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Virginia Tech Tree Inventory Update Procedure

OVERVIEW

Virginia Tech's Core Campus Tree Inventory was completed in 2018 and is valuable for planning, management, education, and outreach. Inventories require ongoing maintenance to remain relevant and valuable for operations; this procedure details the process for inventory management.

As campus trees are maintained through normal operations the Urban Forestry Team will update the last inspection date, tree status, and maintenance history. Further updates require in-depth assessment and provide the inventory with more detailed data for analysis.

GOALS

This procedure:

- shall accompany the development of the Virginia Tech Tree Policy
- shall provide staff and resources for Core Campus Tree Inventory maintenance
- shall ensure the Virginia Tech core campus tree inventory remains up to date
- shall engage natural resource management students in urban forest operations
- shall support data-driven management of Virginia Tech's urban canopy

PROPOSED SPECIFICATIONS

Update Interval:

Routine - The Urban Forestry Team shall make minor updates to Core Campus Tree Inventory while following the Virginia Tech Tree Inspection Procedure and Virginia Tech Work Order Procedure. Tree inspection date and status are essential to urban forest maintenance operations and shall not lapse over time. Maintenance history may be accessed by Tree ID in Hokieserve.

Biennial - The remaining data in the inventory should be completed by interns, work-study, or apprentices from the Virginia Tech College of Natural Resources and Environment (CNRE), or VT Facilities over a two-year program. The tree identity, size, and condition fields are necessary for population analysis and input into the iTree software suite that calculates tree population statistics, ecological, and economic values. While the students collect this data, they will further their understanding of tree care, tree identification, and urban forest management. This complete update to the inventory every two years will ensure newly planted trees are input into the system and provide important data for urban forest planning and advocacy.

GIS Support

Currently, the Core Campus Tree Inventory data is available to credentialed staff, faculty, and students through the ESRI Enterprise GIS Portal. Edit privileges require approval from the Urban Forestry Team and credentials assigned by the Facilities GIS Division. The public-facing web map is available through a web portal and shares up-to-date locations and identities of campus trees with the Virginia Tech community.

Edits shall be performed through the Campus Tree Collector app by credentialed staff, faculty, and students. This app may be accessed with a desktop or in the field with a mobile device.

Changes to the map beyond tree attributes must be requested through the Facilities GIS Division and must not alter the utility of the app and data.

Unique Tree ID

Each new tree input into the inventory must be identified accurately by its species. If a field technician can not positively identify a tree, all other attributes shall be recorded and the tree shall be noted in the collector app. A sample shall be collected and identified in the office and input as soon as is practical.

Every tree in the Core Campus Tree Inventory must be assigned a unique Tree ID. This Tree ID system allows the inventory to be searchable and updatable.

Currently, all trees in the inventory are assigned a Tree ID comprised of the “tree number” (the number assigned sequentially during inventory) and the iTree species code that corresponds with the tree’s species, found here i-Tree Streets v3 Species Codes. For example, the first tree inventoried, a Fagus sylvatica, is tree number 1, and the Tree ID is FASY-1. The next tree inventoried, a Picea abies, is tree number 2, and the Tree ID is PIAB-2.

When inventorying new trees, the field technician must sort the Campus Trees attribute layer by tree number to identify the next tree number sequentially, the new Tree ID will be the next number sequentially plus the species code corresponding with the tree’s species.

Measurements

All measurements taken and recorded during tree inventory must meet the requirements of the iTree software suite. Measurement units shall conform to the United States customary system. DBH shall be measured at breast height and rounded to the closest tenth of an inch, trees with multiple stems shall be recorded as the sum of all stems and “multiple stems” input into the notes field. Ornamental trees with crowns below DBH shall be measured at caliper and the result recorded as DBH, “caliper” shall be noted in the notes field. Crown dimensions and tree height shall be measured and rounded to the closest tenth of an inch.

Assessments

Tree health, structure, and site conditions shall be assessed to the best of the field technician’s knowledge and recorded in appropriate fields.

Location

The specific coordinates of new trees input into the inventory shall be confirmed with a GPS device unless the aerial imagery may be accurately interpreted.

Photos

An updated photo of the tree should be captured and filed with the new inventoried tree. Efforts should be made to position the camera to allow the captured photo to help with locating the tree in the field.