

The Maple Glen



at Eloise Butler Wildflower Garden & Bird Sanctuary

Some photos and commentary

In the south section of Theodore Wirth Park there are several bowl shaped depressions with slopes wooded primarily by maples. These depressions were created at the time of the retreat of the last glacial ice sheets long ago. One such depression is just south of the Garden's front gate and has been opened to view by work of The Friends Invasive Plant Action Group (FIPAG) which has been busy since 2014 removing Buckthorn and Garlic Mustard from this Maple Glen. [Photos below]

Right: This aerial photo from early Winter 1938 shows the area of the Wildflower Garden in upper center, Birch Pond on the left and just below right center is the round depression of the Maple Glen with the service road along the top edge and a line of trees below the bowl. Photo courtesy University of Minnesota.



There are three interesting aspects to this glen. First, as mentioned, the hillsides are predominantly maple. Second, there is a small pool at the base of the depression which holds water most of the year and in previous years was much larger. Third, a good portion of the south and west hillsides are covered with Interrupted Ferns (*Osmunda claytoniana*) with a sprinkling of Lady Fern (*Athyrium filix-femina*). This extensive array of Interrupted Fern is quite striking and similar to the hillside within the Eloise Butler Wildflower Garden, where it is positioned just to the south and west side of the central plateau. This hillside of fern was referred to by Eloise Butler in 1915 in this manner: "Indeed, the most spectacular feature of the garden is a hillside densely clothed with the Interrupted Fern." (1)

So here we have, with only a short walk separating them, two almost identical hillsides that were already established with fern before the time that the Wildflower Garden was established in 1907. Remarkable.

Below: The hillsides of the bowl and the south and west are covered with extensive growth of Interrupted Fern, similar to the hillside in Eloise Butler. Photos G D Bebeau.





FIPAG at work in the Maple Glen



2014 - the beginning of work.

FIPAG Co-chairs Jim Proctor and Liz Anderson wrote about the new area to be worked on.

“So what’s next for the invasives group? Thanks to a recently adopted cooperative arrangement between the Park Board and the Friends of the Wild Flower Garden, FIPAG will be involved in a truly beautiful and extraordinary project. Outside the Garden, at its eastern edge, a wide gravel path runs from the driveway/parking area to the Garden. A tall impenetrable buckthorn hedge has bordered the gravel path, obscuring the deep ravine of maples, oaks and hemlocks that lies behind it. Earlier this summer, the Park Board agreed to work with FIPAG to remove invasives there. The goal is to remove the invasives that encircle the ravine.”



The impenetrable buckthorn hedge that Jim Proctor writes about.



The area of the Maple Bowl SE of the Garden entrance where FIPAG had begun the work of clearing buckthorn in the Fall of 2015. Photo 2017

2015/2016

Jim Proctor wrote:

“At times I get a bit overwhelmed by the scale of what we are trying to do, but all I have to do is look at the areas we started in almost a decade ago to remind myself of what is possible. In those areas I see a rich diversity of shrubs and young trees filling in the gaps left by buckthorn, and a more varied ground layer of wildflowers. I see a protective zone surrounding our beloved Wildflower Garden, one that will send a rain of native seeds into its midst rather than a deluge of seeds of just a few invasive species. Now we are attempting the same strategy for another beautiful natural community close by.”

FIPAG held three buckthorn pulls in the Maple Glen next to the Garden, running into a lot of poison ivy.

Below: Volunteer Mary with Buckthorn removed during the Fall 2016 work in the Maple Glen.

Photo Liz Anderson.



The area FIPAG worked on in October 2106 before work started. Photo Liz Anderson



The area FIPAG worked on in October 2106 before work started. Photo Liz Anderson

2017

FIPAG held three buckthorn pulls in the Maple Glen next to the Garden, in October. Jim Proctor wrote this in the Fall issue of *The Fringed Gentian*TM:

As I write this I am basking in the glow of a productively destructive buckthorn pull in our Volunteer Stewardship Area in the maple bowl south of the Garden. A dozen volunteers with the Friends Invasive Plant Action Group participated in this first of three fall weeding events. Aside from the threat of rain, our group had another, more sinister specter hanging over our heads: erosion. We've worked on slopes before, but this time we were weeding in a valley with several complicating factors that made us especially vigilant in our attempts to prevent soil from washing downhill.

Foremost in my mind was the presence of a vernal pool nested in the bottom of the ravine. According to Wikipedia, "Vernal pools ... are a distinctive type of wetland usually devoid of fish, and thus allow the safe development of natal amphibian and insect species unable to withstand competition or predation by fish." We certainly heard frogs in the pond; in fact, a lone chorus frog was calling out as we worked. Raw soil flowing into the pool would damage this critical habitat.

Second was the extent of the slope itself. It is longer and steeper than anything we've tackled before. You get the picture; more distance for water to pick up speed and more area to gather soil.

A third factor contributing to erosion was the nearly absent layer of ground vegetation in large areas of the valley. We assume this is due largely to the presence of earthworms and the severe dominance of buckthorn. When we remove all buckthorn in a given area, it almost looks like we've plowed the soil, with nothing living remaining! We've done some replacement planting in the past, but we mostly depend on remnant native plants and seeds in the soil to fill in. Here, the natural processes may take too long or not happen at all in the worst areas.

So what are we to do? First, we asked volunteers not to pull all the buckthorn as they went along. I assure you it's not easy for a seasoned buckthorn buster to pass by a buckthorn that could just as easily be pulled, but that's what we did. The invasive shrubs we left behind will continue to grow, but since they are mostly second-growth buckthorn stems from a cut several years ago, none are fruiting yet. They aren't likely to contribute to the weed seedbed in one more year.

We also have decided to start seeding in a native cover crop as we work. After consulting with Garden Curator Susan Wilkins, we purchased native wild rye to scatter just before we pull buckthorn in the next two weeding events. The seed will work into the soil as we do our thing. It should have a chance to germinate this year and provide some protection from erosion in the spring. We plan to add in other native species next fall.

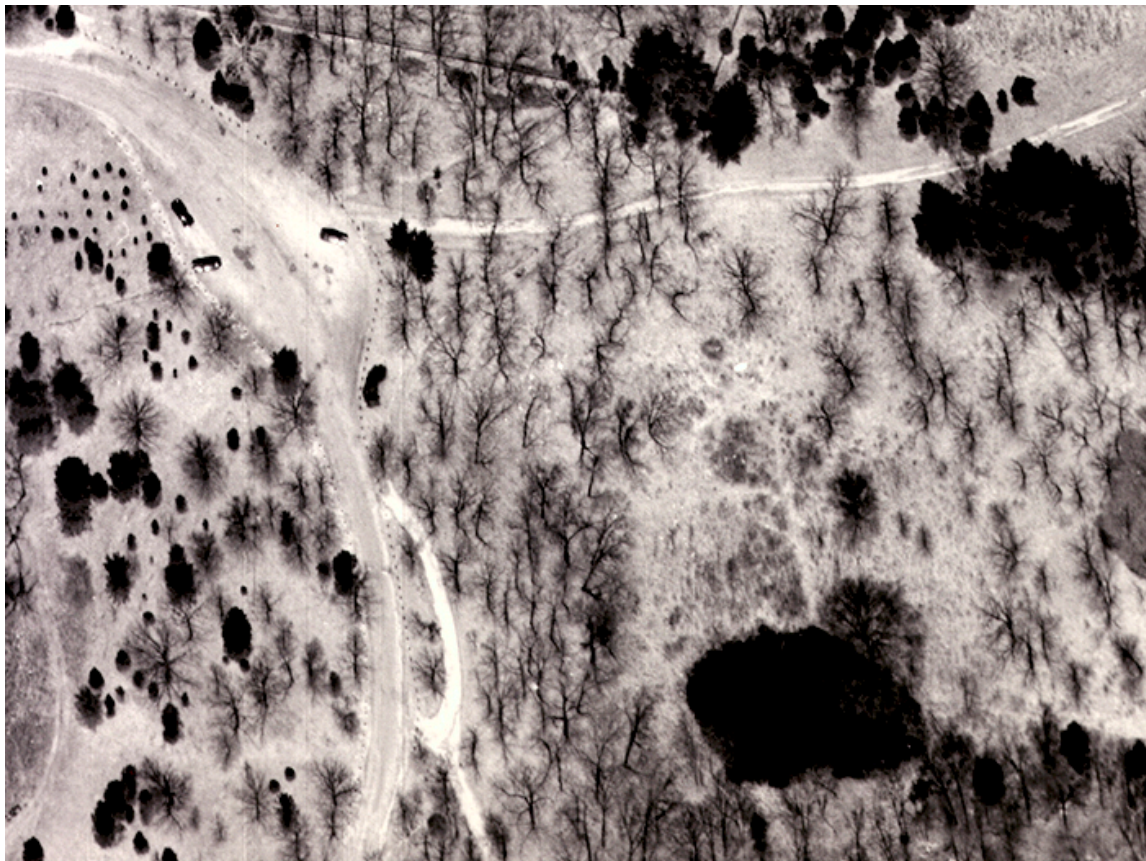


Glimmer of a Vernal Pool.
Photo Jim Proctor



Left: A view of the Maple Glen showing the amphitheater-like surroundings - Spring 2018. Most of the small shrubby stems you see in these photos were later removed if they were Buckthorn or other weedy woody plants growing too densely. Right: the pool - Spring 2018. Photos G D Bebeau.

Below: This aerial photo from 1947 shows a substantial amount of water in the bottom of the Glen. Water levels varied considerably from year to year. A 1938 photo shows very little as does 1956 but 1961 shows an amount similar to 1947.



2018

Jim Proctor sums up the experience of 2018:

We look out over an open sweep of woodland valley, descending to a fern-filled glade with a pool at the bottom, and marvel. A solid wall of buckthorn has vanished, revealing a spectacular view of the Maple Glen. What an achievement! Years of work by lots of amazing people! Before every weeding season, the Friends invasive team leaders and Garden Curator walk the Volunteer Stewardship Area (VSA) that includes the Maple Glen adjacent to the Garden. We

plan our upcoming volunteer events and talk about the issues, problems and solutions that lie ahead.

During the walk my vision veers from the growing leaf litter around downed sticks and logs to the fading understory of forbs, grasses and shrubs. Coarse woody debris supports 30 percent of the life of a forest. Acorns litter the ground like I've never seen: it's a mast year for oaks. Buckthorn seedlings are now few and manageable. We visit the Pennsylvania sedge we planted last spring on the bare, steep slope, and quickly agree on planting more next spring. Perhaps we'll stake a log in place along the path, to try to prevent the protective blanket of leaves from washing down the slope. We have more work to do, but I take joy in the fact that our hours of labor have achieved such fine results.

As we head uphill, we approach a scene dominated by buckthorn stumps re-sprouted from a previous cutting. Those are the worst! Even so, I can see the results of the thinning we've done in past years. For our next buckthorn pull we decide to continue selectively thinning the buckthorn on this slope to minimize erosion. In two or three more years this area will be largely free of buckthorn. Then it will start to fill in with asters, prunus and dogwood seedlings and many other natives. To help it along, we decide to seed native grasses into the loose soil as we work here this season.



FIPAG volunteers weed-wrench and pull up invasive buckthorn in an area of the Maple Glen where older cut stumps have re-sprouted. photo: Kari Christianson

We reach the high point of our adopted area surrounding the Maple Glen, a section we have yet to work. A dense, tall buckthorn thicket spreads out before us. Little else occupies the space. Despair edges into my mind as I contemplate this huge project. What were we thinking when we decided to expand the boundaries of the VSA earlier this year?

I remind myself, "We'll do what we can do, as we can do it." Together we decide on a strategy of weed-wrenching the smaller buckthorns and cutting the tops off the larger trees bearing berries. In this way we can stop the seed flow for now, limit the soil disturbance and revisit the cut trees later.

During weeding events our volunteers work hard for a short time, enjoy each other's company over snacks and stories, and then work a little more. That's how we've gotten this far. That's how, in the next five to seven years, we will reach the boundary we have set for ourselves, and maybe, just maybe, go a little farther.

2019/2020

Over these two seasons the area cleared of garlic mustard and buckthorn expanded and to prevent soil erosion on steeper hillsides after removal of the buckthorn roots grasses, sedges and pollinator plants have been added in a few spots. Many native plants have made a re-appearance.

One technique experimented with in 2017 had now become standard practice. In shaded areas if the upper portion of a buckthorn is cut off early so it cannot flower and produce fruit and then new growth during the Summer is stripped off, many will die without the need to dig out the roots and disturb the soil.

Pathways through the bowl of the glen are now free of encroaching buckthorn and many visitors can enjoy a quiet walk through a part of Wirth Park previously unavailable.

The photo below is an October scene from 2020. Photo G D Bebeau.



Note 1: From "Ferns in the Wild Garden - 1915", published by The Gray Memorial Botanical Chapter, (Division D) of the Agassiz Association in the Asa Gray Bulletin.

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