



Green Forests Work's (GFW) mission is to restore healthy, productive, native forest types on formerly mined lands across the Appalachian region and beyond. Our projects address two needs: stimulating the economy and improving the environment. Jobs are provided for equipment operators, seed collectors, seedling nursery workers, and tree planters, stimulating the regional economy. The environment is improved through eradicating invasive, exotic species and restoring the ecosystem services that forests provide to wildlife and society.

ACKNOWLEDGMENTS

This report highlights the projects undertaken in 2024 in Pennsylvania. We at Green Forests Work are so grateful to all our donors for supporting this important work. The financial and in-kind support from the PA Game Commission, National Fish and Wildlife Foundation, The Nature Conservancy, Chesapeake Bay Foundation, private donors, and AM Logging has been instrumental in allowing GFW and our partners to take on additional projects and plant a greater number of trees on more acres, resulting in larger restoration outcomes.

We could not have carried out this work without our numerous partners and supporters. We would especially like to thank our newest employee Eric Oliver (formerly PA Department of Environmental Protection) for facilitating this year's large mined land restoration project on private lands as well as 5 volunteer tree planting events; the Pennsylvania Game Commission (PGC) for funding the State Game Lands (SGL) projects; PGC's Howard Nursery for donation of 19,800 seedlings; all the PGC employees that are always ready to help with seedling deliveries and helping to make the planting season run smoothly; the John Hesselberth family; Richard and Catherine Rudolph; The Nature Conservancy for funding and red spruce donation to our mined land project; Dave Saville of Appalachian Forest Restoration LLC for growing and delivering over 96,000 red spruce seedlings for these PA projects; Chesapeake Bay Foundation for funding; One Tree Planted for supporting the large mined land project; the Appalachian Regional Reforestation Initiative; the PA DEP Bureau of Abandoned Mine Reclamation; the Pennsylvania Environmental Council; Foundation for Pennsylvania Watersheds; The American Chestnut Foundation and the Arbor Day Foundation for providing American chestnut seedlings; GFW donors and supporters who provided technical and financial assistance that made these projects possible; and all the volunteers that gave their time and energy planting trees in contribution to this important work. We would also like to thank Napieralski Forestry Enterprise and their professional tree planting crew of reforestation superheroes!



The professional planting crew from Napieralski Forestry Enterprise that planted the 2024 PA Projects. The unsung heroes of reforestation!

ECOLOGICAL BENEFITS

Mined Land Restoration Projects

The reforestation of surface mined lands provides innumerable benefits including control of unwanted vegetation, creation of young forest habitat in the short-term, and the eventual creation of mature forest habitat and reduction of forest fragmentation in the long-term. With wildlife always in mind, our projects increase plant community diversity, provide multi-seasonal nectar sources for pollinators, and improve wildlife habitat, often for targeted sensitive species.

Table 1. Trees planted in Pennsylvania

Year	Number of Trees	Acres
2020	77,450	28.5 hectares (71.3 acres)
2021	210,980	157.6 hectares (394 acres)
2022	344,167	335.1 hectares (829.5 acres)
2023	353,200	425.5 hectares (1,051 acres)
2024	359,755	344 hectares (850 acres)
TOTAL	1,345,552	1,291 hectares (3,196 acres)

Two of our planting contracts and 5 volunteer tree planting events were held on mined lands that required site decompaction. Ripping the compacted land immediately creates a rough ground surface and exposes large rocks, creating microsites that will provide cover for insects, small mammals, reptiles, and amphibians. The bare soil is quickly colonized by many native species of wildflowers which provide nectar and pollen for pollinating insects. In the short-term, the young forest that is created will benefit American Woodcock, ruffed grouse, wild turkey, Golden-winged Warblers, and other species that rely upon young forest habitat. As the planted seedlings grow, the project areas become patches of young forest habitat that many songbirds, game birds, reptiles, and large and small mammals rely on for foraging and breeding. As the forests mature over time and biodiversity increases through the process of succession, different species will benefit, including those that prefer larger tracts of unbroken forest. Canopy cover of stream waters will maintain cooler waters needed for trout fisheries.

Once the forest matures, exfoliating bark from spruce, pines, oaks, cherry, and snags will provide roost sites suitable for several bat species including the endangered Indiana bat (Myotis sodalis) and northern long-eared bat (Myotis septentrionalis), which has been recently listed as endangered. Mature forest will benefit numerous large mammals, including bobcats and black bears. Acorns from mature oaks will feed white-tailed deer, wild turkey, ruffed grouse, and a variety of small mammals that reside in the area.

One long-term goal of our projects is to reduce forest fragmentation and increase the extent of contiguous forest to benefit Neotropical songbirds such as Cerulean warblers, Scarlet Tanagers, Ovenbirds, and other forest interior dependent species. Cerulean warbler populations have declined by 3.02% per year from 1966-2012 based on estimates from the North American Breeding Bird Survey. Cerulean warbler is considered a Bird of Conservation Concern by the US Fish and Wildlife Service and is a Species of Greatest Conservation Need in the Wildlife Action Plans of 22 states. Reforestation of surface mined lands is a long-term approach to benefit Cerulean warbler and other forest interior dependent bird populations by increasing the extent of contiguous tracts of forest. Surface mine reforestation benefits numerous other terrestrial and aquatic wildlife populations, potentially including other listed species and species of concern.

GFW mined land reforestation projects also have the potential to immediately improve downstream water quality. Loosening the compacted soils increases infiltration rates, buffering storm events, decreasing runoff, and potentially mitigating flash flooding. As the trees grow, reforestation of upland sites influences water quality and quantity by sheltering ephemeral streams and buffering water release from sites. Water quantity contributed to downstream waters is reduced through increased evapotranspiration as the trees mature, which can reduce loading of sediment, metals, and salts (when present), further improving water chemistry. Certain trees also have the ability to accumulate metals in their tissues, which may reduce inputs to the watershed over time. The thermal protection and reduced sedimentation provided by forest cover reduces heating of downstream waters which increases water's capacity to hold dissolved oxygen, benefiting aquatic life.

Ecosystem services provided by forests include improved water quality, improved air quality through increased capture of airborne particulates, climate change mitigation through increased carbon accumulation, creation of soils that cycle nutrients, and improved wildlife habitat. Furthermore, people living near green spaces have better sleep and lower incidence of depression and anxiety, which improves mental health and consequently, physical health.



White spruce

Red spruce



UNDERPLANTING PROJECTS

White pine

Our non-mined land projects, often on public lands, provide many of the same benefits, except that the sites do not require decompaction with large machinery before tree planting. The projects on PA State Game Lands (SGLs) have varying percentages of forest cover, so tree spacing is often more spread-out. These projects involve forests that have been disturbed or degraded by exotic/invasive insect or plant invasion, storm blow-downs, are threatened by hemlock woolly adelgid invasion detected nearby, or could otherwise benefit from the addition of a diverse mix of native conifers, and sometimes hardwoods and shrubs. One of the most impactful, natural ways of combatting invasive species is to plant trees that will form a closed canopy to out-compete invasives. Once a canopy has formed, many invasive plants will be shaded out and suppressed.

Most of the SGL underplanting projects contain riparian areas adjacent to high-quality, cold water streams that depend on tree canopy shading. Trees uptake water and prevent flash-flooding, add stability to stream banks and organic material to stream habitat, and provide habitat to a diverse suite of native wildlife. Underplanting below mature hemlock stands prior to canopy loss due to hemlock woolly adelgid is common for SGL plantings, as the adelgid continues to spread throughout Pennsylvania. Planting after heavy loss due to storm blowdown, and sometime necessary salvage cuts, ensures that species that are beneficial to native ecosystems become established, instead of allowing invasive shrubs to take over. Some of these project areas have had invasive species removal and treatment, sometimes for several years, before the time is right and adequate sunlight is reaching the ground for planted seedlings to thrive. Each unique non-mined project builds more resilient forests, protects water resources and cools streams, creates more diverse wildlife habitat, and increases carbon sequestration in growing trees. The restoration of ecosystem services benefits all of society.

RED SPRUCE RESTORATION

Seven of our 2024 projects included red spruce in the species mix, which complements the efforts of GFW, ARRI, and the Central Appalachian Spruce Restoration Initiative to restore a corridor of red spruce influenced forests extending from West Virginia into Pennsylvania. This work benefits imperiled wildlife such as the Northern Flying Squirrel, which requires red spruce forests for foraging and shelter. Conifers provide year-round thermal protection of surface waters and benefit additional species, such as Pine Warblers.



An eastern hemlock (*Tsuga canadensis*) dominated riparian area in Pennsylvania that has been infested with hemlock woolly adelgid (*Adelges tsugae*), a sap-sucking insect introduced from East Asia to the United States in the 1920s. Several projects this year involved underplanting other native conifers in these forests to replace the hemlock as their populations begin to decline.

COMMUNITY BENEFITS

GFW's projects provide employment for equipment operators, seed collectors, nursery workers, and tree planters. Since many tree planting crews consist of migrant workers, these projects stimulate local economies by bringing work into the region, benefitting retail, transportation, hospitality, service, and other secondary industries. Some of our contracted large equipment operators were formerly employed by mining companies, and now their skills are being utilized for restoration of mined lands. The healthy and productive native forests that are restored will provide sustainable economic development and opportunities for entrepreneurship through future management actions, recreation, and harvesting of timber and non-timber forest products. The vast majority of our Pennsylvania projects are located on land that is open to the public, so visitors will benefit from improved wildlife habitat when hunting, fishing, hiking, bird watching, and pursuing other recreation opportunities.

2024 PROJECTS

GFW and our PA partners planted and/or supported 2 mined land restoration projects, 3.5 state game land (SGL) forest underplantings, and 7 volunteer events in PA this year. A total of 359,755 native tree seedlings were planted on 850 acres.

MINED LAND PROJECT: CONTINENTAL DIVIDE 2024

PROJECT BACKGROUND

This mined land restoration project was given its name because it straddles two watersheds- the Chesapeake Bay Watershed and the Ohio River watershed. The 300 mined acres are owned by several landowners and the project will be completed in two phases: phase one ~150 acres in 2024 and phase two ~150 acres in 2025. The site

was previously heavily

suckle, and Japanese

overgrown with autumn olive, invasive honey-

knotweed. A.M. Logging

Shippenville, PA removed

the invasive species and treated with herbicide

the acres planned to

be reforested in 2024. Fremer Reclamation, Inc.

of Brockway, PA ripped the site using a Komatsu

155 dozer with double-rip-

ping shanks. Napieralski

Forestry Services planted

132,310 seedlings in early April, which was made up

of 24 native tree species.

National Fish and Wildlife

Foundation, The Nature

Conservancy, One Tree

is complete, one of the

landowners wishes to

easement to preserve the crucial wildlife habitat that exists and is being

enter their property into a

permanent conservation

Once the planting

Planted, and GFW.

Funding for this project

was provided by The

of Spring Mills, PA, and Smerkar Services from

PLANTING LOCATION

Jefferson and Clearfield Counties, Pennsylvania

APPROX. GPS COORDINATES N 40°55'7.052", W 78°47'20.903"

PLANTING DATES 4/5 to 4/13/2024

TREES PLANTED 132,310

ACRES PLANTED 148 acres

SPECIES PLANTED

Red Spruce, White Spruce, White Pine, Balsam Fir, Virginia Pine, Northern Red Oak, White Oak, Black Cherry, Chestnut Oak, Tulip Poplar, Quaking Aspen, Big Tooth Aspen, Black Locust, Sugar Maple, American Beech, Red Bud, Sycamore, Persimmon, American Crabapple, Silky Dogwood, Black Chokeberry, Am. Hazelnut, Black Gum, Wild Plum, Am. Chestnut

restored. This easement will conserve nearly 300 acres.

The landowners are environmental stewards and have been involved in project planning from the very beginning, from surveying the land, to species selection, to being present while the planting contractors planted the trees. One of the two landowners owns the company AM Logging and did most of the site preparation with his own equipment and time; some of the work that AM Logging did went toward a match for funding this project.



Prior to work beginning, the site was thick with autumn olive, honeysuckle and Japanese knotweed.



Planters from Napieralski Forestry preparing to plant the trees.



Aerial view taken in July 2024.

The two landowners of the 2024 phase share their perspectives:

"My family purchased" this land 20 years ago for its recreational value. We sat by and felt nearly helpless as we watched our losing battle with the invasive plants. Enter Green Forests Work, and with our personal contributions, we see what may have taken a century be reduced to a few decades. That is, returning our mined lands into a productive forest. A forest that provides wildlife habitat, cleaner air and water, and one that will mature to allow harvested products for the enjoyment of future generations."

Wes Miller, Land Owner & owner of AM Logging

"I'm filled with gratitude for the work of Eric Oliver and Tom Clark in reaching out to neighboring landowners and expanding the scope of this project, now at six times the acreage that would have included my land alone. I'm so appreciative of their hard work, and of everyone involved, in developing a plan that provides for both the needs of the landowners and for the stewardship of the land. This spring I had the privilege of seeing the trees being planted. I stood there watching, and thinking, "I've been waiting fifty years for this," my heart overflowing with joy. I loved meeting the planting crew and Nato, their leader, and hearing him speak about their dedication to reforestation and the satisfaction it has brought to their lives. Another sense of connection was formed. I'm in awe. As an environmentalist, I realize that this project will help to improve water quality from the Gulf of Mexico to the Chesapeake Bay, since the divide between the Ohio Basin and Chesapeake watersheds crosses directly through the property.

But the best part of all of this project is the impact it's had on my son. Throughout the project he's spoken about his growing enjoyment and appreciation for the woods, eager for upcoming visits and making comments like "I wonder what interesting things about nature we will learn from Eric today!" I asked him what he would like me to say in this statement, and he said, "I'm just feeling so grateful. I hope in the future it will be a great habitat for many critters, not just the birds and the animals but the bees and butterflies and other insects too." This project is hope for the future. Thank you."

Vivienne Shaffer, Landowner

FOREST UNDERPLANTING PROJECT: 2024 GOAT PATH CONIFER UNDERPLANTING AT STATE GAME LAND 24

AREA HISTORY

In recent years in State Game Land 024, American beech has declined due to beech bark disease as well as beech leaf disease. This has moved many stands across the property into

PLANTING LOCATION

Forest County, Pennsylvania

APPROX. GPS COORDINATES N 41°26'1.157", W 79°19'35.337"

PLANTING DATES 4/11 to 4/15/2024

TREES PLANTED 43,980

ACRES PLANTED 142 acres

SPECIES PLANTED Red Spruce, White Spruce, White Pine, Balsam Fir

a degraded condition. Losing mature beech trees results in an influx of beech brush without the hard mast component that has been relied upon by wildlife in the past. On the other hand, the dead and dying beech trees provide large snags, cavities, and added sunlight to the forest floor. Hemlock woolly adelgid is another threat that has been found in surrounding areas. The stands planted over the years have many gaps due to past forestry practices and natural mortality and now provide partial sun for planted seedlings to thrive.

OBJECTIVES

The objectives of this planting project were to occupy growing space with planted conifer seedlings to enhance wildlife habitat and species diversity, diversify vertical structure, and increase the conifer component within these degraded stands.

WATERSHED INFORMATION

State Game Land 024 is located within the Allegheny River watershed which is part of the Ohio River Basin in Pennsylvania. SGL 024 is drained predominantly by Coon Creek, a Cold Water Fishery (CWF) that flows into Tionesta Creek. Little Coon Creek drains the far northern portion of SGL 024. Little Coon Creek is designated a High Quality - Cold Water Fishery (HQ-CWF) and flows into Tionesta Creek. None of the streams on this game land are part of a public water supply. SGL 24 Conifer Underplantings 2021 to 2024



0.25 0.5 1 Miles

5/7/2024

Over the past 4 years, conifer underplantings implemented on SGL 24 have added up to 148,955 seedlings planted on nearly 540 acres.



Professional planters count, prepare, and stuff seedlings into their planting bags.

FOREST UNDERPLANTING PROJECT: COMPLETION OF 2023 SKIDMARK CONIFER UNDERPLANTING AT STATE GAME LAND 24

PLANTING LOCATION

Forest and Clarion Counties, Pennsylvania

APPROX. GPS COORDINATES N 41°26'41.891", W 79°18'48.207"

PLANTING DATES 4/15/2024

TREES PLANTED 17,000

ACRES PLANTED 57 acres

SPECIES PLANTED Red Spruce, White Spruce, White Pine, Balsam Fir

In 2023 GFW planted 32,850 conifer seedlings across 105 acres at the Skidmark underplanting project in PA State Game Land 024. It was one of our final projects, and we ran short on trees, so this season we returned to complete the planting with an additional 17,000 conifer seedlings. Stand degradation over the years due to Beech leaf and beech bark disease, as well as wind events, had decimated the beech population and left many of the largest trees standing dead. Loss of mature beech trees resulted in an influx of beech brush without the hard mast that wildlife depend on. The dead and dying beech trees provide large snags, cavities, and add sunlight to the forest floor, a silver lining of the devastating loss. High deer browse pressure results in very little tree regeneration or other vegetation growing in the understory. Pretreatments in advance of underplanting included herbicide of beech brush and sweet birch, mulching of brush, and scarification of the soil. Hemlock woolly adelgid is another threat to one of the dominant trees in the stand. There is hope that some of the hemlock will regenerate, but hemlock seed desiccates very quickly, and this is one of the reasons why hemlock stands regenerate so slowly. The objectives of this planting were to enhance wildlife habitat and species diversity, diversify vertical structure, and increase the conifer component within these degraded stands.

"I started working in this stand roughly 15 years ago and have watched the beech dying out, the birch blowing up, the stand degrading... and then to see the birch mulching work and now the tree plantings, it feels good."

- Scott L. Wolbert, Regional Forester, Pennsylvania Game Commission, Northwest Region, is quoted in 2023 referring to the Skidmark underplanting area begun in 2023 and completed this season at SGL 024.



At SGL 24 seedlings are planted after a series of stand pretreatments, which included herbicide of beech brush and sweet birch, mulching of brush, and scarification of the soil. 8 | 2024 PA GAME LANDS REPORT

FOREST UNDERPLANTING PROJECT: 2024 CLAWSON RUN CONIFER UNDERPLANTING AT STATE GAME LAND 283

AREA HISTORY

There were many saw mills in the area around SGL 283 including several that were on site. Previous forest management before the property became game lands was driven by market timber cutting. The forests were highgraded for past harvests, so they exhibited low diversity and low guality by the time the PGC acquired them. The 2024

PLANTING LOCATION

Clarion and Jefferson Counties, Pennsylvania

APPROX. GPS COORDINATES N 41°17'9.541", W 79°11'39.69"

PLANTING DATES 4/16 to 4/18/2024

TREES PLANTED 64.865

ACRES PLANTED 213 acres

SPECIES PLANTED

Red Spruce, White Spruce, White Pine, Balsam Fir

planting areas, which total 213 acres, are comprised of Eastern hemlock – northern hardwood, dry oak, and red maple forest types. Species found throughout these stands include eastern hemlock, American beech. black cherry, red maple, northern red oak, white oak, black oak, scarlet oak, and chestnut oak. The project area blocks were mixed oak stands originally, so 10 years ago the PGC Foresters began investing time and money into efforts to remove nondesirable trees in hopes of recruiting

oak seedlings. Tree tops were left on the ground as woody debris for habitat and seedling protection from excessive deer browse.

Two of the planting blocks were clearcut in 1993 and regenerated to mostly red maple with no conifers growing back. The area is now an even-aged 30 year-old stand. It was fenced, but still regenerated with minimal species diversity. PGC Foresters have been trying to promote diversity through management, including crop tree release, however the understory is still fairly open. The project area stands have many gaps due to past forestry practices and natural mortality and now provide adequate sunlight for planted seedlings to thrive.

OBJECTIVES

The objectives of this project were to occupy growing space with planted conifer seedlings to enhance wildlife habitat and species diversity and enhance vertical structure. A recent discovery of hemlock woolly adelgid in SGL 283 has prioritized several areas for future treatment combined with conifer underplanting efforts to increase the resiliency of the

SGL 283 Conifer Underplantings 2023 & 2024



Projects in 2023 & 2024 have resulted in the planting of a total of 109.765 conifer seedlings on SGL 283 on over 350 acres.

5/7/2024

forest in the face of this destructive invasive insect. Increasing connectivity of conifer forest corridors, especially along threatened hemlock drainages throughout the Game Lands, is very important.

WATERSHED INFORMATION

State Game Land 283 is located within the Clarion River watershed, which is part of the Ohio River Basin in Pennsylvania. All of the named drainages on State Game Land 283 are listed as high quality and include Cathers Run, Seaton Run, Kahle Run and Clawson Run. The Clarion River, into which Cathers Run drains, is listed as a cold water fishery.



The professional planters use a tool called a hoedad to slice open the earth and loosen the soil before planting each seedling.

FOREST UNDERPLANTING PROJECT: 2024 RAUGHT RUN CONIFER UNDERPLANTING AT STATE GAME LAND 54

AREA SUMMARY

State Game Land 054 provides a unique landscape and habitat that is attractive to many species of wildlife and provides good hunting and trapping opportunities for Pennsylvania sportsmen. State Game Land 054 is an important bird area with a total

PLANTING LOCATION

Jefferson County, Pennsylvania

APPROX. GPS COORDINATES N 41°21'22.512", W 78°57'55.768"

PLANTING DATES

4/19 to 4/24/2024

TREES PLANTED 84,050

ACRES PLANTED

264 acres

SPECIES PLANTED Red Spruce, White Spruce,

White Pine, Balsam Fir

of 176 bird species that have been inventoried. Species inventoried include eastern screech owl, whip-poor-will, ruby-throated hummingbird, yellow-billed and black-billed cuckoos, and a variety of warblers. There are small populations of snowshoe hare, and some of the best ruffed grouse hunting in all the PGC's Northwest Region.

WATERSHED INFORMATION

State Game Land 054 is located within the Clarion River watershed, which is part of the Ohio River Basin. The project area is a high-quality stream corridor where brook trout are known to breed. Seven of the streams on SGL 054 are listed as cold-water fisheries (CWF), including Raught Run. Twelve streams are listed as high-quality (HQ). Four streams are listed as exceptional value (EV). North Fork and its tributaries exhibit strong acidic characteristics mainly due to the geological characteristics of the watershed and acid rain deposition. Much work has been done over the years by PGC and the North Fork Watershed Association to increase the pH, including applying lime to the forest floor and dosing of limestone dust and aggregate material directly into the streams.

PROJECT OBJECTIVES

The planting location is dominated by eastern hemlock and other conifers. Hemlock woolly adelgid (HWA) is not known to be on SGL 054. HWA is prevalent in surrounding areas, so this conifer underplanting will help ensure that a conifer component is maintained within the area for the future. Around 7% of stands on the property are evergreen dominant. Some forested stands that adjoin the Raught Run drainage have had wind damage in past years leading to salvaging timber and leaving certain areas with little regeneration due to over browsing from white-tailed deer. Prescribed fire has been used widely as a management tool across SGL 054, especially to maintain and encourage

an oak ecosystem. The conifer component is also very important to this area because it contains wildlife species of greatest conservation need. The plantings will provide diversity in structure, as well as thermal cover.



0 0.25 0.5 1 Miles

5/7/2024

At the SGL 54 Raught Run project 64,865 seedlings were planted across 213 acres.



Professional planters hike into the project area, past an area that was impacted by severe winds and timber was salvaged.



VOLUNTEER EVENT: PENN STATE UNIVERSITY AT SANDY RIDGE

PLANTING LOCATION Centre County

APPROX. GPS COORDINATES 40.820794, -78.229452

PLANTING DATES 4/6/2024

TREES PLANTED 2,000

ACRES PLANTED

2 acres

SPECIES PLANTED

White Oak, Black Cherry, Black Locust, Sycamore, Red Bud, White Pine, Tulip Poplar, Persimmon, Black Chokeberry, American Hazelnut, American Chestnut

On April 6th, Penn State University (PSU) students from a variety of natural sciences and engineering programs joined GFW and The Moshannon Creek Watershed Association (MCWA) at Sandy Ridge near Philipsburg, PA. The 2 ac project area is on private property adjacent to a 4.5 acre section that PSU and MCWA planted in 2023. The land was formerly an old open pit on an abandoned strip mine that was recontoured and seeded with grasses in 2006 by PA's Bureau of Abandoned Mine Reclamation (BAMR). Tree seeds blown in from the surrounding native forest were not able to establish due to soil compaction and competition with grasses. Prior to this tree planting event, the property was decompacted by a local contractor, which was funded by the landowner. After planting, the students toured an adjacent active mining operation. Partners include The Chesapeake Bay Foundation who provided the trees for this event, where 40 participants planted 700 tree seedlings, and the Pennsylvania Environmental Council (PEC).



VOLUNTEER EVENT: ST. FRANCIS UNIVERSITY AT ALTOONA WATER AUTHORITY

PLANTING LOCATION Blair County

APPROX. GPS COORDINATES 40.525345, -78.496958

PLANTING DATES

4/12/24 - 4/13/24

TREES PLANTED

ACRES PLANTED 3 acres

SPECIES PLANTED

Black Locust, White Pine, Northern Red Oak, Chestnut Oak, Sugar Maple, Red Spruce, American Chestnut

On April 12th and 13th. Green Forests Work partnered with St Francis University of PA, the Altoona Water Authority, the Emma Munson Foundation, and the Chesapeake Bay Foundation to plant approximately 1,900 trees, including red spruce, eastern white pine, red oak, chestnut oak, black locust, sugar maple, and American chestnut, on a 3-acre site mined and reclaimed in the 1990s. The Altoona Water Authority owns the site and will help protect and restore the watershed. St Francis University funded site preparation and the purchase of trees, and GFW brought the tools. Partners included the St Francis **Environmental Engineering** students and staff and the Pennsylvania Environmental Council (PEC).



VOLUNTEER EVENT: FURNACE RUN PARK

PLANTING LOCATION Franklin County

APPROX. GPS COORDINATES 39.996312, -77.505452

PLANTING DATES

4/12/2024

TREES PLANTED

ACRES PLANTED 4 acres

SPECIES PLANTED

Persimmon, Serviceberry, Winterberry Holly, Witch Hazel, Nannyberry, Pawpaw, White Oak



On April 12, 2024, Green Forests Work partnered with the Emma Munson Foundation (EMF), Susquehanna River Basin Commission (SRBC), Chesapeake Bay Foundation (CBF), the Pennsylvania Environmental Council (PEC), and Southampton Township to plant approximately 2,000 trees on a former quarry site which is currently being transformed into Furnace Run Park near Shippensburg, PA. The 200-acre nature park will give the public a place to hike, bike, and enjoy the outdoors in a natural setting. There were 23 volunteers from SRBC, 2 from the EMF, and Green Forests Work provided planning assistance, tools, and trees through the CBF. This planting event was GFW's second year helping at the site.

VOLUNTEER EVENT: FACTORYVILLE SPORTSMAN'S CLUB PLANTING

PLANTING LOCATION Wyoming County

APPROX. GPS COORDINATES N 41°31'45.247", W 75°49'14.125"

PLANTING DATES

4/16/2024

TREES PLANTED 375

ACRES PLANTED 1 acre

SPECIES PLANTED

Red Spruce, White Spruce, Balsam Fir, American Chestnut, Wild Plum, Paw Paw, Sycamore, Am. Hazelnut, White Oak, Quaking Aspen, American Crabapple, Silky Dogwood Since 2021, GFW has been providing between 375 and 890 seedlings of various species to the Factoryville Sportsman's Club for planting on their property through volunteer events. This year, 9 volunteers planted 375 trees. GFW is glad to support independent projects like this in PA and in other states any chance we get.



Green Forests Work File Photo

VOLUNTEER EVENT: FORT ROBERDEAU

PLANTING LOCATION Blair County

APPROX. GPS COORDINATES 40.58263188, -78.273774

PLANTING DATES

TREES PLANTED 400

ACRES PLANTED

SPECIES PLANTED

Wild Plum, American Hazelnut, White Oak, American Crabapple, Persimmon, Serviceberry, Winterberry Holly, Black Cherry, Red Bud, Tulip Poplar

On Sunday, April 21, **Reforestation Coordinator Eric** Oliver assisted the Blair County Conservation District (BCCD) and the Fort Roberdeau Historic Site (https://fortroberdeau.org/) in Altoona, PA with a volunteer planting event on non-mined land. This planting resulted from a grant from the BCCD to remove invasive species and help plant historically correct native species on the fort property. There were 50 volunteers planting trees. Green Forests Work provided 100 trees (serviceberry, hazelnut, winterberry, and American plum) and tools to the project. The remaining trees were supplied by the Chesapeake Bay Foundation's 10 Million Tree campaign. The plantings included a food forest and riparian buffer plantings for the Karst stream that emanates from the fort property. Other partners included Interfaith Power and Light, Ecotopian Earthcare, and Ecoislands LLC.



VOLUNTEER EVENT: FLIGHT 93 NATIONAL MEMORIAL TREE PLANTING

PLANTING LOCATION

Somerset County

APPROX. GPS COORDINATES 40.066794, -78.886472

PLANTING DATES

4/26/2024

TREES PLANTED

ACRES PLANTED

SPECIES PLANTED

Red oak, black chokeberry, silky dogwood, black locust, and others

GFW once again supported the continued reforestation efforts at Flight 93 National Memorial. 2023 marked the completion of 10 years of restoration phases and the planting of 150,000 seedlings across the legacy mined property. This year, a group of 100 volunteers planted trees. GFW provided tools, fence posts, and



Photo courtesy of Friends of Flight 93 National Memorial.

planting assistance. The PA Department of Conservation and Natural Resources (DCNR) Penn Nursery donated 100 red oak, and 500 were grown and provided by the National Park Service. Many organizations have been involved over the years, but especially the National tPark Service, DOI Office of Surface Mining Reclamation and Enforcement, GFW, and PA DCNR.

VOLUNTEER EVENT: MOSHANNON CREEK WATERSHED ASSOCIATION PLANTING AT SANDY RIDGE

PLANTING LOCATION Centre County

APPROX. GPS COORDINATES 40.820794, -78.229452

PLANTING DATES

4/6/2024

TREES PLANTED ∌oo

ACRES PLANTED

3 acres

SPECIES PLANTED

Black Locust, White Pine, Northern Red Oak, Chestnut Oak, Sugar Maple, Red Spruce, American Chestnut On April 26, 2024, on 3 acres of land near Sandy Ridge, PA, GFW held the 2nd of two 2024 volunteer tree planting events. The Moshannon Creek Watershed Association, the Emma Munson Foundation, and several Boy Scout, Cub Scout, and Girl Scout troops from the Centre County area participated. The 35 volunteers planted approximately 700 trees on 2 acres of previously mined private land that was prepped in March. Green Forests Work funded the site preparation, while the Chesapeake Bay Foundation provided the tree seedlings.



Photo courtesy of Emma Munson Foundation.

THANK YOU TO OUR PARTNERS

PA Game Commission National Fish and Wildlife Foundation The Nature Conservancy Chesapeake Bay Foundation A.M. Logging of Spring Mills, PA Smerkar Services from Shippenville, PA Fremer Reclamation Pennsylvania Game Commission Howard Nursery The John Hesselberth family **Richard and Catherine Rudolph** Other private donors Dave Saville of Appalachian Forest Restoration LLC Central Appalachian Spruce Restoration Initiative **Chesapeake Bay Foundation One Tree Planted** Appalachian Regional Reforestation Initiative PA DEP Bureau of Abandoned Mine Reclamation Foundation for Pennsylvania Watersheds The American Chestnut Foundation The Arbor Day Foundation Napieralski Forestry Enterprise Penn State University Pennsylvania Environmental Council Moshannon Creek Watershed Association St. Francis University of PA The Altoona Water Authority **Emma Munson Foundation** Susquehanna River Basin Commission Southampton Township Recreation Department Factoryville Sportsman's Club **Blair County Conservation District** Interfaith Power and Light Ecotopian Earthcare Ecoislands LLC. National Park Service, Flight 93 National Memorial PA Department of Conservation and Natural Resources Penn Nursery DOI Office of Surface Mining Reclamation and Enforcement Several Boy Scout, Cub Scout, and Girl Scout troops from the Centre County, PA area



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