



# Seedlings for Schools 2019–20 Final Report

Claudia Larsen, Program Administrator

Florida Wildflower Foundation

4/1/20

**Planting and Conservation Program** 

# **Program description**

More than 500 schools across Florida have participated in the Seedlings for Schools (SFS) program since 2009. SFS grants provide \$50 worth of plants, classroom resources and professional guidance on garden establishment. Teachers are notified of awards in late June, and plants are shipped in September in time for the new school year. Teachers are eligible to receive more wildflowers in spring if they successfully establish and care for their fall gardens.

# **Grant Awards**

Teachers at 44 schools were awarded grants during the program's 201920 cycle. Approximately 7,860 students were impacted by wildflower gardens, according to estimates received from teachers. Across all schools, an average of 44 percent of students participated in the free lunch program.

# Timeline

Forty-five teachers applied during the March 15–June 15, 2019, application period. Each teacher completed an application via a Wufoo.com survey and submitted three photos of their garden area. Teachers at 44 schools were awarded grants on June 30, 2019, representing 15 elementary, eight middle and two high schools, as well as 19 other learning institutions. All but one was in Central or South Florida.



<u>Sept. 1</u>: Teachers were notified of shipping dates for wildflowers and

reminded to have their gardens prepared for immediate planting. Each school received a Florida Wildflower Foundation "Tips for Garden Maintenance" handout and an information sheet with each species' picture and plant growth description. Some teachers asked for advice on garden preparation, mulching and specific plant info via emails or phone.

<u>Sept. 16–17 and Sept 23–24, 2019</u>: Plants from Green Seasons Nursery, Parrish, were shipped via UPS in four shipments over two weeks. Cost was \$2,150. Wildflowers included in each (15 plants) were: Porterweed (*Stachytarpheta jamaicensis*), Cutleaf coneflower (*Rudbeckia laciniata*), Tropical sage (*Salvia coccinea*), Pineland heliotrope (*Euploca polyphylla*), Sunshine mimosa (*Mimosa strigillosa*) and Swamp milkweed (*Asclepias perennis*), as well as five small plugs of Leavenworth's tickseed (*Coreopsis leavenworthii*).

<u>October 2019</u>: With plant shipments received, teachers were sent the Foundation's <u>Wild About</u> <u>Wildflowers! Activity Guide</u> to use or adapt for their lesson plans. Thirty-six of the teachers said they reviewed the curriculum, and 16 adapted parts to use in lessons. This represented a large increase from 2018, when eight of 32 teachers used the lessons. A sample landscape plan was created to help teachers place and space the plants. Several teachers said this was very helpful.

Dec. 3, 2019: Teachers were asked to complete a final survey and submit three garden photos, as



**GARDEN USE IN LESSONS** 

agreed to in their application. Teachers who had successful gardens and responded to the survey in a timely manner could request a second shipment of plants in spring 2020. Those teachers must agree to complete a second survey and send three additional garden photos.

Twenty-eight teachers qualified to receive spring wildflowers in April 2020, but shipments were cancelled when the COVID-19 virus closed schools. They were encouraged to apply for the 2020 SFS grant cycle in March to receive wildflowers in fall 2020.

10

14

12

10

8

6

4

2

0

12

# Garden use

Our teachers reported using their gardens for various aspects of learning.

- All teachers said their garden was a permanent outdoor teaching area.
- Most teachers used the garden for science curriculum and in-depth lessons about pollination, water conservation, insects and ecology.
  - Weet D& life Cycles Invesive Monnative plants communication/Social Suits Native Plants Water Conservation Ecology/Ecosystem 60 percent of teachers used many

or some of the educational resources on the Florida Wildflower Foundation's classroom resources web page.

All students learned about Florida wildflowers and joined in the experience of planting the garden. This knowledge included preparing soil, proper planting technique, watering, and aftercare such as weeding and mulching. Students from Pre-K to high school took various responsibility for their gardens,. Many

2

had never used garden tools or cared for plants. All of the teachers included some sort of science lesson in conjunction with the wildflower garden and some of the teachers specified particular subjects that were introduced:

- Description of plant parts and plant growth and biology
- Importance of Florida native plants
- Pollinators and their need for wildflowers
- Identification of insects/Insect life cycles
- Definition of invasive non-native plants
- How wildflowers influence water conservation
- Wildflowers in Florida ecosystems and ecology

Other lessons that were adapted for use with gardens included math, language arts, communication and social skills, and Florida social studies.

Two teachers said their gardens were part of a campus beautification project.

Garden maintenance became projects for after school clubs, including the Butterfly Garden Leadership Club at Vineland Elementary (Rotonda), the 4-H Club at St Bernadette Catholic School (Hollywood) and the Littlewood Elementary Garden Club (Gainesville).

Students at Murdock Middle School used iPads to take pictures of their wildflowers and look up information.

At Windy Hill Middle School (Clermont), wildflowers were used in a discussion about early civilization and the resources available to people in those times.

In Indian Harbor Beach, Ocean Breeze students collected water in rain barrels for their wildflowers for a hands-on lesson in water conservation.

Most classes made labels that identified the plants. Five made "Butterfly Garden" signs, and one built a wildflower information kiosk.

# **Plants and Preparation**

This seemed to be the most successful grant season ever in terms of healthy plants, with all but three schools reporting blooming wildflowers in November and December. The most successful plants were Cutleaf coneflower, Tropical Sage, Porterweed, Leavenworth's tickseed and Swamp milkweed.

- School gardens were quite varied in location and degree of preparation. There were nine grow boxes and eight in-ground gardens of more than 100 square feet, with the rest in-ground and less than 100 square feet.
- All schools were happy with the quantity and size of their wildflowers. Master Gardeners, parent volunteers and volunteers from local garden clubs and Florida Native Plant chapters assisted teachers with preparing the gardens as well as weeding and other maintenance.
- Most teachers and students prepared their gardens by removing weeds and grass by hand. Twenty-five percent applied mulch (bark chips, leaves, melaleuca chips or pine straw). Two used

weed barrier cloth and said they had problems planting and watering through it. Their plants did not grow well.

# Growing

- Only eight teachers said weeds were problematic. The gardens mostly received weekly attention, which helped diminish weed competition.
- Twenty-five percent of teachers planted additional bedding plants and vegetables. This happened mostly in grow boxes. Teachers said they were trying to attract pollinators.

# Publicity

Four gardens were publicized through school social media (i.e., Facebook) or school newsletter.

# **Garden Pictures**

Photos were much better this year and showed many children participating in planting and caring for wildflowers.

# **Administrator Comments**

Most teachers seemed knowledgeable about wildflowers and native plants and are introducing environmental education lessons in the garden. Six teachers from last year's Seedlings for Schools grant program used the grant to sustain their gardens. Teachers are adapting the *Wild About Wildflowers!* curriculum. Most seem to be using it for Pre-K through fourth-grade students to help them learn plant parts and plant biology. Pollinator education is still very important to everyone.

Only one garden, at Springs Coast Environmental Center, failed due to a combination of a tough environment of dry sandhill soil and mismanagement that allowed too many children on site, which resulted in damaged plants.



Doctors Charter School, Miami Shores

# **Survey excerpts**

Here are teacher comments from the December 2019 final survey that illustrate how their gardens have influenced outdoor and indoor teaching experiences (featured comments in blue; negative comments in red).

#### Wesley Chapel Elementary – Wesley Chapel, Fla., Julie Walford

My experience has been better than I expected. I enjoy the program and am working to ensure my school uses this valuable resource to enhance their curriculum instruction. We are beginning our unit in English language arts that will tie into wildflowers and bring our garden to life. I expect that the garden will exceed my expectations when we connect it to our curriculum.

I covered the ground with plastic to kill any parasites and weeds about 3 months before the plants arrived. I removed the existing mulch and created a border to ensure the area could seed naturally. Once the plants arrived, they were planted in the soil and pine needles were spread to help contain moisture. A "Garden" sign is being installed soon. WCES thanks you for helping provide this outdoor resource for our students that helps bring the curriculum to life.

# Lawton Chiles Middle School – Lakeland, Fla., Lesa Bland

We love this program! Our wildflower area (pictured) looks better and better each year. We are really hoping this year will be a pivotal year in educating parents at our family science night in the spring.

We previously had an area designated for Florida wildflowers. We had Goldenrod, Tropical sage and milkweed from a previous [SFS] grant that has been doing really well! The students planted all the wildflowers that we received with this



current grant. We also added some wildflowers we purchased from Sweet Bay Nursery, including Wild petunia, Wild plumbago, Creeping sage, Tickseed and Blazing star.

We use natives to further investigate water conservation. Our students will be working on a project to learn about one specific native and create a presentation about the plant. We are hoping to educate parents on the use of natives in their landscaping at home to conserve water and promote wildlife.

#### Imagine South Lake Charter School – Clermont, Fla., Suzanne Mini

The students did all the work on this garden. I just supervised them. They planted every plant you sent, plus all of the other plants we have. Our garden has been a work in progress, and your plants made it look even better.

I teach STEM to all the kindergarten through fifth-graders in my school, so I would take them on scavenger hunts out there to look for particular plants or to do experiments about leaves.

#### Ashton Elementary – Sarasota, Fla., Kelly Griffith

Students use the garden to support their science curriculum for the parts of a plant, a plant's life cycle and interdependence. Our garden is a beautiful and educational addition to our elementary school campus!

I added one sign to educate classes about the benefits of pollinators and flowering plants on a garden, and another sign was added as a resource to identify what each of the flowering plants is called. Also, each wildflower is identified by a large popsicle stick.

#### Springs Coast Environmental Education Center – Weeki Wachee, Fla., Cheryl Paradis

The students planted and monitored the wildflowers. I think there was too much attention and touching of the plants for them to survive. They declined as students continued to water and care for them. These are young students. Sometimes they stepped on young plants inadvertently. I understand their excitement, but their attention was the big concern this time around. I think it would be better to plant the plants and establish them before inviting students to participate in the garden experience.

Also, our garden is located in a sandy, hilly spot. This may have contributed to the decline in the plants. We had a few blooms, but they were short-lived, and only a few students were able to see them and appreciate them. I have called in the local Master Gardeners to assist with the wildflower garden. When the next shipment of plants arrives, they will help with the planting and guide students in the watering so that we do not kill every single plant.

#### Southwest Middle School – Palm Bay, Fla., Chelsea Denney

The students were very excited to start another garden. They enjoyed deciding where the different flowers would go and watching their progress. We also had many staff members ask about the flowers and say how they enjoyed seeing them. I would say this project turned out better than our expectations. The low maintenance of the plants was an unexpected surprise.

This garden was used to reinforce science standards, communication skills and social personal skills.

#### Arnold High School – Panama City Beach, Fla., Rachel Bramlett

The students planted the wildflowers for a beautification project this fall. The agri-science students were able to see what is native to the area and the importance of planting native plants as far as conservation is concerned.

#### Paul Stephens ESEC – Clearwater, Fla., Robert Spartz

Project experience was awesome for the students. They enjoyed handling the plants and helping with the planting process. Some of the plants withered right away with the heat, even with lots of watering. Yet they rebounded on their own with new shoots out of the ground. Area cleared seemed to weed up fast, which was a hinderance clearing weeds around the plants. The garden is a success, and we have even seen some butterflies around it and other bugs.

#### Creekside Middle School – Port Orange, Fla., Jaclyn Veloce

In November, my school participated in "Outdoor Day." Teachers designed lessons for students that involved being outdoors. This is the day I had each of my six periods help plant seeds and plants. They also painted colorful rocks and made colorful beads to hang from the garden beds to attract pollinators.

# Round Lake Elementary (pictured) – Leesburg, Fla., Gail Widener

The Outdoor Classroom group has learned about invasive species as well as the benefits of native species in regards to durability and role in the native ecosystem. Many of the students have encountered insect life they had never seen before.

The only thing I could suggest that would make a garden more likely to succeed (especially in the hands of a novice like me) would be giving the school a table that shows which plants "like" which type of soil/sun, etc. Even if it was a generic sheet of common native plants and had more plants than what we might be getting, that would be helpful to a lot of beginning gardeners. Thank you for the support!

# Seminole Heights Elementary – Tampa, Fla., William Caldarera

My students did partake in the planting and set up of the garden. They dug holes and planted plants in the ground. The garden was a huge success, and the kids and teachers are enjoying it very much.



## Vineland Elementary – Rotonda, Fla., Kathy Wylie

My Parent/Student Butterfly Garden Group met on a Saturday to lay out and plant the garden. When I met with my DEAL (Drop Everything and Leader) Day Group, we made markers and put them by all the plants so the students in this group knew which plant they were responsible for watering. Once a month, the Butterfly Garden Group meets and we weed. I also have a parent volunteer who comes in when needed to weed in the garden. Overall, such a great experience and so much excitement. One little girl told her teacher yesterday, she didn't want to have winter break because she didn't want to leave her plant. Thank you again for the plants. We love them and are so excited to continue to watch them grow.

## Murdock Middle – Port Charlotte, Fla., Samantha Gentrup

Semester One I taught a research class, so my students completed these activities:

- 1. Prepared soil
- 2. Planted seedlings
- 3. Watered and cared for seedlings
- 4. Made signs for garden including artwork, how to grow each plant, and uses/benefits of plant
- 5. Students took pictures of progress using iPads.

The only challenge we have is building gardening time into the classroom time. I have 30 students per class and six classes per day, so dividing up the gardening time is tough.

#### Stone Magnet Middle – Palm Bay, Fla., Marcia Bentley

This garden was a part of the Gardening Club project. Students learned about these plants via my teaching, parent volunteer teaching and the material found online. They took care of these plants and are working with students from Florida Institute of Technology to continue beautification.

The students enjoyed the opportunity to beautify the campus. The problem we encountered was making sure the plants had adequate water. We put a border around and mulch in the flowerbed. The principal purchased benches so that student can sit around the flowerbed. This prevents the flowers being trampled.



## Goldsboro Elementary Magnet (pictured, above) – Sanford, Fla., Marylynn Hess

All plants are thriving! The fifth-grade students took part in a weeklong lesson on identifying native, non-native and invasive plants. Since the garden was prepared last year, students were

# "IT'S A WIN-WIN FOR THE TEACHERS, STUDENTS AND THE POLLINATORS!"

- MARYLYNN HESS, GOLDSBORO ELEMENTARY, SANFORD

a part of the planting and mulching. The Seedlings for School Program is very organized. It's so nice to have the plants delivered to the school. It saves time, and the plants are very healthy when they arrive. The kids benefit from this hands-on experience and take ownership of what they have done to help the environment. It's a win-win for the teachers, students and the pollinators!

This year I taught a lesson on invasive, non-native and native plants. The students went outdoors to identify plants they learned about in class. Later this year, a lesson will be taught about the parts of the flower, pollinators and the contribution native wildflowers play in the environment.

#### New Gate Montessori – Sarasota, Fla., Jenni Presley

This was a fantastic experience for my toddlers! We have children from 18 months to 3 years in the class, and everyone participated, from planting to watering to weeding. I laid out the plants to ensure that they were placed appropriately, and the children did everything else. They continue to water every day. The children learned the different names of the plants, and they take so much ownership over the space that they don't even pick the flowers! We had a monarch caterpillar on our milkweed last week, too. It has been such a delight to watch them work on the space.

## Riverside Montessori (pictured) – Stuart, Fla., Casey Kniffin

Our students first learned what native plants are and why they are important to our ecosystem. Small groups helped plant the seedlings, while others colored a Swamp milkweed coloring page. The small groups also measured the plants that they planted and made observations. This went well, although because of the age difference, some children had a harder time than others at following instructions for planting and being gentle with plants. This did not impact the plants' success in the end, though.



#### R.J. Longstreet Elementary – Daytona Beach, Fla., Amy Spies

This garden has been a very positive addition to our existing native gardens around campus. We have designated this particular area to be a tribute garden for our school's namesake. Students participated in all aspects, including clearing out some of the non-native pre-existing plants, deciding where to plant the new flowers, planting the plants, mulching the area, and consistently watering until established. The only suggestions would be to differentiate plants depending on location. (We are beachside and sandy. Bareroot Coreopsis did not do well).

I wasn't able to select all the subjects, but the garden is being used for math, science, social studies and social/emotional lessons. In fourth grade, we are using it for area and perimeter, water conservation and plant/animal life cycles.

#### Doctors Charter (pictured, cover) - Miami Shores, Fla., Frank Mataska

In my biology classes, we go out to the garden to observe and register native species using the Nativist app. We also measure transpiration and learn about the different communities of plants and how they reproduce.

#### St. James the Fisherman – Islamorada, Fla., Karen Butler

We planted the wildflowers, and the children gathered rocks and placed them around the garden for a border. I gave a presentation to the children about the benefits of wildflowers and the importance of pollinators. I gave them coloring pages of wildflowers and pollinators.

#### B-Yachad Religious School – Boynton Beach, Fla., Orly Jacobs

We had our sixth-and seventh-grade students learn about prepping soil and gardens. We had lengthy discussions about why we need plants and why we should be good to the land. We discussed the need not only for plants that provide sustenance, but also those that provide beauty. We shared a discussion about Florida and native plants to Florida and how these plants should be nurtured and utilized in our home gardens so as to share the love of the state we live in.

#### Littlewood Elementary – Gainesville, Fla., Andrea Chavez

The garden was used with our after-school science and sustainability club, Green Team. Students learned about the importance of native wildflowers and why we should have one at Littlewood, as well as how to properly plan and plant a garden, and how to care for it and raise awareness/inform others. My multi-age classroom (K2) visited the outdoor classroom and were able to enjoy the wildflower garden as well.

I did expect the wildflowers to be larger than they currently are. In hindsight, we should have spread more compost before and during, as well as ensure we were on top of weeding. Looking at the pictures, I can see a lot of weeds that've come back despite trying our best to clean up the site beforehand.

## Greenacres Elementary (pictured) – Greenacres, Fla., Sara Oropesa

The garden club was the primary users of the wildflower garden. Tracking what grew, and what was blooming. Also, about plant needs and uses, and how natives are the best choice when planting. The kids had a wonderful time cleaning and planting and are still caring for the garden. Some of the plants didn't take; we did get rained out of two of our garden meetings, so I'm not sure if some were lost to too much water. The ones that did take are doing well and started to bloom.

# A.D. Henderson University School – Boca Raton, Fla., Jasmine Coyle

This project was part of a butterfly lab project that is still in its beginning phases, so ultimately the number of pollinators will also be tracked, and the younger grades are preparing their background research for that project. These flowers bloomed and thrived beyond our expectations. They are full, and fill the boxes in which they are planted to the brim.



These flowers were everything we hoped they would be, and they have set the stage wonderfully for our next phase in student-led research. The students have gained a stronger understanding of what native pollinator gardens look like.

#### Lindsay Hopkins Technical School – Southwest Ranches, Fla., Christina Brownlow

Most of the wildflowers are doing well and blooming. We have some existing natives, so this has been a great addition. Finally, I can report back with success! Since my colleague and I beautified our building (with the help of a few very dedicated students), the flowers are safe from harm. The only issue has been the sometimes windy conditions of the garden location.

# St. Bernadette Catholic School (pictured) – Hollywood, Fla., Tracey O'Conner

The garden area at the school was certified as a Monarch waystation last spring. 4-H teens repotted seedlings and cared for them to allow them to grow more before transplanting them into the raised bed with the fourth-grade class. 4-H teens led classroom lessons on pollination and garden observations. From January through May, 4-H teens will continue to work with the fourth-grade class using wildflower and butterfly lesson plans.

# Ocean Studies Charter School – Tavernier, Fla., Martha Loizeaux

Second-grade students started the project with a bang as they each had specific jobs and really took ownership of the planting process. I was so excited back in September when I noticed some students



taking their playground time to tend to the garden and create their own pathways out of rocks. Unfortunately, the success of the garden did not follow suit. We had problems with iguanas, but our main problem was probably due to other student behavior on our playground. Since the garden is located on our recess playground, some days we would find plants completely uprooted, our rock pathway taken apart, and other problems. Students in after-care also use this area. We were sad to see that some students did not respect the space the way we did. We are taking away many lessons from this process and discussing what worked and what didn't work. I understand that we will not be able to get another shipment of plants in March, but we are moving to a new school building next year. We will have a designated garden space that is not within the play space. We hope to bring our lessons learned to our new space and create a beautiful native garden. Thank you for helping myself and my young students learn these lessons that will help us in the future. Please know that a group of second graders and myself have learned a great deal about native plants and gardens that will help us create a beautiful space in the future! I also still hope to use the online curriculum!

## Ocean Breeze – Indian Harbor Beach, Fla., Holly Mentillo

We lost only one little plant (and found a lot of sandspurs!). The kids enjoyed putting in the plants and taking care of them; they were very dedicated! Thank you for the opportunity.

## Pinewood Elementary – Mims, Fla., Mary Thornton

I was disappointed with our results. We had water issues. In addition, underneath the mulch is the weed protector. So planting didn't go well nor did our results. Four of our plants did well. We

enjoyed the plants in our classroom before moving them outside. Many of my students had never planted anything, so that was a huge plus and an experience for them. Thanks for giving us a shot. Sorry the results weren't better.

#### Downtown Doral Charter Elementary – Doral, Fla., Becky Gonzalez

The garden was used in both math and science curriculum in the measuring and designing of the actual layout. The second-grade classes incorporated the curriculum provided as part of their science curriculum aligning with the pacing guides and incorporating information about our specific plants native to Florida. The preschool introduced plant parts to the students using the plants and worksheets provided.



## Buddy Taylor Middle School (pictured, above) – Palm Coast, Fla, Michelle Coolihan

Our garden project was all completed by students. They had a ceremony and invited students and parents to see it and to educate them about wildflowers and pollinators and the role wildflowers have in our butterfly garden. My students exceeded my expectations and did an amazing job on our garden. We added additional flowers and some water elements for our butterflies. Students will be maintaining the garden and will be adding to it as we get donations for more plants. Overall it was a great experience, and the students had hands-on learning opportunities and a chance to learn about our native wildflowers and the importance they have in our local ecosystems.

## Sheehy Elementary – Tampa, Fla., Christine Danger

Students are fascinated by the wildflower garden and the wildlife it attracts. We have had giant bumblebees for the first time! The Privet senna (from a prior SFS grant) is doing VERY well — it is giant already. The senna attracts a lot of yellow — Cloudless sulphur? — butterflies and caterpillars. It did not take long for the milkweed to be devoured by Monarch caterpillars. It has not come back yet. Our

students were fascinated to learn about the Monarchs and their migration. They want to do more to help Monarchs. The Salvia, Blanketflower and Goldenrod (also from a prior SFS grant) bloomed abundantly then produced large amounts of seed. We saved some seed to try to grow it in pots in the spring.

#### Pinewood Elementary – Mims, Fla., Kim Thornton

My class loved the planting experience – many said they had never planted anything. We enjoyed watching and observing the plants indoors before we planted. All 18 helped in digging, planting and watering. We had water issues. We had to drag water to the site. We also had issues with the weed protector under the soil. It was very difficult to dig out a hole and plant in. Some of our areas were difficult due to rocks or other obstacles in the soil to plant around. I was disappointed in the success of our garden. I feel it was difficult to get it planted. Thanks for the opportunity. I was upset we didn't have better results. I think more research and prep of the soil would have made our outcome better.

#### Windy Hill Middle School – Clermont, Fla., Stephen Hughes

The garden was used to talk about early civilizations, biology, ecology and the Earth's spheres. Students were able to see how early civilizations had to use the native plants to grow food and how the diets were based on food available. Then we went into the chemical process of photosynthesis.

#### Ocean Breeze – Indian Harbor Beach, Fla., Holly Mentillo

We studied seeds and plants, their parts and jobs. We talked about pollination. This is a rain garden, so we also learned about runoff.

#### Early Childhood Learning Center – Stuart, Fla., Mia Kaiser

The garden aligns perfectly with the seventh-grade Florida Core Curriculum Content Standards for the following units: ecology, genetics and evolution. Specific lessons would include endangered species due to urbanization, food chains/webs, taxonomy, classification, evolution, survival of the fittest/natural selection, genetic traits and dominant vs. recessive traits.

## Cranberry Elementary – North Port, Fla., Candy Duff

We have been pleasantly surprised at how well the garden is doing, especially since the soil area is so sandy and quite compact. All the flowers are doing well, and we are pleased with the outcome. We are looking forward to seeing them progress and adding to the area. We have future plans to add stones.

# Acknowledgements

The Seedlings for Schools 2019-20 program was supported by donations received from the state of Florida through sales of the State Wildflower license plate.

