


# CAL FIRE's Role In Supporting Inventory Assessments



Jimi Scheid  
CAL FIRE

Urban & Community Forestry Program  
CaUFC Workshop - February 19, 2015





*“The tree which moves some to  
tears of joy is in the eyes of  
others only a green thing which  
stands in their way.”*

-William Blake, 1799

# Show of Hands

- Municipal / Gov't Employees?
- Arboricultural Consultants?
- Non-Profits & Community Groups?
- Others?
- Represent a current Tree City USA?
- Have a jurisdictional inventory within last 10 years?
- Older than 10 years?
- Have none at all?
- Feel their current inventory is incomplete?
- Are satisfied with their product?
- Surveys – Please submit by lunch break



# Overview

- Why Inventory?
- U&CF Program's Involvement
  - Statistics, funding, intent, project components, admin
- Related Studies
  - Urban and Community Forests of the Pacific Region
  - CA Muni Forest Health Threat Assessment
  - Urban Forest Inventory and Assessment Pilot Project
  - Western State Competitive Grant
- Today's Vision



# Inventory Defined

*A tool for collecting and maintaining information about the urban forest. The data can be **arranged in any usable fashion**, preference given to a format the operator will actually use. (Kotow & McPherson 2012)*

Should be **actively** used by city arborists, foresters, tree care services, landscape architects, planners, engineers, public works, parks, property managers, policy-makers, consultants, researchers, educators and the public.



# Why Inventory?

*"A tree's a tree. How many more do you need to look at?"*

-Ronald Reagan

- How do you manage what you don't know?
  - Planning, Planting, Maintaining, Funding, Policy-Making
- Proactive vs. Reactive Management
- Knowledge Base w/Clients
- Reducing Your Risk
- Value your Urban Forest
- Caring for the Public Good
- Improving Quality of Life!



# CAL FIRE U&CF Program Synopsis

- CA Urban Forestry Act of 1978
- State Urban Forester, 2 Program Analysts, 5 Regional Staff (with 1 yet to be hired in L.A.)
- Technical Expertise, Technology Transfer, Networking, Public Outreach, Grant Funding
- Bond-funded urban forestry grant projects since 2000 (first 6 years strictly tree planting)



# CAL FIRE U&CF Program Grant Funding for Inventories

- Since 2007:
  - Awarded 47 Projects / over \$5M Statewide
  - Awarded 18 Projects / over \$1.7M in the Bay Area



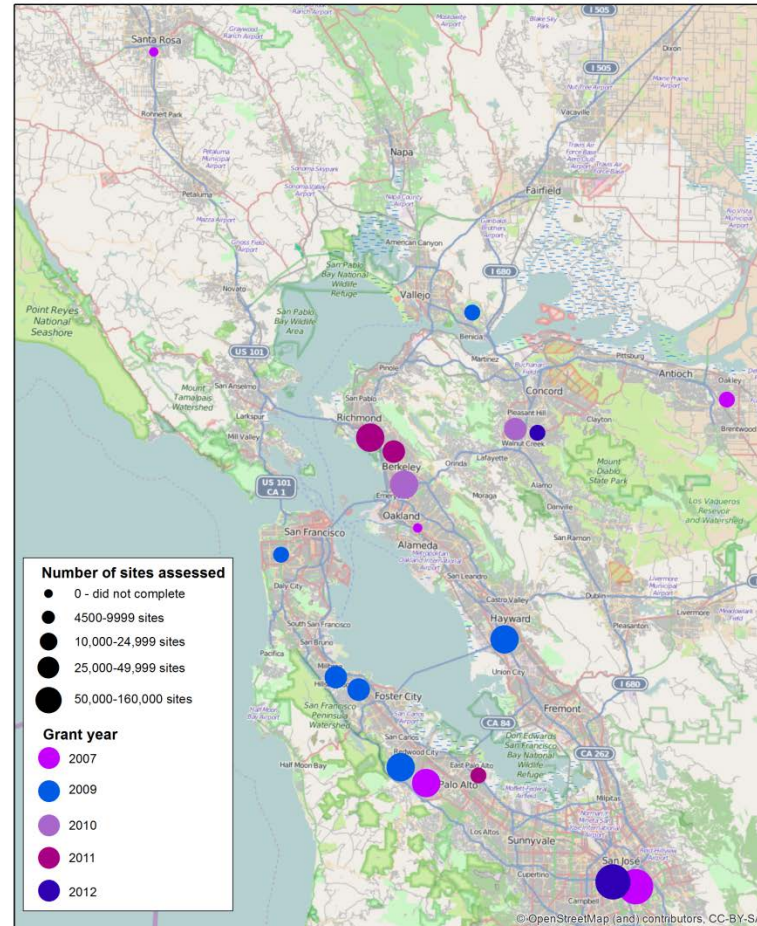


# CAL FIRE U&CF Program

## Grant Funding for Inventories

### Area Recipients:

- Benicia
- Berkeley
- Burlingame
- East Palo Alto
- El Cerrito
- Hayward
- Oakland
- Oakley
- Palo Alto
- Redwood City
- Richmond
- San Francisco
- San Jose (x2)
- San Mateo
- Santa Rosa
- Walnut Creek (x2)



**San Francisco Bay Area Inventory Grants  
Urban and Community Forestry Program**  
California Department of Forestry and Fire Protection  
Funded through Fiscal Year 2012

The State of California and the Department of Forestry and Fire Protection make no representations or warranties regarding the accuracy of data or maps. Neither the State nor the Department shall be liable under any circumstances for any direct, special, incidental, or consequential damages with respect to any claim by any user or third party on account of or arising from the use of data or maps.  
Forest Practice GIS February 19, 2015



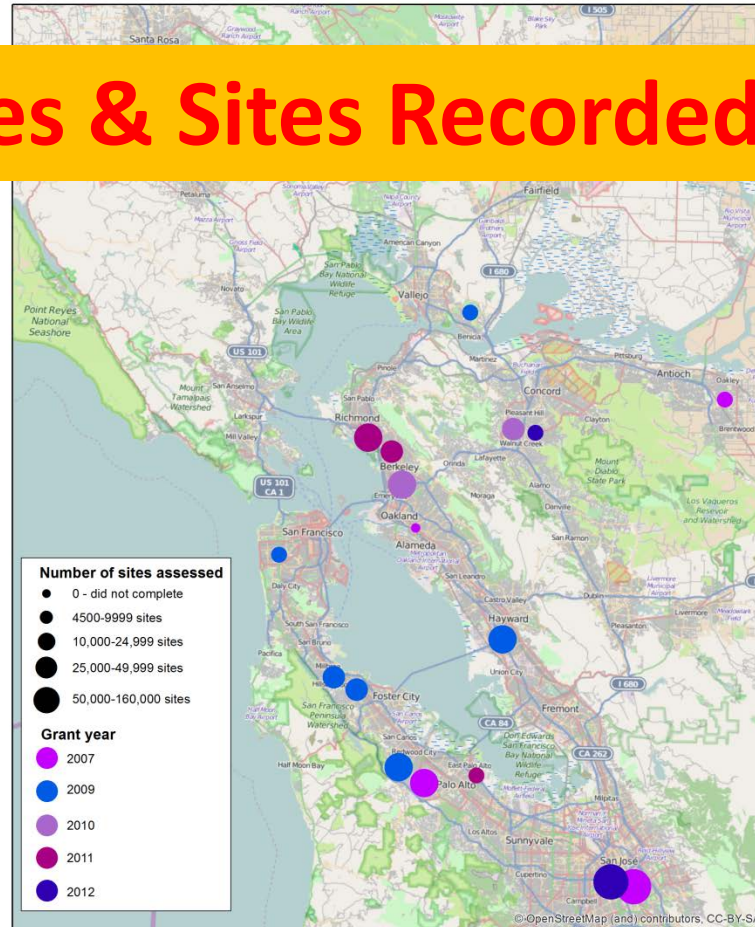
# CAL FIRE U&CF Program Grant Funding for Inventories

**564,983 Total Trees & Sites Recorded!!!!**

Area Recipients:

Berkeley

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# CAL FIRE U&CF Program

## Grant Funding for Inventories

### Requirements & Recommended Practices

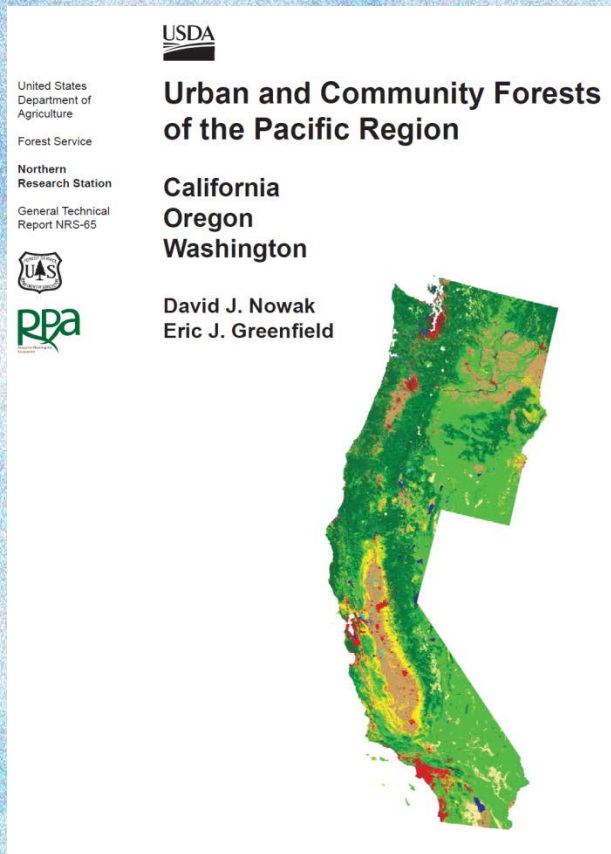
- Eligible entity
- Census-defined urban area or cluster
- High degree of need
- Assesses entire forest
- Complies with policies/laws/CEQA
- Technical expertise
- Current protection ordinance
- Minimum Collection Attributes
- Quality Assurance
- Maint./Mngmt. Software
- Staff Training
- Educational/Outreach Component
- Public Accessibility
- Long-term applicability
- Encourages further urban forest management
  - Management plans, maintenance scheduling, related policies, economic analysis, budgeting

Mapping Coordinates,  
Block Side, Area,  
Location, Species,  
Diameter, Stems,  
Condition,  
Maintenance Need,  
Observations,  
Clearance Required,  
Hardscape Damage,  
Overhead Utilities,  
Grow Space,  
Space Size, Notes





# Urban and Community Forests of the Pacific Region (2010)



- Used 30m aerial imagery
- Compares 1990 vs. 2000 stats
- Compared land class, tree cover, population stats, UF benefits, etc. in WA, OR & CA
- Developed goals to include priority tree planting areas
- Encourages better UF policy



# Urban and Community Forests of the Pacific Region (2010)

Urban or community land in California comprises about 8.6 percent of the state land area in 2000, an increase from 7.5 percent in 1990. Statewide tree canopy cover averages 18.0 percent and tree cover in urban or community areas is about 11.4 percent, with 20.1 percent impervious surface cover and 14.3 percent of the total green space covered by tree canopy cover. Statewide, urban or community land in California has an estimated 188.5 million trees, which store about 36.0 million metric tons of carbon (\$820.8 million), and annually remove about 1.2 million metric tons of carbon (\$27.0 million) and 48,280 metric tons of air pollution (\$392.3 million) (Table CA-1).

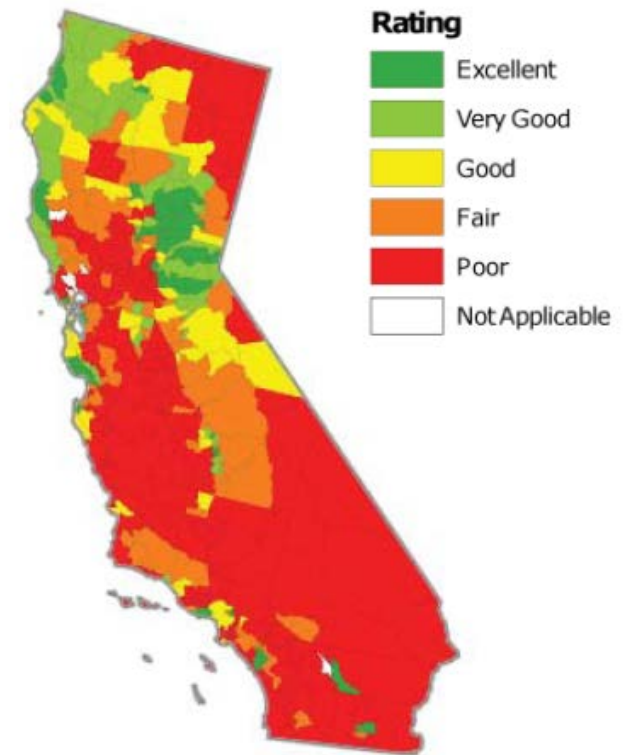


Figure CA-10.—Relative comparisons of tree cover for county subdivisions.





# California Municipal Forest Health Threat Assessment (2012)

- Report cards & recommendations for 30 California municipal forests
- Inventories updated within last five years and contained DBH & species
- Assessed pest & disease vulnerability
- i-Tree Streets to quantify benefits
- Grades assigned each city based on species/size div., age div., pest threat, potential asset loss

## California Municipal Forest Health Threat Assessment

July 2012

*Report cards and recommendations  
for 30 California municipal forests*



*How stable is your city forest?*

*What are the chief health threats?*

*How can you prevent them?*

Lauren Kotow  
E. Gregory McPherson



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<http://www.fs.fed.us/psw/programs/uesd/uep>





# California Municipal Forest Health Threat Assessment (2012)

## Final Grades

Table 13—Final grades for all cities (listed alphabetically)

City	Species/Size grade	Age grade	Pest grade	Asset grade	Final grade
Anaheim	A+	B	A-	A	A
Azusa	A+	B	B	B	B+
Balboa Park	F	D+	C	F	D-
Brentwood	A+	B+	A+	A+	A+
Brisbane	A-	A-	B+	B+	A-
Burbank	C	D+	B	A-	B-
Chula Vista	B+	A	A-	C+	B+
Coronado	D-	B-	A-	C	C+
Elk Grove	A-	B	B-	B+	B+
Eureka	A-	B	A	B-	B+
Fresno	B	D+	B+	A	B
Glendora	A	D+	B	A-	B
Irvine	F	B+	C+	D	C-
La Canada Flintridge	D	C-	F	D+	D

Oakley	B	F	D	C	C-
Palm Desert	B	D+	A	A	B+
Roseville	D+	B+	D+	C	C
Sacramento	C+	A+	D+	B	B
San Dimas	B+	B	B-	C+	B
San Jose	B+	B-	B	B	B
San Luis Obispo	A	A-	C-	B-	B
San Mateo	B	B+	D+	B+	B
Santa Clarita	C+	B+	D+	D+	C+
Santa Monica	B+	C+	A	A-	B+
South Pasadena	B	D-	B+	B-	B-
Sun Valley	C	A-	A-	B-	B
Sunnyvale	B	B	B+	A	B+
West Sacramento	B+	C	D+	C-	C+
Woodland	B	A-	C	A-	B+





# Urban Forest Inventory and Assessment Pilot Project (2013)

## Urban Forest Inventory and Assessment Pilot Project Phase Two Report

March 25, 2013

Submitted to: Mary Klaas-Schultz, Chris Keithley, John Melvin, Tiffany Meyer, and Mark Rosenberg, CalFire

Submitted by: Drs. Qingfu Xiao, Julia Bartens, and Chelsea Wu, Department of Land, Air, and Water Resources, University of California, Davis

Drs. Greg McPherson and James Simpson, Urban Ecosystems and Social Dynamics, USDA Forest Service

Dr. Jarlath O'Neil-Dunne, Spatial Analysis Laboratory, University of Vermont



All Images: Courtesy of City of San Jose

- City goal of +100K trees by 2022
- Remote sensing and field samples
- UTC of 12% – 20%, 1.6M trees
- Determined 2.1 million potential tree sites exist  $\approx$  +\$16.5M in ann. eco. services &  $\uparrow$  prop. values
- Useful in est. canopy cover targets & fluctuations
- Climate change implications





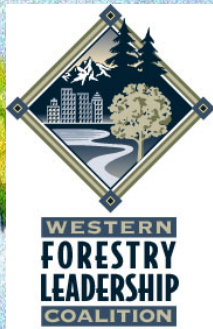
# Urban Forest Inventory and Assessment Pilot Project (2013)

Table 1. Existing and additional urban tree canopy (UTC), estimated tree numbers, and monetized value of ecosystem services produced.

Council District	No. Existing Trees	No. Additional Sites Planted	Total Tree Sites Planted	Existing Stocking Level (%)	Future Stocking Level (%)	Change in Stocking (%)	Existing UTC (%)	Future UTC (%)	Annual Value of Existing Ecosystem Services (\$1M)	Annual Value of Additional Ecosystem Services (\$1M)	Existing + Additional Ecosystem Services (\$1M)
1	124,227	6,812	131,039	67.6	71.3	3.7	18.8	19.8	23.3	1.2	24.6
2	165,669	11,452	177,121	29.8	31.9	2.1	13.6	14.6	26.1	2.0	28.2
3	118,608	9,885	128,493	51.8	56.1	4.3	13.3	14.4	15.1	1.3	16.4
4	196,885	12,786	209,671	38.4	40.9	2.5	12.2	13.0	26.0	1.8	27.8
5	124,303	8,249	132,552	45.6	48.6	3.0	15.8	16.9	20.9	1.6	22.5
6	178,868	8,465	187,333	69.4	72.6	3.3	21.4	22.4	32.5	1.4	34.0
7	92,295	7,304	99,599	39.3	42.4	3.1	12.1	13.0	13.8	1.2	15.0
8	175,366	14,585	189,951	27.7	30.0	2.3	12.9	13.9	20.7	2.3	23.0
9	148,019	8,596	156,615	61.2	64.8	3.6	17.0	18.0	29.0	1.6	30.6
10	244,441	11,866	256,307	47.6	49.9	2.3	20.4	21.4	31.8	2.0	33.8
<b>Total</b>	<b>1,568,681</b>	<b>100,000</b>	<b>1,668,681</b>	<b>43.1</b>	<b>45.9</b>	<b>2.8</b>	<b>15.4</b>	<b>16.3</b>	<b>239.3</b>	<b>16.4</b>	<b>255.8</b>

[www.sanjoseca.gov/DocumentCenter/View/2321](http://www.sanjoseca.gov/DocumentCenter/View/2321)





# Western State Competitive (\$350K) Grant (2015)



## Objectives:

- Develop a **statewide estimate of CO<sub>2</sub> sequestration** by UF. Incorporate information **from existing tree inventories** throughout California. Coordinate with CARB so that the information is used to update the AB32 scoping report to achieve reductions in GHG emissions. This report establishes the **“official” emissions inventory for CA.**
- Report on a range of environmental benefits including heat island mitigation and **statewide estimates of urban trees contribution to removal of air pollution** and **improvements to water quality.**
- **Identify trends in urban forests.** Report on trends in UF for areas with existing data.
- Using information from the statewide inventory further **refine priority areas** that were identified in the 2010 Forest Action Plan.
- Outreach. **Provide needed benefit data to UF resource managers,** local government, and non-profit groups to enable efficient allocation of limited resources due to budget cuts. Support the U&CF program advancement by **revising regional and statewide “Quick Facts” to educate the public** and increase awareness of environmental and personal benefits provided by UF.

<http://frap.fire.ca.gov/>



# Why Are We Here?

- Free CEU's, dummy....
- To avoid exposure to the harsh winter weather
- To catch up on our zzzzzz's
- Mostly because you heard I was presenting
- To learn from each other
- To become aware of industry resources
- To share our struggles and successes
- To improve our collective approaches
- How Do We Leverage This Work???
- Thanks to Phil Beilin / City of Walnut Creek



Thanks!!!

# Questions???

Jimi Scheid, Urban Forester

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*"I looked up my family **tree** and found out I was the **sap**."*

- Rodney Dangerfield

