

# Tools for assessing and managing community forests

## What is i-Tree?

The i-Tree suite of software tools was developed by the USDA Forest Service and their cooperators to help users assess and manage the structure, function, and value of urban tree populations regardless of community size or technical capacity. i-Tree allows you to promote effective urban forest management and sound arboricultural practices by providing information for advocacy & planning, baseline data for making informed decisions, and standardization for comparisons with other communities. It promotes a better understanding of the benefits and services provided by community trees, and helps justify investment in stewardship, operations, and maintenance.



*Since the i-Tree suite was introduced in 2006, communities of all sizes have been able to determine urban forest benefits, costs, and management needs*

**i-Tree provides the tools to help you and your community—large or small—identify and address information gaps to promote strategic, cost-effective urban forest management:**

- How much is known about the benefits and costs of the urban forest?
- How much is known about planning and managing to ensure that community trees provide maximum environmental services for the future?
- How much is known about possible threats to the community forest?

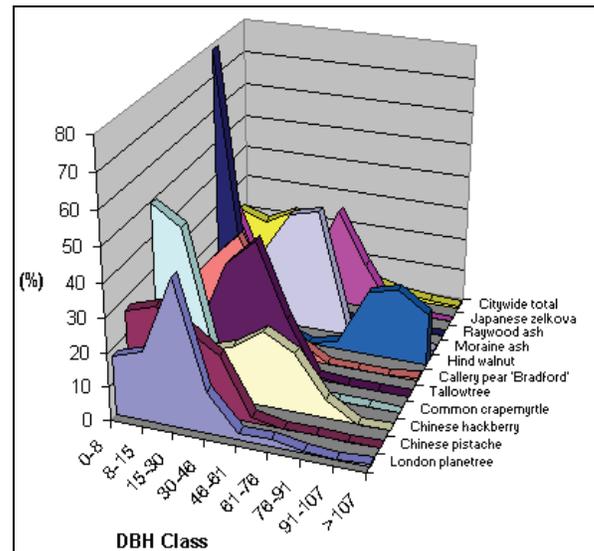
*An i-Tree analysis of Minneapolis found that the municipal street tree resource provides approximately \$15.7 million, or \$79 per tree, in net total annual benefits to the community.*

## Based on Scientific Research

- i-Tree is a continuously improved, state-of-the-art, and peer-reviewed suite of urban and community forestry analysis and benefits assessment software tools.
- The U.S. Forest Service, Davey Tree Expert Company, Arbor Day Foundation, Society of Municipal Arborists, International Society of Arboriculture and Casey Trees have established a cooperative partnership to make i-Tree freely available, supported and continuously refined.

## What are the benefits of an i-Tree Analysis?

- An understanding of the *structure* of the urban forest such as canopy cover, species importance rankings, available planting space, species composition and age distribution.



Relative Age Distribution Report

- Information on *management concerns* such as tree health, diversity, infrastructure conflicts and potential impact of pests such as gypsy moth, emerald ash borer, and Asian long-horned beetle.
- Calculations of the amount and *dollar value* of annual environmental benefits related to energy conservation, air quality improvement, carbon dioxide reduction, and storm water control.
- Succinct *summary reports* that can be used to brief elected officials, municipal foresters, arborists, nonprofit organizations, advisory groups and others to promote well-informed decision making on the future funding, direction, and strategies of the community's tree programs.



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## What's in i-Tree?

### (2) Urban Forest Assessment Tools:

**Eco** is an adaptation of the Urban Forest Effects (UFORE) model which provides a broad picture of the entire urban forest. It is designed to use field data from complete inventories or randomly located plots throughout a community along with local hourly air pollution and meteorological data to quantify urban forest structure, environmental effects, and value to communities.

**Streets** (formerly STRATUM) focuses on the benefits provided by a municipality's street trees. It makes use of a sample or complete inventory to quantify and put a dollar value on the street trees' annual environmental and aesthetic benefits. Streets also describes urban forest structure and management needs to help managers plan for the future

### (3) Urban Forest Management Utilities:

**Vue (beta)** allows users to make use of freely available national land cover data maps to broadly estimate tree canopy cover and some of the ecosystem services provided by the urban forest. The effects of planting scenarios on future benefits can also be modeled. This program is a beta version, i.e., it is still in the development phase and feedback is appreciated.

**Species** is a free-standing utility designed to aid users in selecting proper species given the tree functions they desire. By providing a relative rating for environmental benefits of each tree species at maturity, this program is designed to complement existing tree selection programs that rank species for esthetics and/or other features.

**Storm** establishes a standard method to assess widespread damage immediately after a severe storm in a simple, credible, and efficient manner. This assessment method is adaptable to various community types and sizes, and it provides information on the time and funds needed to mitigate storm damage.

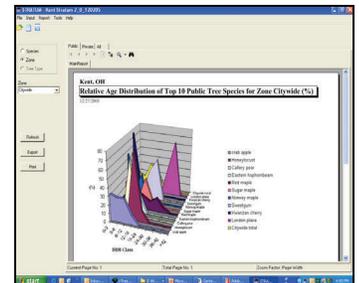
## How do I use i-Tree?

- i-Tree User's Manuals provide instructions to plan and complete the necessary project phases successfully.



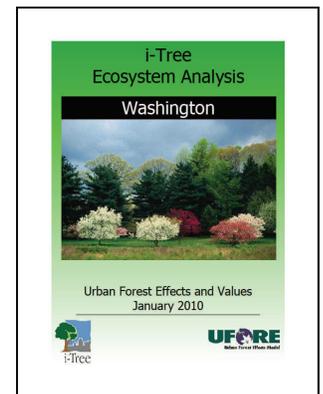
- i-Tree is adaptable and scalable to various community's needs – a single street tree, a neighborhood, local park, city, county or entire state can be analyzed.

- Data can be collected by urban foresters, arborists, consultants, volunteers and other natural resource professionals, depending on the resources available to the community.



- Complete or sample inventory data can be collected using a hand-held PDA or paper tally sheets; new or existing inventories can be used to run the software and conduct the analyses.

- Technical assistance and resources are available to ensure that users receive all the support that they need to successfully use i-Tree.



## How can I get more information about i-Tree?

- Visit the i-Tree website at [www.itreetools.org](http://www.itreetools.org)
- Register online and download the free software
- Contact i-Tree support staff at [info@itreetools.org](mailto:info@itreetools.org)
- Join the User's Forum at <http://forums.itreetools.org/>

