TEXAS A&M AGRILIFE EXTENSION

DISASTER ASSESSMENT AND RECOVERY

TEXAS A&M AGRILIFE

Digging Deeper: Addressing soil health to improve water quality

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Almeda Road Nature Reserve, April 2025

AGRILIFE.TAMU.EDU

Green Infrastructure for Texas

Education
- Workshops
- Presentations
- Technical Assistance
- Student Internships

On-the-Ground Projects
- Exploration Green
- Ghirardi Family WaterSmart Park
- Sheldon Lake State Park restoration
- Hitchcock City Parks
- Houston City College - Katy

Research
- Water quality
- BMP Performance
- Plant propagation

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Overview

Award Amount-

$57,894

Project Highlights -

- 2 workshops & 1 field day in the Lower Galv Bay watershed
- Focus on applying soil health principals in suburban and urban landscapes

Project Partners & Advisors -

Ag and Natural Resource Extension agents in multiple counties; TSSWCB; local NRCS office; Soil and Water Conservation District

Outreach, workshops, and resources to…

- Expand the conversation about soil health and NPS reduction into suburban and urban watersheds, building on established resources from the agricultural community
- Strengthen understanding of connection between soil health, green infrastructure, and NPS
- Encourage the formation of local strategies and partnerships that recognize and champion soil health
- Encourage a vision of lawns and landscaped areas as productive ecosystems

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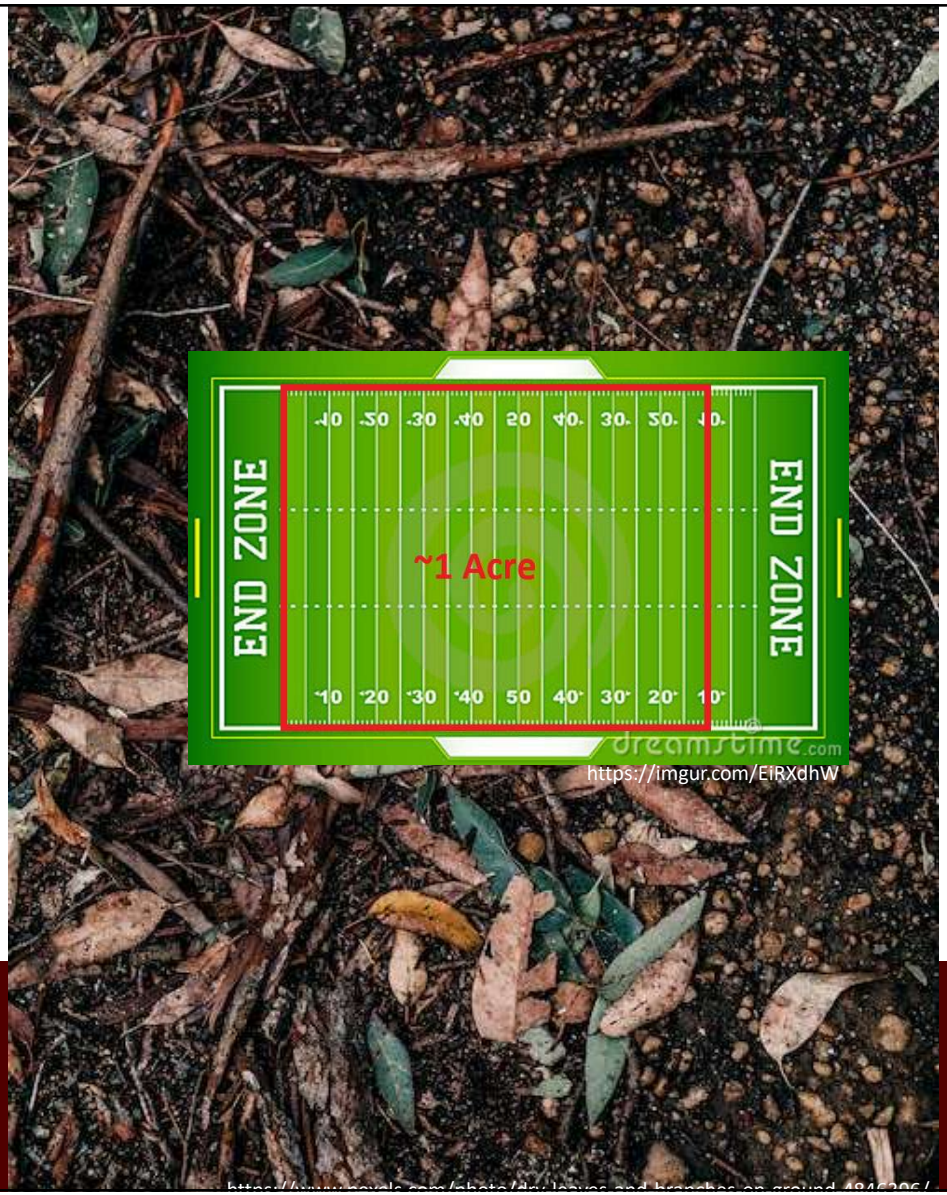
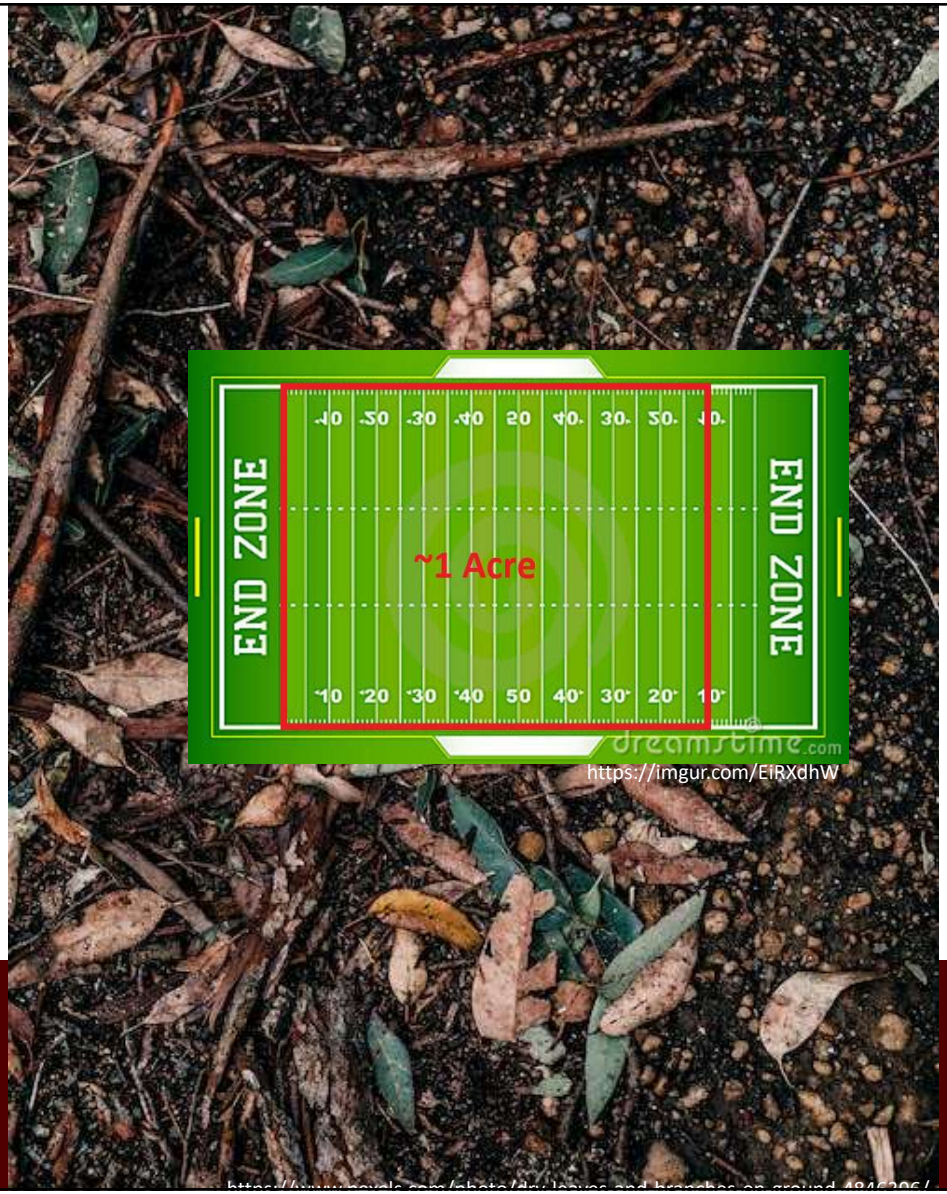


If you increase the organic matter in 1 acre of soil by 1%, how many more gallons of water can that soil hold in the top 6 inches?

a) 500
b) 25,000
c) 300,000



For every 1% increase in organic matter, soils increase their water holding capacity by

25,000-27,000 gallons

(per acre in the top 6 inches)

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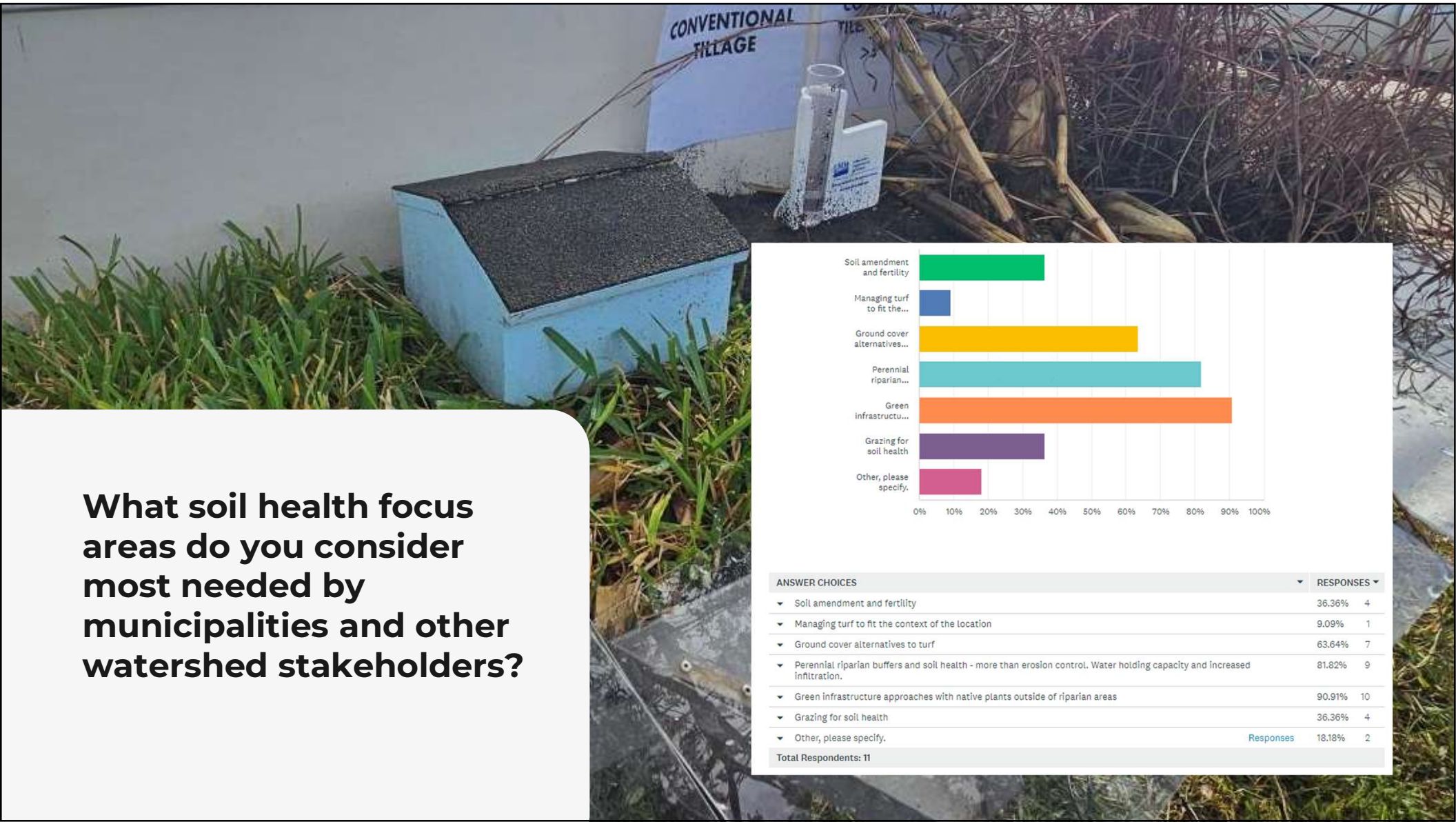
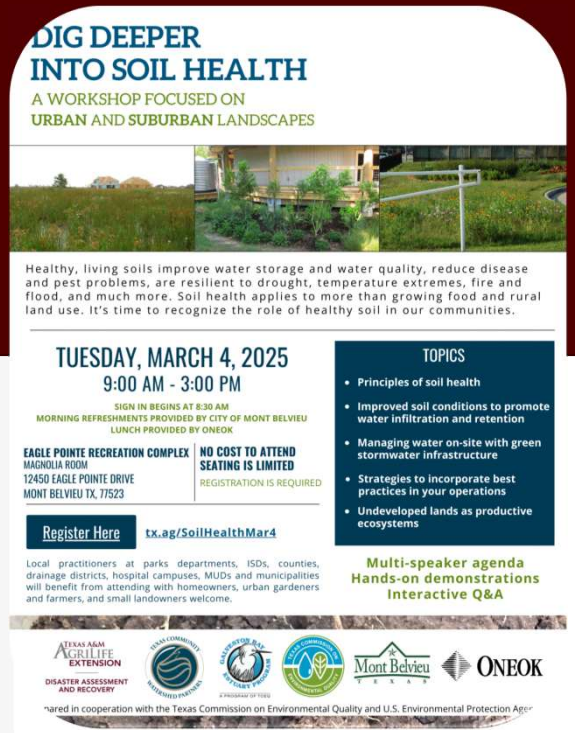


What soil health focus areas do you consider most needed by municipalities and other watershed stakeholders?

ANSWER CHOICES		RESPONSES	
Soil amendment and fertility		36.36%	4
Managing turf to fit the context of the location		9.09%	1
Ground cover alternatives to turf		63.64%	7
Perennial riparian buffers and soil health - more than erosion control. Water holding capacity and increased infiltration.		81.82%	9
Green infrastructure approaches with native plants outside of riparian areas		90.91%	10
Grazing for soil health		36.36%	4
Other, please specify.	Responses	18.18%	2
Total Respondents: 11			

Partnership-Driven Workshops & Field Day



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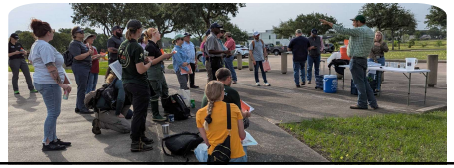
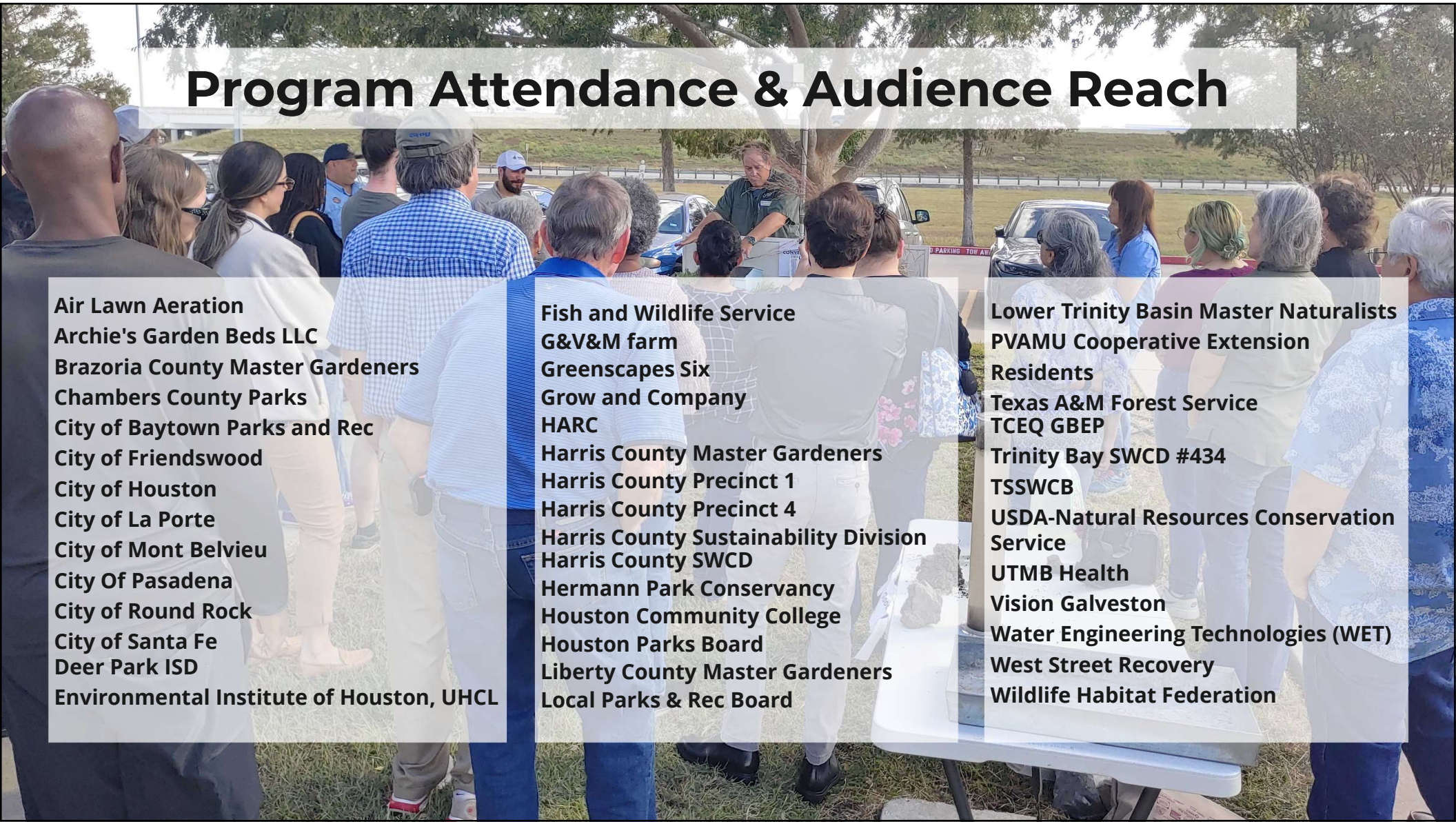
Hands-on Demonstrations and Discussions

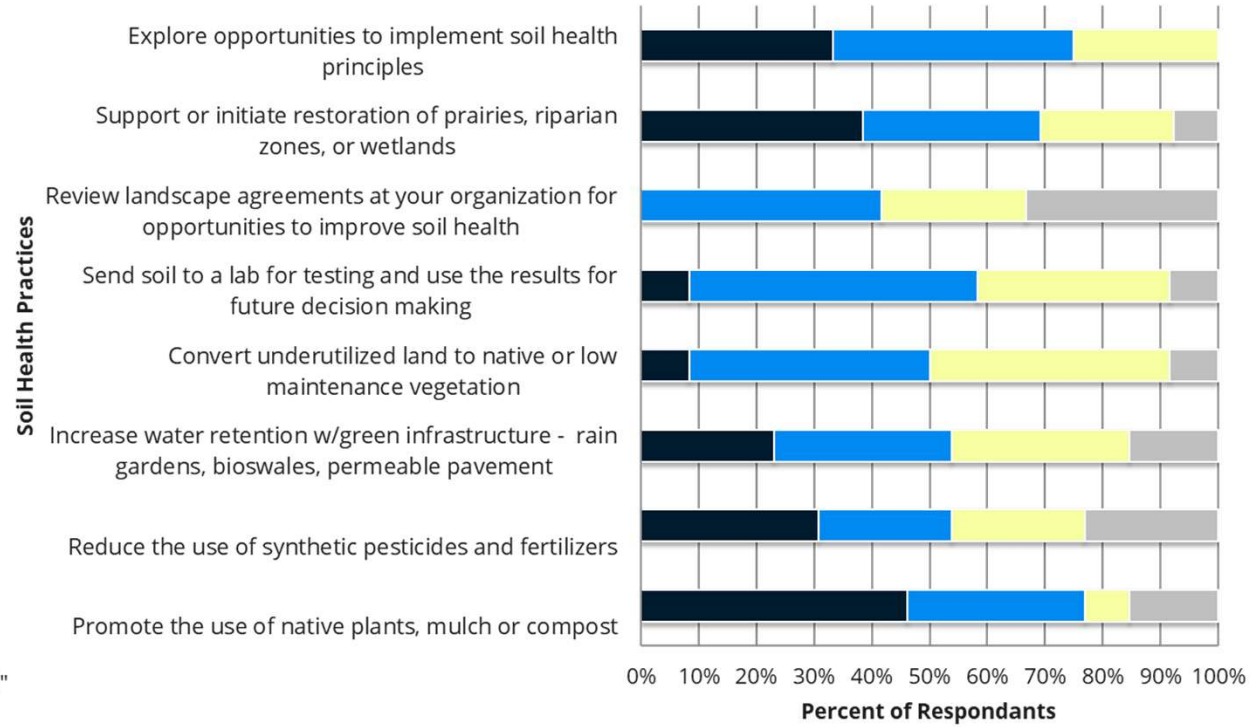


Program Attendance & Audience Reach



Air Lawn Aeration
Archie's Garden Beds LLC
Brazoria County Master Gardeners
Chambers County Parks
City of Baytown Parks and Rec
City of Friendswood
City of Houston
City of La Porte
City of Mont Belvieu
City Of Pasadena
City of Round Rock
City of Santa Fe
Deer Park ISD
Environmental Institute of Houston, UHCL
Fish and Wildlife Service
G&V&M farm
Greenscapes Six
Grow and Company
HARC
Harris County Master Gardeners
Harris County Precinct 1
Harris County Precinct 4
Harris County Sustainability Division
Harris County SWCD
Hermann Park Conservancy
Houston Community College
Houston Parks Board
Liberty County Master Gardeners
Local Parks & Rec Board
Lower Trinity Basin Master Naturalists
PVAMU Cooperative Extension
Residents
Texas A&M Forest Service
TCEQ GBEP
Trinity Bay SWCD #434
TSSWCB
USDA-Natural Resources Conservation Service
UTMB Health
Vision Galveston
Water Engineering Technologies (WET)
West Street Recovery
Wildlife Habitat Federation

Action and Intention to adopt by Soil Health Practice



Green Infrastructure Design Took Kit

- Multiple design sets
- Common challenges & considerations to address them
- Design elements
- Relevant values and calculations
- Permitting, construction, and maintenance considerations
- Standard details

Free Online Training

January 15, 2026, 12:30-2pm

Registration information available soon.

agrilife.org/gift/resources/

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Empowering Texans to build resilient communities adaptable to social, economic, and environmental change.

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AgriLife.org/GIFT