

# 2017

# ANNUAL URBAN FOREST REPORT

FISCAL YEAR JULY 2016 – JUNE 2017



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***Submitted to Mayor Edwin M. Lee and the Board of Supervisors by the Department of the Environment, pursuant to San Francisco Environment Code Chapter 12, Sec. 1209.***

The **Urban Forestry Council** advises city departments, the Board of Supervisors, and the mayor. It is charged with developing a comprehensive urban forest plan; educating the public; developing tree-care standards; identifying funding needs, staffing needs, and opportunities for urban forest programs; securing adequate resources for urban forest programs; facilitating coordination of tree-management responsibilities among agencies; and reporting on the state of the urban forest.



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*Cover photo provided by Friends of the Urban Forest*

## Executive Summary

The 2017 Annual Urban Forest Report covers FY16-17 and provides an analysis of survey data provided by public, private, and nonprofit agencies that plant and/or maintain the urban forest within the City and County of San Francisco. When possible, the analysis compares 2017 data with the previous two years of data, starting in FY14-15. Trends are identified through comparisons across all three years. Likert scale data was collected to identify trends in agency-perceived concerns with urban forestry in San Francisco as well as perceived limitations that affect their work and the overall urban forest. Agency-provided data from the 2017 survey is provided in Tables 2-4 at the end of the report. Findings demonstrate that the number of trees planted is decreasing as the number of trees removed is increasing. Budgets for urban forestry have also decreased from previous years. Agencies reported that the long-term effects of the drought with an increased need for more funding and staffing are the primary concerns and limitations they face.

The report also provides an overview of recent significant changes in urban forestry, including the passing of Proposition E, which provides a set-aside of \$19M in the City's General Fund for tree and sidewalk maintenance, and the completion of the EveryTreeSF street tree census, which inventoried and assessed every street tree in San Francisco. The long-term benefits of Proposition E and EveryTreeSF are expected to begin changing trends starting in the 2018 Annual Urban Forest Report.

While this report seeks to be as comprehensive as possible, it is only as good as the data provided by responding organizations. Additionally, some organizations did not provide complete survey responses. These data gaps are shown as blanks throughout the report. In certain cases, an organization may be entirely omitted from a table or narrative section. For these reasons, the report cannot be considered an exhaustive summary of all urban forestry work performed within the City and County of San Francisco.

# Overview of San Francisco's Urban Forest, FY16-17

## A New Era in Urban Forestry Policy

FY16-17 proved to be a momentous year for San Francisco's urban forest with the completion of the street tree census in January 2017 and the passing of Proposition E in the November 2016 election. These two milestones fulfill key recommendations in the *San Francisco Urban Forest Plan, Phase One: Street Trees* (adopted 2014) to address issues facing San Francisco's street trees.



The Planning Department's EveryTreeSF street tree census inventoried a total of 124,795 street trees and 39,783 vacant street planting sites citywide. The actual number of street trees is almost 20,000 more than previous estimates of approximately 105,000 trees. The tree and sidewalk data collected during the census allows for a more accurate assessment of the many environmental and financial benefits provided by our urban forest. San Francisco's street tree population consists of over 500 different species. The top five species and some of their many benefits are detailed in the Table 1 below.

**Table 1. Census Report:** Top five street trees in San Francisco<sup>1</sup>

#	Species Name	Number of Street Trees	% of Total Street Tree Pop.	Annual Carbon Sequestered (lbs.) <sup>2</sup>	Total Carbon Stored (lbs.) <sup>3</sup>
1	Sycamore/London plane ( <i>Platanus x hispanica</i> )	8,620	6.91%	1,718,377	10,721,969
2	Ficus ( <i>Ficus microcarpa</i> )	7,704	6.17%	1,170,407	16,099,322
3	New Zealand Christmas Tree ( <i>Metrosideros excelsa</i> )	6,337	5.08%	753,782	9,614,457
4	Tristania/water gum ( <i>Tristaniopsis laurina</i> )	6,067	4.86%	365,184	1,073,602
5	Brisbane box ( <i>Lophostemon confertus</i> )	5,998	4.81%	1,282,605	8,473,649



Tree-by-tree information from the EveryTreeSF Census is available geospatially to the public on [UrbanForestMap.org](http://UrbanForestMap.org). Visitors can view an interactive map of San Francisco with identified trees and potential tree locations, or search for trees by address or species. Benefit information is available for the entire street tree population, by species, or per tree. The map also provides the option for users to add information and upload pictures, thereby encouraging public interest and stewardship of San Francisco's street trees.

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<sup>1</sup> I-Tree Streets (U.S. Forest Service, Davey Tree, Arbor Day Foundation, and additional partners) was used to calculate these benefits.

<sup>2</sup> Annual reductions in atmospheric CO<sub>2</sub> due to sequestration by trees and reduced emissions from power plants due to reduced energy use in pounds. The model accounts for CO<sub>2</sub> released as trees die and decompose and CO<sub>2</sub> released during the care and maintenance of trees.

<sup>3</sup> Carbon dioxide stored in the urban forest over the life of the trees as a result of sequestration in pounds.



The passing of Proposition E in the November 2016 election shifted the responsibility for tree care and tree-related sidewalk damage repair from the adjacent property owner to San Francisco Public Works. Close to 80% of San Francisco voters voted in favor of this legislation, which sets aside \$19 million of General Fund money annually to pay for this work. \$500,000 of this funding will go towards maintaining trees on SFUSD properties.

The tree data gathered for the EveryTreeSF census will help Public Works in planning maintenance schedules to efficiently implement the changes Proposition E made in the Public Works Code. Proposition E went into effect July 1, 2017, so it will be reported on in more detail in the 2018 Annual Urban Forest Report. Public Works is currently strategizing maintenance planning and Friends of the Urban Forest is redesigning their community tree planting model to increase the number of trees they can plant annually.

### **Progress on the San Francisco Urban Forest Plan**

The passing of Proposition E helped to fulfill a key recommendation of the *San Francisco Urban Forest Plan, Phase One: Street Trees* to “Establish and fund a citywide street tree maintenance program” by providing the funding mechanism needed for Public Works to take ownership of San Francisco’s street trees and develop a comprehensive maintenance program. The \$19 million in funding through Proposition E will maintain the current 124,795 street trees as well as the additional 50,000 trees *Phase One* recommends are planted over the course of twenty years to equitably increase San Francisco’s tree canopy. The shift in tree responsibility from the adjacent property owner to the City will make it easier to plant these 50,000 trees, especially in areas where tree maintenance would have previously posed an economic hardship for the adjacent property owner.

The Planning Department is currently working to scope and secure funding for *Phase II* (Parks & Open Space) and *Phase III* (Buildings & Private Property) of the *San Francisco Urban Forest Plan*.

# Annual Survey Methods

San Francisco Environment surveyed 21 City departments, public entities, and non-government organizations that oversee or manage a portion of the urban forest in San Francisco. Survey questions were like those used in previous years (see attachments). Additional questions about tree-related general liability claims were added at the request of the Urban Forestry Council. Agencies were asked to provide information on budgets and staffing, maintenance activities, accomplishments, and concerns in FY16-17. Nineteen agencies provided full or partial responses.

## **This data is tracked to:**

1. Better understand the resources used to maintain the urban forest across the city.
2. Track agency priorities, needs, and concerns, and monitor how they change over time.
3. Better understand threats to the future well-being of our urban forest.
4. Find ways to increase the contributions that trees provide to our community.

## **List of Participating Organizations**

- City College of San Francisco (CCSF)
- Friends of the Urban Forest (FUF)
- Laguna Honda Hospital (LHH)
- Office of Community Investment and Infrastructure (OCII)
- Pacific Gas and Electric (PG&E)
- Port of San Francisco (Port)
- Presidio Trust (Trust)
- Recreation and Park Department (RPD)
- San Francisco Housing Authority (SFHA)
- San Francisco International Airport (SFO)
- San Francisco Municipal Transportation Agency (SFMTA)
- San Francisco Planning Department (Planning)
- San Francisco Public Utilities Commission (SFPUC)
- San Francisco Public Works, Bureau of Urban Forestry (SFPW)
- San Francisco State University (SFSU)
- San Francisco Unified School District (SFUSD)
- Treasure Island Development Authority (TIDA)
- University of California, San Francisco (UCSF)
- Zuckerberg San Francisco General Hospital (SFGH)

The following organizations and departments did not respond to the survey request:

- California Department of Transportation, District 4 (Caltrans)
- Golden Gate National Recreation Area (GGNRA)

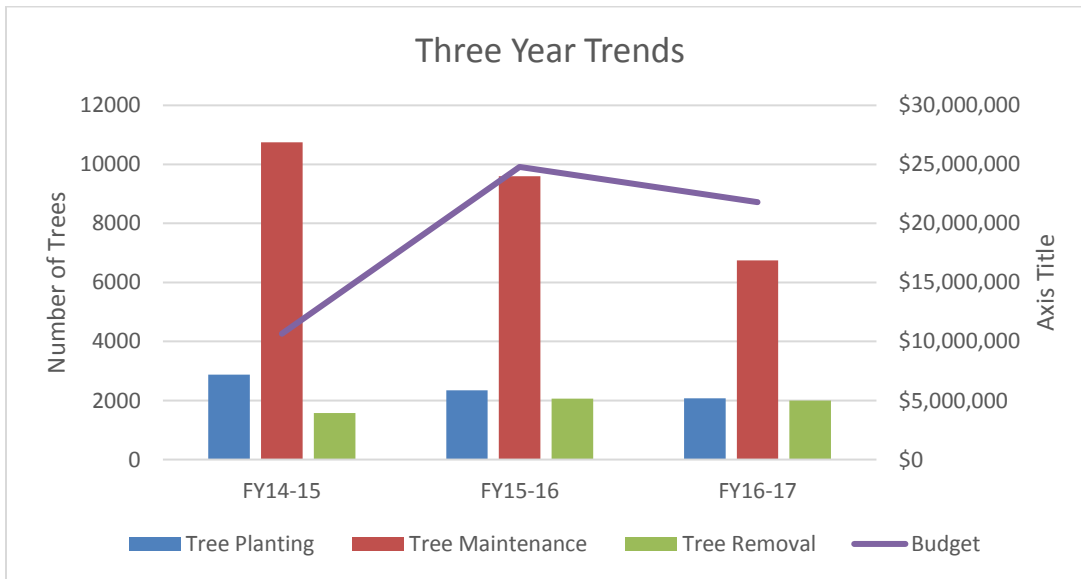


# Primary Findings

The data provided by participating agencies for this report is compared to data provided since FY14-15. While participation is required by Chapter 12, Section 1209 of the San Francisco Environmental Code, not all agencies participate in the survey each year. Trends identified in this section only include data from agencies that have reported in each of the last three years, of which there are twelve:

- City College of San Francisco (CCSF)
- Friends of the Urban Forest (FUF)
- Port of San Francisco (Port)
- Recreation and Park Department (RPD)
- San Francisco International Airport (SFO)
- San Francisco Municipal Transportation Agency (SFMTA)
- San Francisco Public Utilities Commission (SFPUC)
- San Francisco Public Works, Bureau of Urban Forestry (SFPW)
- San Francisco State University (SFSU)
- San Francisco Unified School District (SFUSD)
- Treasure Island Development Authority (TIDA)
- University of California, San Francisco (UCSF)

**Figure 1. Trees & Funding:** Reported tree planting and urban forestry budgets since FY14-15 (12 agencies)

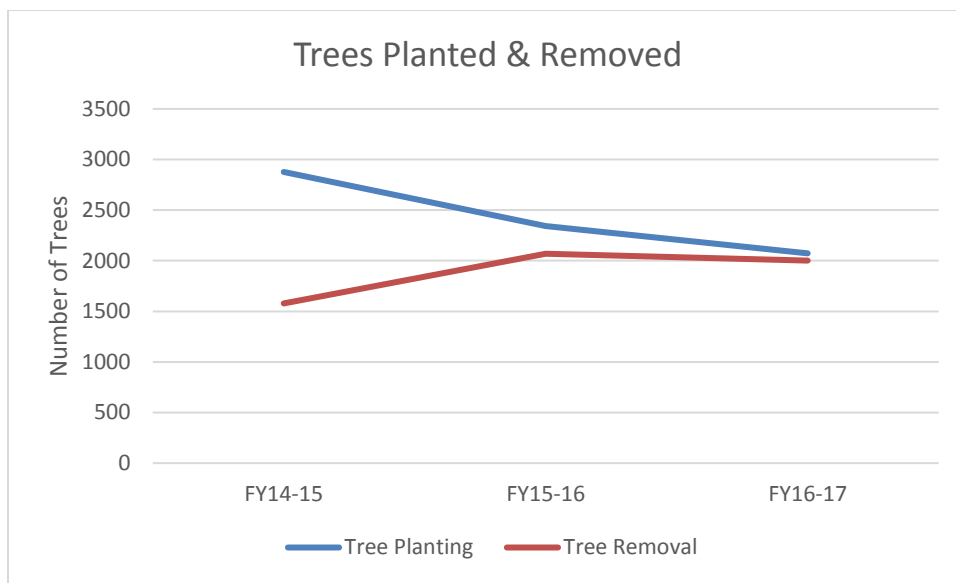


In the last three years, the reported annual number of trees planted in San Francisco peaked in FY14-15 with 2,877 trees. Overall tree planting and maintenance numbers have steadily decreased each subsequent year, culminating in the fewest number of trees planted this year at 2,073, a 15 percent decrease in the average total annual trees planted during this three-year period. FY16-17 tree maintenance activities have decreased by 25 percent of the annual average

during this period. Much of this decrease can be attributed to Public Works’ program to relinquish the maintenance responsibilities of street trees to adjacent property owners (Proposition E ended this program and reverted street tree responsibility back to Public Works). Tree removals have increased, peaking in FY15-16 at 2,069 trees removed and remaining close with 2,000 trees removed this past year. Reported tree removals rose 6 percent in FY16-17 from the three-year annual average, and a 27 percent increase from removals in FY14-15.

The total urban forestry budgets reported by each responding agency since FY14-15 does not follow the trends in tree planting, maintenance, and removal activities. Overall urban forest funding increased significantly in FY15-16 because Public Works reported a significant increase in funding to implement the relinquishment program. Urban forestry budgets dropped again in FY16-17, but are still 14 percent higher than the annual average for the three-year period. Budget trends will change significantly next year with the addition of funding to Public Works under Proposition E. It will likely take a few years before tree planting, maintenance, and removal numbers reflect this large increase in funding.

**Figure 2: Tree Planting & Removal Trends Since FY14-15**



The reported tree planting and tree removal numbers since FY14-15 demonstrate a closing gap. Based on reported data, only 111 more trees were planted in FY16-17 than removed in San Francisco. This is a significant finding of concern that predicts a decrease in canopy and overall benefits provided by San Francisco’s urban forest.

Trees removed may be any variety of size, maturity, and health.<sup>4</sup> Therefore, the amount of benefits lost by the removal of such trees is likely greater than those provided by newly planted

<sup>4</sup> Article 16 of the Public Works Code provides significant protections for healthy street and significant trees. The percentage of unprotected removed trees on private property have more variability in health and overall condition.

trees, which are significantly smaller and provide fewer benefits than the potentially large and healthy trees that were removed. Additional data about the specific trees removed and trees planted is needed to identify actual losses and gains in urban forest benefits. Such data is not currently requested of participating agencies in the annual survey.

Based on the concerns of many reporting agencies, the effects of the drought, pests, and disease may be largely contributing to the increase in tree removals. Governor Jerry Brown declared the drought emergency over for most of California in April 2017<sup>5</sup>, but trees take time to recover from the cumulative effects of a long-term drought<sup>6</sup> and the significant rainfall of the 2016-2017 winter may not be enough for many trees to recover from the damage caused by the previous dry winters - especially large and mature trees. Agencies such as SFO, Zuckerberg General Hospital, and SFSU reported concerns with declining health of redwood trees (*Sequoia sempervirens*) under their care. This iconic California native tree is not drought tolerant and current research shows that specimens planted in landscape settings outside of their native areas are suffering from water restrictions and irrigation with non-potable water throughout the Bay Area.<sup>7</sup> Redwood trees' water and other cultural needs should be considered when planning future plantings since periods of extreme drought are expected to continue as the climate continues to change.<sup>8</sup>

The stress of the drought makes trees more susceptible to pests and diseases. Several agencies reported concerns with pines (*Pinus spp.*) and myoporum (*Myoporum laetum*), two widely-occurring tree species in San Francisco that are declining in health. Drought-stressed pines are more likely to be attacked by bark beetles (*Ips spp.*) and less likely to survive<sup>9</sup>. Additionally, many declining pines, primarily Monterey pine (*Pinus radiata*), are infected with pine pitch canker (*Fusarium circinatum*), a fungus that obstructs water flow and causes the loss of branches and potentially the death of the tree.<sup>10</sup>

Myoporum is one of the few tree species that thrives in coastal conditions on the western side of San Francisco. Unfortunately, myoporum trees are being ravaged by the species-specific myoporum thrips (*Klambothrips myopori*) from the tree's homeland of New Zealand that eventually kills the tree in our environment due to the lack of natural predators. Rec & Park planted thrips-resistant Myoporum cultivars this year and Public Works is also interested in how effective these cultivars are at minimizing thrips damage.

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<sup>5</sup> Boxall, B. (2017 April 7). Gov. Brown declares California drought emergency is over. *Los Angeles Times*. Retrieved from <http://www.latimes.com/local/lanow/la-me-brown-drought-20170407-story.html>

<sup>6</sup> Hagen, B. W. (2015). How drought effects trees. *Western Arborist*, 41(3), 34-40.

<sup>7</sup> Leffingwell, J. (2015). Future of coast redwoods in Bay Area landscapes. *Western Arborist*, 41(3), 26-29.

<sup>8</sup> Diffenbaugh, N.S., Swain, D. L., Touma, D. (2015). Anthropogenic warming has increased drought risk in California. *Proceedings of the National Academy of Sciences of the United States of America*, 112(13), 3931-3936.

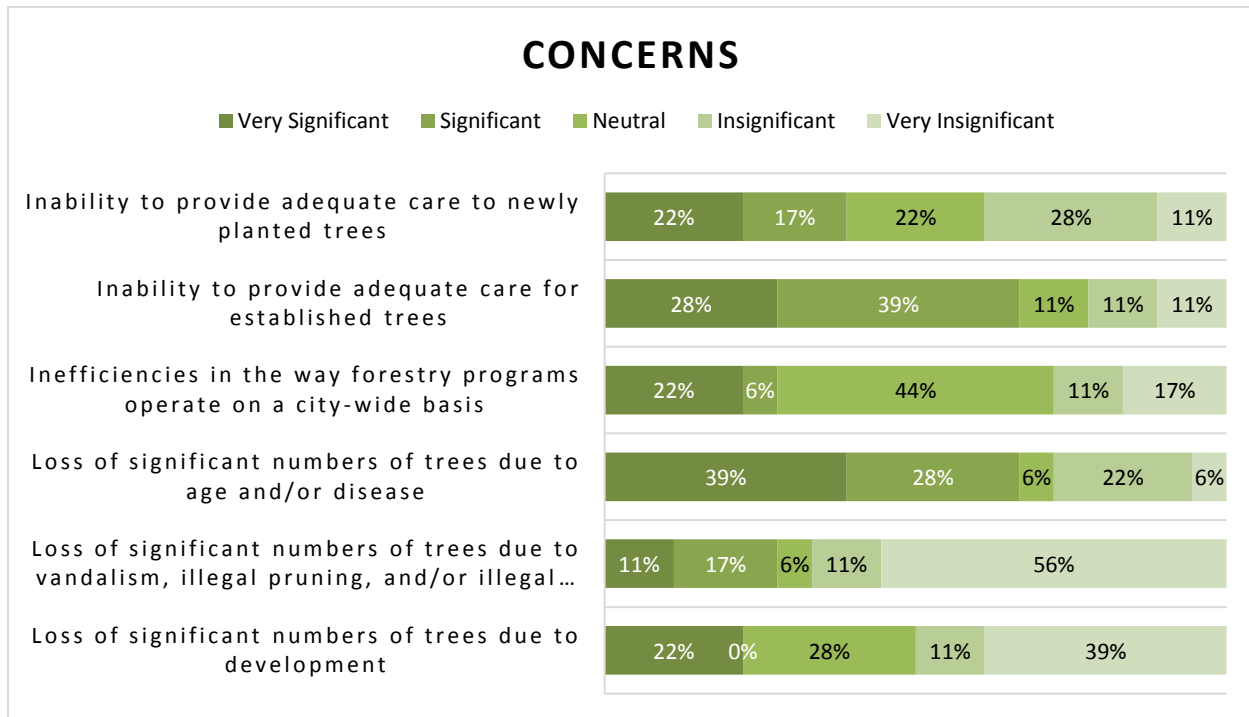
<sup>9</sup> Swain, S. (2015). Pines, drought and beetles. *UC IPM Green Bulletin*, 5(2), 1-3.

<sup>10</sup> Swett, C. L., Gordon, T. R. (2013). Pitch canker. *UC IPM Pestnotes*. Pub. 74107.

# Common Concerns & Limitations

Respondents were asked to score the significance of common concerns and limitations for their agencies. The following figures display the percentage of each level of significance for all responses in 2017.

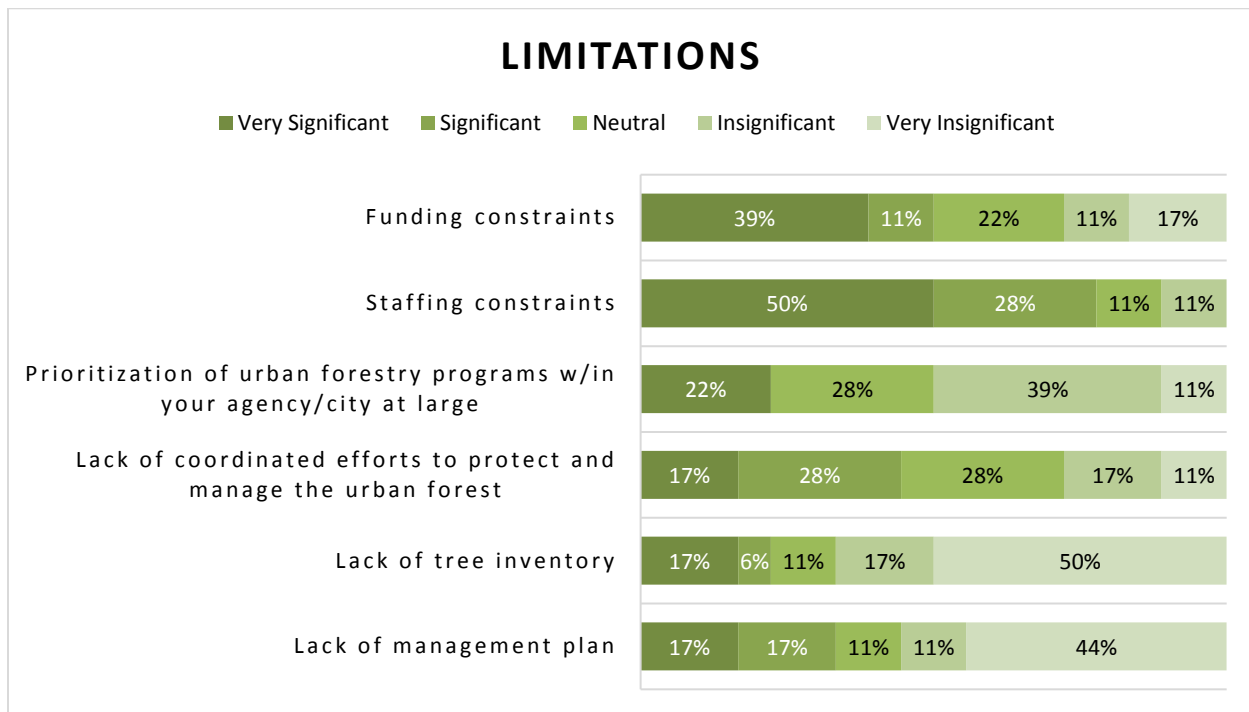
**Figure 3. Concerns:** Responses to common concerns



In general, agencies expressed the least concern with the loss of significant numbers of trees due to vandalism, illegal pruning, and/or illegal removal. This may indicate that fewer trees are being lost due to these reasons, or that other concerns are more imperative for agencies this year.

Agencies expressed the most concern about the loss of a significant number of trees due to age and/or disease and the inability to provide adequate care for established trees. These two concerns are closely linked in that the lack of adequate care provided to mature trees is likely contributing to their early senescence and inability to withstand pests and disease. As described earlier, the effects of the drought continue to put significant stress on trees, especially mature and large-stature trees. Providing more care to drought-stressed or otherwise compromised trees can extend their lives, but agencies are limited in what they can do based on their reported staffing and funding limitations.

**Figure 4. Limitations:** Responses to common limitations



Agencies reported funding constraints and staffing constraints as the two most significant limitations they experienced in FY16-17. Fifty percent of all respondents rated both as either very significant or significant. Reported staffing levels have steadily increased since FY14-15 but extenuating circumstances such as the drought increase the work load and financial demands on all departments.

Lack of tree inventory and management plan was low among City agencies with street trees and higher among non-City agencies and those that manage large landscapes and/or tree stands, such as City College, RPD, and UCSF. These were not rated as significant limitations by agencies that manage street trees due to the *San Francisco Urban Forest Plan: Phase I* and the tree census.

### **New Data Tracked in the FY16-17 Survey**

This year, additional questions about tree-related general liability claims were included in the survey to begin identifying other costs City departments and other forest-managing agencies incur in their tree managing activities, and to track how tree care and maintenance may factor into the number and costs of these claims. A total of 134 claims were reported, 77 of which were paid, for an average claim payment of \$4,185. Several years of data will be needed to begin to identify trends.

## Reported Major Opportunities and Challenges

Management of San Francisco's urban forest is divided among many stakeholder agencies that provide direct care to trees within their jurisdiction, as well as agencies that engage with partners to support forestry activities on city-owned land. The following provides general background about each agency and specific information they reported in their FY16-17 survey responses.

**City College of San Francisco (CCSF)** manages several campus locations throughout the city and provided information on their tree management activities for the Ocean Campus. CCSF continues to be concerned about drought conditions affecting tree health, including increased pest and disease damage. Current additional concerns include jurisdictional issues related to tree ownership and the public's response to Public Works' new street tree management plans. More generally, CCSF is concerned about the limited number of trees in the City, water availability limitations, and infrastructure improvements.

**Friends of the Urban Forest (FUF)** helps individuals and neighborhood groups plant and care for street trees and sidewalk gardens in San Francisco. FUF spent much of the fiscal year 2017 planning and developing systems in response to the passing of Proposition E by increasing tree planting and staffing; developing an online application to manage tree planting locations and data from the City survey data; and adapting outreach processes to reflect their ability to plant trees without property owner participation. FUF continues to expand their community-based Sidewalk Landscaping program to maximize concrete removal. These efforts include the addition of a new position within the program, an outreach manager focusing on developing interest and participation in monthly sidewalk landscape projects. FUF developed a stronger partnership with San Francisco Unified School district in efforts to decrease tree mortality at schools through improved communications and care protocols. FUF is improving their education programs, including developing a robust intern program that trains college students and Arborist Apprentices to plant and care for trees and sidewalk landscaping. Finally, FUF has added another new staff position, Education Manager, who will be responsible for improving educational programming and coordinating tree care that is competed by FUF Green Teens, Arborist Apprentices, and interns.

**Laguna Honda Hospital (LHH)**, a San Francisco Department of Public Health facility, is a 62-acre campus with approximately 3,000 trees, 80 percent of which are within open space areas. In FY14-15, the hospital completed a 1.5 acre retrofit of an existing lawn, replacing the lawn with native and drought tolerant species. Laguna Honda Hospital's primary urban forestry concerns are low staffing levels and budgetary constraints to care for existing trees.

The **Office of Community Investment and Infrastructure (OCII)** is the local successor agency to the San Francisco Redevelopment Agency. OCII continues to be affected by funding constraints due to the state-wide dissolution of Redevelopment Agencies that took effect in February 2012.

**Pacific Gas and Electric Company** (PG&E) works with property owners to resolve conflicts between trees and power lines. In the past fiscal year, PG&E piloted the use of LIDAR (light detection and ranging – a form of digital imaging that can measure distances and size of trees through pulsed laser light) to gather data for tree clearances to conductors to improve safety and efficiency of remote sensing patrol. Adequate access to perform maintenance on trees is a constant challenge for tree contractors, as well as the public’s perception that PG&E is responsible for tree maintenance beyond pruning to maintain State-mandated clearance from high voltage conductors.

The **Port of San Francisco** (Port) manages the care of trees along the San Francisco Bay waterfront. The Port partnered with Public Works, Bureau of Urban Forestry for the 2017 Arbor Day celebration by planting fifty trees and performing sidewalk repairs on Cargo Way in Bayview. No topics of concern were reported for this past year, but the Port recognizes and appreciates the completion of the street tree census and improved urban forest management that will result from the passing of Proposition E.

The **Presidio Trust** (Trust) oversees approximately 70,000 trees (10,000 of which are actively managed) in the Presidio of San Francisco, the 1,491-acre National Historic Landmark District located within the Golden Gate National Recreation Area. The Trust cited staffing, mass tree removals from the edges of the park, lack of maintenance in National Park Services areas, and tree health as great concerns. Trees in and near lawns that are no longer receiving irrigation due water restrictions are also a concern.

The **Recreation and Parks Department** (RPD) maintains over 3,400 acres of open space with an estimated 131,000 trees in San Francisco. RPD is primarily concerned with increasing staffing, equipment, and budget. In this past year, RPD started to identify critical park areas that need tree work. Of significance, RPD’s Natural Resources Management Plan was adopted in November 2016; this plan will impact tree management on RPD properties going forward.

The **San Francisco Housing Authority** (SFHA) has a maintenance agreement with Public Works to maintain trees around residences on SFHA land. Recently, SFHA engaged in the Rental Assistance Demonstration (RAD) program with the U.S. Department of Housing and Urban Development (HUD) and in the process transferred the responsibility of 3,481 housing units and their landscapes, greatly reducing the number of trees under their care. Of the remaining trees under their care, SFHA is primarily concerned with senescing trees that may pose safety hazards.

The **San Francisco International Airport** (SFO) manages natural areas, trees, and landscaped areas surrounding the San Francisco International Airport. The drought has significantly impacted SFO in performing any major planting projects. Major construction projects also pose a challenge for the established trees and landscaping at the airport. SFO advocates for the City to lead by being at the forefront of green infrastructure improvements for trees in large capital projects, including the use of suspended pavement and stormwater catchment systems.

The **San Francisco Municipal Transportation Agency** (SFMTA) remains very concerned about tree and plant health in the ongoing drought conditions. Long-term effects of the drought on tree health will not instantly be reversed from this past year's increase in precipitation, and there is no guarantee that we will continue to have adequately wet winters going forward.

The **San Francisco Planning Department** (Planning) develops policies, studies, and plans to support the long-term health of the city's urban forest. Planning also provides technical and financial assistance for urban forestry administration and management. In January 2017, Planning and Public Works finalized the completion of San Francisco's first-ever Citywide Street Tree Census (EveryTreeSF). The Census resulted in the first comprehensive inventory of San Francisco's street trees (location, species, condition), tree-related sidewalk damage, and vacant street tree planting sites. The data will be used by Public Works to develop a Prop E maintenance plan. The data has also been made available to the public through an on-line map (UrbanForestMap.org). Planning & Public Works were awarded a 2017 Mayor's Data & Civic Innovation Award for the EveryTreeSF. Planning is currently to scope and secure funding and staffing for the *Urban Forest Plan Phase II* (Parks & Open Space) and *Phase III* (Buildings & Private Property).

The **San Francisco Public Utilities Commission** (SFPUC) manages trees and green space around reservoirs. SFPUC's primarily urban forestry concern continues to be the rising costs associated with management of trees that are diseased and at the end of their life span, as well as increases to their scope of work due to findings of the Lake Merced tree survey.

**San Francisco Public Works, Bureau of Urban Forestry** (SFPW) provides oversight and care to trees within the City's public rights-of way, including planting and maintaining street trees, issuing street tree planting and removal permits to residents, and responding to emergency street tree issues. Public Works' duties and scope of work changed greatly this past fiscal year due to the legislation changes of Proposition E, voted in during the November 2016 election, which shifts the responsibility of street tree maintenance and related sidewalk repairs from the adjacent property owner to Public Works. Changes this year include the preparation of the Proposition E implementation plan, with the goal to begin routine maintenance and pruning on a 3 to 5-year pruning cycle beginning in 2020. Public Works anticipates that half of the trees will be maintained by increasing City staff and the other half will be maintained through contracts issued to qualified tree care professionals. Over the next two to three years, Public Works will focus on addressing the trees in most need as recommended by the EveryTreeSF street tree census. Managing public expectations of the roll out of these changes is a major concern. It will take several years to increase City staffing and acquire the large equipment necessary to provide the level of service established by Proposition E. Public Works is eager to demonstrate that systematic, routine "block and/or grid" pruning by City staff and qualified contractors will benefit both residents and the urban forest. Pest management is another significant concern, including the South American palm weevil that is seriously impacting palms in Southern California and the fungi *Nattrassia mangiferae* that is potentially causing decline in ficus and other related species.



**San Francisco State University** (SFSU) manages an urban forest that provides a network of windbreaks, bird nesting habitat, and sheltered courtyards. This past year, SFSU completed a landscape master plan that specifies goals for managing their urban forest. The decline of large, mature trees is a great concern for the university. Finding new places to plant additional trees is proving to be difficult because of the locations of above ground and underground utilities.

The **San Francisco Unified School District** (SFUSD) provides care and maintenance for approximately 3,000 trees on 430 acres of school district property. SFUSD is primarily concerned with the lack of tree planting occurring on campus to replace those trees that are removed due to poor health and hazard potential.

The **Treasure Island Development Authority** (TIDA) oversees the care of all trees on Treasure Island and most trees on Yerba Buena Island. TIDA's significant accomplishments this year include the execution of a Memorandum of Agreement (MOA) with the San Francisco County Transportation Authority for replanting trees removed during the Yerba Buena Island Project, continued execution of the Treasure Island Development Project, continued engagement with San Francisco Department of the Environment's biodiversity program, and the establishment of an on-site nursery by the Master Developer to propagate trees to meet developer revegetation obligations. Concerns include additional damage to streets and other public infrastructure caused by felled trees during the rainy season, as well as managing phytophthora concerns during construction.

The **University of California, San Francisco** (UCSF) owns a largely undeveloped 61-acre open space area just south of the Parnassus Heights campus called the Mount Sutro Open Space Reserve. UCSF is committed to maintaining the Reserve as a safe and accessible resource that San Francisco residents and visitors can enjoy. UCSF has ongoing concerns with significant tree loss attributed to drought, pests, disease, and over-crowding. Managing these challenges is a great concern. Significant changes from previous years include the addition of three full time equivalent staff positions and they are pursuing a vegetative management plan for the Mount Sutro Open Space Reserve.

**Zuckerberg San Francisco General Hospital** (SFGH) is a San Francisco Department of Public Health facility that serves as the city's only trauma hospital and serves over 100,000 patients a year. SFGH reports that many large trees were assessed and pruned this year, including a beautiful 100-year-old atlas cedar (*Cedrus atlantica*). Three mature magnolia trees (*Magnolia grandiflora*) were lost due to the Potrero Street Improvement Project, but replacement trees will be planted in the new median. The long-term effects of the recent drought on their trees continues to be a concern, as does aging in general. Budget cuts are also a major concern, especially if the federal government decides to cut funding to the Department of Public Health.

# Annual Survey Response Data

City College of San Francisco	CCSF	San Francisco Metropolitan Transit Authority	SFMTA
Friends of the Urban Forest	FUF	San Francisco Planning Department	Planning
Laguna Honda Hospital	LHH	San Francisco Public Utilities Commission	SFPUC
Office of Community Investment & Infrastructure	OCII	San Francisco Public Works	SFPW
Pacific Gas & Electric Company	PG&E	San Francisco State University	SFSU
Port of San Francisco	Port	San Francisco Unified School District	SFUSD
Presidio Trust	Trust	Treasure Island Development Authority	TIDA
San Francisco Recreation & Parks Department	RPD	University of California, San Francisco	UCSF
San Francisco Housing Authority	SFHA	Zuckerberg San Francisco General Hospital	SFGH
San Francisco International Airport	SFO		

**Table 2. Staffing & Budgets**

Agency	Urban forestry-related staff positions	FTE equivalent staff performing forestry work	Total department budget	Urban forestry-related budget	Percentage of urban forestry budget spent on tree work	
					Amount	%
CCSF	6	0	\$910,000,000	\$10,000	\$10,000	100%
FUF	19	7	\$2,800,000	\$2,800,000		
LHH	2	0.1	unknown	unknown		
OCII	0	0	\$725,900,000	unknown	unknown	
PG&E	1	3	varies	varies		
Port	3	0	\$105,000,063	\$597,100	\$215,100	36%
Trust	8	8	\$1,806,000	\$606,000	unknown	
RPD	20	20	\$220,434,470	\$5,684,224	\$5,684,224	100%
SFHA	0	0	\$23,662,980	\$150,000	\$150,000	100%
SFO	15	1	unknown	\$225,000	\$22,500	10%
SFMTA	3	1	unknown	\$200,000	\$20,000	10%
Planning	0.65	0.65		\$33,990	\$0	0%
SFPUC	0	0	\$274,000	\$274,000	\$274,000	100%
SFPW	39.36	30.36	\$290,244,640	\$9,799,976	\$4,703,988.48	48%
SFSU	4	0.5	\$1,800,000	\$200,000	\$200,000	100%
SFUSD	0	0	\$1,000,750	\$95,000	\$95,000	100%
TIDA	2	0	\$14,771,635	\$1,500,000	\$187,500	13%
UCSF	8	3	\$36,000,000	\$400,000	\$400,000	100%
SFGH	2	0.25	\$600,000,000	\$35,000	\$17,500	50%
<b>TOTALS</b>	<b>133.01</b>	<b>74.86</b>	<b>\$2,933,694,538</b>	<b>\$22,610,290</b>	<b>\$11,979,812</b>	

**Table 3. Tree Activities**

Agency	Planted	Maintained	Removed	Work performed FOR others (P-planted, M-maintained, R-removed)	Work performed BY others (P-planted, M-maintained, R-removed)
CCSF	10	40	10		Davey, Christopher Campbell M-30-50
FUF	917	2544	0	SFUSD: P-49, M-286	
LHH	6	20	3		
OCII	unknown	unknown	unknown		
PG&E		2000	140		
Port	76	145	12		
Trust	300	0	100		
RPD	255	311	147		
SFHA	0	0	25		PW M-150, R-25
SFO	80	400	30	Caltrans P-30, M-200, R-5	Bartlett: R-2 Eucalyptus
SFMTA	3	20	20		Professional Tree Care Co. - Sycamore
SFPUC	0	25	20		PW R-2; Arborwell R- 8, M- 20-30, R~20
SFPW	539	2372	1090	SFFD: M-3, R2; SFMTA M- 18, R-2; SFPD: M-9, R-4; PUCWWE: R-52; SFPL M- 15, R-8; SF Arts Commission: M-1, R-1; TIDA: M-10, R-68; Dept. of Real Estate: M-37	
SFSU	95	165	40		Peninsula Tree Care: M-45, R-20; FUF: P-95, M-125
SFUSD	18	66	7		Tree Guys: M-F21, R-6; Professional Tree Care M- 11
TIDA	0	240	261		BUF: M-16, R-2; Rubicon Landscape: M-200, R-3; ShelterBelt Builders: M-24; TRCD: R-256
UCSF	80	varies	363		Bartlett: M-123, R-25; Davey: M-85; A-Plus: M- 165, R-1; Sutro Stewards: P-48, M-48
SFGH	19	75	19		Contracted Co: P-12, M-10, R-6
<b>TOTALS</b>	<b>2398</b>	<b>8423</b>	<b>2287</b>		

**Table 4. Species Selection & Diversity**

Agency	Most Common Species Planted	Struggling Species	No Longer Planted
CCSF	<ul style="list-style-type: none"> <li>• cypress (<i>Cupressus spp.</i>)</li> </ul>	all	<ul style="list-style-type: none"> <li>• stone pine (<i>Pinus pinea</i>)</li> <li>• strawberry tree (<i>Arbutus spp.</i>)</li> </ul>
FUF	<ul style="list-style-type: none"> <li>• tristania (<i>Tristaniaopsis laurina</i>)</li> <li>• bronze loquat (<i>Eriobotrya deflexa</i>)</li> <li>• strawberry tree (<i>Arbutus 'Marina'</i>)</li> </ul>	Disease related to chill factor: <ul style="list-style-type: none"> <li>• evergreen pear (<i>Pyrus kawakamii</i>)</li> <li>• Callery pear (<i>P. calleryana</i>)</li> </ul> Short lived: <ul style="list-style-type: none"> <li>• purple-leaf plum (<i>Prunus cerasifer 'Krauter Vesuvius'</i>)</li> </ul> Uneven performer: <ul style="list-style-type: none"> <li>• Kwanzan cherry (<i>P. serrulata 'Kwanzan'</i>)</li> </ul>	NA
LHH	<ul style="list-style-type: none"> <li>• ginkgo (<i>Ginkgo biloba</i>)</li> <li>• flowering cherry (<i>Prunus serrulata</i>)</li> <li>• California buckeye (<i>Aesculus californica</i>)</li> </ul>	None	NA
OCII	unknown	<ul style="list-style-type: none"> <li>• poplar (<i>Populus spp.</i>)</li> <li>• sycamore (<i>Platanus spp.</i>)</li> </ul>	unknown
PG&E			
Port	<ul style="list-style-type: none"> <li>• oak (<i>Quercus spp.</i>)</li> <li>• Brisbane box (<i>Lophostemon confertus</i>)</li> <li>• tea trees (<i>Melaleuca spp.</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• myoporum (<i>Myoporum laetum</i>)</li> </ul>	NA
Trust	<ul style="list-style-type: none"> <li>• pine (<i>Pinus spp.</i>)</li> <li>• cypress (<i>Cupressus spp.</i>)</li> <li>• eucalyptus (<i>Eucalyptus spp.</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• myoporum (<i>Myoporum laetum</i>)</li> <li>• shore pine (<i>Pinus contorta</i>)</li> </ul>	unknown
RPD	<ul style="list-style-type: none"> <li>• pines (<i>Pinus spp.</i>)</li> <li>• cypress (<i>Cupressus spp.</i>)</li> <li>• oaks (<i>Quercus spp.</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• pines (<i>Pinus spp.</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• canker-resistant pine (<i>Pinus spp.</i>)</li> <li>• thrips-resistant myoporum (<i>Myoporum spp.</i>)</li> </ul>
SFHA	none	unknown	NA
SFO	<ul style="list-style-type: none"> <li>• coast live oak (<i>Quercus agrifolia</i>)</li> <li>• Catalina ironwood (<i>Lyonothamnus floribundus</i>)</li> <li>• California buckeye (<i>Aesculus californica</i>)</li> </ul>	<ul style="list-style-type: none"> <li>• redwood (<i>Sequoia sempervirens</i>)</li> </ul>	NA
SFMTA	none	<ul style="list-style-type: none"> <li>• myoporum (<i>Myoporum laetum</i>)</li> </ul>	NA

Agency	Most Common Species Planted	Struggling Species	No Longer Planted
SFPUC	none	<ul style="list-style-type: none"> <li>Monterey pine (<i>Pinus radiata</i>)</li> <li>Monterey cypress (<i>Cupressus macrocarpa</i>),</li> <li>myoporum (<i>Myoporum laetum</i>)</li> </ul>	NA
SFPW <sup>11</sup>	<ul style="list-style-type: none"> <li>Brisbane box (<i>Lophostemon confertus</i>)</li> <li>primrose (<i>Lagunaria patersonii</i>),</li> <li>sycamore (<i>Platanus x hispanica</i> 'Columbia'/'Bloodgood'/'Yarwood')</li> </ul>	<ul style="list-style-type: none"> <li>Kwanzan cherry (<i>Prunus serrulata</i> 'Kwanzan')</li> <li>Callery pear (<i>Pyrus calleryana</i>) (both are doing better this year)</li> </ul>	Desire to experiment with thrip-resistant myoporum cultivar ( <i>Myoporum laetum</i> )
SFSU	<ul style="list-style-type: none"> <li>vine maple (<i>Acer circinatum</i>)</li> <li>strawberry tree (<i>Arbutus</i> 'Marina')</li> <li>western redbud (<i>Cercis occidentalis</i>)</li> </ul>	<ul style="list-style-type: none"> <li>redwood (<i>Sequoia sempervirens</i>)</li> <li>Monterey pine (<i>Pinus radiata</i>)</li> <li>acacia (<i>Acacia spp.</i>)</li> </ul>	<ul style="list-style-type: none"> <li>smoke tree (<i>Cotinus c.</i> 'Royal Purple')</li> </ul>
SFUSD	none	<ul style="list-style-type: none"> <li>Monterey pine (<i>Pinus radiata</i>)</li> <li>Monterey cypress (<i>Cupressus macrocarpa</i>)</li> <li>fig (<i>Ficus microcarpa</i>)</li> <li>myoporum (<i>Myoporum laetum</i>)</li> </ul>	NA
TIDA	none	<ul style="list-style-type: none"> <li>eucalyptus (<i>Eucalyptus spp.</i>)</li> <li>pinus (<i>Pinus spp.</i>)</li> </ul>	NA
UCSF	<ul style="list-style-type: none"> <li>coast live oak (<i>Quercus agrifolia</i>)</li> <li>California buckeye (<i>Aesculus californica</i>)</li> <li>California bay (<i>Umbellularia californica</i>)</li> </ul>	<ul style="list-style-type: none"> <li>New Zealand Christmas tree (<i>Metrosideros excelsa</i>)</li> </ul>	NA
SFGH	<ul style="list-style-type: none"> <li>flax-leaf paperbark (<i>Melaleuca linariifolia</i>)</li> <li>queen palm (<i>Syagrus romanzoffiana</i>)</li> </ul>	<ul style="list-style-type: none"> <li>redwood (<i>Sequoia sempervirens</i>)</li> </ul>	<ul style="list-style-type: none"> <li>flax-leaf paperbark (<i>Melaleuca linariifolia</i>)</li> </ul>

<sup>11</sup> SFPW issued 52 fines to proper owners, for excessive pruning, illegal removals or failure to protect trees during construction.

## **Attachment I: 2017 Annual Survey Questions**

Sent to agencies that physically manage trees.

- City College of San Francisco (CCSF)
- Friends of the Urban Forest (FUF)
- Laguna Honda Hospital (LHH)
- Office of Community Investment and Infrastructure (OCII)
- Pacific Gas and Electric (PG&E)
- Port of San Francisco (Port)
- Presidio Trust (Trust)
- Recreation and Park Department (RPD)
- San Francisco Housing Authority (SFHA)
- San Francisco International Airport (SFO)
- San Francisco Municipal Transportation Agency (SFMTA)
- San Francisco Public Utilities Commission (SFPUC)
- San Francisco Public Works, Bureau of Urban Forestry (SFPW)
- San Francisco State University (SFSU)
- San Francisco Unified School District (SFUSD)
- Treasure Island Development Authority (TIDA)
- University of California, San Francisco (UCSF)
- Zuckerberg San Francisco General Hospital (SFGH)

# Annual Urban Forest Report Survey

*Fiscal Year 2016-2017* PLEASE RETURN BY 7/28/17

Pursuant to [Chapter 12, Section 1209 of the Environment Code](#), SF Environment is surveying your organization's forestry program work during the last fiscal year. Thank you for your participation in this process.

### I. Agency Information:

Name of Agency/Department/Organization:	
Your Name:	
Email:	

### II. Work force:

<b>A. How many urban forest related staff positions does your organization have?</b> <i>For example, arborists, tree climbers, gardeners who care for trees, or staff who monitor or report on trees.</i>	
<b>B. How many full-time equivalent staff positions work <u>only</u> on tree planting, care, and removal?</b> <i>For example, if your organization has 2 staff members who each spend 10 hours per week working on trees, enter 0.5 FTE.</i>	

### III. Budget:

<b>A. What is your organization's total budget?</b>	
<b>B. What is your urban forestry related budget?</b>	
<b>C. Does your urban forestry related budget fund anything other than tree care (such as education or lawn and shrub care)? If "yes," please estimate the percentage or amount of funding listed in your urban forestry related budget (above) spent specifically on tree planting and maintenance.</b>	

### IV. Health and Diversity of the Urban Forest:

<b>A. What are the three most common species of trees you planted this fiscal year?</b>	
<b>B. Are there any species you feel are struggling in San Francisco, or species you have decided to no longer plant?</b>	
<b>C. Did you experiment with planting any new or less common species this year? If so, what were they?</b>	



## Annual Urban Forest Report Survey

*Fiscal Year 2016-2017*

**PLEASE RETURN BY 7/28/17**

**V. Tree Care (planting, maintenance, and removals):**

**A. How many trees were planted, cared for, and removed within your organization's jurisdiction in FY2016-17? Do not include tree care performed for other entities by your agency.**

Planted	
Cared for <i>[i.e. pruning &amp; hand watering]</i>	
Removed*	

**\*If trees were illegally removed/missing or vandalized to the point of requiring removal, please include these numbers in the "removed" box above and provide a short explanation here. For example, if trees were missing or severely vandalized or damaged and had to be replaced, please describe the number of trees and situation below.**

**B. If your organization performed urban forest related work for another entity during the past year, please provide the requested information below. Add more tables if needed, or leave blank if not applicable.**

Entity name	
Planted	
Cared for	
Removed	

Entity name	
Planted	
Cared for	
Removed	

Entity name	
Planted	
Cared for	
Removed	

Entity name	
Planted	
Cared for	
Removed	





**Annual Urban Forest Report Survey**  
*Fiscal Year 2016-2017* **PLEASE RETURN BY 7/28/17**

C. If another entity performed urban forest related work for your organization during the past year, please provide the requested information below. Add more tables if needed, or leave blank if not applicable.

Entity name	
Planted	
Cared for	
Removed	

Entity name	
Planted	
Cared for	
Removed	

Entity name	
Planted	
Cared for	
Removed	

Entity name	
Planted	
Cared for	
Removed	

**VI. Fiscal Year General Liability Claims**

Please answer the questions below if any general liability claims made against your agency due to issues related to trees. For example, trip and falls on exposed roots or branch failures that damaged persons or personal property.

A. Total general liability claims related to trees	
B. Total number of paid general liability claims related to trees	
C. Average dollar amount of tree-related claims paid	



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*Fiscal Year 2016-2017* **PLEASE RETURN BY 7/28/17**

**VII. Concerns & Limitations**

Many organizations have reported similar concerns related to the urban forest and similar limitations when attempting to address these concerns. We are tracking these concerns and limitations over time to identify trends.

<b>A. Concerns:</b>	
Please rate the following concerns on a 1 to 5 scale:	
1 – not at all concerned	
2 – slightly concerned	
3 – somewhat concerned	
4 – moderately concerned	
5 – extremely concerned	
Inability to provide adequate care to newly planted trees	
Inability to provide adequate care to established trees	
Inefficiencies in the way forestry programs operate on a city-wide basis	
Loss of significant numbers of trees due to age and/or disease	
Loss of significant numbers of trees due to vandalism, illegal pruning, and/or illegal removal	
Loss of significant numbers of trees due to development	

<b>A. Limitations:</b>	
Please rate the following limitations on a 1 to 5 scale:	
1 – not at all a limitation	
2 – minor limitation	
3 – medium limitation	
4 – moderate limitation	
5 – serious limitation	
Funding constraints	
Staffing constraints	
Prioritization of urban forestry programs within your agency/the city at large	
Lack of coordinated efforts to protect and manage the overall urban forest	
Lack of tree inventory specific to your agency (if applicable)*	
Lack of management plan specific to your agency (if applicable)*	



**Annual Urban Forest Report Survey**  
*Fiscal Year 2016-2017* **PLEASE RETURN BY 7/28/17**

**VIII. Significant Changes**

<p>What, if any, significant changes or accomplishments have taken place within your organization's urban forest programs in the last fiscal year? For example, staffing or budget changes, new major projects or programs, changes to forestry management programs or oversight, or any significant achievements.</p>

**IX. Topics of Concern**

<p>What topics are of greatest concern in your organization this year? For example, concerns about drought conditions affecting tree health, including increased pest or disease pressure, other tree health concerns, jurisdictional issues, or public response to an agency plan. We're interested in keeping our ears to the ground to know what matters most to you and your organization.</p>

**X. OPTIONAL**

<p>Do you have any recommendations, comments, or suggestions for us to improve the method of data collection, the annual report, or other processes related to the Annual Urban Forest Report?</p>

**Thank you for your participation. Please return this form and direct any questions to:**

Gordon Matassa  
Urban Forestry & Green Purchasing Analyst  
SF Environment  
[gordon.matassa@sfgov.org](mailto:gordon.matassa@sfgov.org)  
P: 415-355-3731  
F: 415-554-6393



## **Attachment II: 2017 Alternative Annual Survey Questions**

Sent to agencies involved in administration and management of the urban forest that do not physically manage trees.

- San Francisco Planning Department (Planning)

# Annual Urban Forest Report Alternative Survey

*Fiscal Year 2016-2017* PLEASE RETURN BY 7/28/17

Pursuant to [Chapter 12, Section 1209 of the Environment Code](#), SF Environment is surveying your organization's forestry program work during the last fiscal year. Thank you for your participation in this process.

**Part I**

**1. Agency Information:**

Name of Agency/Department/Organization:	
Your Name:	
Email:	

**2. Work Force & Budget:**

A. How many urban forest related staff positions does your organization have?	
B. What is the budget for your urban forest related programming in the 2016-2017 fiscal year?	

**3. Assistance to San Francisco-based Urban Forestry Programs or Organizations**

A. Did you provide <u>TECHNICAL</u> assistance to any urban forestry programs or organizations in San Francisco? If so, please identify the programs and/or organizations and the nature of the assistance.	
B. Did you provide <u>FINANCIAL</u> assistance to any urban forestry programs or organizations in San Francisco? If so, please identify the programs and/or organizations and the nature of the assistance.	

**4. Other San Francisco Projects/Programs**

Did you work on any other projects not discussed in Question III that may affect San Francisco's urban forest?	
A. If yes, what is the project/program status?	
B. How can we assist or work with you on these projects/programs?	



**Annual Urban Forest Report Alternative Survey**  
*Fiscal Year 2016-2017* **PLEASE RETURN BY 7/28/17**

**Part 2: Additional Questions**

5. What, if any, significant changes or accomplishments have taken place within your organization's urban forestry programs in the last fiscal year? For example, staffing or budget changes, new major projects or programs, changes to forestry management programs or oversight, or any significant achievements?

6. Are you working on regional, statewide, or national issues that we should know about and/or can support locally?

7. What topics are of greatest concern in your organization this year? For example, concerns about drought conditions affecting tree health, including increased pest or disease pressure, other tree health concerns, jurisdictional issues, or public response to an agency plan. (We are interested in keeping our ears to the ground to know what matters most to you and your organization.)

8. OPTIONAL: Do you have any recommendations, comments, or suggestions for us to improve the method of data collection, the annual report, or other processes related to the Annual Urban Forest Report?

**Thank you for your participation. Please return this form and direct any questions to:**

Gordon Matassa

Urban Forestry & Green Purchasing Analyst

SF Environment

[gordon.matassa@sfgov.org](mailto:gordon.matassa@sfgov.org)

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F: 415-554-6393

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[sfenvironment.org/buildings-environments/urban-forestry](http://sfenvironment.org/buildings-environments/urban-forestry)

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