

Restoration Project at Trout Run Nature Preserve

Report Prepared By Eli DePaulis, 12/30/17



Trout Run Nature Preserve is a 21.4-acre spring-fed wetland and upland ecosystem in Upper Allen Township, Cumberland County, protected and owned by the Appalachian Audubon Society.

State-endangered Sedge Wrens Lead to Establishment of Trout Run Preserve

Small things can have a huge impact. In the case of Trout Run, the discovery of a pair of state-endangered Sedge Wrens, each weighing less than a half ounce, saved the site's wetlands from certain destruction. After a long legal battle between developers and state government, the Appalachian Audubon Society was given ownership of the property in 1997, and the Trout Run Nature Preserve was born.

For years the Preserve was a thriving hub of conservation activity, hosting numerous events including tree planting days, litter cleanup events, and educational fairs. Native plant gardens graced the entrance of the Preserve, with signs informing all who entered about the importance of conserving pollinator habitat. Trails wound through the preserve's woodlands and meadows providing excellent wildlife viewing opportunities. One could say that Trout Run was the antithesis of a suburban nature preserve.

Unfortunately, due to financial issues, work at the Preserve ceased in 2008, and it fell into disrepair. Invasive plants took hold in most areas, and all the trails became impassable as vegetation (mostly non-native) quickly grew back. White-tailed Deer densities increased, eating much vegetation and dramatically reducing native forest regeneration. Litter accumulated and some neighbors disposed of their yard waste in the Preserve. It is fair to say that Trout Run plunged into a state of environmental neglect.

Work Resumes at the Preserve

In 2015, a small group of individuals interested in helping the Preserve laid plans to restore a wooden viewing deck and reduce lawn waste dumping at the site. These plans were approved by the Appalachian Audubon Society Board of Directors in May of 2016, and \$500 was allocated for the project. That summer, work began and with the help of local Boy Scouts, the viewing deck was repaired to excellent condition.

Looking to build upon the successes of 2016, those individuals organized under a sub-committee of the Appalachian Audubon Society Conservation Committee. This sub-committee then submitted a collaborative grant application to Audubon Pennsylvania in December of 2016 requesting \$800 for habitat improvement and educational work at Trout Run. Working with the Kittatinny Ridge Coalition, Audubon Pennsylvania fully funded the request.

The size of the grant may have been small, but with it, much was accomplished: a considerable amount of invasive plants were removed; trails were constructed; educational signs were placed; and litter was removed. It can be stated with confidence that now, nearly 30 years after those tiny wrens were discovered, small things are still making a big difference at the Trout Run Nature Preserve.

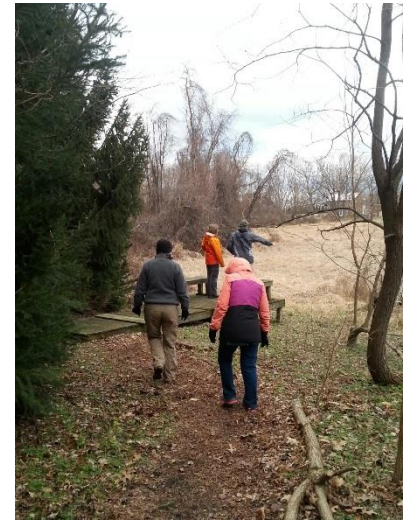
2017 Goals and Accomplishments

Introduction

The Trout Run Nature Preserve Restoration Project had six goals for 2017. Thanks to the collaborative grant and many donations of time, talent, and resources, we were able to meet every goal set forth. In addition to meeting our goals for this year, we were able to network with local government officials and other NGO's. By collaborating with these contacts, we have been able to obtain on-site technical support, large machinery, and expensive materials at little or no cost.

Goal One: Continue Work On and Around Viewing Deck

Although most of the work at the viewing deck was conducted during the summer of 2016, there was still room for improvement. Throughout the year, volunteers assisted us in replacing boards and repairing the trail leading to the deck. We also installed a new metal sign at the viewing deck trailhead to let people know that the trail is open to public access. In October, a new bird feeder was installed at the deck giving visitors up close songbird viewing opportunities.

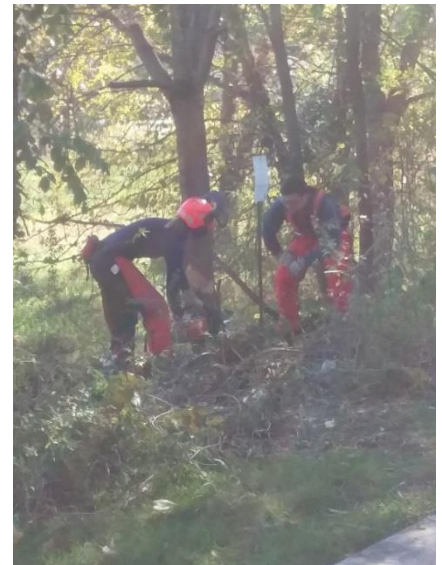
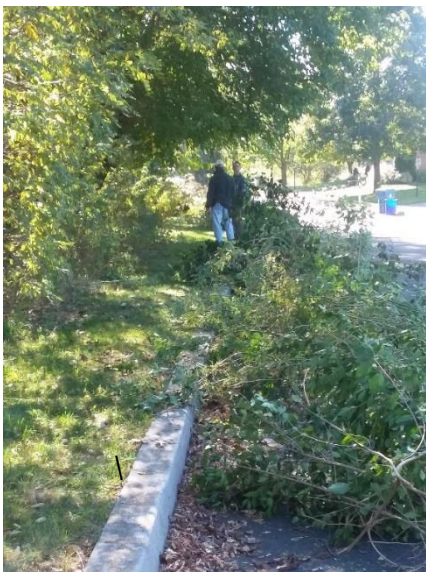
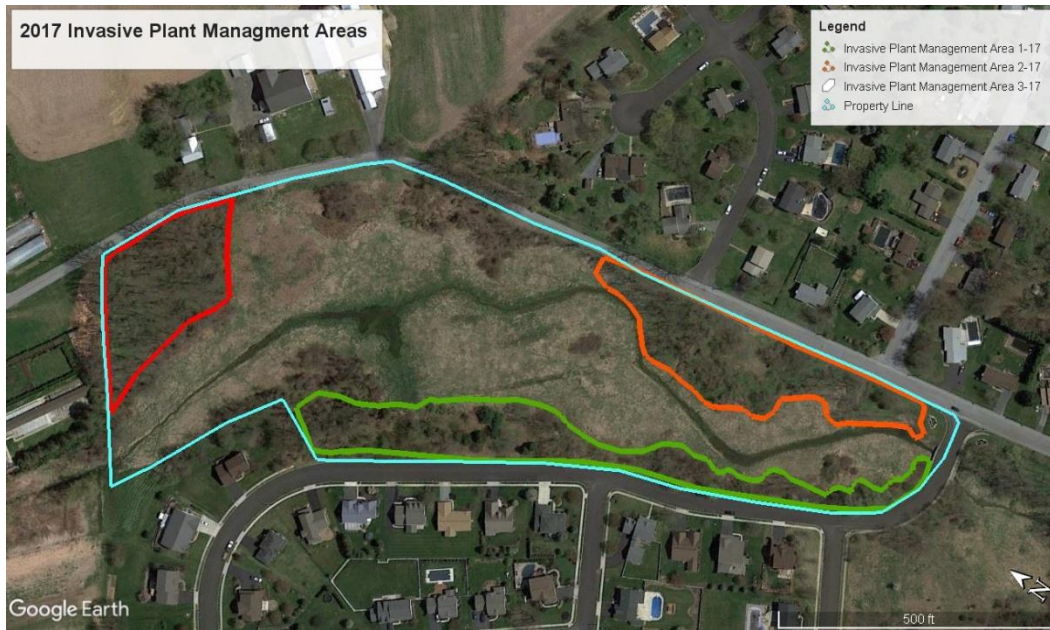


Goal Two: Remove Invasive Species

Trout Run is infested with non-native plants that are choking out the native vegetation. This year, we put a dent in the problem by implementing an intensive invasive plant removal campaign. With assistance from the Central Pennsylvania Conservancy, Pennsylvania Department of Conservation and Natural Resources, Penn State Master Gardeners, Upper Allen Township Department of Parks and Recreation, and many volunteers, we removed large quantities of invasive biomass.

Invasive trees and shrubs were treated using the cut and stump spray method, allowing for minimal herbicide use. This saved money and reduced unwanted impacts associated with herbicide application. Invasive herbaceous plants received foliar herbicide treatment. Most of the herbicide applied was glyphosate (Roundup), a non-systemic chemical that degrades quickly and does not have long-term effects. By treating mile-a-minute with foliar herbicide, we were able to limit its expansion into new areas of the preserve.

Our invasive plant management was focused in three areas of the preserve, although some management activity took place outside of the set management areas. Thanks to these efforts, invasive plants are in decline at Trout Run and we should see a gradual return to primarily native vegetation.



Goal Three: Native Plant Introductions

In the spaces created by the removal of invasive plants, we planted native tree seedlings and scattered various native plant seeds. Due to excessive deer browse, many seedlings experienced a high mortality rate. The seedlings that were protected by tree tubes survived, showing the necessity of protecting seedlings.

In 2018, we plan on launching an aggressive plant-tube campaign to promote regeneration at the site. We are currently working to tube volunteer trees in an effort to compound our planting efforts. This year, we learned our lesson and from now on any seedlings introduced will be protected.

2017 Seedling Statistics

Species	Number Planted	Total Survival per Fall 2017 Survey	Percent Survival
Spice Bush	50	Less than 5	Under 10%
Eastern White-Pine	50	None	0%
Swamp White Oak	10	5	50%
Other	Less than 5	Unknown	Unknown



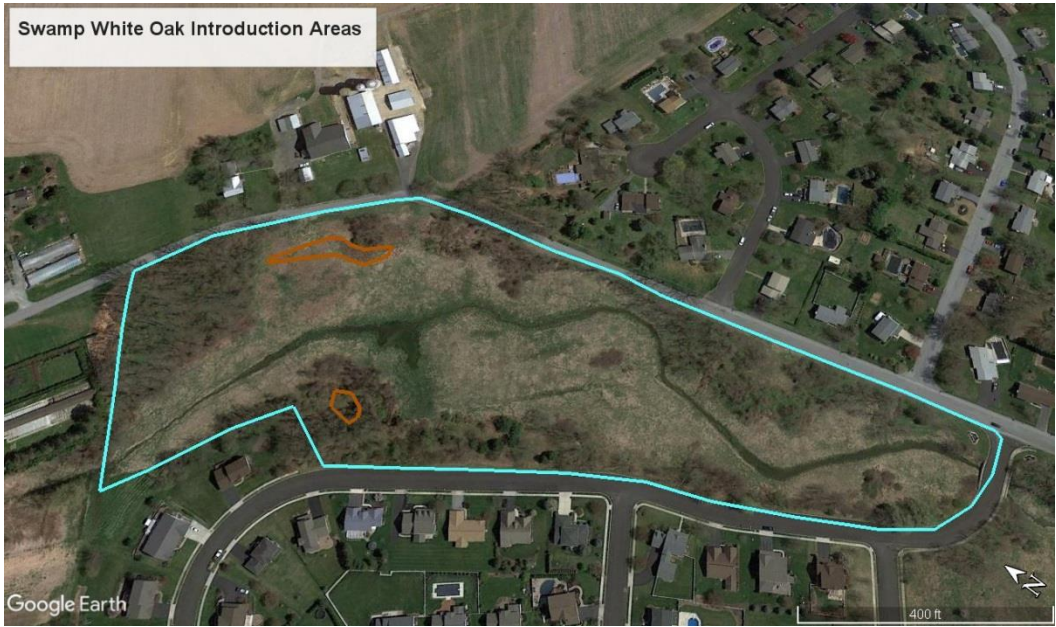
Maps of the 2017 Plant Introduction Areas



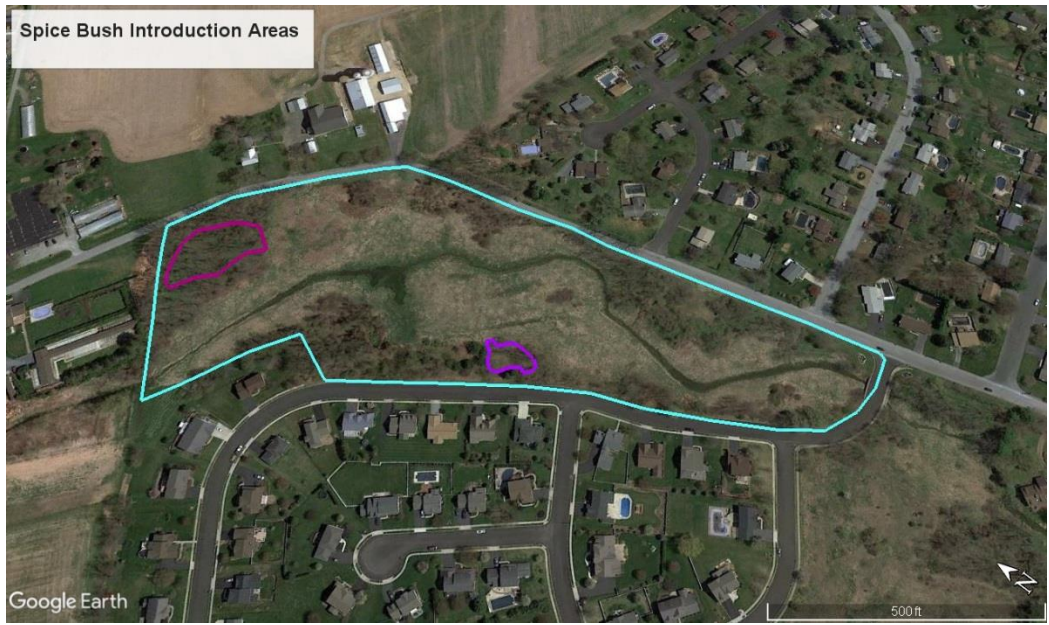
White-Pine Introduction Areas



Native Seed Introduction Areas



Swamp White Oak Introduction Areas



Spice Bush Introduction Areas

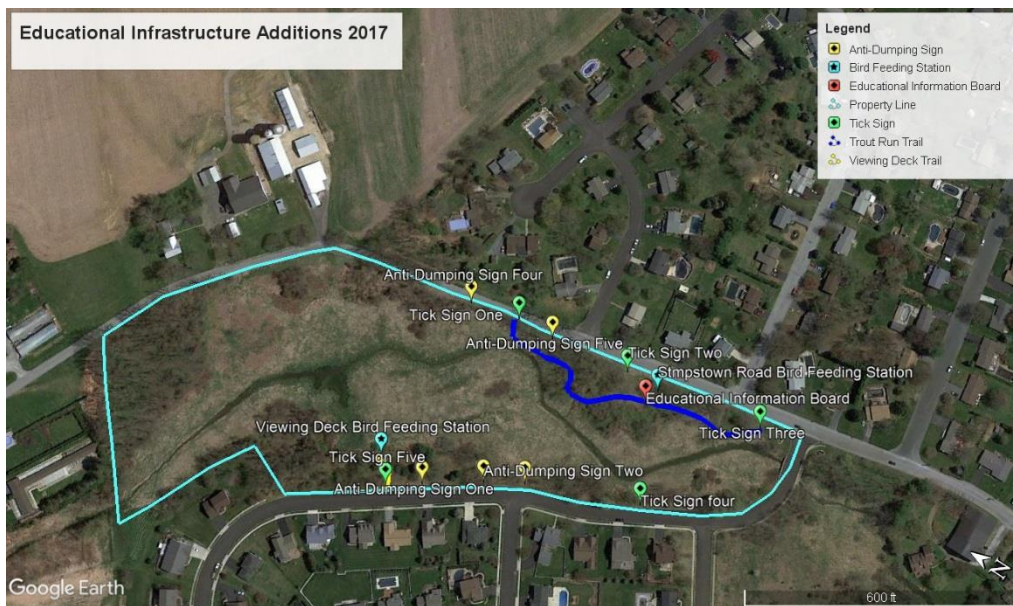
Goal Four- Educational Signage

One of the biggest issues at Trout Run is the dumping of lawn waste. It is unsightly and suppresses native plant growth. To combat this issue, anti-dumping signs were installed in areas where dumping was occurring. The Strickler Sign Company in New Oxford Pennsylvania generously donated five new metal

anti-dumping signs, which we installed in February 2017. Since then, dumping has been dramatically reduced, and areas afflicted for years by this scourge are beginning to recover.

Because of the high Black-legged Tick populations at Trout Run, we installed educational signs informing readers about the danger of tick-borne illness. The signs were acquired free of charge from the Center for Disease Control and Prevention as part of their Lyme disease education and prevention program.

We also updated the bulletin board at Trout Run with new educational material and information about ongoing preserve management efforts. Near the bulletin board, we placed a bird feeding station to provide additional songbird viewing opportunities. An old picnic table has also been repaired and placed across from the feeders to allow for seated viewing.



Goal five- Establish Trails

Using woodchips harvested from invasive trees and shrubs at Trout Run, we constructed a woodchip nature trail. Our new trail follows a historic path, minimizing its negative impacts. We plan on installing educational signage along this trail in the spring of 2018, and restoring areas affected by heavy deer browse. Signage will focus on the importance of cold-water wetlands, and the Yellow Breeches Creek watershed.



Goal Six- Clean up Litter

Litter is a constant issue at Trout Run due to its proximity to roadways. This year, we were able to control litter through a series of clean up measures. In February, a group of Boy Scouts formed a police line across the Preserve removing a considerable amount of litter. Appalachian Audubon and community members have been picking up litter periodically as well helping to reduce its impacts at the preserve.



The Trout Run Nature Preserve Restoration Project 2018 Goals

- 1) Install educational signage about wetland ecology along newly completed trail and viewing deck
- 2) Institute reed cannerly grass management program
- 3) Plant and tube native trees and shrubs in areas where invasive plants have been removed
- 4) Continue removal of woody invasives
- 5) Launch Mile-a-Minute management program
- 6) Develop outreach programs for the community surrounding the wetland
- 7) Increase public awareness of wetland ecology and Yellow Breeches Watershed
- 8) Continue collaborating with Central Pennsylvania Conservancy and Upper Allen Township Department of Park and Recreation for management at Trout Run.

Conclusion

Things are going well at the Trout Run Nature Preserve considering its litany of problems. With continued support from various sources, it should see continual improvement over the years. The Trout Run Preserve Sub-committee is grateful for the support of Audubon Pennsylvania and the Kittatinny Ridge Coalition. Without those two organizations, we would not have been able to perform the work necessary to set the Trout Run Preserve on a path towards a sustainable future. Because of material donations and volunteer labor, we were able to make the grant funds last for the entire year. We are grateful to all contributions to the Trout Run Project.

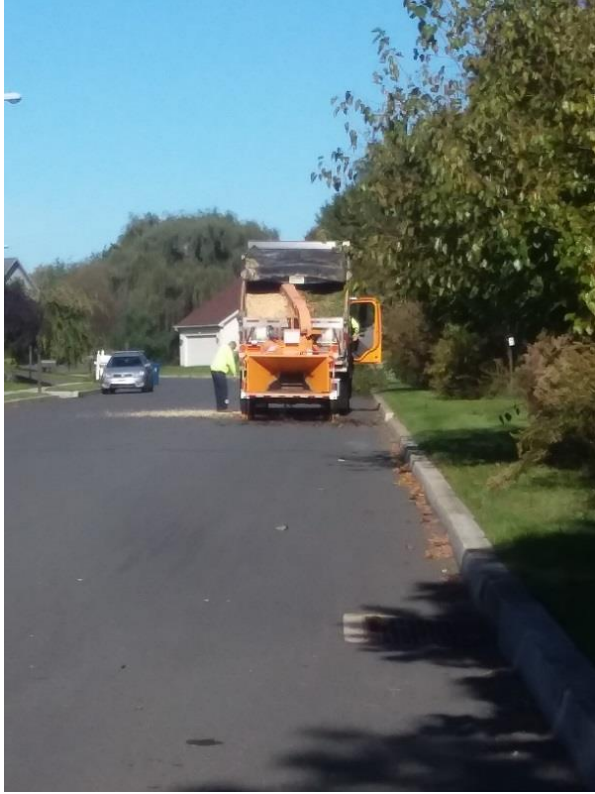
Additional Photographs of Work



Invasive plant removal in partnership with Upper Allen Township



Large pile of invasives



Woodchip Harvesting



A newly finished section of trail



An invasive plant management crew in the field