

An Introduction to My City's Trees

10 March 2017

Quickstart

MY CITY'S TREES go back to home page ->

CITY: Austin | THEME: Ecoregion | CLASSES: 1/2

MY CITY

Austin

195,223 ACRES

790,390 PEOPLE

20.6 PLOTS

info for selected city

MY AREA

Ecoregion

88,053 ACRES

238,342 PEOPLE

87 PLOTS

info for selected classes

SELECT A CITY

AUSTIN

SELECT A THEME

LAND COVER

CITY GROWTH

WATERSHED

ECOREGION

SELECT CLASSES

BLACKLAND PRAIRIE

EDWARDS PLATEAU

INVENTORY STATISTICS

COUNT CARBON VALUE LEAVES ENERGY RUNOFF POLLUTION HEALTH

Tree counts

SPECIES	MILLION TREES	PERCENT	TREES PER PERSON
Ashe juniper	12.32	58%	51.7
live oak	2.39	11%	10.0
Texas persimmon	1.25	6%	5.2
31 more	5.37	25%	22.5
All	21.33	100%	89.5

63%

MY CITY: 33.86 MILLION TREES

MY AREA: 21.33 MILLION TREES

selected classes' contribution to city total

create a report for selected classes ->

Introduction

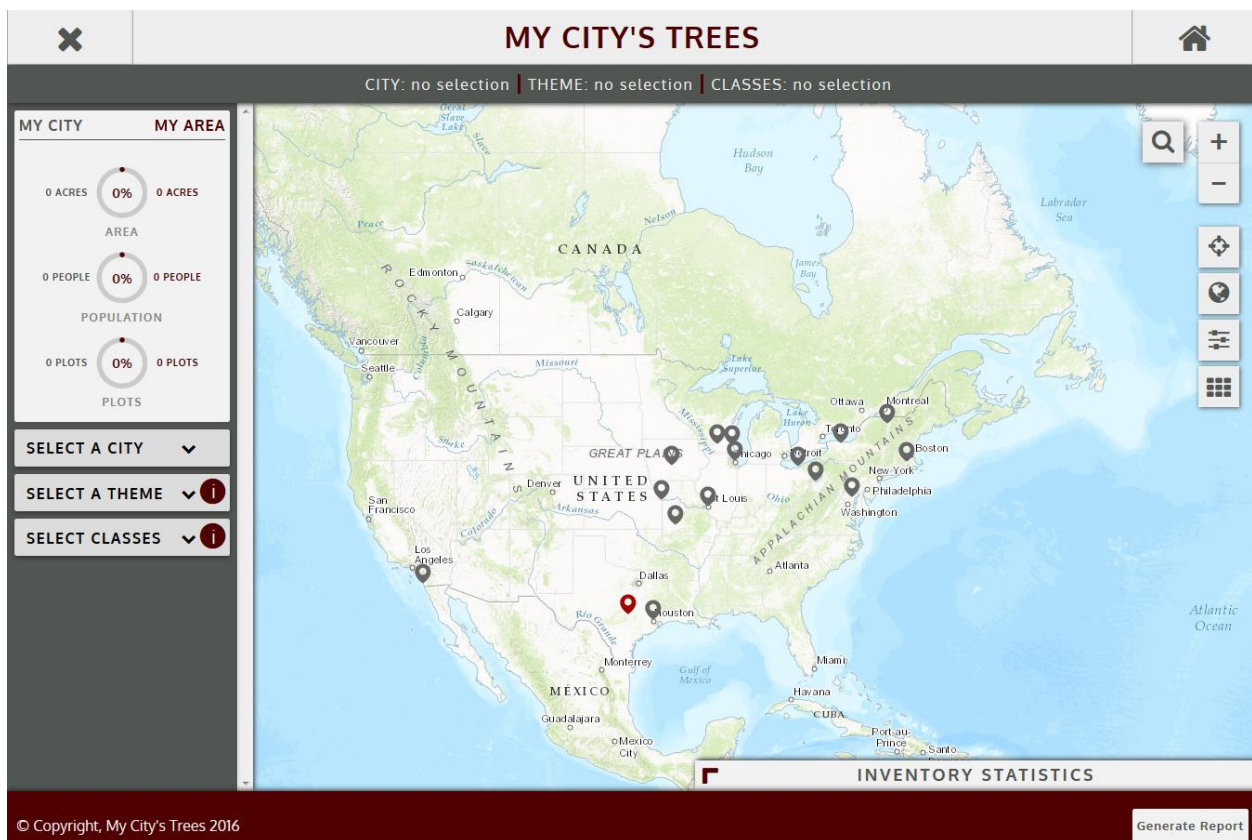
This document will introduce you to the basic operation of My City's Trees, an online application that enables anyone to access Urban Forest Inventory and Analysis (Urban FIA) data and produce custom analyses and reports.

Report








Users of the application are encouraged to review the Urban FIA report for the city. The report contains important information about field protocols and analysis methods. The report and other information regarding the sample design, field methods, and analytical techniques important to understanding and interpreting estimates from this application can be viewed at the Urban FIA website (<http://www.nrs.fs.fed.us/fia/urban/>).

Map Features

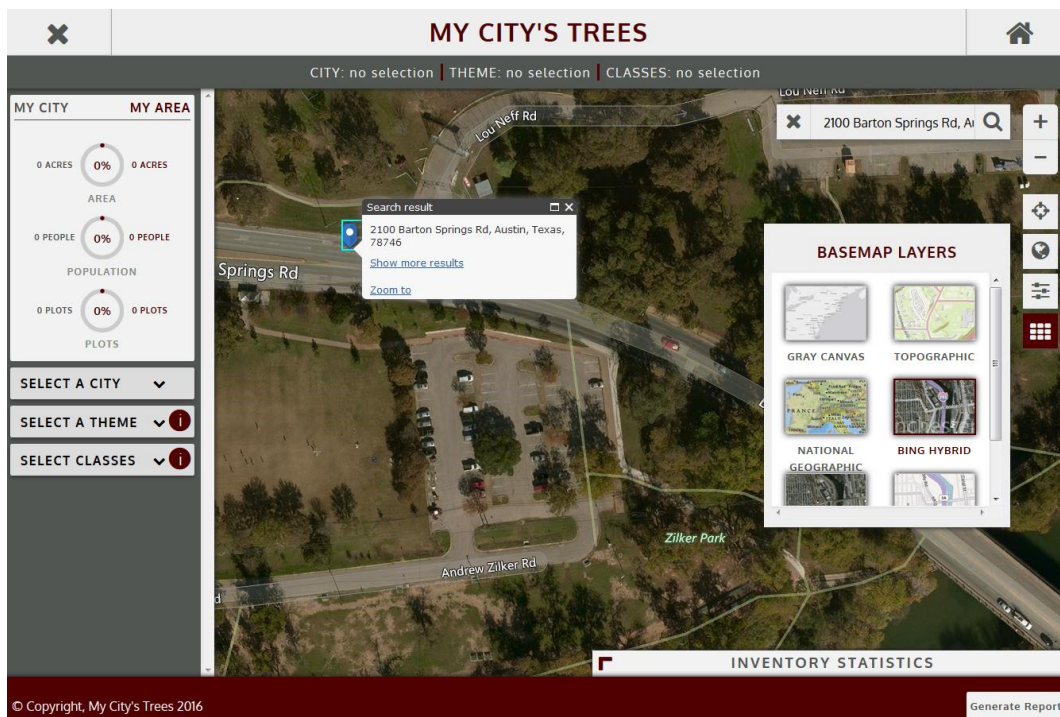
Upon launching My City's Trees, a user should see a screen similar to the image below. Teardrop symbols show the locations of cities participating in Urban FIA. Maroon signifies that data for the city is in My City's Trees. Gray signifies that Urban FIA is in process but that data is not yet in the application.



In the upper right of the map are a series of map tools that enable searching, zooming, adjusting layer appearance, and changing basemaps.

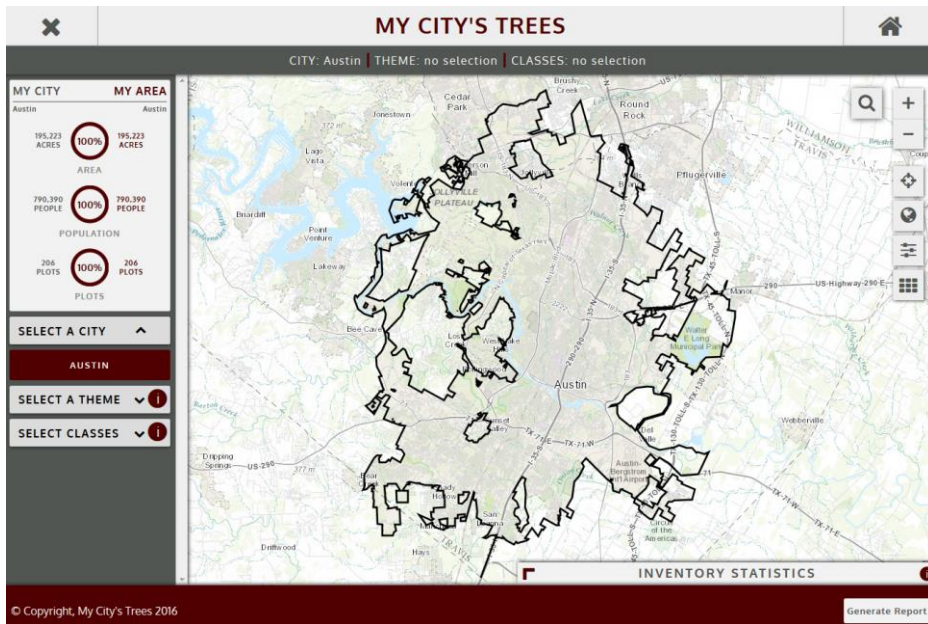
 search	 show full extent
 zoom in	 transparency (only available when a theme is selected)
 zoom out	 basemap
 zoom to my location	

In the image below, the address for Zilker Park in Austin, TX, has been entered into the search box. The basemap has been changed from Topographic (the default) to Bing Hybrid.



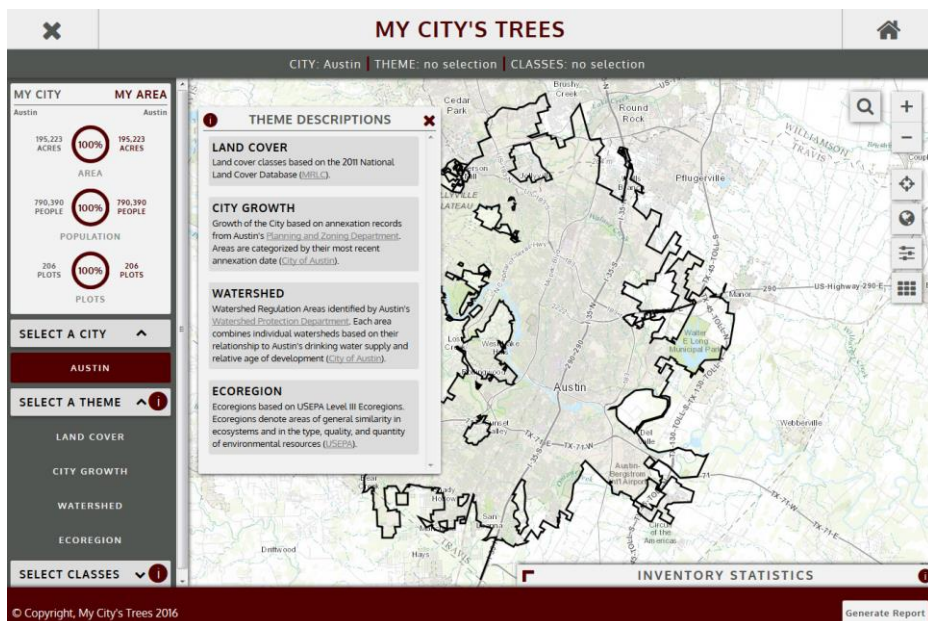
Selecting a City

The first step in an analysis is selecting a city. A list of available cities is displayed by clicking Select A City on the left panel. In the image below, Austin has been selected. The map has automatically adjusted, zooming in on the city boundary (black line) of the city. (Please see the Urban FIA report for information on the city boundary used in the inventory.) Also, CITY: Austin is displayed in the gray horizontal bar towards the top of the application. You can also select a city by clicking on its maroon pin on the map.



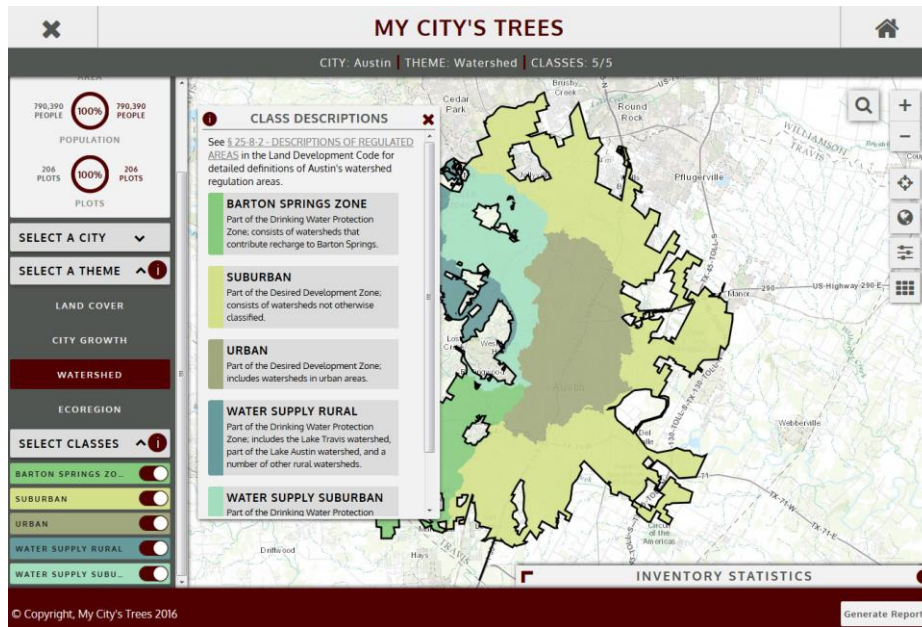
Selecting a Theme

Themes are geospatial layers that divide the city into different areas. Themes can vary depending on the city and can reflect local resource issues. The list of themes for a city can be viewed by clicking Select A Theme on the left panel once the city is selected. In the following image, four themes are listed for Austin: Land Cover, City Growth, Watershed, and Ecoregion. Information on themes can be viewed by clicking on the information symbol immediately to the right of Select a Theme.

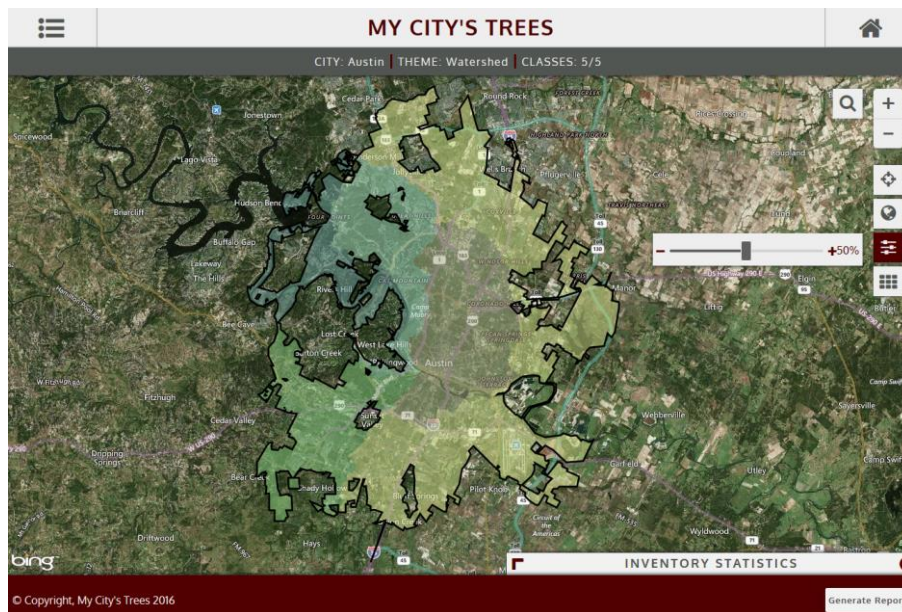


In the following image, Watershed has been selected as the theme. Selecting the information icon immediately to the right of Select Classes will display a window describing the classes in the theme. Clicking on Select Classes will alternately display and hide the list of classes for the selected theme. The Watershed theme includes five classes: Barton Springs Zone, Suburban, Urban, Water Supply Rural, and

Water Supply Suburban. Each class has a unique color that allows for quick comparison of information on the map with the class descriptions.

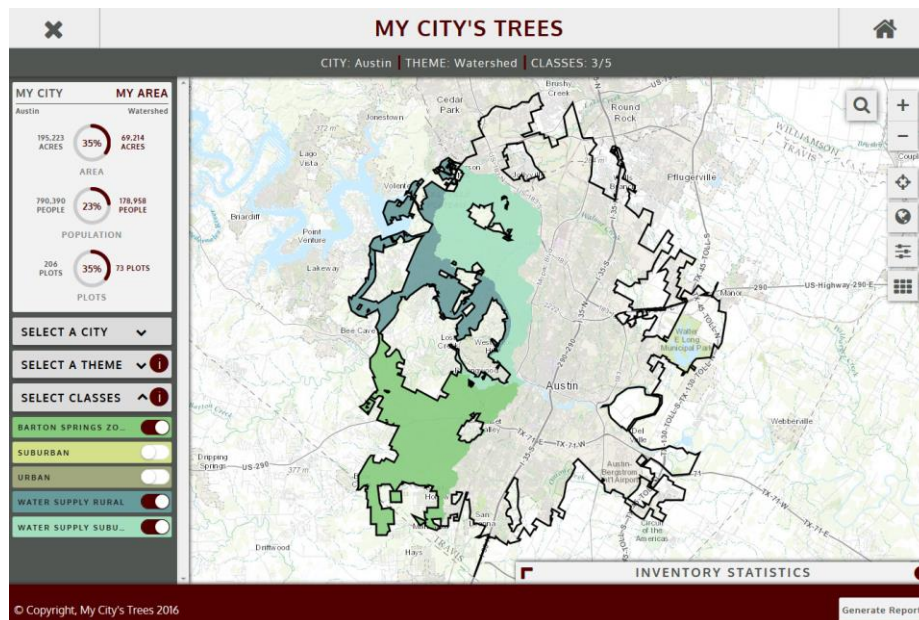


Map features are accessible when viewing themes. In the following image, the left panel has been hidden using the X icon in the upper left of the application. The basemap has been changed from Topographic to Bing Hybrid. Transparency has been used to show the base map underlying the theme classes. Summary information on the city, themes, and classes is always available on the gray horizontal bar towards the top of the application. Clicking the menu button in the upper left of the application will reopen the left side panel where city, theme, and class selections can be changed.



Selecting Classes

With a theme selected, clicking Select Classes in the left panel will alternately display and hide the list of classes. Classes can be toggled off and on using the selector to right of the class name. In the following figure, classes Barton Springs Zone, Water Supply Rural, and Water Supply Suburban are toggled on and displayed on the map and classes Suburban and Urban are toggled off and not displayed on the map. The gray horizontal bar towards the top of the application displays 3/5 for classes, meaning 3 of the 5 classes in the Watershed theme are toggled on and displayed on the map.



The panel on the left side of the application provides information about the size, population, and inventory for the selected city and the selected area in the city. Gray text is information for the city; maroon text is information for the area that has been selected. Austin totals 195,223 acres, has a population of 790,390, and includes 206 Urban FIA plots. My Area is the area encompassed by Barton Springs Zone, Water Supply Rural, and Water Supply Suburban classes. These three classes encompass 69,214 acres or 35% of the total area in the city. The population of these three classes is 178,958 people, which is 23% of the total city population. Of the 206 plots in the city, 73 (35%) occur in these three classes.

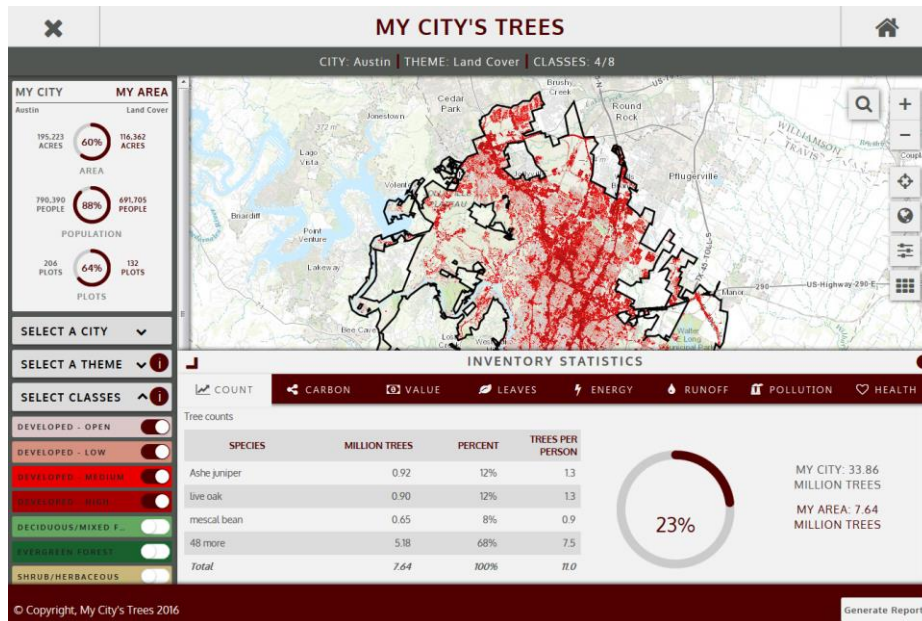
The application is designed to enable the user to explore the data. Theme and class selections can easily be changed, and the application responds quickly by adjusting the map and producing revised numbers of area, population, and plots.

Inventory Statistics

Inventory statistics are available by expanding the Inventory Statistics panel located in the lower right of the application. Estimates presented in the Inventory Statistics panel are for the area defined by city, theme, and class input. In the image below, Austin is the city; Land Cover the theme; and Developed – Open, Developed – Low, Developed – Medium, and Developed – High the classes.

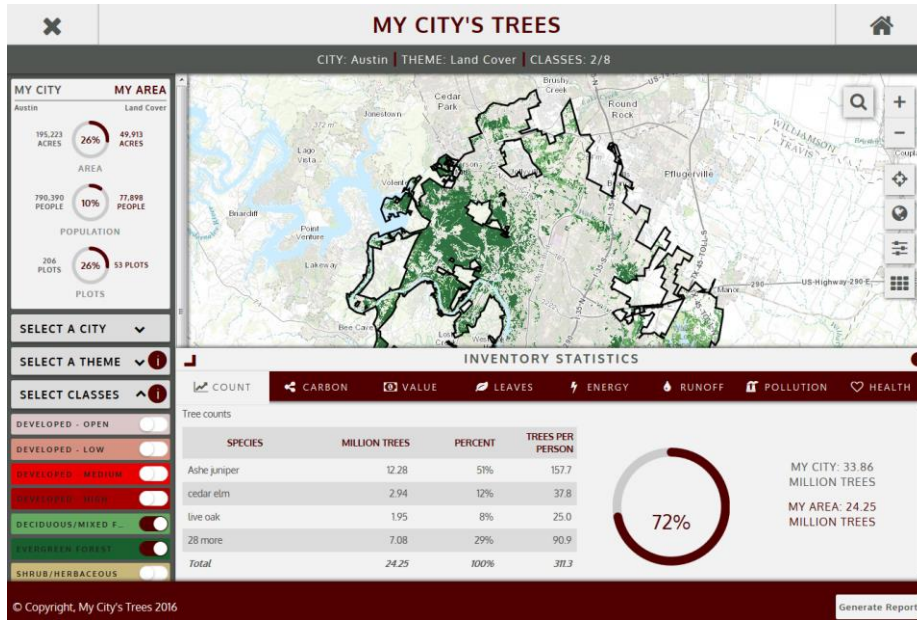
In the image below, Count is selected and estimates of numbers of trees are presented. On the right of the Inventory Statistics panel, the number of trees in the city is reported as 33.86 million trees and the number of trees in the selected area is reported as 7.64 million trees.

Information on the top three species is reported in the table. Ashe juniper, live oak, and mescal bean have the highest estimated counts. There is an estimated 0.92 million (920,000) Ashe juniper trees, which is 12% of the 7.64 million trees in the selected area. Considering all species, there are 11.0 trees per person in the area.

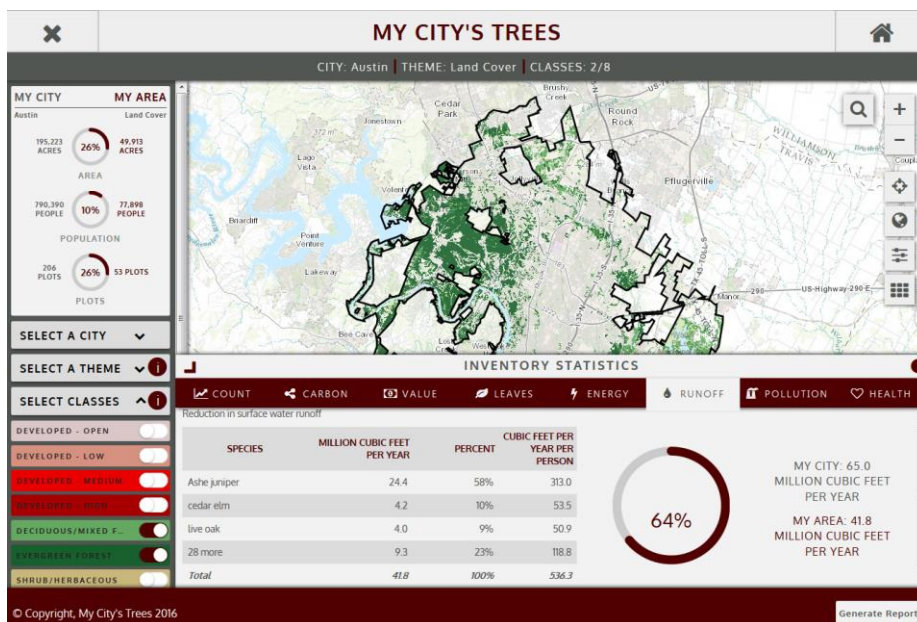


Developed areas (i.e. the four Developed Land Cover classes) cover 60% of the city but account for just 23% of the city's trees. The average tree density for the area is about 66 trees per acre (7,640,000/116,362) compared to a city-wide average density of about 173 trees per acre (33,860,000/195,223).

In the following image, Deciduous/Mixed Forest and Evergreen Forest have been toggled on and all other classes toggled off. Exploring the map shows contiguous areas of these two classes towards the outer portions of the city, with Evergreen Forest more prevalent on the west side of the city. These two classes cover just 26% of the city but account for 72% of the trees. Ashe juniper accounts for slightly more than half of the estimated 24.25 million trees in the area. Average tree density is approximately 486 (24,250,000/49,913) trees per acre, which is considerably higher than the 66 trees per acre calculated on the four developed classes and the city-wide average of 173 trees per acre. This area isn't as heavily populated as other parts of the city and there are 311 trees per person.



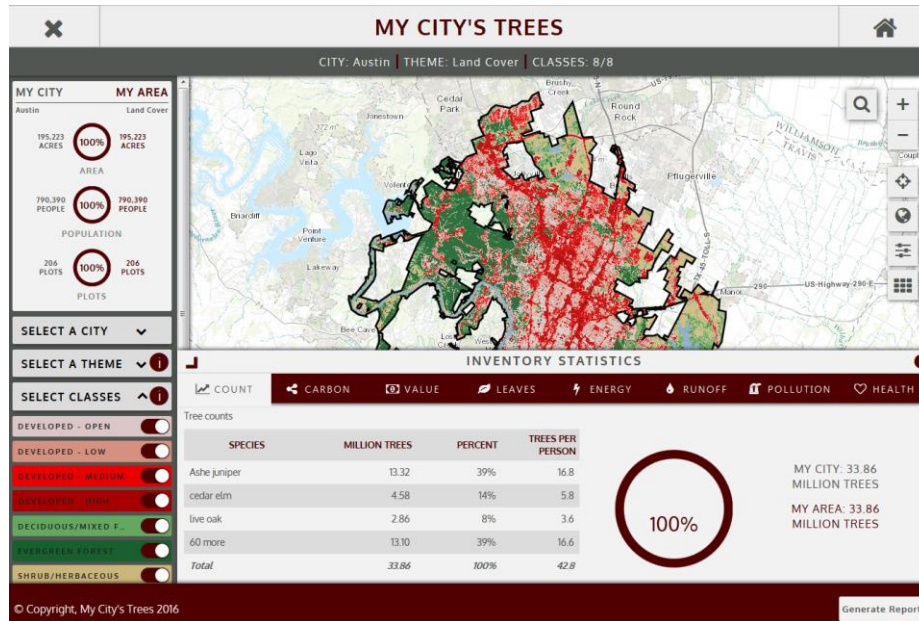
The application can display estimates for up to eight different inventory attributes: Count, Carbon, Value, Leaves, Energy, Runoff, Pollution, and Health. The user can switch to any of these by clicking the corresponding tab. In the following image, Runoff has been selected as the attribute. Across the city, trees reduce surface water runoff by 65 million cubic feet per year. Trees in the Evergreen Forest and Deciduous/Mixed Forest classes reduce surface water runoff by 42 million cubic feet per year. These forested classes cover 26% of the city area but account for 64% of the city's surface water runoff reduction that is attributed to trees.



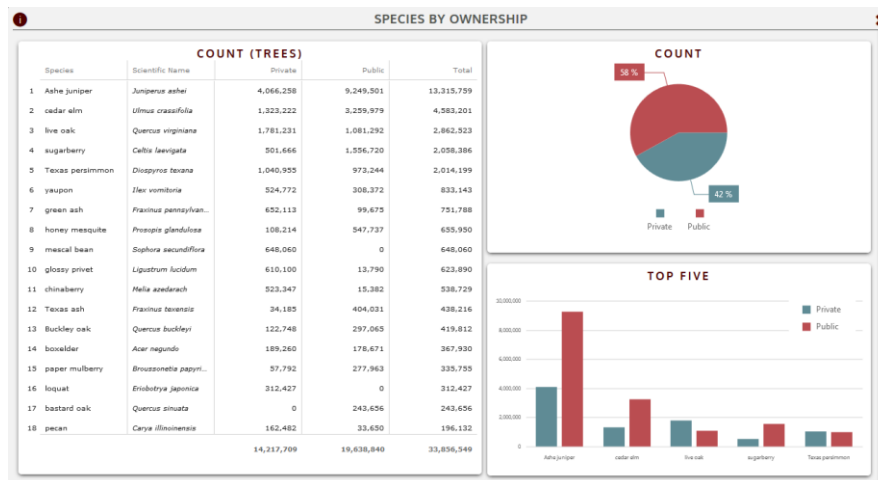
Estimates for the Entire City

Estimates for the entire city can be generated by selecting all the classes in a theme. (The application will also produce estimates for the entire city if a city is selected but no theme has been selected.) In

the following image, all eight classes in the Land Cover theme have been toggled on. In the upper left, estimates reported for My City and My Area are the same, implying that the entire city has been selected. Also, in the horizontal gray bar towards the top, it is reported that 8/8 classes are selected. Looking at the Inventory Statistics panel, 33.86 million trees are reported for My City and 33.86 million trees are reported for My Area. The most common species are Ashe juniper, cedar elm, and live oak. The table reports that 60 more species were observed in the sample.

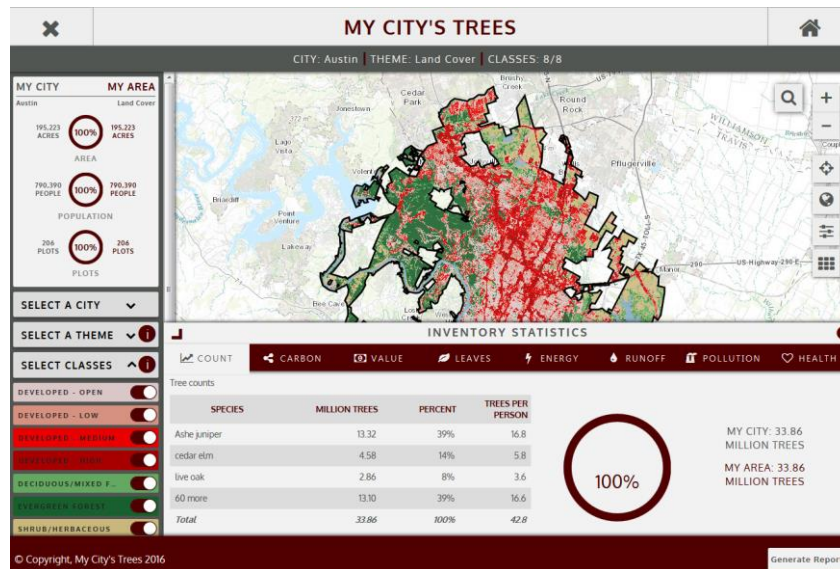


A full listing of the species and data broken out by ownership can be accessed by clicking the information icon on the upper right of the Inventory Statistics panel. A new window (see following image) titled Species by Ownership will appear. The table lists all the species sampled and includes the common name and the scientific name. Columns are sortable. In the upper right a pie chart gives the breakdown of counts by major ownership group. In the lower right is a bar chart showing the counts for the top five species. Estimates by species and ownership should be used cautiously as sampling errors are likely very high, especially for less prevalent species.



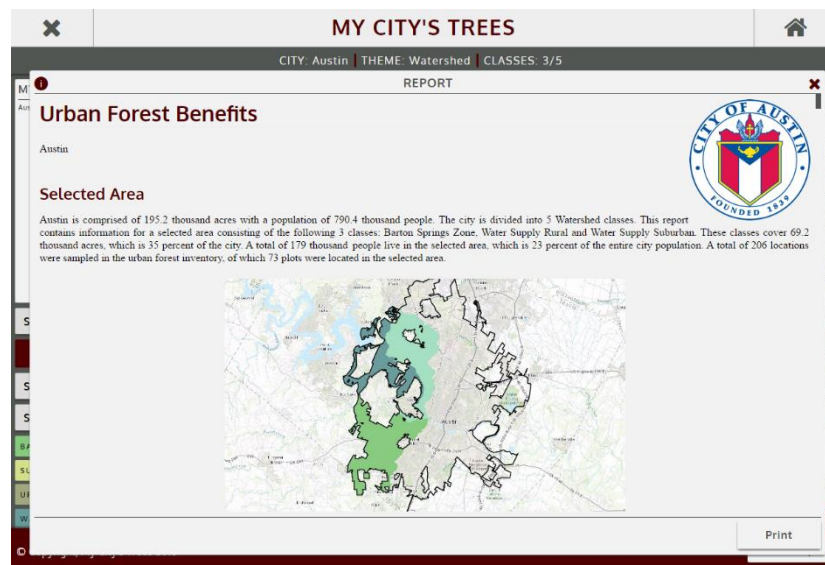
Generate Report

Reports can be produced by selecting Generate Report at the lower right of the application. The report will summarize estimates for all the inventory statistics. Estimates will apply to the area selected (City/Theme/Classes) when Generate Report was selected. For a given city, theme, and class selection, the same report will be generated regardless of the urban forest attribute (count, carbon, value, etc.) displayed in the Inventory Statistics panel.



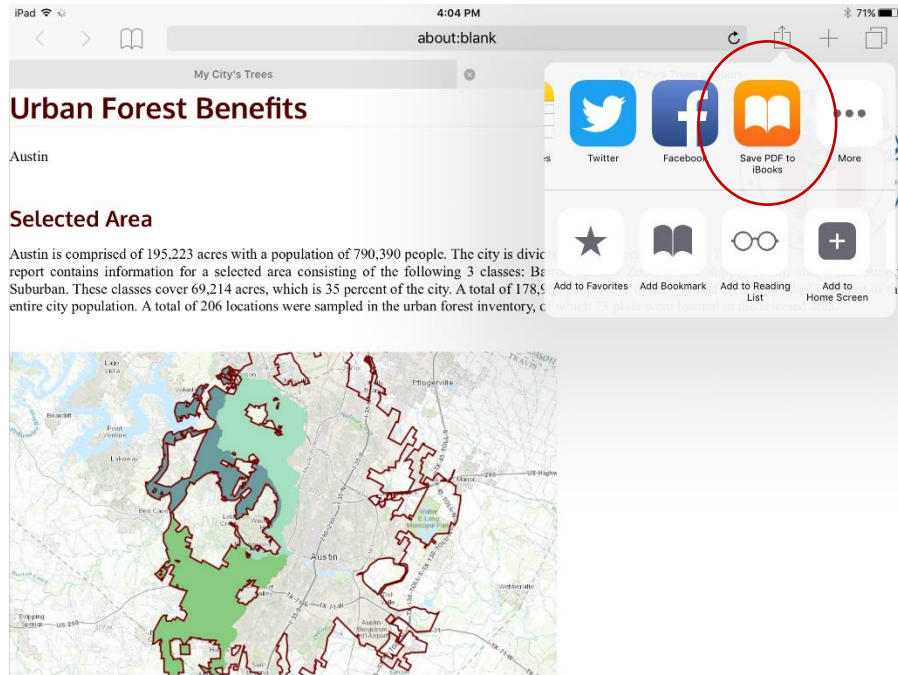
Print Report

Once a report has been generated, a Print button becomes available at the bottom of the report window. On a desktop computer, clicking Print will open the browser's print dialog.



On a mobile device, clicking print will open a new tab with the report information, which can then be printed using the browser's print function. Some browsers also support conversion to PDF. For

example, in Safari on an iPad, the share button can be used to save the report as a PDF to iBooks, which the user can then share with others if desired.



Limitations, Data Uses, and Contact Information

It is important to keep in mind that the inventory is a sample rather than a complete census. The estimates are subject to sampling error. For reference, the estimated total number of trees in Austin is 33.86 million, the standard error of the estimate is 3.8 million, and the sampling error is 11.1 percent. Sampling errors can be high for estimates and results may not be statistically significant. Users of the estimates from this application should contact Texas A&M Forest Service or the US Forest Service or for assistance evaluating the reliability of the estimates or other questions about uses of the data.

For Texas A&M Forest Service, contact Rebekah Zehnder at mct@tfs.tamu.edu or (979) 458-6630.

For a list of US Forest Service contacts by region, see <http://www.fia.fs.fed.us/tools-data/customer-service/index.php>.

Visit the Urban FIA website (<http://www.nrs.fs.fed.us/fia/urban/>) for information on a city's specific inventory and additional information on inventory and analysis protocols and methods.

