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Dorchester - Amy Lee measures the circumference of the tree while making and inventory of trees.

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Getting back to roots

The Boston Globe

Volunteers plan to catalog every tree on Boston public streets by this fall. The survey will certainly help the city manage its tree population, but some also hope that, combined with census data, the massive inventory will help uncover greenery's many benefits to residents' health.

By Ari Bloomekatz and Jenna Russell, Globe Correspondent and Globe Staff | June 18, 2006

A small army of volunteers wearing sneakers and carrying hand-held computers is sweeping through city neighborhoods this summer, measuring trunks and inspecting bark, in an unprecedented drive to count and catalog every one of the estimated 50,000 trees on public streets in Boston.

The massive survey, known as the Greater Boston Urban Forest Inventory, will give the city information it has long needed to manage its tree population. But the data bank will also serve a more unexpected purpose: Project leaders plan to use it to establish links between neighborhood greenery and residents' health, safety, and psychological well-being, and expect the results to bolster the case for planting more trees in poor neighborhoods.

Ultimately, the new map of city greenery will be compared with corresponding demographic information including neighborhood incomes, crime rates, race, and ethnicity, as part of a growing "environmental justice" movement. Around the country, urban leaders are setting new goals for increasing greenery, citing a growing body of research that links trees to a wide range of benefits, including lower crime rates, better mental focus in children, longer life spans, and decreased air pollution.

"It's definitely a watershed moment for forestry management in this city," said Sherri Brokopp, director of the Community Forest Partnership, a coalition of participating groups that includes the city parks department and the

Urban Ecology Institute at Boston College.

The \$150,000 project, funded by private donations, has been underway for three years. An ambitious push is now on to complete the inventory by fall with help from part-time volunteers, as well as paid interns. The work is painstaking: Workers canvass city streets in two-person teams, cataloguing 60 to 100 trees per day and recording two dozen facts about each tree. They note its species, location, height, canopy size, and the portion of canopy that is dead or missing. The volunteers also record whether it has wounds or fungi, the condition of the surrounding sidewalk, and potential obstructions such as power lines.

Aerial photographs of the city will be used to estimate tree cover in parks, private lands and other areas where trees will not be counted by hand.

Stockpiled in a computerized database and organized by geography, the inventory will aid city foresters in their daily work -- now driven largely by resident complaints -- by pinpointing the locations of unhealthy trees and sparsely planted streets. The inventory will also eventually be linked to census data.

"We believe there is a strong connection between healthy trees and healthy people, and we want to be able to study that more, make connections, and envision a healthier environment for Boston," said Elizabeth Walsh, one of the leaders of the project.

The expanding study of the role of trees in urban life has already produced tantalizing results. In one series of studies of public housing developments in Chicago, researchers found evidence that residents with trees outside their homes called police less often and reported fewer incidents of verbal or physical aggression than those living in more barren surroundings.

One of the studies, of 145 families at the Robert Taylor Homes in Chicago, found that 14 percent of those living in treeless parts of the complex said they had threatened to use a knife or gun against their children, versus 3 percent of residents who lived among trees.

Other studies have shown that elderly residents in Japanese cities lived longer in neighborhoods with trees, and that hospital patients in Philadelphia recovered faster from gall bladder surgery when they could see trees from their rooms. Some researchers have even pointed to a blissful state of mind, "effortless engagement," that they say is induced by the presence of trees.

At the same time, ecologists have been sounding alarms about vanishing tree cover in American cities, which have lost 30 percent of their tree canopy in the last 25 years, said Deborah Gangloff, director of American Forests, a Washington-based conservation group. A city is "a tough place to be a tree," Gangloff said. "They've got overhead and underground utilities. They get hit by cars. Dogs relieve themselves."

Several cities have now hired foresters or beefed up budgets to rejuvenate tree populations. Baltimore pledged earlier this year to double the city's tree cover, from 20 percent to 40 percent of the city, by 2036.

In Boston, officials have been looking for ways to more effectively manage urban forests. Outdated aerial surveys provide too little detail to be of much use, officials said. The inventory will allow the city to better care for its trees, said city forester Leif Fixen.

Boston employs three full-time arborists and spends \$740,000 per year on tree maintenance and planting. Between 500 and 800 trees have been planted annually in recent years, Fixen said.

Once the inventory is complete, the forest partnership will try to make a case that trees are valuable economic assets that should be invested in; it plans to calculate the value of trees' contributions in areas such as pollution control, cooling effects in summer, and insulating effects in winter -- a tactic that has helped make the case for increased spending on trees in other cities.

Some of the volunteers on the ground have less lofty goals. Asia Khan and her 5-year-old daughter, Jahnell Leek, volunteered to count trees because they want to make their Dorchester neighborhood more inviting.

"When you enter an area and there isn't really greenery, it feels desolate, like a place you want to get through quickly," said Khan, 31. By contrast, a tree-lined street feels calm, she said, and "looks like home." ■