

DELAWARE

NATIONAL PRIORITIES ADDENDUM



PROGRESS REPORT
ON DELAWARE'S
2010 STATEWIDE
FOREST STRATEGY

NATIONAL PRIORITIES ADDENDUM

From 2010 to 2020, the Delaware Forest Service focused on 19 strategies and 78 specific goals listed in the 2010 Delaware Statewide Forest Strategy (otherwise known as the Delaware Forest Action Plan).

Many of the goals are correlated to the U.S. Forest Service's National Priorities. Contained in this addendum are a sampling of recent successes and their correlation to the national framework.

KEY ACCOMPLISHMENTS

97% ✓

OF OVERALL GOALS

The Delaware Forest Service has fully completed 60 (77%) or partially completed 16 (20%) of the 78 goals (97%) in its 2010 State Forest Strategy.

5,280 

ACRES PROTECTED

Funding from the USFS Forest Legacy Program and Delaware's Open Space and Forestland Preservation Programs has helped permanently protect 5,280 acres in the last ten years.

819 

WETLAND FOREST ACRES

Delaware has restored 819 acres of forested wetlands, riparian buffers, and headwater forests by tree plantings and water control structures.

67% 

VOLUNTEER FIRE COs

The Delaware Forest Service awarded \$185,365 in wildland fire equipment grants to 40 of the state's 60 fire companies (67%) since 2010.





NATIONAL PRIORITY 1: CONSERVE AND MANAGE WORKING FOREST LANDSCAPES FOR MULTIPLE VALUES AND USES

1.1 Identify and conserve high priority forest ecosystems and landscapes

Strategy DE-1.2

Establish scientifically based, reasonable goals for both forest protection and long-term maintenance and restoration of a variety of forest types (species), including state rare forest types.

Performance Goal/Measure of Success for DE-1.2

Identify critical forested blocks to connect using tree plantings to improve ecological value.

Through GIS technology, the Delaware Forest Service identified forested areas that are high, medium, and low priority based on a detailed analysis of 23 input layers prioritized by the Delaware Forest Stewardship Committee. Additionally, we determined which watersheds (HUC 12, a local sub-watershed level that captures tributary systems) in the state were of high priority. The high priority areas are targeted for conservation whenever possible through various programs in which the Delaware Forest Service is involved.



5,280 total acres were permanently protected from 2010 to 2020 through state and federal programs.

1.2 Actively and sustainably manage forests

Strategy DE-1.3

Protect forestland through conservation easements and, when appropriate, fee simple acquisition.

Performance Goal/Measure of Success for DE-1.3.1

Protect 2,000 acres of forests within priority areas by 2015.

Fee simple acquisitions of forestland through the U.S. Forest Service's Forest Legacy program resulted in the permanent protection of 1,302 acres of former Glatfelter Pulp Wood Co. lands that are now part of Redden State Forest with full public access. Through the state's Open Space Council, an additional 133 forested acres were conserved through fee simple purchases, which are now incorporated into the State Forest system. The Forestland Preservation Program also protected nine forested parcels totaling 873 acres through the purchase of development rights in 2010. Total forested acres protected through Delaware Forest Service programs: 2,308, all of which are under active forest management plans. Since 2015, the DFS has protected an additional 1,280 forested acres through Open Space and 1,692 acres through Forestland Preservation, bringing our total 10-year acreage to 5,280.

NATIONAL PRIORITY 2: PROTECT FORESTS FROM THREATS

2.1 Restore fire-adapted lands and/or reduce risk of wildfire impacts

Strategy DE-1.8

Utilize prescribed fire for forest and wildlife habitat restoration and management.

Performance Goal/Measure of Success for DE-1.8.2

Annually treat at least 250 acres to maintain/restore fire-adapted ecosystems.



Between the Delaware Forest Service, the Department of Natural Resources and Environmental Control's (DNREC) Divisions of Parks & Recreation and Fish & Wildlife, U.S. Fish & Wildlife Service, and several NGOs more than 450 acres of land are subjected to prescribed fire annually. All three agencies and NGOs have fully adopted the requirements of requiring the National Wildfire Coordinating Group (NWCG) basic suite of classes for all prescribed burn participants. The Delaware Forest Service also provides personal protective equipment (PPE) for agencies so safety standards put forth by the NWCG are followed. This collaborative approach to prescribed burning is outlined in several agreements between the Delaware Forest Service and each partner organization.

2.2 Identify, manage, and reduce threats to forest and ecosystem health

Strategy DE-1.7

Maintain and, where possible, improve forest health.

Performance Goal/Measure of Success for DE-1.7.2

Continue to monitor for forest pests: invasive (EAB, ALB, etc.) and native (BLS, SPB, etc.). Maintain aerial/ground surveys.



As part of our Forest Health program, an annual aerial defoliation survey is conducted at the end of June each year. The Forest Disturbance Monitor is utilized to screen for potential forest health threats. Hot spots are identified and then ground-truthed. Appropriate management action is then taken to mitigate further damage. In 2013, our forest health specialist identified a potentially damaging southern pine beetle (SPB) spot on state Fish & Wildlife land. Staff foresters assisted with a successful strategy to eliminate the spread of this devastating native eruptive insect. Additionally, forest health staff and assisting foresters annually survey for destructive invasive pests. As of 2020, the emerald ash borer (EAB) was the only additional major exotic forest pest discovered in Delaware. All three Delaware counties (New Castle, Kent, and Sussex) now have established populations of EAB.

Strategy DE-1.9/1.10

Minimize the impact of wildfires on public safety and forest health.

Performance Goal/Measure of Success for DE-1.9.4

Provide wildland firefighting equipment grants to VFCs, including at least \$10,000 annually to VFCs within rural forest and urban forest WUI priority areas.

Through both the Volunteer Fire Assistance (\$10,000–\$15,000) and State Fire Assistance (\$8,000–\$10,000) grants, the Delaware Forest Service has awarded 67 wildland fire equipment grants totaling \$185,365 to 40 VFCs over the last ten years. This represents 67% of the 60 VFCs located in Delaware. VFCs provided \$483,057 in additional match towards these wildland fire equipment purchases which translates, on average, to \$2.61 in match for every federal dollar received through this grant program.



Performance Goal/Measure of Success for DE-1.10.2

Continue wildland fire mitigation grants to communities within high-risk wildland fire danger areas—100 acres treated annually to reduce hazardous fuels.

In the last ten years, 48 communities at risk received \$208,640 in federal funding (State Fire Assistance) to help mitigate the risk of wildland fires to their communities. On average, 132 acres were treated annually through the use of SFA funding. In addition to these acres that were treated directly through the use of SFA funding, the Delaware Forest Service leveraged additional non-federal funding for wildland fire mitigation projects that treated over 8,500 acres in the past two years in these areas. The Delaware Forest Service will continue leveraging funds so treatments continue on a larger scale than in previous years.



NATIONAL PRIORITY 3: ENHANCE PUBLIC BENEFITS FROM TREES AND FORESTS



3.1 Protect and enhance water quality and quantity

Strategy DE-1.4:

Maintain and improve water quality through forest establishment, forested buffers, forest restoration, and protecting headwater forests.

Performance Goal/Measure of Success DE-1.4.2:

Restore wetlands/floodplain forests—250 acres by 2015.

A total of 819 acres of wetlands/floodplain forests have been restored in the last ten years (419 acres completed by 2015):

Blackbird State Forest:

James Dobson, Northern Regional Forester, worked with DNREC and NRCS to protect the source and headwaters of the Massey Branch that drains into the Smyrna River, which then empties into the Delaware River. The project involved 23.5 acres.

2020 update: James collaborated with DNREC to protect the source and headwaters of the Cypress Branch of the Chester River, which then empties into the Chesapeake Bay. The project involved 33 acres.

Taber State Forest:

Kent County Forester Christopher Miller worked in cooperation with DNREC Division of Water Stewardship, U.S. Fish & Wildlife, NRCS, and the Kent County Conservation District, to return the water table on 401 acres to its original level using a series of water control structures. Of these 401 total restored acres, 223 are forested.

2020 update: Since 2015, Christopher completed another series of projects to restore the hydrology of an additional 367 acres that included seven water control structures and a 4-acre conversion of cropland to wetlands.



Tree planting event at Blackbird State Forest.



Water control structures at Taber State Forest.

Redden State Forest:

Erich Burkentine, Southern Regional Forester, worked with DNREC, NRCS, and the Sussex County Conservation District on several projects.

Mifflin Ditch: Restored hydrology to 113.8 acres of degraded forested wetlands.

Rayne Tract: Restored hydrology to 6.1 acres of degraded forested wetlands.

Deep Creek: Restored flood flow hydrology to 47.3 acres of forested floodplain wetlands.

Gravelly Branch: Restored flood flow hydrology to 5.4 acres of forested floodplain wetlands.



Restoration project in Deep Creek Watershed.

3.2 Improve air quality and conserve energy

Strategy DE-1.6:

Increase urban tree canopy.

Performance Goal/Measure of Success DE-1.6.2:

Incorporate urban tree canopy goals into all 17 urban UTC priority communities by 2015.

To date, we have 16 total communities in Delaware that have formal tree canopy goals. Of these, nine are UTC priority communities and the seven others are scattered throughout the State of Delaware.



3.2 Assist communities in planning for and reducing forest health risks

Strategy DE-1.9/1.10:

Minimize the impact of wildfires on public safety and forest health.

Performance Goal/Measure of Success DE-1.10.1:

Develop CWPPs for seven communities in WUI urban priority areas. Complete by 2015.



Through a 2011 competitive grant (Cooperative Invasive Species Management and Wildfire Suppression in Delaware, 11-DG-11420000-235), Community Wildfire Protection Plans (CWPP) were developed for eleven communities/ municipalities. These plans outline wildfire risk, locations of invasive fuels, and a working action plan that allows communities to update management activities as they see fit. The City of Newark has adopted their CWPP and its practices as standard operating procedure for the city. The plan was submitted to the Aetna Insurance Company and Newark received a rate reduction because of the plan. CWPPs serve to guide communities into the future. The Delaware Forest Service has seen a reduction in the amount of fuel loading within the wildland urban interface. Much of the fuel load was in the form of phragmites, which most people do not realize is invasive or at risk for wildfire. Because the Delaware Forest Service noticed the lack of knowledge that municipalities and their residents have, we held public meetings that educated residents on the dangers it poses.



Phragmites is an invasive plant that poses a wildfire risk to Delaware communities.



3.4 Maintain and enhance the economic benefits and values of trees and forests

Strategy DE-2.3:

Create markets for low-value, low quality wood and dedicated woody crops such as for bioenergy and biofuels.

Performance Goal/Measure of Success DE-2.3.1:

Analyze the amount of low value/low quality wood available. Complete in 2012.

The Greater Delaware Area Forest Biomass Resource Analysis report was published in 2012. The report was prepared by Renewable Resource Solutions, LLC, U.S. Forest Service Wood Education and Resource Center. According to this report, nearly 350,000 green tons are available every year through logging residue recovery and timber stand improvement. This total includes all of the Delmarva Peninsula plus two neighboring Pennsylvania counties. The report results clearly show there is ample wood available for numerous bio-energy projects in the State of Delaware. However, the "Incinerator Law" (Title 7, Chapter 289) "prohibits the burning of solid waste, even if the byproducts of the operation include useful products such as steam and electricity." There currently is disagreement as to whether forestry operation byproducts (tops, branches, small trees, etc.) would be considered solid waste or not. Furthermore, the law states that an incinerator must be at least three miles from every point on the property boundary line of any residence, residential community, church, school, park, or hospital. Essentially, the entire State of Delaware is covered by this restrictive law. So, although we have the resource available and the production of woody biomass for energy would greatly improve forest health, we cannot proceed with the implementation of an operation until the law is amended or changed.

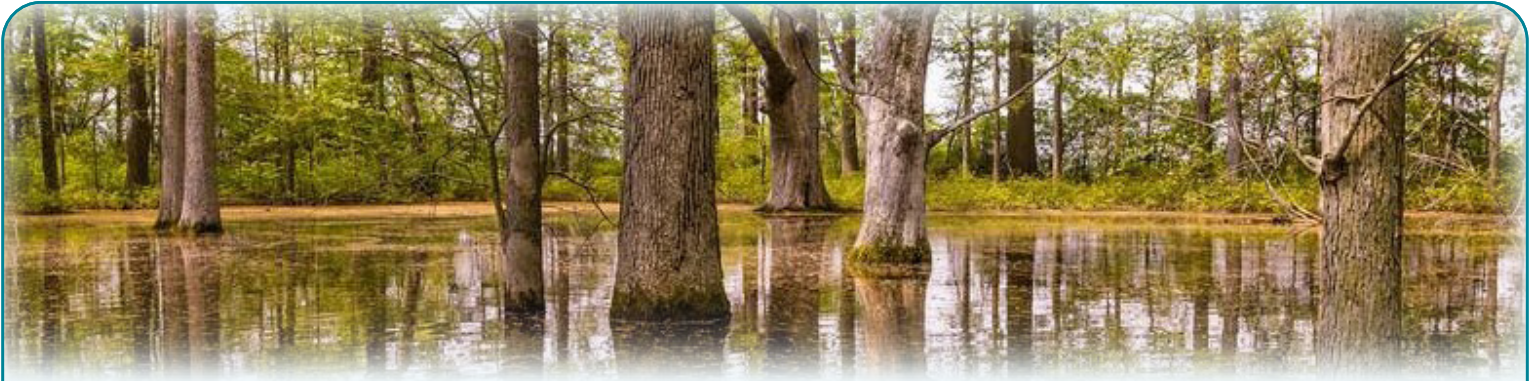


Delaware has ample wood available for bioenergy projects that would greatly improve forest health.



Current law restricts the use of low-value woody biomass for energy projects.





3.5 Protect, conserve, and enhance wildlife and fish habitat

Strategy DE-1.5:

Maintain and enhance wildlife habitat, particularly endangered and/or threatened species habitat, during forest management activities.

Performance Goal/Measure of Success DE-1.5.1:

Incorporate the Delaware Wildlife Action Plan into forest management, conservation, and protection activities.

Starting with the forthcoming updated/revised national program guidelines and standards for forest stewardship plans, the Delaware Forest Service incorporated formal references and links to the updated state wildlife action plan. All current Delaware Forest Service forest stewardship plans contain multiple goals including wildlife habitat improvement.

Performance Goal/Measure of Success DE-1.5.2:

Maintain, protect, and enhance habitat for federally listed threatened and endangered species that are forest dependent.

This is standard operating procedure for our agency. We work with appropriate agencies to protect known federally listed species. Furthermore, we work with the State's Division of Fish & Wildlife and their Wildlife Species Conservation & Research Program to enhance habitat for State listed threatened and endangered species and species of special concern.



The Delmarva fox squirrel may be reintroduced into suitable habitat such as Redden State Forest.



3.6 Connect people to trees and forests and engage them in environmental stewardship activities

Strategy DE-3.1:

Increase the number of privately owned forests that are sustainably managed.

Performance Goal/Measure of Success DE-3.1.9:

Maintain technical forestry assistance to landowners. New stewardship plans for 7,000 acres by 2015, including 5,000 acres within rural priority area.

From 2011 to 2015, the Delaware Forest Service enrolled 14,637 acres into our Stewardship program. Of this total, 12,024 acres are in high priority areas. Total acres enrolled in the last ten years was 19,356 (229 plans) with 16,463 (184 plans) acres within priority areas.

Strategy DE-4.2:

Increase teachers' and students' understanding and appreciation of forests and forest management.

Performance Goal/Measure of Success DE-4.2.1:

Establish 10 new outdoor forestry classrooms by 2015 and assist with incorporating them into schools' curriculum.

Three formal (with signage) outdoor classrooms were established with an additional eight school tree plantings (multiple trees involved) that serve as an outdoor forestry classroom. McIlvaine Early Childhood Center (MECC) in Magnolia was a model success story. It is the state's largest all-day kindergarten program with over 500 students. Students there spend a portion of their year studying trees in science. McIlvaine teachers attended a Project Learning Tree workshop in 2013 facilitated by the Delaware Forest Service. Project Learning Tree is an award-winning environmental education curriculum that focuses on incorporating outdoor education into the instructional day. An evaluation of the school's campus identified the lack of trees as an instructional challenge.

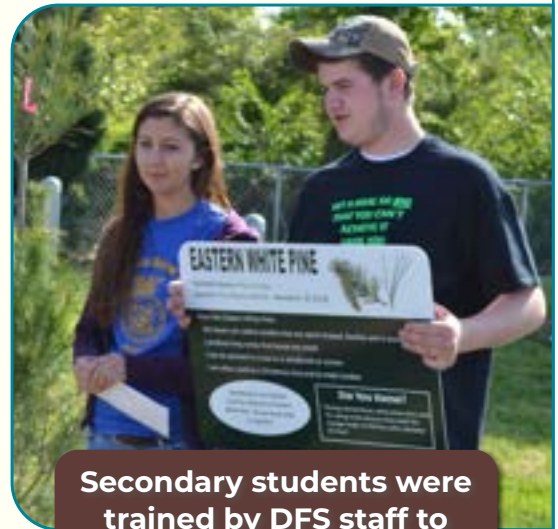


Delaware Forest Service staff helped build an outdoor arboretum and a tree-focused curriculum geared for students in early grades.



MECC's new "Tree Walk and Talk Arboretum" is the centerpiece of the school's effort to incorporate "placed-based" environmental learning as part of Delaware's "No Child Left Inside" initiative. Funded by a GreenWorks! grant from the American Forest Foundation's Project Learning Tree Program, the project was completed with the help of the Delaware Forest Service (DFS), MECC staff and students, the Caesar Rodney High School FFA, and local businesses. The arboretum was completed at a planting event at the school on May 7, 2014. Steps taken to complete this successful outdoor forestry classroom included:

- Teachers were first trained in PLT,
- A site evaluation was completed identifying the lack of trees as an instructional challenge,
- A PLTGreenSchools! grant proposal was written by the school naming the DFS as a partner for the project of installing an Arboretum,
- An outdoor classroom "kiosk" was built and installed by DFS staff,
- Caesar Rodney High School Natural Resource students were trained by DFS staff to deliver an educational program as a rotation in the tree planting event,
- Trees were planted with participation by the entire school,
- The Arboretum was dedicated during the state's Arbor Day Ceremony with Governor Markell, and
- All DFS involvement was used as match for the grant.



Secondary students were trained by DFS staff to deliver an educational program as a rotation in the tree planting event.



The new arboretum featured signs in English, Spanish and Chinese for the school's language immersion program.

Performance Goal/Measure of Success DE-4.2.6:
Continue providing forestry educational programs to elementary schools (Arbor Day, Smokey Bear, etc.). Reach 12,000 students annually.

From 2010 to 2015, the Delaware Forest Service reached an average of 12,260 elementary school-aged children annually with our Fire Prevention (Smokey Bear) and Arbor Day programs. This number is included in our annual average of 15,075 total persons reached through various educational programs during that time period. After 2015, we instituted more train-the-trainer sessions to increase the multiplier effect of our programs with our limited staff, especially Smokey Bear. Our ten-year average dropped to 9,788. However, the actual number of elementary school children reached for all program areas remains over 12,000 annually. This type of elementary educational reach will continue on into the future.



The annual Arbor Day Poster Contest involves thousands of students each year who learn about the many benefits of trees.

3.7 Manage trees and forests to mitigate and adapt to global climate change.

Strategy DE-1.6:

Increase urban tree canopy.

Performance Goal/Measure of Success DE-1.6.1:

Work with communities and other organizations to address heat islands by developing a protocol for parking lot shade requirements in new developments. Install at least one demonstration project in each county by 2015.

The Delaware Forest Service has not yet developed a protocol but is working with DNREC and the Governor's office on the Green Infrastructure Primer (GIP) that will guide landowners (municipalities/counties/developers/state agencies) on green infrastructure improvements with a section designed to help mitigate heat islands through the use of tree plantings. The GIP is in its first round of edits and is a result of Executive Order 41 (*Preparing Delaware for emerging climate impacts and seizing economic opportunities from reducing emissions*).

Overall, at least one project was completed in each of Delaware's three counties:

Hockessin Library (New Castle County):

The Delaware Forest Service helped the Library with technical guidance on the porous pavement project at its facility. This project was one of the first projects to utilize this type of pavement in the state and has allowed for better drainage filtering debris/sediment before it enters the water table.



Wilmington ACME Parking Lot (New Castle County):

We assisted the Delaware Center for Horticulture with technical guidance on the design, tree species selection, and location of several green infrastructures aimed at reducing the heat island effect in center city Wilmington. Three tree pit areas were installed along with four bio-swales, one rain garden, one infiltration bed, and a tree trench. These green infrastructure techniques have helped reduce storm water runoff from the parking lots and buildings in the area. The design has also allowed for larger tree species that help with shading in the area, thus reducing the amount of heat coming off the blacktop and buildings.

DNREC Richards & Robbins office in Dover (Kent County):

Our U&CF program staff provided technical and financial assistance for the installation of trees for this project, working closely with DNREC's Division of Watershed Stewardship. Trees were added to the parking lot area and planted by adult volunteers to create an elevated canopy to improve sightlines for safety purposes, to increase tree canopy coverage, and help address/minimize heat island effects.

Georgetown (Sussex County):

The Delaware Forest Service funded and designed a streetscape project for the Town of Georgetown in 2013–2014. The project goal was to install larger below ground tree pits utilizing organic rich soils to help promote better growing conditions for the trees. Fifteen trees were removed that were either in a declining condition or dead. These trees were replaced with species better suited for the area, which will help reduce the heat island effect in years to come.



The Delaware Forest Service funded and designed a streetscape project for the Town of Georgetown to beautify the downtown and reduce the heat island effect.



NATIONAL PRIORITIES ADDENDUM

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Educational Programs	302-698-4551
Wildfire Program	302-698-4548
Landowner Assistance	302-856-2893
Community Relations	302-698-4552

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