WHAT IS A TREE INVENTORY?

DCR

The key to understanding your urban and community forest

A **tree inventory** is a record of location and characteristics of individual trees and, sometimes, characteristics of their environs, within a defined geographic area. For municipalities, tree inventories typically include street trees and trees in parks or other municipally owned properties. Conducting a tree inventory is the first step to developing a comprehensive urban forest management program.

There are three main types of inventories: sample, partial, and complete.

- A **sample inventory** is conducted on a random sample of street segments, blocks, road miles, or area to provide an estimate for the urban forest. Typically, the sample is 3-10%. The sample can also be stratified.
- A **partial inventory** is conducted on a specific non-random area. It may be a **geographic** area, such as a downtown. It may be a **phased** inventory where different areas are collected at different times, with the goal of each phase eventually comprising a complete inventory. A **survey** collects a few attributes over a large area, even the entire municipality. Surveys are often conducted by vehicle.
- A **complete inventory** includes all street trees, sometimes all park trees and trees on municipal properties, and often includes available planting locations and stumps.

Partial and complete inventories are often linked with work-order management systems. These may be integrated with a work-order management system the municipality uses for other infrastructure.

Why Conduct a Tree Inventory?

- Communicate the importance of a strong municipal forestry program
- Develop management and policy recommendations
- Understand the distribution of species in the urban forest
- Determine the overall condition of trees
- Identify vacant tree planting sites
- Quantify the dollar value and benefits of the urban forest
- Use as the foundation for a management plan

Any of these types of inventories may be updated on a periodic or a continuous basis. To be most effective, an inventory should be linked to a geographic information system (GIS) and be updated regularly. Inventories range in cost from a few thousand dollars to upwards of $40,000. The DCR Urban and Community Forestry Challenge Grant is available to help fund tree inventories. Major drivers of cost include the number of trees inventoried and the number of attributes collected. The attributes should tie to the goals for the inventory. At a minimum, attributes should include, tree location, species, size, and condition, but others may be useful as well, including tree risk rating, pests, maintenance needs, or site conditions.

What Kind of Inventory?

A **complete inventory** is ideal for those communities that have:

- An existing street tree inventory in need of updating
- Tree maintenance staff who want to become more efficient and develop an inventory-based management program
- An in-house GIS system
- Staff available to manage the data as trees are planted, maintained, or removed

WHAT IS A TREE INVENTORY?

A **complete inventory** can help:

- Improve work-scheduling and cyclical maintenance
- Improve the ability to respond to storm damage and estimate costs
- Enhance efficiency when responding to constituent requests
- Locate all trees of a single species; for example, to aid in planning for and responding to a pest or disease outbreak

A **partial tree inventory** can do all the things listed above, but on a limited geographic basis.

A **tree survey** can help:

- Establish a foundation for a more detailed inventory
- Seek grant funds for developing a more comprehensive program
- Create a system for tree risk management (in a limited visual tree risk assessment)
- Determine the number of potential tree planting sites throughout the community

A **sample tree inventory** is most appropriate for communities that:

- Seek to build support and investment from their local government
- Need to develop an advocacy network for community trees
- Have staff / student / tree committee / volunteer time to conduct the inventory
- Are willing to develop strategies in response to the results

A Note on Qualifications

Trained volunteers can successfully conduct tree inventories, but for inventories that include tree risk assessment, we recommend using a qualified arborist. In addition to possessing an arborist certification, a qualified arborist should hold the Tree Risk Assessment Qualification from the International Society of Arboriculture.

The type you choose should be appropriate to your community's:

- **GOALS:** What are the reasons and expected outcomes for conducting a tree inventory?
- **RESOURCES:** What monetary and staff resources are available to accomplish and utilize the inventory?
- **DATA MANAGEMENT:** How will your community manage the data once collected?

Combining Types of Inventories

If you need to get the big picture for your whole community, but have particular goals for a specific area, you can combine inventory types. For example, you may want a limited visual tree risk assessment (a type of partial tree inventory) for the whole community so you can implement a tree risk management program. You could also conduct a geographically limited inventory of the business district to help improve the management of trees in that area.

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