



US Forest Service Forest Inventory and Analysis



URBAN FIA

URBAN Forest Inventory & Analysis

Its All About the

data

The Power of a Story



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Forest Inventory and Analysis (FIA): Mission



FIA reports on status and trends in:

- Forest area and location
 - Species, size, and health of trees
 - Total tree growth, mortality, and removals by harvest
-
- Wood production and utilization rates by various products
-
- Social Views Regarding Urban Greenspace Owners (Survey)

Some Trees Fell Through the Gaps



Gary Halvorson, Oregon State Archives [Attribution]



Walter Baxter / A beech shelter belt



Chris Gunns / Single tree in a field, south of South Farm

Why FIA and Urban?



- 34% of the MN is forested
- 12 billion trees on MN forest land
- Aspen is most Numerous type

- 1.1 billion Ash trees > 1" DBH
- Make up 8% of all MN trees

- How is our urban Ash resource?
- What is its distribution ?
- How is it changing ?

A Tree is a Tree



Ryan Hagerty [Public domain]



Gary Halvorson, Oregon State Archives [Attribution]

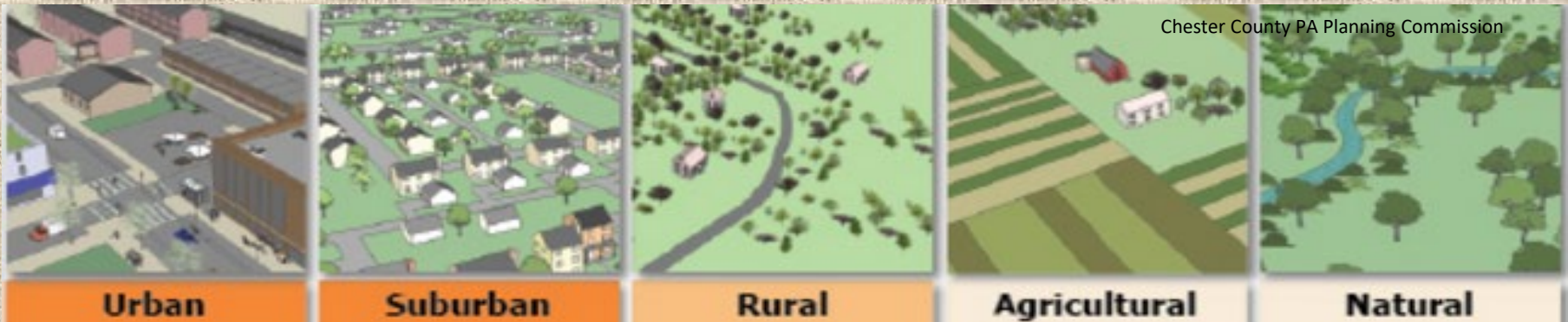


Chris Gunns / Single tree in a field, south of South Farm

The Power of a Story – FIA teams with i-Tree



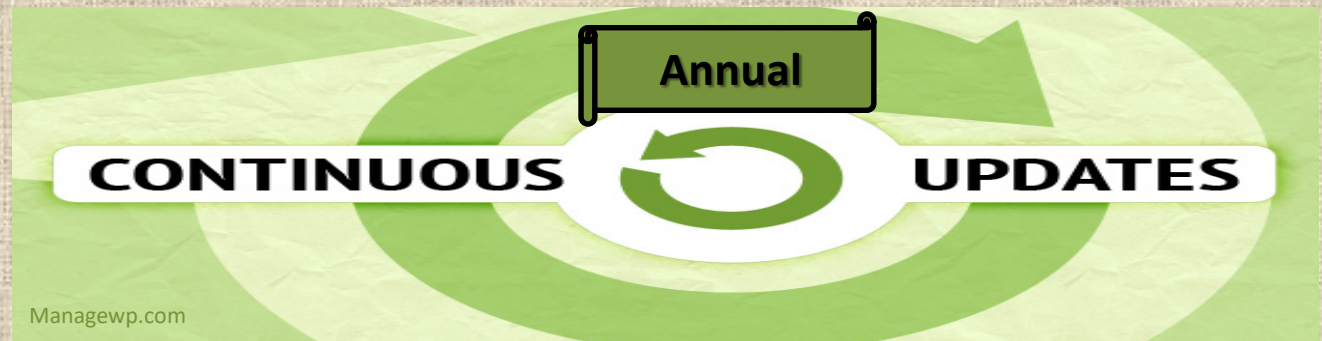
*The Nation's **Urban** Forest Census*



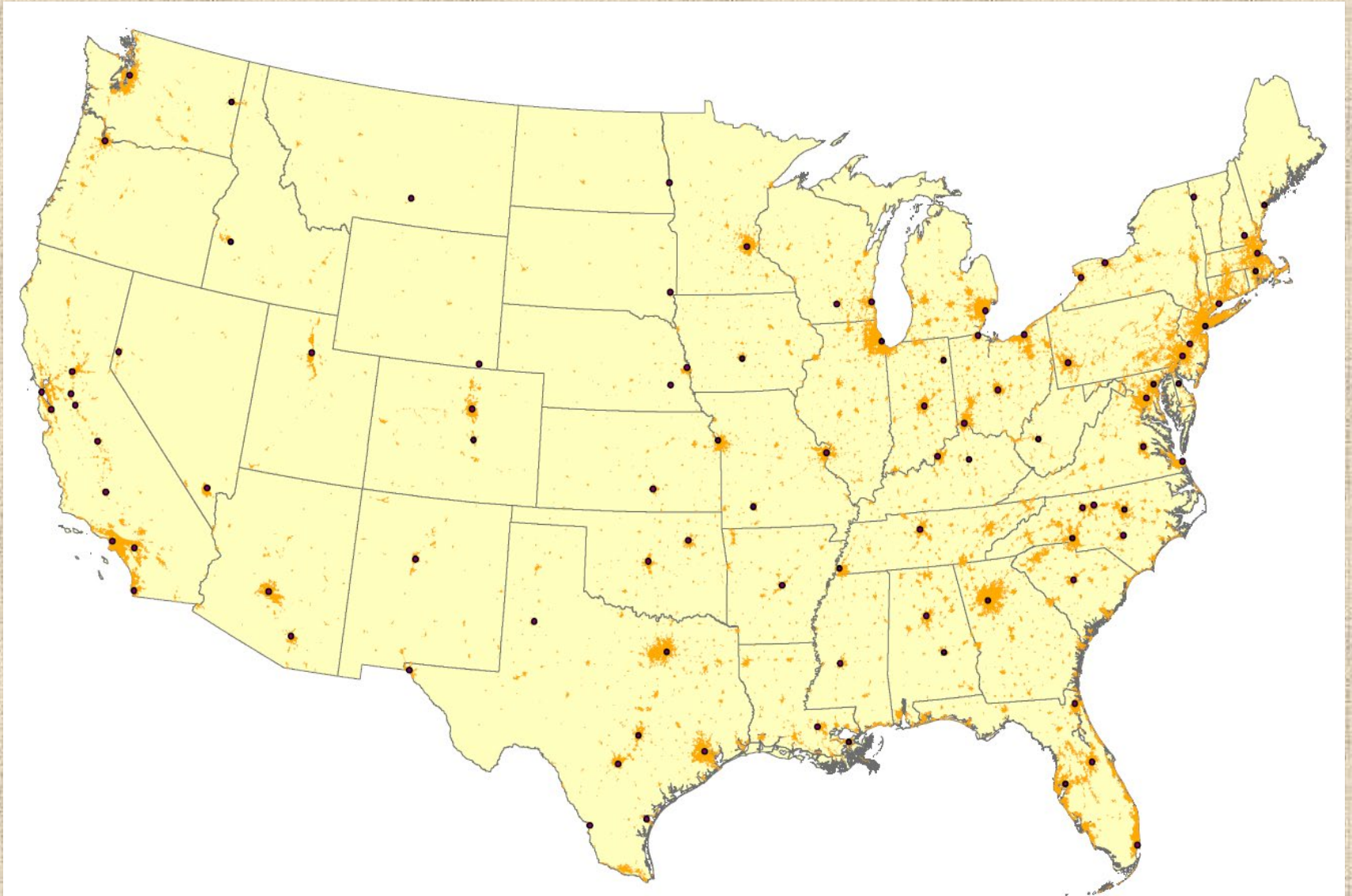
Urban Forest Inventory & Analysis (UFIA)

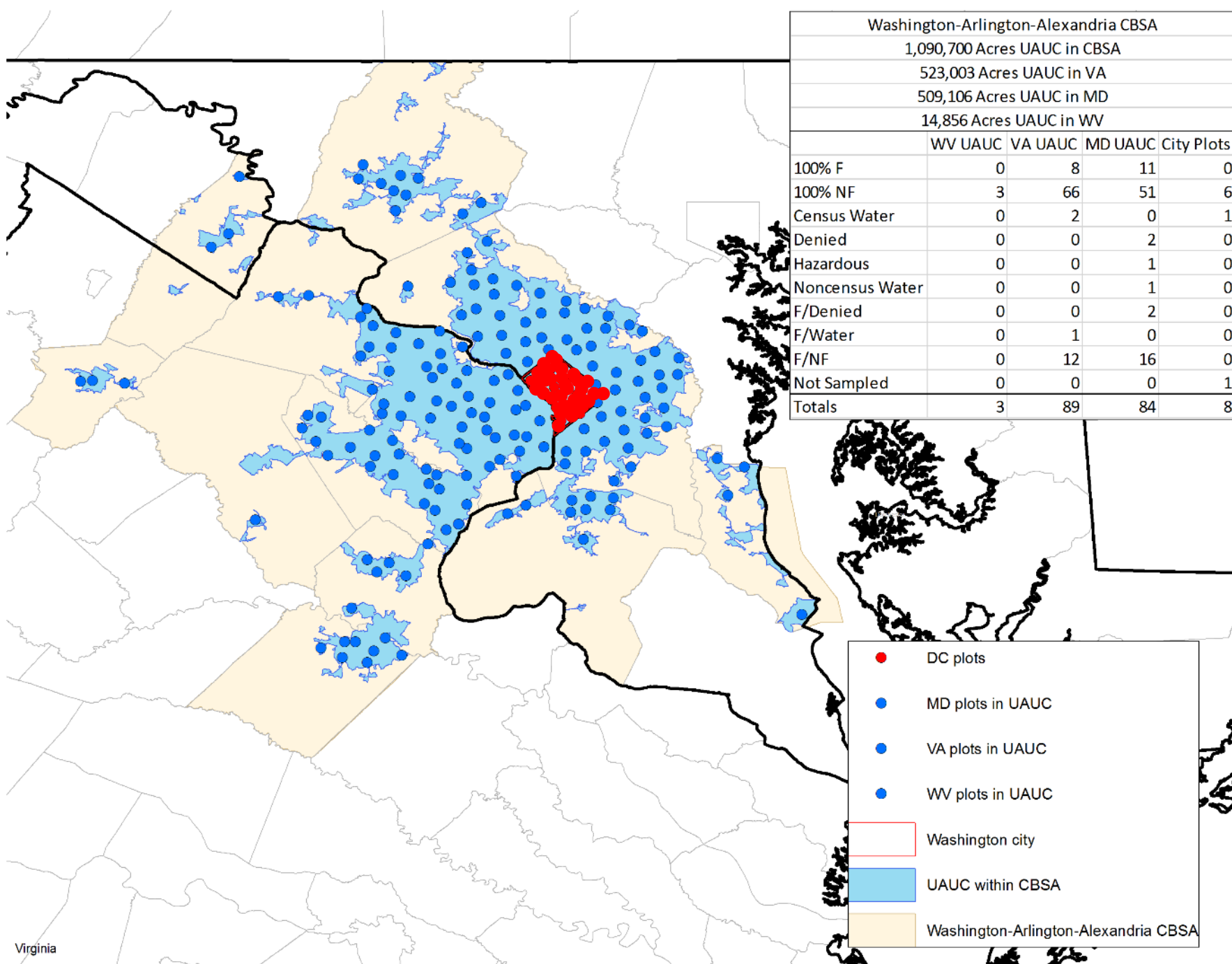
Strategic level long-term monitoring system

- Functions across rural and urban ecosystems
- Operational on public and private lands
- Annualized data collection



UFIA : Sample 68 Million Acres & 100 Cities





Washington-Arlington-Alexandria CBSA				
1,090,700 Acres UAUC in CBSA				
523,003 Acres UAUC in VA				
509,106 Acres UAUC in MD				
14,856 Acres UAUC in WV				
	WV UAUC	VA UAUC	MD UAUC	City Plots
100% F	0	8	11	0
100% NF	3	66	51	6
Census Water	0	2	0	1
Denied	0	0	2	0
Hazardous	0	0	1	0
Noncensus Water	0	0	1	0
F/Denied	0	0	2	0
F/Water	0	1	0	0
F/NF	0	12	16	0
Not Sampled	0	0	0	1
Totals	3	89	84	8

- DC plots
- MD plots in UAUC
- VA plots in UAUC
- WV plots in UAUC
- Washington city
- UAUC within CBSA
- Washington-Arlington-Alexandria CBSA

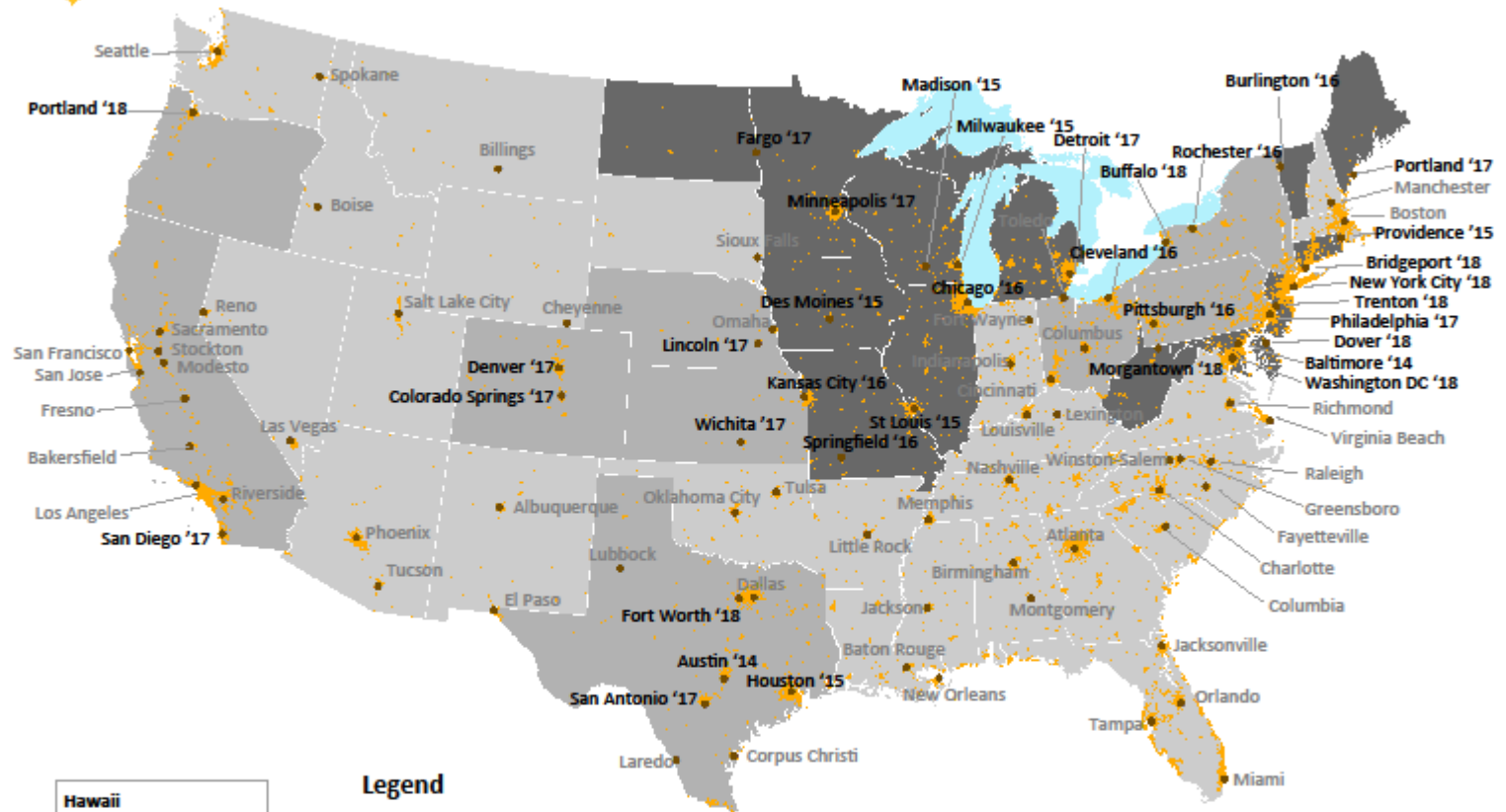
Virginia

UFIA 2019: 35 Cities - 24 States w/ 15 Statewide



U.S. Forest Service

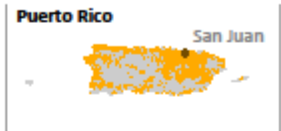
Urban Forest Inventory & Analysis (FIA) 2019 Cities



Legend

- Cities proposed for Urban FIA data collection and reporting (implementation year noted)
- Urban Areas/Clusters as defined by the 2010 U.S. Census
- States with fully operational cities and urban areas / clusters
- State with at least one fully operational city

Not showing Anchorage, Alaska



Updated November 2018

Communicating the Story



Communicating the Story



National in Scope, Local in Relevance

Rebekah Zehnder, Texas A&M Forest Service / FS Forest Inventory & Analysis

MY CITY'S TREES

BRINGING THE NATION'S FOREST CENSUS TO URBAN AREAS

OPEN APPLICATION





MY CITY'S TREES



CITY: no selection | THEME: no selection | CLASSES: no selection

MY CITY MY AREA

0 ACRES 0% 0 ACRES

AREA

0 PEOPLE 0% 0 PEOPLE

POPULATION

0 PLOTS 0% 0 PLOTS

PLOTS

SELECT A CITY

SELECT A THEME

SELECT CLASSES



Participating cities

Cities with data

INVENTORY STATISTICS



Example 1: Potential EAB impact

MY CITY'S TREES

on stormwater runoff in Austin

CITY: Austin | THEME: no selection | CLASSES: no selection

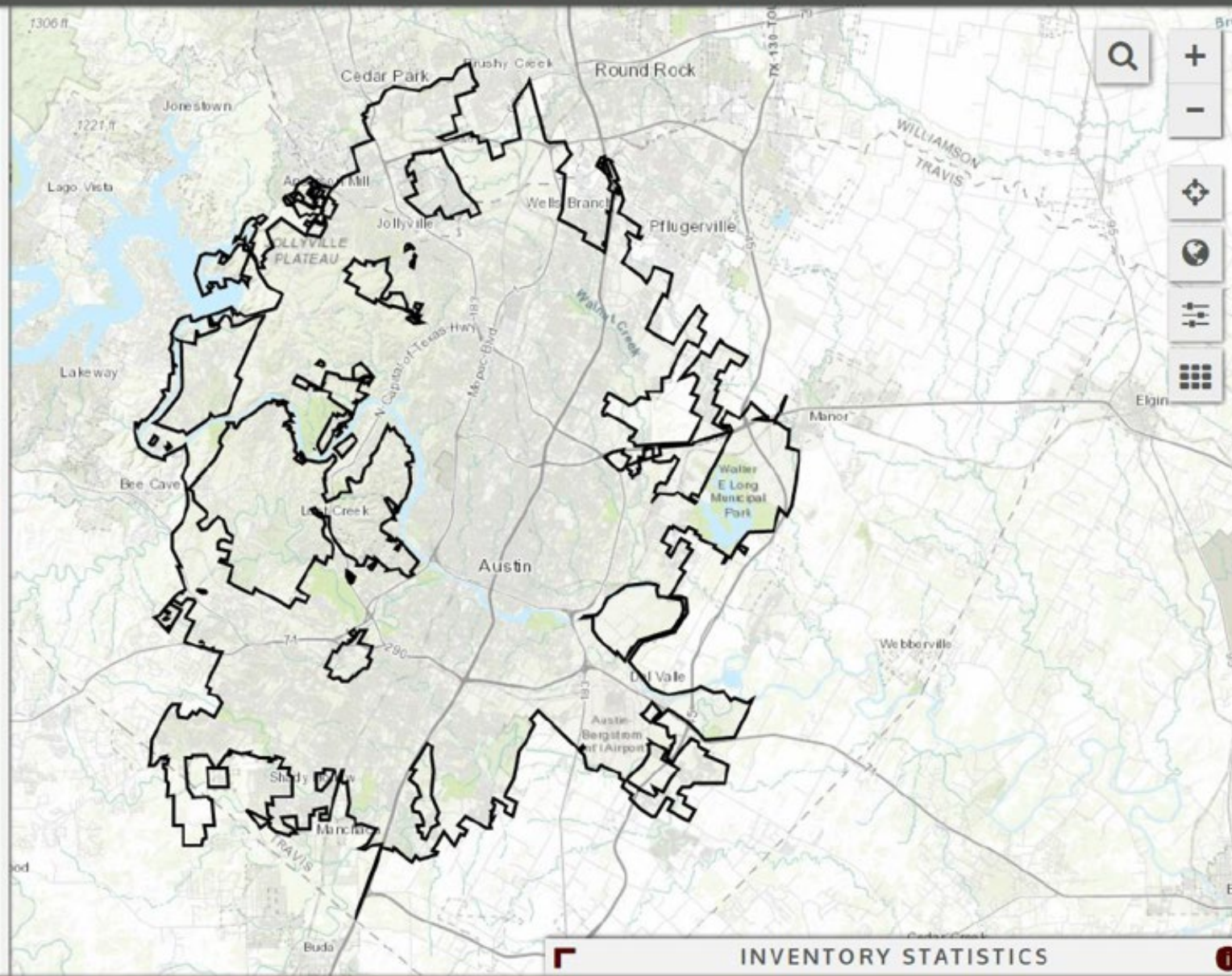
MY CITY	MY AREA
Austin	Austin
195,223 ACRES	195,223 ACRES
100%	100%
AREA	AREA
790,390 PEOPLE	790,390 PEOPLE
100%	100%
POPULATION	POPULATION
206 PLOTS	206 PLOTS
100%	100%
PLOTS	PLOTS

SELECT A CITY ^

- AUSTIN
- HOUSTON

SELECT A THEME v i

SELECT CLASSES v i

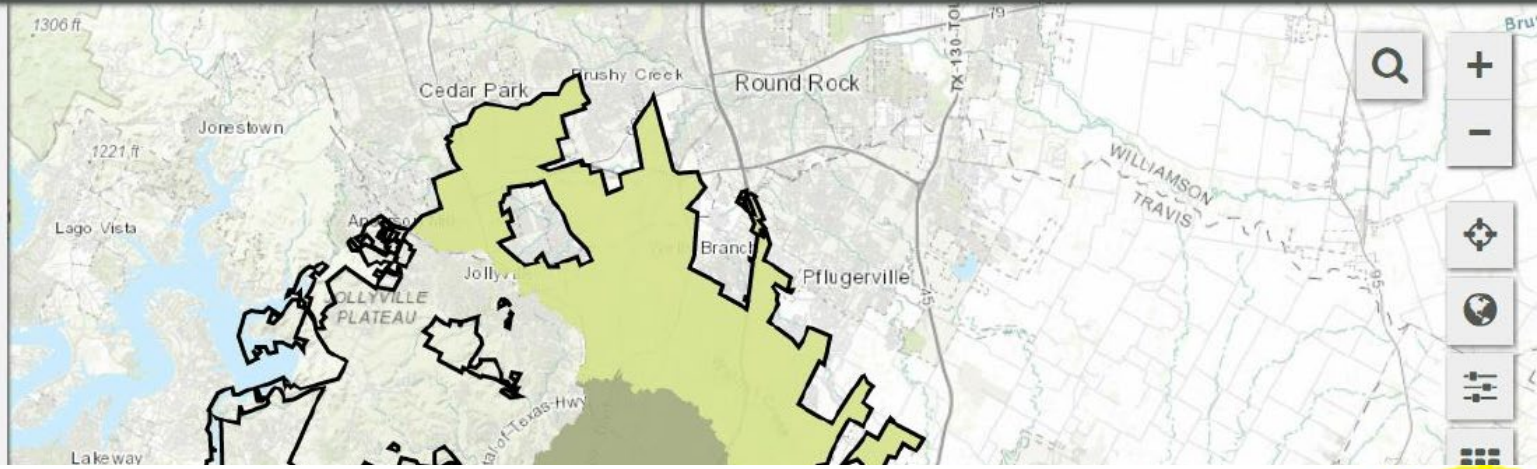


INVENTORY STATISTICS i

MY CITY'S TREES

CITY: Austin | THEME: Watershed | CLASSES: 2/5

MY CITY	MY AREA
Austin	Watershed
195,223 ACRES	126,009 ACRES
65%	AREA
790,390 PEOPLE	611,432 PEOPLE
77%	POPULATION
206 PLOTS	133 PLOTS
65%	

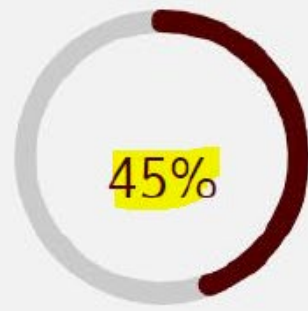


INVENTORY STATISTICS

- COUNT
- CARBON
- VALUE
- LEAVES
- ENERGY
- RUNOFF**
- POLLUTION
- HEALTH

Reduction in surface water runoff

SPECIES	MILLION CUBIC FEET PER YEAR	PERCENT	CUBIC FEET PER YEAR PER PERSON
cedar elm	6.2	21%	10.1
live oak	4.2	15%	6.9
sugarberry	3.9	13%	6.3
51 more	14.8	51%	24.2
All	29.1	100%	47.6



MY CITY: 65.0 MILLION CUBIC FEET PER YEAR
MY AREA: 29.1 MILLION CUBIC FEET PER YEAR

Generate Report

Ash species account for 8.9% of the total runoff avoided in the area.

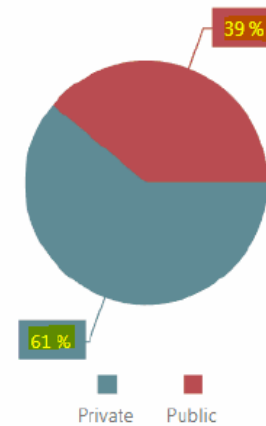
Close to a quarter of the ash runoff reduction is on public land.

SPECIES BY OWNERSHIP

RUNOFF (CUBIC FEET PER YEAR)

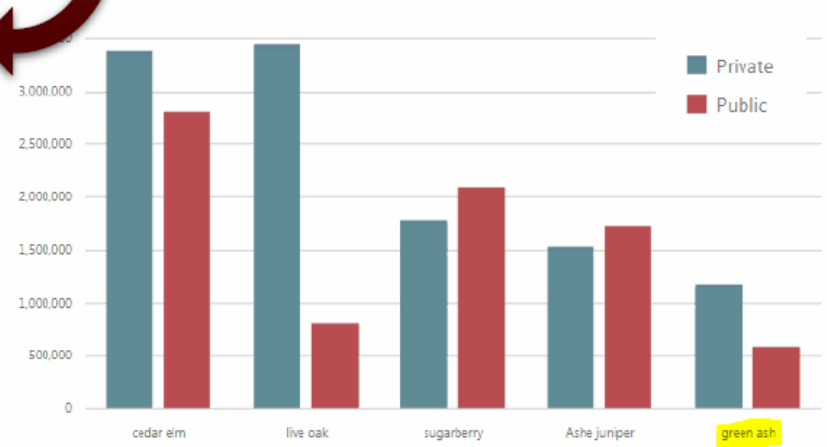
Species	↑ Scientific Name	Private	Public	Total	
1	sweet acacia	<i>Acacia farnesiana</i>	12,226	0	12,226
2	boxelder	<i>Acer negundo</i>	143,492	864,898	1,008,390
3	mimosa, silktree	<i>Albizia julibrissin</i>	41,720	0	41,720
4	river birch	<i>Betula nigra</i>	0	70,274	70,274
5	pecan	<i>Carya illinoensis</i>	912,563	314,019	1,226,582
6	sugarberry	<i>Celtis laevigata</i>	1,779,034	2,094,464	3,873,498
7	hackberry	<i>Celtis occidentalis</i>	288,253	151,297	439,550
8	eastern redbud	<i>Cercis canadensis</i>	15,104	0	15,104
9	roughleaf dogwood	<i>Cornus drummondii</i>	0	8,610	8,610
10	Texas persimmon	<i>Diospyros texana</i>	122,564	141,402	263,966
11	loquat	<i>Eriobotrya japonica</i>	230,474	0	230,474
12	edible fig	<i>Ficus carica</i>	82,427	0	82,427
13	Berlandier ash	<i>Fraxinus berlandieri...</i>	439,037	0	439,037
14	green ash	<i>Fraxinus pennsylva...</i>	1,171,594	584,574	1,756,168
15	Texas ash	<i>Fraxinus texensis</i>	123,927	0	123,927
16	velvet ash	<i>Fraxinus velutina</i>	268,747	0	268,747
17	black walnut	<i>Juglans nigra</i>	0	169,473	169,473
18	Ashe juniper	<i>Juniperus ashei</i>	1,521,371	1,724,535	3,245,906
19	eastern redcedar	<i>Juniperus virginiana</i>	11,275	41,997	53,272
20	goldenrain tree	<i>Koelreuteria panicu...</i>	11,985	0	11,985
21	crapemyrtle	<i>Lagerstroemia indica</i>	141,399	0	141,399
22	Japanese privet	<i>Ligustrum japonicum</i>	105,275	0	105,275
23	glossy privet	<i>Ligustrum lucidum</i>	186,064	0	186,064
		17,690,167	11,385,545	29,075,712	

RUNOFF



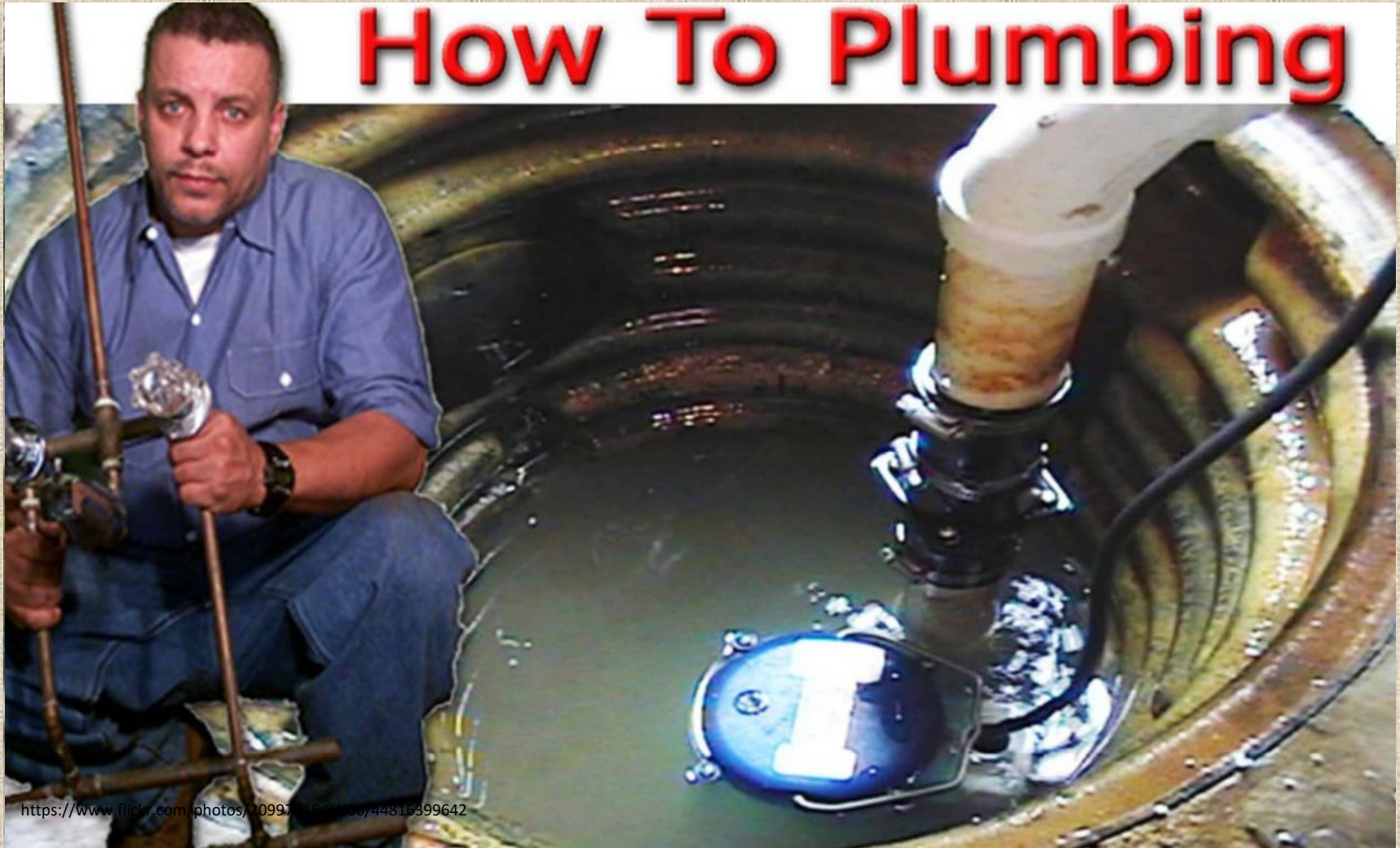
2,587,879
cubic feet/year (19 million gallons)

TOP FIVE



Who is the Story For?

How To Plumbing



<https://www.flickr.com/photos/20997916@N00/44816399642>

Austin's Urban Forest 2014

<http://www.nrs.fs.fed.us/pubs/50393>

Table 17.—Potential risk to trees by insect or disease, Austin, 2014

Code	Scientific name	Common name	Trees at risk	As proportion of all trees	Compensatory value
			<i>number</i>	<i>percent</i>	<i>\$ millions</i>
ALB	<i>Anoplophora glabripennis</i>	Asian longhorned beetle	6,214,000	19.1	2,121
DED	<i>Ophiostoma novo-ulmi</i>	Dutch elm disease	4,804,000	14.8	1,583
GM	<i>Lymantria dispar</i>	gypsy moth	4,170,000	12.8	4,530
OW	<i>Ceratocystis fagacearum</i>	oak wilt	4,032,000	12.4	4,521
EAB	<i>Agilus planipennis</i>	emerald ash borer	1,434,000	4.4	546
TCD	<i>Pityophthorus juglandis</i> & <i>Geosmithia</i> spp.	thousand canker disease	105,000	0.3	50
DA	<i>Discula destructiva</i>	dogwood anthracnose	60,000	0.2	<1
LAT	<i>Choristoneura conflictana</i>	large aspen tortrix	60,000	0.2	4

For general information regarding UFIA:

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651-261-0053

Urban FIA Field Guide & General Information:
<http://www.nrs.fs.fed.us/fia/urban/>

We are always looking for **“willing and able” partners & cooperators**. If you are interested in getting your “Focus City” involved please contact your regional FIA Program Manager:

For more information on Urban FIA

Visit the Urban FIA national web site at http://www.fs.fed.us/urban_FIA or contact one of the offices below:

Washington, DC
703-605-4177



North
St. Paul, MN
651-649-5139

Interior West
Ogden, UT
801-625-5407

South
Knoxville, TN
865-862-2000

Pacific West
Portland, OR
503-808-2034

North:	Dennis May
South:	Bill Burkman
Pacific West:	Sharon Stanton
Interior West:	Michael Wilson