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**CONCRETE AND CONIFERS COEXIST** along I-45 in downtown Houston. The Texas Forest Service's urban forestry program promotes trees as "green infrastructure" offering multiple money-saving benefits.

# THE TREASURE IN TREES

BY ROBERT BURNS

**T**o some ears, "urban forestry" sounds contradictory. But over the past 30 years, the Texas Forest Service's urban forestry program has taken root and spread among the state's largest cities.

In Texas' larger cities, urban foresters have quietly played a key role in saving communities money on infrastructure and improving quality of life for residents.

The program began in 1972 with a small effort that emphasized genetic improvement of trees in north Texas communities. Before long, full-time urban foresters were working in Houston and Fort Worth.

Today, in light of growing recognition of the value of trees in urban areas, the Forest Service also has at least one full-time

urban forester in Abilene, Amarillo, Austin, Corpus Christi, Dallas, El Paso and San Antonio.

Why have urban foresters? Why worry about trees in the city at all? John Giedraitis, staff forester and director of the urban forestry program, cites a number of compelling reasons:

- Trees properly used in a landscape can increase property values by as much as 20 percent and provide food and shelter for birds and urban wildlife.
- Planted strategically, the right shade trees can reduce building cooling costs by as much as 50 percent.
- Trees reduce the temperature of streets and parking lots by eight to ten degrees in the summer, making paved surfaces last longer without repairs.
- Trees improve air quality by trapping dust, absorbing air pollutants such as nitrogen dioxide, sulfur dioxide and ozone, and by converting carbon monoxide to oxygen.
- Trees slow the rate that storm water runs off, reducing the size and number of concrete drains and other structures needed.

But savings for cities can be even more dramatic.

A study sponsored by the U.S. Department of Agriculture (USDA) and the Houston Green Coalition found that increasing the average tree cover in Houston by 30 to 40 percent could

provide \$3.5 billion savings on storm-water infrastructure and \$297 million worth of pollutant removal benefits.

In 2000, the USDA study estimates Houston's tree canopy removed 83 million pounds of pollutants — 35.4 million tons of which were ozone — saving the city \$208 million. More trees could save the city some of the costs of lowering automobile and factory emissions to meet federal and state guidelines for air quality.

**M**ickey Merritt, a Houston-based urban forester, is further refining savings estimates. He expects to show that increasing Houston's tree cover will help to improve Houston's air quality problem.

Houston's population has surged more than 19 percent in the past decade, making it the fourth-largest city in the nation. But the loss of trees, bulldozed and cleared, has imposed a cost for this rapid development.

Merritt, manager of the Houston Green Project, along with staff forester Jboodka Pitts, are seeking to build Houston's "green infrastructure" through cooperation among government, business and civic leaders.

The project will use digitized satellite imagery and professional field data collection, combined with the most sophisticated resource analysis model, to study existing tree resources in the Houston area.

Merritt hopes to accurately describe what trees are doing in Houston to reduce air pollutants and to lessen what scientists

call the urban "heat island effect," which causes cities to be six to eight degrees hotter than surrounding areas during the summer. From there, he hopes Houston Green will detail the numbers, locations and costs of trees needed to reduce ground-level ozone and address other health, safety and economic issues.

Giedraitis notes that all urban foresters share the same goal: to promote planting and caring for trees in parks, along streets and in other urban settings. Urban foresters in some cities have allies in city arborists and local civic groups.

In practice, the urban forester must adapt to the needs and resources of the community to get the job done. In one city, the urban forester must contend with too few trees; in another, it's a struggle to educate the community to replace maladapted species with more appropriate ones. See "Urban Snapshots" for a sampling of what some urban foresters are doing.

Beyond the economic benefits of city forests, trees are valued in urban landscapes based on a bottom line that is not measured in dollars, Giedraitis notes.

"It's because trees are beautiful, and people love them," he says.

More information about Texas urban forestry is available at [txforestservicetamu.edu/urban\\_forestry/index.html](http://txforestservicetamu.edu/urban_forestry/index.html). ➤

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## EL PASO

Oscar Mestas spends time working with air quality issues and promoting trees that don't hog the area's scarce water supplies. In the 1950s and 1960s, El Paso citizens planted thousands of fruitless mulberry trees. Although the mulberry trees were adapted to the area's desert-like conditions, many residents found they were not adapted to the mulberry. Every year, thousands suffer allergic reactions to mulberry pollen. The tree is now outlawed in El Paso, and new species are planted as the mulberries die. Even so, it remains the city's number two species.

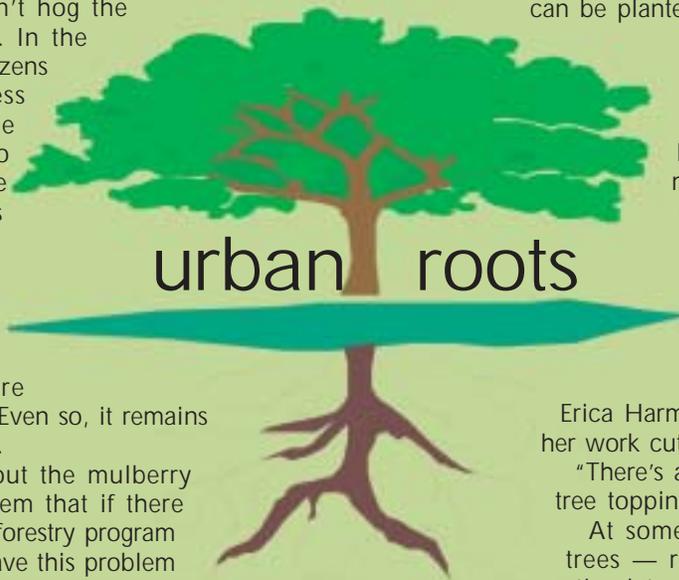
"When people ask me about the mulberry issue," Mestas said, "I tell them that if there had been some kind of urban forestry program in the 1960s, we would not have this problem today."

## AMARILLO

Brian Scott is promoting trees and tree-species diversity in an area where trees are not native, and there is no diversity. Scott became Amarillo's urban forester only two years ago. His first major success, he says, was working with city administrators to mail information to every business and household about which tree species are adapted to the High Plains.

Years ago, Siberian elms were nearly the only species planted. Though the tree uses little water, it is weak-wooded, prone to limb breakage from winds and attracts the elm leaf beetle that also invades homes.

Scott says there are a number of alternatives, including better elm varieties, oaks, firs and even low-growing species that can be planted under power lines.



## SAN ANTONIO

Mark Peterson also is fighting a battle against lack of diversity and high ozone levels. The problem is too much live oak, which is susceptible to oak wilt disease. Peterson worked with the city and citizen groups to establish ordinances that promote planting more trees with greater species diversity.

## CORPUS CHRISTI

Erica Harmon, on the job less than a year, has her work cut out for her, she says.

"There's a lot of miseducation going on here; tree topping is one example."

At some time, someone promoted topping trees — radically cutting back branches to stimulate growth — and the idea stuck. Trees are routinely topped, though the practice weakens branches, makes them more prone to wind damage and sometimes even kills trees.

Another bit of disastrous misinformation was the promotion of the Chinese tallow as the city tree. Years ago, a local business gave thousands of Chinese tallows away as part of a publicity campaign.

"They meant well, but they were really misinformed. The Chinese tallow is considered a weed tree," Harmon said.

Chinese tallows provide shade and other benefits for about ten years. But they are weak-wooded and their growth rapid and gnarled. It doesn't take a storm to break limbs, she says — a good rain will do it.



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