

International Tree Failure Data Base (ITFD) Excel Metadata Documentation



United States
Department of
Agriculture

Forest Service

**Forest Health Technology
Enterprise Team**

Fort Collins, Colorado

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General Description

This document describes the relationships between the Data Entry Form on the Internet and the Excel Database Export. Each field on the Internet Form corresponds to an item in the Excel Spreadsheet. For items that are checkboxes, each item that is checked is concatenated together with commas separating each selection. For example, Type of Decay for a Trunk (if all the items are checked off), would show up in the Excel Spreadsheet as 'Brown rot, Canker rot, White rot' concatenated in the 'TrunkDecay' column.

- 1 General Tree Info
- 2 Failure Type
- 3 Failure Specifics
- 4 Structural Defects
- 5 Decay or Injury
- 6 Maintenance History
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- 9 Comments & Save

General Tree Info

1

Switch to Metric Data Entry

Tree Genus* (* is Required)

Species* (click on italic for help)

Cultivar

Country*

State/Province/Other*

U.S.A. County

DBH* inches

Height feet

Tree Age years

United States Site/Tree Ownership

Federal/National

Federal Type ---->

- NIS
- BIA
- BLM
- DOD
- NPS
- Other

Private

Utility

Other or unknown

State/Province

County

Municipal

Forest Service Region

Forest Name

Ranger District Name

National Park Service

Campground Name

Latitude (Decimal Degrees, NAD83)

Longitude (Decimal Degrees, NAD83)

[\(Link to convert from degrees, minutes, seconds to decimal degrees\)](#)

Genus
Species
Cultivar
Country
State
County
DBH
Height
Age
Ownership
FederalType

FS_Region
FS_Forest
FS_RangerDistrict
ParkService
Campground

Latitude
Longitude

Additional description of site location (e.g. Park name, street address)

LocDesc

* = required information. Completion required before proceeding to next page.

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Failure Type

2

This selection (i.e. trunk, branch, root) will determine which series of questions are displayed in screens 3-6.

Type of failure *

- Trunk (main stem) failure
- Branch failure
- Root failure



FailureType

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Trunk Failure Specifics

3

Height of failure above ground line *

 feet

TrunkFailureHeight

Trunk diameter at break (inside bark) *

 inches

TrunkBreakDiameter

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Trunk Structural Defects

4

Structural Defects Associated With Trunk Failure. Check only the most important factors that apply.

- None ⇒
- Unknown
- Failed portion dead
- Decay
- Canker
 - Species (if known) ⇒
- Multiple trunks/codominant stems
- Dense crown
- Flush cuts
- Topped
- One-sidedness
- Low live crown ratio
- Included bark
- Bow
- Crook
- Sweep/Corrected lean
- Uncorrected lean
- Cracks
 - Vertical ⇒
 - Horizontal
- Lightning injury
- Animal injury
- Fire injury
- Insect injury
- Mechanical injury
- Girdling

TrunkDefects
(concatenated
checkboxes delimit-
ed by commas)

TrunkCankerSpecies

TrunkCracks

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Trunk Decay or Injury

5

Location of Decay

Heartwood

Average thickness of sound wood inches

Trunk opening (cavity) associated with failure

Yes No

% of circumference occupied by opening (range 100-0)

Sapwood

Average depth of sapwood rot inches

% of circumference occupied %

Type of Decay

Unknown

Brown rot

Canker rot

White rot

Conks/mushrooms/other signs

Yes No

Fungus genus and species (if known)

Distance from nearest conk to failure point feet

- ⇒ TrunkLocation
- ⇒ TrunkSoundWood
- ⇒ TrunkOpening
- ⇒ TrunkCircumOpening
- ⇒ TrunkDepthofSapwood
- ⇒ TrunkCircumSapwood
- ⇒ TrunkDecay
- ⇒ TrunkConks
- ⇒ TrunkFungusGenus
- ⇒ TrunkConkDist

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Trunk Maintenance History

6

Hardware that contributed to failure

- None
- Girdling hardware*
- Other device
- Cable* Intact Failed
- Guying* Intact Failed
- Prop* Intact Failed
- Brace/bolt* Intact Failed



TrunkOtherMaint



TrunkCable



TrunkGuying



TrunkProp



TrunkGirdling

Continue



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Tree Failure Details

7a

Were the defects associated with failure visible before the tree failed

- Yes
- No
- Unknown

⇒ DefectVisible

At time of failure the tree was

- Dead
- Declining
- Alive

⇒ Status

Was there construction around this tree

- No
- Yes

⇒ Construction

If yes, when

years ago

⇒ ConstructionWhen

Pruning History

- No pruning
- Cleaned
- Lions-tailed
- Thinning
 - Proper
 - Excessive
- Reduction/Directional pruning
 - Proper
 - Excessive

⇒ TrunkMaint

⇒ Thinning

⇒ TrunkiReduction

Crown raised % of tree height

⇒ TrunkOther

Topping of main stem (heading cuts)- stub present

Give diameter of stub at cut inches

⇒ TrunkStubDia

Habitat Information

7b

Trees recently removed in vicinity of failed tree

- Yes
- No



RecentlyRemoved

History of prior failures at site

- Yes
- No



History

Setting

- Forest
- Campground
- Picnic area
- Trailhead
- Other developed forest site
- Commercial site/Institution
- Street tree/Median-Urban
- Road side-Rural
- Utility right-of-way
- Yard/Garden
- Park-Urban
- Golf course
- Parking lot
- Other



Setting

Aspect

- N
- NE
- E
- SE
- S
- SW
- W
- NW
- Not Applicable/Flat



Aspect

Slope (degrees)

- No Slope
- <5°
- 5-15°
- 15-30°
- 30-45°
- >45°



Slope

Date/Time of Failure

7c

Provide date and time of failure, if known, OR provide the season and the year of season.

Date/Season
Unknown

⇒ UnknownFailureDate

Date Of
Failure
(Mo/Day/Yr)

⇒ FailureDate

Time Of Failure
 AM
 PM
 Unknown

⇒ FailureHour

⇒ FailureTime

OR

Season when
Failure
Occurred) spring
 summer
 fall
 winter

⇒ SeasonYear

Year of
season

⇒ FailureHour

Continue



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Weather Conditions and Other Forces at Time of Failure

8

Weather Unknown



Weather

Windspeed

 mph

WindSpeed

Temperature (approx)

 fahrenheit

Temperature

Precipitation at time of failure

- none
- rain
- snow
- ice
- Unknown



Precipitation

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Additional Comments

9

Briefly describe why you think this tree failure occurred



Why

Result of tree failure (optional)

- None
- Property Damage
- Personal Injury
- Fire
- Power outage
- Removal of this tree
- Loss of other trees
- Other damage



Result

Property damage estimate (\$US)
Cleanup cost (\$US)



Injury



Cleanup

Briefly describe target property damage or personal injury, etc.



Comments

Submit Report



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Branch Failure Specifics

3

Branch diameter at break * inches



BranchBreakDia

Total length of failed branch feet



BranchLength

Is break at branch attachment Yes



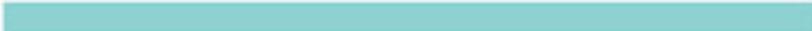
BranchAttach

No

If not, how far from branch attachment was break feet



BranchDistAttach



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Branch Structural Defects

4

Structural Defects Associated With Branch Failure.
Check only the most important factors that apply.

- None
- Unknown
- Failed portion dead*
- Decay*
- Dense crown*
- Heavy lateral limbs/Heavy ends*
- Included bark*
- Crook*
- Failed portion is an epicormic branch*
- Cracks (in wood)*
- Mistletoe or epiphyte*
- Mechanical injury*
- Lightning injury*
- Insect injury*
- Animal Injury*
- Canker/Gall*

Species if known



BranchDefects



BranchCankerSpecies

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Branch Decay or Injury

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Location of Decay

Heartwood

Average thickness of sound wood inches

⇒ BranchLocation
⇒ BranchSoundWood

Opening in branch(cavity) associated with failure

Yes

⇒ BranchOpening

No

% of circumference occupied by opening (range 100-0) %

⇒ BranchOpeningCircum

Sapwood

Average depth of sapwood rot inches

⇒ BranchSapwoodDepth

% of circumference occupied %

⇒ BranchSapwoodCircum

Type of Decay

Unknown

⇒ BranchDecay

Brown rot

Canker rot

White rot

Conks/mushrooms/other signs

Yes

⇒ BranchConks

No

Fungus genus and species (if known)

⇒ BranchFungusSpecies

Distance from nearest conk to failure point feet

⇒ BranchConkDist

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Branch Maintenance History

6

Hardware on failed branch

- None
- Girdling hardware
- Other device
- Cable Intact Failed
- Guying Intact Failed
- Prop Intact Failed
- Brace/bolt Intact Failed



BranchOtherMaint

BranchCable

BranchGuying

BranchProp

BranchGirdling

Continue

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Root Failure Specifics

3a

Description of failure * (choose only one of the following 4 options)

<input type="checkbox"/> <i>Roots broken</i>		⇒	RootFailure
Diameter at break of largest broken root	<input type="text"/> inches	⇒	RootDia
Distance of break from trunk	<input type="text"/> feet	⇒	RootDist
<i>Condition of broken roots</i>			
<input type="radio"/> Dead, not decayed		⇒	RootBroken
<input type="radio"/> Decayed			
<input type="radio"/> Live, not decayed			
<input type="radio"/> Unknown			
<input type="checkbox"/> <i>Roots cut/severed</i>			
Diameter of largest root at cut	<input type="text"/> inches	⇒	RootBrokenDia
Distance from trunk to cut	<input type="text"/> feet	⇒	RootBrokenDist
% of roots cut (range 100-0)	<input type="text"/> %	⇒	RootPercentCut
<input type="checkbox"/> <i>Root plate lifted out of ground</i>			
Root plate radius	<input type="text"/> feet	⇒	RootPlateRadius
Root plate depth	<input type="text"/> inches	⇒	RootPlateDepth
<input type="checkbox"/> <i>Roots restricted</i>			
<i>Type of restriction</i>			
<input type="checkbox"/> Container		⇒	RootRestrictType
<input type="checkbox"/> Root barrier			
<input type="checkbox"/> Sidewalk/curb			
<input type="checkbox"/> Wall/foundation			
<input type="checkbox"/> Natural feature (e.g. rock, competing tree)			
<input type="checkbox"/> Other infrastructure			
Distance from trunk to restriction	<input type="text"/> feet	⇒	RootRestrictDist
Percent of rootzone restricted	<input type="text"/> %	⇒	RootZone
Root collar girdled?	<input type="radio"/> Yes	⇒	RootGirdled
	<input type="radio"/> No		
If yes, % stem circumference girdled	<input type="text"/> %	⇒	RootGirdlingCircum

Site/Soils Conditions

3b

Soil Composition

- Sand
- Silt
- Loam
- Clay
- Rock/gravel
- Unknown



RootTexture

Soil moisture at time of failure

- Dry
- Saturated
- Moist
- Flooded
- Unknown



RootMoisture

Restricted rooting depth caused by

- Poor drainage
- Shallow or layered soil
- High water table
- Compacted
- Other



RootConditions

Other site conditions

- Soil eroded from around roots
- Compaction
- Grade change
- Well surrounds trunk
- Soil fill around trunk or planted too deep



RootOther

Depth of excess soil inches



RootTrench

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Structural Defects Associated with the Root Failure

4

- None
- Unknown
- Fire scar/injury*
- Basal wound*
- Tree low live crown ratio*
- Tree had corrected lean (Sweep)*
- Tree had uncorrected lean*
- Animal injury*
- Cracks in trunk prior to failure*
- Wounded roots or root collar*



RootDefects

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Root Decay or Injury

5

Root decay does not exist

Structural roots with decay

% of roots decayed

 %

RootStructDecay

Conks/mushrooms/other signs present

Yes



RootConks

No

If conks/mushrooms present, fungus genus and species (if known)



RootFungus

On failed roots with decay, the average thickness of sound wood

 inches

RootCrossDecay

Type of decay

Unknown



RootDecay

Brown rot

White rot

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Root Maintenance History

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Surface Treatment

- Mulch*
- Bare soil*
- Turf*
- Ground cover*
- Natural forest litter*
- Gravel/rock*
- Pavement*
- Other*



RootSurfaceTreat

Irrigation

- Infrequent*
- Frequent*
- Never*



RootIrrigation

Continue