Urban Natural Resources Stewardship Growth Platform
Forest Service
Research and Development Mission Area

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VISION

The 21st Century is the first in human history where the majority of people live in urban areas. Forest Service Research and Development (R&D) addresses this unprecedented situation with science and technology transfer for the proper care of natural resources and advancement of ecosystem services in urban and urbanizing landscapes. By linking environmental health with community well-being through science, R&D supports the guiding principle of urban planning to ensure sustainability; thus, improving the quality of life of more than 80 percent of America's population living in urban areas.

Some major threats from urbanization that affect the quality of life, care, and sustainability of natural resources are:

- Diminishing access to and use of open spaces
- Declining air and water quality
- Forest fragmentation
- Disturbance from fire
- Introduction of invasive species
- Urban stormwater run-off

Focused investments in science and technology transfer can insure urban natural resources are aggressively addressed through planning and management, thus improving the livability of cities for their residents. These investments can help land managers improve collaboration across private and public lands and realize the role cities play in addressing critical issues like open space conservation and global climate change.

CAPABILITIES

Forest Service scientists understand the complex connection linking management and planning practices to environmental health and community well-being. We bring more than 30 years of experience and the following resources to a focused urban natural resources stewardship research effort.

- A cadre of leading social and environmental scientists already working with county land planners, municipalities, and people in urban areas
- An extensive network of Urban Long-Term Research Areas (ULTRAs) and urban field units, providing a geographic base for stewardship science and conservation.
- Extensive experience working with state and local initiatives and inter-government collaborations to help build stronger communities.
- A track record of urban natural resources stewardship research results such as urban watershed conservation and rehabilitation in Baltimore, the first projections of future growth of the wildland-urban interface, and quantification of the environmental significance of urban trees.

DELIVERABLES

Emphasis in urban natural resources stewardship in Research and Development will deliver:

- **Optimal Landscaping Management Practices for Homeowners**. We will develop the suite of i-Tree decision support tools that can be implemented at the parcel level for homeowners and natural resource professionals to address issues such as energy, ambient temperature, water, carbon, aesthetics, safety, and quality of life.
- **Green Infrastructure Strategies for Urban Planners**. We will develop science-based "best management practices," with associated analytical tools, that help cities understand, manage,

and sustain the open spaces, wetlands, and other green infrastructure critical to the well-being of urban residents and natural resources.

- **Tools for Teachers**. We will work to improve education materials appropriate for academic and professional development instruction to advance environmental literacy and highlight the linkages between environmental health and community stability.

BENEFITS

Forest Service R&D emphasis in urban natural resources stewardship will provide:

- **More Livable Urban Areas**. We will contribute to making cities more desirable, efficient, and sustainable places to live and work by helping ensure urban development is in harmony with open space management. Science-based information will be compiled and analyzed to better predict the location and impacts of urban sprawl.
- **Improved Ecosystem Services**. With a long-term and comparative focus, we will evaluate policies, plans, and management to best determine "what works where and why?" and to share lessons learned with numerous partners on a national basis.
- **Cleaner Air and Water.** We will help cities develop cost-effective strategies for complying with federal environmental regulations while addressing other local concerns such as making neighborhoods more desirable places to live.
- **Expanded Capacity for Consulting Services**. The demand for scientific tools and applications exceeds the current capacity of the Research and Development mission area. We will help transfer a wide-variety of leading-edge technology to the private sector to help expand an overall science capacity to address America's urban natural resource issues.