

San Francisco trees poised to provide big benefits

New urban forest analysis available San Francisco's investment in street trees is about to pay off. Our study (December 2003) found that the city's population of approximately 100,000 street trees is now large enough to begin providing bigger benefits, despite the fact that nearly another 100,000 empty sites still exist. The report suggests that because more than 65 percent of the street trees are young and in good health, they are in a position to provide increased quality-of-life benefits as they mature and get larger.

The decision that the city and the local nonprofit, Friends of the Urban Forest, made more than two decades ago to begin planting trees on a regular basis is starting to pay huge dividends. By aggressively filling the 100,000 empty sites throughout the city, benefits to the residents of San Francisco will more than double in the next 25 years as the city's urban forest matures and fills in.

The value of the urban forest

The city's street tree population contributes over \$7.5 million in benefits annually. The biggest benefit is property value enhancement, but the trees also make significant contributions to stormwater control, air quality improvement, and energy conservation.

In actuality, however, the real value of the benefits these trees provide is quite higher. If we were able to obtain values for improvements in community well-being such as stress reduction, a decreased need for medication, lower levels of domestic violence, and increases in business revenue, the actual figure would be considerably higher, probably 50 percent higher, approaching \$12 to \$13 million dollars per year. This is significant, but research has not found a

way of attaching a value to these benefits...yet. However, we are working on it.

The condition of the urban forest

Our report also provides some specifics on tree condition and infrastructure conflicts, pointing out that 60 percent of the trees are in good or fair condition, with less than 10 percent in poor or dying condition. Only 15 percent of the trees are causing some sidewalk heave, and fewer than 10 percent are obstructing signage or growing into overhead wires.

One surprising finding is the disparity between neighborhoods. Tree

ing more on well-adapted, long-lived trees to maximize future benefits, as well as emphasizing improving young-tree care to reduce future maintenance costs.

San Francisco's future

The city plans to selectively remove and replace trees that are dying, especially in areas of the city where older trees predominate. Some next steps will be to target a few species that are really causing problems, look at pruning cycles, and set some maintenance priorities that will produce the biggest payback in terms of tree health, safety, and benefits.

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benefits vary widely from neighborhood to neighborhood, mainly because some neighborhoods have fewer, younger trees of smaller stature than other neighborhoods. This just points out the need to fill each vacant site with an appropriate tree, improve the health of all trees, and maximize the ability of each tree to provide benefits through proper pruning and maintenance.

Since the majority of street trees are owned and maintained by property owners and residents, the city will continue to cooperate with the Friends of the Urban Forest to plant trees throughout the city. The city will improve how trees are selected, rely-

Mohammed Nuru, Deputy Director of Operations, SF Dept. of Public Works, said "we have looked forward to this report for some time. Before this report we only knew how to manage trees. Now we have the information that will help us manage tree benefits. And that can only result in a better quality of life for city residents. We can now show the significant contribution trees make in controlling stormwater runoff and reducing pollution of our Bay. We can also demonstrate the benefits of cleaner air in San Francisco."

Beyond beauty

Our report shows that San Francisco

street trees are quite valuable, worth the city's investment of time and resources, and are a necessary part of the city's infrastructure. The December 2003 report demonstrates that trees are vital to community health and well-being and that they have a positive impact on business and a city's tax base.

Not that many years ago city trees were only valued for their beauty. People didn't think beyond beautiful park trees or wonderful fall color. Now science can show that trees are much more than just beauty: trees improve the quality of life in cities.

Urban Forest Research is a publication of the Center for Urban Forest Research, Pacific Southwest Research Station, USDA Forest Service. For more information, contact the Center at the Department of Environmental Horticulture, University of California, 1 Shields Ave., Suite 1103, Davis, CA 95616-8587. (530) 752-7636

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All I need to know, I learned from trees

Bloom where you are planted.

Stay connected to your roots and dig in.

It's good to branch out.

Don't pine away over old flames.

Go out on a limb for the things you believe.

When the storms come, it helps to bend a little.

Shed your old bark if you want to grow.

A few of us are simply late bloomers.

Shady dealings hamper the growth of those around you.

In the autumn of your life,

you'll show your true colors.

Everyone is a sap from time to time,

and we're surrounded by nuts.

Guess the pest

LAST ISSUE'S PEST WAS *PHYTOPHTHORA CINNAMOMI* ON COASTAL live oak, photo taken at the Los Angeles Arboretum. Crown rot (*Phytophthora cinnamomi* and several other species) commonly infects the roots and root crowns of oaks in residential landscapes. The pathogen is favored by excess moisture, poor drainage, and inadequate soil aeration. Symptoms and signs of this disease include:

- decline (general loss of vigor)
- reduced growth
- twig and branch die-back
- wilting
- chlorotic (yellow) foliage
- sparse and stunted foliage
- premature leaf drop
- formation of lesions (cankers) on the root crown and buttress roots
- oozing of dark or rusty colored exudate or vertical, streak-like stains