

## E-TRAC FIELD DATA ENTRY TIP SHEETS\*

Version 1.1 - January 2008

E-TRAC is an electronic data collection tool that complements the U.S. Forest Service's publication, "Urban Tree Risk Management: A Community Guide to Program Planning and Management." It is available on the website where you obtained the E-TRAC program or directly at:

<http://www.na.fs.fed.us/spfo/pubs/uf/utrmm/>.

### LOG IN -----

#### **Select Community Risk Zone**

See Urban Tree Risk Management Guide - Chapter 2, p. 22-26 for details

If the community is divided into community tree risk zones, then select the appropriate risk zone.

### ADD TREES -----

#### **Tree ID**

Enter a unique number for each new tree. ETRAC will automatically increment by one each time a new tree is entered on the PDA.

#### **Address**

Specify the house/building number.

#### **Street or Park Name**

Specify the name of the street for street trees or name of the park for park trees.

#### **Location**

Specify the location of the tree in relation to the orientation to the building (e.g., front, side), or indicate if the tree is located in a street island (median) or park.

#### **Species**

Indicate the species. If unknown, choose unknown. If the species is not listed, choose "other" and type it on the notes page (last screen).

#### **DBH**

Record the trunk diameter at breast height (4.5').

#### **Site Notes**

Use a number or descriptive text to indicate a more precise location of the tree if there are multiple trees at that same address, median, or park. This is particularly important if there are multiple trees of the same species and trunk diameter.

### NEXT SCREEN -----

#### **Physical Obstruction**

Indicate if the tree branches are too low over the sidewalk, road, or both.

#### **Visual Obstruction**

Indicate if the tree branches are blocking views of a critical or non-critical sign or sight lines at an intersection or driveway.

#### **Utility Conflict**

Indicate if tree branches are interfering with primary electric wires, secondary electric wires, service drop wires to a house, or non-electric wires (e.g., phone, cable).

\*Data can also be added directly into the desktop program (without a Pocket PC).

See the Urban Tree Risk Management Guide - Chapter 3, p. 41-88 for details regarding defects

**DEFECTS - CROWN / BRANCHES** -----

**Canker**

Indicate if there is a canker and, if known, whether it is caused by a fungus or insect/mechanical damage.

**Crack**

Indicate if there is a crack and, if so, what type. Or indicate if there are multiple cracks.

**Deadwood**

Indicate if the entire tree is dead, one or more branches are dead, or if a branch is broken and lodged.

**Decay**

Indicate if there is decay and/or a cavity.

**Poor Arch (Poor Branch/Crown Architecture)**

Indicate if the branches are equally dispersed around the tree or if the crown is unbalanced. Also, indicate if one or more branches are abnormally-formed or if branches have been topped or storm-damaged.

**Weak Union (Weak Branch Union)**

Indicate if one or more branches are weakly attached due to included bark, epicormic sprouting, or both.

**DEFECTS - TRUNK** -----

**Canker**

Indicate if there is a canker and, if known, whether it is caused by a fungus or insect/mechanical damage.

**Crack**

Indicate if there is a crack and, if so, what type. Or indicate if there are multiple cracks.

**Decay**

Indicate if there is decay and/or a cavity.

**Shell (outermost layer of undecayed wood)**

If there is decay, indicate the thickness of the remaining shell (undecayed outer layer surrounding the decay column). Take 3 measurements, and record the average. Also indicate the trunk diameter where the maximum decay is suspected. If there is an opening (crack or cavity) in the shell, indicate the size of that opening as a percent of the trunk diameter at the point of the opening.

**Poor Arch (Poor Trunk Architecture)**

- Indicate if there are codominant stems located relatively low on the tree or if there are codominant stems without a branch bark ridge (BBR).
- Also, indicate if the tree is leaning with tension buckling, soil mounding, or root damage.

**DEFECTS - ROOTS** -----

**Buried Deep**

Indicate if there is too much soil over the roots and if it occurred at planting or during a grade change (fill).

**Injury**

Indicate if the roots have sustained some type of damage (yes). If known, specify the type.

**Decay**

Indicate if the roots show signs of decay.

**Poor Arch (Poor Root Architecture)**

- Indicate if there are stem encircling (circling, but not compressing the trunk) or girdling roots.
- Indicate if the roots are equally dispersed around the tree or if they are unbalanced (only on one side). Also indicate if the roots are confined to a relatively small or narrow area.

## RISK RATINGS -----

See Urban Tree Risk Management Guide - Chapter 3, p. 101-106 for details

### Prob. Failure (Probability of Failure) 1-4 points

1. **Low:** some minor defects present:
  - minor branch/ crown dieback
  - minor defects or wounds
2. **Moderate:** several moderate defects present
  - stem decay or cavity within safe shell limits: shell thickness > 1 inch of sound wood for each 6 inches of stem diameter
  - crack(s) without extensive decay
  - defect(s) affecting 30-40% of the tree's circumference
  - crown damage/breakage: hardwoods up to 50%; pines up to 30%
  - weak branch union: major branch or codominant stem has included bark
  - stem girdling roots: <40% tree's circumference with compressed wood
  - root damage: < 40% of roots damaged within the CRR
3. **High:** multiple or significant defects present:
  - stem decay or cavity approaching shell safety limits: shell thickness < 1 inch of sound wood for each 6 inches of stem diameter
  - cracks, particularly those in contact with the soil or associated with other defects
  - defect(s) affecting > 40% of the tree's circumference
  - crown damage/breakage: hardwoods >50%; pines >30%
  - weak branch union with crack or decay
  - girdling roots with > 40% of tree's circumference with compressed wood
  - root damage: > 40% of roots damaged within the CRR.
  - leaning tree with recent root breakage or soil mounding, crack or extensive decay
  - dead tree: standing dead **without** other significant defects
4. **Extremely High:** multiple **and** significant defects present; visual obstruction of traffic signs/lights or intersections:
  - stem decay or cavity at or exceeding shell safety limits **and** severe crack
  - cracks: when a stem or branch is split in half
  - defect(s) affecting > 40% of the tree's circumference or CRR **and** extensive decay or crack(s)
  - weak branch union with crack **and** decay
  - leaning tree with recent root breakage or soil mounding **and** a crack or extensive decay
  - dead branches: broken (hangers) or with a crack
  - dead trees: standing dead **with** other defects such as cracks, hangers, extensive decay, or major root damage
  - visual obstruction of traffic signs/lights or intersections
  - physical obstruction of pedestrian or vehicular traffic

### Size of Defective Part 1-3 points

0. NA (not applicable because there are no defects and targets)
1. Parts less than 4 inches in diameter
2. Parts from 4 to 20 inches in diameter
3. Parts greater than 20 inches in diameter

**Prob. Target Impact** (Probability of Target Impact) 1-3 points

1. **Occasional Use:** Low use roads and park trails; parking lots adjacent to low use areas; natural areas such as woods or riparian zones; transition areas with limited public use; industrial areas.
2. **Intermediate Use:** Moderate to low use school playgrounds, parks, and picnic areas; parking lots adjacent to moderate use areas; secondary roads (neighborhoods) and park trails within moderate to high use areas; and dispersed campgrounds.
3. **Frequent Use:** Emergency access routes, medical and emergency facilities and shelters, and handicap access areas; high use school playgrounds, parks, and picnic areas; bus stops; visitor centers, shelters, and park administrative buildings and residences; main thoroughfares and congested intersections in high use areas; parking lots adjacent to high use areas; interpretive signs, kiosks; scenic vistas; and campsites (particularly drive-in).

**Other Risk Factors** 0-2 points

This category is to be used if professional judgement suggests the need to modify the numeric risk rating due to extenuating risk factors such as:

Tree Species: When tree species characteristics become a factor in risk rating. For example, some tree species are very poor wood decay compartmentalizers such as basswood, beech, and birch and some tree species have growth patterns that make them more vulnerable to certain defects such as weak branch unions (silver maple) and branching shedding (beech).

Site Factors: Site conditions exist that significantly increase the probability of failure such as:

Site Changes: grade changes, removal of adjacent trees, construction injury, etc.

Soil Conditions: shallow soils, saturated soils, highly compacted soils, etc.

Standing Dead Trees: Extensive numbers of standing dead trees exist (ex:EAB) and there is a need to prioritize tree removals (ex:1= dead for 3 years; 2 = dead for >3 years)

Length of Inspection Cycle: If trees are likely to fail before the next scheduled risk inspection.

**Description of Other Risk Factor(s)**

If points are added due to other risk factors, specifically describe the reason.

**Re-inspect**

Select the year to schedule a re-inspection if needed.

**CORRECTIVE ACTIONS** -----

Put a check mark next to each corrective action needed. If more than one action is needed, you may prioritize these by using the notes section to record which are of greatest priority (e.g., "prune1").

**NOTE**

Use this space to write any details not captured elsewhere in the program. For example:

- 1) Add a tree species that was not in the pre-programmed dropdown list
- 2) Prioritize corrective actions (e.g., "prune1")