

DELAWARE FOREST SERVICE

Annual Report

July 1, 2022 to June 30, 2023

Conserve

Protect

Enhance





DELAWARE DEPARTMENT OF
AGRICULTURE

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July 1, 2023

Michael T. Scuse, Secretary
Delaware Department of Agriculture
2320 South DuPont Highway
Dover, DE 19901

Dear Secretary Scuse:

The Delaware Forest Service continued its mission to Conserve, Protect, and Enhance Delaware's forests by providing technical, educational, and financial assistance for landowners, communities, municipalities, and K-12 schools. The Delaware Forest Service is committed to ensuring conservation efforts are maintained and enhanced under our guidance. In September 2022, we launched our Forest Initiative Fund, "FIF." This program was designed for Delaware landowners by giving them access to an easy-to-understand program that supports our mission and their goals. The first year of FIF showcased the planting of more than 75,000 trees in areas that were thought to be low value in terms of habitat and forest productivity. For FY24, we look to double the FIF planting numbers and improve upon these areas to create smaller blocks of forests near our towns, roadways, and within our backyards for future generations.

The attached Annual Report for FY23 outlines many of our significant and noteworthy program accomplishments completed over the last fiscal year. Our guide for FY23 was our comprehensive 2020 Delaware State Forest Action Plan, which contains 22 specific strategies and 108 performance measures that all center around quality professional assistance to promote healthy and sustainable forests in rural and urban areas.

Thank you for helping us succeed in all our forestry programs by providing the resources, funding, and guidance. Your work with the Carney Administration and the General Assembly has allowed the Delaware Forest Service to sustain and improve upon forest resources, and I look forward to what the future holds for our agency.

Sincerely,

Kyle R. Hoyd
State Forester

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ADVISORY COUNCILS

COMMUNITY FORESTRY COUNCIL

Jay Ashby, Chair	Cypress Tree Care
Mike Krzyzanowski, Vice-Chair	Delmarva Power
Kyle Hoyd	State Forester
Chris Miller	Asst. State Forester
Taryn Davidson	Urban Forester
(Vacant)	U&CF Program Director
Blake Moore	Univ. of Delaware Extension
Carol Larson	Village of Arden
Elain Schmerling	Ardentown
Herb White	City of Wilmington *
Kerin Hume	Kent Conservation District
Mardi Thompson	City of Lewes *
Megan Pleasanton	Delaware State Univ. Extension
Richard Pratt	Governor's Council on Forestry
Valann Budischak	DNLA

* **Associate Member**



GOVERNOR'S COUNCIL ON FORESTRY

Peter Martin, Chair	Georgetown
Richard Pratt, Vice-Chair	Clayton
Kyle Hoyd	State Forester
Daniel Tartt, Jr.	Harrington
Dot Abbott	Wyoming
Rachel Egolf	Delmar
William Jester	Harrington



Changing of the Guard



Mike Valenti speaking at the Delaware Forest Action Plan: 2020 Update

In March 2023, we said farewell to our former State Forester, Michael (Mike) Valenti. Serving for nearly 28 years, Mike was a crucial part of prescribed burns, educational programs, forestland protection, and preservation of working lands. The Delaware Forest Service team wished Mike an exciting career as he moved on to become Director of the Abbott's Mill Nature Center in Milford.

The following month, Kyle Hoyd was announced as the next State Forester. Previously the Assistant State Forester, Kyle has almost two decades of experience with the Forest Service and brings in-depth knowledge of the many programs that the Forest Service manages for Delawareans. Kyle was sworn in as the next State Forester by Governor Carney during the Arbor Day Celebration and Tree Planting on April 29, 2023.



Kyle Hoyd being sworn in as the State Forester by Governor Carney at the 2023 Arbor Day Celebration



Chris Miller speaking with high school students during FFA Training at Brecknock Park

The same month, Chris Miller was selected as the next Assistant State Forester. Chris has worked with the Delaware Forest Service since 2014, serving as the Kent County Forester and Taber State Forest Manager. Chris has a long history of contract management in the construction field, handling various state, county, and local municipal projects. Primary duties include state forest management, wildlife and timber management, regulation compliance, land acquisition, easement monitoring, procurement, and GSS contract management.

EXECUTIVE SUMMARY

Often, Delaware's forests are not the first thing on one's mind; however, they are one of the most essential parts of Delaware's landscape in rural and urban settings. It is a lifestyle for those of us who work at the Delaware Forest Service (DFS) as we strive to Conserve, Protect, and Enhance our forests. We understand the benefits of our rural and urban forests, whether a single street tree or two hundred trees located on a large woodlot. Trees are a critical part of our state's natural infrastructure and require active management so that we can ensure their health, vigor, and longevity. We do this through technical, educational, and financial assistance programs offered to landowners, communities, and government agencies. Our staff has provided these opportunities since 1927, and we look forward to expanding upon them in the coming years.

FORESTRY CONSERVATION

Urban & Community Forestry

The DFS administers an Urban & Community Forestry program providing technical, financial, and educational assistance to municipalities, homeowners associations, county governments, state partners, and federal agencies. Staff members help design and implement urban forestry projects within proposed areas through tree planting and management efforts. Urban foresters also review proposed developments to protect and conserve community tree resources during and after construction for new developments statewide. Additionally, annual community-based forestry grants are awarded to organizations for tree planting and tree management projects on publicly owned lands. In FY23, the DFS awarded 47 community forestry grants totaling \$198,277 for various projects throughout Delaware.



Kyle Hoyd, State Forester



Stewardship Program and Landowner Assistance

The Delaware Forest Service's Stewardship Program provides landowners with opportunities to improve the quality of their forested lands through professional technical and educational assistance. This includes a wide range of forest management activities such as afforestation, reforestation, and silvicultural practices to increase forest productivity. The DFS also offers free forest management plans to ensure forests remain healthy and sustainable for future generations. In FY23, the DFS assisted private landowners in reforesting 476 acres with over 548,610 trees. Staff also monitored forest stewardship plans on over 60,000 acres statewide for landowners with less than 10,000 acres.



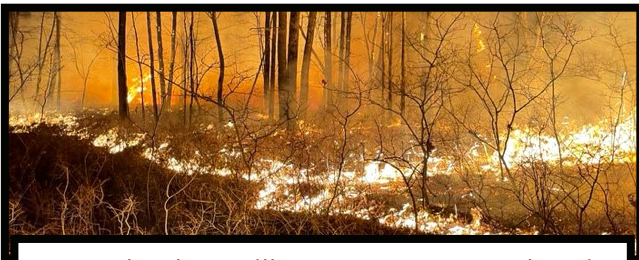
FORESTRY PROTECTION

Forest Health

The DFS Forest Health staff understands the early detection of forest pests and diseases is critical for the long-term health of Delaware's forests, which is why they have annual monitoring plots, aerial flight surveys, landowner educational programs, and staff to provide technical assistance on a tree-by-tree basis. Our forest health specialist reached out to several hundred students through educational programs and continued to monitor the entire state for destructive invasive pests and diseases. Staff monitored isolated outbreak areas for Spongy Moth, which has been increasing in size since 2021, and worked to develop a grant program to help landowners and homeowners with treatment options.



Wildland Fire



Crystal Lake, Wilkes-Barre, Pennsylvania

We help protect Delaware's natural resources through the wildland fire program by providing qualified personnel for fire suppression needs to local Volunteer Fire Companies (VFC). Personnel provide wildland fire training courses annually to VFC members and any interested person not affiliated with a local VFC. The DFS trains these personnel through approved National Wildland Fire Coordination Group (NWCG) courses, which allow

them to use this certification anywhere in the country. During FY23, we provided wildland fire training to 79 individuals, helped volunteer firefighters control 8 wildfires that burned 85 acres, were on standby for over 627 outdoor fires, and dispatched 31 qualified personnel and resources (e.g., 20 person crews, single resources) at the national level to control and contain large wildland fires in states from Pennsylvania to California. Through a prescribed fire program designed to assist landowners sustainably manage their lands, we completed 11 controlled burns on 608 acres. Delaware Forest Service staff members also provided 60 fire prevention education programs to 4,900 Delaware first-grade students with the help of Smokey Bear.



Rx Burn Crew in Middletown, Delaware

Watershed Protection

The DFS reviews all forest management operations and activities in the state to ensure compliance with the Forestry Practices Erosion and Sedimentation (E&S) law. In

FY23, foresters issued 75 permits on 4,487 acres of forestland and conducted 146 site inspections of forest management operations. Foresters often provide technical assistance to forestry operators to safeguard water quality, which is vitally important to the citizens of Delaware.

FORESTRY EDUCATION

State Forest Management

water quality protection. In FY23, about 54,000 visitors came to our State Forests to enjoy popular activities such as hunting, wildlife observation, hiking, horseback riding, and primitive camping around active working forests. The DFS offers these recreational activities so users can see how sustainable forests are managed and cared for by our professional foresters and conservation technicians. In addition to sustainable management, many activities occur around historical areas and facilities, which can be toured during visitor hours or by appointment.

Information and Education

Our technical programs would be incomplete without an active educational component. Thus, DFS strives to inject education into every program area. The goal is to inform and educate all Delawareans about the importance of Delaware's forest resources and the need to properly manage these resources actively so that they can remain healthy and productive. In FY23, we provided forestry educational programs on a wide range of topics to over 6,000 participants in Delaware's schools, clubs, civic organizations, and communities. These programs range from school-aged children to retirees, encouraging them to get involved in forestry efforts to ensure our forests are viable and healthy for all generations.



The DFS also continues to work towards meeting and exceeding the 108 specific goals outlined in our 2020 State Forest Action Plan. Achieving these performance goals will help address the most critical issues threatening the health and well-being of one of Delaware's most important and widespread renewable natural resources.

We hope that you find this summary report to be informative, as it outlines the Delaware Forest Service's accomplishments for FY23. We continue to fulfill our mission to conserve, protect, and enhance Delaware's forests through educational, financial, and technical assistance by forestry professionals.



Students compete in FFA Competition



FOREST CONSERVATION

A significant issue facing forests is poor management. Many of Delaware's rural forests are managed for timber production, but it can take 40 years to grow a mature timber crop. Many landowners might only harvest timber once in their lifetime and not be aware of management techniques to help them fully achieve their forestry objectives. The Delaware Forest Service offers assistance to help these landowners. Many communities also suffer because they lack management plans for their street trees, a complete inventory of their trees, or the expertise to manage them. Therefore, many urban forests do not provide their full range of benefits, such as energy savings, reduced stormwater runoff, and temperature moderation.

Urban and Community Forestry



Urban and Community Forestry Program

The Delaware Forest Service's Urban and Community Forestry (U&CF) Program provides technical, financial, and educational assistance to cities, towns, communities, and local governments to advise communities on management plans and street tree inventories. Urban foresters also review proposed developments to conserve and protect urban forest resources. In addition, annual community forestry grants are offered to various groups for tree management and tree planting projects on public lands. The program also provides educational training through public

presentations to schools, universities, municipal groups, and regional tree workshops.

Urban and Community Grant Program

The U&CF Program offers grants to municipalities, schools, non-profit organizations, and government agencies for tree planting and management projects on public lands. Program goals are to increase tree canopy, beautify community spaces, and promote the many benefits of trees. Grants are made possible by the U.S. Forest Service and state funds. Recipients must provide a 50-50 cost share match that can be met through volunteer labor, donated materials and services, or cash. The program is open to any city, town, community group, homeowner association, or certified non-profit organization in Delaware. Awards range from \$500 to a maximum of \$5,000 in one of two project categories, tree planting or tree management, and all projects must take place on public lands. Priority is given to first-time applicants, Tree Friendly Communities, and municipalities with urban tree canopy resolutions.





Urban and Community Forestry (U&CF) Grants

In FY23, the Delaware Urban and Community Forestry program awarded throughout the First State \$198,277 for 45 tree projects as part of its annual grant program.* Over the past 17 years, the program has given more than \$2.19 million to help communities increase tree canopy and promote the natural benefits of trees: cleaner air and water, increased property values and civic pride, and reduced stormwater runoff and flooding.

URBAN AND COMMUNITY GRANTS

Community	County	Awarded
Coastal Club HOA	Sussex	\$5,000
Town of Millville – Evans Park	Sussex	\$4,915
Marian Coffin Gardens at Gibraltar	New Castle	\$3,500
Middle Creek Preserve	Sussex	\$4,972
Sharpley Civic Association	New Castle	\$3,200
Town of Bethany Beach – Central Park	Sussex	\$4,035
Westover Hills B	New Castle	\$5,000
Whispering Woods	New Castle	\$5,000
Total		\$35,622



Chesapeake Bay Grants

The USDA Forest Service funds planting trees within the Chesapeake Bay Watershed. The trees planted help towards meeting goals outlined in the Watershed Implementation Plans (WIPs), which include detailed, specific steps each of the seven Bay watershed jurisdictions will take to meet the pollution reduction goals of the Chesapeake Bay Total Maximum Daily Load (TMDL) by 2025. These plans consider ecological restoration and sustainability while allowing for greater transparency and accountability for improved performance. In FY23, the Delaware Forest Service funded two projects totaling \$23,340.00.

CHESAPEAKE BAY FUNDED GRANTS

Community	County	Awarded
Kiwanis Park	Sussex	\$2,456
HT Blackbird Fall Planting	New Castle	\$20,884
Total		\$23,340

**Grant requests are not final until project completion. All requirements must be met, including cost-share match and approval granted by the U&CF Program.*



Climate, Coastal and Energy Grants

The Delaware Forest Service partnered with DNREC's Climate, Coastal and Energy division to fund tree-planting projects. This year, 23 communities received grant funds to help support the Governor's goal of planting 1 million trees by 2030. These trees will help reduce greenhouse gases and carbon dioxide in the atmosphere, improve air, water, and soil quality, and provide shade and animal habitats.

Community	County	Awarded
Barley Mill Maintenance Corp.	New Castle	\$5,000
Bayshore Property Owners Association	Sussex	\$4,700
Chaddwyck Maintenance Corp.	New Castle	\$5,000
Garden Gate Garden Club - DE Museum of Nature & Science	New Castle	\$5,000
Little Falls Village	New Castle	\$5,000
Reserves at Lewes Landing	Sussex	\$4,916
Shoreview Woods	Sussex	\$5,000
Tavistock Civic Association	New Castle	\$4,600
Willow Lake Community	Sussex	\$1,890
Cornerstone West CDC - 4th Street Visionaries	New Castle	\$1,845
Aspen Woods	New Castle	\$4,900
Brennan Estates	New Castle	\$2,500
Crossland Maintenance Corp	New Castle	\$5,000
DE Museum of Nature and Science	New Castle	\$4,874
Delaware City	New Castle	\$5,000
Friends of Bellevue State Park	New Castle	\$2,100
Friends of White Clay Creek State Park	New Castle	\$5,000
Historic New Castle	New Castle	\$5,000
Senators	Sussex	\$5,000
Solitude on White Creek	Sussex	\$3,200
Village of Ardentown	New Castle	\$5,000
Village of Westover	New Castle	\$5,000
Wharton's Bluff Condominium Association	Sussex	\$2,418
	Total	\$97,943



Nonpoint Source Grants

The Delaware Forest Service also partnered with DNREC's Nonpoint Source (NPS) Program to plant trees in EPA-priority watersheds. The program aims to address the issue of NPS pollution as it affects Delaware's numerous waterbodies. Efforts include grant funding, education, outreach, and partnerships with other organizations. Tree plantings are a Best Management Practice that can help intercept stormwater and nutrient runoff, reduce sedimentation and erosion, and filter pollutants. In FY23, \$65,555.63 was provided to 15 communities to fund tree projects that address NPS pollution.

Community	County	Awarded
Bishops Landing Community Association	Sussex	\$5,000
Forest Landing	Sussex	\$2,497
Heritage Village	Sussex	\$5,000
Lewes Crossing	Sussex	\$5,000
Maintenance Corp of Westover Hills A	New Castle	\$2,220
Middletown Crossing	New Castle	\$5,000
Sawgrass	Sussex	\$5,000
Sea Colony West, Phase 7	Sussex	\$4,995
Stonewold Maintenance Corp	New Castle	\$5,000
Sussex County Land Trust	Sussex	\$5,000
The Plantations Condominium Association	Sussex	\$5,000
The Plantations Owners Association	Sussex	\$5,000
Village of Cinderberry	Sussex	\$5,000
Village of Five Points	Sussex	\$5,000
Eagles Nest	Kent	\$843.63
Total		\$65,555.63



Focus Funding Grants

The DFS provides annual funding for projects that meet program goals to reach milestones from Delaware's Forest Action Plan. In FY23, \$14,600.36 was provided to eight communities. Each of the projects funded this year provided trees planted in areas to help prevent storm damage, mitigate heat island effects, increase tree canopy, and foster appreciation for our urban forests.



FOCUS FUNDING GRANTS

Community	County	Awarded
Kent County Make a Difference Day	Kent	\$2,835.86
Wilsons Elementary	New Castle	\$2,896
Calvary Christian Academy	Kent	\$2,472.50
Persimmon Run Maintenance Corp.	New Castle	\$2,750
Kent County – Browns Branch	Kent	\$1,061
Kingswood Community Center	New Castle	\$1,600
William Keen Elementary School	New Castle	\$550
Sista's Inc – Brecknock Arbor Day planting	Kent	\$435
Total		\$14,600.36

Tree City USA Program

The DFS helped 13 towns and cities achieve Tree City USA status from the National Arbor Day Foundation. Tree City USA is a community improvement program honoring cities and towns that promote and enhance their forests by meeting four standards:

1. Establish a tree board to develop and administer a public tree management program
2. Create a community tree ordinance that designates the tree board, which has responsibility for writing and implementing an annual community forestry work plan
3. Spend at least \$2 per resident per year on community forestry activities
4. Celebrate Arbor Day with a ceremony that includes a proclamation from the mayor and council

TREE CITY USA®			Odessa	New Castle	15
Community	County	Years	Dover	Kent	34
Arden	New Castle	16	Dover AFB	Kent	31
Ardentown	New Castle	14	Henlopen Acres	Sussex	7
Delaware City	New Castle	17	Lewes	Sussex	22
New Castle	New Castle	11	Milford	Sussex	18
Newark	New Castle	22	Rehoboth Beach	Sussex	32
			Georgetown	Sussex	9



Tree Line USA

Communities across America depend on safe, reliable electrical service to power homes and businesses while protecting and enhancing the urban forest. TreeLine USA® recognizes best practices in public and private utility arboriculture, showing how trees and utilities coexist for everyone's benefit. The Arbor Day Foundation and the National Association of State Foresters partner on the initiative, honoring utilities that meet the five core standards in quality tree care, annual worker training, tree planting, public education, tree-based energy conservation program, and annual Arbor Day celebrations. Delmarva Power has received the Tree Line USA designation in Delaware for the past 15 years.



Tree Campus USA

Delaware State University is the only Tree Campus USA in the First State, an honor it has held for 12 consecutive years. The award recognizes institutions implementing a tree care plan supported by funding allocations, a campus advisory committee, educational outreach, and an annual Arbor Day celebration. DSU is among the few Historically Black Colleges or Universities (HBCUs) in the U.S. to earn this designation. Its main campus features an arboretum with trees representing over 130 species. The University also has a Herbarium, the only one on the Delmarva Peninsula.



Delaware State University President Tony Allen and Herbarium Curator, Cynthia Hong-Wa



“The Delaware State University (DSU) Arboretum is comprised of hundreds of planted campus trees, totaling 172 different species of trees and shrubs (114 tree species, 58 shrub species). Recent plantings were selected to increase the diversity of trees on campus further. These include Delaware natives such as beach plum, American chestnut, and chinquapin. Some intriguing non-native species are the monkey puzzle tree, franklinia, and umbrella pine. The DSU Arboretum beautifies the campus in all seasons, especially with spring-flowering trees and fall foliage.”

Tree Friendly Community Program

Delaware's "Tree Friendly Community Program" honors communities and HOAs that protect and enhance urban forests. Bronze, Silver, Gold, and Platinum levels correspond to their length of participation. A total of 21, including five new communities, earned the honor by achieving at least three of the following:

1. Annual ceremony to promote community forests
2. Tree project to enhance urban forests
3. Community forestry management plan
4. Community ordinance to protect trees
5. Tree commission or tree board
6. Tree budget of \$1 per household



TREE FRIENDLY COMMUNITY PROGRAM

Community	County	Level
Alapocas	New Castle	Gold
Fairthorne	New Castle	Silver
Tavistock	New Castle	Platinum
The Village of Fox Meadows	New Castle	Bronze
Westover Hills A	New Castle	Platinum
Westover Hills C	New Castle	Platinum
Champions Club	Kent	Silver
Coastal Club of Lewes	Sussex	Bronze
Lewes Crossing	Sussex	Bronze
Meadows at the Villages of Old Landing	Sussex	Silver
Nassau Grove	Sussex	Bronze
Savannahs Landing	Sussex	Bronze
Sawgrass Community	Sussex	Bronze
Village of Cinderberry	Sussex	Bronze
<i>Tunnell Communities</i>		
- Bayside	Sussex	Gold
- Baywood	Sussex	Gold
- Creekside	Sussex	Gold
- Coveside	Sussex	Gold
- Dockside	Sussex	Gold
- Lakeside	Sussex	Gold
- Seaside	Sussex	Gold

Forest Stewardship Program

Private Land Management

The Delaware Forest Service (DFS) assists private landowners in all aspects of forest management, ranging from tree planting and timber stand improvement to long-term management plans. In FY23, DFS supervised the planting of 548,610 seedlings on a total of 10 sites for 476 acres of private land. Twelve of those sites, or 75,585 trees, were planted as part of the pilot year for the Forest Initiative Fund (FIF) tree planting program. This new program supports Governor Carney's million-tree campaign. This free program is open to every Delaware property, public or private, to plant trees in unforested areas (afforestation).

Landowner Assistance

The Delaware Forest Stewardship Program introduces landowners to innovative land management techniques. Any resident who owns up to 1,000 acres of forested land or land that can be converted to forestland is eligible for assistance. Delaware's Forest Stewardship Program began in June 1992 in cooperation with the U.S. Forest Service State & Private Forestry Program. The Forest Stewardship Committee, which consists of landowners, foresters, and natural resource managers, helps guide and promote the program. DFS assists landowners with stewardship planning and advises on tree species, tree planting, and timber stand improvement. This year, state service foresters updated six stewardship plans for properties in New Castle, Kent, and Sussex Counties that included management goals and prescriptions for 1,478 acres of land. Eight projects (425 acres) of pre-commercial thinning (PCT) were conducted in FY23, and six herbicide spray projects on 399 acres were completed.



CREP Program

In FY23, DFS continued its partnership with the USDA Natural Resources and Conservation Service's Conservation Reserve Enhancement Program (CREP) to further its forested buffer goals and monitor existing CREP sites for compliance. DFS increased CREP funding and activities to include assisting CREP staff in developing management goals, performing inspections, and assisting landowners.

State-Funded Cost Share Program

In FY06, the General Assembly established a state-funded forestry cost share program totaling \$75,000, which the Delaware Forest Service generates from cropland leases and timber sale revenues. The program supports the forest industry on the Delmarva Peninsula and benefits Delaware's communities and private landowners. The funding is divided between cost-share assistance to landowners (reimbursing them 50 percent of actual costs) for forest management and grants to communities for tree planting and management projects on public land. In FY23, two projects were approved, utilizing \$20,013 of state cost share funds.

Conservation Easements

A conservation easement is a permanent deed restriction whereby the landowner still owns the property, but certain activities, such as development, are prohibited. The owner can sell the property, but all future owners must follow the same restrictions. This program is designed to protect working forests; therefore, the easements allow forest management activities, including timber harvests, to continue. Landowners can harvest timber anytime on their property if they follow a forest management plan prepared by a professional forester. The program also does not affect hunting activities on the property.

Conservation easements are established to protect land from development. While the property owner sells the rights to the development of the property, they maintain ownership of the property. Property owners can also work with the Delaware Department of Agriculture's Aglands Preservation section.

Of the 6,871 acres appropriated to conservation easements, 2,664 acres offer public hunting. The majority of conservation land managed by the Delaware Forest Service is located around the Redden State Forest.



Glatfelter Easements

About two decades ago, conservation easements were bought when the Glatfelter Company owned land in Delaware for their paper mill. Although the Glatfelter Company no longer owns the land, the conservation easements are permanent. Landowners must still abide by the conservation easements, and the Delaware Forest Service manages them for sustainability.

Commercial Forest Plantation Act (CFPA)

The Commercial Forest Plantation Act (CFPA) was established to give landowners a property tax exemption for forests managed for timber production. To qualify for this 30-year exemption, landowners must have at least ten contiguous forested acres and follow a forest management plan approved by the Delaware Forest Service. CFPA is delivered through a partnership of the Delaware Department of Agriculture, Forest Service, and the county tax assessors offices. Working forests help keep forestland as forestland, and incentives like CFPA are a great vehicle to encourage maintaining productive forestland.

CFPA BY COUNTY

County	Properties	Acres
New Castle	84	2,027
Kent	52	3,891
Sussex	265	21,634
Total	401	27,552



FOREST PROTECTION

Wildland Fire Program

The Delaware Forest Service's Wildland Fire Program assisted over 78% of Delaware Volunteer Fire Companies with grant opportunities, training assistance, and suppression assistance. DFS also provided wildland fire training to 79 individuals, helped volunteer firefighters control eight wildfires that burned 85 acres, and also were on standby for over 627 outdoor fires.

Hazard Mitigation

Each year, the Wildland Fire Program offers cost-share assistance grants and technical assistance to communities to reduce the danger of wildfires. These funds are used to control phragmites in high-priority areas through mechanical and chemical treatments. The Delaware Forest Service has had great success in managing phragmites through a systematic spraying and mowing cycle over a three- to four-year period. In FY23, five grants totaling \$17,042 were awarded with State Fire Assistance funds. This assistance, combined with funding from our partners, has helped treat 5,200 acres statewide.



2023 Mid-Atlantic Wildfire Academy



The Delaware Forest Service assisted the Mid-Atlantic Fire Compact by providing instructors and logistical support staff to host the 2023 Mid-Atlantic Wildfire Academy at Garrett College in Maryland.

HAZARD MITIGATION GRANTS

Community	Awarded
Blackwater Village	\$1,196
Peninsula Community Association	\$4,196
Pickering Beach Association	\$4,750
Prime Hook Homeowners Association	\$4,500
Town of Slaughter Beach	\$2,400
Total	\$17,042

Volunteer Fire Assistance Program

Delaware's 60 volunteer fire companies are vital to the Delaware Forest Service because they provide much of the manpower and resources to fight wildfires in the state. The Delaware Forest Service maintains two fire equipment supply caches, one at Blackbird State Forest and one at Redden State Forest. In addition to these supplies, the Delaware Forest Service has two type 6 engines, three fire plows, and four UTVs with slip-in tanks available to help with wildfires. In FY23, four volunteer fire companies received \$16,158 through the VFA grant program, which helps underwrite the acquisition cost of pumps, hoses, and equipment to respond to and suppress wildfires.

VOLUNTEER FIRE GRANTS

Company	Awarded
Camden Wyoming Fire Company	\$1,562
Felton Fire Company	\$10,000
Laurel Fire Department	\$1,674
Millville Volunteer Fire Company	\$2,922
State Fire School - Training Support Services	\$16,000
Total	\$32,158



Fire Camp/Pack Test Training

Fire camp/pack test training was held at the Tybout Tract at the Blackbird State Forest in March 2023. There was no live burn due to the weather conditions.



Out Of State Fire Response

July 2022

Colorado Fire Request

Delaware provided an Intel Officer (INTS) to the Northern Rockies for INTEL support needs. (16 days)

California Fire Request

Delaware provided a Crew Boss (CRWB) for the Sequoia National Forest Type 2 hand crew. (18 days)



August & September 2022

California Fire Requests

Delaware provided a second CRWB to assist the Sequoia National Forest during the Washburn Fire. (21 days)

DES-1 was activated to the 2022 Six Rivers Fire (SRF) Lightning Complex. Delaware had deployed its 20-person Type 2 IA crew for suppression and Initial Attack. (20 days)

E-612 Wildland Fire Type 6 Engine was mobilized to the Encino National Forest with three personnel, to help with wildfires in the area and to provide tactical support. (21 days)



April 2023

Pennsylvania Fire Request

E-612 and E-621 (two type 6 Wildland Engines) and five personnel deployed for three days to help suppress the Crystal Lake Fire, 1,800 acres off the Pennsylvania Turnpike. (3 days)

Prescribed Fire (Rx) Fire Council

The Delaware Forest Service serves as the lead for the Delaware Prescribed Fire Council, which comprises conservation-minded entities ranging from non-profit organizations, state agencies, and federal agencies. The goal of the Prescribed Fire Council is to create awareness and safety around the use of fire in Delaware's landscape, which will help promote healthy lands and estuaries. Member organizations include: Delaware Wild Lands Inc., The Nature Conservancy, Mt. Cuba, Delaware Nature Society, Flintwood's Preserve, United States Fish and Wildlife Service, National Park Service, State Parks, State Fish and Wildlife Service.



In its first year, the Council worked to develop protocols for prescribed burning, such as burn plan standards, burn windows, smoke management techniques, and the use of proper safety gear for members while on burns. This group also worked closely to help address air quality standards to ensure they were met, while optimizing the benefits of fire in the landscape for habitat restoration and fuels management in and around communities.

Prescribed Fire (Rx) Numbers

The Delaware Forest Service assisted with 11 prescribed fires (Rx) this past year, totaling at least 607.9 acres. This was all part of habitat management and reducing fuel loading in targeted areas where wildfire threats were elevated.

Rx Burn at Taber State Forest



Fire Crew at Rx Burn in Middletown



Wildland Fire Training

- All Hazard Logistical Support
- Fire Hazard Awareness
- M-410 Facilitator Instructor
- RT-130 Fire Camp
- RX-341 Plan Preparation
- S-130 Firefighter Training
- S-212 Wildland Saws
- S-231 Engine Boss
- ICS-100 Introduction to the Incident Command System
- IS-700 Introduction to National Incident Management System IMS
- 2022 Incident Review Summary
- Eastern Area 2023 Outlook and 2022 After Action
- Fatigue and Stress Management for Fire Fighters
- L-180 Human Factors in the Wildland Fire Service
- S-190 Introduction to Wildland Fire Behavior
- S-290 Intermediate Wildland Behavior
- RX-301 Prescribed Fire Implementation

Forest Health Program



3-4 miles east of Greenwood

The Delaware Forest Service (DFS) works with landowners, state and federal agencies, and educational institutions to conduct forest pest surveys, provide technical assistance, and forest health education. Foresters emphasize various prevention strategies to minimize the destructive effects of serious forest pests. The DFS also uses aerial and ground surveys along with permanent forested plots to monitor the health of our forests annually.



Between Harrington and the Maryland state line



The DFS employed drone technology to capture these images.



Southern Pine Beetle (SPB)

Southern Pine Beetle (SPB) is a native pest that can occasionally build up to destructive population levels in Delaware's pine forests. In Spring 2023, Delaware continued participating in the Spring Southern Pine Beetle Pheromone study. An additional trap was added this year at Marshyhope Wildlife Area near a small 2022 infestation on private land. Our forest health specialists did not trap any southern pine beetles in the fix Sussex County locations.



Spongy Moth (formerly Gypsy Moth)

The June 2023 aerial survey showed over 1,300 acres of hardwood defoliation around Cypress Swamp and the Nanticoke state wildlife area in Sussex County due to the spongy moth caterpillar. The 2022 aerial survey showed nearly 828 acres in the same locales. In August 2023, the forest health program conducted egg mass surveys to predict the level and locations of defoliations that may occur next spring. From the number of fresh egg masses found from road surveys, it is expected that 2024 defoliation levels will fall back down to much lower levels.



This year, for the first time, the Delaware Forest Service placed spongy moth "milk carton" traps with lures in locations designed to survey for the possibility of the East Asian variety of spongy moth being imported into Delaware. Currently, the forest health program is searching for a lab with DNA analysis capabilities to determine the origins of the moths caught in these carton traps.

Bacterial Leaf Scorch (BLS)

Bacterial leaf scorch is caused by the bacteria *Xylella fastidiosa*, which can only grow in the xylem of several species of plants (including, notably, most oaks in the red oak group) or in the gut of specific insect vectors such as leaf and treehoppers. During the late summer, infected trees show a distinctive marginal leaf scorch. Reduced water flow in the xylem of affected trees causes them to suffer from stress and eventual crown dieback, making them more susceptible to insects and diseases.

There is no known cure or effective treatment for this disease, and infected trees in landscape settings usually die within about ten years. The infected tree's life can be prolonged by reducing water stress through irrigation and mulching. DFS tree sampling in the early 2000s showed the disease occurring throughout the state. Permanent plots set up at each of the three state forests (Blackbird, Taber, and Redden) showed the disease is also prevalent in red oaks in natural forests in all three counties. Permanently marked trees at the plots are revisited annually, and the effects of BLS on the leaves, canopy dieback, and survival rate are noted. It is theorized that BLS may contribute to the red oak decline reported by many forest health experts, at least from the mid-Atlantic area southward where BLS occurs. The most recent surveys for BLS occurred in September of 2022. Adequate to heavier-than-normal precipitation appears to have kept BLS symptoms and branch dieback at low levels in the natural forest for the last two or three years.



Emerald Ash Borer (EAB)

The first year in which the invasive Emerald Ash Borer, *Agrilus planipennis*, was found across most of the state was 2021. The infestation appeared widespread across New Castle County with the 2021 aerial survey. The infestation appeared most heavy in the western portions of Kent and Sussex Counties in 2022. In 2021, 849 acres of damage from EAB increased to 3,365 acres in 2022, and by June 2023 increased another 2,556 acres. Most natural ash stands in the state are likely infested and showing signs of damage by this time. The DFS advises owners of high-value landscape ash trees to commence an insecticidal treatment plan with a certified arborist due to this threat.

Asian Longhorned Beetle (ALB)

Asian Longhorned Beetle (ALB), *Anoplophora glabripennis*, is an invasive pest that has killed street trees in New York, New Jersey, Massachusetts, Ohio, and Chicago, Illinois. A new infestation was discovered in the port city of Charleston, South Carolina, in May 2020. This potentially harmful insect is native to Japan, Korea, and southern China. Unlike native long-horned beetles that attack stressed, diseased, and dying trees, ALB attacks and kills healthy trees. Consequently, there is concern that this exotic insect will become a significant pest in North America. Asian long-horned beetles attack maple (*Acer*) trees,

including Norway, red, sugar, and silver maple, and boxelder, as well as horsechestnut (*Aesculus*), willow (*Salix*), and ten other species. The DFS continued to monitor for ALB in 2023, with nine large panel traps placed throughout the state, focusing on industrial areas in the northern half of the state. The DFS also installed "sentinel" maple plantings in six New Castle County parks to help foresters and the public get an early alert of ALB if they move into the area. To date, no ALB has been found.



Sirex Wood Wasp

Sirex noctilio, an exotic wood wasp native to Eurasia and North Africa, was first found in Oswego County, New York, in 2004. It has since been detected in northern Pennsylvania, northern Ohio, Connecticut, Michigan, and Vermont, as well as southern Ontario and Quebec. The wasp attacks pine trees

and represents a serious potential threat to Delaware's loblolly pine resource. Adults can travel 20 miles or more. Delaware began a survey program in 2006 using Lindgren funnel traps baited with chemical lures designed to mimic stressed pines. In mid-August 2023, the forest health staff placed eight funnel traps in or near various pine stands around the state to monitor for Sirex. To date, *Sirex noctilio* has not been detected in Delaware.

Beech Bark Disease (BBD) and Beech Leaf Disease (BLD)

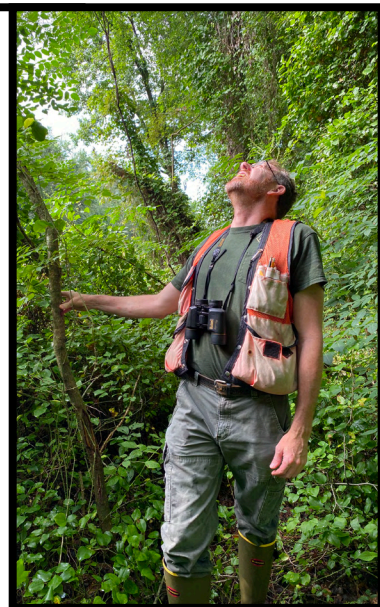
American beech (*Fagus grandifolia*) is a common tree easily recognized by its smooth gray bark. A stately forest tree, beech provides food for deer, squirrels, and, in much of its range, black bears. Unfortunately, a non-native disease complex called beech bark disease (BBD) has killed millions of beech trees in the northeast. Currently found from Canada to the Appalachians and as far as West Virginia, BBD begins with infestation by a scale insect, followed by infection of a destructive fungus. Most of the beech trees in infested stands die within a few years.

Beech leaf disease (BLD) is another health issue that affects beech. Discovered in Lake County, Ohio, in 2012, BLD involves striping or banding of thicker and darker than normal tissue between veins on beech leaves. Mature beech trees can die in about 6 to 10 years, and smaller trees even quicker. The disease is associated with a

foliar-feeding nematode, *Litylenchus*

crenatae. Because BLD is moving quickly through beech stands in Ohio, Pennsylvania, Connecticut, New York, New Jersey, and Ontario, the forest health program has begun surveying for BLD in addition to BBD using a standard one-tenth acre plot system established by the USFS Forest Health Protection program for the Northeast. Seven of these plots were established in 2021. Those plots were re-measured and evaluated for BBD and BLD signs and symptoms. No signs or symptoms were seen this year at those permanent plots.

A constituent called in a sighting of BLD at White Clay Creek State Park in July. Most of those beech trees had beech leaf curl aphid; however, one tree located by the forest health team turned out to have BLD leaf banding, and a sample was sent to the University of Delaware Plant Disease Diagnostic Clinic. UD Plant pathologist Jill Pollok confirmed the presence of the nematode in the sampled leaves. The forest health program will visit that beech stand at White Clay Creek to track any further spread of the disease.



Watershed Protection

Forestry Practice Erosion and Sedimentation (E&S) Law

The Delaware Forest Service (DFS) reviews E&S permits for all silvicultural operations over one acre and provides educational materials and programs to landowners and loggers. By using Best Management Practices, such as forested buffers along waterways, water quality is protected by minimizing erosion and sedimentation. The program stresses the importance of properly conducted activities on forestlands that contain or are near open water through presale inspections and educating loggers on the need to protect water quality.

In FY23, the Delaware Forest Service issued 75 permits on 4,487 acres and conducted 74 site inspections. The majority of these activities were in Sussex County (41), followed by Kent County (26) and New Castle County (8). One of the Forest Service's performance measures is to increase the percentage of timber harvests on nonindustrial private forestlands (NIPF) that follow a forest management plan. While all harvests must have an approved E&S permit, Delaware does not require a forest management plan for them. In FY23, 19 percent (401 of 2,116 acres) of NIPF harvests had plans.



Seed Tree Law

The DFS also administers the Delaware Seed Tree Law that applies to all forested tracts of 10 acres or more with a combination of at least 25 percent loblolly pine, shortleaf pine, pond pine, or yellow poplar. Landowners with woodlands that meet these guidelines must provide for reforestation of these lands unless there are at least 400 healthy, well-distributed seedlings present on each acre following the harvest. In FY23, 23 harvests totaling 3,100 acres were approved under the Seed Tree Law. The Delaware Forest Service will continue to monitor these properties to ensure proper reforestation takes place as part of our mission toward sustainability.



DELAWARE STATE FORESTS

The lack of public knowledge about the importance of our forests and the professional services available to assist landowners and communities with forest management is our third major challenge. Many landowners and community leaders are unaware of the various Delaware Forest Service programs that can help them manage their forest resources. Many are also not aware of the educational and recreational opportunities at our State Forests.

Blackbird State Forest

Blackbird State Forest, located northwest of Smyrna, covers 6,031 acres. The ten tracts of Blackbird State Forest are open to the public for nature walks, hiking, jogging, and horseback riding all year. It features a half-mile, wheelchair-accessible wildlife and nature interpretation trail on the Tybout Tract and the Blackbird Education Center on the Ennis Tract. Long-range management plans for Blackbird State Forest include timber production, wildlife habitat, recreation, soil and water protection, wetland and endangered species protection, and public education.

Blackbird State Forest Highlights

- Established a new connector trail on the South Oak Hill tract
- Planted an additional 3.5 acres on the Hurd property plantation
- Planted 4 acres on Peters tract, 1 acre on Barlow tract
- Oak Hill timber harvest - 30 Acres - 81,200 Board Feet
- Offering 16 new campsites with accessible amenities and on-site parking



This 30-acre timber harvest at the Oak Hill Tract saw the collection of mostly red oak, white oak & beech. Trees were harvested for timber, waiting to be transported & sold.



Redden State Forest

Redden State Forest, located north of Georgetown, is Delaware's largest State Forest, with approximately 13,969 acres. These forestlands are managed on a multiple-use basis, including timber production, wildlife habitat improvement, soil and water quality enhancement and protection, and recreational use.

With over 45 miles of trails, the area is popular for hiking, horseback riding, bicycling, and bird watching. The large timbered tracts are ideal for deer hunting, and many local anglers enjoy the fishing pond on the Headquarters Tract.

This is the heart of Delaware's loblolly pine country, so many upland sites are either natural or planted stands of loblolly pine. Redden also encompasses a large area of wooded wetlands characterized by bottomland hardwoods, including red maple, sweetgum, and mixed oaks.

Redden is also home to the largest land-dwelling salamander in North America, which is on the endangered species list. We monitor this species and experiment with artificial wetlands to increase breeding pairs. Redden also serves as one of the translocation sites for the Delmarva Fox squirrel. Beginning in 2021, 15 squirrels were introduced to the Headquarters tract, with another 15 in 2023. We partner with DNREC, the Maryland Department of Natural Resources, the U.S. Fish and Wildlife Service, and the U.S. Department of Agriculture on this initiative.



Main Office at Redden State Forest



Conservation Tech Supervisor
Junior Webb at the Redden Lodge

Redden State Forest and the historic Redden Lodge are popular sites for special events, meetings, and conferences. Groups that held meetings, events, and training were:

- 4-H Horse Advisory Council
- 4-H University of Delaware
- 1900 Club H.A.M.
- American Discovery Trail members
- Antique Auto Club
- Boy Scouts of America
- Delaware Army National Guard
- Delaware Department of Corrections
- Delaware Easy Striders
- Delaware Equine Council
- Delaware State Police
- Delmarva Driving Club Mustang & Borrow Annual Horse Rides
- Delmarva Search and Rescue K-9 training
- Del-Tech Summer Camp Fishing 101
- Del-Tech Upward Bound
- DHSS Georgetown Milford & Woodside Centers
- DNREC Fish and Wildlife's "Take a Kid Fishing Day"
- FFA retreat and training
- Gee You Will Project
- Local Delmarva police departments
- USAF Delaware Air National Guard
- Various bird watching groups and tours
- Various church group retreats
- Various equine group benefit rides
- Various forestry walking tours
- Various state agency meetings

Redden State Forest Highlights

- Completed 60 acres of prescribed fire on the Headquarters, Jester, and J.G. Townsend Tracts
- Eleven new campsites opened on the Headquarters Tract
- Pre-commercial thinning 55 Acres on the Ellendale Tract
- Offering 18 new campsites with accessible amenities and on-site parking

Taber State Forest

Taber State Forest is located west of Harrington on Burrsville Road and remains in its natural, primitive state. The 1,323-acre forest is open to the public for hiking, observing wildlife, and seasonal hunting.

Although the smallest of the three State Forests, the Taber State Forest is still an active, working forest. Taber is managed primarily for timber production and wildlife habitat. The primary timber types in Taber State Forest are loblolly pine and mixed upland hardwoods. Efforts are taking place to demonstrate sustainable methods for all forests. This forest also provides the land needed to showcase how woodlots can bring turkey and quail back into the landscape.

Taber State Forest Highlights

- Staff continued to plant food plots for wildlife, including deer, turkey, and waterfowl.
- Conducted a 63-acre Savanna Thinning for future quail habitat. This was done in conjunction with Tall Timbers Research Institute, with the hope of having translocated wild quail be brought to Delaware in the coming years.
- Continued cleaning up early successional habitat around field edges.
- Had multiple prescribed fires on the property for 10 acres.



Pictured here is a timber harvest sale at the Taber State Forest. Forest health specialist Bill Seybold provided aerial photos of the harvested area via drone.



New Campsites

Delaware's State Forest campsites are open to the public under a new online reservation system allowing campers to pre-book and select preferred sites. Primitive-style camping is available 365 days a year by online reservation at Blackbird State Forest, north of Smyrna, and Redden State Forest, north of Georgetown.

Over several weeks, DFS conservation technicians worked diligently to prepare the campsites to improve the comfort and experience for patrons. This included conducting prescribed fires and edge burning to alleviate tick infestation and to remove overgrown brush and understory. Conservation techs also prepped the roadways and surrounding areas with stone and dirt, built new picnic tables, and poured concrete for the fire rings.

Amenities include:

- On-site parking
- BBQ grills
- Picnic tables
- Fire rings
- Firewood (if available)

- **Sixteen (16) campsites available at Blackbird State Forest**
- **Eighteen (18) campsites available at Redden State Forest**
- **Accessible/ADA sites are available**

More details and campsite reservations are available at: de.gov/forestcamping

Blackbird State Forest



Redden State Forest



FOREST EDUCATION

The Information and Education Office coordinates all of the Delaware Forest Service's information and education activities. Staffed by a full-time Community Relations Officer and a full-time Trainer-Educator, it informs the public of the services the Delaware Forest Service offers and provides quality environmental education programs.

Education Centers

The Delaware Forest Service (DFS) operates and manages education centers at Redden State Forest and Blackbird State Forest. Both feature interactive displays on Delaware's forests and proper management, with comfortable work areas for students and teachers to participate in educational activities. Each has a classroom for indoor meetings and outdoor trails for a dynamic learning experience.



Blackbird



Redden

Annual Free Seedling Program

Students from kindergarten to fifth grade received over 7,300 seedlings through the Annual Free Seedling Program. Classes must participate in the Arbor Day Poster Contest to be eligible for free seedlings and tree programs. Delaware Forest Service staff delivered seedlings to public and private schools statewide. Several volunteer groups provided the invaluable service of separating, wrapping, and bagging each seedling, which were then delivered to the classes.



In FY23, students received over 7,300 seedlings through the Annual Free Seedling Program.



Arbor Day Celebration and Poster Contest

Arbor Day State Celebration

On Saturday, April 29, the Delaware Forest Service celebrated Arbor Day with extensive tree planting surrounding the Peters Scout Camp/Peters Tract at Blackbird State Forest, along with our 2023 Arbor Day Poster Contest winners and their families. With support from the Forest Initiative Fund (FIF), this tree planting was part of a reforestation project encompassing the Delaware Forest Service's goals of sustainable forestry. The 2023 Arbor Day Poster Contest winners, their families, Governor Carney, along with members of his cabinet, and community volunteers planted over 1,400 seedlings. Also in attendance were: Speaker of the House Peter Schwartzkopf, Senator Ernesto Lopez, State Auditor Kathleen McGuinness, Education Secretary Mark Holodick, Secretary of Agriculture Michael T. Scuse, DNREC Secretary Shawn Garvin, and State Forester Kyle Hoyd.



Arbor Day Poster Contest

The Delaware Forest Service invites students in grades K-5 to participate in the Arbor Day Poster Contest. This year's poster theme was "Trees are Terrific...In All Shapes and Sizes!" Participating elementary schools organized preliminary contests and forwarded first-, second-, and third-place entries to the Delaware Forest Service for final judging. Poster contest winners were selected for each county in the following categories: kindergarten, first and second grade, third and fourth grade, and fifth grade.

Winners received an ornamental tree planting at their school and a \$35 gift card. Lyla Jones of Brandywine Springs School in Wilmington was the overall winner of the Arbor Day Poster Contest and received an additional \$35 gift card. Over 100 classes from 62 private, public, and home schools and youth groups participated in the FY23 contest.



The Arbor Day poster contest theme for 2023 was "Trees are Terrific...In All Shapes and Sizes!" The theme highlights the importance of tree diversity in our community forests, which attract a variety of wildlife and are more visually stimulating.

On April 22, 2023, the Delaware Forest Service (DFS) partnered with the Sigma Zeta Omega Chapter of the Alpha Kappa Alpha Sorority, Inc. and William Keen Elementary School in Newark to plant five native trees on the school playground for their Arbor Day Celebration. The event brought forty-five volunteers and Keen Elementary staff. The trees planted at the school will increase the tree canopy, provide shade for students, and assist in stormwater management.

Additionally, on April 23, 2023, the DFS partnered with Sista's Inc. and Kent County Parks and Recreation to plant five native trees at Brecknock Park in Dover. Twenty-two volunteers helped plant the trees along the park's walking path. These trees will provide shade to pedestrians, provide habitat to wildlife, and beautify the park.



Rehoboth Beach Mayor Stan Mills joined students in spreading mulch around freshly planted oak and maple trees.

Rehoboth Beach Celebrates 32nd Year as a Tree City

On Friday, April 21, 2023, the Delaware Forest Service, along with the City of Rehoboth Beach and Rehoboth Elementary School students, celebrated Arbor Day and the City's recognition as a Tree City USA for the 32nd consecutive year at a tree-planting ceremony. Trainer/Educator Ashley Melvin spoke to the students on how to correctly plant and care for young trees. Students planted loblolly pine seedlings, and they also received saplings to plant at home.

The Warehouse and The Nature Conservancy

This year, the Delaware Forest Service was invited to an established student workforce education program at The Warehouse in Wilmington. The Nature Conservancy's Stream Stewards Project Manager, Kim Hachadoorian, worked with students with the intent to introduce them to a plethora of different career pathways.



Delaware Forest Service staff Kesha Braunskill and Taryn Davidson helped oversee a Forestry workshop that taught students how to identify tree species and their benefits, how to measure tree inventory using a range finder and diameter tape, and how to plant seedlings.

The workshop has been held two times thus far, once at the Warehouse in Wilmington, DE, in October 2022 and again in March 2023 at the Blackbird State Forest's Ennis and Tybout tracts, to great success.

UGRR Childrens Forest Experience

The Delaware Forest Service partnered with historic interpreter Dionne Patterson from the UGR3day Underground Experience Inc. to provide a **Children's Forest Experience** to Lewis Elementary School Students from Townsend.

The program took place at the Blackbird State Forest's Education Center, where the students learned about the journey on the Underground Railroad and how children survived. The group got to experience many of the natural landscapes, animals, flavors, and environments that Freedom Seekers would have encountered on their journeys, and the students also had the chance to fill provided bags with items resembling those brought by escapees seeking a better future.

The student experience was divided into three stations. The first station was a walk through the woods of Blackbird's Ennis Tract to experience the impact that nature may have had on their journey, alongside the music made to help them endure. Station 2 allowed the students to try some of the natural foods and flavors that the Underground Railroad had to offer. The final station was a hands-on contact experience with many plants and animals that would have been encountered at the time.

"Conductor Dee" Dionne Patterson, with DFS Urban Staff Kesha Braunskill, Taryn Davidson, and Paul Townshend

2022 Harriet Tubman Bicentennial Tree Planting

On September 17, a tree planting was held at Blackbird State Forest to commemorate the 200th birthyear of Harriet Tubman as part of a more extensive program providing guided hikes through a portion of what Harriet Tubman noted as one of her landmarks of the Underground Railroad. One hundred volunteers, including teachers, students, cub and boy scout troops, volunteers from Delaware's Air Force Crew, and volunteer community members, came together to plant 2,075 trees to enhance wildlife, fight invasive species spread, and improve water quality. Additionally, the tree planting helped the Delaware Forest Service meet critical goals of increasing tree canopy and helping educate the community in forest knowledge, understanding, and appreciation.





Delaware Tree Stewards Program

The Delaware Forest Service's (DFS) Urban and Community Forestry program launched Delaware Tree Stewards in the fall of 2020. This program serves to connect people to their landscapes through the act of planting and caring for trees and forests, which are essential in protecting the lands and waters of the First State. By training and empowering citizens locally, the goal is to ensure Delaware has a greener future. Whether they are young or old, trees benefit from knowledge and care. The program is designed to help citizens take an active role in caring for trees and supporting local ecosystems and the communities that depend on them. By completing training and networking with other stewards, graduates will recognize opportunities and coordinate tree projects where they are needed most.

"Join. Learn. Plant. Trees need stewards."



Tree Stewards Training

The DFS partnered with the Alliance for the Chesapeake Bay and Delaware Center for Horticulture to lead Tree Stewards training workshops in the spring of 2023. Workshops provided the knowledge and conversation that comprise the central part of the tree stewards training program. Spread over three to four sessions; the curriculum is completed once a tree steward finishes the sessions and participates in a Delaware Forest Service or partner-organized planting event. Topics covered include tree and soil biology, benefits of trees, tree identification, site assessment and tree selection, tree planting techniques and aftercare, tree advocacy and preservation, developing a planting plan and finding resources to support Delaware Tree Steward's work, and finding opportunities for tree plantings in your communities.

During the summer of 2022, the Delaware Forest Service partnered with Delaware Wild Lands to host the first Tree Stewards Maintenance Day Event at the Smith Tract in Townsend. This opportunity was provided to tree stewards to engage in hands-on experience with proper tree pruning, mulching, and watering for 130 trees that volunteers planted as part of a reforestation effort in December 2020.





Project Learning Tree

The Delaware Forest Service's trainer-educator works with partner organizations such as the Delaware Association for Environmental Education (DAEE) to promote a wide range of environmental literacy education opportunities for all ages throughout the First State. A total of 22 teachers were trained on Project Learning Tree in FY23.



Adult Programs

Forest Service staff host various workshops on grant writing, urban tree care, and GIS/GPS for attendees, including state agencies, nature center managers, and community leaders. In FY23, the DFS trainer-educator presented five lectures on forestry topics to 75 people.



Community Events and Educational Programs

Throughout the year, the DFS offers special educational programs and presentations for students and community groups. In FY23, the DFS trainer-educator presented programs at 14 community events to over 1,000 students in grades pre-K to high school.

Wetlands of Wonder - Vernal Pools

In November 2022, DNREC partnered with production company 302 Stories to produce the film "Wetlands of Wonder: The Hidden World of Vernal Pools." The documentary features vernal pools and unique wetland ecosystems in Delaware, Maryland, and Virginia. Some of the scenes were filmed at Blackbird and Redden State Forests.

Watch the full documentary at:

<https://www.youtube.com/watch?v=3x7tozU9fM8>

Fire Prevention

October is National Fire Prevention Month, and the Delaware Forest Service provides fire prevention information packets (Smokey Bear Goody Bags) to first-grade classrooms. In FY23, 4,900 students from 60 schools received Smokey Bear school supply bags featuring Smokey Bear and his timeless message. The Delaware Forest Service also offers fire prevention materials to children and families at community events, holiday parades, and fire company open houses.



Environmental Science Competitions

The Delaware Forest Service administered the forestry component of the Delaware Envirothon, which is a statewide competition for public and private high school students. DFS staff trained teams, coaches and student participants, as well as developed forestry test materials. A total of 18 teams competed in the 2023 Envirothon.



Forest Service staff also participated in the Delaware Science Olympiad for middle and high school students, which promotes student interest in science and K-12 science education.

The Delaware Forest Service hosted the FFA Forestry CDE (Career Development Event) on June 21, 2023. Six high school and four middle school teams competed in species and disease identification, map reading, compass and pacing course, and measuring board foot volume. Odessa FFA placed first and will represent Delaware at the National Forestry CDE in Indianapolis in November 2023 at the 96th National FFA Convention & Expo.



Outreach Highlight: Make a Splash Festival

The Delaware Forest Service attended the Make a Splash Festival at the John Dickinson Plantation on April 5, 2023. Fourth and fifth-grade students from five elementary schools had participated at the Festival, learning about the diversity of estuary life and the importance of Delaware's water resources. The U&CF station was set up to educate students about the historical and cultural significance of trees. Students were very engaged and interested in learning about each species. Ninety-nine students and 15 adults visited the Delaware Forest Service station.



Delaware Forest Service Staff Paul Townshend and Taryn Davidson at the Make A Splash Festival

Several vendors at the 2022 Blackbird Fall Fest



Other Notable Outreach Events:

- Trap Pond Nature Fest - September 24, 2022
- Blackbird Fall Fest - October 22, 2022
- Career Night at Georgetown Middle School - February 2023



Redden Forester Sam Topper attended Career Night held at Georgetown Middle School



Professional Development

Forest Management

- A Planners Guide to the Chesapeake Bay
- ArcGIS Pro: Tips & Tricks (ESRI online)
- ArcPro Terminology (ESRI online)
- Creating a Map Layout (ESRI online)
- Everything You Wanted to Know About Tree Ordinances
- Migrating Map to Pro (ESRI online)
- Partners in Community Forestry
- Tree Campus Conference, Arbor Day Foundation
- Urban Forest Connections: Building Workforce Equity & Community Capacity Through Pre-Apprenticeship Programs
- Urban Forest Connections: Methods & Public Health Impacts of Community-Based Urban Forestry Efforts
- Urban Forestry Today, UMass
- Urban Forestry Today, Climate Change & Urban Trees: What Does the Future Hold?
- Urban Trees & Storm Water Management: Quantifying Impacts, Maximizing Benefits
- U.S. Forest Service CARS reporting
- West Virginia Forest Health Forum: Biodiversity & Conservation

KnowBe4 Cyber Security

- Ask the Expert (Social Media Phishing)
- Cyber Security Awareness Assessment
- Did You See That One (Reporting Incidents)
- Everybody Loves Mia (Third Party Vendors)
- I Know What You Did Last Weekend (App Permission)
- It's Come to My Attention (Homeworking)
- New Best Friend (Insider Threat)
- Nobody Watches Those Things (Executive Behaviour)
- Restricted Intelligence
- Security Awareness Proficiency Assessment
- Security Awareness Training
- Social Engineering

The Delaware Forest Service is committed to providing training opportunities for its employees in order to further their professional skill sets. These trainings are made possible through state and federal offerings, along with professional development courses.

OMB Delaware Learning Center

- ADA Made Simple
- Conflict Resolution
- Controlling Rumors: Filling the Vacuum
- Creating a Respectful Workplace
- DiSC Personal Profile/Behavioral Styles
- Diversity Made Simple for Managers
- Domestic Violence, Sexual Violence & Stalking Policy
- Driving Defensively
- Drug Free Workplace
- EEO Made Simple
- Gender Identity Harassment in the Workplace
- Gender Identity Policy & Procedure
- Hidden Bias
- HIPAA Training for Members of the HIPAA Workforce
- Leadership: What's Trust Got To Do With It? (2nd Edition)
- Marijuana & Alcohol Workplace Policy & Procedures
- Managing Hybrid Teams
- Managing Workplace Stress: How To Stay Productive Under Pressure
- Mastering Effective Communication
- Motivating Your Team: How to Keep Morale High
- Paid Volunteer Leave Policy
- Positive Discipline
- Pregnant Workers Fairness Act Policy
- Respectful Workplace
- Selection Interviewing
- Sexual Harassment Prevention in Delaware
- Small Acts of Leadership: Intentional Skills for Big Impact
- Standards of Conduct Policy and Procedure
- Time Management: Why It's Not About Time
- Trauma Awareness for State Employees
- Understanding Unconscious Bias
- Workplace Retaliation: It's Illegal





Fiscal Year 2023 Budget Summary

General Funds	Amount
Salaries and associated costs (16.5 FTE)	1,224,500
Contractual Services	17,100
Supplies and Materials	20,200
Energy	18,700
General Funds Subtotal	
	\$1,280,500

Appropriated Special Funds	Amount
Salaries and associated costs (2.5 FTE)	267,700
Capital Outlay	147,000
Contractual Services	102,800
Supplies and Materials	96,000
Energy	13,000
Travel	30,000
Revenue Refund	4,000
DDA Marketing Section	60,300
Appropriated Special Funds Subtotal	
	\$720,800

State Capacity Funds	Amount
Forest Initiative Funds	119,500
Agency Agreement Funding <i>(through State MOU's)</i>	120,000
State Capacity Funds Subtotal	
	\$239,500

Federally Funded Cooperative Programs *

* includes funding for 3 FTE

Forest Health Protection	Amount
Forest Health Management/Monitoring	83,000

Cooperative Fire Protection	Amount
State Fire Assistance	134,786
Volunteer Fire Assistance	36,867

Cooperative Forestry	Amount
Urban and Community Forestry	250,000
Forest Stewardship	110,173
Chesapeake Bay Watershed	27,000

Bipartisan Infrastructure Law Funding	Amount
State Forest Action Plan	209,000
Invasive Species Assistance	28,333
State Fire Assistance	48,640

Inflation Reduction Act Funding	Amount
Urban and Community Forestry	750,000

Federally Funded Programs Subtotal \$1,677,799

Total Fiscal 2023 Budget \$3,918,599



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Conserve

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STAFF DIRECTORY

TOLL FREE NUMBER	800-282-8685
Headquarters (Dover)	302-698-4500
Forestland Preservation	302-698-4548
Urban and Community	302-698-4578
Blackbird State Forest	302-653-6505
Redden State Forest	302-856-2893
Forest Health Specialist	302-698-4553
Educational Programs	302-698-4551
Wildfire Program	302-856-2893
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