

Learning Landscapes

Grant Program



2022 Report



August 2022

Alliance for Water Efficiency Learning Landscape Grant Program 2022 Report

Acknowledgement

The Alliance for Water Efficiency would like to thank The Scotts Miracle Gro Foundation for providing generous funding for these grants.



Background

In 2019, the Alliance for Water Efficiency commenced its inaugural Learning Landscape Grant Program with funding from The Scotts Miracle-Gro Foundation. The grant provided \$5,000 to support building or improving an educational outdoor space at schools, botanical gardens, or community locations that allow school-age children to experience hands-on, applied learning about water efficiency in outdoor landscapes. These grants help foster an important sense of community for children while they learn about important water efficiency issues. In addition to the creation of the grant program, AWE released a series of complementary Learning Landscape Lessons that are publicly available to all educators. The lessons focus on outdoor water efficiency and align with Next Generation Science Standards for grades 3-8.

AWE awarded its first round of grants to eight different schools and organizations in 2019, and after the pandemic created some delays, the projects were finished in 2021. To view the project summaries from the first round of grants, [please click here](#).

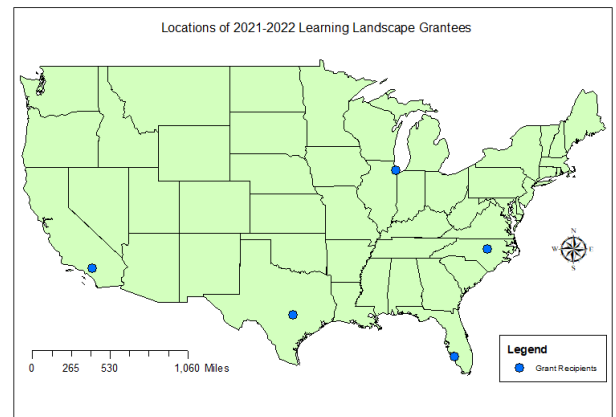
Following the success of the first round of grants, AWE awarded a second round of grants for the 2021-2022 school year to five new schools and organizations with projects that demonstrated exceptional educational value and water efficiency benefits to their respective communities. This report summarizes all five projects from this grant cycle, as well as two projects from the first round of grants that were delayed by the pandemic and other factors.

2021-2022 Learning Landscape Grantees

- Eugene Field Elementary School, Chicago, IL
- Frontier Project Foundation, Rancho Cucamonga, CA
- I Will Mentorship Foundation, Fort Meyers, FL
- Menchaca Elementary School, Austin, TX
- Town of Garner, Garner, NC

2019-2020 Learning Landscape Grantees Included in this Report

- Houston Public Works, Houston, TX
- Edwards Aquifer Conservancy, San Antonio, TX



Eugene Field Elementary School, Chicago, IL

Organization Profile: Eugene Field Elementary School serves students in fifth through eighth grade in Chicago, IL and is part of the Chicago Public Schools system.

Project Description: Eugene Field Elementary used the grant funds to revitalize their school garden. Throughout the 2021-2022 school year the Eugene Field Nature Club worked to create an improved garden space. This group mulched the entire school yard, which greatly reduced weed growth. In the spring, the Nature Club also planted roughly a dozen native plants and grasses, and weeded the schoolyard. At the end of the school year, all four middle school classes participated in a larger spring planting day and planted 180 native plants in the schoolyard. With the help of three staff, each of the 94 students in the middle school planted at least one plant on this day.

Water Efficiency/Conservation Elements: The revitalized garden at Eugene Field Elementary consists of entirely native plants, which will help conserve water and improve flood control on the school grounds. The school estimates that this roughly 2,000 square foot garden will now be able to retain up to 300,000 gallons of water on site, which will allow the school to irrigate the native plan garden with rainwater instead of drinking water.

Usage of AWE Learning Landscape Lessons: Each of the four middle school science classes at Eugene Field Elementary engaged in two lessons about water conservation, using *Lesson 1: It's Our Water*, and *Lesson 2: Planting for our Climate*. The students saw how climate change is leading to a high frequency of major rain events that can flood our neighborhood. The classes conducted an experiment and collected data on the permeability of different areas of the schoolyard. As a part of the Learning Landscape Lessons, they also learned that native plants help with water conservation

Number of Students Reached: The project reached 145 students. This number included 94 students in middle school, each of whom planted at least one plant during the schoolwide planting day.

Additional Benefits: Eugene Field will be holding another schoolwide planting day in the fall, and the school is working to further involve the students in taking responsibility of caring for the garden.

“Revitalizing the garden had a clear impact on the students at the school. The students have a much-improved understanding about how their schoolyard functions, and why the field rarely floods. They have taken ownership of the space and are looking forward to the next planting day” – John Cawood, Chicago, IL



Frontier Project Foundation, Rancho Cucamonga, CA

Organization Profile: The Frontier Project Foundation is a non-profit founded by the Cucamonga Valley Water District to demonstrate water and energy conservation strategies. The Frontier Project Foundation manages a building that reduces water consumption by 50 percent and energy usage by 30 percent. This 14,200-sq-ft LEED platinum certified demonstration building is dedicated to educating the community in sustainable living practices.

Project Description: The Frontier Project Foundation used the grant funds to improve their Succulent and California Native Plant Gardens at their Environmental Learning Center (ELC). The Frontier Project added new shrubs, a garden sign, and wildlife habitat elements, including bird feeders and bird houses, and hummingbird feeders to the garden.

Water Efficiency/Conservation Elements: To improve the ELC Succulent and California Native Plants Garden, The Frontier Project added new soil and repaired the drip irrigation system, which is crucial as a working drip irrigation system substantially reduces water use. Next, native, water efficient succulents were planted. The Frontier Project also upgraded the irrigation controller/timer so that the drip system and sprinkler system throughout the ELC garden would set for early morning watering, 3 days a week which helps reduce water loss that occurs from evaporation. In addition, a rain chain was added to the outside of the ELC portable classroom to have rainwater drain into a planter near the entrance of the classroom.

Usage of AWE Learning Landscape Lessons: The Frontier Project utilized the AWE Learning Landscape *Lesson 1: It's Our Water* during the 2021-22 school year. This lesson was especially successful during virtual field trips with students who couldn't visit the ELC Garden due to COVID-19 restrictions. The lesson was modified for specific grades and was well-received by over 900 K-12 students.

Number of Students Reached: Over 500 students from 24 schools visited the ELC in-person and walked through the improved ELC garden throughout the school year. Additionally, more than 900 students participated in a virtual field trip and learned about water wise plants, water conservation, and water use efficiency tips. In total, the project educated 1,458 K-12th grade students, including underserved students in the Inland Empire region of Southern California and adults with disabilities through a new partnership with a local organization, OPARC.

Additional Benefits: By adding bird feeders, seeds, plants for butterfly feeding, and bird houses to the ELC as part of the grant project, they supported native species and pollinators. The Frontier Project Foundation was able to register the ELC as a Certified Wildlife Habitat in California.

“The AWE Learning Garden Grant made a significant impression on students and teachers. The ELC Garden has been substantially improved and we look forward to the thousands of future students that will walk through our beautiful water wise garden in the coming years!” – Joanna Gonzalez, Rancho Cucamonga, CA



I WILL Mentorship Foundation, Fort Myers, FL

Organization Profile: The I WILL Mentorship Foundation is a nonprofit organization that empowers youth to make positive life choices through E-STEM based learning and evidence-based mentoring programs focused on increasing academic achievement, strengthening community, and providing exposure to opportunities to improve socioeconomic mobility.

Project Description: I WILL Mentorship Foundation set out to bolster their urban community farm. This farm is located in a food desert community and provides a healthy food source and educational resources for residents. The I WILL Mentorship Foundation used part of the grant funds to purchase rain barrels to collect water for the farm and water testing kits to help verify that the water for the farm is free of pollution and toxins. The other portion of the grant funds were used to buy solar panels that power the pump which transfers fertilizer to the crops in the farm.

Water Efficiency/Conservation Elements: The rain barrels installed collect water to be used at the community farm. The rain barrels will help reduce runoff pollution on the farm and help reduce the amount of water needed from local municipal sources.

Usage of AWE Learning Landscape Lessons: The I WILL Mentorship Foundation used *Lesson 1: It's Our Water* to provide water education to several underrepresented groups in weekday and weekend classes.

Number of Students Reached: Over 200 students from three local school systems were able to visit the urban community farm. This site was also officially approved as a field trip site for future classes.

Additional Benefits: By producing quality food from harvested rainwater, the I WILL Mentorship Foundation can feed the community without placing unnecessary strain on other water sources. Additionally, a middle school community has started its first environmental club which is hosted at the urban community farm. In the future, The I WILL Mentorship Foundation hopes to expand the solar system to power the aquaponic green house and install more rain collection stations for watering crops.

“The Learning Lessons were extremely instrumental in providing water education to our student groups. The grant helped support our farm which in the words of the community is a source of pride, identity and a better way to live.” – Jesse Bryson, Fort Myers, FL



Menchaca Elementary School, Manchaca, TX

Organization Profile: Menchaca Elementary School is a public elementary school serving students between kindergarten and fifth grade in Manchaca, Texas. The school is part of the Austin Independent School District.

Project Description: Menchaca Elementary School used the grant funds to create a butterfly garden comprised of native plants on the school's campus on a previously empty space. The butterfly garden also includes picnic tables, where students and teachers can gather for outdoor lessons. Additionally, the school is working to start a volunteer program to maintain the garden.

"The garden is bringing the community together to maintain it and it serves as a community gathering place. My students really enjoyed the "Our Water" Lesson." – Lucretia Beard, Manchaca, TX

Water Efficiency/Conservation Elements: The butterfly garden is comprised of only native plants to reduce the need for water. Mulch is used in the garden to reduce the amount of water lost by the soil.

Usage of AWE Learning Landscape Lessons: Menchaca Elementary utilized *Lesson 1: It's Our Water* to educate their students on the value of water.

Number of Students Reached: The entire student body of roughly 700 students will use the garden as part of school curriculum.

Additional Benefits: Menchaca Elementary worked closely with volunteers from a local naturalist organization to choose native plants that were optimal to support and grow the population of butterflies and other pollinators.



Town of Garner/White Deer Park, Garner, NC

Organization Profile: White Deer Park is a 96-acre park located next to Lake Benson in the Town of Garner, North Carolina. White Deer Park features five picnic shelters, a playground, paved and unpaved trails and a 2,500-square-foot LEED Gold Certified nature center. The nature center offers year-round environmental education programming for youth and adults.

Project Description: The Town of Garner used funds from the grant to repurpose an unused portion of White Deer Park into a sensory garden. The sensory garden has five separate hubs with approximately 50 native plants (representing 27 different species) and various garden accessories that explore each of our five senses. In addition to planting native plants, funds were used to install a sidewalk connector to increase accessibility.

Water Efficiency/Conservation Elements: All the plants in the sensory garden are native plants because they are suited for the local environment conditions in North Carolina and they require less water. The hardscaping (river pebbles) in the garden allow water to drain freely instead of creating unnecessary runoff. The garden was intentionally located in an area near a cistern so rainwater could be used to water the garden. The hose for watering was purchased with grant funds and the sensory garden is only watered in the morning to reduce water lost to evaporation.

Usage of AWE Learning Landscape Lessons: White Deer Park used *Lesson 1: Our Water*, *Lesson 2: Planting for our Climate* and *Lesson 3: Our Great Outdoors and Water Use* as part of their Wonders of Water lesson plan for students and the public.

“We have already seen many park visitors enjoy the sensory garden and we are so grateful for AWE’s support on this project!” – Katie Lockhart, Garner, NC

Number of Students Reached: This spring, a homeschool co-op of ten students incorporated the sensory garden into their lesson plan. The garden has not officially “opened” yet, but White Deer Park aims to educate local school districts soon.

Additional Benefits: All five hubs in the sensory garden have native plants that appeal to a specific sense that help visitors with disabilities better understand the environment and connect with nature. The hearing section features native grasses, black cohosh – which has rattling seed pods – and a bamboo wind chime. The sight section includes brightly colored flowers and plants with visually interesting features. Fragrant plants such as bee balm, mountain mint and Carolina allspice are located in the smell section. The taste section has partridgeberry, wild strawberry, and blueberry. Finally, the touch section was built around an existing river birch because of its interesting bark, with plants like beardtongue and ironweed.



Sensory Garden before Learning Landscape Project



Sensory Garden after Learning Landscape Project

Houston Public Works (2019-2022 Grantee), Houston, TX

Organization Profile: Houston Public Works is the largest and most diverse public works organization in the country. Houston Public Works is responsible for streets, drainage, producing and distributing water, collecting and treating wastewater, permitting and regulation of construction. Accredited by the American Public Works Association, the Department's over 4,000 dedicated public servants work together to create a strong foundation for Houston to thrive

Project Description: The grant funds were used to plant a native plant and butterfly garden in an unused area of Woodland Park in Houston. In addition to the native plant and butterfly garden, a rainwater harvesting cistern was installed to collect water for the garden to use.

Water Efficiency/Conservation Elements: The cistern is a sealed tank to catch and store up to 400 gallons of rainwater that flows from the community center's rooftop and stored for non-potable irrigation use for the Butterfly Garden and other native plants found throughout the park. Based on Houston's annual average 55" of rainfall and a 500 sq. ft structural roof for runoff collection funneled through a 12' inlet filter basket, the 400-gallon tank will typically fill 30 times per year for a total of 12,000 gallons, reflecting a savings of \$233 yearly. The selected native plant variety requires water only the first year of planting, helping sustain plant diversity with minimal water usage.

Usage of AWE Learning Landscape Lessons: The City of Houston and Travis Elementary used Learning Landscapes *Lesson 2: Planting for our Climate* and *Lesson 3: Our Great Outdoors and Water Use* as part of the educational curriculum for students. As part of Lesson 2, the students focused on Houston's Climate Zone 9 and the effect temperatures have on water, plants, water conservation, outdoor spaces, and the benefit offered by native plants – especially for butterflies. For Lesson 3, the students explored outdoor landscaping and how the plants aligned with Houston's climate. Students were instructed to observe and take notes on plants they found outdoors as well as features that affected water use.

Number of Students Reached: Due to the COVID-19 pandemic, students were unable to attend the planting of native plants, but 289 students from Travis Elementary's 5th grade science classes learned about conserving and sustaining water use and the relationship of purchasing and caring for native plants through the virtual Learning Landscape Lessons presentations.

Additional Benefit: The City of Houston reached out to Uncle Bean's Coffee - a local coffee shop, for an additional project. Uncle Bean's agreed to participate in a collaborative fundraising effort for the project. Located just ¼ mile from Woodland Park, the fundraiser raised over \$600 for investment in the water conservation garden efforts, as the local community was excited to get involved and support this project. (add sentence for context here) In addition, many native plants in the garden have important ecosystem benefits for local wildlife. Native plants such as lantanas and zinnas produce nectar that help feed the adult butterflies that frequent the garden.

"The Learning Landscape Lessons Two & Three provided the 5th Grade Science students a considerable amount of fun and educational activities" – Gail Kaufman, Houston, TX



Edwards Aquifer Authority (2019-2022 Grantee), San Antonio, TX

Organization Profile: The Edwards Aquifer Authority (EAA) is a regional water management agency that regulates the use of the aquifer through integrity, transparency, and respect for the resource and the people that use it. The EAA manages a free public facility, The EAA Educational Outreach Center, which houses a variety of exhibits and displays relating to the Edwards Aquifer.

Project Description: EAA used grant funds to create a demonstration garden in its Educational Outreach Center that features a collection of native and low-water-use plants, as well as a rainwater collection system. The demonstration garden will serve as an interactive educational exhibit for the public.

Water Efficiency/Conservation Elements: The garden is irrigated from water collected through the new rainwater collection system. There are two tanks at the demonstration garden, one having the ability to hold up to approximately 20,000 gallons and the other, smaller tank with the ability to hold up to 1,000 gallons. The purpose of the tanks will be to educate visitors about water conservation, and how water collected via rainwater harvesting is one way to water a lawn or garden. An automatic drip irrigation system has been installed and is connected to the rainwater harvesting system to ensure the garden receives adequate water in the most efficient way possible. Additionally, the demonstration garden now has over 100 plants, shrubs and flowers native to Texas.

Usage of AWE Learning Landscape Lessons: *Lesson 1: It's Our Water* is used as part of EAA's Educational Outreach Center curriculum for students who visit the premise.

Number of Students Reached: Roughly 200 total students from 5 public schools and 1 homeschool were able to interact with the improved garden. Since the opening the garden in April of 2022, hundreds of school children and their families have visited the garden and at least 6,000 visitors are expected by the end of the year.

Additional Benefits: The native plant garden serves as an important habitat for many different animal species. One of the native plant species present in the demonstration garden, the Gregg Mistflower, is a favorite of Monarch butterflies that migrate through Texas on their way to Mexico. Since the completion of the demonstration garden, several of these butterflies have been spotted in the garden already.

"The grant allowed for the abundance of plant life that was enjoyed by students from many different schools and will continue to be used in an instructional and educational manner for future students. For the greater community, the Learning Landscape became a collaboration point for many organizations, businesses and community members to take part in." – Sarah Valdez, San Antonio, TX

