



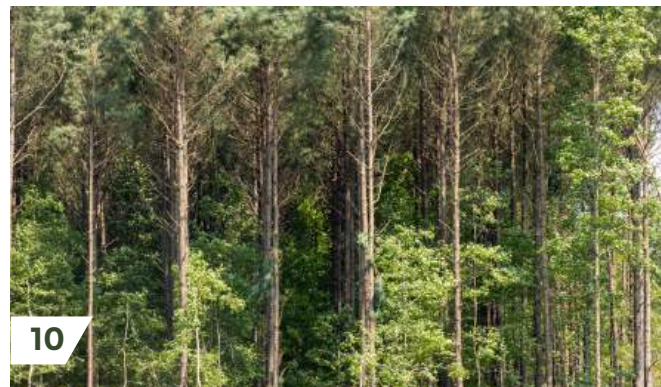
DELAWARE FOREST SERVICE ANNUAL REPORT

JULY 1, 2023 - JUNE 30, 2024

CONSERVE • PROTECT • ENHANCE

TABLE OF CONTENTS

- 1 Executive Summary
- 1 Let's Connect
- 2 Delaware State Forests
 - Blackbird State Forest
 - Taber State Forest
 - Redden State Forest
 - Delmarva Fox Squirrel Monitoring
 - Congressional Sportsman Foundation Hunt
- 6 Urban & Community Forestry
- 8 Forest Initiative Fund (FIF)
- 9 Smokey Bear Turns 80
- 10 Forest Stewardship Program
 - DFS Accomplishes Governor's Million Trees Goal
- 12 Wildland Fire Program
- 14 Forest Health Program
 - Delaware's Forest Health Key Threats
- 16 Forest Education





LET'S CONNECT

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EXECUTIVE SUMMARY

Fiscal Year 2024 was an unprecedented year for the Delaware Department of Agriculture Forest Service delivering key milestones and furthering our mission to Conserve, Protect, and Enhance. With new leadership at our program levels came new visions and ideas that helped craft program changes, deliveries, and offerings to individual homeowners, landowners, communities, and throughout all levels of government. What would typically have taken years, the staff has done in just one year, thanks to their hard work and dedication to Delaware's resources.

This year, we worked extremely hard to be innovative so that we could send off Governor Carney with a million trees (1,013,149) before leaving his office. In addition, we managed to further the relationships with Volunteer Fire Companies thanks to a full-time wildland fire supervisor which increased financial and technical assistance statewide. Lastly, our forest health program, urban and community forestry program, stewardship program, and education outreach program all worked together to create a 360-degree approach to management in both our rural and urban forests. It all starts at the grade level for the Forest Service and ends with a healthy, well-managed forest for future generations to enjoy. Our forest management philosophy is simple: actively manage your forests through a professional, and it will provide. It will provide opportunities for income, recreation, wildlife habitat, water and air quality, and increase the overall enjoyment for all.

I hope that this year's annual report finds you well and that it serves as a small glimpse into the world of sustainable forestry. I also ask that you take the time after reading this to witness all the benefits that forests provide and how the Delaware Forest Service enhances them for sustainability. Please take the time to educate our youth, visit our forests, and take advantage of our land management assistance.

Kyle Hoyd
Delaware State Forester



STATE FORESTS

Delaware has three state forests: Blackbird State Forest near Smyrna, Taber State Forest near Harrington, and Redden State Forest near Georgetown. Totaling 21,292 acres, the Delaware Forest Service maintains these forests for timber production, wildlife habitat enhancement, forest management demonstration, and recreational opportunities.

Each state forest highlights various forested regions within Delaware. Blackbird State Forest is home to mainly hardwood trees, while Redden State Forest is predominantly pine. Taber State Forest, given its location in Kent County, is a mix of both pine and hardwood species. The variety of tree species allows the Delaware Forest Service to manage each forest type sustainably within the state. The diversity in tree species also creates more resilient and productive forests, as resources are more efficiently used.

All of Delaware's state forests are managed for timber production and harvest, which sets them apart from lands managed by other state agencies. By engaging in active land management of Delaware's state forests, including timber sales, farm leases, and campsite and lodge

rentals, these revenue sources offset maintenance costs, resulting in free entry for all state forest visitors.

Our forests also offer many educational and recreational opportunities to various groups, including families, school groups, non-profit organizations, and government agencies. Both Blackbird and Redden have educational centers and other multi-use facilities, as well as spaces for wildlife observation, hiking, horseback riding, camping, and seasonal hunting. The Redden State Forest Educational Center is also home to a historic collection of woodworking tools and equipment, which showcases the history of forestry in Delaware.

Each state forest in Delaware provides visitors of all ages and backgrounds with the opportunity to see in action the Delaware Forest Service's mission to conserve, protect, and enhance Delaware's trees and educate visitors on the importance of active forest management and sustainability.

Blackbird State Forest

Blackbird State Forest, located northwest of Smyrna, encompasses 6,031 acres. As a multi-purpose forest, Blackbird has 10 tracts that are open to the public for walking, hiking, jogging, horseback riding, and hunting. It features a 1/2-mile wildlife and nature interpretation trail on the Tybout Tract and another near the Blackbird Education Center on the Ennis (formerly Meadows) Tract. Blackbird also offers in-season hunting; as of FY24, there are 51 deer stands and 1 handicap accessible deer stand provided to hunters free of charge. Blackbird State Forest overall provides over 60 miles of forest roads and trails within the forest. It is also the only state forest that provides year-round camping in southern New Castle County, with sixteen campsites available for the public to rent and enjoy.

This forest is one of the largest single-owned portions of the Blackbird-Millington forest corridor in the north-central

Left top (from left to right): Blackbird State Forest, Taber State Forest, and Redden State Forest

Right: A red oak seedling grows on the Oak Hill Tract at Blackbird State Forest after a timber sale.

portion of the Delmarva peninsula. It is an ideal location for people to enjoy connecting to Delaware wildlife. The biologically rich environment of Blackbird holds one of the most diverse habitats, which attracts scientific researchers and government agencies to conduct water and wetland monitoring, bat research, herpetology, and rare plant research. In fact, the University of Delaware holds annual field trips to Blackbird State Forest each Spring to provide hands-on learning for the students in their herpetology classes. The students monitor and document endangered species, such as the eastern tiger salamander.

Staff at Blackbird prioritize keeping the grounds clean and aesthetically pleasing for Delawareans and visitors. Everyday operations at Blackbird State Forest include establishing more definite forest boundary lines, repairing various buildings, and ensuring that recreational opportunities are available to all. These activities are all important to enhancing the forest experience for visitors at Blackbird State Forest.

Blackbird State Forest Highlights

In FY24, the Delaware Forest Service established a new connector trail on the South Oak Hill Tract. Forestry staff continue to provide infrastructure maintenance on all Blackbird trails and facilities, improving the visitor experience. For example, the facilities located at the Ennis Tract have been updated to meet Blackbird's resource and visitor needs.

Forestry staff continued maintaining oak stands throughout Blackbird State Forest property. Maintenance of forest stands protects trees from detrimental



climate conditions, fire, insect, and disease threats. Other silvicultural operations include stand development and logging within State Forest properties, contributing to best management practices and forest sustainability.

As of FY24, Blackbird has 156 forested stands containing mixed hardwood and softwood species. Red oak, white oak, black oak, poplar, beech, and pine are present on Blackbird. Each stand is at various stages of development and focused on timber resource production, and cared for until harvest. On average, each stand is approximately thirty-three acres, although this varies. The goal for each stand is to reach a minimum volume of 10,000 board feet per acre of standing timber before being considered for harvest while maintaining a balance of species composition in relation to oak species retention. Through regular monitoring, expertly trained foresters determine which practices to use to ensure the stands meet their goal for harvesting. Currently, the next stands that will be evaluated for harvest are on the Cypress Complex and the Wright Tract.

Critical to a healthy forest ecosystem, hydrology management strives to minimize water hazards and maintain sufficient water

levels and flow patterns affecting forests. In FY24, staff regulated and maintained the water flow of the Cypress Branch of the Chester River watershed and the Blackbird Creek watershed by monitoring and releasing water from various blockages, i.e., beaver dams, and downed trees, to minimize flooding on the State Forest properties and road systems.

Taber State Forest

Located west of Harrington and touching the border of Maryland's Caroline County, Taber State Forest has 1,323 acres that are open to the public for hiking, observing wildlife, and seasonal hunting. Unlike Blackbird and Redden State Forests, there are no maintained trails, but visitors can still enjoy a walk on Taber State Forest. Without a dedicated facility for staff at Taber, conservation technicians from both Blackbird and Redden State Forests assist with the general maintenance work.

Taber State Forest is managed primarily for timber production to increase forest sustainability in Delaware while increasing habitat for local wildlife. Despite being the smallest of the three state forests of Delaware, Taber State Forest continues demonstrating the

Delaware Forest Service's mission to conserve natural resources, protect the forest's ecosystem and biodiversity, and enhance the forest through sustainable forest land management.

Taber State Forest Highlights

Taber State Forest is home to various wildlife, including turkey, waterfowl, and whitetail deer. In FY24, staff continued to add acreage to existing food plots. Overall, Taber provides 14 acres of wildlife food plots, which are important in enhancing habitat quality and managing wildlife food sources in late winter.

In FY24, Delaware Forest Service staff constructed over one mile (5,898 feet) of fire breaks at Taber State Forest to support early successional habitat through prescribed fire. Fire breaks are crucial in sustainable forest land management because they prevent the spread of wildfires. These fire breaks will slow down prescribed fires, enabling our staff to control them safely while using this silvicultural tool.

Due to a wind event that impacted over 150 acres at Taber State Forest, the Delaware Forest Service had to conduct an emergency sale of approximately

80 acres of storm-damaged oak trees. Harvesting was completed to ensure affected trees were appropriately managed; otherwise, they would be vulnerable to insect outbreaks, posing a significant threat to forest health.

Other land management completed at Taber State Forest in FY24 included continued maintenance of early successional habitat around field edges. This work will provide nesting and food acreage for various wildlife species, including quail, which is a species targeted to be brought back to this location.

Redden State Forest

Redden State Forest's Headquarters Tract is home to three historic structures: The Lodge at Redden, the Forest Manager's house, and the Redden horse stable, now the Education Center. All were built in the early 1900s and are listed on the National Register of Historic Places. The Lodge at Redden continues to be a popular site for special events, meetings, and conferences and provides multiple rooms for primitive lodging for overnight guests. The horse stable was used



by hunters visiting the Lodge in the early 20th century but has since been repurposed as the Redden Education Center, displaying local history for visitors and providing classroom space for school groups.

Redden State Forest is a popular destination for recreational opportunities for Sussex County residents and visitors. Thanks to the ongoing active forest land management at Redden, people can still observe a dynamic forest ecosystem in Sussex County. Additionally, Delaware Forest Service staff adhere to strict silviculture protocols and maintenance routines, working to conserve and protect the forests that make up Redden State Forest for the benefit of visitors and future generations.

Redden State Forest Highlights

- Staff at Redden State Forest completed a total of 40 acres of prescribed fire on the Jester and J.G. Townsend Tracts to allow for early successional growth. This promotes increased growth of native plants and trees and increased stand diversity for wildlife habitat.

Left: Early successional growth at Taber State Forest

Above: Redden's Educational Center was previously the horse barn in the early 20th century.

Right: A Delmarva Fox Squirrel released at Redden State Forest. (Credit: DNREC Fish & Wildlife)



- In early 2024, a 50-acre timber sale was awarded for the Jester Tract. When completed, this harvest will ensure forest sustainability and contribute to the local forest products industry. It will also increase wildlife diversity and be one of the first sales targeted for increasing public awareness of the benefits of proper forest management.
- A commercial thinning was conducted on 325 acres of the Tunnel Tract, with the goal of improving overall forest health, resulting in better water quality, wildlife habitat, and species diversity.
- Through a partnership with the Delaware Chapter of Whitetails Unlimited, 15 acres of newly planted wildlife food plots were installed on several tracts at Redden State Forest.
- Staff conducted maintenance on the historic Civilian Conservation Corps pavilions located at the Ellendale rest stop and the Jester Tract.



the release of 14 additional Delmarva Fox squirrels at the Redden State Forest's Headquarters Tract, bringing the total number of squirrels released at Redden State Forest to 48. The first set of squirrels was released in the fall of 2021, and the last group in the spring of 2024. This monitoring project has contributed to the Delaware Forest Service's mission to protect the biodiversity of Delaware forests. The Delaware Forest Service has also received ample support from Delawareans statewide to help increase populations of the Delmarva Fox Squirrel.

Congressional Sportsman Foundation Hunt

In December 2023, the Delaware Forest Service hosted the 20th annual National Assembly of Sportsmen's Caucuses (NASC) Sportsman-Legislator Summit at the Redden State Forest, bringing hunters from all over the country to Sussex County, Delaware. After the hunt, participants were given a tour demonstrating active land management at Redden. For some attendees, this was their first experience in seeing how loblolly pine is managed for sustainable forest products and future generations.

Fox Squirrel Monitoring

In May 2024, the Delaware Forest Service allowed

Enjoy Visiting a Delaware State Forest!



Come enjoy the beauty of sustainably managed forests at Blackbird, Taber, and Redden State Forests. You'll have plenty to look at, including various species of trees, wildlife, flowers, and other native plants.



Blackbird State Forest with 60 miles and Redden State Forest with 44 miles of trails make these forests perfect for biking!



Pet walking is permitted in all state forests, but your pet must remain on a leash and controlled.



With the 16 campsites at Blackbird and 18 at Redden, they are perfect for family adventures!



In designated areas and seasons, Blackbird, Taber, and Redden provide a hunting oasis. Just remember, Sunday hunting is not permitted to allow for other recreational uses of our forests.



Blackbird and Redden State Forests offer an enchanting escape with their scenic trails perfect for horseback riding.



With more than 104 miles of trails at both Blackbird and Redden, hikers are treated to picturesque routes through vibrant landscapes.



Both Blackbird and Redden offer catch-and-release ponds providing a perfect opportunity to fishing.



URBAN & COMMUNITY FORESTRY

The Urban and Community Forestry (U&CF) program's core mission is to demonstrate forest sustainability in urban areas by increasing overall tree health through professional assistance in tree management and tree planting practices. Delaware's Urban and Community Forestry Program (U&CF) provides hands-on technical, financial, and educational assistance for all three counties, municipalities, homeowner associations (HOAs), non-profit organizations, and maintenance corporations throughout Delaware.

Since 2000, more than \$2.3 million has been awarded to over 711 communities, funding the planting of over 26,000 large caliper, or mature, trees and the maintenance of over 125,000 trees statewide. Assistance for these projects occurs on publicly owned lands such as HOA open spaces, parks, greenways, recreation areas, and public rights-of-way.

The U&CF program also provides local and county governments with

proper planning and ordinance development to ensure that community trees have the best possible locations and chances for survival. The Delaware Forest Service's urban tree canopy goals play a large part in this planning by giving communities a baseline percentage and recommendations for sustainable urban forests for future generations.

Urban & Community Forestry Highlights

In FY24, 46 communities were awarded tree planting and management grants totaling over \$105,527. Planting and inventory projects managed by the Delaware Forest Service were funded through state and federal allocations, with 76% of the funding coming from the Department of Agriculture Forest Service's federal budget. Additionally, 2,124 large caliper trees were planted with assistance from the Urban and Community Forestry staff.

Tree Recognition Programs

Tree City

The Delaware Forest Service's Urban and Community Forestry program oversees Tree City USA certification, which the Arbor Day Foundation sponsors. To become a Tree City in Delaware, a town, city, or village must meet the following four standards: a tree board or department, a tree care ordinance, a community forestry program with an annual budget of at least \$2 per capita, and an Arbor Day observance and proclamation.

In FY24, the following Delaware cities/towns were nationally recognized:

New Castle County

Arden, Ardentown, Delaware City, New Castle, and Odessa

Kent County

Dover, Dover Air Force Base, Milford, and Smyrna

Sussex County

Bethany Beach, Georgetown,

Henlopen Acres, Lewes, and Milford

Tree Friendly

In 2002, the Delaware Forest Service developed the Tree Friendly, which is currently managed by Delaware's Urban and Community Forestry Program. This initiative is unique to Delaware because it is the only program in the United States to honor non-government communities and homeowner associations that have committed to protecting and enhancing Delaware's urban forest. To qualify, communities must meet the following requirements: develop a community forestry management plan with the Delaware Forest Service; adopt a community tree ordinance; formulate a tree commission or board; perform an annual ceremony to promote urban forest resources; conduct a tree project within their community, and an annual budget of at least \$1 per capita.



In FY24, the following Delaware communities were recognized as Tree Friendly:

New Castle County

Alapocas, Fairthorne, Tavistock, Westover Hills (A), and The Villages of Fox Meadows

Kent County

Champions Club at Jonathan's Landing

Sussex County

Bishops Landing, Coastal Club of Lewes, Lewes Crossing, Nassau Grove, Sawgrass, Senators, Solitude at White Creek, The Plantations, Village of Cinderberry and the Tunnell Communities of Bayside, Baywood, Creekside, Dockside, Lakeside, and Seaside.



Top left: Apply mulch evenly 2 - 3 inches around the tree, but don't let it touch the trunk.

Right top: Tree planting at the Brandywine Street "Rock the Block" project.

Right middle: Urban & Community Forestry Coordinator Taryn Davidson conducts a site visit to Sea Colony.

Right bottom: The Senators Community in Lewes conducted a tree planting as part of the Tree Friendly initiative.



Scan to learn more about
Urban & Community Forestry

FOREST INITIATIVE FUND (FIF)

The Forest Initiative Fund (FIF) was created in 2022 by the Delaware Department of Agriculture's Forest Service to help address water and air quality and improve the overall quality of life for all Delawareans through tree planting. This program is provided at zero cost to private and public landowners in Delaware, and the Delaware Forest Service entirely funds the projects. Our professional state foresters oversee afforestation projects to establish new forests by targeting sites such as forest edges, grass meadows, low-producing agricultural areas, and rights-of-way.

Funding for FIF has allowed the Delaware Forest Service to develop long-term partnerships with Delaware landowners and agencies interested in planting diverse tree species, improving wildlife habitat, and ensuring tree benefits for future generations. The positive results generated from these partnerships demonstrate improved forest sustainability and the Delaware Forest Service's mission to conserve, protect, and enhance forested areas in Delaware.

The FIF program provides a simple outline of activities that aims to produce long-term relationships with Delaware landowners and agencies:

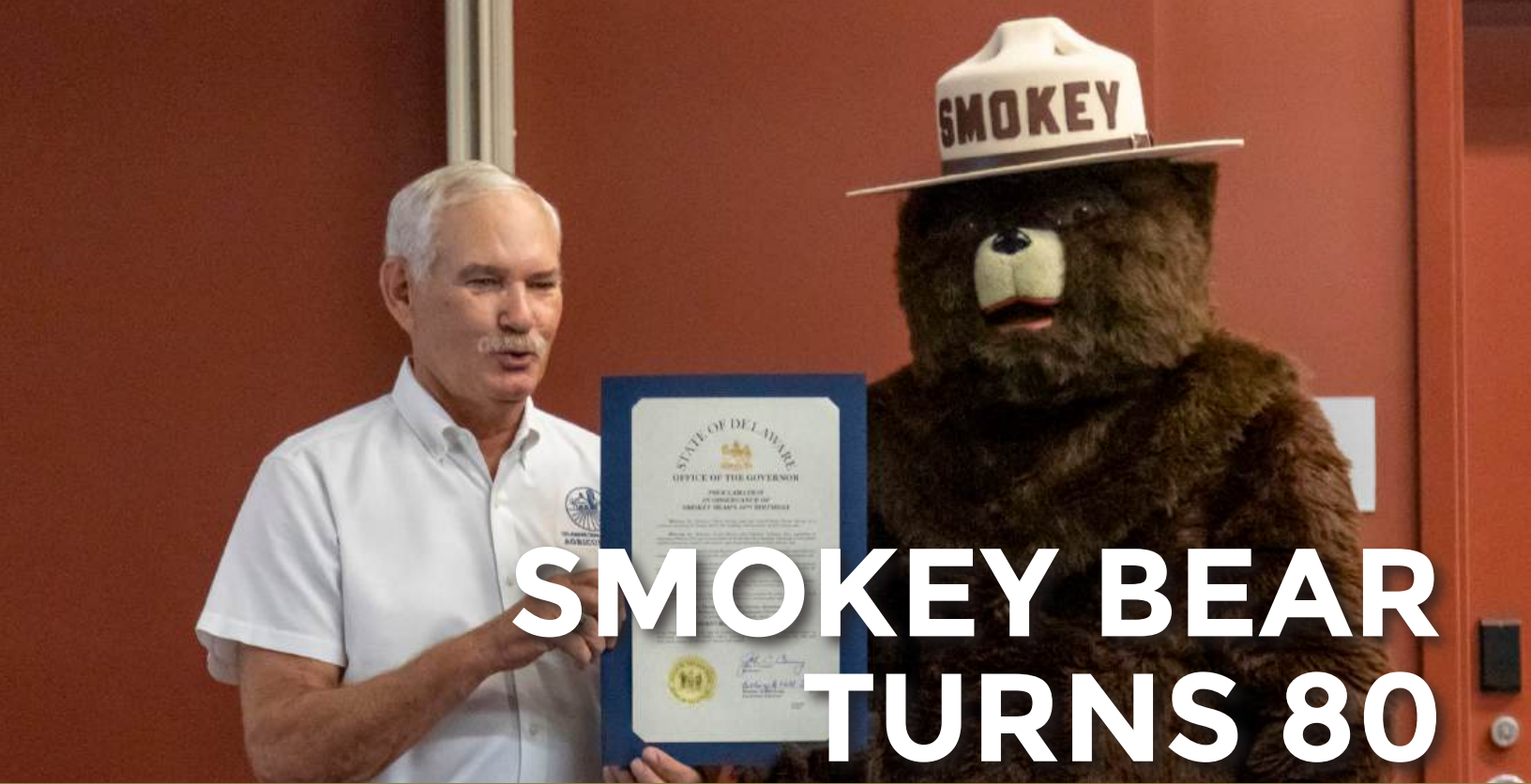
- Landowner meeting
- Site evaluation
- Planting preparation

- Ordering trees through vendors
- Hire planting crews
- Forestry staff assignments
- Tree planting
- Follow-up site visits at 1, 5, and 10 years, etc.

Forest Initiative Fund Program Highlights

FIF was launched in September 2022, and after accepting applications, the first planting occurred in April 2023. The first year of the FIF program was highly successful, as the Delaware Forest Service planted 75,585 trees over 12 afforested sites. The average cost was \$0.87 per tree, and the total installation cost was \$1.58 per tree.

Due to the staff's commitment to sourcing high-quality trees and skilled planting crews, along with strategically grouping projects for FY24, FIF saw a marked improvement in cost and a sizeable increase in the number of trees planted. In 2024, 105,050 trees were planted under FIF across 14 sites. The average price per tree decreased to \$0.51, and the total cost of installation per tree decreased to \$1.38 per tree. The FIF program also helped the Delaware Forest Service's overall afforestation efforts and streamlined state funding.



Teaching wildfire safety and prevention can help children be safe in an emergency, especially when visiting the forest. Over the decades, the Delaware Forest Service has collaborated with Smokey Bear to share his message that “Only you can prevent wildfires.” In FY24, to raise awareness for National Fire Prevention Month, the Delaware Forest Service provided first-graders statewide Smokey Bear goodie bags filled with information. A total of 7,063 children from 72 schools received these goodie bags to develop a greater understanding and appreciation for the protection and proper usage of Delaware’s forestlands.



Smokey Bear Reading Challenge

In 2024, the United States Forest Service celebrated Smokey Bear’s 80th birthday by encouraging children of all ages to participate in the Smokey Bear Reading Challenge. The Challenge encouraged youth to read about wildfire prevention, forests, and natural resource careers while exploring their local environment. Delaware was one of the few states that hosted the Challenge at every public library. The Delaware Forest Service also promoted the Smokey Bear Reading Challenge to other community groups and visited three Delaware State Park summer camps.

With the partnership of Delaware Libraries, the Delaware Forest Service promoted the Smokey Bear Reading Challenge and donated fire-related and nature

education books to all 33 libraries. The donation also included a Smokey Bear “Treasure Trunk” with Smokey Bear giveaways to motivate more children to continue learning about their local natural resources and fire safety. The Delaware Forest Service’s Training and Education Specialist conducted a statewide “Smokey Bear Story Time” tour to help distribute these materials. As of June 30, 2024, Smokey Bear visited 16 of the 33 Delaware libraries.

Left: A recently planted pine seedling.

Right: Secretary of Agriculture Michael T. Scuse presents Smokey Bear with a proclamation celebrating his work over the past 80 years helping Delawareans prevent wildfires.

Right bottom: Delaware Forest Service Trainer Educator Ashley Melvin shows children attending a library visit a picture of Smokey Bear as a cub after being caught in a wildfire.

FOREST STEWARDSHIP PROGRAM

Forests in Delaware are facing unprecedented challenges, such as land development, fragmentation or isolation of forests into smaller parcels, and unpredictable forest markets. Delaware's Forest Stewardship program conducts outreach to private landowners to address such challenges, offering services such as forest stewardship planning, tree planting, and timber stand improvement. Delaware Forest Service staff prescribes these and other silvicultural practices, which produce healthier trees and contribute to forest sustainability while improving local wildlife habitat.

Delaware's Forest Stewardship program provides science-based technical services to non-industrial private landowners to help them meet objectives related to timber production, wildlife habitat, water quality, and other benefits of working forests. What defines the Delaware Forest Service as a section

of the Delaware Department of Agriculture is that we apply silviculture principles, which involve growing, maintaining, and harvesting trees. Trees are a renewable commodity, and the Delaware Forest Service works with professional organizations and individuals within the forest industry to ensure proper forest management within Delaware. Our Forest Stewardship program also follows federal stewardship guidelines to assist landowners in achieving sustainable land management and to ensure minimal impacts on waterways through state permitting; this is accomplished through the Delaware Forest Service's Erosion and Sediment (E&S) Control Permit system. This requires landowners and forest product operators to submit an E&S permit before starting any work over one acre to ensure water quality protection. Foresters help

throughout the planning process, and our staff determines what practices should be best used.

Our active forest management approach increases the chances of optimal forest health and contributes to the dynamics of a sustainable forest market, leading to less forest fragmentation. Actively managed forests benefit not just individual landowners but all Delawareans by providing improved air quality, water quality, carbon sequestration, wildlife habitat, and forest vigor.

We are the only state agency in Delaware to provide active forest management services for public and private entities. The program allows the Delaware Forest Service to demonstrate to Delaware landowners our commitment to their forests and, ultimately, to our mission: to conserve, protect, and enhance Delaware forests.

Right: To improve success, tree tubes were used to protect the young oak and shortleaf pines planted in Seaford.

Forest Stewardship Highlights

Planting

In FY24, the Delaware Forest Service reforested approximately 294 acres on nine privately owned parcels, planting 160,270 seedlings of mixed hardwoods and pines. Through the Forest Stewardship program, we also afforested an additional 90 acres on six privately owned parcels, planting 48,700 seedlings of various hardwood species based on site conditions.

Forest Management Plans

In FY24, the Forest Stewardship program wrote 14 stewardship plans covering 1,442 forested acres for privately owned parcels. The Delaware Forest Service manages 34,100 acres of forests under these plans, which is roughly 10% of Delaware's forest base.

Water Quality Protection - Erosion and Sediment (E&S) Control

In FY24, the Delaware Forest Service issued 108 E&S permits on approximately 5,624 acres and conducted 192 site inspections to meet water quality regulations. These permits were strictly for silvicultural practices, with additional permits issued for agricultural conversions. The following permits were awarded in each county: 51 in Sussex County, 42 in Kent County, and 15 in New Castle County. Overall, the program increased 44% over the previous year. This contributed

to lands managed under forest stewardship plans, completing the cycle of active land management based on landowner goals and forest composition.

Addressing Land Use Planning and Conversion

In FY24, the Delaware Forest Service addressed forest loss due to applicant misinterpretation and misuse of harvesting permits issued by the Delaware Forest Service. In FY23, 411 acres of land conversion took place through our permitting process. As a result, new protocols were implemented in FY24 to ensure any harvesting under Delaware Code Title 3 was a true silvicultural operation where the land would remain in trees. The Delaware Forest Service developed stricter auditing and permitting systems, which included foresters conducting on-site visits and meeting face-to-face with the harvesters and landowners. In addition, the Delaware Forest Service utilized the Delaware Office of State Planning Coordination's Preliminary Land Use Service (PLUS) process to ensure that all parcels were not slated for land use change or land use at the county level. As a result of these program refinements, the Delaware Forest Service approved only two acres for development in FY24, namely for single-home building lots that were part of a larger harvest operation



Delaware Forest Service Accomplishes Governor's Million Trees Goal

In 2021, when Governor John Carney announced his goal of planting one million trees, his initiative reminded the Delaware Forest Service of our agency's roots dating back to 1927, when we owned and operated our own state nursery. The Delaware Forest Service was determined to meet

the Governor's goal before he left office, contributing to his legacy of protecting Delaware's land and improving the overall environment by increasing forested areas across the state. The Delaware Forest Service used this opportunity to combine our staff's professional forestry knowledge and our

expanding network of relationships with landowners, homeowners, and agencies that we formed over many generations as we managed Delaware's forested landscape. After four years of combined efforts and experience, the Delaware Forest Service planted 1,013,149 trees.



WILDLAND FIRE



Delaware’s Wildland Fire Program continues to grow and has been increasingly recognized in Delaware and beyond as a high-functioning, reliable fire organization.

The Delaware Forest Service’s Wildland Fire program provides financial, technical, and educational assistance to all 60 volunteer fire companies (VFCs), landowners, municipalities, and homeowners associations (HOAs). The program does this through annual suppression and prevention efforts, combining trained staffing with funding opportunities designed to reduce fuel threats and create capacity at the local levels.

Grant opportunities, such as cost-share assistance grants, are available to local volunteer fire companies for personal protective equipment (PPE) and equipment such as pumps, skid units, chainsaws, hoses, and hand tools. In addition, funding is also available to local municipalities and HOAs for

fuel management projects to reduce threats to people, homes, infrastructure, and lands. Fuel mitigation projects, also known as hazard mitigation grants, allow awardees the ability to manage invasive phragmites using chemical and mechanical applications. The program enables communities to treat with herbicide, which reduces vegetation growth through translocation into the root systems, allowing for mowing or burning. This practice is highly effective since much of the work is done in sensitive areas.

In addition to the work that the Wildland Fire program does within Delaware, it provides regional aid to Delaware’s partners through the Mid-Atlantic Fire Compact, which is a seven-state organization

that works together to “conserve and protect federal, state, and private grasslands, forests, and wildlife habitats.” The Delaware Forest Service also provides the Compact with financial support and website maintenance. Along with being a Compact member and providing suppression and prevention support within our region, Delaware’s Wildland Fire program is known for its out-of-state wildland firefighter program. This program provides trained wildland firefighters and equipment from Delaware to states and federal agencies experiencing high levels of uncontrolled forest fires. The program offers Type 2 Initial Attack crews, Suppression Modules, Type 6 Brush Trucks, and Fire Dozers throughout the United States.

Volunteer Fire Capacity Building

Throughout FY24, the Delaware Forest Service continued its “tool trade-in program,” which was available for volunteer fire departments, allowing them to come to both Blackbird and Redden State Forests to pick up usable equipment such as hoses, fittings, nozzles, PPE, and hand tools free of charge. In FY24, 81% of our volunteer fire departments participated in this program, which helped them maintain a fire-ready status with zero downtime loss. In addition to the cache of equipment at our state forests, the Delaware Forest Service awarded \$12,844 to local volunteer fire companies for our VFC mini-grant program. This program provided equipment up-fitting, chainsaws, PPE, pumps, and skid units to VFCs statewide.

Prescribed (Rx) Fire and Rx Council

This past fiscal year has seen considerable expansion in the Wildland Fire program’s use of prescribed fire, increasing the number of acres treated statewide. In FY24, the Wildland Fire program and its partners burned 807 acres to help with fuel management, wildlife habitat,

and biodiversity. This increasing trend in annual acres treated is primarily due to growing support for prescribed fire and the creation of a formal Delaware Prescribed Fire Council.

The Delaware Prescribed Fire Council became an official council with voting members in FY24. The Council focuses on advocating, educating, and promoting the use of fire to a larger group of land managers and owners. It allows partners to coordinate efforts, prioritize projects, and share resources, which increases the productivity of this land management tool.

Firefighter Property Program (FFP)

During FY24, Delaware resumed participation in the Firefighter Property Program (FFP) after ten years of absence due to staffing shortages. This program allows the Wildland Fire program to oversee acquisitions for a 12-month period. This is made possible through the United States Department of Defense and a partnership between the United States Forest Service and the Delaware Forest Service. This program aims to provide generators, high-water rescue

trucks, and wildland fire apparatus free of charge to local volunteer fire companies. The Delaware Forest Service spent much of FY24 preparing programming options for surplus acquisitions to our local VFCs, which will be administered in FY25.

Federal Excess Personal Property Program (FEPP)

The United States Forest Service offers the Federal Excess Personal Property (FEPP) program to loan vehicles and large equipment to state forestry agencies and fire companies for wildland and rural firefighting. The equipment must be returned after its use is completed or upon decommissioning. In FY24, the Delaware Forest Service resumed participation in the FEPP to serve our local VFCs better. Work in FY24 included an update of records in preparation for an inventory audit in 2025. In 2025, the Delaware Forest Service plans to acquire new equipment with local volunteer fire companies as the ultimate beneficiaries of the firefighting equipment obtained through the FEPP program.



Left top: Delaware’s wildland firefighters are in high demand due to their skill and knowledge.

Left inset: The Delaware Department of Agriculture’s Forest Service is skilled at conducting prescribed fires, assisting landowners, state agencies, and local communities.

Right: The Delaware Forest Service partnered with DNREC and others to conduct a prescribed fire at Brandywine Creek State Park to improve forest health and increase wildlife habitat.

FOREST HEALTH PROGRAM



The Forest Health program provides technical and educational assistance to landowners throughout Delaware. Technical assistance includes conducting aerial and ground surveys and regular monitoring of permanent forested plots, ensuring insect and disease control. The Delaware Forest Service is the only state agency that utilizes annual flight surveys to monitor forest health conditions. Flyovers by drone (unmanned aircraft system or UAS) are also performed above forested lands after the initial aerial flights. In addition, Delaware's Forest Health program provides individualized health checks with landowners to identify any issues surrounding one of their trees or stands of trees. These wellness checks are performed in both Delaware's rural and urban forests.

The Forest Health team provides objective professional feedback to homeowners, landowners, communities, and municipalities within Delaware. The program also partners with Delaware universities, government agencies, and the United States Forest Service to provide Delawareans with the best forest health management and implementation strategies.

The health of a forest is a key indicator of sustainable forest management; therefore, recommending tree health advice promptly helps Delawareans improve their knowledge in identifying and preventing forest health issues, ultimately maintaining more resilient forests. A forest's resiliency can yield many environmental benefits, including clean air and water, reduced erosion, climate change mitigation,

and increased biodiversity. The Forest Health program closely monitors all these aspects to ensure that Delaware forests continue to grow healthy, sustain a supply of forest products, and be enjoyed by future generations.

Technical Assistance

In FY24, the Forest Health program oversaw 218 insect and disease diagnosis visits to landowners and homeowners. Owners were offered technical advice, but they also received the training needed to detect and manage pests on their property. The Forest Health program monitored the following invasive species and diseases that posed a significant risk to forests in FY24: Spangly (Gypsy) Moth, Southern Pine Beetle, Asian Long-horned Beetle, Bacterial Leaf Scorch, Emerald Ash Borer, and the Sirex Wood Wasp.



Delaware's Forest Health Key Threats

Spongy Moth (Formerly Known as Gypsy Moth)



After the 2022-2023 outbreak of spongy moth, the Forest Health program received increased requests for assistance around neighborhoods with high levels of spongy moth caterpillars. The Delaware Forest Service used egg mass counts to predict caterpillar numbers for the following spring. Egg masses are identified as fuzzy, tan-colored, spongy lumps in the bark ridges of trees.

Residential areas that were found to have at least 250 egg masses per acre in wooded areas were offered the option to have the Delaware Forest Service spray *Bacillus thuringiensis kurstaki* (Btk), which is an organic soil bacteria-based insecticide used to reduce the number of spongy moth caterpillars. Delaware Forest Service staff contacted more than 400 landowners in the affected areas, and only 12 landowners opted out of the program for FY24. Over 730 acres of urban and rural forested regions were sprayed in April 2024. The spray proved effective; no abnormal leaf loss was reported in June 2024. The Forest Health program provided the aerial application at no cost to homeowners, funding the total cost from the Delaware Forest Service's budget of \$29,200, or \$40 per acre. This was the first spray program in the State of Delaware for spongy moth in over three decades.

Beech Bark Disease and Beech Leaf Disease

Beech bark disease (BBD) and beech leaf disease (BLD) are infections impacting beech trees. Beech Bark Disease is caused by a combination of scale insects and fungi, while a microscopic worm causes BLD. Mature beech trees can die in about six to ten years, and smaller trees can die even quicker. Beginning in 2021, the Delaware Forest Service established permanent study plots at various locations across Delaware. As of FY24, no indications of BBD have been found in Delaware; however, BLD was confirmed at White Clay Creek State Park. In addition, the University of Delaware's Plant Diagnostic Clinic confirmed at least three more beech trees were infected with BLD at White Clay Creek and Hagley Museum in 2024. Although cost-effective forestland treatments have yet to be found, the Delaware Forest Service continues researching treatments for BLD.



Left top: Clearings and thinning improve forest health by increasing access and food for wildlife and allowing more sunlight to filter through, which helps provide nutrients for trees and other plants.

Left bottom: An area that was recently thinned at Blackbird State Forest is seeing new vegetative growth.

Right top: A female spongy moth lays an egg mass in the grooves of the tree bark.

Right: Signs of Beech Leaf Disease were found on trees in White Clay Creek State Park and at Hagley Museum.

FOREST EDUCATION



The Delaware Forest Service's Forest Education program provides opportunities for students, teachers, industry professionals, senior citizens, and other communities throughout Delaware to become local experts in active and sustainable forest management. All of Delaware's forest education programs are conservation-focused and tailored to meet the needs of each audience, with the overall goal of increasing environmental literacy. The program works within an extensive statewide network of community organizations and state agencies with similar missions. The Delaware Forest Service's education programs are free of charge statewide and provided by request.

Delaware's Forest Education program applies national education standards and ensures grade-level appropriate, hands-on learning experiences for all students. For

7th through 12th-grade students, programs connect them to civic action and career exploration, such as participation in career days, fairs, and environmental science competitions. Such competitions include Envirothon, Science Olympiad, and numerous FFA Forestry Career Development Events. The Delaware Forest Service's Training and Education Specialist has played various roles in these events. With help from the Information and Education program's years of involvement, students of all ages receive a more in-depth, hands-on learning experience in how natural resources are used, whether they apply those skills for recreation or in the industry. During FY24, 107 elementary schools (21 public and 86 private schools) participated in the Delaware Forest Service's education programs. For in-school

programming, 14 school visits were made to 1,975 students in grades K-12.

Adult programming is also available for college-level students, parents, formal and non-formal educators, homeowners, community groups, and the general public. Other local organizations that the Forest Education program partners with include the Delaware Association for Environmental Education (DAEE) and various school district advisory boards across Delaware. Throughout the year, the Training and Education Specialist attends several community outreach events coordinated by partners of the Delaware Forest Service, which allow our staff to further their reach into the community. In FY24, six adult programs and training sessions were offered to 335 participants.

Youth Programming

In FY24, Blackbird hosted the “Tales & Trails” Program. This free learning event is designed to build strong relationships with homeschool groups statewide that may not have access to the Delaware Forest Service’s K-12 programming. These weekly programs are designed to promote environmental literacy for young children and connect them to our forests through nature-based stories, craft-based projects, and nature hikes to explore the forest and observe its vast offerings. In April, May, and June, 831

homeschool families participated in this educational program, making it a huge success.

In July 2024, the Delaware Forest Service partnered with the Milton and Georgetown libraries to host the “Adventure Begins at Your Library” event as part of their Summer Reading Kickoff Party. Held at the Redden State Forest Education Center, the event included a tour of the Education Center, wagon rides, games, and a nature scavenger hunt. The Sussex County Mobile Library was also available for families. In total, 250 children and their families attended

this event.

State Forest Education Centers

The Delaware Forest Service operates two education centers: one at Redden State Forest and the other at Blackbird State Forest. Both education centers feature interactive displays highlighting proper forest management, the importance of trees, and their role in the ecosystem. Each center also provides a classroom for indoor meetings and the opportunity to visit the trails for a dynamic learning experience.



Arbor Day Poster Contest & State Celebration

The Delaware Forest Service’s Arbor Day Poster Contest is the largest annual forestry-focused educational event in Delaware. The contest is a chance for school-aged children to artistically showcase their knowledge and appreciation for forests and their benefits. Judges select winners from each county in the following categories: kindergarten, first and second

grade, third and fourth grade, and fifth grade.

The theme for 2024 was “Trees are Terrific...for Outdoor Adventures!” In total, 5,468 students from 71 public and private schools participated. The Delaware Forest Service honored the poster winners at the statewide ceremony on April 26 at Abbott’s Mill Nature

Center in Milford, Delaware. The winners were surrounded by family members, teachers, legislators, and cabinet officials. Afterward, attendees planted several native Eastern Redbud trees.

Left: Delaware FFA Members participate in the Forestry Career Development Event.

Right: Winners of the Delaware Arbor Day Poster Contest plant trees at Abbott’s Mill Nature Center.



de.gov/forestry