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EPA is urged to turn over new leaf

Local air pollution fighters want to include trees as a weapon.

By Bobby Caina Calvan - Bee Staff Writer

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For years, tree lovers have touted the virtues of the capital's canopy -- its lush beauty, its cooling shade and its apparent ability to scrub the air of tailpipe emissions and other pollutants.

But can the tree huggers persuade the U.S. Environmental Protection Agency to embrace trees as weapons in the fight against bad air?

Preliminary results from an ongoing three-year study of urban forests show promise, according to the Sacramento Metropolitan Air Quality Management District, which is rushing to include trees in the federally mandated air quality plan it's sending the EPA early next year.

The Urban Forests for Clean Air project, run by a U.S. Forest Service team based at UC Davis and funded by \$725,000 in grants secured by the Sacramento Tree Foundation, claims that 1 million trees could remove about 1,800 pounds of air-fouling carbon emissions and other pollutants -- or about 3 percent of the hydrocarbons spewed into the region's air basin on a sweltering summer's day.

"We've been working really hard in California to reduce air pollution. As we've gone down this path of reducing emissions, it's getting more expensive and harder to find new sources of where to cut emissions," said Larry Greene, executive director of the air quality district.

Trees represent biotechnology at its most basic. The six-county Sacramento region has 17 million trees.

Leaves scour the skies and absorb pollutants. Bark and canopies trap soot. Roots and branches store carbon dioxide. And the cooling effect of trees, which act as umbrellas, hampers the formation of ozone.

"We want to think out of the box," said Greene, whose agency is charged with drafting measures to reduce harmful emissions for a region that has among the country's worst air pollution -- behind only Southern California and the San Joaquin Valley.

Over the years, myriad rules have been imposed on businesses and homes to cut emissions and low-lying ozone that contribute to the region's smog.

"There isn't much that local air districts and other entities such as cities and counties can do

to achieve large-scale reductions," said Dave Jesson, an environmental protection specialist with the EPA's San Francisco office.

Local, state and federal agencies have targeted smokestacks, automobiles, fuel station nozzles, lawn mowers, wood stoves and a host of other emission sources.

"Those regulations have pretty much been exhausted. We've gone as far as we can go. It's time to try innovative approaches," Jesson said.

Jesson said the EPA is "closely watching Sacramento's pioneering efforts both in terms of smart growth and this tree project."

The capital region has long failed to meet federal air quality standards and is unlikely to do so by its target of 2013. Indeed, the local air quality district may ask the agency to reclassify the district's status from "serious" to "severe" -- a seemingly odd move. But the designation would give the district an additional six years -- until 2019 -- to meet federal standards.

Whether the planting of 1 million trees will be allowed into the district's air quality arsenal will depend on the science.

"It's one thing to have an intuitive feel that trees clean air ... but it's another thing to quantify the extent that trees do that. It just hasn't been done," said Greg McPherson, director of the U.S. Forest Service's Center for Urban Forest Research at UC Davis.

"We can't leave it to intuition. We have to quantify it, and we have to have quality data."

This summer, the tree study will send volunteers throughout the region for a comprehensive tree census for the project.

"We need to take stock of what's out there," said McPherson. "We need data that will withstand the rigors of the EPA's modeling formulas."

Unlike tailpipe catalytic converters or scrubbers in smokestacks, it is much more difficult to measure the impact trees have on the environment.

"There is all this uncertainty," said Jim Simpson, a Forest Service meteorologist assigned to the urban forest project. "We have uncertainty about the future growth of trees, the survival rate of certain trees, uncertainty over the right mix of species and uncertainty over where they should be located."

A growing body of research shows that trees could be a potent element in the region's attack on air pollutants -- so much so that the air quality district is boldly raising the possibility of imposing rules on nurseries, including banning the sale of species that have little environmental value or that could even harm the region's air quality.

When it comes to cleaning the air, some trees are better than others. While trees release small amounts of air-fouling gases, some species, including certain palms, emit more than others.

"Maybe we'll end up requiring that only certain trees can be planted. Or we could ask nurseries to sell only certain trees -- why not?" said Greene, the region's air quality chief. But he quickly added that such regulations are premature.

"We as a society decided that this is an important health issue, so we're talking about all the possibilities," he said.

The Sacramento Tree Foundation, which is celebrating its 25th anniversary this week, has championed the expansion of the region's tree canopy. It touts the study's early findings as evidence of the benefits of trees.

"Nationwide, trees have never been accepted into air quality attainment plans, because no one has ever been able to prove that trees improve air. This would be a first in the nation," said Rob Kerth, director for the tree foundation's Greenprint project, a massive tree-planting effort that would plant at least 4 million trees over the next 40 years.

"We believe that if we plant millions of new trees, we'll all be better off," he said.

"We don't say trees are our saviors," Kerth said, "but they are part of the solution. Not only are they enjoyable, there's a federal air quality incentive to plant more of them."

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