

Disaster Related Urban Tree Assessment

A Project of the Southern Group of State Foresters



Introduction:

In 2005, The Urban Forestry South (formally the Southern Center for Urban Forestry Research & Information) helped coordinate a national effort to provide professional arborists' expertise to communities and their urban forests affected by Hurricane Katrina (Gulf Coast Tree Assessment – GCTA). This partnership for response included: the Society of Municipal Arborists, the International Society of Arboriculture, Davey Resource Group, state forestry agencies and their U&CF program, Mississippi State University Extension Service, local communities, and local non-profits.

Following that experience in ten communities in Mississippi and Louisiana, the U&CF programs in Virginia and North Carolina approached Urban Forestry South (UFS) with the idea of preparing for future natural disasters by training agency certified arborists within the states' Incident Command System (ICS).

The training and procedures that are being developed as part of this project will be compatible with and accepted by the respective state ICS. By working within the states' ICS, qualified arborists will become available to communities throughout these states and be able to provide local assistance following disasters that affect urban trees.

Training for the Urban Forest Strike Team (UFST) was developed as the result of that request, and the first training workshop was held in Kinston, NC (August 21-23, 2007); a second week of training was recently completed (July 14-18, 2008) at the New Kent training facility near Providence Forge, Virginia. At the Southern Group of State Foresters meeting in Columbia, South Carolina (June 9-11, 2008), U&CF Coordinators requested that the project be expanded throughout USDA Forest Service Region 8.

Subsequent field experience following the 2007 Oklahoma ice storm has helped refine and expand the UFST concept and protocols. UFS continues to assist the states with the development and coordination of UFST development & training.

The Objective:

The primary objective of this project is "to develop in-state and regional capacity to respond to disasters by providing effective, practical, and comprehensive urban tree assessment training to state agency arborists that is consistent with the Incident Command System (ICS/NIMS)."

By embracing the ICS, we will eliminate much of the logistical work needed to initiate and support assessment teams, utilize existing and tested safety and disaster reporting standards, and offer professional arboricultural services through a mechanism that local communities recognize.

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Types of Assessments:

The project will provide training for three types of post-disaster tree assessments to help urban and wildland-urban interface communities respond and/or recover from natural disasters. These include:

- **Estimates of tree debris immediately following a disaster:** These teams will be qualified to make on the ground measurements and estimates of tree debris volume for removal during the initial or a prolonged response period. The techniques may include sampling, but will also rely heavily on the arborists' experience to quickly determine a damaged trees status (i.e. keep or remove). Volume estimates of tree debris are collected for a sample of street segments within the disaster area and are identified by block, and street. The *i-Tree Storm Damage Assessment Protocol* has been adapted for this assessment. The objective of this assessment is to provide FEMA acceptable debris estimates at the local level.
- **Risk assessment of public trees remaining following initial clean-up:** Similar to the GCTA project following Hurricane Katrina, this assessment technique sends trained teams into disaster area following the initial response for safety and restoration of basic utilities (i.e. clearing transportation routes, human health issues, potable water, electricity, sewer). Teams will quickly, but thoroughly evaluate public trees remaining following the initial clean-up to determine the extent of public risk. Individual trees will be identified for removal or pruning to eliminate risk to the public. Individual trees will be spatially identified (i.e. with GPS) so that contractors or municipal staff can easily relocate the tree for the recommended action. The objective of this assessment is to reduce the loss of additional trees during the response phase of the disaster. In addition to risk, this assessment may also include the measurement of debris volume for the community's contract discussions with FEMA for debris cleanup (See ***Oklahoma Experience*** that follows).
- **Evaluations for restoration of the communities' urban forests:** As a community enters into the recovery phase of a disaster, trained teams can be called to assist with the evaluation of sites for urban tree planting to restore the urban forest. Sites will be spatially identified to serve as the basis for contracting or municipal planning. From this data, the "value" of environmental services can be estimated using the *i-Tree* components STRATUM or UFORE as appropriate. The objective of this assessment is to move communities into "green" recovery quickly and with professional expertise that can mitigate future damage and losses.

Value to Communities:

Communities will benefit at several levels:

- Communities that lack the capacity or professional expertise will benefit during the immediate response phase of the disaster
- Trained, experienced, Certified Arborists will be assisting communities with decisions that affect their urban forest
- Tree management information can be obtained in a timely manner for response & recovery
- With the project based on the ICS, communities are familiar with the disaster assistance process
- Assistance can be provided at the stage of disaster response most suitable for the community

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Prerequisites:

Individuals selected for this project will have to meet prerequisites that include:

- State agency employee (or FEMA, state ICS staff)
- ISA Certified Arborist (FEMNA, state ICS staff waived)
- ICS Courses¹
 - Task Specialists (Crew Members)
 1. IS-100 Introduction to Incident Command System
 2. IS-200 Basic Incident Command System for Single Resources and Initial Action Incident
 3. IS-700 NIMS An Introduction
 4. L-180 Human Factors on the Fireline
 5. ICS experience or documented tree risk assessment experience
 - a. Photographic Guide to the Evaluation of Hazard Trees in Urban Areas
 - b. Urban Tree Risk Management (NA-TP-03-03)
 - Team Leaders
 1. L-280 Followership to Leadership
 2. Other courses as determined

The Training Workshop:

Task Specialist

UFST training includes 3 days of classroom lecture, field activities, GPS, and computer familiarization. Individuals selected for training that satisfactorily complete the post-training field test will be placed into their ICS as **Urban Forest Strike Team – Task Specialists** and may be asked to respond to disaster requests within their state and regionally. (see attached revised training schedule)

Team Leader

UFST training includes 2-3 days of classroom discussion/lecture, field activities, GPS, and computer familiarization.

UFST Support:

An ICS task book has been developed for the **Urban Tree Strike Team** positions (member and team leader).

The states' U&CF program (and UFS?) will provide post-training evaluations of teams dispatched for urban tree assessments. In addition, mock exercises will be conducted at regular intervals (as necessary) to keep teams up to date on evaluation techniques, assessment procedures, and new equipment.

Oklahoma Experience:

During January and February (2008), UFST members responded to assist Oklahoma communities affected by the December 2007 ice storm. Three teams each spent a week in Oklahoma for this response.

In Tulsa, Bixby, and Nichols Hills, UFSTs evaluated park trees for risk and also tallied trees that met FEMA debris requirements. In these communities, the cities were working under a FEMA pilot project that

¹ ICS requirements may change as the program is developed during 2008 & 2009.

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provided debris cleanup funds under contract **prior to** the cleanup. Minor modifications to the UFST risk data dictionary were implemented to support this data collection.

In Edmond, an UFST experimented with a pre-storm stratified SDAP inventory of street segments.

Google 'OK Ice Blog' to read about this at www.UrbanForestrySouth.org.

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