

**History of the Delaware Native Plant Society (DNPS) Involvement with the Native Plant Demonstration Garden at the University of DE, College of Earth, Ocean, & Environment
Hugh R. Sharp Campus, Lewes, DE**

Over the years, many people have contributed to this project, and many hours have been spent in the creation of this great little garden. This report is a summary of all efforts.

Historical Achievements

Historical information about this site can be found online at the following websites (just click on, or copy and paste the links):

<https://web.archive.org/web/20150911220849/http://www.ceoe.udel.edu/nativeplantgarden/index.html>

<http://www1.udel.edu/udaily/2009/mar/nativeplants031709.html>

<http://www1.udel.edu/PR/UDaily/2007/jun/garden062207.html>

<http://www.ecodelaware.com/place.php?id=363>

<http://www.delawareestuary.org/publications-2/fact-sheets/>

(under native plant conservation, this is the original brochure created for the site).

Present Day Involvement

On **28 October 2017** we embarked on a long-term project to renovate, rehabilitate, and expand the native plant demonstration garden on the north side of the Cannon Marine Studies Library/Laboratory at the University of Delaware College of Earth, Ocean, and Environment Hugh R. Sharp Campus in Lewes located off 700 Pilottown Rd (on College Dr). Working in cooperation with the campus maintenance crew, this day became an important cleanup day which laid the ground work for more significant improvements later on. We began by pulling out a lot of non-native plants, pulling out some trash and debris, and cutting back overgrown branches on some of the trees over the entire site.

Two workdays on **12 May 2018** and **3 November 2018** were focused on adding new plants into the southern portion of the site adjacent to the building. We planted close to 500 individual plants of 13 native species, some of which were donated by our good friend and DNPS member Bob Meadows out of his private nursery. The weather cooperated beautifully with our plantings, and a high percentage of them lived. Here's a sampling of what was added.

<i>Asclepias incarnata</i>	marsh milkweed
<i>Eupatorium (Eutrochium) fistulosum</i>	hollow-stem Joe-pye-weed
<i>Lobelia cardinalis</i>	cardinal flower
<i>Verbena hastata</i>	blue vervain
<i>Iris versicolor</i>	blueflag iris
<i>Opuntia humifusa</i>	Eastern prickly-pear cactus

Yucca filamentosa

yucca

The **13th of July 2019** saw our fourth volunteer workday in which we pulled out more non-native plants, and did a general cleanup of the entire area. We also began to plan for the renovation of the northern half of the site, and over the next few months we discussed turning this section into a pollinator garden. At 3,973 square feet, it is slated to be one of the largest pollinator gardens that we know of.

Renovation of the northern half of the site began on **9 November 2019** with a high profile volunteer workday. Press releases were submitted to ten newspapers around Delaware, and Ron MacArthur from the Cape Gazette, was on-site taking photos and later wrote up an [article about the event](#). The Delaware Beekeepers Association also advertised the event and came out to help. In all, we had 18 volunteers helping out this day. During the last half of **October**, Eric Zuelke purchased the seeds of 15 species of native herbaceous wildflowers and one grass from Ohio Prairie Nursery and Prairie Moon Nursery in Minnesota. The following is a list of what was seeded that day:

<i>Asclepias syriaca</i>	common milkweed
<i>Asclepias tuberosa</i>	butterfly milkweed
<i>Baptisia tinctoria</i>	yellow wild indigo
<i>Chamaecrista fasciculata</i>	partridge pea
<i>Helenium autumnale</i>	autumn sneezeweed
<i>Helenium flexuosum</i>	purple-head sneezeweed
<i>Monarda punctata</i>	spotted beebalm
<i>Penstemon digitalis</i>	tall white beardtongue
<i>Pycnanthemum tenuifolium</i>	slender mountain-mint
<i>Rudbeckia laciniata</i>	green-head coneflower
<i>Schizachyrium scoparium</i>	little bluestem
<i>Senna hebecarpa</i>	Northern wild senna
<i>Solidago juncea</i>	early goldenrod
<i>Solidago odora</i>	sweet goldenrod
<i>Symphotrichum novae-angliae</i>	New England aster

The soil was tilled by hand using stiff-tined rakes, a handful of unhealthy & dead vegetation, and small trees that were now out of place were removed, and the site was hand-sown with the seeds mixed into a filler of rice hulls, then covered with pine needles. The *Schizachyrium scoparium* was not mixed into the overall mix, but sown separately in 10 distinct patches to keep the grass from being widely dispersed. We wanted the grass to remain in its own small bunches. It was a very successful day.



The dry pollinator habitat before seeding and planting began (9 Nov 2019)

Eric Zuelke and Eric Wahl visited the site on **17 April 2020** to check on germination progress. Seeds were just starting to pop open and there was not too much to see on this day.



The humble beginnings of our dry pollinator habitat (17 Apr 2020)

Throughout the Spring and Summer of 2020, Eric Zuelke occasionally visited the site and as of **14 August 2020**, we were sad to report that only a handful of seedlings survived the harsh heat and sun exposure of the site. But this was only a temporary setback because during **August and**

September of 2020, we had the opportunity to apply a Minigrant that was provided by the First State Resource Conservation and Development Council, Inc.-USDA-NRCS Cooperative Agreement (2017-2020) for Pollinator Habitat Projects. We received \$1200.00 in grant money which helped us purchase live plants, seed, and materials. The DNPS also agreed to a 100% in-kind match which meant that we committed to \$2400.00 for the entire project. During the application period, we also decided to expand our efforts at the site into the wet meadow section in the southwest corner near the roof drain downspout. This area is constantly wet and provided a great opportunity to plant it full of wet meadow species. We also took out some lawn area adjacent to pollinator garden to increase its size and scope.

A volunteer event was completed on **12 September 2020** in which we planted containerized plants that were purchased from the Adkins Arboretum Fall native plant sale in Ridgely, MD using the RCD/NRCS grant money. We planted 10 plants into the new wet meadow (which was officially created during this work day), and 40 into the dry pollinator bed to help bolster the seed bank. Here's the list of what we planted this day.

<i>Asclepias syriaca</i>	common milkweed
<i>Asclepias tuberosa</i>	butterfly milkweed
<i>Baptisia tinctoria</i>	yellow wild indigo
<i>Eupatorium coelestinum</i>	blue boneset
<i>Helenium autumnale</i>	autumn sneezeweed
<i>Iris versicolor</i>	blueflag iris
<i>Monarda punctata</i>	spotted beebalm
<i>Pycnanthemum tenuifolium</i>	slender mountain-mint
<i>Schizachyrium scoparium</i>	little bluestem
<i>Symphotrichum novae-angliae</i>	New England aster



The dry pollinator habitat after the first planting of containerized wildflowers (12 Sep 2020)

Another volunteer day was completed on **4 Oct 2020** in which we planted another lot of containerized plants (103 plants total to be exact). These plants were purchased from Edge Of The Woods Native Plant Nursery in Orefield, PA with the in-kind DNPS match funds that we spoke of in the above comments about the Aug/Sep 2020 grant. Below is the list of what we planted this day into the dry pollinator garden (70 individual plants). Additionally, we laid down some black colored, biodegradable mulch film on a section of lawn to kill off the grass and begin the expansion of the dry pollinator garden.

<i>Andropogon gerardii</i>	big bluestem
<i>Asclepias tuberosa</i>	butterfly milkweed
<i>Eupatorium dubium</i>	three-nerved joe pye weed
<i>Eupatorium fistulosum</i>	hollow joe pye weed
<i>Eupatorium perfoliatum</i>	boneset
<i>Lobelia siphilitica</i>	blue lobelia
<i>Rudbeckia laciniata</i>	cut-leafed coneflower
<i>Schizachyrium scoparium</i>	little bluestem

To finish off the plants purchased at Edge Of The Woods Nursery, we had another volunteer day on **10 Oct 2020** when we planted the following into the wet meadow (33 individual plants, and one donated *Lobelia cardinalis*). On this day, we also sowed another lot of seed that was the same species composition as what we sowed in Nov 2019, again to help bolster the seed bank.

<i>Asclepias incarnata</i>	swamp milkweed
<i>Chelone glabra</i>	white turtlehead
<i>Juncus effusus</i>	soft rush
<i>Lobelia cardinalis</i>	cardinal flower



The wet meadow after the first round of planting (10 Oct 2020)



This finished off the work for **2020** and it was a very successful year, and we'd like to thank all the volunteers that came out to help.

During the last week of **January 2021**, Eric Zuelke completed and submitted an online application for a new program from the Xerces Society called the Northeast Monarch and Pollinator Habitat Kit Planting Program. The habitat kits included 1000 plants of 12 species. We learned on **18 Mar 2021** that the DNPS was chosen to be one of the recipients of a kit. Out of 100 applicants, only 46 kits were distributed, so we were very fortunate and grateful to receive one.

Preparation for the habitat kit installation began on **21 Mar 2020** with Eric Zuelke and Jennifer Clem (Facilities Manager for the UD Lewes campus) installing 400 feet of black weed blocking fabric to kill the grass in an expanded footprint of the original dry pollinator habitat.

The **19th May 2021** marked the beginning of the first round of intensive site work with the Xerces Society plants that we received. The plants were picked up from Pinelands Nursery in NJ and dropped off at the site. The first volunteer planting day was on **22 May 2021** through **23 May 2021**. Three volunteers showed up and we planted dozens of plants in a randomized fashion using numbered tags in the flats and ping pong balls with corresponding numbers in a bucket. We used an auger attached to a cordless drill to make the holes and it was discovered that the soil solarization we put the site through since March worked incredibly well and the soil was a blank canvas that was very easy to work with!

The final round of planting the Xerces Society plugs happened on the weekend of **29 May 2021**. The rest of the plants were put into the ground in both the dry pollinator habitat and the wet meadow, and we were all very happy with the results.

The **summer of 2021** saw a great explosion of growth in the seeded section of the habitat and a lot of usage by the local pollinators. The new section of the habitat grew well, but become overrun by crabgrass, and will present a challenge to manage.



The new section after planting was completed on 29 May 2021.

We began 2022 with some management work on the new section of the dry pollinator habitat. Eric met with Jen Clem and the grounds management crew on **14 March 2022** to discuss plans and on **15 May** they mowed down the stalks and built up duff from the crabgrass of last season. Eric then also used his own lawnmower to cut the duff even shorter and used a stiff-tined rake to pull the excess duff off the basal rosettes to allow the natives to get a head start over the grass and hopefully compete the grass out. Through the summer of 2022, we just simply monitored the site, did periodic maintenance as needed, chemically treated non-natives and invasives, and pruned shrubs & trees as needed. In September we realized that the resident *Baccharis*

halimifolia shrubs had successfully seeded into the pollinator habitat with the help of wind and rain from previous years, and left us with a plethora of seedlings that just got tall enough this year to notice. There were hundreds of seedlings that needed to be dealt with, so with the combination of manually pulling them out and chemical treatments, we began to get a handle on them, but this eradication effort will continue into future years. And to be sure this never happened again, five of these shrubs were permanently removed.

We began 2023 with some management work on the new section of the dry pollinator habitat, and continued cutting down and chemically treating the groundsel bush that seeded itself in. Eric met with Jen Clem and the grounds management crew on **10 March 2023** to discuss plans on how to manage the wet meadow. It has gotten overrun by an ornamental grass which has quietly gotten out of control. It is going to be mowed first, then a lot of carefully planned chemical treatments will be done throughout the 2023 growing season to remove it. We also relocated four donated *Liatris spicata* from a backyard garden in Dover into the dry pollinator habitat throughout April.

A volunteer event was completed on **30 September 2023** in which we planted 11 containerized plants that were purchased from the Adkins Arboretum autumn native plant sale. They were planted into the dry pollinator habitat in the section where the groundsel tree saplings were eliminated a couple months earlier. We also did quite a bit of gravel trail maintenance in the old demonstration garden section of the site. Here's the list of what we planted this day.

<i>Helenium autumnale</i>	autumn sneezeweed
<i>Helenium flexuosum</i>	purple-head sneezeweed
<i>Schizachyrium scoparium</i>	little bluestem
<i>Senna herbecarpa</i>	northern wild senna
<i>Symphotrichum novae-angliae</i>	New England aster

Eric Zuelke and our newest volunteer met at the site on **21 October 2023** and planted 7 *Baptisia tinctoria* in the dry pollinator habitat that were donated to us by the Div. of Fish & Wildlife. The plants were in one gallon containers, but the seeds were originally collected in Nanticoke Wildlife Area by DE State Botanist, Bill McAvoy, to be used in a restoration project there. The seed were grown for him by the staff at Mt. Cuba Center over the course of 2021 and 2022. We placed chicken wire fences around each plant to protect them from the deer and rabbits, and our newest volunteer, Jo-Anne, went to the site a handful of times to water and check on the new plants until we got some more natural rainfall at the end of November. This was the last field day of the 2023 season.

The 2024 field season began on **8 April 2024** when Eric and Jo-Anne installed biodegradable black plastic film onto a new section of the habitat to increase the footprint in that section, while at the same time deleting an older section that was not growing very well due to shading from nearby trees and shrubs.

Eric and Jo-Anne continued the project of expansion and deletion of the habitat on **21 Apr 2024** when they dug up six plants from the old section and transplanted them into the new footprint, and also relocated two plants from Eric's yard in Dover. We dug out and destroyed over 20

clumps of an invasive grass that we did not plant and did not want growing in the habitat.

Here's the list of what we planted this day.

<i>Pycnanthemum tenuifolium</i>	slender mountain-mint (x1 relocated)
<i>Penstemon digitalis</i>	tall white beardtongue (x5 relocated)
<i>Erigeron philadelphicus</i>	Philadelphia fleabane (x2 relocated from Dover)

Planting continued on **5 May 2024** when Eric Zuelke installed two quart pot sized clumps of *Monarda punctata* that were purchased from the Adkins Arboretum spring native plant sale. He also worked on cutting and stump treating some more *Baccharis halimifolia* that were missed last year and also some thorny berry shrubs that invaded one small section.

Eric and Jo met on **15 Jun 2024** to plant two *Eutrochium fistulosum* that were purchased from Toadshade Native Plant Nursery. This was a good addition to the overall diversity of the site. We also ripped up the biodegradable black plastic film that had been installed back in April. It worked great and the soil was perfectly ready for more new plants, and we continued to work on cutting and stump treating some more *Baccharis halimifolia* that were missed last year.

Eric and Jo met again on **12 Oct 2024** to plant the following that were purchased from the fall Adkins Arboretum plant sale:

<i>Eutrochium dubium</i>	speckled-stemmed Joe-pye-weed
<i>Baptisia tentoria</i>	yellow wild indigo
<i>Helenium flexuosum</i>	purple-head sneezeweed
<i>Pycnanthemum tenuifolium</i>	narrow leaved mountain mint

Throughout the summer of 2024, Jo made regular visits to water and remove non-natives in both the old garden, and the newer spaces. She did a great deal of work removing some autumn olive shrubs that had gotten established in the original garden. This was the last field day of the 2024 season.

An afternoon of work on **10 Mar 2025** marked the first day of this years field season. Eric and Jo met and rake up and pulled out the grass and weedy stubble from a grassy area in the pollinator habitat wear nothing else was growing and planted two bags full of seeds that were obtained from Eric's wildflower beds in his own yard, and some were given to Eric by Rick Mickowski. We'll see what germinates and list the species later.

Throughout the summer of 2025, Jo made regular visits to water and remove non-natives in both the old garden, and the newer spaces, and Eric planted some additional *Asclepias syriaca* plants that were moved from his yard in Dover.

A volunteer work day was held on **6 Sep 2025**, when six total volunteers completely eliminated a large patch of Chinese bushclover (*Lespedeza cuneata*) that has gotten established in the newest section of the habitat by digging it out. We also cleaned up the gravel path in the old section of the habitat by pulling weeds out of the gravel and trimming up the vegetation along the edges.

On **16 Nov 2025**, Eric Zuelke and Jo sowed thousands of seed from approximately 12 species that they both had collected throughout the fall season, and the last day of field work for the year was on **8 Dec 2025** when Eric Zuelke and one volunteer, Brittany Haywood sowed some *Senna herbearpa* seed around the entire habitat. It was supplied by Rick Mickowski. Eric also planted some seeds in pots at this house hoping to get some good seedlings for the spring.

The species that grow and die in this site are very unpredictable, and one species may grow well during one year, but be absent the next. The deer browse pressure is still an issue despite our efforts to thwart them and we are hoping to intensively seed the site over the next five years to build up the seed bank and get the density of plants as high as we can get it. We believe this will be the best chance for a diverse, thriving habitat in the main part of the site. The wet meadow that we had high hopes for, became so overgrown that we abandoned it. That part of the site still has some large clumps of sedges and rushes that grow each year, and a big patch of *Conoclinium coelestinum* (blue mistflower) that we manage each year, but that is all that's left out of the plantings we did years ago.



The main part of the site on 8 July 2025