

December 2017



Restoring the Forest Canopy around Prisoner's Pond

The Hilltop Conservancy is kicking off a project to restore the forest canopy around Prisoner's Pond, located at the southern end of the Hilltop Reservation.

The pond is an attractive landscape feature which recently has been incorporated into the re-routed Lenape Trail. It is also the Hilltop's only year-round water source, and supports small fish, turtles, frogs and waterfowl such as mallards and great blue heron.

However, the adjacent forest is in very bad shape – after the hillside was cleared decades ago, invasive species moved in (in particular bush honeysuckle) and have since prevented the forest from regenerating (see illustrative photos on page 2). The infestation is so dense that it smothers any new tree seedlings that might germinate at ground level. Only a few white ash trees have managed to reach above the bush honeysuckle layer, and unfortunately, due to emerald ash borer and ash yellows disease, this species is dying out. Soon there will be no native canopy trees, and the forest around the pond will have no chance of natural recovery.

The good news is that there is a relatively easy and inexpensive way to “patch the roof” of the surrounding forest. If the bush honeysuckle is cleared and the site is planted with large native tree saplings, these species will be able to gain a foothold and gradually shade out any remaining invasives as they mature.

Clearing bush honeysuckle and dead / dying trees will require volunteers using chainsaws and brute force to drag the cut logs and brush into piles. Chipping the woody material is not required, but as much of it should be removed as possible. Verona Township's Department of Public Works (DPW) will haul away the brush, logs and branches that volunteers are able to drag to the service road at the front / south edge of the site.

The Conservancy will work with volunteers to “paint” large honeysuckle stumps with herbicide immediately after cutting, and monitor the cleared area to address any invasives re-growth as needed. In late fall, the Conservancy will also engage a local contractor to dig tree pits (to prepare the cleared site for planting).

The following spring, the Conservancy will lead teams of volunteers to plant native tree saplings. Essex County has agreed to purchase the trees, per species mix defined by the Conservancy (as long as total costs per year do not exceed \$5,000). We estimate we can reasonably tackle one acre per year over five years (see page 3 for proposed site overview, and page 4 for high-level implementation plan and estimated expenses).

This 5-year project will restore ecological balance to the forest around Prisoner's Pond and greatly increase the area's ability to support wildlife. It will also improve public access and the quality of park visitors' experience by converting what is now an impenetrable thicket of invasives into a more open and attractive forest understory.

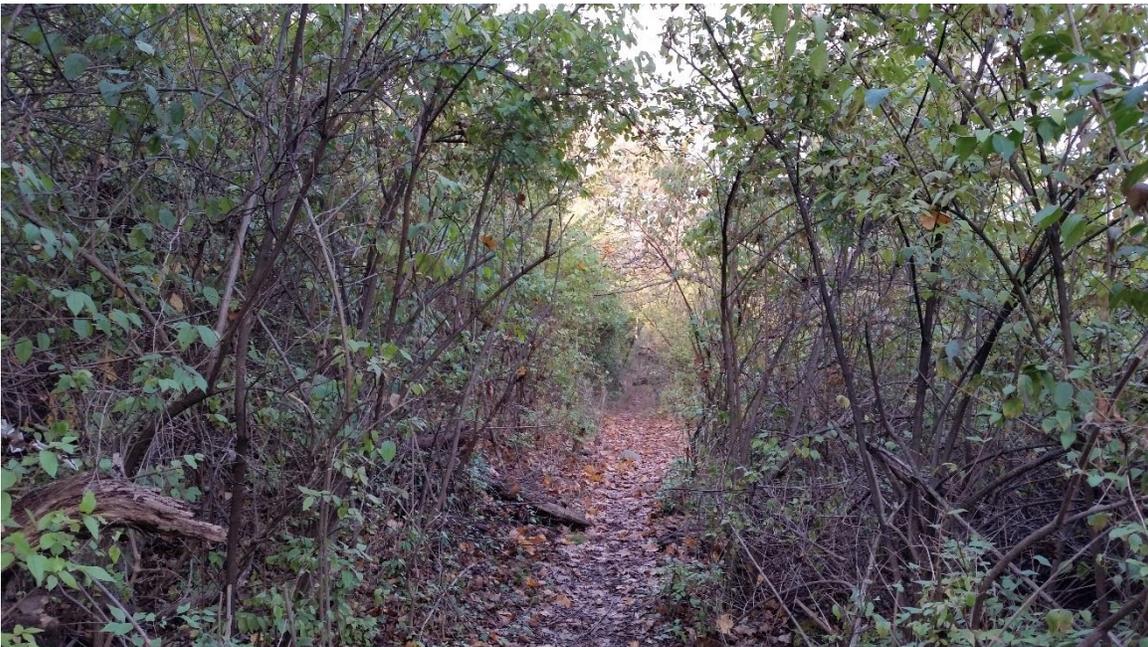
Prisoner's Pond Forest Restoration

Prisoner's Pond – Forest Canopy Status

Other than white ash (which is dying out), there are very few native trees



Thick infestation at ground level means nothing else can grow / forest cannot regenerate



Prisoner's Pond Forest Restoration

Prisoner's Pond – Restoration Area Overview

Proposed year-over-year target areas (darker green = trees, lighter green = invasives)



Large bush honeysuckles will need to be cut to the ground to make room for native trees



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Prisoner's Pond – Restoration Plan & Cost Estimates

Forest canopy on this ~4.5-acre site can be restored gradually over 5 years

Hilltop Reservation -- Pond Area Reforestation Plan			Year					Comments / Additional Information
Acre / Area	Activity	Responsible Party	2018	2019	2020	2021	2022	
1	Chainsaw large bush honeysuckle within target area	Verona						Total 1.5 acres includes machinery "path" to target planting area
	Paint cut stumps with herbicide	HC						Easiest / most effective eradication method
	Chip and / or stack cut material into brush piles	All						Chipping not required, but may be faster than stacking
	Monitor invasives re-growth and re-treat as needed	HC						Including shrubs too small to cut by chainsaw
	Machine-dig tree pits	HC						Conservancy will engage local contractor during late Fall
	Purchase large (6-7) pot-grown saplings and trunk guards	EC						County has committed to funding up to \$5k / year (~70 trees)
	Plant trees, install trunk guards, water and mulch	All						May require 2 bags of topsoil / tree or ~1 pallet / acre
2	Chainsaw large bush honeysuckle within target area	Verona						""
	Paint cut stumps with herbicide	HC						""
	Chip and / or stack cut material into brush piles	All						""
	Monitor invasives re-growth and re-treat as needed	HC						""
	Machine-dig tree pits	HC						""
	Purchase large (6-7) pot-grown saplings and trunk guards	EC						""
	Plant trees, install trunk guards, water and mulch	All						""
3	Chainsaw large bush honeysuckle within target area	Verona						""
	Paint cut stumps with herbicide	HC						""
	Chip and / or stack cut material into brush piles	All						""
	Monitor invasives re-growth and re-treat as needed	HC						""
	Machine-dig tree pits	HC						""
	Purchase large (6-7) pot-grown saplings and trunk guards	EC						""
	Plant trees, install trunk guards, water and mulch	All						""
4	Chainsaw large bush honeysuckle within target area	Verona						""
	Paint cut stumps with herbicide	HC						""
	Chip and / or stack cut material into brush piles	All						""
	Monitor invasives re-growth and re-treat as needed	HC						""
	Machine-dig tree pits	HC						""
	Purchase large (6-7) pot-grown saplings and trunk guards	EC						Final acre and final year of reforestation project
	Plant trees, install trunk guards, water and mulch	All						If desired can begin to plant smaller / understory trees

Partnering with Verona Township, Essex County and local volunteers will keep costs low

Cost Estimates (per acre)			Verona	County	HC
	2 days chainsawing		--		
	Herbicide			200	
	Tree pit-digging				800
	Trees, trunk guards			4,500	
	Bagged topsoil		150		
	Sub-totals		150	4,700	800
	Total				\$5,650

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Hilltop Conservancy, Inc. – Who We Are

The Hilltop Conservancy is a non-profit organization of local volunteers dedicated to preserving wildlife habitat in the Hilltop Reservation, a 280+-acre nature preserve in Essex County straddling the borders of Verona, Cedar Grove and the Caldwelles. We are an official partner of Essex County and assist the County with caring for the Reservation and providing our neighbors and park visitors with a green space for respite, enjoyment and nature-based learning activities.

In addition to park clean-up events, the Conservancy organizes hikes, bike races and wildlife observation walks. We also are in process of implementing large-scale wildlife habitat restoration projects, including:

- 15-acre upland grassland (completed; see sample photo below)
- 3-acre native meadow (in progress)
- 7-acre savannah regeneration (in progress)
- 6-acre wetland restoration (commencing spring 2018)

