

2018

ANNUAL URBAN FOREST REPORT

FISCAL YEAR JULY 2017 – JUNE 2018

15 YEAR ANNIVERSARY

2003-2018



SAN FRANCISCO URBAN FORESTRY COUNCIL

IN MEMORIAM



The Honorable Edwin Mah Lee

May 5, 1952 – December 12, 2017

"We have to work together as residents to have an environment that we're proud of."

- Mayor Edwin M. Lee

Delivered at the Proposition E Press Conference, July 19, 2017

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Submitted to Mayor London N. Breed 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.



Urban Forestry Council members from left to right:

- Zack Taylor, Park Services Manager, San Francisco Recreation and Park Department
- Tom Carter, Deputy Director, Maintenance, Port of San Francisco
- Damon Spigelman, Public Utilities Commission
- Nicholas Crawford, Board Certified Master Arborist, Davey Tree Company – VICE CHAIR
- Dan Flanagan, Executive Director of Friends, the Urban Forest – CHAIR
- Carla Short, Superintendent of Urban Forestry, San Francisco Public Works
- Phil Pierce, Community Representative
- Michael Sullivan, Partner, Orrick, Herrington & Sutcliffe
- Jon Swae, Urban Forest Plan Manager, San Francisco Planning Department
- Blake Troxel, Presidio Trust

Not pictured:

- Malcolm Hillan, Environmental Horticulture Professor, City College of San Francisco
- Igor Lacan, Urban Forestry Advisor, UC Cooperative Extension
- Meg Lowman, Director of Global Initiatives, California Academy of Sciences
- Andrew Sullivan, Landscape Architect

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Front cover photo by Chris Lawton on Unsplash
Photo of Mayor Lee Tree Planting by San Francisco Public Works
Back cover photo by William Bout on Unsplash

Executive Summary

In its fifteenth year, the 2018 Annual Urban Forest Report provides an analysis of survey data from public, private, and nonprofit agencies that plant and/or maintain the urban forest within the

City and County of San Francisco in Fiscal Year 2017-2018 (FY17-18). When possible, the analysis compares FY17-18 data with the previous three years of data, starting in FY14-15. Trends are identified through comparisons across all four 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 2018 survey is provided in Tables 1-3 at the end of the report.

Findings demonstrate that tree activities in San Francisco have increased across the board in FY17-18. Most significant is the increase in trees maintained. The number of trees planted increased from previous years, as has the number of trees removed, resulting in a net loss of trees in the last year. Tree removals were expected to increase this past year because of the implementation of *StreetTreeSF*. Dead, dying, diseased, and potentially hazardous street trees have not begun to be addressed until this past year because of lack of funding. San Francisco Public Works is now able to maintain all street trees, including those in need of removal. The increase in tree removals is expected to continue to be high in subsequent years as Public Works continues to address tree removal work.

Tree planting activities cannot currently keep up with tree removals for a variety of reasons, primarily funding. *StreetTreeSF* provides funding for street tree maintenance but does not fund tree planting. Friends of the Urban Forest continues to seek grant funding for tree planting. They recently received a grant from the California Department of Forestry and Fire Protection (Cal Fire) to plant 2,000 trees in the next two years. This will be reported in in future Annual Urban Forest Reports. Other agencies continue to struggle to fund tree planting and maintenance activities on public and private lands throughout San Francisco.

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.

2003 – 2018: Fifteen Years of the San Francisco Urban Forestry Council and the Annual Urban Forest Report

San Francisco's first Urban Forest Report was delivered to Mayor Willie L. Brown, Jr. and the Board of Supervisors in September 2003, just five months after the Urban Forestry Council convened for the first time. This first report outlined the goals of the Urban Forestry Council and their plan to meet them. Since 2004, the focus of the report is on tree management throughout San Francisco. Each year, city, federal, nonprofit, and private agencies with jurisdiction over San Francisco's urban forest are surveyed for this report. Their survey data is compiled and analyzed by the Urban Forestry Council's staff to provide the Mayor and the Board of Supervisors with the most comprehensive analysis of the City's trees available.

The survey has evolved over the years to include more pointed questions about agency budgets, agency concerns and limitations, staffing information, tree health, and the number of trees planted, maintained, and removed each fiscal year. The survey had its most abrupt change in 2010 when it moved to its current structure asking more objective answers that can be tracked over time. No survey went out in 2006 and 2007 because of transitions in the Urban Forestry Council and staffing at the San Francisco Department of the Environment.

While responding to the survey is required by Chapter 12, Section 1209 of the Environment Code, not all agencies respond. The requested agencies and response rate has varied over the years, but has maintained a ninety percent response rate in each of the last four years.

In the last fifteen years, these reports documented the struggles San Francisco's forest has faced, including years of extreme drought, inadequate funding for tree maintenance starting with the financial crisis of 2008, and political mandates that have been unfavorable for a healthy urban forest. They have also captured the milestone achievements of many agencies' urban forestry improvements as well, including, but not limited to, adoption of Phase I of the San Francisco Urban Forest Plan, the City's first complete street tree inventory, and the passing of Proposition E (2016), which created the *StreetTreeSF* program and allocated \$19M annually to San Francisco Public Works to maintain all street trees and related sidewalk damage. This is the culmination of many years of work by various agencies to fund street tree maintenance and turn around city policies that were detrimental to a healthy urban forest. It is a significant accomplishment that puts San Francisco at the global forefront of effective municipal urban forestry practices. *StreetTreeSF* has the potential to begin the golden age for San Francisco's street trees.

As the world begins to more and more feel the effects of climate change, the importance of urban forests as a climate solution will continue to grow. The Annual Urban Forest Report and related survey has thus far focused on urban forestry management but has not focused on the details of the species of trees planted and the size and species of trees removed each year throughout San Francisco. This data would help quantify the benefits of the urban forest, and particularly its role in reaching San Francisco's climate goals. The Urban Forestry Council is exploring the inclusion of such data in future reports.

Urban Forestry Milestones – 2003-2018

2003 – San Francisco Urban Forestry Council is formed by ordinance (Environment Code, Chapter 12).

2005 – Mayor Gavin Newsom’s “Trees for Tomorrow” campaign commits to planting 25,000 trees over a five-year period.

2006 – Landmark Tree Ordinance passed to amend Article 16 of the Public Works Code to protect and honor trees with great cultural, historical, horticultural, or environmental value.

2006 – San Francisco Urban Forestry Council adopts an Urban Forest Plan.

2007 – U.S. Forest Service publishes a comprehensive assessment of San Francisco’s urban forest.

2013 – Street tree financing study prepared by AECOM.

2015 – San Francisco Urban Forest Plan, Phase 1: Street Trees adopted by the Board of Supervisors.

2016 – Passing of Proposition E (*StreetTreeSF*) secures \$19M per year to maintain San Francisco street and median trees.

2017 – Completion of first citywide complete street tree inventory, *EveryTreeSF*, identifies 124,795 street trees in San Francisco.

2018 – San Francisco awarded with the *Champion of Trees Award* from the Arbor Day Foundation for exemplary leadership to develop and implement new policies and practices for municipal tree planting and care.



2017 Proposition E Press Conference. From left: Jon Swae, San Francisco Planning Department, Carla Short, San Francisco Public Works Bureau of Urban Forestry, Dan Flanagan, Friends of the Urban Forest. Photo by San Francisco Public Works.

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 the same as 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 FY17-18. 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

- California Department of Transportation, District 4 (Caltrans)
- 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:

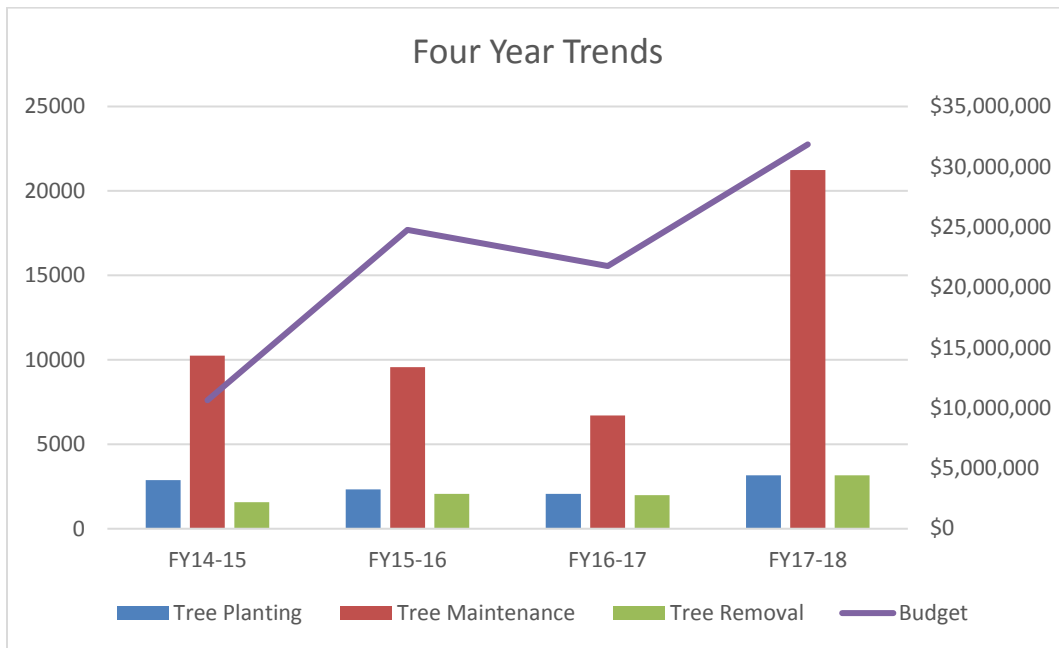
- City College of San Francisco (CCSF)
- Golden Gate National Recreation Area (GGNRA)

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 four years, of which there are eleven:

- 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 (eleven agencies)

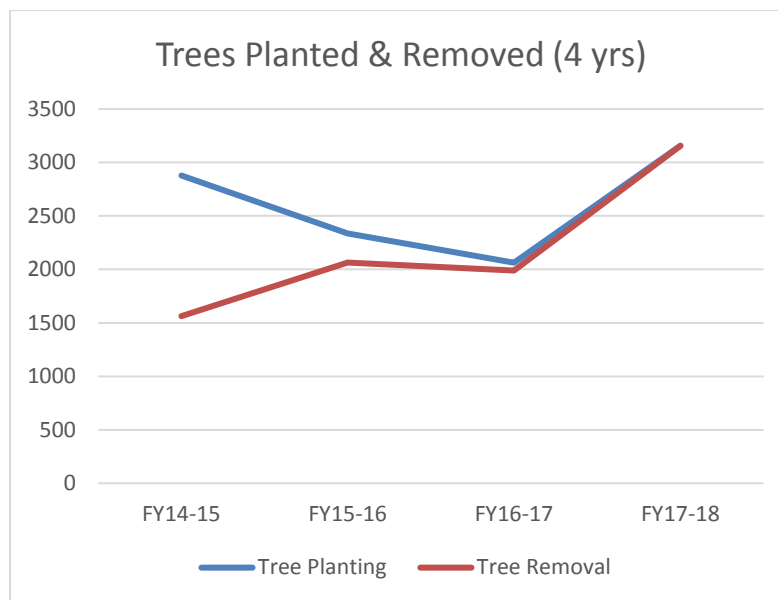


Urban forestry budgets, tree planting, tree maintenance, and tree removal all increased in FY17-18 (see Figure 1 above). The number of trees maintained is the category with the largest change with an increase of 68 percent from FY16-17 (6709) to FY17-18 (21,232). Tree maintenance slowly decreased from FY14-15 to FY16-17, but the implementation of *StreetTreeSF* was the greatest contributor to the large increase in tree maintenance activity in the past fiscal year. The

funding from *StreetTreeSF* gave Public Works the ability to increase their tree care efforts (both in-house and contract) by 86 percent between FY16-17 (2,372) and FY17-18 (16,493). Friends of the Urban Forest (FUF) also increased the number of young street trees maintained by 19 percent from the previous year.

Most agencies reported relatively similar budgets between FY17-18 and FY16-17, with a few receiving increases and a lesser number seeing budget decreases. Public Works and FUF provided the significant jump in their urban forestry budgets. FUF's budget increased by 20 percent from the previous year, and Public Works' by 51 percent due to the \$19 million allocated by *StreetTreeSF*.

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



In FY17-18, the number of trees planted (3,157) exceeded the number of trees removed (3,156) by one single tree. While tree removals increased 37 percent from the previous fiscal year, tree planting only increased by 35 percent. Overall, these changes demonstrate a shrinking urban forest, but this is one of two important steps in creating a more resilient and healthier urban forest over the long term. The obvious second step is increasing the number of trees planted each year.

Canopy loss -

As expected, the implementation of *StreetTreeSF* is resulting in the removal of dead, dying, and structurally unsound trees. Removals increased by 59 percent in comparison to tree removals by Public Works prior the year prior to *StreetTreeSF*. The high rate of removals is primarily due to lack of maintenance for so many years prior to the new funding stream. Had maintenance not been deferred, the number of trees requiring removal would be significantly fewer. The rate at which trees are removed in subsequent years will decrease, but it is uncertain if FY17-18 will prove to be the peak year for removals by Public Works.

The rate of removals is expected to continue to increase over the next few years. Recreation & Parks Department's (RPD) Natural Resources Management Plan (adopted in 2017) will also

contribute to the increase in tree removals in future years. RPD only removed 184 trees in FY17-18 and planted 281.

Canopy increase –

Tree planting increased since last year and is expected to continue growing, dependent on funding. FUF was awarded \$1.5 million from the California Department of Forestry and Fire Protection (CalFire) this fiscal year to plant 2,000 trees in the southeast section of San Francisco over the next two years. FUF increased the number of trees it planted from FY16-17 (917) to FY17-18 (1507) by 39 percent and is continuing to hire more staff to increase their abilities to plant street trees and install sidewalk gardens.

Additionally, the University of California, San Francisco (UCSF) increased their planting by 68 percent, from 80 trees in FY16-17 to 250 trees in FY17-18. UCSF is currently implementing the recommendations in the Mount Sutro Open Space Vegetative Management Plan.

Canopy increase will likely fluctuate widely in upcoming years because of a lack of dedicated funding and a variety of differing or non-existent replanting goals by the various agencies reporting. Article 16 of the Public Works Code requires that at least one street tree be planted for every tree removed, unless restricted by utility placement (in which an in-lieu fee is paid to Public Works to plant a tree elsewhere in the City). Between Public Works and FUF, 2,290 street trees were planted in FY17-18 and 2,646 removed. Removals outpaced replanting in FY17-18 primarily due to funding and the capacity to water new trees. *StreetTreeSF* does not allocate funding for tree planting or establishment care, including watering. Public Works cites watering to be major impediment for planting trees. Contractors are needed to water trees, but there is limited number of contractors with the ability to do this.

RPD has a replanting goal of two trees for every one tree removed in all parks. This goal does not apply to natural areas outside of city limits.

The City of San Francisco and Friends of the Urban Forest were presented with the Arbor Day Foundation's *Champion of Trees Award* on Arbor Day, 2018.





Current Street Tree Estimate

*EverTreeSF**, a complete street tree inventory, was conducted between 2013-2017 and identified 124,795 street and median trees throughout San Francisco.

Using the reported data on street tree planting and removal by San Francisco Public Works and Friends of the Urban Forest for this report, the current total number of street trees as of June 30, 2018 is estimated at 124,796. In FY17-18, 3,157 new street trees were planted and 3,156 were removed.

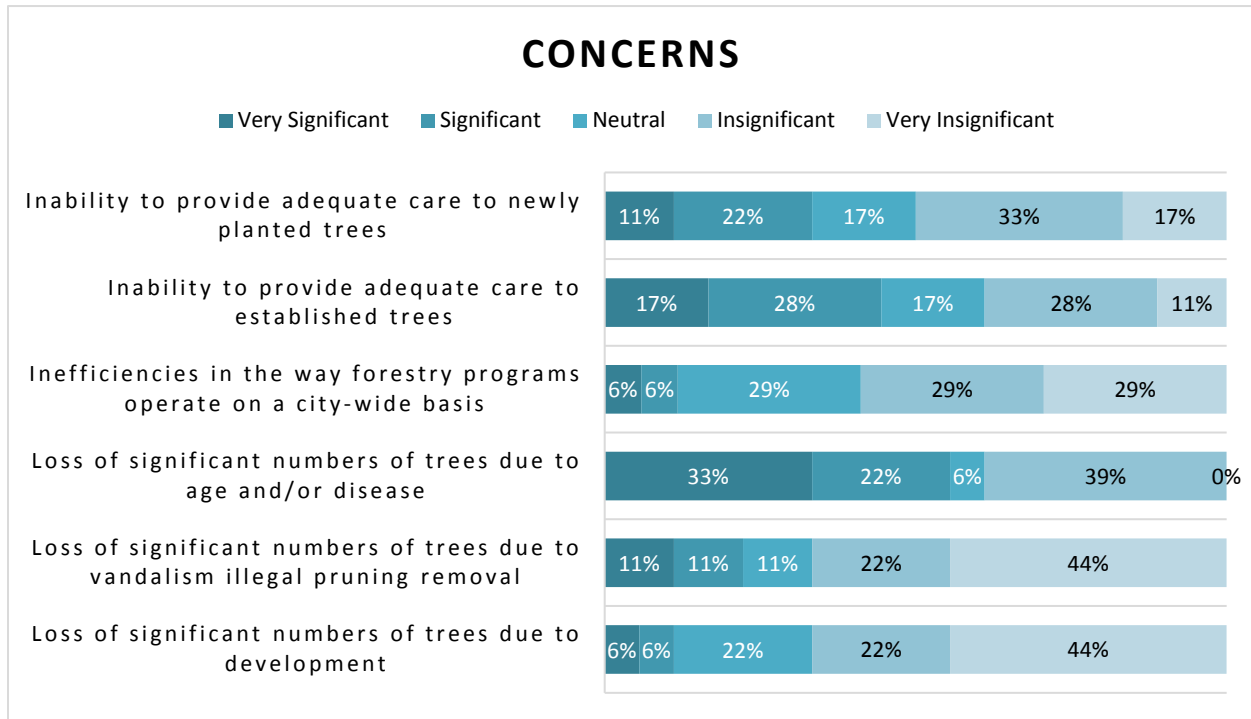
Maintaining stasis does not meet the goals of the *San Francisco Urban Forest Plan: Phase I*, which recommends the addition of 50,000 trees by 2034. Tree planting activities will need to increase.

*Inventories show a snapshot in time of the urban forest at the time the inventory was taken.

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 2018.

Figure 3. Concerns: Responses to common concerns



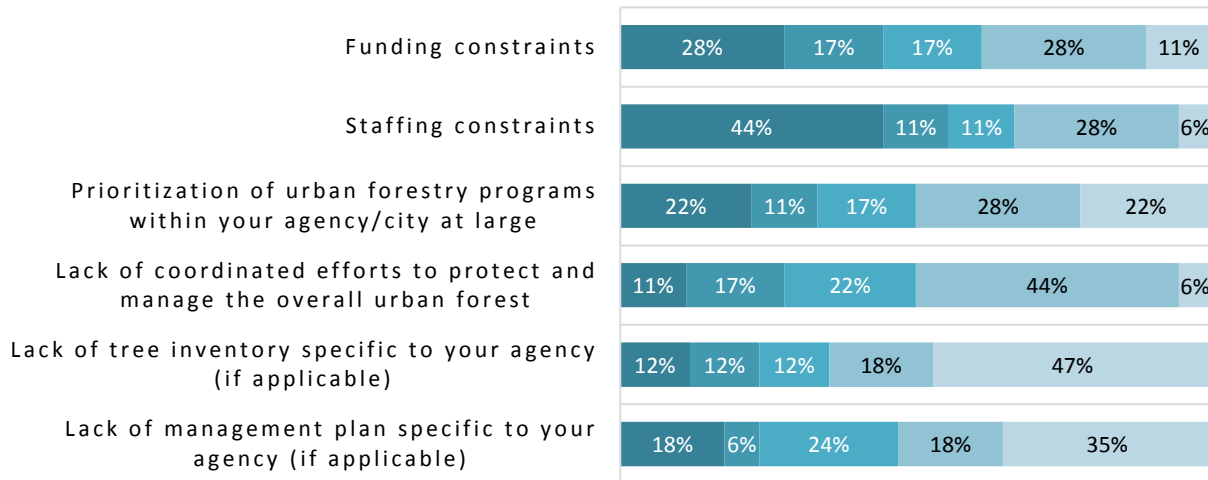
In general, agencies rated their concerns very similarly to their rating in FY16-17. The least concern with the loss of significant numbers of trees due to vandalism, illegal pruning, and/or illegal removal, as well as from development. This may indicate that fewer trees are being lost due to these reasons, 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. 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

LIMITATIONS

■ Very Significant
 ■ Significant
 ■ Neutral
 ■ Insignificant
 ■ Very Insignificant



Agencies reported staffing constraints as the primary limitation they faced in FY17-18, with funding constraints close behind. Reported staffing levels have steadily increased since FY14-15 but circumstances such as the care and maintenance needs for mature trees coming out of 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.

General Liability Claims

This is the second year that questions about tree-related general liability claims were included in the survey. The goal is to identify 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. While some agencies were able to get the data, others were not at liberty to share. 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.



Path in Golden Gate Park. Photo by Gordon Matassa, San Francisco Department of the Environment

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 FY17-18 survey responses.

Friends of the Urban Forest (FUF) helps individuals and neighborhood groups plant and care for street trees and sidewalk gardens in San Francisco. FY17-18 was a big year for FUF as they began to develop and implement changes to their planting model while planting more trees than they have in many years. There are several significant changes: 1) FUF can now plant street trees without the adjacent property owner's approval, 2) there is currently no tree co-pay charged to the property owner, and 3) Public Works has begun watering most of the trees that FUF plants. FUF is committed to integrating property owners, neighbors and the community in our tree plantings so they balance the need for increased tree planting numbers with the fact that some property owners do not want a tree on the sidewalk adjacent to their property. FUF continues to work closely with Public Works to improve systems and develop consistent messaging about tree planting and care in San Francisco. Additionally, FUF's community-based Sidewalk Landscaping program continues to be popular. Having an outreach manager to focus on developing interest and participation has increased individual and community participation. Finally, FUF continues to improve their education programs, intern program, and the Green Crew has been consistently staffed and participants report that they are well trained. FUF continues to be concerned about the condition of the urban forest in San Francisco. The impacts of drought and climate change continue to diminish our canopy coverage while *StreetTreeSF* provides the platform to better manage these statewide issues. FUF is focused on improving systems with Public Works to better plant and manage more trees per year.

The **California Department of Transportation District 4** (Caltrans) manages trees and green spaces on state rights-of-way in the Bay Area and works with the Adopt-A-Highway division to allow neighborhood groups access to land for community gardening. Caltrans has identified tree canopy as a key component in their efforts to mitigate greenhouse gas emissions and is about to begin calculating canopy and tree count. They cite drought conditions as an ongoing problem affecting tree health.

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 bark beetle infestations in their pine trees. They are monitoring the situation.

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 2018, PG&E used LiDAR to identify trees that may need maintenance, and only used that data to determine where inspectors needed to go. This was a pilot to see if remote sensing technology could be used to improve the efficiency and accuracy of utility line clearance inspection in an urban environment. PG&E is concerned that residents receive appropriate messaging about which agency is responsible for the maintenance of street trees with limbs that are within ten feet of power lines, as well as coordinating such tree maintenance with San Francisco Public Works.

The **Port of San Francisco** (Port) manages the care of trees along the San Francisco Bay waterfront. The Port Maintenance Division added one gardener to its staff this year, increasing their total number of gardeners to three. The Port continues to be concerned with the health of the Canary Island palms (*Phoenix canariensis*) on the Embarcadero. San Francisco Public Works, Bureau of Urban Forestry is effectively managing their care. None had to be replaced this year. The Port continues to set aside budget funding annually should the any of the palms need replacement.

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 is working towards trying to better understand how to promote forest diversification within their forest stands regarding structure, composition, species, age, and more.

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.

The **San Francisco Housing Authority** (SFHA) has a maintenance agreement with Public Works to maintain trees around residences on SFHA land. Housing facilities are undergoing redevelopment and new buildings were built at two sites this fiscal year. Primary concerns of SFHA are responding to emergencies and providing safe housing to their residents.

The **San Francisco International Airport** (SFO) manages natural areas, trees, and landscaped areas surrounding the San Francisco International Airport. SFO has been limited in new tree planting opportunities and species selection due to concerns raised by the FAA about creating habitat. As far as accomplishments, SFO has begun a more active restoration program in the West of Bayshore area, which is habitat for the endangered species of San Francisco garter snake and red legged frog. This includes planting native species and removal of invasive species. Due to its location away from the Airfield, there are no habitat concerns for operations. As the Airport urban forest matures, SFO's main maintenance concerns are providing structural clearance around elevated roads, as well as maintaining signage clearance and visibility. The Airport has had an active beneficial insect release program going for the last few years and this appears to have helped with a scale issue on redwoods, their major pest concern that has grown in recent years due to drought stress.

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. Their concerns include securing 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. The Natural Resources Division hired a manager to address and follow up on tree-related concerns and activities within San Francisco. Their greatest concern is the age and condition of the trees on lands under their jurisdiction. The City Distribution Division lost their interdepartmental Recreation & Park tree crew due to retirement and management changes. They are concerned with their inability to respond to public safety emergencies now that they have lost this tree crew.

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. Proposition E, known as *StreetTreeSF* going forward, became effective the first day of this fiscal year. Public Works assumed the maintenance responsibility for all of the trees within the public right-of-way. The first year focused on ramping up efforts, including engaging eight tree contractors, seven cement contractors, and initiating the hiring of additional in-house crews, including laborers, arborists, and arborist supervisors. In the first year, SFPW addressed 17 percent of total tree maintenance needs, and have developed a strategic implementation system targeting the "worst first" with focus on public safety and addressing "Priority 1" and "Priority 2" pruning and removal. The Bureau of Urban Forestry now have a Public Information Officer, which allows them to keep our public outreach updated and provide transparency. The public is notified of *StreetTreeSF*-related work via door hanger and A-frame signs their neighborhoods. The significant budget increase has enabled the Bureau of Urban Forestry to address more trees than ever before. There are some challenges hiring in-house crews, which means relying more heavily on contractors in the early years of implementation. SFPW has a few concerns, including securing funding for the planting and watering of replacement and newly-planted trees. *StreetTreeSF* funding does not provide for these activities, which are crucial to ongoing urban forest health.

San Francisco State University (SFSU) manages an urban forest that provides a network of windbreaks, bird nesting habitat, and sheltered courtyards. SFSU has increased its tree care staff, improved staff training, replaced climbing gear and tools, and purchased better tree tracking software. Their concerns include the continued decline of mature trees due to drought conditions.

The **San Francisco Unified School District** (SFUSD) provides care and maintenance for approximately 3,000 trees on 430 acres of school district property. SFUSD planted forty coast

redwoods (*Sequoia sempervirens*) for school properties as part of a reforestation effort, and they are working with San Francisco Public Works for the maintenance of their trees (funded through StreetTreeSF). Lack of funding to replace removed trees continues to be an ongoing concern.

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 completion of a Memorandum of Agreement (MOA) with the Treasure Island Community Development and San Francisco County Transportation Authority to purchase and plant three hundred native trees to mitigate the construction of westbound ramps by the San Francisco County Transportation Authority. This past fiscal year, both TIDA and master developer TICD have experienced challenges locating established local contractors who will reliably execute specific project scopes both standard tree removals and more technical tree maintenance/cabling.

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. In this fiscal year, UCSF hired a limited-appointment employee to assist with the implementation of the Mount Sutro Open Space Reserve Management Plan. The management of significant tree loss attributed to drought, pests and diseases, and overcrowding of trees is a large concern for UCSF.

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 added one full-time gardener to its staff in this fiscal year. They are concerned with occurrences of tree vandalism, bark beetles, and an upcoming major construction project that will require the removal of a large number of trees.



Photo by [Joshua Hanks](#) on [Unsplash](#)

Annual Survey Response Data

California Department of Transportation	Caltrans	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 1. Staffing & Budgets

Agency	Urban forestry-related staff positions	FTE equivalent staff performing forestry work	Total department budget	Urban forestry-related budget
Caltrans	176	9	\$7,000,000	0
FUF	7	3	\$4,018,201	\$3,483,619
LHH	2	0	unknown	\$80,000
OCII	0	0	\$745,000,000	unknown
PG&E	1	3	varies	varies
Port	3	0	\$104,479,000	\$542,457
Trust	9	8	Unknown	Unknown
RPD	26	26	\$221,500,000	\$5,000,000
SFHA	0	0	Unknown	Unknown
SFO	10	1.5	unknown	\$100,000
SFMTA	1	1	unknown	\$200,000
Planning	0.1	0	unknown	unknown
SFPUC	1	1	unknown	unknown
SFPW	52.24	41.24	\$3,123,939,799	\$20,141,166
SFSU	3	3	\$2,700,000	\$300,000
SFUSD	2	0	\$1,000,750	\$90,000
TIDA	2	0.5	\$18,532,000	\$1,500,000
UCSF	10	3	\$37,000,000	\$500,000
SFGH	3	0.25	\$600,000,000	\$31,000
TOTALS	133.01	74.86	\$4,865,169,750	\$31,968,242

Table 2. 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)
Caltrans	0	0	23		
FUF	1507	3152	0	SFUSD: P-56, M-368; SFE Carbon Fund: P-2	
LHH	10	50	0		C.Campbell Tree Design: M-20;
OCII	unknown	unknown	unknown		
PG&E	0	2400	150		
Port	0	130	2		
Trust	200	unknown	75		
RPD	281	347	184		
SFHA	0	50	10		JTS: M-50, R-10
SFO	50	400	10	Caltrans P-20, M-250, R-10	Bartlett: M-20
SFMTA	8	8	7		FUF: P-7
SFPUC	0	24	15		RPD: M-10, R-10; Precision Tree Care: M-4, R-9; Arborwell: M-20, R-5
SFPW	783	20,077	3,270	SFUSD: M-101, R-21; SF Sheriff: M-106, R-33; SFMTA: M-18	FUF: P-1200; ArborMD: M-117, R-8; Arborist Now: M-869, R-165; ArborWell: M-496, R-60; Capax: M-2493, R-224; WCA: M-2845, R-458
SFSU	103	300	50		Prof. Tree Co.: M-5, R-8; New Sky Tree: R-19; Arborist Now: R-7
SFUSD	175	350	30		Peninsula: M-40, R-15; FUF: P-50, R-150; Living Library: P-50, M-100; SFPW: M-100, R-12
TIDA	0	28	179		JTS: R-5; TICD: M-8, R-167; SFCTA: M-7, R-7; Rubicon: M-10; LEJ: M-10
UCSF	250	varies	33		Bartlett: M-133, R-19; Davey: M-42, R-8; A-Plus: M-120, R-6; Sutro Stewards: P-30, M-30
SFGH	12	75	17		Private Co.: R-5
TOTALS	3,379	27,391	4,055		

Table 3. Species Selection & Diversity

Agency	Most Common Species Planted	Struggling Species	Experimental Species
Caltrans		<i>Eucalyptus</i> spp.	
FUF	<ul style="list-style-type: none"> • tristania (<i>Tristaniaopsis laurina</i>) • bronze loquat (<i>Eriobotrya deflexa</i>) • magnolia (<i>Magnolia grandiflora</i>) 	<ul style="list-style-type: none"> • cherry (<i>Prunus</i> spp.) • strawberry (<i>Arbutus</i> 'Marina') 	<ul style="list-style-type: none"> • coast banksia (<i>Banksia integrifolia</i>) • gold medallion tree (<i>Cassia leptophylla</i>) • zelkova (<i>Zelkova serrata</i>) • elm (<i>Ulmus</i> 'Frontier', 'Accolade') • silver linden (<i>Tilia tomentosa</i> 'Sterling') • western sycamore (<i>Platanus racemosa</i>) • flame bottletree (<i>Brachychiton acerifolius</i>) • island oak (<i>Quercus tomentella</i>)
LHH	<ul style="list-style-type: none"> • citrus (<i>Citrus</i> spp.) • pines (<i>Pinus</i> spp.) • oak (<i>Quercus</i> spp.) • juniper (<i>Juniperus</i> spp.) • strawberry (<i>Arbutus</i> 'Marina') 		<ul style="list-style-type: none"> • Japanese blueberry (<i>Eleaocarpus decipiens</i>)
OCII		<ul style="list-style-type: none"> • poplar (<i>Populus</i> spp.) • sycamore (<i>Platanus</i> spp.) 	
PG&E			
Port		<ul style="list-style-type: none"> • myoporum (<i>Myoporum laetum</i>) • Canary Island palm (<i>Phoenix canaryensis</i>) 	
Trust	<ul style="list-style-type: none"> • Monterey pine (<i>Pinus radiata</i>) • Monterey cypress (<i>Hesperocyparis macrocarpa</i>) • redwood (<i>Sequoia sempervirens</i>) 	<ul style="list-style-type: none"> • Monterey pine (<i>Pinus radiata</i>) 	<ul style="list-style-type: none"> • redwood (<i>Sequoia sempervirens</i>) • Sargent's cypress (<i>Cupressus sargentii</i>) • MacNab cypress (<i>Cupressus macnabiana</i>)
RPD	<ul style="list-style-type: none"> • pines (<i>Pinus</i> spp.) • cypress (<i>Cupressus</i> spp.) • oaks (<i>Quercus</i> spp.) 	<ul style="list-style-type: none"> • pines (<i>Pinus</i> spp.) 	<ul style="list-style-type: none"> • canker-resistant pine (<i>Pinus</i> spp.) • thrips-resistant myoporum (<i>Myoporum</i> spp.)
SFHA			
SFO	<ul style="list-style-type: none"> • coast live oak (<i>Quercus agrifolia</i>) • Catalina ironwood (<i>Lyonothamnus floribundus</i>) • California buckeye (<i>Aesculus californica</i>) 	<ul style="list-style-type: none"> • redwood (<i>Sequoia sempervirens</i>) 	<ul style="list-style-type: none"> • banksia (<i>Banksia</i> spp.)

Agency	Most Common Species Planted	Struggling Species	Experimental Species
SFMTA	<ul style="list-style-type: none"> • tristania (<i>Tristaniopsis laurina</i>) 	<ul style="list-style-type: none"> • myoporum (<i>Myoporum laetum</i>) 	
SFPUC	<ul style="list-style-type: none"> • London plane (<i>Platanus x hispanica</i>) • strawberry (<i>Arbutus 'Marina'</i>) 	<ul style="list-style-type: none"> • eucalyptus (<i>Eucalyptus spp.</i>) • Monterey pine (<i>Pinus radiata</i>) • Monterey cypress (<i>Cupressus macrocarpa</i>), • myoporum (<i>Myoporum laetum</i>) 	
SFPW	<ul style="list-style-type: none"> • Brisbane box (<i>Lophostemon confertus</i>) • tristania (<i>Tristaniopsis laurina</i>) • bronze loquat (<i>Eriobotrya deflexa</i>) 	<ul style="list-style-type: none"> • Kwanzan cherry (<i>Prunus serrulata 'Kwanzan'</i>) 	<ul style="list-style-type: none"> • Higan cherry (<i>Prunus subhirtella 'Autumnalis'</i>)
SFSU	<ul style="list-style-type: none"> • vine maple (<i>Acer circinatum</i>) • paperbark maple (<i>Acer griseum</i>) • island oak (<i>Quercus tomentella</i>) 	<ul style="list-style-type: none"> • redwood (<i>Sequoia sempervirens</i>) • Monterey pine (<i>Pinus radiata</i>) • acacia (<i>Acacia spp.</i>) 	<ul style="list-style-type: none"> • deodar cedar (<i>Cedrus deodara</i>) • paperbark maple (<i>Acer griseum</i>) • vine maple (<i>Acer circinatum</i>) • California buckeye (<i>Aesculus californica</i>)
SFUSD	<ul style="list-style-type: none"> • redwood (<i>Sequoia sempervirens</i>) • coast live oak (<i>Quercus agrifolia</i>) • Catalina ironwood (<i>Lyonothamnus floribundus asplenifolius</i>) 	<ul style="list-style-type: none"> • Monterey pine (<i>Pinus radiata</i>) • ficus (<i>Ficus microcarpa</i>) 	
TIDA		<ul style="list-style-type: none"> • eucalyptus (<i>Eucalyptus spp.</i>) • acacia (<i>Acacia spp.</i>) 	
UCSF	<ul style="list-style-type: none"> • coast live oak (<i>Quercus agrifolia</i>) • California buckeye (<i>Aesculus californica</i>) • arroyo willow (<i>Salix lasiolepis</i>) 	<ul style="list-style-type: none"> • New Zealand Christmas tree (<i>Metrosideros excelsa</i>) 	<ul style="list-style-type: none"> • red willow (<i>Salix laevigata</i>) • valley oak (<i>Quercus lobata</i>) • boxelder (<i>Acer negundo</i>) • big leaf maple (<i>Acer macrophyllum</i>)
SFGH	<ul style="list-style-type: none"> • moonlight grevillea (<i>Grevillea 'Moonlight'</i>) • Kohuhu (<i>Pittosporum tenuifolium</i>) 	<ul style="list-style-type: none"> • redwood (<i>Sequoia sempervirens</i>) 	<ul style="list-style-type: none"> • eastern white pine (<i>Pinus strobus</i>)



Mayor Lee Memorial Tree Planting, May 5, 2018. Photo by San Francisco Public Works

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)

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Pursuant to [Chapter 12, Section 1209 of the Environment Code](#), the Department of the 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:

A. How many urban forest-related staff positions does your organization have? <i>For example, arborists, tree climbers, gardeners who care for trees, or staff who monitor or report on trees.</i>	
B. How many full-time equivalent staff positions work <u>only</u> on tree planting, care, and removal? <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:

A. What is your organization's total budget?	
B. What is your urban forestry-related budget?	
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.	

IV. Health and Diversity of the Urban Forest:

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



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PLEASE RETURN BY 8/24/18

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

A. How many trees were planted, cared for, and removed within your organization's jurisdiction in FY2017-18? Do not include tree care performed for other entities by your agency.

Planted	
Cared for (i.e. pruning & hand watering)	
Removed*	
*Please describe reasons for tree removals (e.g. dead, vandalized, for construction purposes, etc.)	

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/leave blank if not applicable.

1	Entity name	
	Planted	
	Cared for	
	Removed	

2	Entity name	
	Planted	
	Cared for	
	Removed	

3	Entity name	
	Planted	
	Cared for	
	Removed	

4	Entity name	
	Planted	
	Cared for	
	Removed	



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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/leave blank if not applicable.

1	Entity name	
	Planted	
	Cared for	
	Removed	

2	Entity name	
	Planted	
	Cared for	
	Removed	

3	Entity name	
	Planted	
	Cared for	
	Removed	

4	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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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.

A. Concerns:	
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	

A. Limitations:	
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)*	



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PLEASE RETURN BY 8/24/18

VIII. Significant Changes

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.

IX. Topics of Concern

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.

X. 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 Coordinator
San Francisco Department of the Environment
gordon.matassa@sfgov.org
P: 415-355-3731
F: 415-554-6393

Annual Urban Forest Report Survey
sfenvironment.org/city-trees

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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)

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PLEASE RETURN BY 8/24/18

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 2017-2018 fiscal year?	

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

A. Did you provide TECHNICAL 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 FINANCIAL 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?	



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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.*

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 Coordinator

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