Trimble Hazard Tree Evaluation Guide

Introduction

The Trimble hazard tree evaluation form is for the inspection of trees in developed forest sites. This electronic form (*e*-form) can be run on any Trimble device, and can be used in place of the Rocky Mountain Region's (R2) paper form. There are different versions of the *e*-form designed for different states/areas within R2. The only difference among versions are the tree species lists. If needed, tree species lists can be modified. However, if you plan to use the *Hazard Tree Database* only trees and codes in that database will work. Information regarding the *Hazard Tree Database*, more information regarding R2 hazard tree methods, and to download the data dictionary files (DDF) please visit: http://www.fs.usda.gov/goto/r2/fh/hazard.

Getting Started

In the Trimble, load the data dictionary with the **TerraSync** program and create a new data file.

Set **File Type** to **Rover**, name the file (I usually use the campground name and date), and select the data dictionary file (**HT_EvaluationForm.DDF**) from the drop down menu. A three letter Forest abbreviation code may be added to the file name (**HT_EvaluationForm_***.DDF**). Select the **Create** button on the top of the screen. You will be prompted to set the antenna height before entering the main screen (3.5 ft/1 m if you are not using an external antenna). On the main screen there are 4 (non-generic) features: **Tree_point**, **Road_Trail**, **Campsite**, and **Other target_landmrk**. All of the tree data will be collected with the **Tree_point** feature. The other features are used only for mapping.

To begin double click on **Tree_point** (or single click on **Create** with **Tree_point** highlighted) and fill out the form for the first tree record clicking the **OK** button on the top of the form when you are done. The tree record is automatically saved upon closing. To begin a new record, double click on **Tree_point** again (or single click on **Create** with **Tree_point** highlighted) and repeat the process.

Tree_point - This is a point feature used to record data for individual trees with a Target that meet the minimum diameter requirement. If you are stem-mapping using azimuth and distance from a reference point you will need to turn off the GPS logging function and only log GPS information for the reference points used for mapping. To do this hit the **Pause** button in the upper right corner of the screen. When you want to start logging GPS click the **Log** button and begin collecting points. Alternately, you can collect GPS coordinates for each tree you survey if satellite coverage is adequate. The fields included in the data dictionary are described in **Table 1**.

Road_Trail - This is a line feature that can be used to map the roads or trails in the campground. After turning on the feature you can walk the roads or trails collecting points along the way.

Campsite - This is a point feature that can be used to map campsites.

Other target_landmrk - This is a point feature that can be used to map reference points, other landmarks, and features in the campground.

Saving data

When you are done press **Close** and the data is automatically saved. The file can be reopened by pressing **New** → **Existing File** → *filename* > **Open**. When you download data to your PC it may be removed from the Trimble depending on your settings so you may need to start a new file the next day. It is important to remember where you left off (tree numbers, etc.). For data management purposes it is best for each file to have a unique name even if it is for the same plot.

Mistakes

You can delete an entire entry or you can update features. If you select **Update** → **Update Features** you will get a list of all of the features that have been created. With one highlighted you can press **Options** → **Delete** to delete the record. Similarly, you can double click on one to update it. GPS coordinates will not be updated unless you start logging as you are editing.

Exporting Files

In Pathfinder Office on your computer:

- Go to **Utilities** → **Export**
- Select the ***.cor** file (this is the differentially corrected data file) as the **Input File**.
- Output will automatically be exported to the folder designated by the project (*e.g.* **C:\My Documents\HTData*filename*\Export**).
- From the **Choose an Export Setup** dropdown menu select **Sample dBASE Setup** then select **Properties**.
- Select the **Attributes** tab.
- Under **Export Menu Attribute As** select **Code Value 1** (this instructs Pathfinder Office to export the code values). Note: Field names are slightly altered when they are exported. Please see **Table 1** for a description of fields included in the data dictionary.
- There are many optional variables that can be exported with the data. Some variables that may be helpful for data analysis include **Height**, **Vertical Precision**, and **Horizontal Precision** which can be found under the **Generated Attributes** → **Point Features** tab.
- Select the **Position Filter** tab.
- Make sure the following is checked: **Export Features That Have No Positions**.
- Check the **Coordinate System** to make sure it is set to **Latitude/Longitude**.

- Click **OK**.
- Close **Export Complete** window.
- Navigate to **C:\My Documents\HTData***filename***\Export**.

- Create a new folder (example **C:\My Documents\HTData***filename***\Export\BigCG\BigCG061010a)** and move the exported data into the new folder. The reason for this is that Pathfinder Office names the exported files the same every time (att_Road.dbf, Campsite.dbf, Other_ta.dbf, pos_Road.dbf, and Tree_poi.dbf) so if you leave the exported data in the same location with the same name it will get overwritten the next time you export data. I suggest storing all raw data for a specific CG in one folder and giving the folders names that include the site name, survey date, and Trimble number if using more than 1 (see above).

- When you are ready to work on the data in MS Excel you can right click on **Tree_poi.dbf** (or the name you gave the file) and select **Open With** → **Microsoft Office Excel** or you can open the file in MS Excel by clicking **File** → **Open**.

- You can save the file as an excel workbook that can be imported into the *Hazard Tree Database*.

Table 1. Description of fields.

Field name displayed	Exported field name	Option/Type/Example	Type	Required
Hidden[1]	ID	1+ (auto-inc.)	Number, 0 decimals	
Hidden[1]	Longitude	Number (-)	Number, 8 decimals	
Hidden[1]	Latitude	Number (+)	Number, 8 decimals	
Date	Date	11/22/2017	Month-day-year	R[2]
Time	Time	04:16:37pm	Hour:min:sec am/pm	
SiteID	SiteID	Text, 30	Text, need code[3]	
Unit	Unit	Text, 18	Text	
Tree number	Tree_numbe	0 - 9999.9, 1+ (auto-inc.)	Number, 1 decimal	R[2]
Ref. point	RP__point	Text, 18	Text	
Azimuth	Azimuth	0-360, default -1[4]	Number, 0 decimals	
Distance	Distance	0-199.9, default -1[4]	Number, 1 decimal	
Tree species	Tree_speci	PIPO	Text, tree code	R[5]
DBH	DBH	5 – 99.9, default 7.0	Number, 1 decimal	R[2]
Target	Target	1, 2	Code	R[5]
Wound/canker >10%	Wound_cank	0-3, default 0	Code	
Lean	Lean	0, 1, 3, default 0	Code	
Fork	Fork	0-2, default 0	Code	
Crack/lightning	Crack_ligh	0, 1, 3, default 0	Code	
Root disease	Root_disea	0, 3, default 0	Code	
Exposed roots	Exposed_ro	0-3, default 0	Code	
Conk/punk knot	Conk_punk_	0, 3, default 0	Code	
Open cavity	Open_cavit	0-3, default 0	Code	
Sound shell <60%	Sound_shel	0, 2, 3, default 0	Code	
Core	Core	0 - 49.9, default -1[4]	Number, 1 decimal	
Decay encountered?	Decay_enco	0, 1, default 0	Code	
Dead part >3 inches	Dead_part_	0-3, default 0	Code	
Live?	Live_	0, 1, default 1	Code	
Hazard rating	Hazard_rat	0-6, no 5	Code	R[5]
Notes	Notes	Text, 120	Text	
DPhoto	DPhoto	Text, 30	Text	
TPhoto	TPhoto	Text, 30	Text	
OPhoto	OPhoto	Text, 30	Text	

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[1] Field that is auto-generated.
[2] Required field that will auto-fill with a default value if not entered (Date = current date; Tree = 1.0, and will auto increment; DBH = 7.0).
[3] The Site ID code is required if data will be imported into the *Hazard Tree Database.*
[4] The value "-1" represents no value or not used.
[5] Required field that must be entered to close the tree record.