
Using the Plot Hound App for Forest Inventory: How-To Guide

June 2018

Contents

OVERVIEW	3
GETTING STARTED.....	3
• Create an account	3
• Download Plot Hound App	3
CANOPY	3
• Canopy features.....	3
• Specify Merch Specs	3
• Create a new stand	4
• Assign plots	7
PLOT HOUND.....	8
• Overview	8
• Download cruise info.....	8
• Update settings.....	9
• Collect Data.....	Error! Bookmark not defined.

OVERVIEW

This guide outlines the steps involved in completing a forest inventory using the free Plot Hound mobile application developed by Silviterrra. Designing and implementing a forest inventory (or “timber cruise”) is a major barrier for many family forests. Plot Hound simplifies the process by facilitating the identification of plot locations and collection of plot data, and automatically running a cruise report on uploaded inventory data once complete.

GETTING STARTED

- **Create an account**

Navigate to silviterrra.com/account/register web page to create your free account.

- **Download Plot Hound App**

Plot Hound can be used on any smartphone or tablet running Android or iOS and can be downloaded from the Apple App Store or Google Play Store. Just hope on your phone or tablet and head to your favorite application store and download Plot Hound without charge.

CANOPY

- **Canopy features**

Canopy is a cruise setup, management, and reporting platform that integrates with Plot Hound to facilitate timber inventories. The Canopy platform is accessible from any connected device, with no software to install. Once logged into Canopy, it is possible to set up a new cruise, track cruise progress, manage large cruising teams, or share data with others. Additionally, once the cruise is complete, canopy can compile customizable inventory reports.



- **Specify Merch Specs**

Once logged into your Canopy account, you should define the specifications for log merchantability. These specifications will categorize trees you measure into different “sorts” or “product types” which are included in summary reports. To begin select <+MERCH SPECS>.

Canopy

DASHBOARD CRUISES / STANDS Search for stands, cruises, te

+ CREATE STAND + MERCH SPECS + UPLOAD STAND

Cruise Stats
(past 30 days)

Cruises completed
0

Plots measured
0

Recent Cruises

For each product set allowable species, product dimensions, and volume limits. Also, specify how to handle topwood estimates. All species that are recorded in the stand should fit into one of the categories you create in this section. In the example below, we have added a Pulp bin and designated it as a “CATCHALL”, meaning all species that don’t fit into the other bins will be funneled here.


Rules

1	Product name Hdwd Saw	Species 303 Species Selected	Volume Units International	Topwood Product
	DBH Min: 14.0 inches Max: 60.0 inches	Min. top diameter 10.0 inches	Min. log length 8.0 feet	show advanced options
2	Product name Pine Saw	Species 103 Species Selected	Volume Units Tons	Topwood Product
	DBH Min: 14.0 inches Max: 60.0 inches	Min. top diameter 8.0 inches	Min. log length 16.0 feet	show advanced options
3	Product name CNS	Species 85 Species Selected	Volume Units Tons	Topwood Product
	DBH Min: 10.0 inches Max: inches	Min. top diameter 7.0 inches	Min. log length 16.0 feet	show advanced options
4	Product name Pulp	Species CATCHALL	Volume Units Tons	Topwood Product
	DBH Min: 6.0 inches Max: inches	Min. top diameter 4.0 inches	Min. log length 16.0 feet	show advanced options

If you need help setting up your merch specs, Silviterra has tutorial that can help. Just click the link in the Edit Merch Specs box. Once your specifications are set, select **<Save>**.

- **Create a new stand**

The next step is to delineate the stand that you want to inventory. On your homepage, select **<+ CREATE STAND>**.



[DASHBOARD](#)
[CRUISES / STANDS](#)

+ CREATE STAND

+ UPLOAD STAND

+ MERCH SPECS

Cruise Stats

(past 30 days)

Cruises completed

0

Plots measured

0

Recent Cruises

Select a name for your property and use the interactive map to locate the stand you want to inventory. Set up individual cruises by digitizing stand boundaries using the drawing tools on the left-hand side of the map.

Create

Name*

my new cruise

Tags



Once you have created your stand on the map, select **<Create>** in the bottom left hand corner to save your work.

my new cruise was created successfully.

my new cruise

created on July 6, 2018
by Sara Loreno

402 acres


[Edit Stand](#)

[Create Cruise](#)

[Download stand KML](#)
[Download stand SHP](#)
[Delete Stand](#)

Columbia, OR

[expand](#)



[update tags](#)

At this point, you can download a spatial layer of your stand in KML or shapefile formats, if desired. Select **<Create Cruise>** to begin specifying the details of your cruise.

Most fields within the Create Plot form have default values that will be used if another value is not specified. However, you must indicate *either* the number of plots per stand or number of plots per acre you want installed. Canopy will recommend a number of plots based on the estimated variation of the forest in the stand (the statistical 'coefficient of variation'), the level of confidence you want in your inventory (the statistical 'confidence interval'), and the amount of sampling error you will tolerate (which represents a

percentage of the mean for the inventory metric being calculated, such as tree volume). Be sure to specify the merch specs that you created earlier.

Create

Instructions

Estimated variation*

0.35

Preferred confidence*

0.9

Preferred error*

0.1

Grid type*

Hexagon

Stand Inner Buffer (feet)*

0

Inside perimeter stand buffer, plots will not be placed in this area

Sampling method*

1/10 acre

Merch Spec*

Cruise Protocol*

Specifies the data fields collected.

Cruiter

Contractor

Plots file

Choose File No file chosen

Create

Preview

Based on the statistical parameters we recommend you install 33 plots

33

plots per stand

1 plot per 12.19 acres


Rotate Grid 0 degrees

Create Grid

Once you have customized the form as desired and entered an appropriate plot density, select <Create Grid> to map your plot locations. If everything looks good, click <Create>.

[Download cruise KML](#) [Download cruise SHP](#) [Download cruise GPX](#)

[Assign Plots](#) [Upload cruise](#) [Merge with another cruise](#) [Delete Cruise](#)



Plot	Status	Collected	Cruiser	Sampling Method	Notes	Trees
1	pending	n/a	Sara...	1/10 acre	n/a	no trees
2	pending	n/a	Sara...	1/10 acre	n/a	no trees
3	pending	n/a	Sara...	1/10 acre	n/a	no trees
4	pending	n/a	Sara...	1/10 acre	n/a	no trees
5	pending	n/a	Sara...	1/10 acre	n/a	no trees
6	pending	n/a	Sara...	1/10 acre	n/a	no trees
7	pending	n/a	Sara...	1/10 acre	n/a	no trees
8	pending	n/a	Sara...	1/10 acre	n/a	no trees
9	pending	n/a	Sara...	1/10 acre	n/a	no trees
10	pending	n/a	Sara...	1/10 acre	n/a	no trees

[see all plots](#)

• **Assign plots**

If multiple people (contractors, friends, etc.) are going to be performing the inventory, Canopy allows individual plots to be assigned to specific people. To do so, select **<Assign Plots>** within the Cruises window. To assign plots, simply click on the plots you want to assign, then choose the responsible person. If you haven't added any additional workers, navigate back to your dashboard and create them using the **<Settings>** tab.

Culp Test

Click on the plots to assign, then choose the responsible person.

Unassigned plots:
[Assign selected plots](#)

Charlie Wade's plots:
☒ 1 ☒ 1 ☐ 0
[Assign selected plots](#)

Fred Johnson's plots:
☐ 3 ☒ 0 ☐ 0
[Assign selected plots](#)

[Select All](#) [Select None](#)



PLOT HOUND

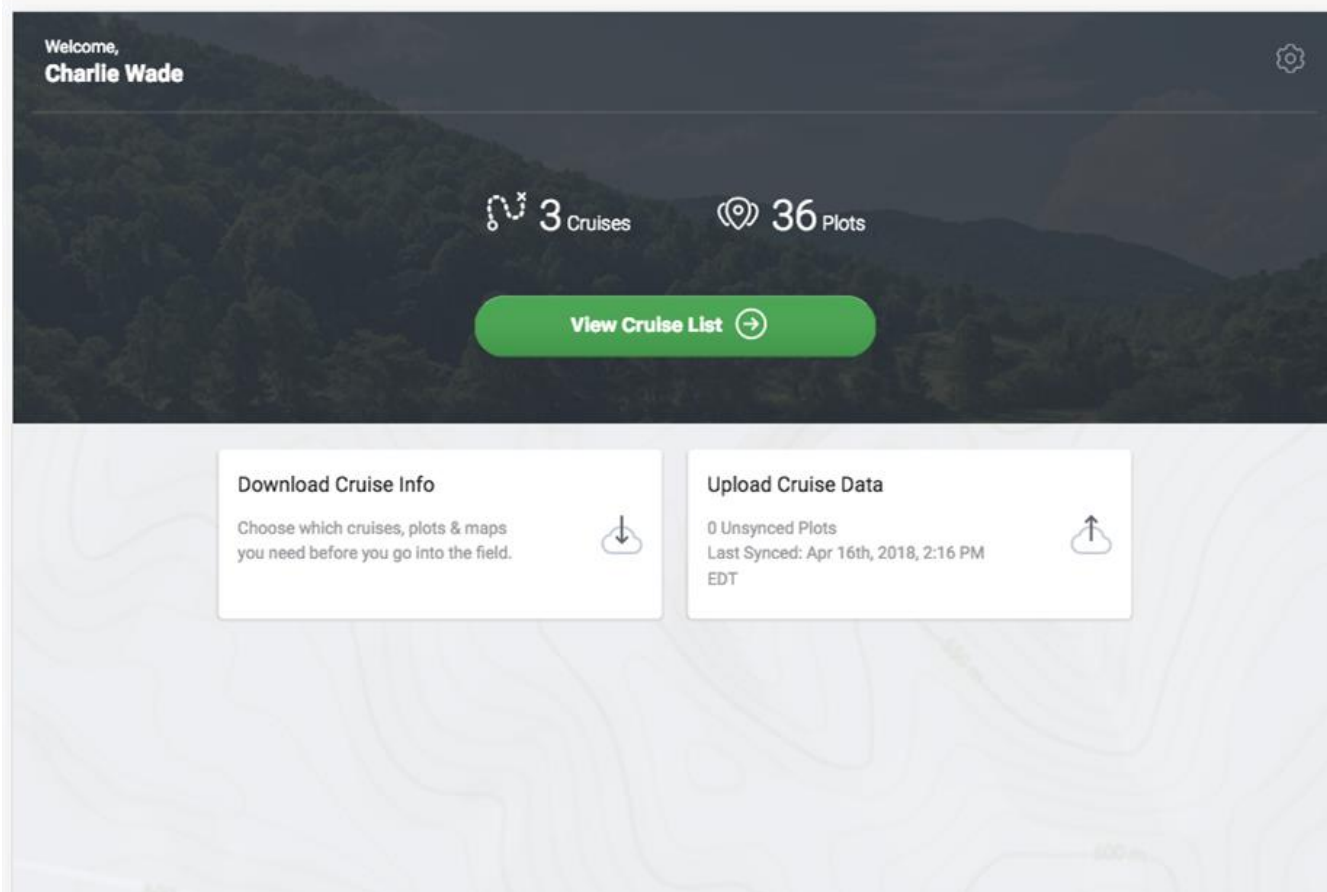
- **Overview**

Plot Hound is a lightweight data collection mobile app that works on all modern iOS and Android devices. The app facilitates navigating to field plots and offers customized data collection fields. Plot Hound works completely offline using the GPS in your device to assist with navigation, so you do not need to have a connection to the internet or a cellular network to use Plot Hound in the field.



- **Download cruise info**

Before going out into the field, you need to download the cruise info to your mobile device. Once the Plot Hound app is downloaded to your mobile device, open the application. You will be asked to enter your Canopy username and password that you created in the previous section. After that you will be directed to your homepage.



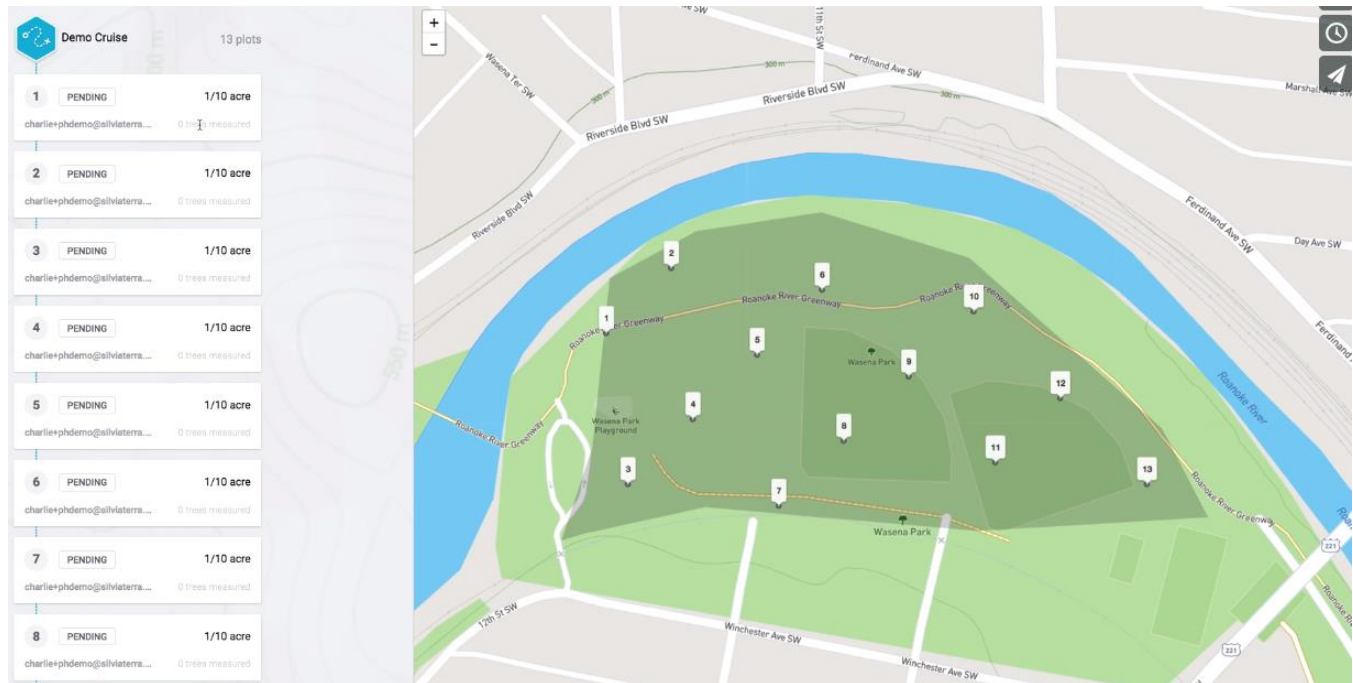
To import the cruise you created earlier using Canopy, simply click on **<Download Cruise Info>**. You will be directed to a window that displays all the cruises you have created. To download your new cruise, select it. Click the back arrow to return to your home page. You will now see your new cruise has been added to your cruises.

- **Update settings**

In the upper right-hand corner of your home page is a settings wheel. Click the wheel to access your application settings. Here you can select the type of background map you want to use: Aerial imagery, Topo map, or none. Additionally, if you are planning on using the application offline, turn the toggles for *Use Offline Tiles* and *Remote Access* to **ON**.

- **Navigate to plot center**

When you are ready to head out into the stand and collect data from your plots, click on **<View Cruise List>** from your home page, then select the stand you are planning to inventory. You will be directed to a Cruise Details window that shows your stand and all the assigned plots.



Click on the plot that you want to inventory. You can either click on the plot in the list on the left of the window, or directly on the plot within the map. The plot will then be lit up red and you can use the GPS settings on your device to navigate to the plot. Your location will show up on the map as a yellow arrow. In the upper right-hand corner, you can see your distance from the point, as well as your bearing and direction in relation to your plot. Once you have arrived at the plot, click **<Save GPS Location>** to update the location of your plot.



- **Collect plot data**

Once at the plot it is time to enter individual tree data into the application. To add a tree, click **<Add New Tree>**. For each tree, you can enter the following attributes:

Required Attributes

- Species
- DBH (inches) - diameter of the tree at 4.5' above the ground on the uphill side of the tree.

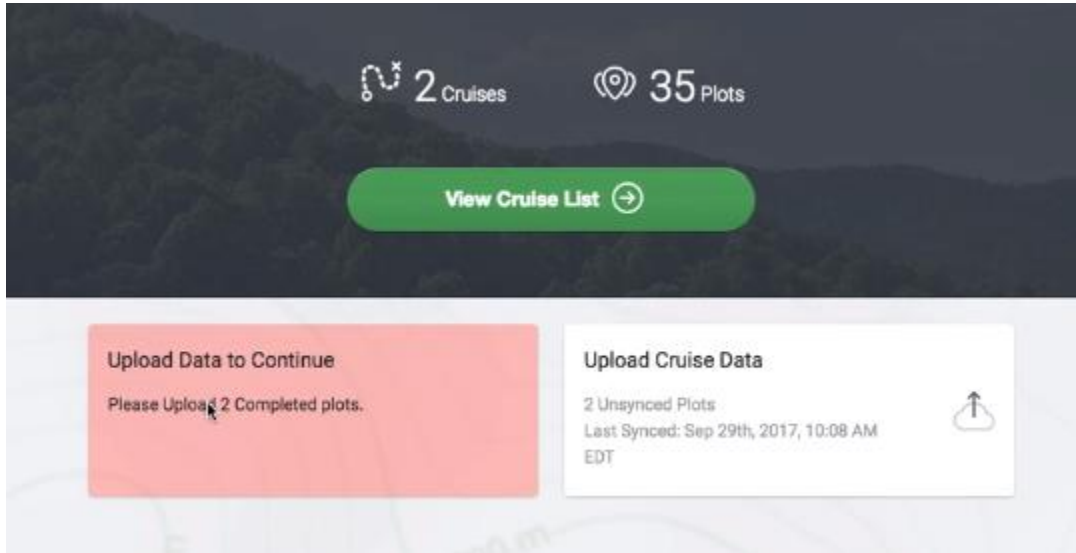
Optional Attributes

- Total Height (feet) - height can be measured using a clinometer or woodland stick.
- Merch Height (feet)
- Product - merchantable product bin
- Age (Years) - age can be measured using an increment borer to remove an increment core, and counting the annual rings
- Crown Ratio (%) - proportion of a tree's height that is green or in crown determined with a simple visual estimate
- Count (if there are more than one of this type of tree)
- Notes - add any additional notes of interest
- Flag - note if tree is flagged

If any of these attributes for a given tree are unknown, simply leave that field blank.

- **Upload plot data to Canopy**

After you have completed some (or all) of your plots, you can upload your inventory data to Canopy. To do so, your mobile device will need to be connected to the internet. Navigate to your home page and click <**Upload Cruise Data**>.



The measurements you gathered will be uploaded to your Canopy account. Once all the plots within your cruise have been completed, Canopy automatically generates a wide variety of informative reports including your raw data and species-diameter distribution. Depending on your needs, there is also a Canopy subscription option that offers access to additional information in your reports.