Town of North Wilkesboro
Central Business District Inventory Report

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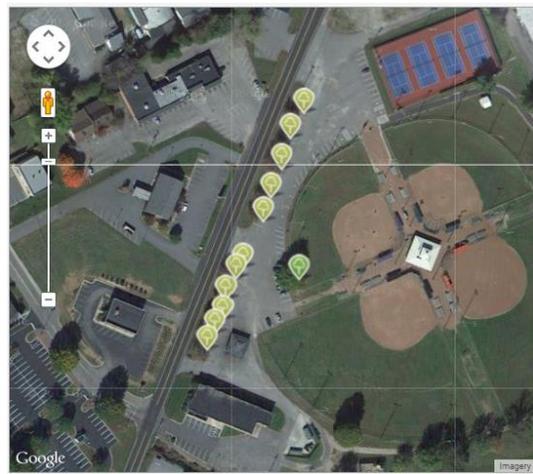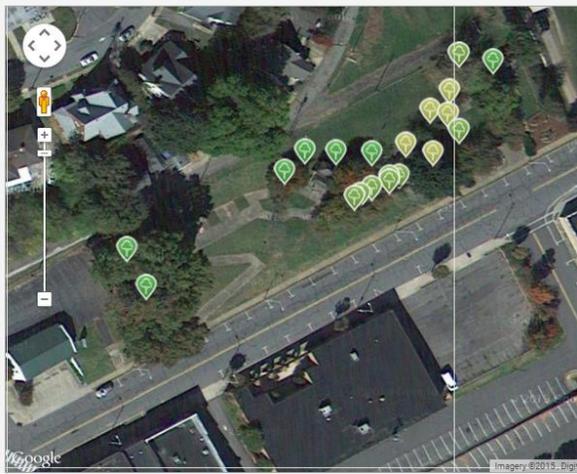
Block 46

Memorial Avenue

Main Street

CBD Loop

Downtown Core

Parks

Executive Summary

The urban forest is an integral part of communities because urban trees contribute greatly to the quality of community life. Much like any natural resource, the urban forest needs to be conserved and managed. A public tree inventory is an important tool in managing and planning urban tree populations. By providing complete and up-to-date information about the diversity, condition, and age of its trees, a public tree inventory enables a community to care for the contemporary urban forest as well as to plan intelligently for the urban forest of the future. Undertaking a public tree inventory, therefore, signifies a community's investment in and commitment to the current and future well-being not just of its trees, but that of the community itself. This document reports the findings of the public tree inventory conducted in the Central Business District (CBD) of North Wilkesboro, North Carolina.

Data was collected in a February NC Forest Service workshop exercise by workshop attendees and completed in September of 2014 by North Carolina Forest Service staff in a walking survey utilizing Talking2Trees, an iPad App. Talking2Trees was developed with assistance from the NC Forest Service, NC Urban Forest Council and consulting arborists and scientists to provide an easy to use and cost effective tree inventory collection and management tool.

Most of the trees in the CBD have the genetic potential to reach a medium canopy (less than 50 feet tall, with a 40 foot canopy spread) size at their maturity. The numerous tree pits utilized for tree planting is too small to accommodate the trees later in their life and as a result these trees will most likely become stressed and fail to thrive before they can reach maturity.

Results

Number of trees: 472 total trees, stumps and planting sites were inventoried in the Central Business District.

Species diversity: 38 different species comprise the inventoried trees in the CBD with Crapemyrtle (29.0%) as the most abundant.

11 Most Common Tree Species
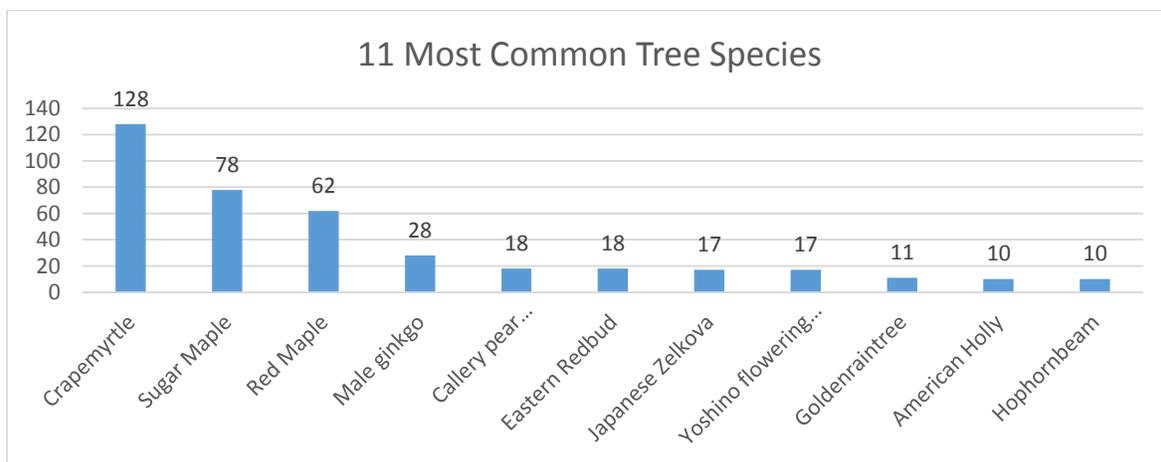
Tree condition: Trees were evaluated and, based on their overall outward appearance, were assigned one of four condition classes: good, fair, poor, or dead. The evaluation was a simple overall assessment of the trees based strictly on visual observations of the trees' crown, trunk, and roots that were visible. Most trees, 238, are in fair condition. 121 trees are in good condition and 83 are in poor condition. 27 trees and stumps were recorded as dead. 3 planting sites were recorded.

Tree Condition Ratings

	Fair	Good	Poor	Dead	(blank)
■ Total	238	121	83	27	3
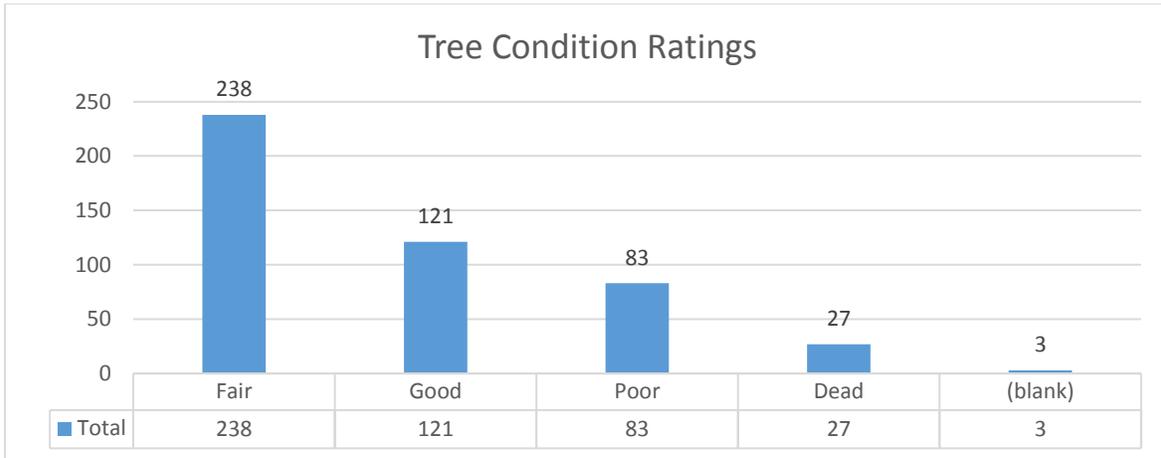
Tree size: The relative ages of trees may be approximated using size measured by diameter at breast height (DBH). Generally, trees increase in size with age, along with the value of the tree and the magnitude of the benefits that the tree provides. Trees were categorized into 3-inch diameter classes to show the proportion of trees at various stages of maturity. Note that an uneven-aged population is desirable for managing tree maintenance costs over time. Age diversity ensures that canopy coverage and community complexity are not reduced with mortality. In the CBD, the abundance of trees with a DBH of 12 inches or less indicates that the population is young. 273 inventoried trees have diameters less than 12 inches while 196 have diameters 12 inches or greater.

Tree Diameter Distribution

0	3	6	9	12	15	18	21	24	27	33	36
3	151	48	74	65	43	46	18	15	6	2	1
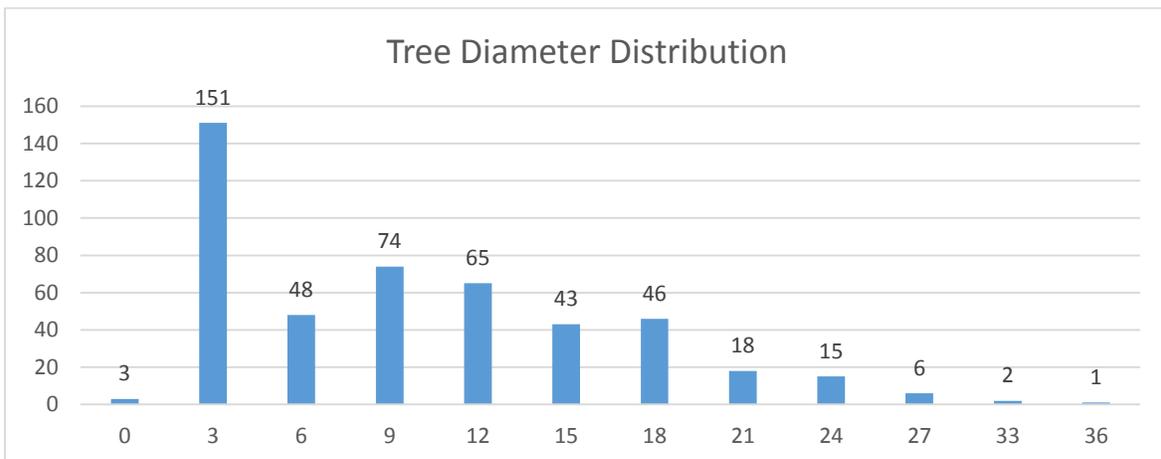
Tree concerns: Observations about each tree's general problems or concerns were recorded. A tree could have between 0 and 19 different concerns recorded. The most frequent identified concern in the CBD was 'Topped' (98), followed by 'Minor Crown Dieback' (77) 'Root Damage' (39) and then 'Structural Crown' (37). 'Minor Crown Dieback' means that there was minor dieback visible in the tree's crown (branches, twigs, and leafy area). 'Structural Crown' designates trees that did not receive proper "Training Pruning" (see below) and have structural problems including co-dominant stems, poor branch attachment, included bark or uneven crowns.

Maintenance actions: 362 trees are listed for routine pruning. 116 trees should be monitored on a cycle and after storm incidents. 29 trees require training pruning.

Routine pruning consists of pruning groups of trees on a cycle. The length of the cycle (years) is determined by the tree maintenance budget. A 1981 study determined that a 5-year pruning cycle provides for optimum returns on investment (An Economic Evaluation of the Pruning Cycle; Miller and Sylvester, Journal of Arboriculture, April 1981). However many communities are on an 8-12 year pruning cycle due to budget restraints. Routine pruning includes:

- Dead branches
- Dying branches
- Crossing/Rubbing branches
- Structural issues not corrected by previous Training pruning

Routine pruning maintains tree health.

Monitoring is for trees that are in Poor condition, have a structural weakness that cannot be addressed by pruning (such as exposed or damaged roots) or a site condition (such as limited rooting space) that should be monitored to prevent failure. Keeping records of monitoring is essential for risk management.

Training pruning is a category of pruning utilized on large and medium mature canopy trees 15" in diameter or less. Training pruning is on a 3-year cycle and begins at planting. Training pruning is designed to:

1. Establish a strong central leader
2. Establish the lowest permanent branch
3. Develop adequate spacing between scaffold leads
4. Remove/Subordinate co-dominant branches

Training pruning reduces the structural problems that often fail in storms.

Recommendations

Beyond the maintenance actions described previously, the following 15 trees have specific issues that should be noted and addressed as soon as possible within budget constraints:

Tree ID #	Species	DBH	Condition	Project	Notes
480	Southern Magnolia	27"	Poor	Parks	Severe decay – advise removal
463	Red Maple	18"	Poor	Parks	Soon removal
442	Cherry	15"	Poor	Downtown Core	Soon removal
429	Red Maple	12"	Poor	Downtown Core	Soon removal
376	Red Maple	9"	Poor	Main Street	Monitor until removed
366	Sugar Maple	15"	Poor	CBD Loop	Mushrooms at base; monitor or remove
365	Sugar Maple	15"	Poor	CBD Loop	Mushrooms at base; monitor or remove
364	Sugar Maple	15"	Poor	CBD Loop	Mushrooms at base; monitor or remove
363	Sugar Maple	18"	Fair	CBD Loop	Mushrooms at base; monitor or remove
359	Sugar Maple	21"	Fair	CBD Loop	Monitor for root failure
408	Willow Oak	27	Fair	CBD Loop	Poor pruning cuts
409	Willow Oak	27	Fair	CBD Loop	Poor pruning cuts
410	Willow Oak	27	Fair	CBD Loop	Poor pruning cuts
411	Willow Oak	21	Fair	CBD Loop	Poor pruning cuts
412	Willow Oak	15	Fair	CBD Loop	Poor pruning cuts

Other Removals

These should be addressed after the priorities are completed.

Tree ID	Species	DBH	Condition
31	Male ginkgo	12	Fair
92	Male ginkgo	15	Poor
96	Red Maple	6	Fair
102	Red Maple	15	Poor
103	Red Maple	12	Poor
107	Japanese Zelkova	9	Poor
108	Japanese Zelkova	9	Poor
109	Lacebark Elm	6	Poor
110	Lacebark Elm	6	Poor
114	Buckeye Species	9	Dead
120	Red Maple	9	Poor
123	Red Maple	18	Poor
184	Red Maple	12	Poor
186	Yoshino flowering cherry	18	Dead
338	Tree Of Heaven	6	Good – Invasive Species
345	Yoshino flowering cherry	21	Poor
355	Sweetgum	18	Poor
389	Red Maple	15	Poor
437	Japanese Zelkova	21	Poor
447	Flowering Dogwood	15	Poor

Downtown Tree Planting

The downtown is limited by rooting space due to planting pits and the overhead utilities. The downtown species diversity is high in crapemyrtle and maple. Future plantings should focus on diversifying the downtown tree population. Tree selection for downtown should be limited to small mature canopy species, or columnar (fastigiate) species. These selections will eliminate topping, prevent utility conflicts, allow for visibility of business signs, beautify the business district and reduce maintenance costs.

Tree Pruning

The fact that the most frequent tree concern was "Topped" and the maintenance of the large willow oaks is not to professional standards, I would highly recommend training for employees responsible for pruning and/or oversight of contracted crews. Topping is an expensive practice that decreases the life-span of the tree. Pruning that works with the natural growth habit of the tree maintains tree health, reduces structural problems, limits decay and reduces costs.

All tree maintenance practices (planting, pruning, fertilizing, etc.) should be done in accordance with the American National Standards Institute (ANSI) professional standards.

The 2012 revision of the ANSI Z133 Safety Standard provides the most current criteria in the United States for arborists and other workers engaged in arboricultural operations. The safety requirements in this standard address the following categories:

- General safety
- Electrical hazard
- Use of vehicles and mobile equipment
- Portable power hand tools
- Hand tools and ladders
- Work procedures

The ANSI A300 standards apply to professionals who provide for or supervise the management of trees, shrubs or other woody landscape plants. Intended users include businesses, government agencies, property owners, property managers and utilities. The ANSI A300 standards are divided into the following parts:

- Pruning
- Soil Management – Modification, Fertilization, Drainage
- Supplemental Support Systems
- Lightning Protection Systems
- Management of Trees and Shrubs during Site Planning, Site Development, and Construction
- Planting and Transplanting
- Integrated Vegetation Management – Utility Rights-of-way
- Root Management
- Tree Risk Assessment

The standards are available online from the International Society of Arboriculture (ISA) along with Best Management Practices booklets. (www.isa-arbor.com)

Data

All data collected is available to the Town of North Wilkesboro through the Talking 2 Trees website (www.talking2trees.com) and iPad Talking 2 Trees Ap. A tree inventory should be seen as a dynamic management tool. Updates to the inventory can be accomplished by entering data into the existing inventory when maintenance actions are completed, when tree inspections are done, or when new trees are planted. Letting this information get several years old without regular updates will reduce the accuracy of any reports and hamper the ability to plan for future maintenance activities.

North Carolina Forest Service (NCFS) Assistance

The NCFS is committed to the active management of North Carolina's forests, both traditional and urban. Assistance in traditional forest management, or forest stewardship, can be obtained through your local NCFS county office. The NCFS Urban and Community Forestry Program assists NCFS local staff and communities in establishing active urban forest management programs. For assistance in Urban and Community Forestry, landowners and communities may contact the local NCFS county office.

If you have any other questions or need further assistance please do not hesitate to contact us. The NC Forest Service is glad to assist you with any forest management or tree care concerns.

Sincerely,

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