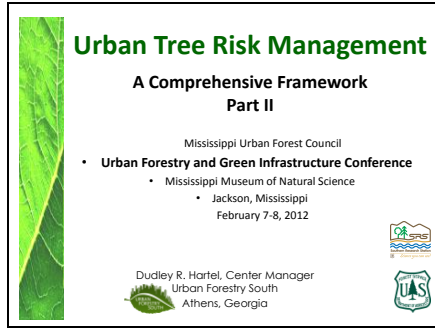


Slide 1



This discussion of a comprehensive risk management program that can support local management & disaster planning is based on **Urban Tree Risk Management: A Community Guide to Program Design and Implementation** (Chapter Two)... and will guide city & urban forest managers through the development & implementation of the current (arboricultural) industry standard program for risk management...

This presentation will delve into some of the detail of the “framework” for urban tree risk management that moves “assessment” to “mitigation” (i.e. appropriate action).

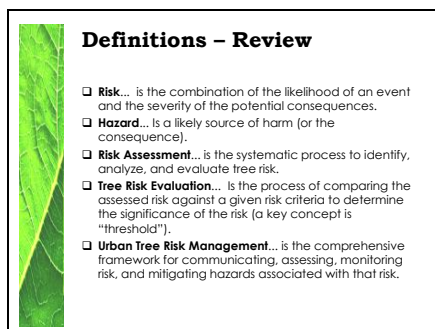
Urban Forestry South is the Southern Region’s urban & community forestry Technology Transfer Center which supports U&CF programs through state agencies and municipalities

Slide 2




In this presentation I’ll review definitions, discuss in more detail the steps in the “guide”, and conclude with the current list of arboricultural standards related to urban tree risk management.

Slide 3



Basic definitions to understand...

Slide 4



Risk Management Program Design

A Ten Step Process

1. Assess the tree resource
2. Review current management practices
3. Assess fiscal and human resources
4. Identify program goals
5. Formulate a tree risk management strategy
6. Prioritize inspection and corrective action
7. Select a tree rating system
8. Write a comprehensive risk policy
9. Implement the tree risk management strategy
10. Evaluate program effectiveness

From Urban Tree Risk Management (A Community Guide to Program Design and Implementation)... Jill Pokorny, 2003

Slide 5



What Do You Have

- Assess the tree resource
- Review management practices
- Assess fiscal & human resources

A risk management plan does not have to be a detailed tree assessment; the “big picture” is OK. But, can be the same baseline that supports your UF management plan. With some additional information.

May need to determine value to justify the risk and management strategies; i-Tree Eco, Streets

Assess the tree resource

A planning element & assessment:

- Recent data (current inventory)
- Can be complete inventory or sample
- Baseline study to collect general information:
 - species
 - size classes
 - condition (risk associated)
 - maintenance needs (pruning, removal) & cost
 - Urban forest value (i-Tree Eco/Streets)

For urban forest management:

- Written policy
- Plans
- Ordinances
- Goals & strategies
 - particularly relating to public safety
- Look across all for common goals
 - look at other community departments

Review current tree care budget:

- Look at estimated costs from your assessment
 - deficient?
- Include costs/resources for inspections
- Mitigation at “higher” level

Improved establishment & young tree care as part of risk management

Slide 6



What Do You Have
Assess the tree resource


A planning element & assessment:

- Recent data
- Can be complete inventory or sample
- Baseline study to collect general information:
 - Species
 - Size classes
 - Condition (risk associated)
 - Maintenance needs & costs
 - Pruning, Removal, Planting
 - Urban forest value (i-Tree Eco/Streets)

Not a detailed tree assessment; big picture.
Can be the same baseline that supports your UF management plan.

Determine value to justify the risk and management strategies; i-Tree Eco, Streets

Slide 7



What Do You Have
Review management practices

For urban forest management:


- Written policy
- Plans
- Ordinances
- Goals & strategies
 - Particularly relating to public safety
- Look across all for common goals
 - Look at other community departments

See how various elements support or conflict.

Review public safety issues.

Include your local vegetation risk management plan (if available)

Slide 8



What Do You Have
Assess fiscal & human resources

Review current tree care budget:

- Look at estimated costs from your assessment
 - Deficient?
- Include costs/resources for inspections
- Mitigation at "higher" level
- Improved establishment & young tree care as part of risk management

Is your current budget adequate to begin a more comprehensive program to inspect & mitigate.

Slide 9



What Do You Want

- Identify program goals
- Formulate a risk strategy
- Prioritize inspections & actions

Locally, develop a “picture” of your community tree risk management program.

Disaster related UF and EM objectives should be identified.

Community working group/tree board:

- What will our risk management program accomplish
- Goals & strategies (get specific)

Guiding principals:

- Increase public safety
- Promote tree health & sustainability

Prevent hazardous defects:

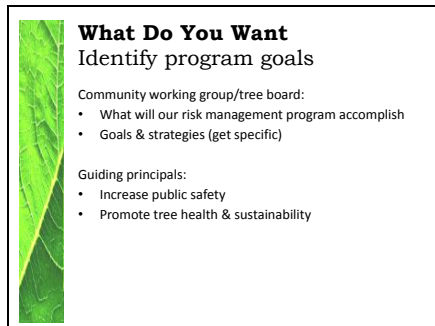
- Sound arboricultural practices
 - site
 - species
 - planting
 - young tree care
 - mature care
- Corrective actions
 - young tree care
 - address target issues
 - prune & remove

Tree risk zones:

- Trees
- Roads & streets
- Occupancy
 - people
 - places or sites (buildings)

Locally, develop a “picture” of your community tree risk management program.

Slide 10



What Do You Want
Identify program goals

Community working group/tree board:

- What will our risk management program accomplish
- Goals & strategies (get specific)

Guiding principals:

- Increase public safety
- Promote tree health & sustainability

Slide 11




What Do You Want
Formulate a risk strategy

Prevent hazardous defects:

- Sound arboricultural practices
 - Site
 - Species
 - Planting
 - Young tree care
 - Mature care
- Corrective actions
 - Young tree care
 - Address target issues
 - Prune & remove

If your assessment of practices found these elements missing, part of your strategy is to adopt necessary practices.

Slide 12



Getting What You Want
Prioritize inspection and corrective actions

Tree risk inspection:

- Walk by (individual tree) inspections
 - In-depth
 - More costly
- Drive-by
 - Fast
 - May overlook defects

Tree risk inspection schedule:

- Use zones to determine frequency & type

Match the frequency & intensity of inspection with the zone.

Same zones assist UF manager and local EM in disaster preparedness.

Slide 13



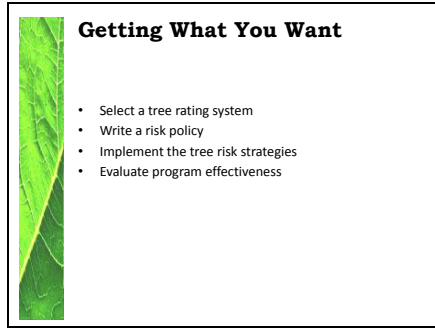
What Do You Want
Prioritize inspection and corrective actions

Tree risk zones:

- Trees
- Roads & streets
- Occupancy
 - People
 - Places or sites (buildings)

Identify components for your zones.
A local disaster plan may have (or could use) this information.

Slide 14



Getting What You Want

- Select a tree rating system
- Write a risk policy
- Implement the tree risk strategies
- Evaluate program effectiveness

Standardizing your risk inspections based on current arboricultural standards:

- Matheny & Clark (1994)
- ANSI A300 (Part 9)-2011 - Tree Risk Assessment – Tree Structure
- Best Management Practices: Tree Risk Assessment

The “No target, No risk” concept applies for disaster planning also.

Importance of standardized method:

- Repeatable
- Reliable
- Easier to maintain trained staff
- Standardize record keeping & data
 - convenience
 - accuracy

Photographic Guide (12 point)

- Target (0-4) – No target, No risk
- Size of part (1-4)
- Probability of failure (1-4)

Critical element!

The act of writing your risk policy is an important step that can refine your objectives, goals, and strategies. It makes it available to other municipal managers and staff, elected officials, and residents.

The tree risk specification that adheres to ANSI A300 (Part 9)-2011 can be the basis for this more detailed policy

Write, adopt, and enforce this policy:

- Must support all other policy & documents
- Community responsibility
- Administration (who is responsible)
- Rating system specified
- Inspection methods and schedules
- Process for corrective actions
- Action appeals
- How to handle violations of the policy

Proper implementation requires resources and demands documentation (see ANSI A300 (Part 9)-2011 Tree Risk Assessment).

Your local EM may have access to state mitigation funds for some of this work identified.

Resources:

- Staff
- Training
- Documentation

Implementation documentation:

- Inspections
- Actions
- Failures

Common outcomes from a well designed and implemented tree risk management plan.

These are disaster-related outcomes also.

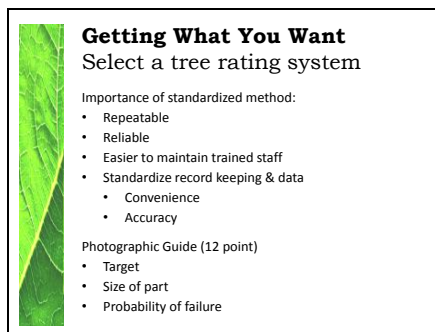
Outcome based measurements & evaluation:

- Increased public safety
- Improved tree health

Indicators (for measurement):

- Decline in number of high-risk trees
- Reduction in number of trees needing hazard pruning
- Reduction in storm damage (debris)

Slide 15



Getting What You Want
Select a tree rating system

Importance of standardized method:

- Repeatable
- Reliable
- Easier to maintain trained staff
- Standardize record keeping & data
 - Convenience
 - Accuracy

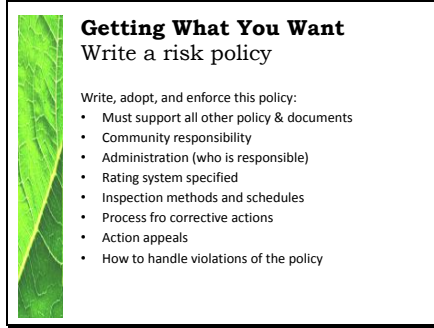
Photographic Guide (12 point)

- Target
- Size of part
- Probability of failure

There are several to choose from..

- Professionally applied
- Repeatable
- Reliable

Slide 16



Getting What You Want
Write a risk policy

Write, adopt, and enforce this policy:

- Must support all other policy & documents
- Community responsibility
- Administration (who is responsible)
- Rating system specified
- Inspection methods and schedules
- Process fro corrective actions
- Action appeals
- How to handle violations of the policy

Critical element!

Slide 17



Getting What You Want
Implement tree risk strategy

Resources:

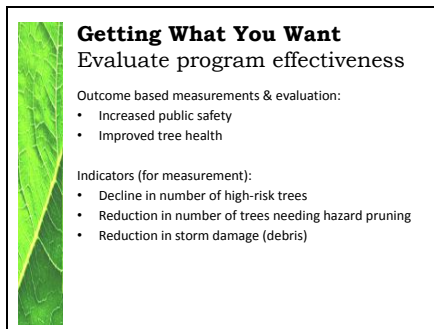
- Staff
- Training
- Documentation

Implementation documentation:

- Inspections
- Actions
- Failures

Often the limiting factors...

Slide 18



Getting What You Want
Evaluate program effectiveness

Outcome based measurements & evaluation:

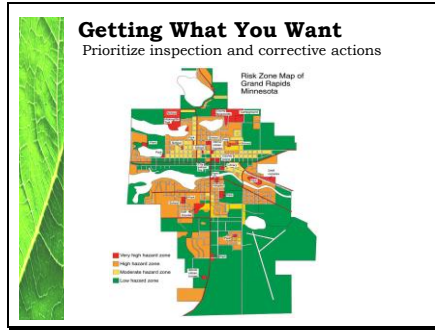
- Increased public safety
- Improved tree health

Indicators (for measurement):

- Decline in number of high-risk trees
- Reduction in number of trees needing hazard pruning
- Reduction in storm damage (debris)

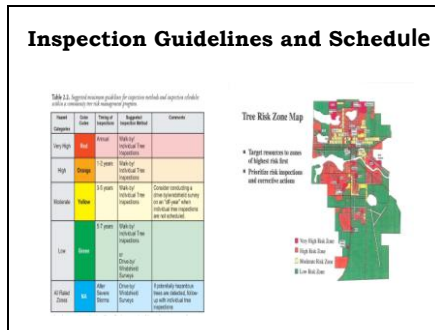
Evaluate, adjust, repeat...

Slide 19



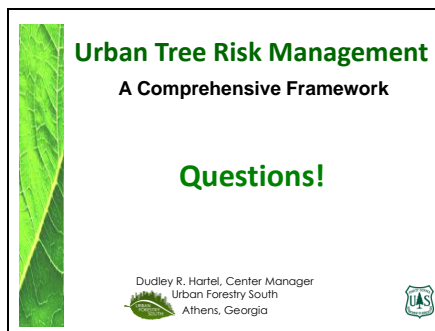
The risk zone map.

Slide 20



Set inspection schedule based on risk zone classification (where have we heard this before!).

Slide 21



Any questions on the ten steps...

Slide 22




Tree Risk Plan: Outcomes

- Urban forest management
- Other municipal staff (roads, parks, sidewalks, electric)
- Local Emergency Management
- Elected officials
- Residents

Implementation of an urban tree risk management program can benefit more than the urban forest manager.

The EM link.

Slide 23




Risk Mitigation Results

- Reduced claims as they relate to trees by 72%
- Reduced work order complaints and/or request for services by over 55%
- Reduced 911 and overtime expenditures for tree cleanup by over 69%

Five year period 2001-2006
Columbus, Georgia (R. Barker)

Measured results from an aggressive tree risk management program in Columbus, Georgia (from Rachel Barker).


Slide 24



Urban Tree Risk Management
A Comprehensive Framework

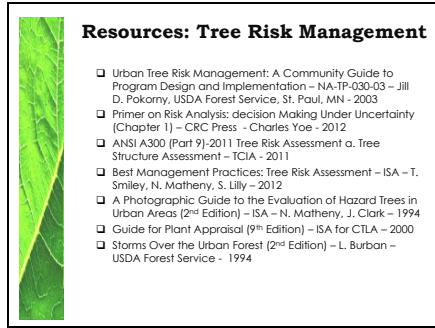
Questions!

Dudley R. Hartel, Center Manager
Urban Forestry South
Athens, Georgia



Any questions on the ten steps...

Slide 25

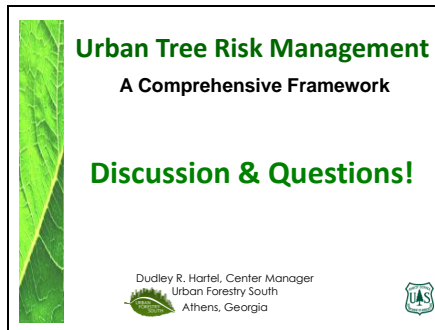


Resources: Tree Risk Management

- ❑ Urban Tree Risk Management: A Community Guide to Program Design and Implementation – NA-TP-030-03 – Jill D. Pokorny, USDA Forest Service, St. Paul, MN - 2003
- ❑ Primer on Risk Analysis: decision Making Under Uncertainty (Chapter 1) – CRC Press - Charles Yoe - 2012
- ❑ ANSI A300 (Part 9)-2011 Tree Risk Assessment a. Tree Structure Assessment – TCIA - 2011
- ❑ Best Management Practices: Tree Risk Assessment – ISA – T. Smiley, N. Matheny, S. Lilly – 2012
- ❑ A Photographic Guide to the Evaluation of Hazard Trees in Urban Areas (2nd Edition) – ISA – N. Matheny, J. Clark – 1994
- ❑ Guide for Plant Appraisal (9th Edition) – ISA for CTLA – 2000
- ❑ Storms Over the Urban Forest (2nd Edition) – L. Burban – USDA Forest Service - 1994

Use current arboricultural standards when developing your urban tree risk management plan...


Slide 26



Urban Tree Risk Management
A Comprehensive Framework

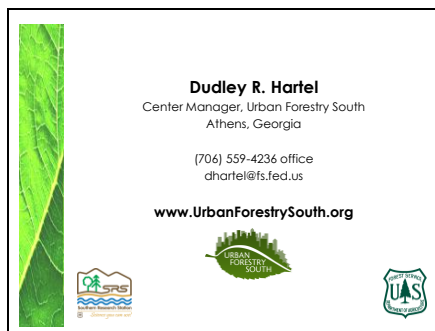
Discussion & Questions!

Dudley R. Hartel, Center Manager
Urban Forestry South
Athens, Georgia



Any final questions or comments about this introduction to urban tree risk management?



Slide 27



Dudley R. Hartel
Center Manager, Urban Forestry South
Athens, Georgia

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www.UrbanForestrySouth.org



A PDF of this presentation will be at www.UrbanForestrySouth.org.

“Quick Search” with ‘urban tree risk’ (no quotes).

Emergency Slides for Q&A

Slide 28

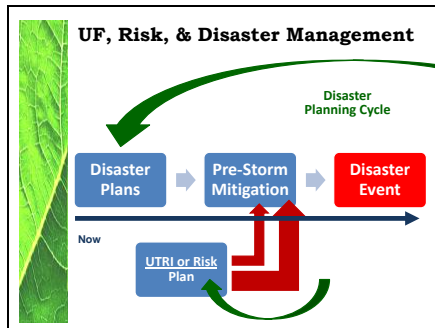


The 10 steps to tree risk management; a detailed presentation outline.

The Urban Tree Risk Index (UTRI) that we discuss later in the presentation is a modification of this approach to provide important vegetation and debris information necessary to a local disaster plan.

Steps 1, 4, 5, 6 implement the UTRI model for urban tree risk management to support local EM.

Slide 29



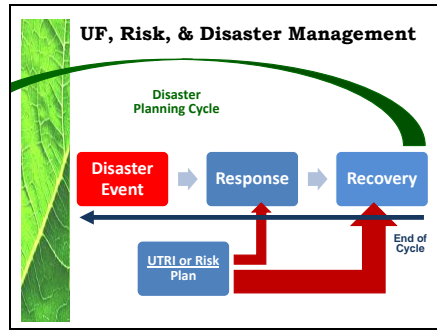
An urban forest management workflow (or timeline) that uses UTRI or Urban Tree Risk Management to support local disaster planning:

- disaster planning at the local level (county)
 - disaster plan
 - vegetation plan
 - debris plan
- risk management
 - UTRI (the “fast track” to local disaster planning for vegetation)
 - Urban Tree Risk Management (Pokorny)
- pre-storm mitigation based on priority areas established by urban tree risk management
 - work on mitigation until disaster strikes!
 - reassess tree risk or UTRI over a short horizon (3-5 years)

Disaster Plans may include:

- County Disaster Plan (general, umbrella plan)
- Pre-Hazard Mitigation Plan
 - UTRI fits in here
 - State pre-hazard mitigation grants
- Vegetation Plan
- Debris Management Plan
 - UTRI fits in here (planning for debris staging areas)

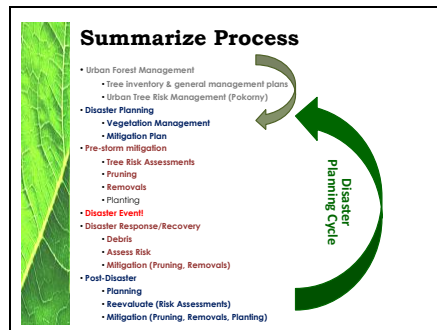
Slide 30



An urban forest management workflow (or timeline) that uses UTRI or Urban Tree Risk Management to support local disaster planning:

- during disaster response
 - UTRI information is used for debris management (i.e. pile location, estimates of volume)
 - could assist with UFST deployment (particularly reconnaissance)
- during recovery
 - UTRI indexed road segments help determine & guide replanting
- post-recovery
 - disaster planning cycle repeats
 - UTRI or Urban Tree Risk Management is updated
 -

Slide 31



The last two graphics presented in a different format...

The disaster process outlined with urban forest management (including risk) involve.

UF management can feed the disaster planning cycle, or if lacking, the UTRI (“fast track”) can be used.