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Agenda

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**THE ENVIRONMENT COMMITTEE  
OF THE CITY COUNCIL OF THE CITY OF SAN DIEGO**

**COUNCILMEMBER JENNIFER CAMPBELL, CHAIR  
COUNCILMEMBER VIVIAN MORENO, VICE CHAIR  
COUNCILMEMBER BARBARA BRY  
COUNCILMEMBER SCOTT SHERMAN**

**AGENDA FOR THE COMMITTEE MEETING OF  
THURSDAY, APRIL 18, 2019 AT 1:00 P.M.  
CITY ADMINISTRATION BUILDING  
COMMITTEE ROOM – 12<sup>TH</sup> FLOOR  
202 “C” STREET, SAN DIEGO, CA 92101**

**For Information, contact Liezl Gloria, Council Committee Consultant  
Email: [LGloria@sandiego.gov](mailto:LGloria@sandiego.gov) (mailto:LGloria@sandiego.gov) or Phone: (619) 235-  
5847**

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This information will be made available in alternative formats upon request, as required by the Americans with Disabilities Act (ADA), by contacting the Committee Liaison at (619) 533-3984 or [MWallace@sandiego.gov](mailto:MWallace@sandiego.gov). Requests for disability-related modifications or accommodations required to facilitate meeting participation, including requests for auxiliary aids, services or interpreters, require different lead times, ranging from five business days to two weeks. Please keep this in mind and provide as much advance notice as possible in order to ensure availability. Assistive Listening Devices (ALDs) are available in Council Committee Room upon request.

**ROLL CALL****APPROVAL OF COMMITTEE ACTIONS:**

March 14, 2019

**NON-AGENDA PUBLIC COMMENT:** This portion of the agenda provides an opportunity for members of the public to address the Committee on items of interest within the jurisdiction of the Committee. (Comments relating to items on today's docket are to be taken at the time the item is heard.) Comments are limited to two (2) minutes and are non-debatable. To exercise this right, members of the public must submit a Public Comment Request form prior to the meeting. At the conclusion of the comment, the Committee Chair has the discretion to determine appropriate disposition of the matter. Pursuant to open meeting laws, no discussion or action, other than a referral, shall be taken by the Committee on any issue brought forth under Non-Agenda Public Comment.

**COMMITTEE MEMBERS, MAYOR, INDEPENDENT BUDGET ANALYST, CITY ATTORNEY COMMENT****REQUESTS FOR CONTINUANCE**

**CONSENT AGENDA:** The following items are requests for Council Actions. Because these items may be handled quickly, if you wish to be heard submit your Request to Speak form prior to the start of the meeting. The following items are requests for Council Action.

ITEM-1: Award Task Order No. 3 to Ramona Paving and Construction Corp. for Utilities Undergrounding Program Block 4J1 Job 1 Project (Chollas).

Transportation & Storm Water; Alex Gostomelskiy, (619) 533-7426

ITEM-2: Award Task Order No. 4 to Ramona Paving and Construction Corp. for Utilities Undergrounding Program Block 4J1 Job 2 (Chollas).

Transportation & Storm Water; Nathan Patterson, (858) 541-4325

**DISCUSSION AGENDA:** The following items are requests for Council Action.

ITEM-3: Authorization to execute a contract with Kemira Water Solutions, Inc. (Bid No. 10089520-19-V) to purchase Ferric Chloride for Wastewater and Water Treatment Plants.

Public Utilities; Thomas Rosales, (858) 654-4245

ITEM-4: Authorize an amendment to the contract with Luth and Turley, Inc., to add \$5,000,000 in funding for remediation and clean up services related to water main breaks and sewer backups.

Public Utilities; Mike Bedard, (858) 654-4154

ITEM-5: Mission Trails Regional Park Master Plan Update, Mission Trails Regional Park Natural Resource Management Plan, and Related Amendments to the Navajo, Tierrasanta, and East Elliott Community Plans, Rancho Encantada Precise Plan, and General Plan.

Planning; Betsy Miller, (619) 533-4524

ITEM-6: Eighth Amendment to Curbside Recyclable Materials Processing & Marketing Contract with IMS Recycling Services and Allan Company.

Environmental Services; Barbara Lamb, (858) 573-1287

**INFORMATION AGENDA:** The following items are information only. No action will be taken by the Committee.

ITEM-7: Urban Forestry Program Update - Calendar Year 2018.

Transportation & Storm Water; Brian Widener, (619) 527-8050

ITEM-8: Presentation by the Community Forest Advisory Board: Urban Forest Management Challenges and Opportunities.

Council District 2; Liezl Gloria, (619) 236-6622

ITEM-9: Presentation by the Balboa Park Conservancy: Balboa Park's Urban Forest

Council District 2; Liezl Gloria, (619) 236-6622

ITEM-10: Independent Rates Oversight Committee (IROC) FY 2018 Annual Report, Department Response, and FY 2020 Work Plan.

Public Utilities; Lisa Celaya, (858) 614-4042

Jennifer Campbell  
Chair



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The City of San Diego

Staff Report

DATE ISSUED: 4/18/2019  
TO: Environment Committee  
FROM: Transportation & Storm Water  
SUBJECT: Urban Forestry Program Update - Calendar Year 2018

Primary Contact: Brian Widener Phone: (619) 527-8050  
Secondary Contact: Kristy Reeser Phone: (619) 527-7504  
Council District(s): Citywide

OVERVIEW:

This is an informational item to present an update on the Urban Forestry Program.

PROPOSED ACTIONS:

This item is for information only.

DISCUSSION OF ITEM:

City staff from multiple departments manage the urban forest including the maintenance, planting, planning, promotion and protection of city trees.

The City Five-Year Forestry Management Plan and the Climate Action Plan guide the Urban Forestry Program to grow a resilient world-class urban forest for all San Diegans. The following tree activities in parks and street rights-of-way for Calendar Year 2018 included:

- 5,271 submitted service requests
- 2,546 planted trees
- 39,076 trimmed trees
- 1,919 removed trees
- 94,289 inventoried trees

Attached is the Urban Forestry Five-Year Plan Progress Report detailing the status of each action item. The report highlights the progress on Phase 1 and Phase 2 actions. Phase 3 will begin in 2021. The Five-Year Plan Progress Report is updated several times a year to monitor action item progress, make adjustments to action item planning, and highlight action items that need prioritization based on budgetary decisions, community need, or urgent forestry challenges. The Plan is intended to be a flexible, working document that is monitored and adjusted as needed.

Under the City's Climate Action Plan, the Urban Forestry Program is responsible for meeting tree canopy target goals of 15% by Calendar Year 2020 and 35% by Calendar Year 2035. To support this goal, the Program implemented the Free Tree SD initiative in 2018, and rolled out a user-friendly web page for customers to request new trees: <https://www.sandiego.gov/blog/free-tree-sd>. To increase tree canopy cover, it is essential that the City also maintains its trees to promote health and structure of existing trees.

Trees benefit our communities by providing shade to cool us, storing carbon, removing pollutants from the air, and providing many other benefits. In 2018, 78,700 street trees were inventoried. The long and short-term benefits of those trees include:

- **12,000 tons** of carbon storage
- **15 tons** of pollution removal/year
- **589 tons of carbon** sequestered/year
- **437 cubic feet/year** of avoided rain water runoff

The City estimates that there are approximately 220,000 street trees and plans to inventory the remaining trees through a CalFire grant that was awarded to the City in 2018.

The Urban Forestry Program, with assistance from the Community Forestry Advisory Board and the Planning Department, implemented a tree canopy story map to share with the public on the Urban Forestry webpage: [www.sandiego.gov/trees](http://www.sandiego.gov/trees). The story map illustrates the canopy cover by Council District and community. It is a highly interactive tool that is fun and simple to use, which allows the public to explore areas of the City that currently have canopy cover.

In 2019 the Urban Forestry Program looks forward to opportunities and challenges to grow and enhance the urban forest. While this season's wet weather has helped our forest, several pests have been introduced to the region in the last several years including the shot hole borer and South American palm weevil. These pests as well as others threaten to kill many of our tree species, and the City has been working with the San Diego Pest Detection Program to identify areas of concern. The Urban Forestry Program will be celebrating a citywide Arbor Day on April 26, 2019, inviting all members of the City of San Diego community to help us plant trees in Balboa Park.

The success of the Urban Forestry Program is dependent upon multiple City departments; the Community Forestry Advisory Board; federal, state, and county agency partners; non-Governmental groups; and the citizens of San Diego.

City Strategic Plan Goal(s)/Objective(s):

Goal #2: Work in partnership with all of our communities to achieve safe and livable neighborhoods.

Objective #1: Protect lives, property, and the environment through timely and effective response in all communities

Objective #3: Invest in quality infrastructure

Objective #4: Foster services that improve quality of life

Goal #3: Create and sustain a resilient and economically prosperous City with opportunity in every community.

Objective #1: Create dynamic neighborhoods that incorporate mobility, connectivity, and sustainability

Objective #4: Prepare and respond to climate change

Fiscal Considerations:

N/A

Charter Section 225 Disclosure of Business Interests:

N/A; there is no contract associated with this item.

Environmental Impact:

N/A; this is an informational item only.

Equal Opportunity Contracting Information (if applicable):

N/A

Previous Council and/or Committee Actions:

The Urban Forestry Program Five-Year Plan was adopted by the City Council in January of 2017.

Key Stakeholders and Community Outreach Efforts:

The City of San Diego's Urban Forestry Program key stakeholders include property owners adjacent to trees, City departments that manage trees, and visitors to the City of San Diego who experience the benefits of trees. The Urban Forestry Program engages with the Community Forestry Advisory Board once a month and the Program continues to interact with the public through digital media and citywide events such as Arbor Day.

Kris McFadden

Transportation and Storm Water Department Director

Johnnie Perkins

Deputy Chief Operating Officer, Infrastructure/Public Works



Brian Widener, San Diego City Forester  
 Environment Committee  
 April 18, 2019



## Urban Forestry Update

- 2018 Program Overview
- 5-Year Plan for San Diego Urban Forestry
- Climate Action Plan & Tree Canopy Goals
- Current Condition of the Urban Forest
- 2018 Highlights & Program Partners
- 2019 Opportunities & Forestry Issues

## Calendar Year 2018 Overview

### Departments

- Transportation & Storm Water
- Parks & Recreation
- Development Services
- Economic Development
- Public Works
- Planning
- Sustainability
- Public Utilities

	Parks & Recreation	Transportation & Storm Water
Tree Service Requests	571	4,700
Trees Planted	1,100	1,446
Trees Trimmed	14,749	24,327
Trees Removed	1,549	370
Trees Inventoried	15,589	78,700

## CY 2018 Tree Planting by Transportation

21% trees planted in parks  
 79% trees planted by request in ROW

January 2018, met with Council Districts - promoted Free Tree SD

Tree spacing requirements  
 Required 3-year watering agreement

	Requests	Trees Planted
Council District 1	15	44
Council District 2	48	216
Council District 3	156	312
Council District 4	37	140
Council District 5	16	2
Council District 6	33	90
Council District 7	34	164
Council District 8	17	227
Council District 9	72	251





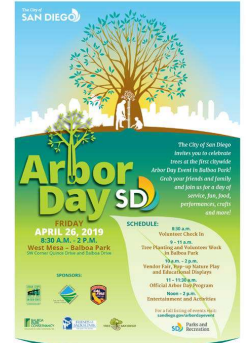
## 2018 Program Highlights

- Online Free Tree SD planting request application
- Tree maintenance
- Urban tree canopy assessment story map
- Tree City USA
- CalFIRE grants: tree inventories & tree planting



## 2019 Opportunities & Challenges

- Current forest health issues
- Continue tree maintenance and protection
- Plant 1,100 street trees
- Tree planting grants
- April 26th citywide Arbor Day - Balboa Park



## Urban Forestry Partners

- City departments
- Community Forestry Advisory Board
- U.S. Forest Service
- CalFIRE
- Pest Detection Program with San Diego County
- Community collaboration

- Tree San Diego
- Friends of Balboa Park
- SD Regional Urban Forestry Council
- Balboa Park Conservancy
- Trees 1,000 Foundation



## Urban Forestry Program

Brian Widener  
 San Diego City Forester  
 Urban Forestry Program  
 619.527.8050  
[bwidener@sandiego.gov](mailto:bwidener@sandiego.gov)



The City of San Diego

Staff Report

DATE ISSUED: 4/10/2019  
TO: City Council  
FROM: Council District 2  
SUBJECT: Presentation by the Community Forest Advisory Board: Urban Forest Management Challenges and Opportunities.

Primary Contact: Liezl Gloria Phone: (619) 236-6622

Council District(s): Citywide

OVERVIEW:

This presentation is from the Community Forest Advisory Board, which is established to provide the Mayor and Council with advice and recommendations on policies, implementation, compliance, funding, and community support for urban forestry.

PROPOSED ACTIONS:

This item is Information only.

DISCUSSION OF ITEM:

This item is an opportunity for Committee Members and members of the public to learn about the challenges and opportunities for quality urban forest program management in the City of San Diego. Now two years after the Five-year Urban Forest Management plan was approved by City Council (January 14, 2017) the City programs are still under-funded, under-staffed, and not fully addressing the complexity, interdependency, and accountability for managing these City assets.

Urban forest management encompasses planning, installing, maintaining and protecting urban trees. It is quite complicated, as trees have many health and ecosystem benefits, yet face such challenges as climate change, drought, pests, storm losses, public safety, and conflicts with infrastructure. Urban forestry tools include codes that are currently being reviewed and code compliance that is essentially absent; contracts that have national standards for tree practices but inadequate contract oversight for such items as quality nursery stock; and training to keep staff and contractors updated on quality tree planting and care.

Most public trees are managed by the Streets and Parks departments, yet many other departments influence and contribute to urban forest management. These include educating local residents and businesses about tree watering and care, ensuring that trees are preserved in sidewalk improvements, investing in trees to meet storm water permit

requirements, applying Integrated Pest Management (IPM) approaches for emerging tree pests, accelerating inventory and technology applications, considering equity in all City projects, and helping with grant proposals.

Funding for urban forest management can be daunting, but there are costs to not managing trees, notably loss of asset values, greater public safety risks and City liabilities, more infrastructure conflicts, greater mortality from drought and pests, and loss of health benefits from public green spaces and urban cooling. As the General Fund is limited, other financing options need to be investigated and installed, including special districts, parcel taxes, service fees and permits, grants, and partnerships.

CFAB Recommendations: (1) reinstitute the Free Tree initiative, funded at \$300k in FY 2018; (2) focus on code compliance and contract oversight to increase public safety and reduce City liabilities; (3) engage communities in setting tree canopy goals, priorities, and actions; and (4) explore fees and special districts to finance urban forestry programs.

Fiscal Considerations: N/a

Charter Section 225 Disclosure of Business Interests: N/a

City Strategic Plan Goal(s)/Objective(s): N/a

Environmental Impact: N/a

Equal Opportunity Contracting Information (if applicable): N/a

Previous Council and/or Committee Actions: N/a

Key Stakeholders and Community Outreach Efforts: N/a

Liezl Gloria

Environment Committee Consultant

# Urban Forest Management

Anne Fege, Ph.D. Chair  
Community Forest Advisory Board  
April 18, 2019  
City of San Diego, Environment Committee

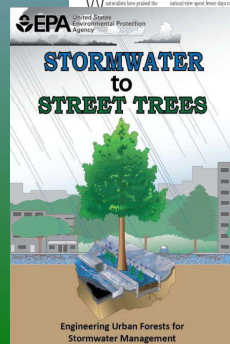
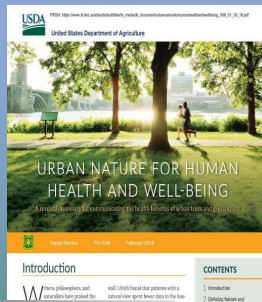


## What does the Community Forest Advisory Board do?

- Board duties:
  - Provide advice and recommendations .... on all policy issues relating to urban forestry
- What guides urban forestry?
  - General Plan, 2008
  - Climate Action Plan, 2015
  - Five-year Urban Forest Management Plan, 2017
  - Parks Master Plan (in process)
  - Council policies, Municipal codes, Engineering white book, and national standards
  - Budgets for staff, contractors, CIP projects

## Why are trees a good investment for the City?

- Health and community benefits
  - Shade houses, schools, streets
  - Cooling during heat events (climate adaptation)
  - Air pollution filtration
  - Noise reduction
  - Welcoming, friendly places
- Ecosystem services
  - Stormwater retention
  - Groundwater recharge
  - “Green infrastructure”
  - Carbon sequestration



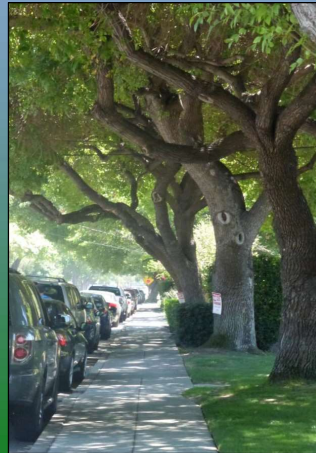
## Where are the trees and what is urban forestry?

- Where are the trees?
  - Parks and open space
  - Streets and easements
  - Residential and business properties
  - Schools, churches, and other lands
- Key management activities
  - Planning and design
  - Installation and planting
  - Maintenance
  - Protection



## What makes urban forestry challenging?

- Changing environmental conditions
  - Drought
  - Pests
- Public safety and risk
  - Storm losses
  - Tree inspections and risk assessment
  - Palms = high costs and low benefits
- Conflicts with infrastructure
  - Sidewalks
  - Water and utility lines
- Development pressures



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## What does it cost to manage trees?

- City staff and contracts (FY 2019)

	Horticulturalists FTEs	Tree workers FTEs	Contracts	Estimated total
Streets	3	8	\$2.4 million	\$3.5 million
Parks	4	7	\$150,000	\$1.0 million
MADs	??	0	\$1.8 million	\$2.0 million
Total				<b>\$6.5 million</b>
Other cities*	<b>18</b>	--		<b>\$13.5 million</b>

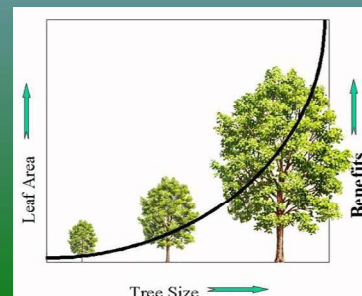
\*18 FTE staff in cities with 200,000 to 1 million

\*Average \$9 per capita, 0.5% of city budget (Hauer and Peterson 2016)

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## What does it cost to NOT manage trees?

- Loss of asset value
  - High cost of removing trees killed by drought and pests
  - More defects if young trees not pruned
- Public safety risks
  - More infrastructure conflicts
  - Tree failures and damages
  - City liabilities and settlements
- Foregone benefits
  - Avoidable health costs
  - Less public access to green space
  - Ecosystem services



## What can City Council do now?

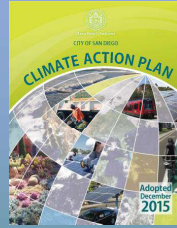
1. Engage communities in setting tree canopy priorities
2. Re-initiate a long-term tree planting program in FY2020
3. Focus on codes and best management practices
4. Explore special districts and other financing options



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## What is needed, to set tree canopy priorities?

- Complete the tree canopy analysis
  - Evaluate land cover differences by land uses
  - Correlate tree cover with population and pollution
- Engage communities
  - Identify tree canopy equity, gaps, and greatest needs
  - Consider incentives to mobilize residents and businesses
- Set feasible and meaningful CAP goal for tree canopy in 2035
- Plant trees NOW to cool the city in 20 years

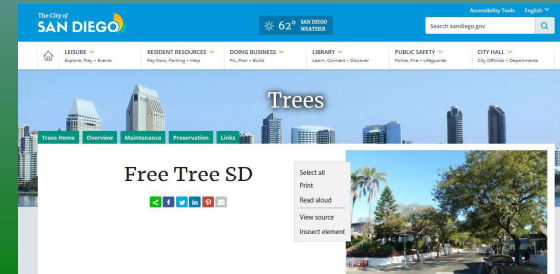


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## What is needed, for a tree planting initiative?

### Commit to a five-year tree planting initiative

- \$300,000 “free tree” program in FY 2018
- Appropriate FY 2020 funds
- Improve tracking system for requests and notifications
- Strengthen onsite inspection and contractor tree plantings
- Educate about tree care and watering
- Monitor tree health and survival



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## What is needed, to focus on codes?

- Code revision
  - Propose changes in 13<sup>th</sup> land development code revision
  - Change landscape point system to eco-benefits in permits
  - Revise Street Tree Protection code (in process)
  - Develop Council support for code changes
- Code compliance
  - Recognize benefits from private trees
  - Set fines for removing and topping trees
  - Replant missing shade trees in parking lots
  - Hire code compliance officer for trees



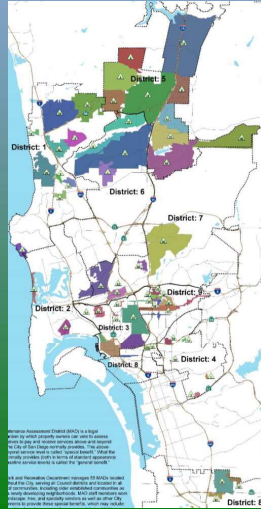
## What is needed, to focus on BMPs?

- Best management practices (BMPs)
  - Follow national ANSI and ISA standards
  - Focus on root volume, quality nursery stock, and planting
  - Ensure young tree watering and care
  - Prune and protect mature trees
- Implementation of BMPs
  - Increase supervision of tree contractors (add staff)
  - Require certified arborists, tree care workers, and equipment
  - Train contractors and City staff
  - Improve technology for tracking and monitoring

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## What is needed, to finance urban forestry?

- General Fund
  - Add staff and contract funds, to implement Five-year plan
- Explore other financing approaches
  - Maintenance Assessment Districts
  - Parcel taxes
  - Service fees and permits
  - Grants and partnerships
  - Gas tax and transient-occupancy tax
- Public-private partnerships
  - Non-profit foundation
  - SDG&E incentives for shade trees



## What can other departments do for trees?

### Interdisciplinary! and Integrated!

- Communications
- Development Services
- Parks
- Performance Analytics
- Planning
- Public Utilities
- Public Works
- Sustainability
- Stormwater Division
- Transportation Division
- Water

Tree watering messages

Incentives-credits for watering trees

Trees retained in sidewalk replacements

Trees in stormwater projects

Leading-edge technology applications

Integrated Pest Management

## What can City Council do now?

1. Engage communities in setting tree canopy priorities
2. Re-initiate a long-term tree planting program in FY2020
3. Focus on codes and best management practices
4. Explore special districts and other financing options

Maintain and protect the trees we have!  
Plant trees now, to get shade in 20 years!



## Where can we learn more about urban forestry?

- City of San Diego, [www.sandiego.gov/trees](http://www.sandiego.gov/trees)
- San Diego Regional Urban Forests Council website and tree topics, [www.sdrufc.com](http://www.sdrufc.com)
- 25-minute video about urban forestry activism in San Diego, <https://agrowingpassion.com/episode-505-urban-forests-trees-plants-city/>
- Tree Advocacy Handbook, <http://sdrufc.com/wp-content/uploads/2017/08/SD-Tree-Advocacy-Handbook.pdf>
- Save our Water and Save our Trees, <https://saveourwater.com/save-our-water-and-our-trees/>
- Hauer and Peterson, 2016. *Municipal Tree Care and Management in the United States: 2014 Census*. 71 p. <https://www.uwsp.edu/cnr/Documents/MTCUS%20-%20Forestry/Municipal%202014%20Final%20Report.pdf>
- *Financing San Francisco's Urban Forest*, 2013, [http://default.siplanning.org/plans-and-programs/planning-for-the-city/urban-forest-plan/UFP\\_Street\\_Tree\\_Report\\_FINAL\\_Dec\\_2013.pdf](http://default.siplanning.org/plans-and-programs/planning-for-the-city/urban-forest-plan/UFP_Street_Tree_Report_FINAL_Dec_2013.pdf)

Questions? Contact Anne S. Fege, Chair, Community Forest Advisory Board, [afege@aol.com](mailto:afege@aol.com) Presentations at this meeting will be posted at <http://sdrufc.com/2019/04/10/april18/>





The City of San Diego

Staff Report

DATE ISSUED: 4/10/2019  
TO: City Council  
FROM: Council District 2  
SUBJECT: Presentation by the Balboa Park Conservancy: Balboa Park's Urban Forest.

Primary Contact: Liezl Gloria Phone: (619) 236-6622

Council District(s): Citywide

OVERVIEW:

The Balboa Park Conservancy completed a tree inventory of the Park in the Spring of 2018. The analysis of the inventory data informs strategies and decision making for wise use of public and private resources to maintain, revitalize, and sustain the Cities' Urban Forest Asset within Balboa Park. More attention, awareness, and resources need to be allocated to this public asset to maintain the urban forest for generation to come.

PROPOSED ACTIONS:

This item is information only.

DISCUSSION OF ITEM:

Healthy urban forests directly contribute to healthy communities. Urban forest planning and management is essential in maintaining a healthy, resilient, and sustainable urban forest. This is done by allocating resources for planning, tree maintenance and protection, continuous tree planting, and tree monitoring. Lack of codes and code compliance as well as lack of resources for oversight, and training make urban forestry challenging. Not managing our urban forest assets costs the City multiple millions of dollars each year. We care about trees for the mitigation of heat island affect, air quality improvements, storm water mitigation, carbon sequestration, and numerous public health and safety benefits.

Fiscal Considerations: N/a

Charter Section 225 Disclosure of Business Interests: N/a

City Strategic Plan Goal(s)/Objective(s): N/a

Environmental Impact: N/a

Equal Opportunity Contracting Information (if applicable): N/a

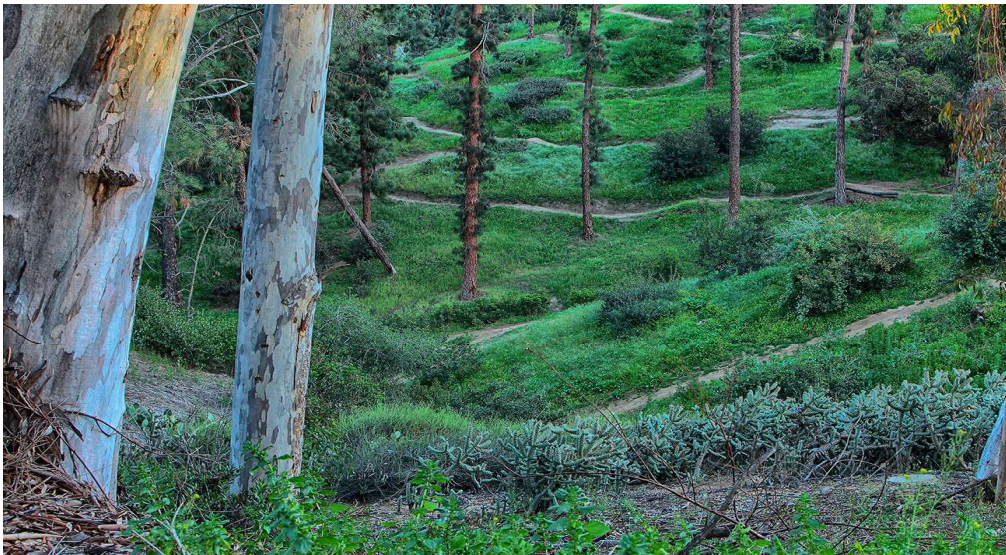
Previous Council and/or Committee Actions: N/a

Key Stakeholders and Community Outreach Efforts: N/a

Liezl Gloria

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Environment Committee Consultant



## Balboa Park's Urban Forest

Advocates for the Greater Good of Balboa Park

# Balboa Park Conservancy

- Expertise, advocacy and resources to
  - Envision, enhance and sustain
- Balboa Park for all visitors
- In partnership with the City of San Diego



## Our Process



## In Partnership:



Special Thanks: Park Rangers & Park Police!



# Balboa Park Tree Inventory



**DAVEY RESOURCE GROUP**  
15,302 TREES

# Importance of Tracking Data

Moreton Bay Fig (*Ficus macrophylla*)

Height ↑ 6'  
DBH ↑ 4'  
Canopy ↑ 20'  
Age (app.) 103 Yrs.

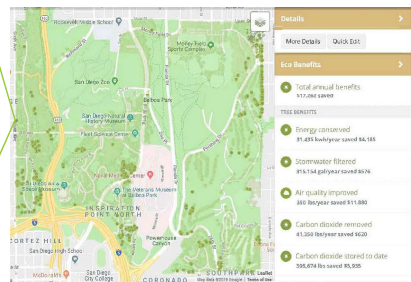
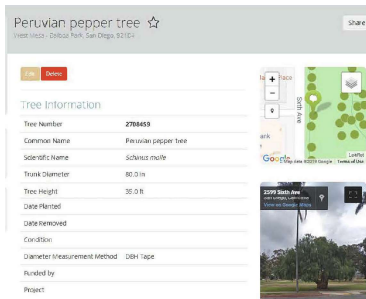


Data in your hands

Open Tree Map

<https://www.opentreemap.org/>

San Diego Tree Tracker



# Why is this Data Important?

- Safety and Mitigating Liability
- Cost Control and Budgeting
- Proactive preservation of a valuable collection
- Public Interest and Support

## 2001 Balboa Park Tree Management and Reforestation Plan Objectives

1. Replant trees on an annual basis
2. Increase species diversity
3. Experiment with new plant introductions
4. Propagate trees of historic and horticultural value
5. Conserve unusual, rare and endangered trees

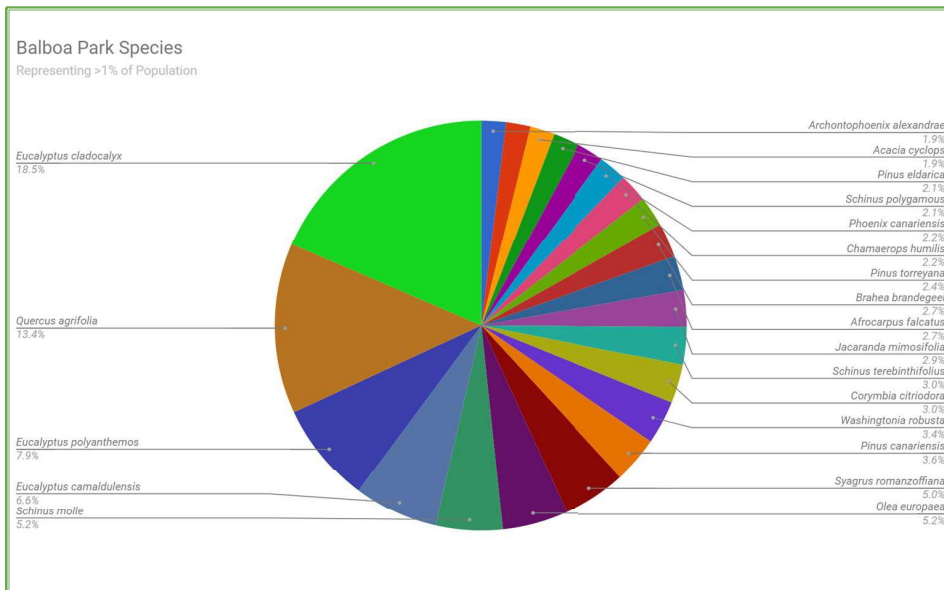


## 2001 Balboa Park Tree Management and Reforestation Plan Objectives

6. Trim park trees
7. Remove hazardous trees
8. Maintain park trees
9. Protect park trees
10. Interpret park horticulture



## Species Analysis



## Trending towards Success

Objective: Increase species diversity

1998  
348 Unique Tree Species

2018  
448 Unique Tree Species

100 New Species in 20 yrs.

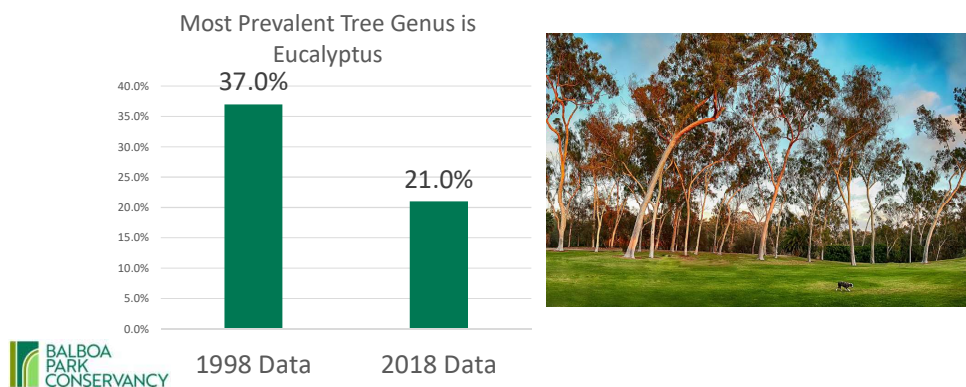


Tree Diversity = Forest Resiliency

## Objective: Increase species diversity

Reduce the Monoculture Forest

Tree Diversity = Forest Resiliency



## More Improvement Needed...

### Balboa Park Tree Health Condition

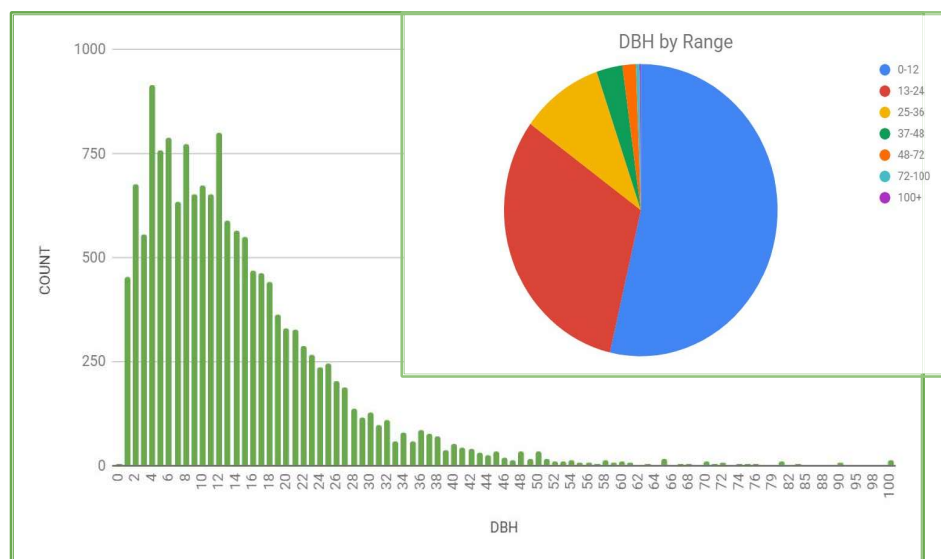
Excellent – Good trees have decreased by 4% ↓

Fair – Poor have remained the same ↑

Dying – Dead trees have increased by 4%

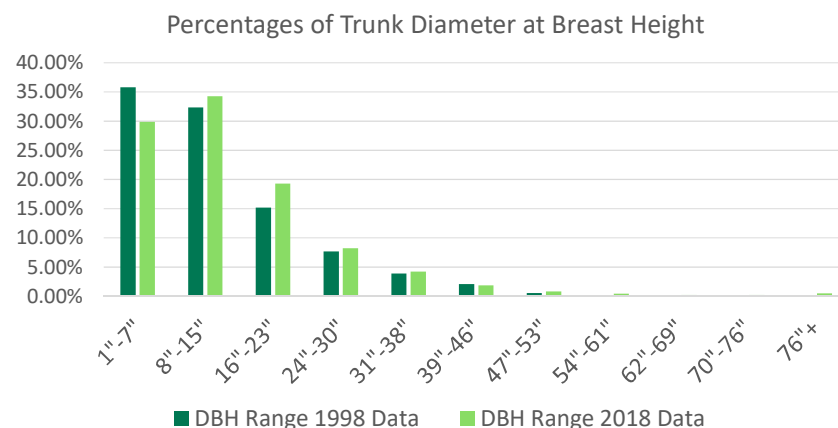
Structural Value down by 4.8 Million ↓

## Age of the Forest (DBH)



## Objective: Replant trees on an annual basis

### Age of the forest



## Succession Planning

# What is: ...Succession Planning

- Baby Trees
- Young Trees
- Adolescent Trees
- Midlife Trees
- Historic Trees

## Balancing of Resources

# Managing for the Future

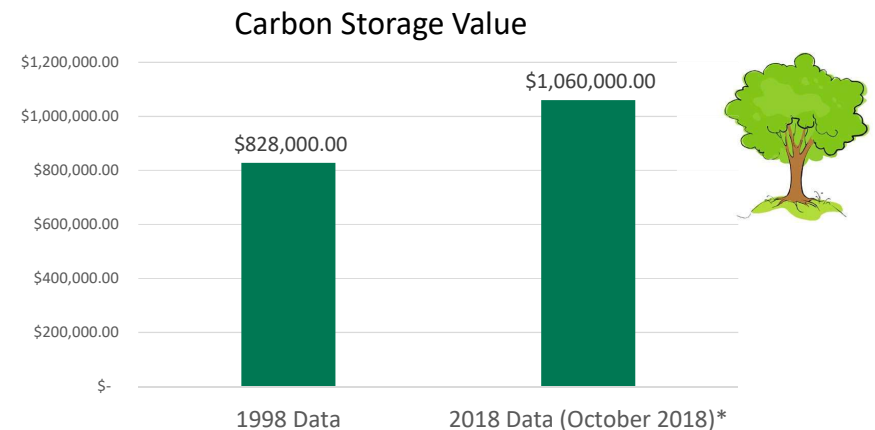
## Leaving a Legacy

- Managing for Climate Change
  - Climate Action Plans
- Managing for Pest Infestations
  - Invasive Shot Hole Borer/Fusarium Dieback
  - Other Pests

# Why is this Data Important?

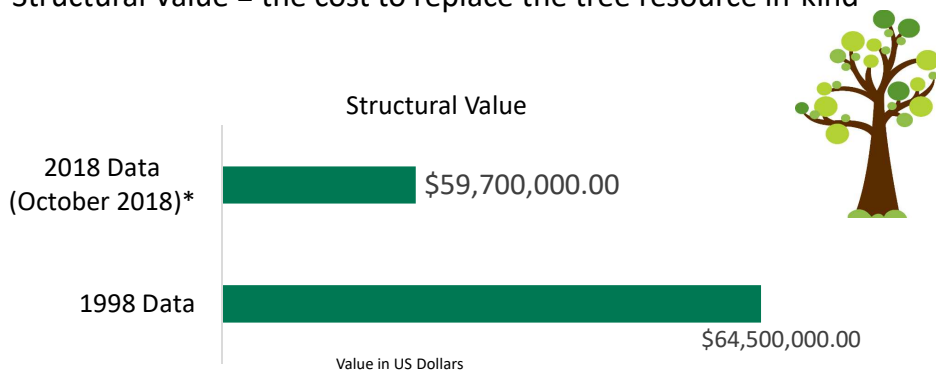
- Safety and Liability
- Cost Control and Budgeting
- **Proactive preservation of a valuable collection**
- Public Interest and Support

## i-Tree Ecosystem Analysis Comparison 1998 vs. 2018




## i-Tree Ecosystem Analysis Comparison 1998 vs. 2018

Structural Value = the cost to replace the tree resource in-kind



Structural Value down by \$4.8 Million

## Lessons Learned

- Succession Planning Required
- Monitoring Program =  Survival Rates
- More Cost effective to **maintain current tree** resources  
Eco. Benefits ---10 small trees = 1 large tree
- Invest in Public Awareness Campaigns to grow Urban Forest Stewardship

## Questions?

