

# Houston East End Students Leverage Environmental Education to Transform an Urban Food Desert into a Food Forest

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## Project Title:

This case study highlights a 2013 NUCFAC-recommended USDA Forest Service grant, **Greenschools!: Model for Green Communities**

## Partners:

American Forest Foundation- Project Learning Tree, Arbor Day Foundation- Nature Explore, Dimensions Educational Research Foundation, Friends of the National Forests and Grasslands in Texas- Latino Legacy, Fruit Tree Planting Foundation, Texas A&M Forest Service -Diversity and Community Outreach Team, Chikawa Aztec Cultural Group, Tree Campus USA, AmeriCorps National Civilian Community Corps

## PROJECT GOAL

To engage the East End community and schools of Houston, Texas in Project Learning Tree's GreenSchools! program.



*Furr HS students straw bale garden experiment. Credit: Project Learning Tree*

## BACKGROUND:

Greenschools!, a national environmental education program of Project Learning Tree (PLT), provides a method for students to investigate their school's environmental quality, such as energy use, waste and recycling, water consumption, etc. and to develop projects based on their findings. Greenschools! also provides teacher training and a STEM-based curriculum.

## PROJECT OVERVIEW:

The *Greenschools!: Model for Green Communities* project engaged underserved communities in the East End of Houston, Texas. The project provided a new version of the Greenschools! program, where activities normally part of the program (environmental assessment and action projects) were accompanied by a focus on urban forest management, food gardens, career development, and community outreach. The project provided environmental awareness and offered

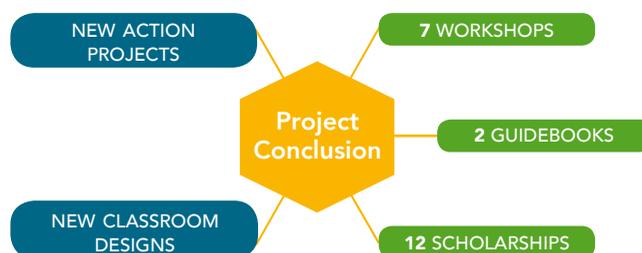


Since 1994, the National Urban and Community Forestry Advisory Council (NUCFAC) has annually recommended urban and community forestry research and technology projects for funding by the US Forest Service. Working with the office of the Southern Regional Extension Forester, NUCFAC is assessing the difference this funding program has made in urban and community forestry.

stewardship training to children of all ages, from early childhood to high school. Eleven schools participated in the project. Of these, six were new to the Greenschools! program and five served as mentors. Tree inventories, site plans, and management strategies were developed for six schools using i-Tree and were assessed by foresters and arborists. Training was provided to teachers, students (age-appropriate), and community members to implement these plans and address urban forestry concerns. The training also focused on developing youth leadership skills, where students could become Green Ambassadors, leaders and mentors of the program, in their school. Professional development workshops for early childhood educators and student mentors engaged young children with trees and the natural world. Three Nature Explore demonstration classrooms were designed collaboratively by The National Arbor Day Foundation, students, parents, and educators at Houston early childhood education centers. Students planted trees around their schools for shade, food, pollinators, and pollution reduction. Students also grew vegetables in school gardens to donate to local food pantries. The gardens and tree plantings were linked to form the new Houston East End Greenbelt. Community members trained in arboriculture and the project provided opportunities for youth to pursue careers in natural resources. High school students received funds to attend Stephen F. Austin State University's College of Forestry and Agriculture to encourage a pathway to a natural resource career. This project was successful in developing knowledgeable and skilled urban and community forestry leaders and created opportunities for students to explore and nurture their community forest during the most important years for the development of lifetime attitudes, beliefs and behaviors. The project developed a community forest that reflects East End cultural and community needs and addressed an acute need to establish a pipeline of diverse American students adequately prepared for future STEM-related careers.

Eleven elementary, middle and high schools were involved in the project, reaching over 7,000 students, 80 educators, and 125 community members. Over 100 trees and vegetable gardens were planted, supplying 100,000 East End residents shade and fresh produce. Approximately 120 high school students served as Green Ambassadors, or student leaders for the program, and 7 undergraduate students were involved in mentoring high school schools in natural resource career pathways.

## PROJECT RESULTS & PRODUCTS:



The project developed 6 school site assessments (of these, 4 schools committed to completing action projects), 7 workshops or trainings for teachers, students, and community members, 3 Nature Explore classroom designs, 2 guidebooks, 12 scholarships (\$1,000 each, totaling \$12,000) awarded to high school students for career development and project funding (\$1,500 per school) to 4 schools.

## STAKEHOLDER UTILIZATION:

Stakeholders have reported that the results of this project will be implemented and support changes in practices in their agency or organization. The guidelines will also be used by stakeholders to hold workshops and training.

## CONTINUED PROJECT WORK & FUNDING:

### Continued Work on Project

Yes. Project Learning Tree continues to engage with all schools involved in the project through the monthly Greenschools! and *The Branch* newsletters. Project partners endeavored to implement a program that is sustainable and

## REACH:

 **40,200** People reached through E-newsletters

 **7,700** People reached through social media<sup>1</sup>

 **290** People reached through presentations<sup>2</sup>

<sup>1</sup> Number of Facebook followers.

<sup>2</sup> Number of people reached through conferences, workshops, and webinars.

“The PLT program has changed my life in so many ways. I have gone from a person who didn’t speak or write English very well, to actually designing a curriculum on pollinators and writing grants for other schools. PLT and being a Green Ambassador gave me a chance to prove that I could do things.” – *Luis Cruz, Green Ambassador and Furr High School student*

creates a local and national support system for the schools and communities targeted by this grant to continue their engagement in environmental education and urban forestry.

### Additional Funding

Yes. One school, Furr High School, involved in this project won a \$10 million grant from XQ: The Super School Project (sponsored by Lauren Powell Jobs).

### How Additional Funding Furthers Project Outcome

With the new funds, Furr High School plans to continue goals established by the GreenSchools! project, including continued student leadership efforts, fruit tree planting, environmental justice, and more.

### LESSONS LEARNED:

There are 4,000 Greenschools! across the country. The notion of this project was to look at the Greenschools! model and determine how best to use “educational feeder patterns” [flowing from one educational level to the next, starting with elementary education] and really change the nature of the Greenschools! program. The project also sought to learn how to engage the broader community and inspire high school students to pursue natural resource careers.

### UNEXPECTED OUTCOME:

In 2015, a group of eight student Green Ambassadors were invited to Washington, DC to present their Greenschools! work at the national Environmental Justice Conference held at Howard University. The opportunity for the Green Ambassadors to address environmental justice issues on a national stage was an unexpected output/outcome of this grant.

A variety of urban forestry related professions continue to provide mentoring to schools.

Multiple career pathway opportunities resulted from participants, such as direct exposure to professionals from City of Houston Parks and Recreation and also Americorps volunteers.

### LEARN MORE:

**Project website:** [www.plt.org/greenschools](http://www.plt.org/greenschools)

GreenSchools! Early Childhood Centers Guide:  
[www.plt.org/greenschools/early-childhood](http://www.plt.org/greenschools/early-childhood)

Greening Communities with PLT Greenschools!:  
[www.plt.org/wp-content/uploads/2016/07/GreenCommunitiesGuideDesigned-Final.pdf](http://www.plt.org/wp-content/uploads/2016/07/GreenCommunitiesGuideDesigned-Final.pdf)

Article about project, *From Food Desert to Food Forest*:  
[www.plt.org/story/from-food-desert-to-food-forest](http://www.plt.org/story/from-food-desert-to-food-forest)

Article about additional funding, *Furr HS Leverages EE to Beat the Odds & Win \$10 Million Grant*:  
<https://naaee.org/eeopro/blog>