Habitat Restoration at Pomeroy Nature Preserve

led by Stewardship Manager Matt Schultz and PHLT Volunteers

June 18th, 2021

Ecological Restoration is Always in Progress.

A few weeks ago, on a cool and rainy Saturday, six hearty volunteers and I spent a good chunk of the day on the latest stage of our restoration project at Pomeroy Nature Preserve near Stroudsburg.

One of our goals for the day was to plant plugs that we had received from Project Wingspan, a cool volunteer-led initiative to restore pollinator habitat across a six-state region. We received 450 plugs of five native species – old field thistle, blazing star, wild bergamot, buttonbush, and mountain mint.

[Left: Paloma planting buttonbush at Pomeroy Nature Preserve.]

The second goal was to build exclosures to protect the plantings, and other native species, from being browsed to extirpation by a serious invader of Pennsylvania forests, white-tailed deer.

Ecological restoration is always a work in progress. A manager sees a problem, conceives of a solution, and implements a treatment. It's critical to visit often and assess the efficacy of the treatment. Often your treatment will fail, despite your best efforts. Even if your treatment is effective, natural systems often end up presenting you with a new challenge.

I conceived of the broad scope of the restoration project at Pomeroy in Spring 2020, when I visited a section of the woods in April and was both blown away by both the diversity and abundance of the spring-flowering herbaceous layer and dismayed by

the ubiquity of invasive species such as Japanese barberry, garlic mustard and dame's rocket. The solution, as I saw it then, was simple. Remove the invasive, non-native plants, and allow the native wildflowers to flourish.

[*Right: barberry invading wildflower habitat]*

That, of course, was easier said than done. But over the course of three or four well-attended volunteer workdays in the fall, we removed most of the Japanese barberry, privet, bush honeysuckle, burning bush, autumn olive and other non-native shrubs that dominated the area. Early in the spring of 2021 we had additional volunteer workdays to remove garlic mustard and dames rocket. I told anyone who would listen that I was excited to see how the wildflowers would respond.

And how they responded! When I visited on April 17th I found that trillium had sprouted and flowered luxuriously within inches of dead barberry stumps. The other wildflowers were abundant as well. I returned on April 20th and my enthusiasm was slightly curbed by something I had been dreading: missing trillium and ungulate hoofprints in bare muddy soil. But, I reassured myself, the deer had only eaten the most exposed trillium, there was still plenty of trillium left unbrowsed. [I was unable to visit Pomeroy as often as I would have liked in this period because much of my attention was focused on our Devils Hole Road Bioblitz on April 24-25.] But on my next visit, May 4th, those hopes were thoroughly dashed. I could not find a single trillium plant in the entire restoration area. Perhaps, despite good intentions and a successful execution of our plan, we had actually made things worse. By removing the invasive thorny shrubs, we had made it easier for deer to walk through the area and the deer had come back, again and again, munching and munching, until all their favorite food was gone.

[Left: trillium after barberry removal. Right: deer-eaten trillium]

So how to respond to this new threat? I knew that trillium, and most spring wildflowers, were long-lived perennials. Being heavily browsed in one year would not be fatal to most plants. But being browsed for two, three or four years consecutively probably would result in trillium and other species being functionally eliminated from the restoration area, which was unacceptable to me.

It was clear to me in that moment that fencing the deer out was the only way to salvage the restoration project. Perhaps in the future, when deer populations are at a greatly reduced level - compatible with a healthy forest ecosystem - the fence can be removed. But for the foreseeable future, it remains. We used a relatively low-cost method. A four-foot high fence, topped with twine at about 5 feet, is the main barrier. We used the massive brush-piles of barberry to build a barricade along the length of the fence. (A side benefit of removing the brush-piles – we discovered two flowering trillium plants that had been protected from deer browse by the brush piles.) Hopefully, this will be enough to prevent entry from deer into the restoration area. I'm already getting excited about how the wildflowers will look next spring & seeing the next chapter of this on-going ecological restoration project.

[Above: Maryann, Rachel, Slade in front of deer exclosure]