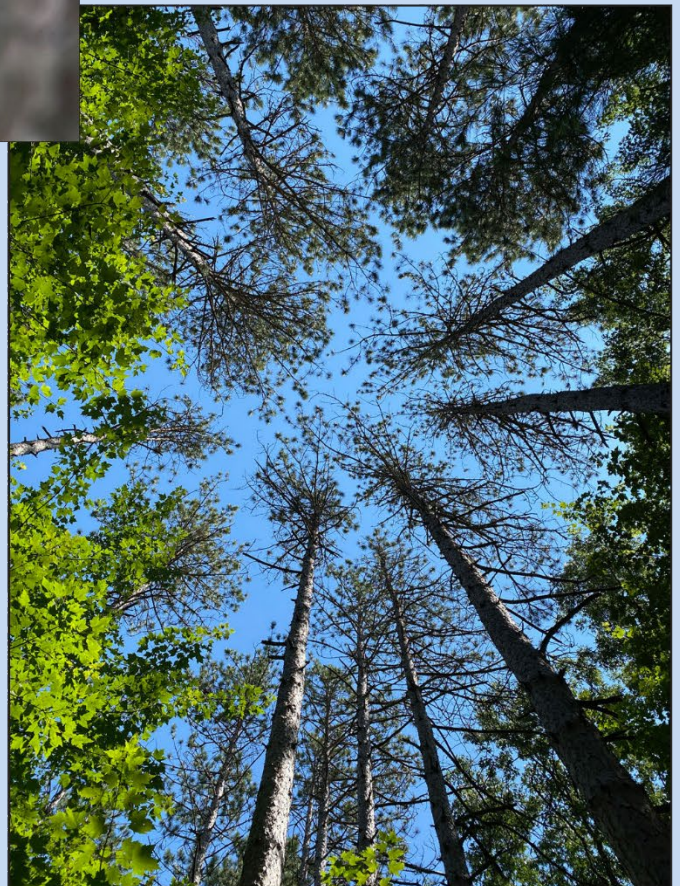


2025 Wisconsin DNR Forest Health Annual Report



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FR-918 2025

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Cover Photos

- **Top left:** Locust sawfly larva feeding on a black locust leaf.
- **Top right:** A sweet knot polypore fruit body growing on a tree.
- **Bottom left:** Ocellate gall midge on a red maple seedling.
- **Bottom right:** Red pine crowns declining from fungal infection.

All photos by Wisconsin DNR

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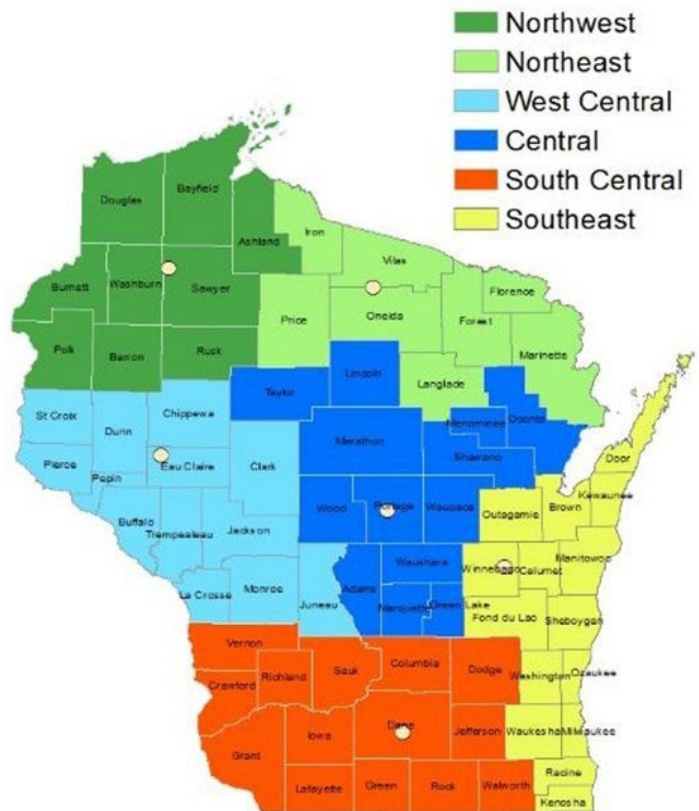


Figure 1. Areas of responsibility and location of offices for DNR Forest Health specialists. / **Map Credit:** Wisconsin DNR

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Staff Updates

River Mathieu, Tim Shively Named As New Forest Health Specialists

River Mathieu (*Fig. 2*) and Tim Shively (*Fig. 3*) started with the DNR Forest Health team on June 30, 2025, filling forest health specialist vacancies.



◀ River Mathieu took over the South Central zone. Mathieu joined the DNR after defending his master's thesis at Michigan State University. His research involved the ecological impacts of emerald ash borer (EAB) on black ash forests in Michigan, focusing on the potential for young black ash trees to grow following the death of mature black ash due to EAB.

Figure 2. River Mathieu joined the DNR on June 30 as the forest health specialist for South Central Wisconsin. / **Photo Credit:** Wisconsin DNR

▶ Tim Shively is the new forest health specialist for the West Central zone, replacing Todd Lanigan, who retired in 2022. Tim joined the DNR after completing Ph.D. work in Plant Pathology, Physiology and Weed Science at the Virginia Tech School of Plant and Environmental Sciences. Shively's dissertation was on tree-of-heaven management using a fungal pathogen as a biocontrol.

Figure 3. Tim Shively joined the DNR on June 30 as the forest health specialist for West Central Wisconsin. / **Photo Credit:** Wisconsin DNR



Mary Bartkowiak Retires

Mary Bartkowiak (*Fig. 4*), forest invasive plants coordinator on the Forest Health team since 2020, announced her retirement in February 2025. Mary's enthusiasm for and vast knowledge of all things plants were a major asset to the team.



Figure 4. Mary Bartkowiak, the DNR forest invasive plants coordinator, retired in February 2025. / **Photo Credit:** Wisconsin DNR

The Forest Resource In Wisconsin

Wisconsin's forests (*Fig. 5*) are critical for providing wildlife habitat, supplying clean air and water, reducing erosion and improving the quality of life in urban and rural areas. Forests are also important to Wisconsin's economy for wood products, recreation and tourism. Current information on the [forest resource in Wisconsin](#) is available on the DNR's [Forestry webpage](#).

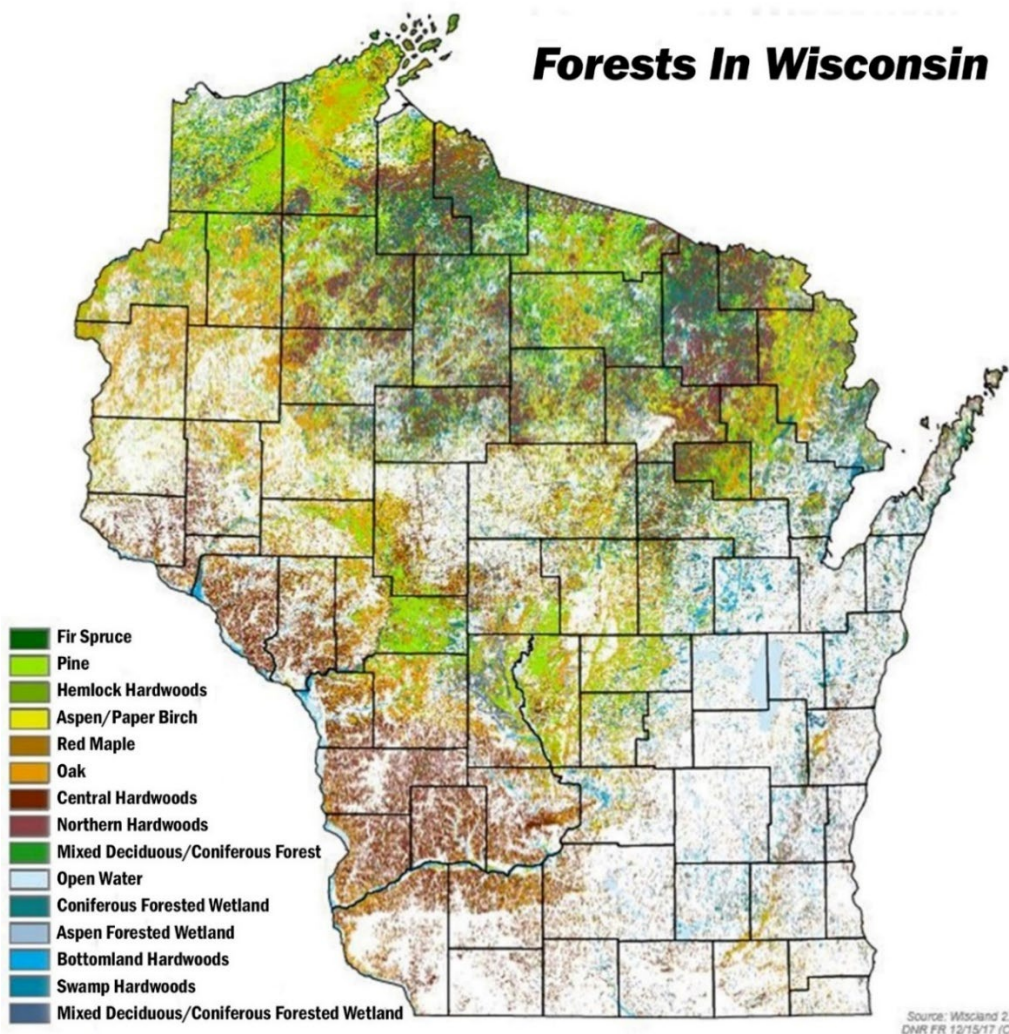


Figure 5. Wisconsin forest cover map. / **Graphic Credit:** Wisconsin DNR, from WISCLAND land cover map

Forest area in Wisconsin has steadily increased in recent decades and currently stands at approximately 17 million acres. This total marks an increase of 1.6 million acres since 1983. Wisconsin now has more forested area than at any time since the first forest inventory was conducted in 1936. More than 46% of the state's land area is forested, primarily in the northern and western regions.

Wisconsin's forests are composed primarily of hardwood species. The most abundant forest types are oak-hickory (26% of total forested acreage); maple-beech-birch (22%); and aspen-birch (17%) (Fig. 6). Lowland forest, dominated by elm and ash, accounts for 10%. Conifer types, mainly pine and spruce-fir, represent about 18% of the forested area.

Wisconsin forests are mostly mature, with the greatest proportion of stands in the 61-80-year class. The decline in acreage of the early successional aspen-birch forest type is related to the maturing of Wisconsin's forests. About 70% of Wisconsin's forest lands are privately owned, 10% are federally owned, and the remaining percentage is split among state, local government and tribal ownership.

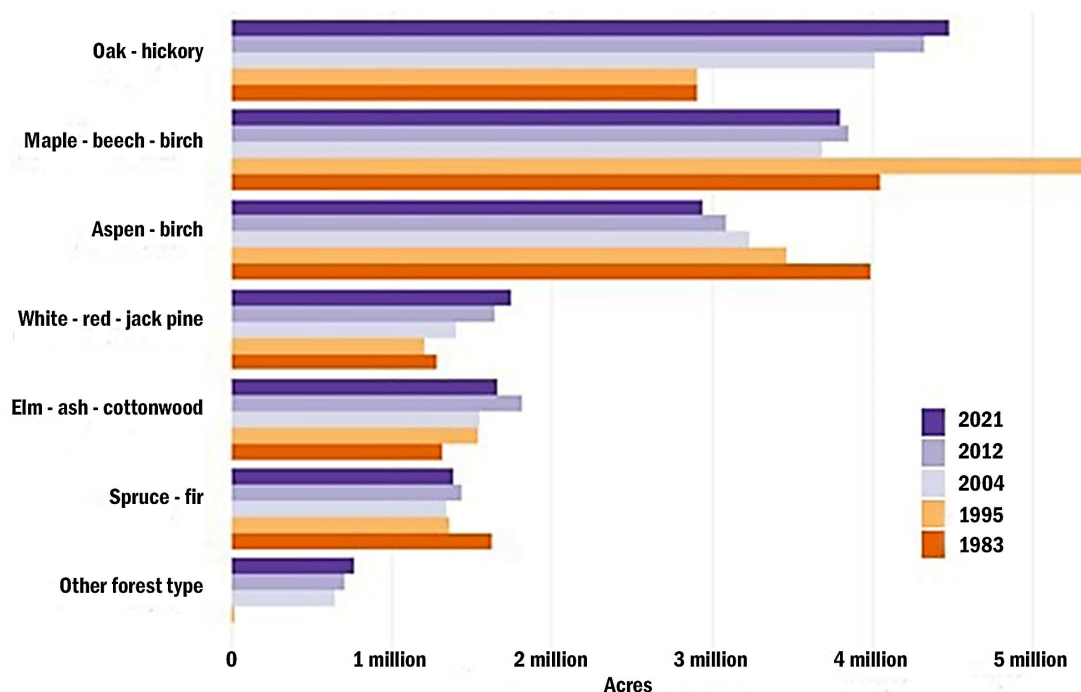


Figure 6. Acreage in Wisconsin forest types, 1983-2021. / **Graphic Credit:** Wisconsin DNR

Outreach And Education

The Forest Health Program achieved multiple milestones during the year, improving the quality and scope of regularly planned communications, premiering five new Forest Health fact sheets and revamping new and existing documents to meet upcoming federal accessibility mandates. Through a variety of media messages and appearances, Forest Health communications were received by an estimated audience of 244,402 external customers between Oct. 1, 2024, and Sept. 30, 2025. In addition, 64 Forest Health-related posts on social media sites Facebook, Instagram, Nextdoor and LinkedIn received 2,965,114 impressions during the same period.

Non-Native Forest Health Threats

Beech Bark Disease: Beech Scale (*Cryptococcus fagisuga*) And *Neonectria* spp. Fungi

Beech scale was detected in Langlade County for the first time in 2025, at two sites in the town of Wolf River. A high population was observed at one of the two sites.

In counties where beech scale had already been detected, site visits and reports found several additional locations with moderate or high populations in 2025:

- **Manitowoc County:** Town of Gibson
- **Marinette County:** Town of Amberg and Town of Lake
- **Oconto County:** Town of Bagley, Town of Brazeau, and Town of Maple Valley
- **Sheboygan County:** Kohler-Andrae State Park (second site in the park)

Beech scale was lab-confirmed in several of these counties about 15 years ago (*Fig. 9*), but for an unknown reason, the scale population remained very low for more than a decade. The high-scale sites will be monitored to see if beech bark disease develops in the coming years.



Figure 7. High beech scale population (“white wool”) on a pair of beech stems at Potawatomi State Park in Door County, July 2025. / **Photo Credit:** Wisconsin DNR



Figure 8. Closeup photo of the “white wool” of beech scale on a tree in Door County. / **Photo Credit:** Wisconsin DNR

Beech bark disease is a complex of a scale insect and a fungal pathogen that kills many beech trees. The fungus typically does not arrive until several years after the scale population becomes very high, because the scales' feeding wounds are necessary for disease-causing fungi to enter the tree.

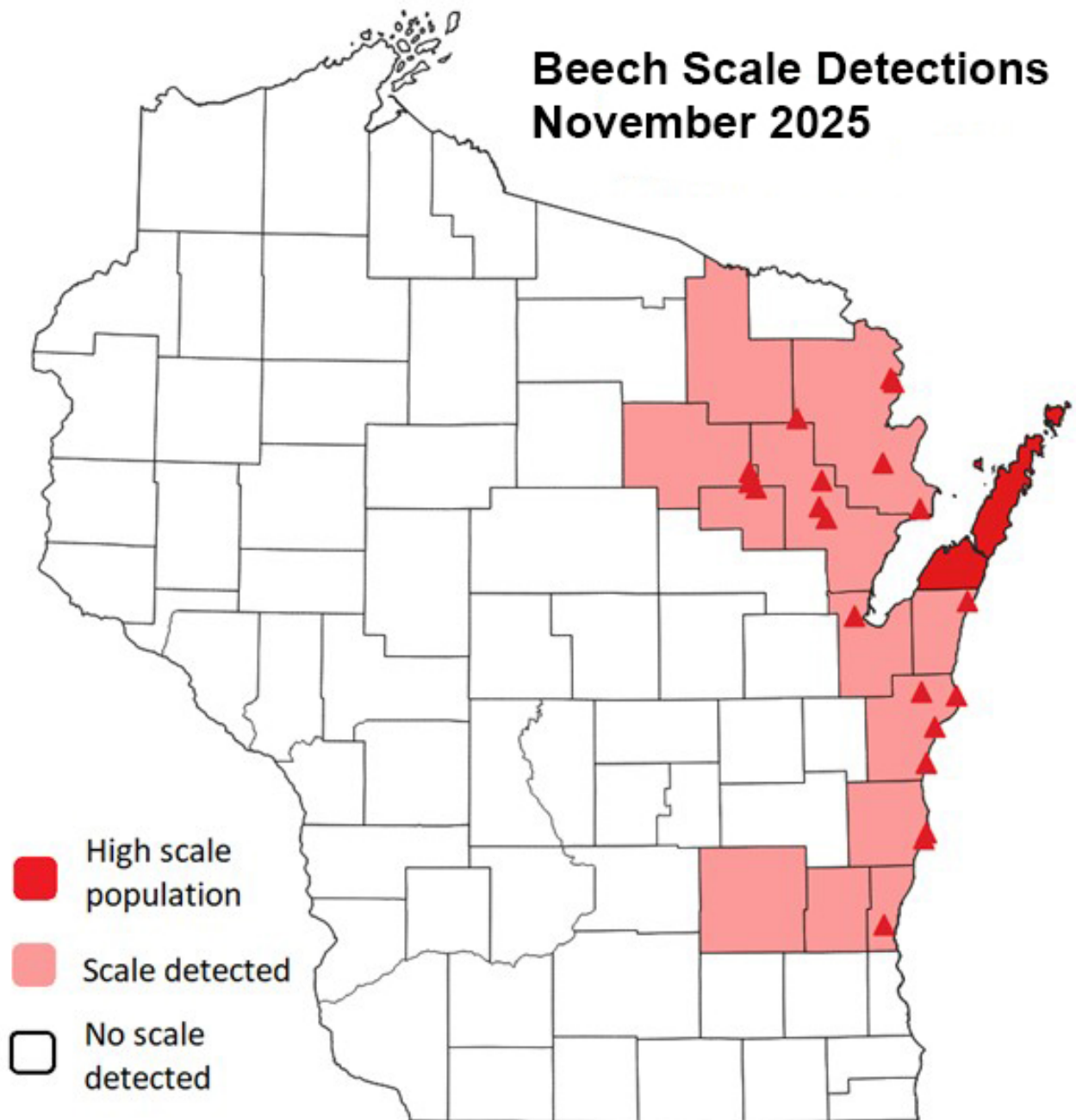


Figure 9. Known beech scale populations as of November 2025. / **Map Credit:** Wisconsin DNR

Beech bark disease was confirmed in early 2025 from a site in northern Menominee County after *Neonectria* fungi were isolated from trees symptomatic for the disease (information provided by Menominee Tribal Enterprises). *Neonectria* identification was performed by the DNR Forest Health Lab. Door County remains the only other Wisconsin county in which beech bark disease is known to occur (Fig. 10).

More information about beech bark disease can be found on the [DNR Forest Health website](#).

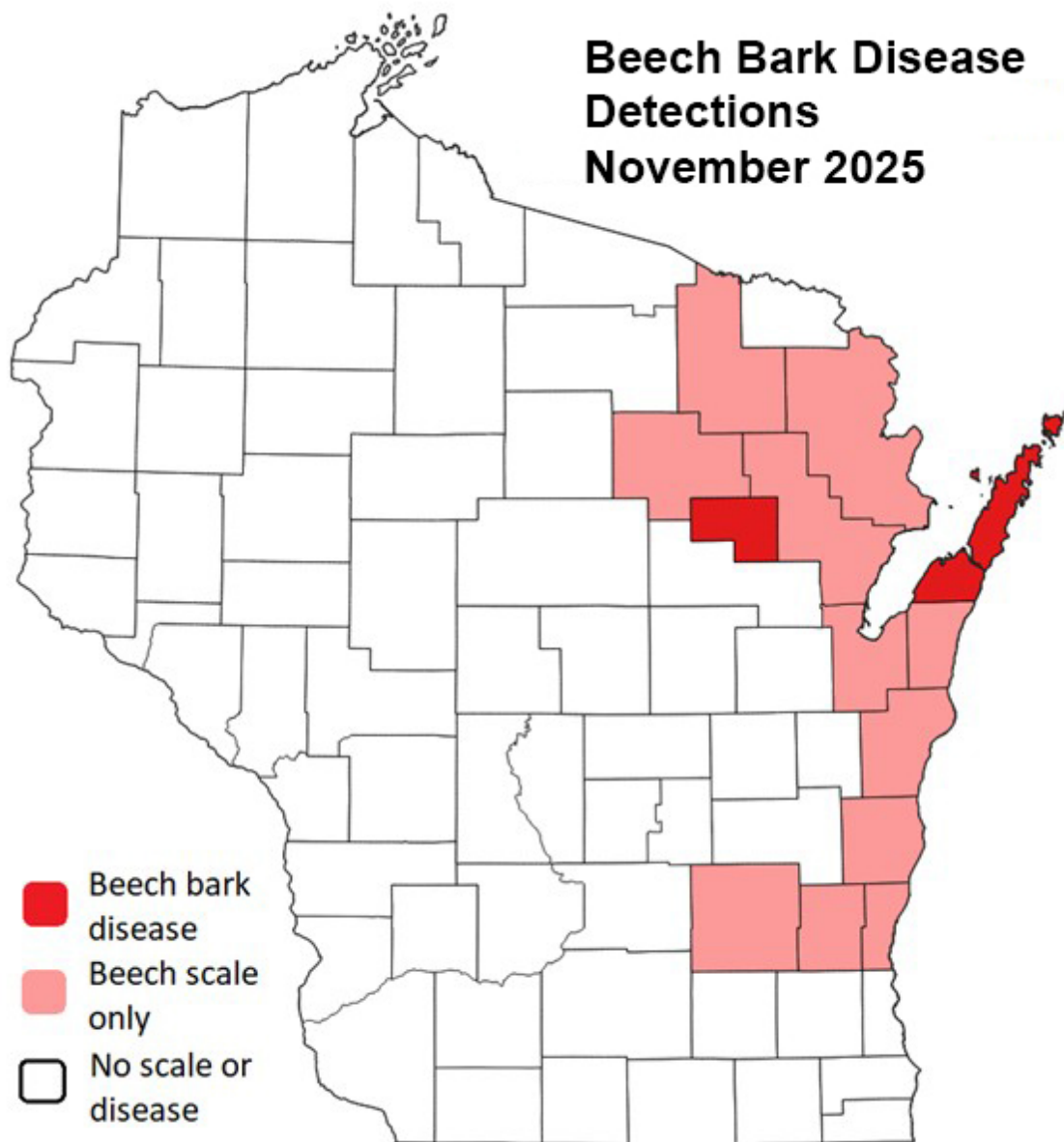


Figure 10. Counties with beech scale and beech bark disease detections as of November 2025. / **Map Credit:** Wisconsin DNR

Beech Leaf Disease (*Litylenchus crenatae* ssp. *mccannii*)

The Wisconsin DNR, Indiana DNR and Michigan DNR received federal funding (Bipartisan Infrastructure Law High-Priority Regional Invasive Species Projects) to conduct a beech leaf disease detection survey for three years. Sample collection started in October 2023. Bud samples were collected from saplings and suppressed beech. Selected trees were visually examined for the presence of the symptoms of beech leaf disease.

For the second year of the survey, 100 samples were collected from 34 locations in 10 counties from October 2024 through February 2025 (Fig. 11). No [symptomatic trees](#) were found. Samples were shipped and processed at the Plant and Pest Diagnostic Lab at Purdue University. The DNA of the nematode, *Litylenchus crenatae mccannii*, was not detected from any of the samples.

The survey continued in the fall of 2025. Samples were collected throughout eastern Wisconsin, where American beech is distributed.

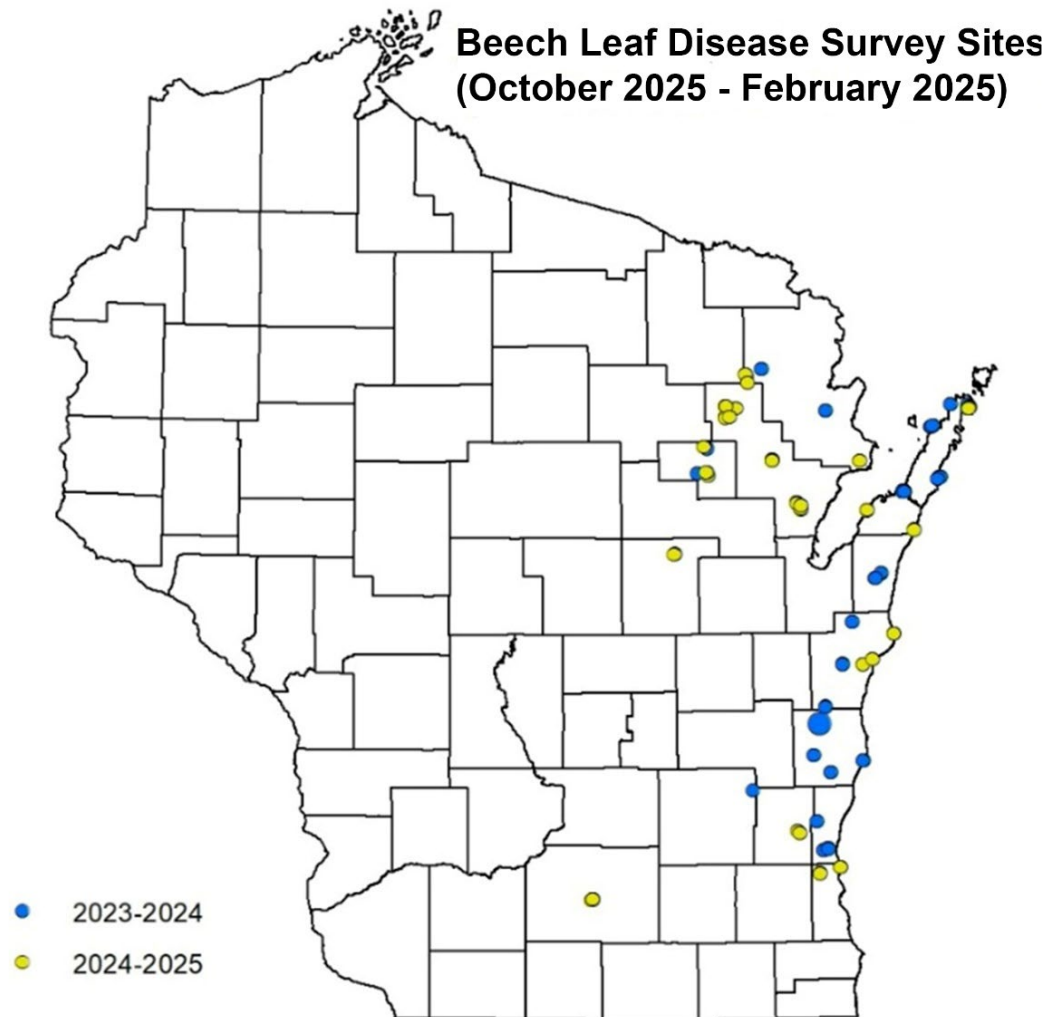


Figure 11. Beech leaf disease survey sites in Wisconsin from October 2023 to February 2025. All samples tested were negative. / **Map Credit:** Wisconsin DNR

Cottony Ash Psyllid (*Psyllopsis discrepans*)

Cottony ash psyllid was first identified in Wisconsin in 2006 and reconfirmed in 2023. In 2025, cottony ash psyllid was verified in Chippewa County for the first time (Fig. 12).

Cottony ash psyllid was not mapped in the northwestern Forest Health zone in 2025, but it is suspected that it is widespread within the zone. Moderate to heavy defoliation believed to be from cottony ash psyllid was observed in Douglas, Bayfield, Ashland, Sawyer, Washburn and Rusk counties. No samples were collected from these counties to confirm the presence of cottony ash psyllid, but symptoms observed were consistent with cottony ash psyllid defoliation.

Cottony ash psyllid is a tiny insect that sucks sap from the leaves of black ash and closely related ash species such as Manchurian ash (Fig. 13). Infestations can cause tree decline and mortality. Feeding causes leaves to pucker, curl and twist. Trees perceive this as defoliation, and severely affected trees will send out a second set of leaves later in the growing season. However, the second generation of cottony ash psyllid will feed on those leaves, once again causing curling and twisting. Consecutive years of damage can cause tree decline and mortality.

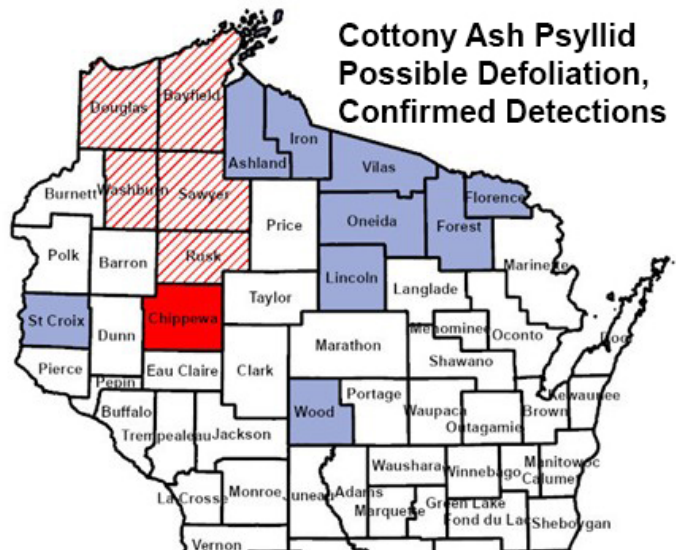


Figure 12. Cottony ash psyllid was verified in Chippewa County in 2025 (red). Defoliation believed to be from cottony ash psyllid was observed in Douglas, Bayfield, Sawyer, Washburn and Rusk counties (red stripes), but the presence of the insect was not confirmed. Confirmations from previous years are shown in blue. / **Photo Credit:** Wisconsin DNR



Figure 13. Cottony ash psyllid nymphs cover themselves in white fluff for protection while they suck sap from the leaves. The upper left leaf holds an adult cottony ash psyllid. / **Photo Credit:** Wisconsin DNR

Emerald Ash Borer (*Agrilus planipennis*)

Detections of emerald ash borer (EAB) (Fig. 14) continued in 2025, primarily in the northern counties (Fig. 15). Ozaukee County was the first county to have an EAB detection, in 2008; Burnett County, in northwest Wisconsin, was the 72nd and final county to have a detection of EAB, in 2024.

There are no municipalities remaining to be confirmed EAB-positive in nearly half of Wisconsin's 72 counties, primarily in the south and east. Most future detections will come from the northern counties. EAB is most commonly transported to new areas when it hitches a ride inside infested firewood.



Figure 14. Photo of an emerald ash borer adult on a tree. / **Photo Credit:** Wisconsin DNR

Aerial surveys in 2025 mapped 48,675 impacted acres in several northern counties: Ashland, Bayfield, Douglas, Florence, Forest, Langlade, Marinette, Oconto, Oneida, Sawyer, Vilas and Washburn. A total of 12,876 acres were noted as dieback, and 35,799 acres were noted as mortality (most of which affected more than 30% of the mapped polygon). Emerald ash borer damage is no longer mapped in the southern half of the state due to the advanced age of the infestations and the few large, live ash trees remaining in rural forests.

EAB larvae (*Fig. 16*) bore into ash trees and carve winding, S-shaped galleries beneath the trees' bark, typically starting in the upper canopy and progressing down the tree. The galleries restrict the movement of water and nutrients to affected areas of the tree, leading to branch dieback, canopy thinning and tree death.

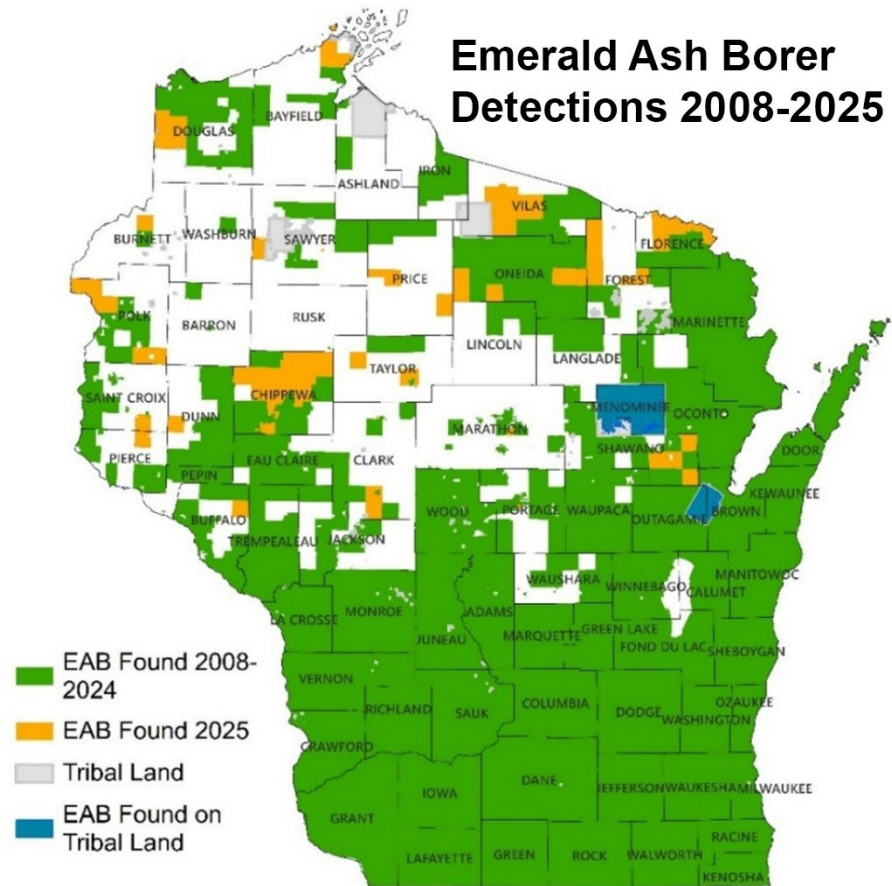


Figure 15. Map of 2025 municipal and tribal detections of emerald ash borer. / **Map Credit:** Wisconsin Department of Agriculture, Trade and Consumer Protection



Figure 16. Mature emerald ash borer larva in Neenah, September 2025. / **Photo Credit:** Wisconsin DNR

In much of southern Wisconsin, the large, dead ash trees continue to snap and fall over in increasing numbers.

EAB is expected to eventually kill more than 99% of susceptible Wisconsin ash species (white, black and green ash and their ornamental varieties) (Fig. 17).

More information about tree mortality is available on the DNR Forest Health's [EAB webpage](#).

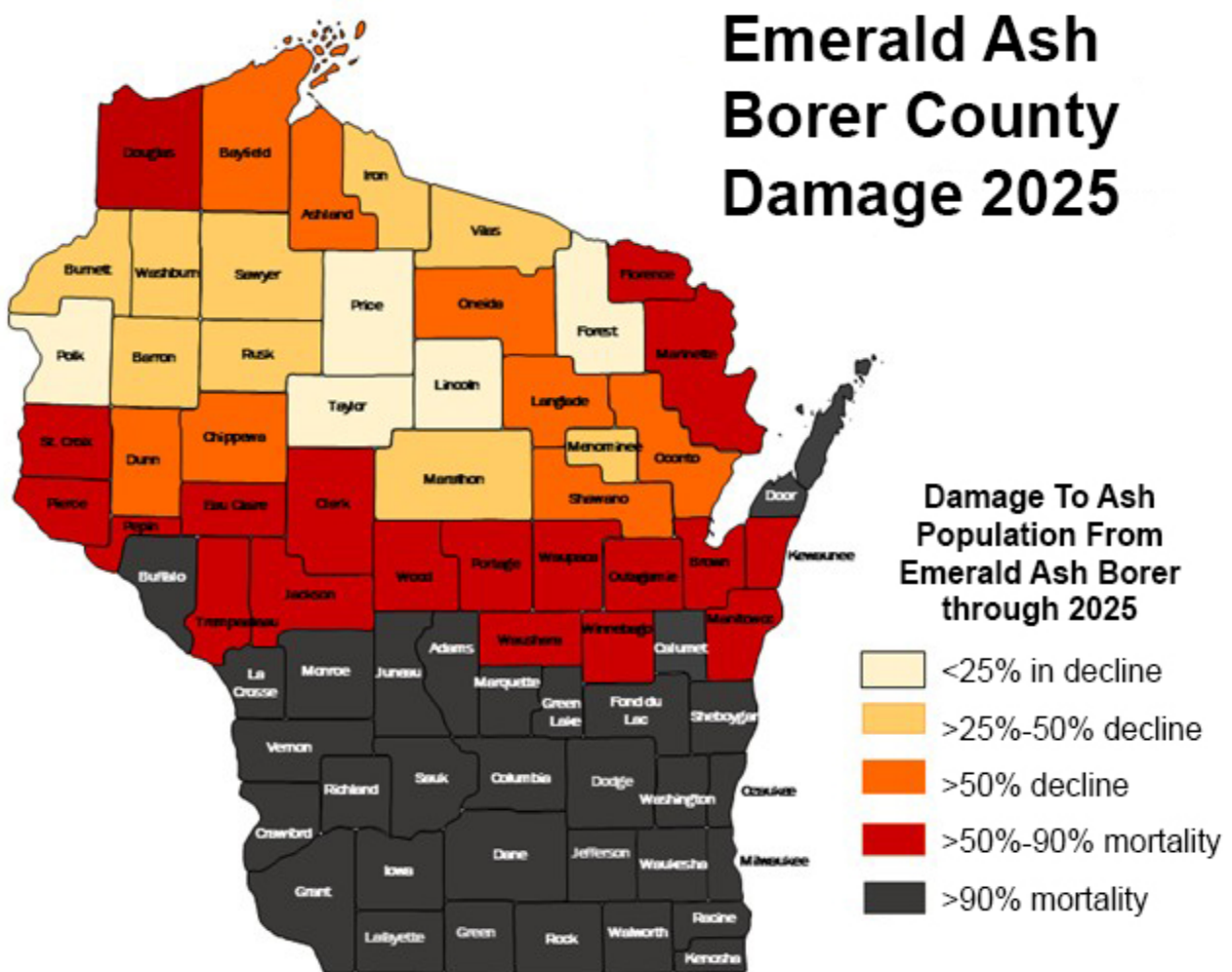


Figure 17. Emerald ash borer county damage map as of October 2025. / **Map Credit:** Wisconsin DNR

EAB Biological Control Releases

EAB biological control (“wasp”) releases took place at 11 sites in nine counties in 2025 (Fig. 18). First-time releases were done in five counties — Bayfield, Oconto, Oneida, Sawyer and Wood — with a second year of releases at sites in Douglas, Forest, Marinette and Shawano counties. EAB biological controls have been released annually in Wisconsin since 2011.

A total of 50,754 wasps were released by DNR and USDA APHIS staff in 2025. By species, they were:

Tetrastichus planipennisi 49% (Fig. 19), *Oobius agrili* 33% and *Spathius galinae* 18%. This was the third year of biological control releases in northern Wisconsin. Going forward, most or all Wisconsin releases will occur in the northern half of the state, due to the age and severity of the infestations in southern counties.

These small wasps help to keep EAB numbers down in young ash regeneration, increasing the likelihood of ash reproduction and survival. The wasps do not sting people or animals and are highly host-specific to EAB life stages. The wasps were supplied by the USDA APHIS Plant Protection and Quarantine EAB Parasitoid Rearing Facility in Brighton, Michigan.

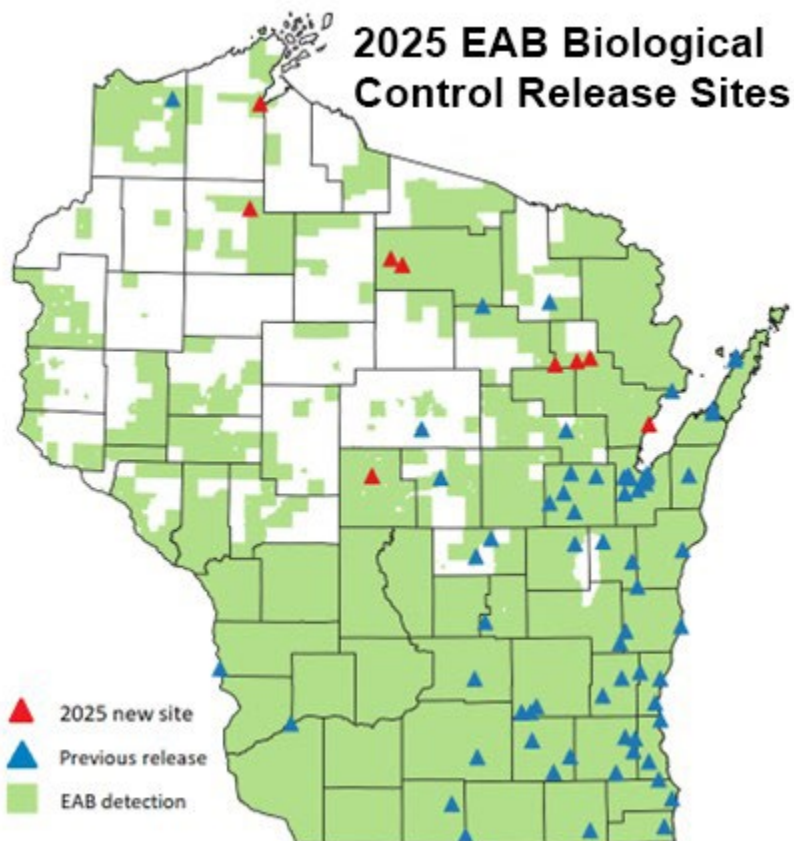


Figure 18. Map of EAB biological control (“wasp”) releases in 2025 and earlier years. / **Map Credit:** Wisconsin DNR



Figure 19. Adult *T. planipennisi* wasp on a finger. / **Photo Credit:** Wisconsin DNR

EAB Biological Control Recovery Surveys



Figure 20. *O. agrili* adults provided by the USDA APHIS Plant Protection and Quarantine EAB Parasitoid Rearing Facility in Brighton, Michigan. Actual size is approximately 1 millimeter in length. / **Photo Credit:** Wisconsin DNR



Figure 21. A cluster of *T. planipennisi* pupae (circled) inside an EAB gallery at Aztalan State Park in Jefferson County in October 2025, recovered seven years after last releasing the species there. / **Photo Credit:** Wisconsin DNR

Recovery surveys continued in 2025 to confirm that the released species have established reproducing populations.

The first Wisconsin recovery of the egg parasitoid *Oobius agrili* (Fig. 20) occurred at a former Marathon County release site in July 2025 during USDA APHIS yellow pan trap surveys. Species identification was confirmed by a USDA expert.

Wisconsin surveys have now recovered all three wasp species currently being introduced (*T. planipennisi*, *S. galinae* and *O. agrili*).

First-time county recoveries of the introduced biological controls were made at four additional sites:

- **Green Lake:** *T. planipennisi* and *S. galinae* recovered at a former release site in yellow pan trap surveys conducted by USDA APHIS in 2024. Species identification was confirmed in 2025.
- **Jefferson:** *T. planipennisi* recovered at a former release site in Aztalan State Park during a DNR tree peeling survey (Fig. 21).
- **Marathon:** *O. agrili* and *T. planipennisi* recovered at a former release site in yellow pan trap surveys conducted by USDA APHIS.
- **Shawano:** *T. planipennisi* and *S. galinae* recovered in 2025 from logs collected for use by the USDA APHIS EAB biological control facility in Brighton, Michigan. The collection site is well within dispersal range of the older wasp release sites in the Green Bay area.

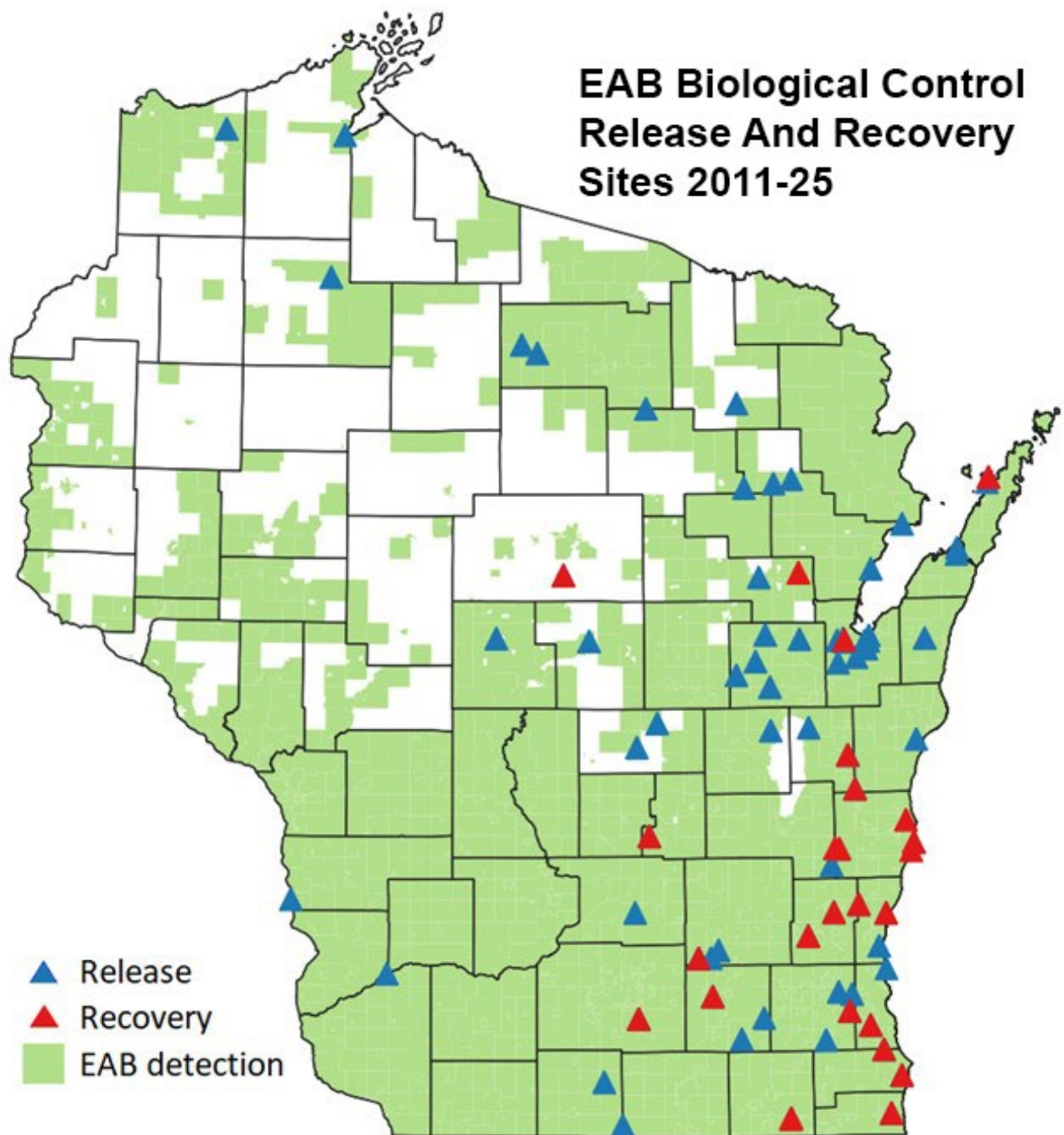


Figure 22. Map of EAB biological control releases and recoveries as of November 2025. / **Map Credit:** Wisconsin DNR

The introduced wasp species has now been recovered in 19 Wisconsin counties (Fig. 22). At Kohler-Andrae State Park in Sheboygan County, a cluster of *T. planipennisi* larvae was recovered from a small ash tree about 2 miles from a former release site, indicating dispersal of the species in the five years since the wasps were last released at this property.

Ash Regeneration

Ash regeneration (*Fig. 23*) of both seed and sprout origin, smaller than 4 inches in diameter, continues to be abundant in areas of Wisconsin where the large ash trees have been dead for at least several years.

Live green and white ash 3-4 inches in diameter were occasionally observed to have older EAB galleries (*Fig. 24*) and had survived the peak period of EAB populations in the area. Other trees were of a similar size but did not have clear evidence of prior EAB infestation. These observations support the expectation that ash will persist on the landscape in the presence of EAB, although likely as a smaller tree than in pre-EAB times. The future longevity of these trees is unknown.



Figure 23. Cluster of 3- to 4-inch diameter regenerating ash with intact crowns on the Vernon Wildlife Area in Waukesha County, October 2025. / **Photo Credit:** Wisconsin DNR



Figure 24. Old EAB galleries (circled) on a small green ash stem at Vernon Wildlife Area in Waukesha County, September 2025. / **Photo Credit:** Wisconsin DNR

Hemlock Woolly Adelgid (*Adelges tsugae*)

Hemlock woolly adelgid (HWA) has not been confirmed in Wisconsin's forests, but infestations exist along Lake Michigan in Michigan. The Wisconsin DNR and partners are working on an HWA strategy document that will provide information about response options for detections and management.

HWA environmental DNA (eDNA) traps (Fig. 25), developed in Dr. Charlyn Partridge's lab at Grand Valley State University, were tested at two state natural areas in 2025.

Analysis of the eDNA samples is in progress.

In 2026, the DNR will collaborate with the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) to conduct a grant-funded eDNA trapping survey at numerous sites across Wisconsin. The Forest Health team has written several newsletter articles about reporting potential HWA finds and will continue communications to our partners and the public going forward.



Figure 25. A hemlock woolly adelgid eDNA trap at a state natural area in 2025. / **Photo Credit:** Wisconsin DNR

Heterobasidion Root Disease

(*Heterobasidion irregulare*)

Heterobasidion root disease (HRD) was not detected in any new counties in 2025. However, new detections of HRD were made in Juneau (*Fig. 26*) and Portage counties, where the disease had been previously confirmed. Currently, HRD is known to occur in 31 of 72 Wisconsin counties.



Figure 26. *Heterobasidion* root disease conks at the base of a dead red pine tree in Juneau County in 2025. / **Photo Credit:** Wisconsin DNR

Research On HRD

A study was initiated to compare chemical and biological soil characteristics, in relation to susceptibility to HRD, between natural red pine forests and red pine plantations. The study also evaluates the effect of historical agricultural land use of these pine stands on fungal/mycorrhizal communities. Soil and plant root samples were collected from two state forests (Northern-Highland State Forest and Black River State Forest) in fall 2024. Samples were processed at the University of Wisconsin Biotechnology Center, DNA NextGen Sequencing Facility and at the University of Wisconsin Soil and Forage Lab. Further data analysis will be conducted in winter 2025/2026.

Introduced Basswood Thrips (*Thrips calcaratus*)

No damage was recorded from introduced basswood thrips in 2025 after being found on 1,100 acres in 2024 and 2,000 acres in 2023. Damage from introduced basswood thrips has fluctuated in the northern counties since 1980, when it was first identified in Wisconsin.

Invasive Plants

The Forest Health program administers two funds that support statewide terrestrial invasive plant control efforts:

The Weed Management Area-Private Forest Grant Program (WMA-PFGP) and Priority Implementation Funds (PIF) for control of invasive plants on the northern state forests.



Figure 27. A new boot brush station on the Flambeau River State Forest featuring an educational panel of garlic mustard and the importance of brushing your boots. / **Photo Credit:** Wisconsin DNR

The WMA-PFGP provides funding to groups for invasive plant management on nonindustrial private forest land of 500 acres or less. Projects funded by the WMA grant completed by September 2025 included control and monitoring of invasive plants on private lands, restoration and replanting of native plants, and outreach and education events at conferences, workshops and schools. For fiscal year '26 (July 2025-June 2026), the WMA-PFGP funded six projects, which will be completed in the coming year(s).

Species controlled with PIF include buckthorn, knotweed, false spirea, black locust, honeysuckle and Japanese barberry. The total amount of area treated for these species combined was 209 acres.

While some of these plants are common in southern counties, they are rare in the northern state forests, so action is taken to prevent their spread.

In addition to control, 142 miles of state forest were surveyed for the presence of invasive plant species.

The Forest Health program funded the purchase of three new boot brush stations for the Flambeau River State Forest. These boot brush stations were set up in high-use recreational areas and include an educational panel on garlic mustard and the importance of brushing boots to prevent the spread of invasive plants (Fig. 27).

DNR staff continued Japanese stilt grass control on the Coulee Experimental State Forest. Treatment included the application of a pre-emergent herbicide in the spring to deter germination of stilt grass seeds and spot treatment of individual populations with a butane torch from late summer to early fall (Fig. 28). Late-season surveys led to 42 individual populations being discovered and treated (Fig. 29).



Figure 28. Forester Drew Czynscon using a butane torch to control Japanese stilt grass populations that were discovered during surveys on the Coulee Experimental State Forest. / **Photo Credit:** Wisconsin DNR

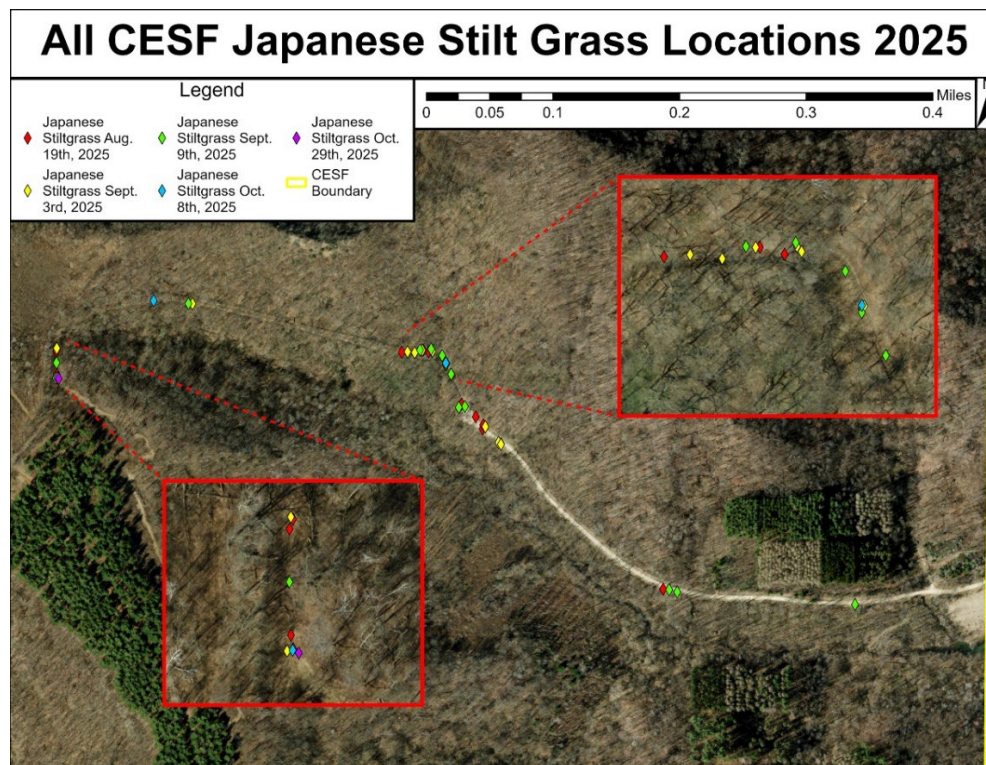


Figure 29. Map of all Japanese stilt grass populations found on the Coulee Experimental State Forest, La Crosse County, between Aug. 19 and Oct. 31, 2024, which is when this grass has the highest detectability. / **Map Credit:** Wisconsin DNR

There were four new county detections of the NR40 prohibited species Japanese stilt grass documented this past season: Rock, Walworth, Dane and Grant counties. DNR staff have been working to contact the landowners affected by these infestations to prevent this species from spreading any further. The Forest Health program is also funding a two-year study with Professor Mark Renz at the University of Wisconsin-Madison to do trials on the most effective herbicide treatments for Japanese stilt grass. This study will give landowners and land managers further insight into the best methods to control this highly invasive grass.

Oak Wilt (*Bretziella fagacearum*)

Storm damage during the high-risk period for oak wilt infection in Wisconsin contributed to new infections again in 2025. DNR Forest Health staff continue to work with utilities in northern Wisconsin to ensure that pruning wounds to oaks during the high-risk period are sealed with wound paint immediately.

While there were no new county finds in 2025, oak wilt was confirmed in one new township: Hughes Township in Bayfield County.

Currently, oak wilt is known to be present in 66 of Wisconsin's 72 counties (Fig. 30).

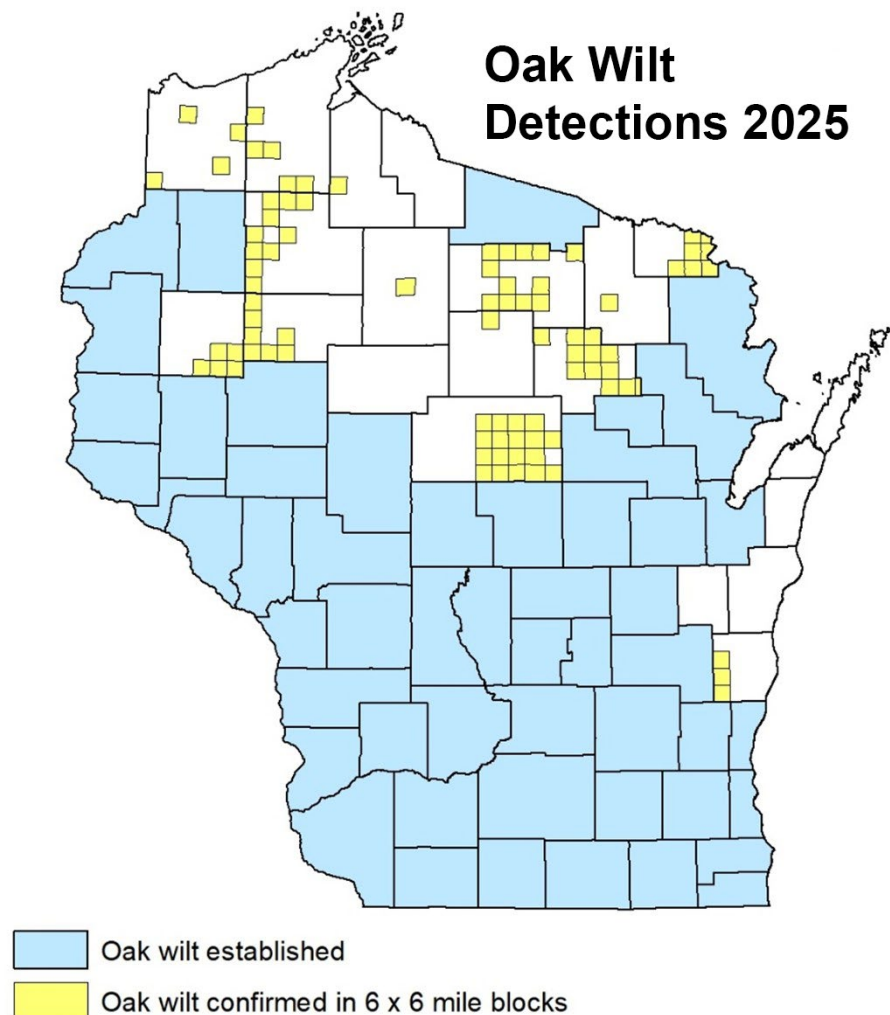


Figure 30. Oak wilt is generally established in counties tinted blue. Townships tinted yellow have confirmed oak wilt cases but are in counties where oak wilt remains uncommon. Oak wilt has not been found in untinted counties. / **Map Credit:** Wisconsin DNR

Samples submitted to the DNR Forest Health Lab that tested negative for oak wilt in 2025 were often diagnosed with twolined chestnut borer (*Fig. 31*) and/or Armillaria root disease. This was anticipated, given that many trees had been stressed by drought and insect defoliation in recent years.



Figure 31. Debarking a sample submitted to test for oak wilt revealed twolined chestnut borer galleries in the DNR Forest Health Lab. The oak wilt pathogen was not detected from this sample by the molecular test. / **Photo Credit:** Wisconsin DNR

Oak Wilt Suppression Program

Since 2021, funding from the U.S. Forest Service has provided financial assistance to qualifying private landowners to suppress oak wilt along the leading edge of its range in northern Wisconsin. The program covers 100% of the cost of performing oak wilt control measures that directly mitigate above- and below-ground disease transmission, while allowing landowners to optionally cover the costs of elective work related to the disease control process (e.g., brush chipping and stump removal). Funding received in 2024 was used to complete oak wilt control at six sites during fall 2024 and winter 2025.

Oak Wilt Research

Evaluation Of Rapid Response To Oak Wilt

Oak wilt is introduced to a new area by insect vectors that move spores from infected wood to fresh wounds on an uninfected oak. Once a tree is infected, the disease spreads throughout its vascular system and can move into neighboring oaks through root grafts.

To contain new oak wilt infections in a stand, foresters at Menominee Tribal Enterprise have been killing oaks by girdling and applying herbicide as soon as the trees show any wilting branches. The intent is to prevent the spread of the fungus into the root system and adjacent oaks connected by root grafts. Their monitoring suggests that they have successfully prevented the underground spread of oak wilt using this “rapid response” technique.

To formally test this approach, the Forest Health Program is collaborating with Michigan and Minnesota DNR Forest Health programs, along with scientists from the U.S. Forest Service, on an eight-year study funded by the Forest Service.

In 2023, 41 mature oak trees were artificially inoculated with an oak wilt pathogen spore suspension. Of these, 34 trees developed wilting symptoms, which were confirmed as oak wilt in the laboratory and were subsequently treated with the rapid response method (either girdle only or girdle-and-herbicide). Treatments took place in July, August, September or October.

After treatment with the rapid response method, nearby trees are checked for five years to determine if the oak wilt fungus has spread to neighboring oaks. If, after five years, no breakout has occurred, the treatment is deemed successful. If oak wilt is confirmed by the molecular test to have moved into a neighboring tree(s), then the treatment is deemed not successful.

In 2024, an additional 16 mature oak trees were inoculated with the oak wilt pathogen. Of these, 13 trees exhibited wilting symptoms and were confirmed through laboratory analysis to have oak wilt. Twelve of these wilting trees were treated with the rapid response method (all girdle-and-herbicide) on July 25, 2024, and one tree was treated on Aug. 5, 2024.

No new inoculations were done in 2025. All treated trees from 2023 and 2024 were monitored for signs of oak wilt. In 2025, two breakouts that were confirmed from the trees that were treated in 2024 were contained using the girdle-herbicide method. No new breakouts were found for any of the 2023 treated trees. In 2026, treated trees from 2023 and 2024 will continue to be monitored for breakouts throughout the growing season, with no further inoculations planned.

Evaluating The Effect Of Prescribed Fire On Oak Wilt Infection

Oak dominance is declining across eastern North America, and prescribed fire is an important tool to regenerate and recruit oak into the overstory. Considering that most prescribed fire occurs during the high-risk oak wilt period, it is important to know if tree injury via prescribed fire impacts the risk of oak wilt. With no published data specifically addressing this question, DNR Forestry staff started a project in 2025 to evaluate the risk of oak wilt infection after prescribed fire (via changes in nitidulid abundance) and with simulated prescribed fire. The study will evaluate:

- The number and species of nitidulid beetles captured in Lindgren funnel traps
- The number and species of nitidulid beetles attracted to simulated fire wounds burned with a propane torch (*Fig. 32*).
- Challenging oaks by wounding, burning and inoculating them with an oak wilt spore solution

Treated trees were monitored throughout the growing season. Beetles were collected from traps three days after the trap was set up. Beetle identification and data analysis are currently under way.



Figure 32. *Simulating a fire wound with a propane torch.* / **Photo Credit:** Wisconsin DNR

Spongy Moth (*Lymantria dispar dispar*)



Figure 33. A mature spongy moth larva on a tree at Potawatomi State Park in Door County, July 2025.
/ **Photo Credit:** Wisconsin DNR

Wisconsin's recent spongy moth outbreak came to an end in 2025, as the remaining high populations were aerially sprayed or naturally collapsed. The outbreak largely collapsed in 2024 due to the caterpillar-killing nucleopolyhedrosis (NPV) virus and Entomophaga fungus. Only a handful of large larvae (*Fig. 33*) were observed or reported by property owners in 2025.

Overall populations are likely to be low for at least the next few years, although it is possible that some sites could see a population increase before then should weather conditions be favorable for the insect.

No Defoliation Observed In 2025

No spongy moth defoliation was mapped during DNR aerial surveys in summer 2025 (*Fig. 34*). This was a dramatic change from 375,000 acres of defoliation mapped in 2023 and 334,000 acres mapped in 2024. Scattered and light defoliation was expected in 2025, but none was seen.

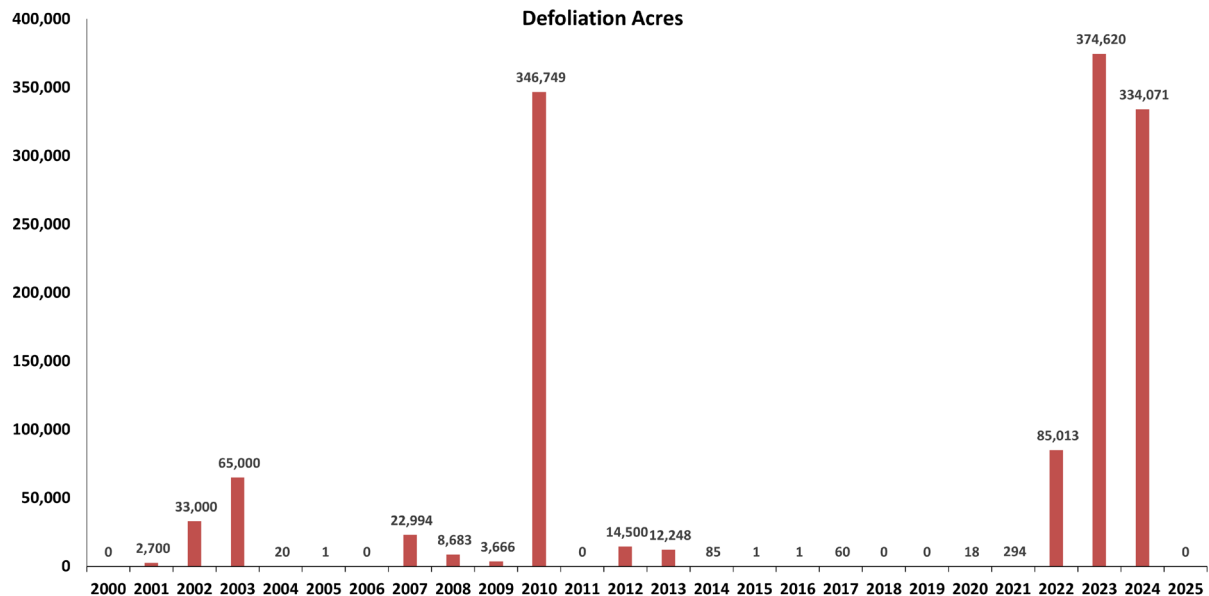
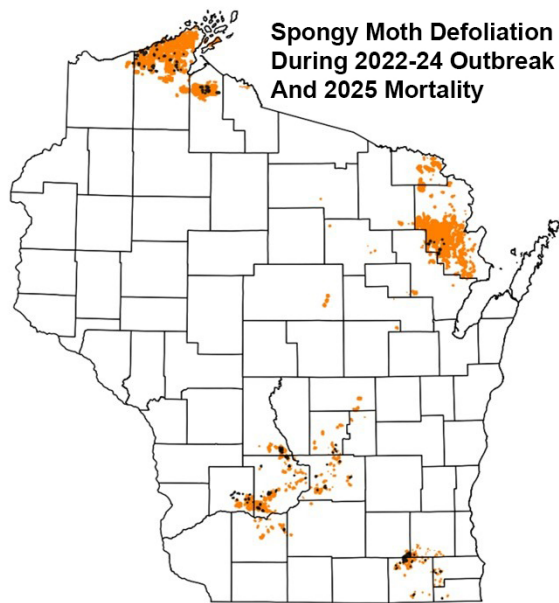


Figure 34. Graph of acres defoliated by spongy moth, 2000-2025. / **Graphic Credit:** Wisconsin DNR

Post-outbreak Mortality Surveys Completed

Mapped acreage with defoliation-related mortality grew dramatically in 2025 (*Fig. 35*), primarily due to an increase in tree mortality in south central and northwest Wisconsin. This mortality was typically seen in areas that were heavily defoliated during the 2022-24 spongy moth outbreak, with several droughty summers simultaneously stressing the trees. During an outbreak, tree mortality can be difficult to spot in a stand where defoliation is also present. Healthy hardwoods can usually endure one or two years of heavy defoliation before tree mortality occurs.

Reported moderate and heavy oak mortality was seen over 14,324 acres. Counties with the most observed oak mortality in 2025 were: Sauk (2,852 acres), Jefferson (2,433 acres), Marinette (1,935 acres), Juneau (1,848 acres) and Bayfield (1,799 acres) (*Fig. 36*).



Reported aspen mortality was seen over 6,197 acres in Bayfield County (3,668 acres) and Ashland County (2,529 acres). Aspen has been reported to have low mortality rates in the absence of other stresses, and the recent droughty summers may have contributed to the large amount of observed aspen mortality. Additional tree mortality is likely present in areas that were not surveyed. (Note: Acres reported are where mortality comprised more than 10% of the polygon; less than 10% was considered scattered mortality.)

Figure 35. Map of spongy moth defoliation observed during the 2022-24 outbreak and mortality observed in 2025 (small areas are enhanced for visibility).
/ **Map Credit:** Wisconsin DNR



Figure 36. Heavy oak mortality in Bayfield County, August 2025. / **Photo Credit:** Wisconsin DNR

Additional tree mortality is expected in both southern and northern Wisconsin over the next few years (*Fig. 37*). Property owners with oak and other species preferred by spongy moth caterpillars should annually monitor their trees for signs of decline and mortality and contact an arborist or forester if needed. In particular, weakened oaks often linger for one to three years before finally dying. Weakened oaks are commonly infested by [Armillaria root disease](#) and [twolined chestnut borer](#). Watering yard trees during dry periods can help to reduce tree stress and increase the likelihood of survival.



Figure 37. Pocket of oak mortality on the Kettle Moraine State Forest in Waukesha County, September 2025. / **Photo Credit:** Wisconsin DNR

2025 Aerial Spray Program

In May, the DNR aially sprayed 546 acres containing high-value trees at state parks in Juneau, Marinette and Sauk counties (Fig. 38). Treatments used Foray, a bacterial insecticide containing *Bacillus thuringiensis* var. *kurstaki*. Spraying occurred on May 23 in Juneau and Sauk counties and on May 30 in Marinette County.

Spraying was postponed several times due to rain and/or windy conditions and occurred 7-10 days later than comparable treatments in 2024. All treatments were successful with no defoliation observed in any of the treatment blocks.



Figure 38. Map of 2025 DNR spongy moth aerial treatment sites. / **Map Credit:** Wisconsin DNR

The 2025 DNR treatment sites:

- **Governor Thompson State Park:** 253 acres at two sites (Marinette County)
- **Mirror Lake State Park:** 208 acres at two sites (Sauk County)
- **Rocky Arbor State Park:** 85 acres at one site (Juneau and Sauk counties)

In 2025, there was only one privately organized suppression treatment, in Marinette County, that was known to DNR staff. The State of Wisconsin does not offer a state-sponsored or cost-share program for treating private property to prevent defoliation by spongy moth. Those interested in organizing a spray program at their own expense are encouraged to read "[Organizing An Aerial Spray For Forest Pests](#)," a helpful guide from the DNR. (Note: the DNR does not endorse any product or business.)

Spongy Moth Outreach

The online [Spongy Moth Resource Center](#) was revised in 2024 to include additional information and FAQ resources (Fig. 39). Increased emphasis was placed on treatment options available for yard trees. From January through September 2025, the landing page received 23,500 visits. This was an impressive number, given that the population had largely collapsed the previous summer.

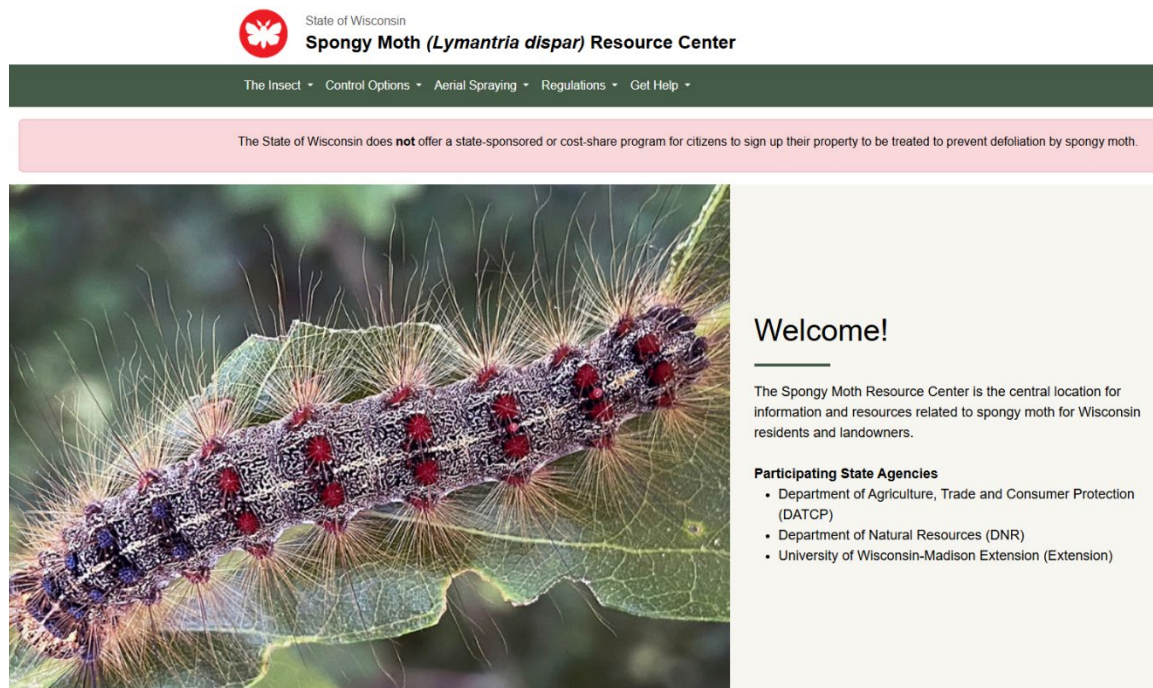


Figure 39. Screenshot of the online “Spongy Moth Resource Center” at spongy moth.wi.gov. / **Photo Credit:** Wisconsin DNR

Several statewide news releases and DNR newsletter articles were published in 2025. These focused on the DNR aerial treatments, looking for egg masses, managing life stages and monitoring for post-outbreak decline and mortality in susceptible forest stands.

Social media outreach continued in 2025. A February 2025 Facebook post titled “Want to take action to protect your trees and property from hungry spongy moth caterpillars?” received 275,703 impressions.

Over the past two years, several spongy moth videos have been filmed and made available online to assist property owners in conducting predictive egg mass surveys and managing life stages. These videos received more than 31,000 views in 2025.

Regulatory Update

La Crosse County was added to the regulatory quarantine administered by the Wisconsin Department of Agriculture, Trade and Consumer Protection (DATCP) in April 2025 (Fig. 40). La Crosse County became the 54th of Wisconsin's 72 counties to be included in the spongy moth quarantine area. More information can be found on the [DATCP Spongy Moth website](#).

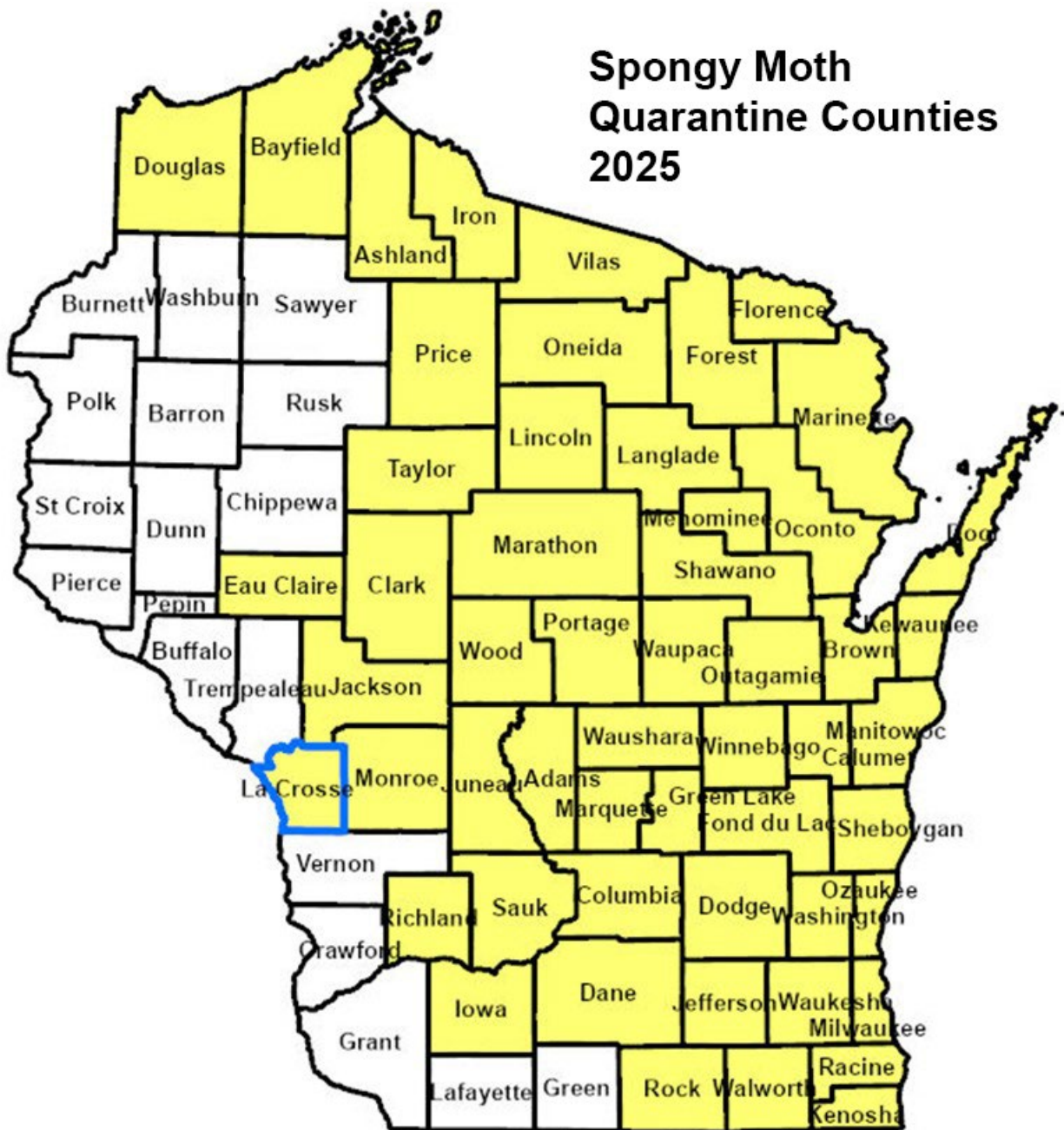


Figure 40. Map of counties currently quarantined for spongy moth. La Crosse County, the 2025 addition, is outlined in blue. / **Map Credit:** Wisconsin DATCP

Wisconsin DATCP's [Slow the Spread \(STS\) program](#) found reproducing but isolated populations in seven non-quarantined counties, approximating the leading edge of westward spread (*Fig. 41*). Most of those locations will be treated to reduce populations to levels where they cannot contribute to spread. Typically, a county is quarantined only when the STS program no longer treats reproducing populations detected there.

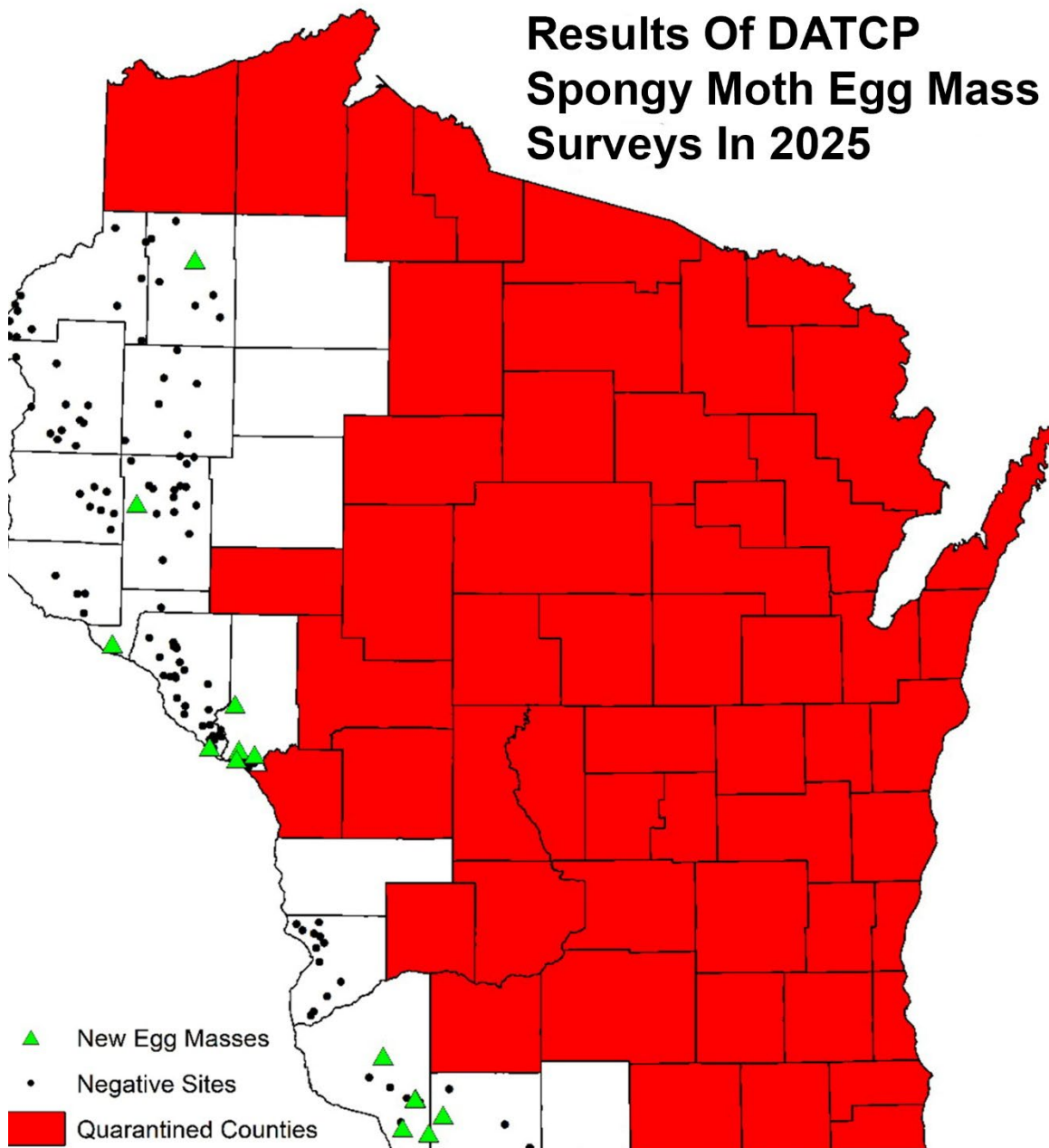


Figure 41. Results of egg mass surveys done by DATCP in the non-quarantined counties in October 2025. / **Map Credit:** Wisconsin DATCP

Native Health Threats To Hardwoods

Bur Oak Blight (*Tubakia iowensis*)

Bur oak blight was confirmed for the first time in Calumet County in September 2025 (Fig. 42). Calumet County is the 35th Wisconsin county to have a confirmed detection of bur oak blight. The Forest Health Lab confirmed the causal agent, *Tubakia iowensis*, on leaves and petioles.

Bur Oak Blight (BOB) Confirmed Counties In Wisconsin (September 16, 2025)

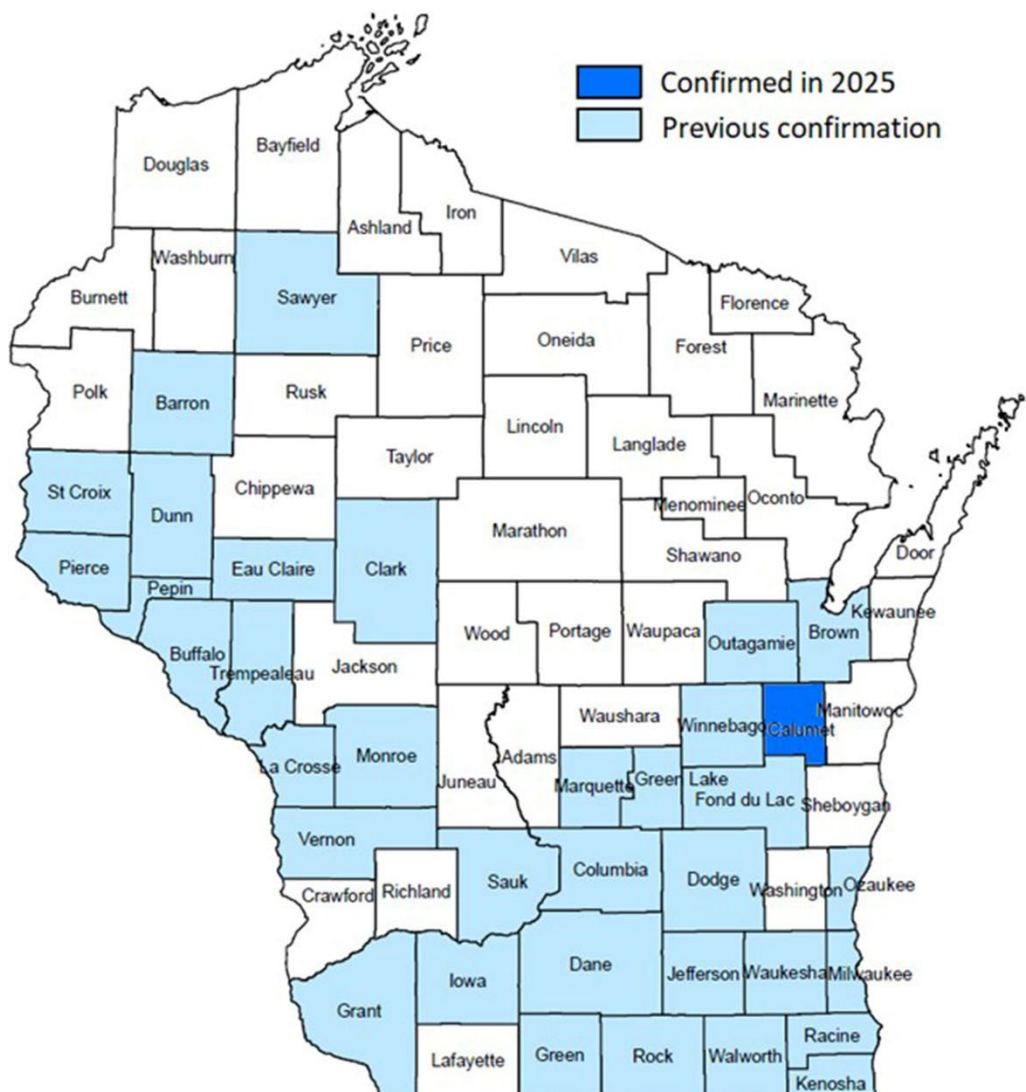


Figure 42. Map of bur oak blight county detections as of November 2025. / **Map**

Credit: Wisconsin DNR

Oak Decline And Mortality

Ongoing decline and mortality of all oak species throughout the state continued its upward trend in 2025 (Fig. 43). The acute effects of the primary stress-inciting biotic and abiotic factors over the past several years have largely



Figure 43. Oak mortality as seen from the air in southern Wisconsin in 2025. / **Photo Credit:** Wisconsin DNR

eased (i.e., drought) and subsided (i.e., defoliation pressure from native and invasive defoliating insects). However, residual effects from these factors have led to an increase in oak decline and mortality.

Across the state, the leading stress-inducing factors driving oak decline and mortality varied by location, but areas with coinciding drought stress and spongy moth defoliation sustained the most severe and extensive impacts. Spongy moth caused moderate to heavy defoliation in numerous regions of the state between 2022-2024 (see Spongy Moth section), while a drought cycle of a roughly four-year duration (i.e., 2021-2023; fall 2024-winter 2025) simultaneously played out. Decline and mortality in areas that sustained defoliation from oak leafroller and oak leaf-tier for multiple consecutive years in conjunction with drought were also impacted, but to a lesser severity and extent. All areas during this period, however, experienced outbreaks of two-lined chestnut borer and infections from Armillaria root disease; these secondary pest and disease agents continued to contribute to the ongoing decline and accumulation of oak mortality in 2025. Site-level predisposing factors were noted as exacerbating the severity of this phenomenon, including oak stands that are mature, even-aged and overstocked, as well as stands occurring on hilltops and ridgetops, along with those on excessively well-drained sites.

Additional oak decline and mortality are expected until the current drought cycle is fully reversed, and oaks have several seasons to recover from the onslaught of these compounding biotic and abiotic factors.

Hardwood Defoliators

Forest Tent Caterpillar (*Malacosoma disstria*)



Figure 44. Forest tent caterpillars hiding in lichens on tree bark. / **Photo Credit:** Wisconsin DNR

Similar to 2024, defoliation caused by forest tent caterpillar (FTC), a native spring defoliator, was limited to isolated areas in northern Wisconsin in 2025. The only reports and observations of defoliation came from areas of Taylor County.

It remains unclear when the next regionwide outbreak of FTC will occur in Wisconsin forests. Prior to the most recent low population period (*i.e.*, endemic phase), the state had historically experienced FTC population outbreaks every six to 16 years, with outbreaks lasting two to six years. During past outbreaks, millions of acres of tree defoliation were recorded on aspen, birch and sugar maple. Heavy defoliation repeated over several years induces significant tree stress that instigates infection by secondary pest and disease

agents (*e.g.*, Armillaria root disease; bronze poplar borer), which contribute to tree decline and mortality of low-vigor, suppressed and drought-stressed trees.

The last outbreak in Wisconsin occurred from 1999 to 2002, making the current endemic population phase 23 years, the longest recorded in Wisconsin's history. Abnormally warm and dry spring weather typically favors population growth, but even throughout the recent drought cycle beginning in 2021, the insect has shown no immediate signal of a building population at a regional scale.

However, the increased frequency of caterpillar observations (*Fig. 44*) has trended upward in the last few years, so a continued focus will be placed on assessing defoliation and performing routine spring egg mass surveys in northern Wisconsin.

Oak Leafroller (*Archips semiferranus*) And Oak Leaf-tier (*Acleris semipurpurana*)

Oak leafroller and oak leaf-tier, two native tortrix moth species that cause early-season defoliation in their caterpillar stages, underwent outbreaks that occurred from 2022-2024. These outbreaks have since collapsed. Although caterpillars



Figure 45. Oak leafroller damage from the 2022-2024 outbreak. No defoliation was observed in 2025. / **Photo Credit:** Wisconsin DNR

could still be found in some small, localized areas, no readily noticeable defoliation was observed in 2025.

Above-average precipitation during the spring of 2024 likely promoted a decline in caterpillar activity that was further reinforced by average to above-average precipitation in the spring of 2025.

The impact of these outbreaks was an accelerated decline and mortality of drought-stressed, overmature oaks by opportunistic pests and diseases — primarily twolined chestnut borer and Armillaria root disease. These outbreaks were noteworthy in that the two insect species had not previously caused defoliation and tree stress to this extent and severity in Wisconsin (Fig. 45).

Elm Zigzag Sawfly (*Aproceros leucopada*)



Figure 46. An elm zigzag sawfly larva feeds on an elm leaf in southern Door County in September 2025. / **Photo Credit:** Wisconsin DNR

Wisconsin's first detection of the nonnative elm zigzag sawfly (Fig. 46) occurred in Portage County in July 2024. As of late 2025, the pest has been detected in 37 counties, including several in northern Wisconsin (Fig. 47).

The elm zigzag sawfly, native to parts of East Asia, was first detected in Europe in 2003 and in North America in 2020 (in Quebec, Canada). It was first found in the United States in Virginia in 2021 and has been spreading, with detections confirmed in 15 states.

A distinctive trait of elm zigzag sawfly is the meandering zigzag pattern chewed by young larvae in elm leaves (*Ulmus spp.*) (Fig. 48). At low population levels, feeding by this pest is often hidden among much more abundant leaf feeding by Japanese beetle and other species feeding on elm leaves.

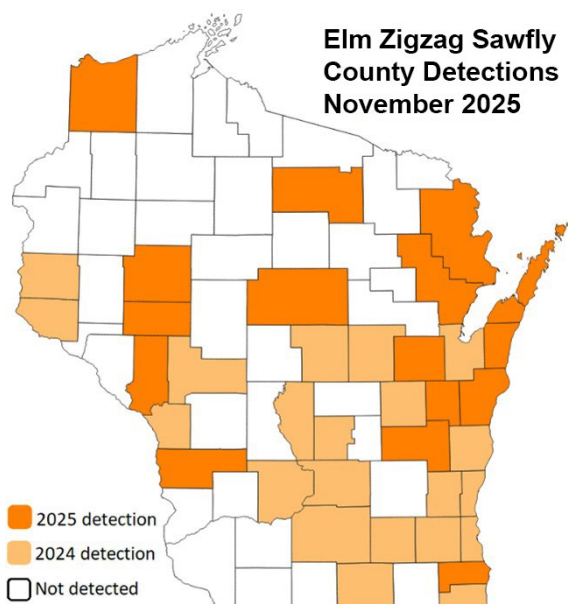


Figure 47. Elm zigzag sawfly county detections as of November 2025. / **Map Credit:** Wisconsin DNR



Figure 48. Characteristic zigzag feeding pattern on an elm leaf at High Cliff State Park in Calumet County, September 2025. / **Photo Credit:** Wisconsin DNR

In many cases, the feeding causes minor cosmetic damage. Elm trees produce an abundance of leaves and can generally tolerate some insect feeding without being harmed. However, the insect does have the potential to cause significant defoliation (*Fig. 49*). Repeated severe damage can weaken trees and lead to branch dieback, potentially impacting the long-term health and value of landscape and forest trees. Management may be warranted to help preserve the health of high-value trees.

The elm zigzag sawfly population consists entirely of females. They reproduce through parthenogenesis, laying viable eggs without mating. The insect can have several generations per year, and each generation can contribute to the defoliation of a single tree.

Adults are capable of long-distance dispersal and have been observed moving up to 56 miles per year. Cocoons (*Fig. 50*) are sticky and can attach to items such as vehicles and outdoor furniture, creating a nuisance and further facilitating long-distance movement.

Additional information about the elm zigzag sawfly and management options can be found at the [University of Wisconsin-Madison Extension website](#).



Figure 49. Heavy defoliation of a planted elm by elm zigzag sawfly in the village of Suamico, Brown County, September 2025. / **Photo Credit:** Wisconsin DNR



Figure 50. Empty elm zigzag sawfly cocoons on a defoliated leaf in the village of Suamico, Brown County, September 2025. / **Photo Credit:** Wisconsin DNR

Periodical Cicadas (*Magicicada* species)



Figure 51. Cicada oviposition damage on a red cedar twig found in Beloit, Rock County. / **Photo Credit:** Wisconsin DNR

and shrubs where they oviposit (lay eggs). Immature nymphs hatch from these eggs and drop to the ground, where they feed on sap from tree roots underground until it is time for them to transform into adults and emerge once again.

Cicada oviposition (*Fig. 51*) caused severe branch dieback and twig death, referred to as “flagging,” at Big Foot Beach State Park in Walworth County. Oviposition was reported on oak, black locust, buckthorn and Amur cork tree twigs.

In 2025, branch dieback remained apparent on trees in southern Wisconsin, where high numbers of cicadas emerged in 2024. One notable instance of cicada damage was observed in Rock County, where severe branch dieback was seen on red cedar.

In 2024, Brood XII periodical cicadas emerged in parts of southern Wisconsin. These cicadas, which only emerge once every 17 years, resemble the annual cicadas that are seen every year but have a distinct orange coloration to their wings. Brood XII’s emergence has been documented in 11 southern counties since the earliest observations were recorded in the state in 1837.

Adult cicada females create slits in twigs

Ambrosia Beetle On Sugar Maple Seedlings (*Anisandrus sayi*)



Figure 52. An adult ambrosia beetle (*Anisandrus sayi*). The insects are found in the wood of affected seedlings. / **Photo Credit:** Marc DiGirolomo, Bugwood.org

In 2022, dieback and mortality of understory sugar maple seedlings caused by the ambrosia beetle *Anisandrus sayi* (Fig. 52) were observed on a small woodlot in Waukesha County. To a lesser extent, dogwood seedlings were also impacted. Symptomatic seedlings had multiple boring galleries at the root collar area, which often caused them to break off at the base (Fig. 53). In 2022, on average of 15% of the understory sugar maple seedlings were affected in the examined stand. In 2023, the extent of damage was reduced to 10% on average. In 2024 and 2025, no damage by this insect was observed. This local outbreak ended in two years.



Figure 53. Seedlings affected by ambrosia beetles exhibit yellow and brown leaves. / **Photo Credit:** Wisconsin DNR

Native Health Threats To Conifers

Eastern Larch Beetle (*Dendroctonus simplex*) And Larch Casebearer (*Coleophora laricella*) On Tamarack



Figure 54. Galleries from feeding by eastern larch beetle on a tamarack in Chippewa County. / **Photo Credit:** Wisconsin DNR

Eastern larch beetle (ELB) activity increased to 729 mapped acres in 2025, from none reported in 2024. New ELB damage occurred in Ashland, Bayfield, Chippewa (Fig. 54) and Sawyer counties and continued to move through tamarack stands in which it was previously established throughout the northern part of the state. It was often observed attacking otherwise healthy-looking trees.

Historically, ELB was thought to target tamarack trees stressed or weakened from issues such as hydrological changes or drought, but tracts of mature, even-aged tamarack and longer growing seasons due to climate change are thought to be contributing to ELB population increases. This phenomenon has been heavily impacting tamarack in neighboring states for more than two decades. A previous outbreak in southeast Wisconsin peaked from 2008-2011.

Once established, ELB tends to move through a stand over the course of several years, killing most of the larger stems. Because of a small market for tamarack and the need to wait for frozen soil to harvest it, these stands are often left to regenerate naturally.

Defoliation of tamarack trees by the invasive larch casebearer (LCB) also increased in 2025, with 267 acres mapped in Burnett County. In addition, widespread but scattered defoliation was observed elsewhere in Burnett County as well as in Oneida, Sawyer, Vilas and Washburn counties.

Conifer Bark Beetles

Bark beetle activity and conifer mortality were observed scattered across the entire state in 2025. Though drought conditions have generally resolved over the last couple of years, stress from previous droughts, followed by waves of alternating wet and droughty weather, has likely played a role in bark beetle activity.



Figure 55. Pitch tube from a red turpentine beetle attacking a red pine in Jackson County. / **Photo Credit:** Wisconsin DNR

Red pine, white pine and spruce have all been impacted. Pine engraver (*Ips pini*) infestations were observed on red pine throughout the western and central portions of the state, and over a combined 150 acres in Door and Waukesha counties. In Door County, 51 acres of white pine were also attacked by bark beetles.

Numerous red pine plantations and forests were impacted by both pine engraver and red turpentine beetles (*Dendroctonus valens*) (Fig. 55). The latter are known to vector blue stain fungi (*Leptographium* spp.) (Fig. 56), which can inhabit the trees, further stressing them and spreading to neighboring stems through interconnected roots. This process leads to red pine pocket decline and mortality, which can expand over the course of several years and kill large portions of a stand. Armillaria root disease (*Armillaria* spp.) was also observed infecting stressed red pines and contributing to mortality. Commonly, these issues occurred in overstocked stands and at sites with red pine more than 50 years old.



Figure 56. Typical blue staining from infection by *Leptographium* on a red pine in Jackson County. / **Photo Credit:** Wisconsin DNR

Jack Pine Budworm (*Choristoneura pinus*)

No jack pine budworm damage was observed in 2025, after 509 acres of damage in 2024 and 79,000 acres of damage in 2023. The population crash may be related to the wet spring weather in 2024 and 2025.

Spruce Budworm (*Choristoneura fumiferana*)

For the 13th consecutive year in Wisconsin, spruce budworm has caused significant defoliation in areas of northern Wisconsin (*Fig. 57*). Spruce budworm outbreaks occur about every 30-50 years and typically last about 10 years. The current outbreak, which started in 2012, may continue for a few more years before collapsing.



Figure 57. A spruce budworm larva webbing and defoliating a spruce tree. / **Photo Credit:** Wisconsin DNR

The last outbreak in Wisconsin occurred from 1970-1980, with 180,000 acres impacted in the final year of the outbreak. Literature indicates that some budworm populations will collapse once they have exhausted the food source in an area. This is happening in some places where trees that have been moderately or severely defoliated for consecutive years are now dead or dying.

In 2025, 4,776 acres of significant defoliation were mapped in Bayfield, Douglas, Florence, Forest, Langlade, Marinette, Oconto, Oneida, Sawyer, Vilas and Washburn counties. Most defoliation occurred on spruce and balsam fir as the primary hosts, but once again, some localized areas of defoliation were seen in tamarack.

In 2025, 23,251 acres of spruce or balsam fir mortality were mapped due to repeated defoliation by spruce budworm. Of those acres, 15,551 were documented as exhibiting moderate to very severe mortality.

Damage From Abiotic Causes

Recap Of Weather Conditions

Fall 2024 (September-November): This period tied with 2016 for Wisconsin's warmest since 1895, nearly 5 degrees above normal, with a three-month average of 51.5 degrees. The fall of 2024 was also more dry than wet, resulting in the 33rd-driest fall on record. That came after the sixth-driest September/October transitioned into the 11th wettest November on record (*Fig. 58*).

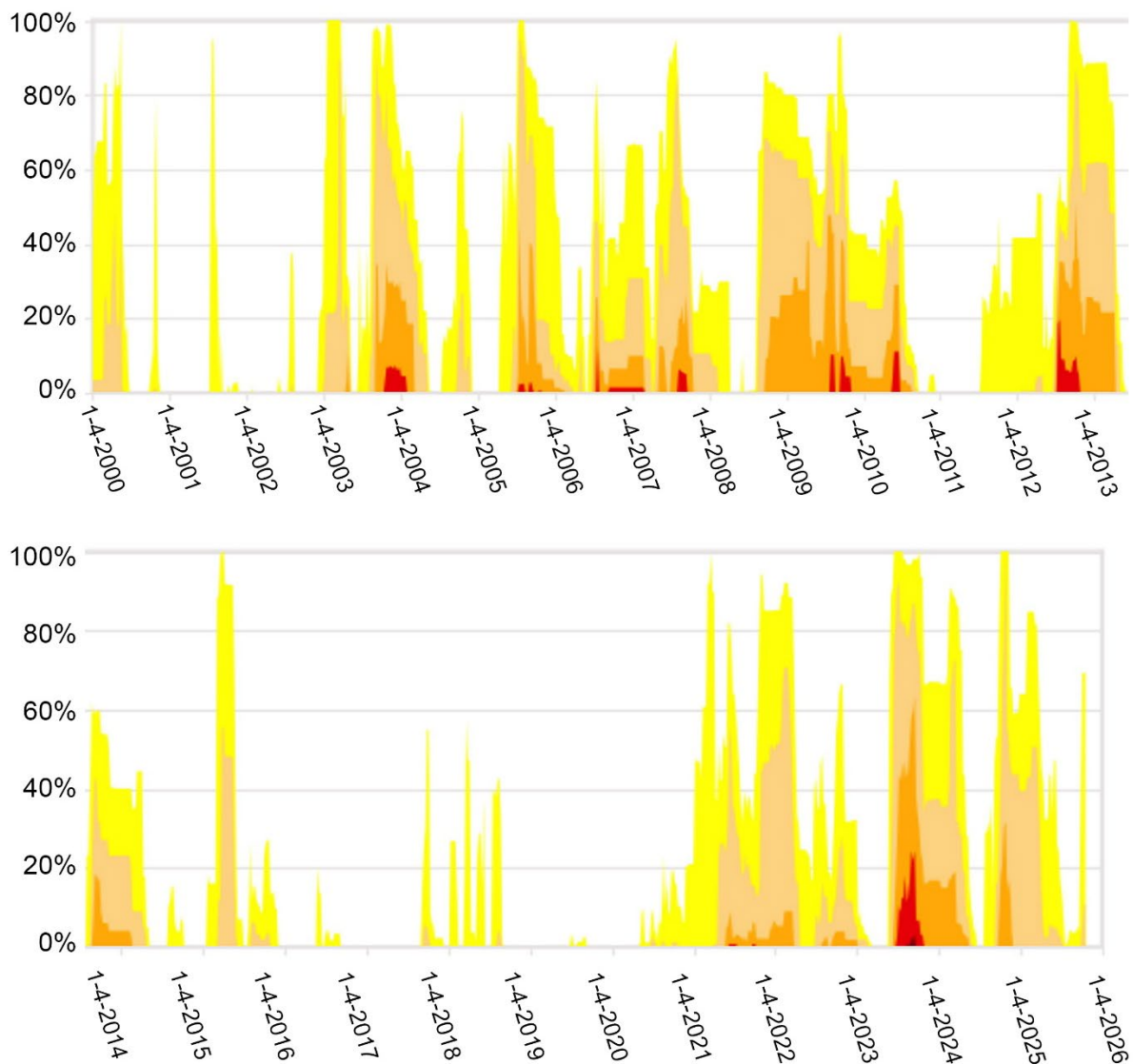
Winter (December 2024 to February 2025): Conditions were mild until cold, snowy weather arrived in February. With minimal snowpack and sustained subfreezing conditions through early to mid-February, frost extended deep into the ground until mid-February snowstorms added insulation. By late February, statewide frost depths ranged from 10 to 35 inches, near to deeper than normal. Throughout February and the winter months, Wisconsin faced persistent drought conditions.

Spring (March to May 2025): All types of weather were observed, with record-breaking warm temperatures, unseasonable cold, drought and drenching storms with tornadoes. Spring started warm, with the 12th-warmest March on record, but that early-season warmth was followed by April and May, both finishing close to normal. As a whole, the spring season flip-flopped between a very wet March, a near-normal April and a dry May. The major storm event of spring occurred on May 15, when a large line of thunderstorms spawned 15 tornadoes (three EF2 in strength) and one of the largest hailstones ever recorded in Wisconsin at 4 inches (near Altoona).

Summer (June to August 2025): Conditions were wet, warm and sticky. The statewide average temperature of 68 degrees was 0.8 degrees warmer than normal. The summer season was a wet one for most of Wisconsin, with the state's average precipitation 1.44 inches above average. Flooding was common in many areas of the state. Storms in southeast Wisconsin from Aug. 9-10 dropped more than 12 inches of rain in some locations, a [1,000-year flood event](#). Severe summer storms produced 15 tornadoes, bringing the year's total to 38. The soggy summer significantly reduced drought conditions across the state.

Fall 2025 (September-November): The fall started cool but quickly returned to summer-like warmth for the 13th-warmest September on record. Prolonged stretches of dry and hot weather through the month allowed abnormally dry conditions to spread across the state. The 39th tornado of 2025 occurred on Sept. 22, 16 more than average (6th most recorded in a year) (*Fig. 59*).

Wisconsin Percent Area In U.S. Drought Monitor Categories



From the [U.S. Drought Monitor website](https://drought.gov), 10-29-2025



Figure 58. U.S. Drought Monitor data for Wisconsin from 2000 through October 2025. / **Graphic Credit:** NOAA at Drought.gov

Wisconsin Tornadoes 2025

Updated: 9/30/25

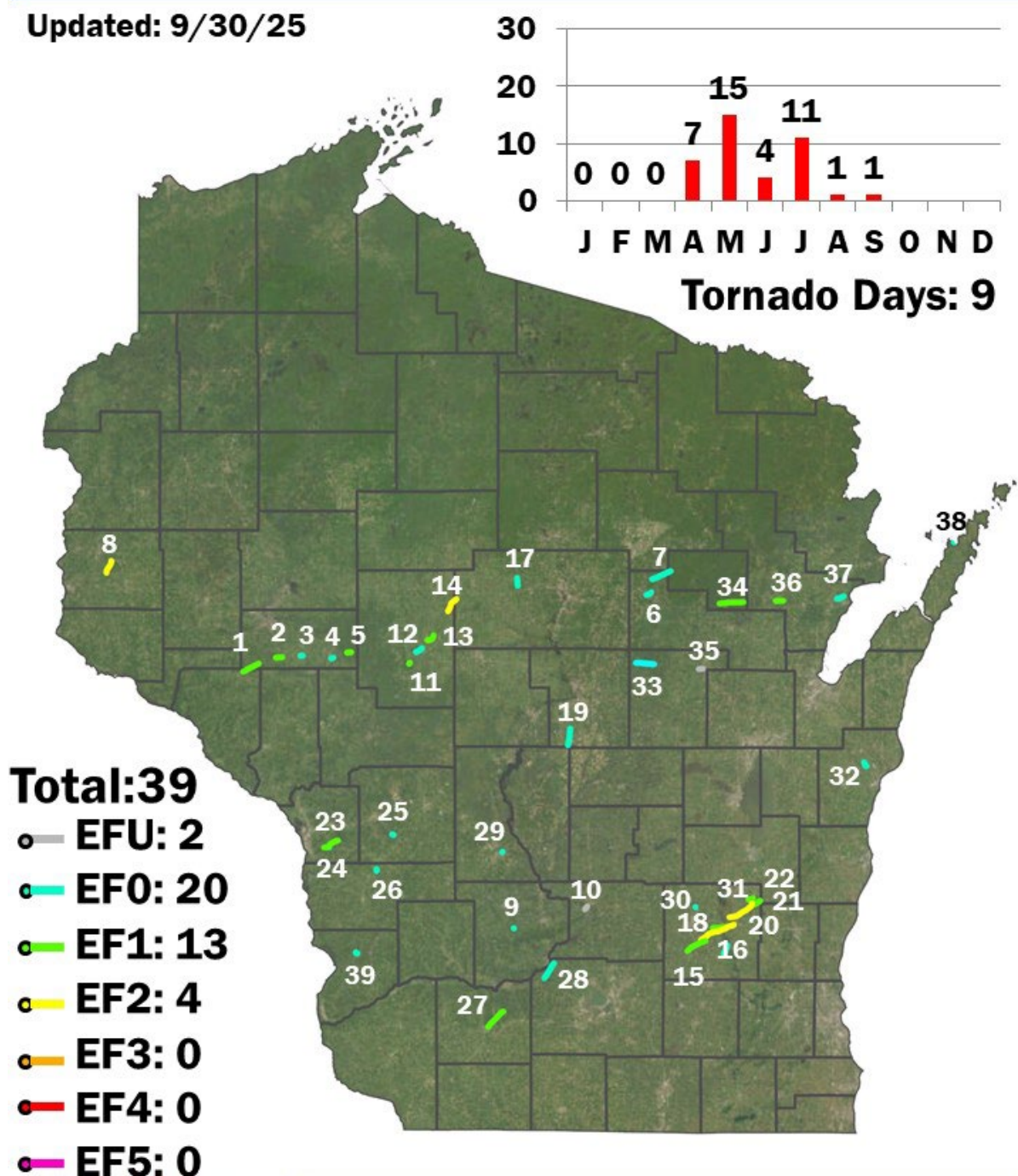


Figure 59. Wisconsin tornadoes in 2025, through Sept. 30. / Map Credit: National Weather Service, Sullivan

Key 2025 Weather Events

Wisconsin DNR Forest Health noted several severe weather events in 2025 that impacted forests:

- In the northeast, an ice storm occurred March 29-30. Recently thinned or unmanaged small to medium pole-sized red pine stands (mostly in Forest and northern Oconto counties) were hit the hardest with trees snapping off, usually 8-20 feet above ground. This damage was patchy, and severity seemed to be related to past management (late first thinning, recent thinning). Aspen and birch along roadsides or on the edges of openings were bent or broken. Northern hardwood stands, particularly in southern Forest, eastern Langlade and northwestern Oconto counties, saw significant amounts of branch breakage and breakouts of forked crowns, but not enough to warrant salvage.
- In the northwest, drought stress contributed to the decline of red oaks across the area.
- A hailstorm on July 19 caused heavy damage in pine stands across several north-central counties, including Langlade, Lincoln, Marathon, Menominee and Shawano (*Fig. 60*). Hardwood species were also likely impacted but refoliated rapidly, so damage was difficult to detect.
- Dieback and mortality of urban forest trees from frost damage to roots and soil compaction occurred in spring 2025.
- Severe storms over the Fourth of July weekend caused widespread blowdowns across Dunn County, including a continuous 10-acre swath of Dunnville Wildlife Area (*Fig. 61*).
- Hail damage in St. Croix County on June 19 resulted in 90 acres of red pine becoming infected with *Diplodia*.
- A total of 1,266 acres of flood damage was mapped in Chippewa, Door, Florence, Kewaunee, Langlade, Outagamie, Ozaukee, Sheboygan and Walworth counties. Damage includes crown discoloration in hardwoods and mortality of hardwoods and conifers.

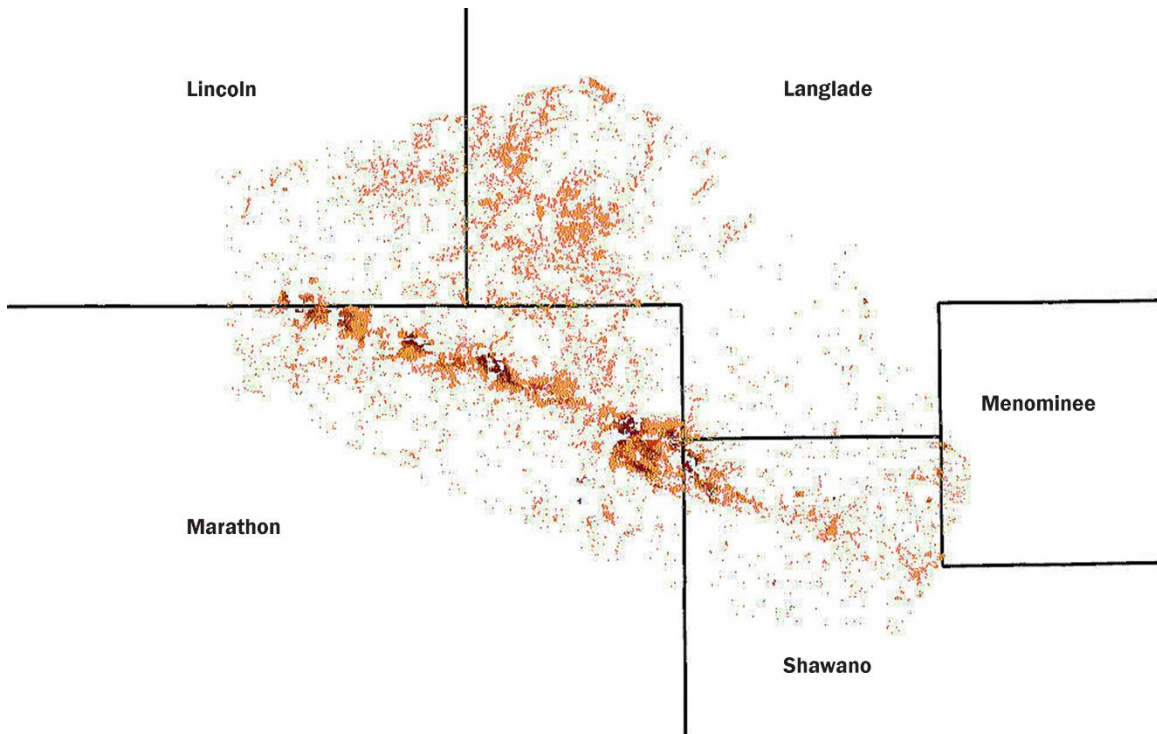


Figure 60. Map showing where hail damage occurred during a July 19 storm. The darker the color, the more severe the damage. / **Map Credit:** Wisconsin DNR



Figure 61. Foresters evaluate storm damage at Dunnville Wildlife Area in Dunn County in July 2025. / **Photo Credit:** Wisconsin DNR

Health Issues At State Nurseries

Asymptomatic Infection By *Diplodia sapinea* In State Nursery Stock

Asymptomatic infections by *Diplodia sapinea* on red pine seedlings can lead to plantation failure if the disease becomes symptomatic after planting. To mitigate this risk, healthy red pine seedlings from Wilson State Nursery in Grant County undergo annual testing (Fig. 62) to assess for asymptomatic infections before they are approved for sale to the public.

In 2025, 2-year-old seedlings had an asymptomatic infection rate of 1.3% (299 seedlings tested). This was comparable to the 1.1% rate observed in 2024 (267 seedlings tested).

The infection rate for 3-year-old seedlings in 2025 was 0.4% (270 seedlings tested). This was also comparable to the 0.7% infection rate recorded in 2024 (270 seedlings tested). Due to low asymptomatic infection rates observed historically, 1-year-old seedlings were not tested in 2025. Monitoring for *Diplodia sapinea* will continue in 2026.

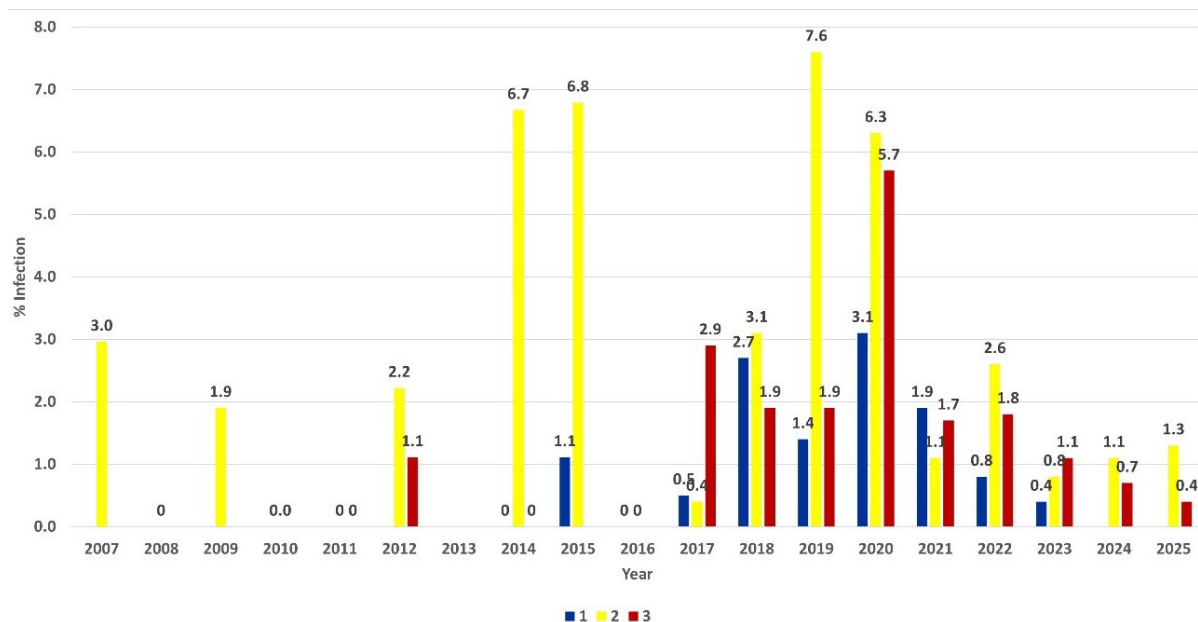


Figure 62. Yearly *Diplodia sapinea* infection rates of red pine seedlings at Wilson State Nursery in Grant County from 2006 to 2025. Missing data indicate that seedlings of an age were not sampled in that year. / **Graphic Credit:** Wisconsin DNR

Survey Of Galls On Jack Pine Seedlings At Wilson State Nursery

The incidence of galls on jack pine seedlings caused by rust fungi has historically been very low at the Wilson State Nursery (*Fig. 63*). To date, only one rust fungus species, *Cronartium quercuum* (pine-oak gall rust), has been identified. In spring 2025, a total of 724 1-year-old and 799 2-year-old jack pine seedlings were visually inspected for galls after being lifted from the nursery beds.

In the 1-year-old cohort, the incidence of galls was 0.4%, a slight increase from 0.0% in 2024. A 1.1% incidence of galls was observed in the 2-year-old cohort, also a minor increase from the 0.2% incidence recorded in 2024. Monitoring for galls will take place again in the spring of 2026.

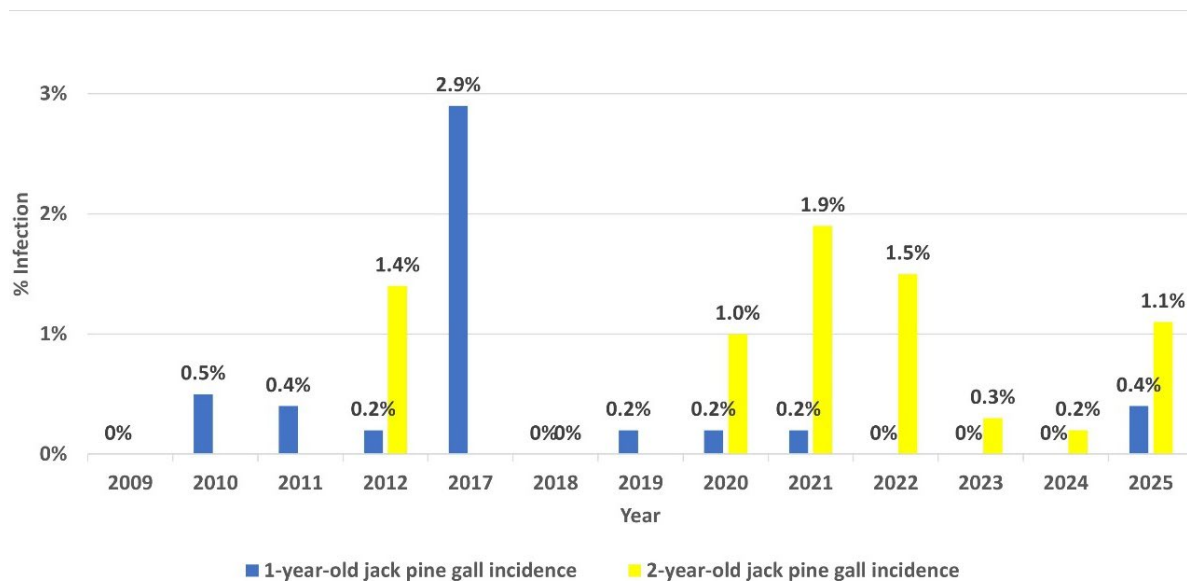


Figure 63. Yearly pine-oak gall rust infection rates of jack pine seedlings at the Wilson State Nursery from 2009 to 2024. Missing data indicate that seedlings of an age were not sampled in that year. / **Graphic Credit:** Wisconsin DNR

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