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Evaluating Federal Urban Forestry Performance Measures in Massachusetts (U.S.A.)

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Abstract
In 2006, the U.S. Forest Service implemented performance measures to evaluate urban forestry management in communities in each state. The Forest Service implemented these measures under its Community Accomplishment Reporting System (CARS). To achieve four CARS measures that pertain to management, communities must have a management plan, professional staff, tree ordinances, and an advisory or advocacy organization. It is unclear whether attaining the CARS measures reflects the status of the urban forest itself. We analyzed street tree inventories from communities in Massachusetts that met the CARS measures. We considered the net gain or loss in the number of street trees in 2007 and cost-benefit analyses from the Street Tree Resource Analysis Tool for Urban Forest Managers (STRATUM). We analyzed the diversity of street tree populations. We used a correlation analysis to discover associations

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between these variables and both community demographic measures and qualification of the urban forester managers.

Thirty-three communities met the CARS measures and 9 had active street tree inventories. Fewer than half of the communities planted more trees than they removed in 2007. Planting and removal activity increased with tree budget. Cost-benefit analysis showed that for 8 of 9 communities with inventories, benefits of street trees outweighed the cost of management. Community population was associated with trees planted, trees removed, and tree budget. Demographic measures were not associated with tree performance. Tree warden certification did not impact tree condition or diversity, however non-certified tree wardens planted trees at a higher rate than non-certified tree wardens. Tree budgets were higher for communities with certified arborists and for communities with inventories used for management. Results serve as a baseline for future study of the impact of the CARS measures on street tree populations in Massachusetts.

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