Petaluma Municipal Forest Resource Analysis

prepared by Urban Ecos

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Spring 2026

prepared by Urban Ecos
for the City of Petaluma

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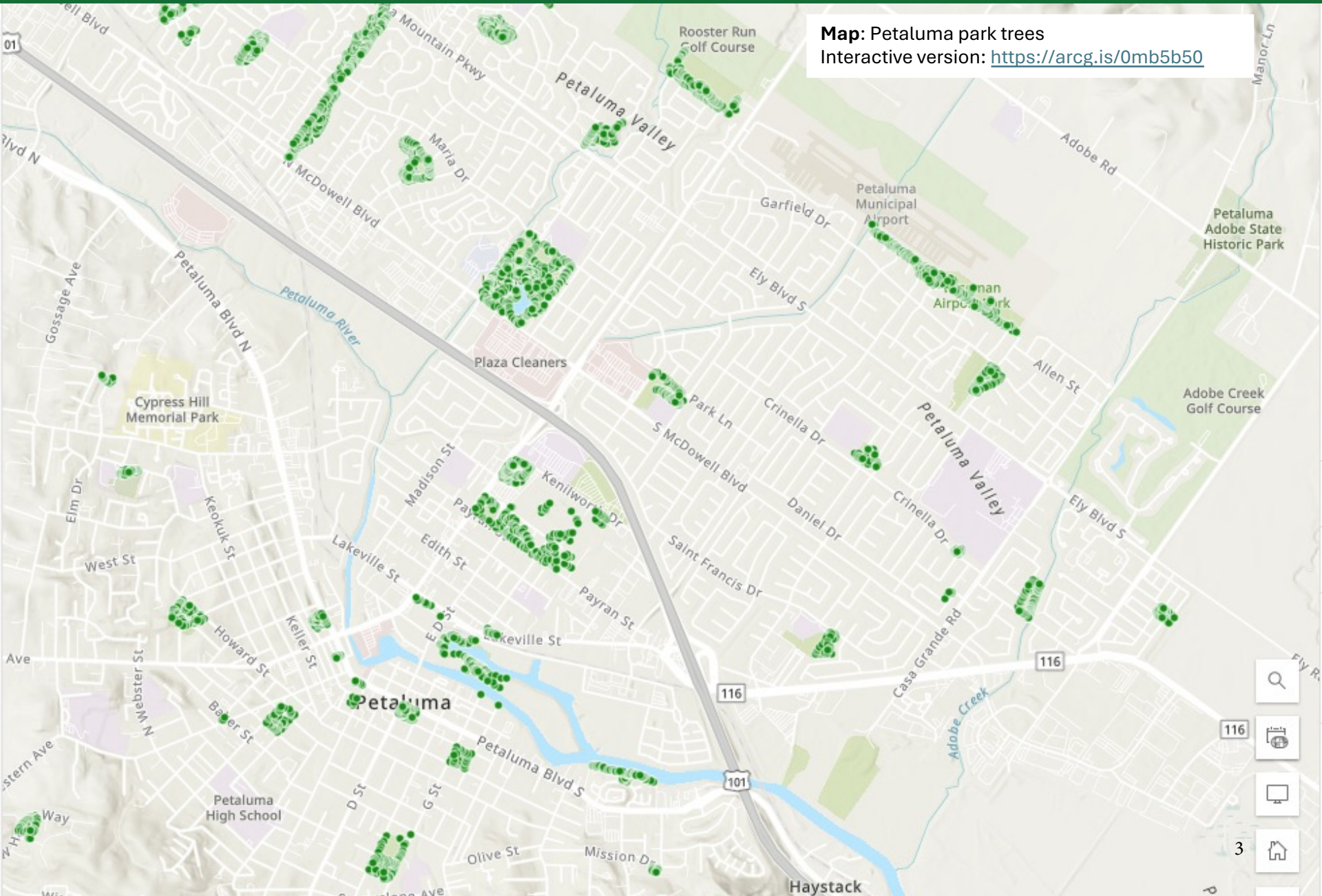
Introduction

In 2023, Petaluma began work on a CAL FIRE-funded grant whose objective was to understand, protect, and plan for the future of the city's urban forest. The central component of that project is the development of an Urban Forest Management Plan, a strategic plan to guide the urban forest's care over the next 30-40 years.

The first step in planning for the future is understanding the present. For urban forestry, this usually takes two forms: a canopy analysis, which looks at tree cover across the entire city from above, and an on-the-ground assessment of the individual trees that grow on public land, including their species, size, health, and infrastructure conflicts.

This Municipal Forest Resource Analysis draws on an on-the-ground inventory of the city's park and street trees to give staff and arborists the detailed picture they need to make informed decisions about planting, maintenance, and long-term planning of trees on public land.

Park tree inventory | 2025



Park tree inventory | 2025

In 2025, Urban Forestry Associates conducted a comprehensive inventory of the park trees of Petaluma.

CAL FIRE's required inventory fields were collected for each tree, including:

Species
Latitude/longitude
Trunk diameter (DBH)
Tree height
Tree condition
Required maintenance
Conflicts with infrastructure
Planting space type and size

(Open spaces were not included in the inventory as these areas require a different data collection method and are managed in a different, less intensive way.)

A total of **3,836 trees of 125 species** were inventoried across the approximately 50 city parks.

Table 1. Petaluma's parks

Parks	
Anna's Meadows Park	McDowell Meadows Park
Arroyo Park	McDowell Park
Bond Park	McNear Landing Park
Center Park	Meadow View Park
Cherry Valley Park	Miwok Park
City Hall Lawn	Oak Hill Park
Crinella Mini Park	Penry Park
Del Oro Park	Petaluma Community Center
Eagle Park	Petaluma Historical Museum
Fox Hollow Park	Prince Park
G St Riverview Mini Park	Riverview Park
Glenbrook Park	Southgate Park
Grant Park	Steamer Landing Park
H St Riverview Mini Park	Sunrise Park
Helen Putnam Plaza	Sunset Pocket Park
Kenilworth Park	Turnbridge Park
La Tercera Park	Train Depot
Leghorn Park	Walnut Park
Lucchesi Pak	Westridge Park
Mannion Knoll Park	West Haven Park
Maria Pocket Park	Wickersham Park

Species diversity

One measure of urban forest health is species diversity. An urban forest composed of many species is more resilient against pests and diseases, more climate adaptive, offers greater evolutionary adaptability, and can reflect the cultural history of a place.

A total of 125 species were represented among the 3,836 trees in Petaluma's parks. The table to the right (Table 2) shows the most common species in Petaluma's parks, i.e., those representing more than 1% of the population. (The full list can be found in the appendix.)

Table 2. Petaluma's most common park tree species

Species	Number of trees	Percent of total
Quercus agrifolia	569	15%
Sequoia sempervirens	431	11%
Quercus lobata	364	9%
Platanus × hispanica	328	9%
Acer rubrum	162	4%
Aesculus californica	130	3%
Platanus occidentalis	116	3%
Lagerstroemia indica	109	3%
Quercus rubra	107	3%
Platanus racemosa	94	2%
Quercus douglasii	70	2%
Liquidambar styraciflua	68	2%
Fraxinus angustifolia	119	2%
Juglans californica	62	2%
Quercus sp.	56	1%
Pyrus calleryana	51	1%
Acer saccharinum	50	1%
Cercis canadensis	45	1%
Pistacia chinensis	43	1%
Other	810	22%
Total	3,836	100%

The most straightforward measure of diversity is simply the number of species (also called species richness). At 125 species, Petaluma's park richness is very high.

Ecologists often add nuance to this number by calculating measures that reflect how trees are distributed among these species. A forest where trees are relatively evenly distributed among many species is more *functionally* diverse than one in which there are many species that have only one or two individuals (Figure 1).

Taken together, the measures of diversity shown in Table 3 indicate that, although Petaluma's park forest includes a wide range of species, a relatively small core group makes up much of the total canopy and many species are represented by only a few trees.

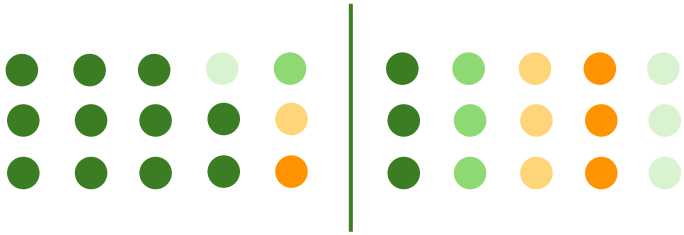


Figure 1. Two groups with the same richness (5 species), but very different levels of functional diversity

Table 3. Measures of diversity in Petaluma's park tree inventory

Number of species	125
Shannon diversity index (H')	3.5
Evenness (E)	0.7
Hill's no. of effective species (N_1)	34
Simpson's effective species (N_2)	17

Petaluma's urban forest has a high number of species, but lower functional diversity because many species are represented by only one or two individuals.

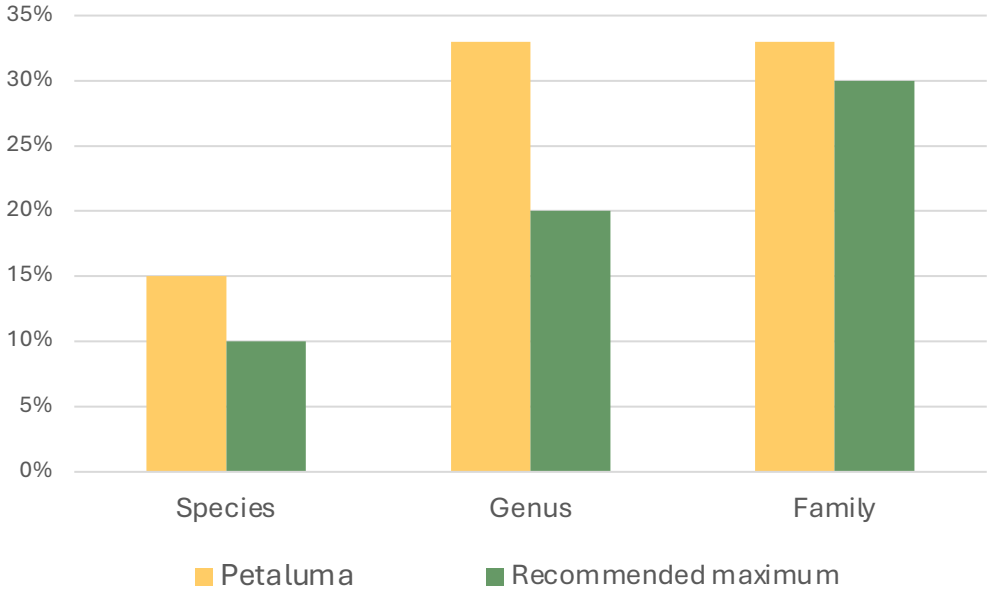
RECOMMENDATION: Increase diversity by planting more trees of underrepresented species.

The 10-20-30 species diversity rule

An urban forest may be at greater risk of attacks by pests and diseases if too many trees are concentrated in one genus or family. A common rule of thumb (the 10-20-30 rule) is that a city should strive to have no more than 10% of trees in one species, no more than 20% in one genus, and no more than 30% in one family. Many urban forest managers take this even farther, holding themselves to 10% or even 5% of trees from one genus.

Petaluma's park trees are heavily concentrated in oaks, with the coast live oak (*Quercus agrifolia*) representing 15% of trees, the *Quercus* genus representing 33% of trees, and the Fagaceae family (the beech family, to which oaks belong) representing 33% of trees. This concentration is of particular concern because oaks in northern California are threatened by two very serious pests: sudden oak death and the Mediterranean oak borer beetle.

Figure 2. Oak concentration in Petaluma's parks exceeds recommended maximums at the species, genus, and family level.



The heavy concentration of oak trees in Petaluma's parks leaves the city at risk of significant tree loss from two growing threats: sudden oak death and the Mediterranean oak borer beetle.

RECOMMENDATION: Increase species diversity by reducing the number of oaks planted and broadening species choice.

Importance value

The *number* of trees of a given species is not the only measure of its significance within a city's tree population. The benefits that trees provide are directly related to tree size and leaf area: a big tree with a full canopy provides more benefits than a small one. We can calculate a number called the importance value (IV) for each species, based on what percent of the population and of the total leaf area it represents.

Table 4 shows the IVs of the top ten park species. The first several are as expected, but a few things are worth noting. Two of the top ten species have fallen off the list (*Lagerstroemia indica, Aesculus californica*) because they are small trees providing little leaf area. *Eucalyptus globulus* has a much higher IV than its number of trees (23) would suggest because the individual trees are extremely large. The eventual loss of those trees will have an outsized impact on the benefits provided by Petaluma's urban forest.

Table 4. Importance value of top ten species

Species	Percent of population	Percent of leaf area	Importance value
Quercus agrifolia	14.8	15.2	15.0
Sequoia sempervirens	11.2	18.6	14.9
Platanus × hispanica	9.5	4.0	6.8
Quercus lobata	9.5	4.0	6.8
Eucalyptus globulus	0.6	7.9	4.3
Platanus occidentalis	3.0	3.9	3.5
Fraxinus angustifolia	1.7	3.7	2.7
Acer rubrum	4.2	0.9	2.6
Quercus rubra	2.8	2.1	2.5
Juglans californica	1.6	3.3	2.5

$$\text{Importance Value (IV)} = \frac{(\%\ \text{of total population} + \%\ \text{of total leaf area})}{2}$$

Age structure

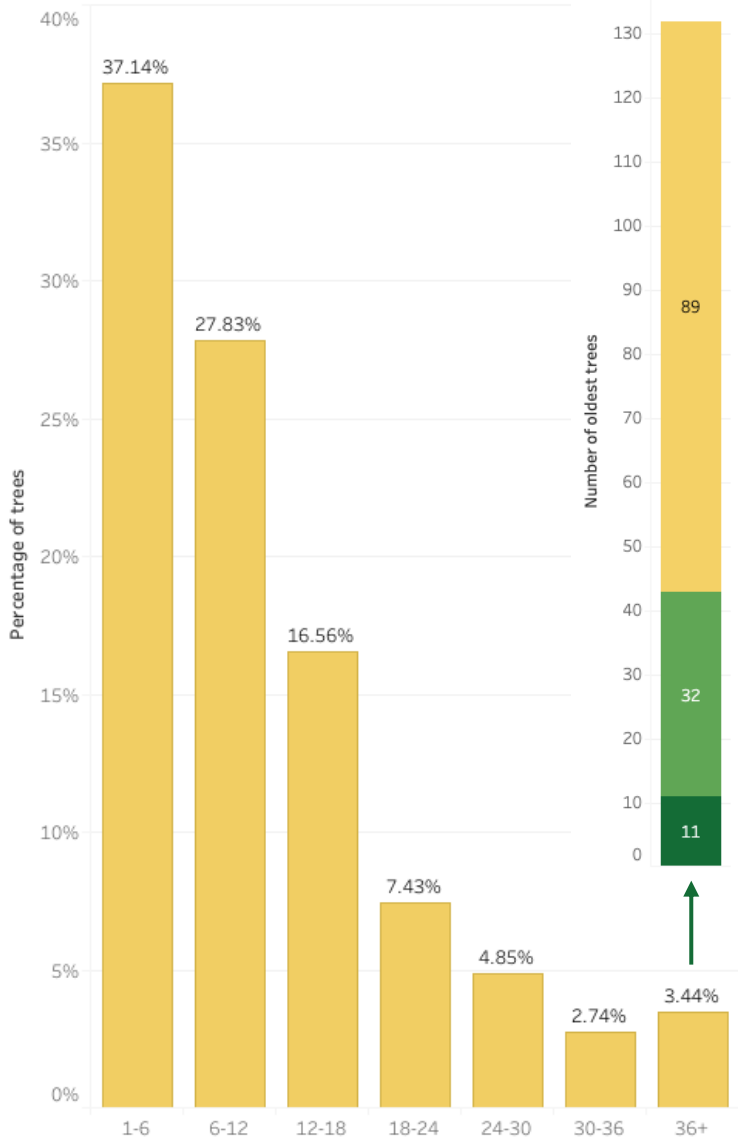
Age diversity contributes to the long-term stability and functionality of an urban forest. A mix of young, maturing, and mature trees ensures a continuous supply of canopy cover and ecosystem benefits over time. When most trees are the same age, the forest becomes vulnerable to simultaneous decline or loss from pests, senescence, or extreme weather. Younger cohorts also replace aging ones gradually, spreading maintenance and replacement costs more evenly.

Because it's rare to know the actual age of urban trees, tree size—specifically trunk diameter (dbh)—is substituted.

Petaluma's park trees show a desirable age structure, with higher numbers of young trees, which allows for the greater levels of mortality that can be expected for newly established trees.

The percentage of very large, old trees (3.4%) is quite high for a city. These trees offer valuable ecosystem services, but their maintenance and eventual removal can be costly. Because this category is so large, it's worth breaking it down further: there are 89 trees with a trunk diameter between 3 and 4 ft, 32 trees between 4 and 5 ft in diameter, and 11 trees between 5 and 8 ft in diameter.

Figure 3. Age diversity of Petaluma's park trees (by dbh class)



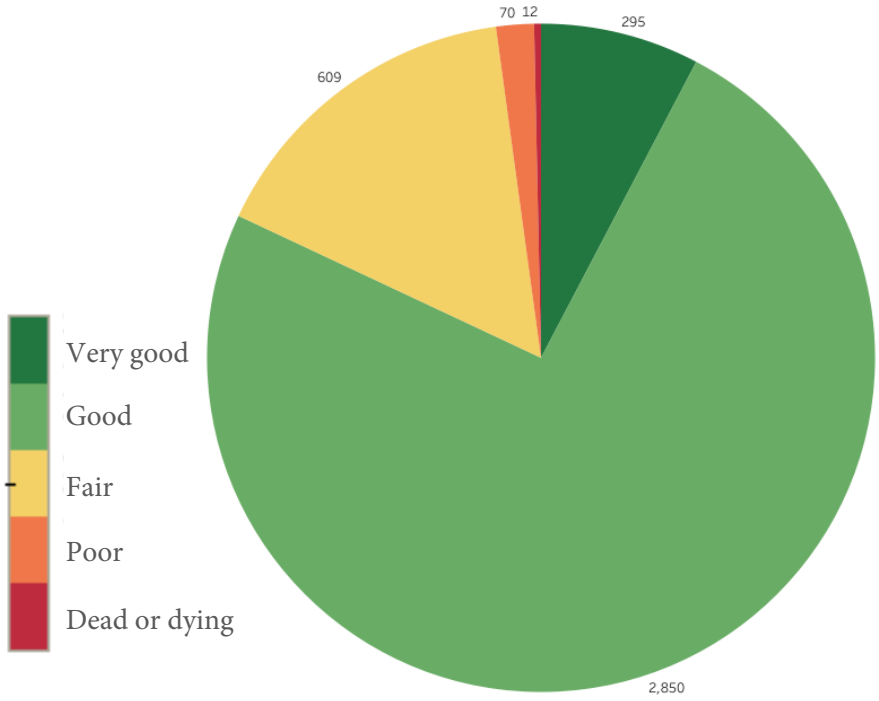
Tree health

Overall, the trees of Petaluma's parks are healthy, with 82% rated as good or very good, 16% as fair, 1.8% as poor, and only 0.3% as dead or dying.

Healthy trees can be expected to live longer, providing the people of Petaluma with more benefits over time. They will also be less expensive to maintain and more resilient to climate and pest challenges.

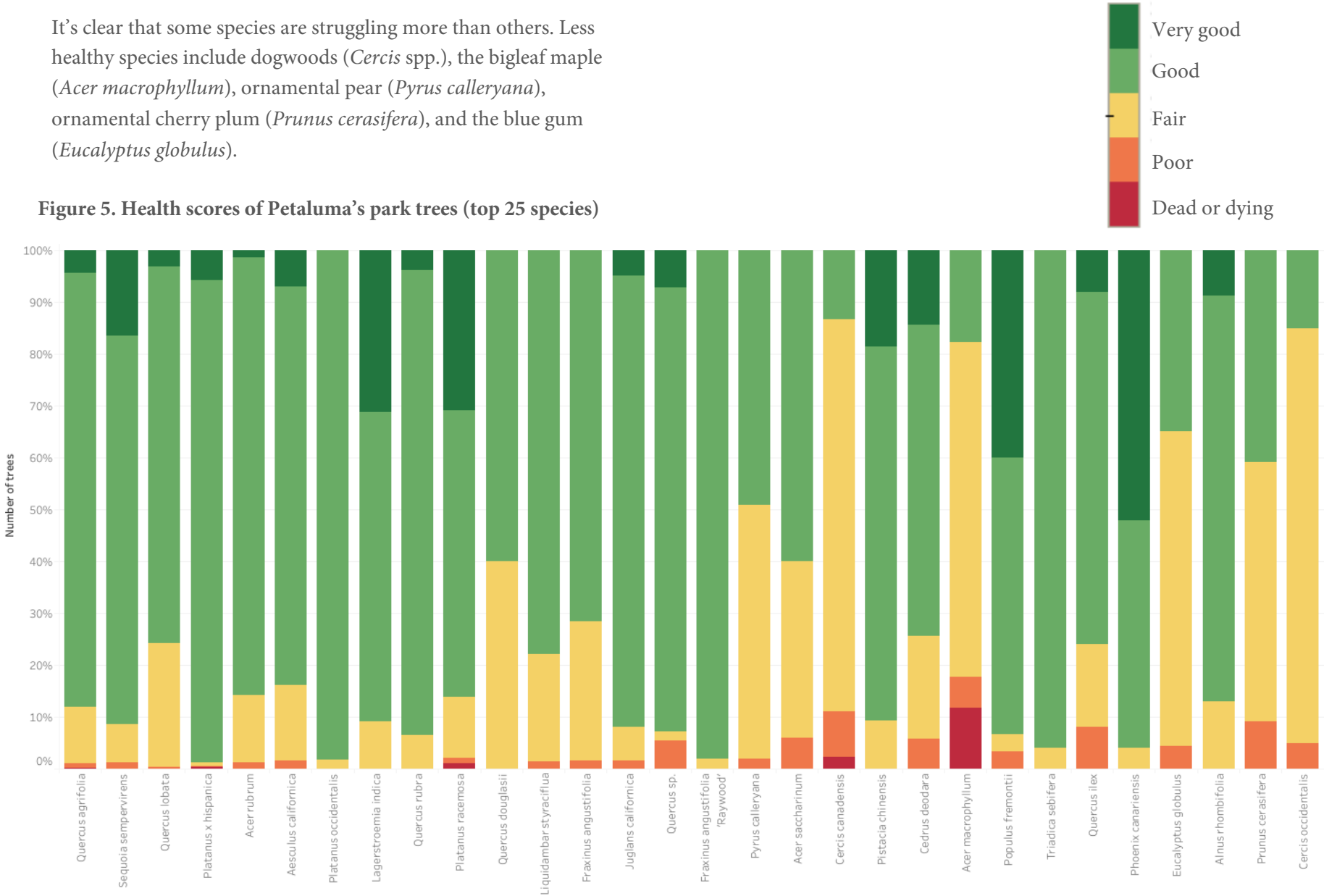
It's worth digging deeper into the health data to see how species and age have an impact on condition. The figure on the next page shows the health of the 25 most common park tree species. (Average condition scores for each species are presented in the Appendix.)

Figure 4. Health scores of Petaluma's park trees



It's clear that some species are struggling more than others. Less healthy species include dogwoods (*Cercis* spp.), the bigleaf maple (*Acer macrophyllum*), ornamental pear (*Pyrus calleryana*), ornamental cherry plum (*Prunus cerasifera*), and the blue gum (*Eucalyptus globulus*).

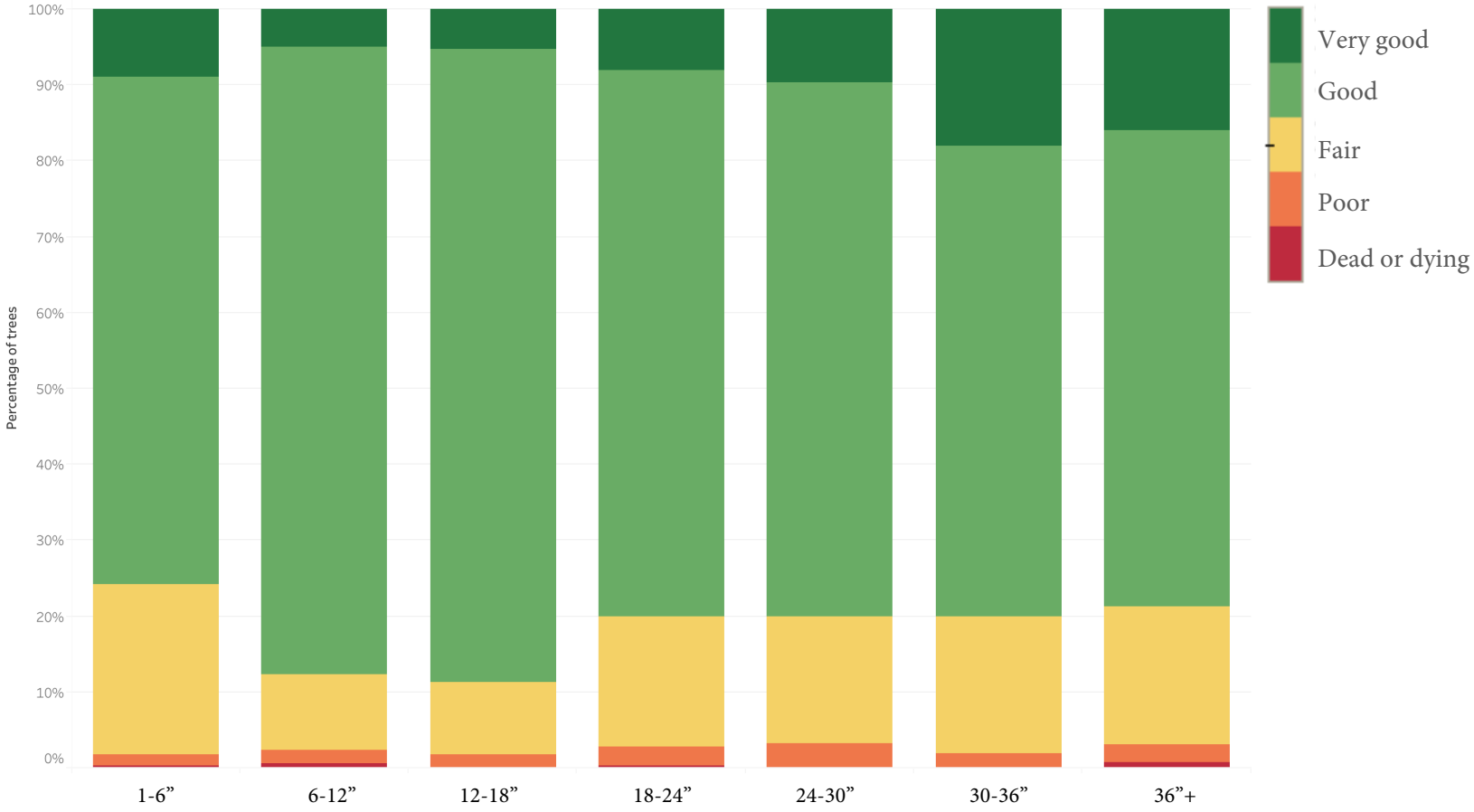
Figure 5. Health scores of Petaluma's park trees (top 25 species)



Interestingly, tree health does not show the typical relationship to tree size or age. Generally, we don't expect to see many very good ratings among the oldest/largest trees as they approach the ends of their lives. Here in fact, we see the highest percentage of trees in the very good category among the oldest and largest trees.

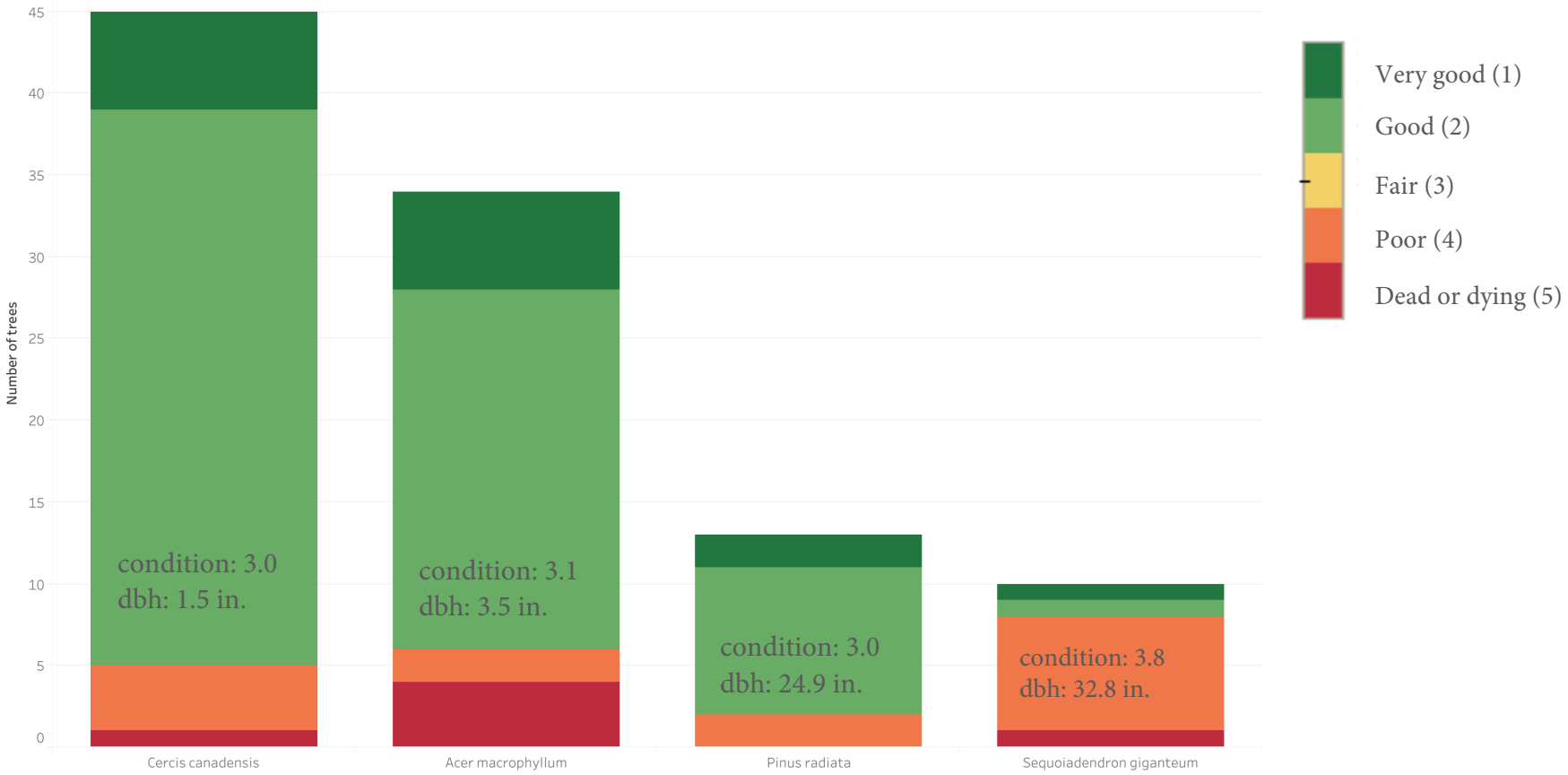
The smallest tree class usually also has a higher number of dead or dying trees because the establishment period (the first few years after planting) is the most precarious time for trees.

Figure 6. Health scores of Petaluma's park trees, by age (as a function of dbh)



Finally, it is worth noting that the average condition score of a species does not tell the full story. The figure below shows four species in poor health but with very different causes. *Cercis canadensis* and *Acer macrophyllum* are very young, newly planted trees and are nevertheless already showing poor health, suggesting these species might not be a good choice for their sites or for Petaluma. *Pinus radiata* and *Sequoiadendron giganteum*, in contrast, have a very large average dbh, indicating these trees were planted decades ago. Their poorer health is likely the result of old age and pests (*P. radiata*) and drought (*S. giganteum*).

Figure 7. An in-depth look at four species in poor health. Average condition score and average dbh for each species are shown.



Maintenance needs

Of the approximately 3,800 park trees, about one-quarter are in need of maintenance or removal. A total of 757 require pruning, and an additional 110 are dead or dying and should be removed where they pose a threat to residents.

At typical industry costs for work contracted with a professional arborist, Petaluma could expect to pay approximately $310,000 to care for all of these trees.

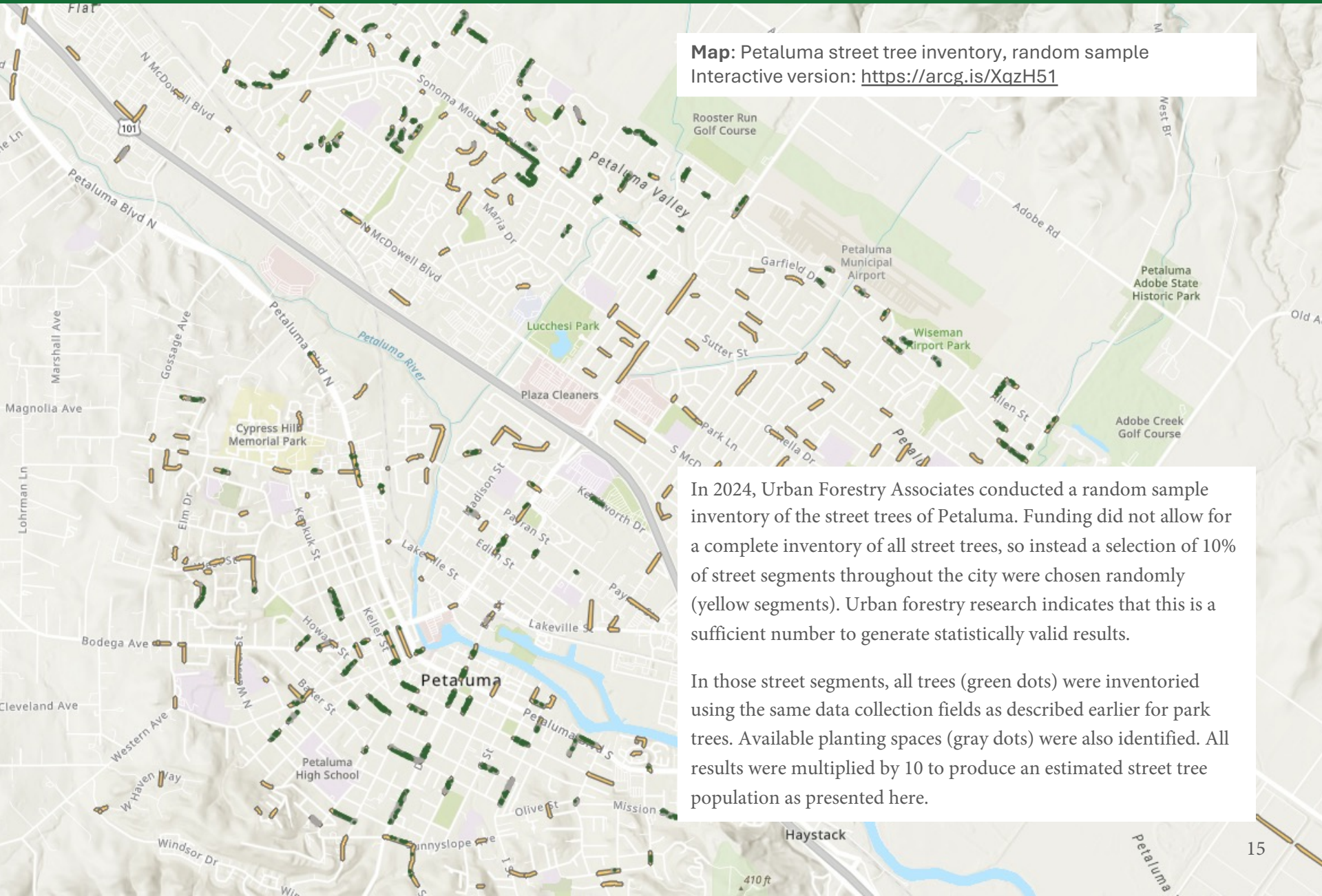
Table 5. Approximate industry costs

Task	Size (dbh)	Cost
Pruning	4-10"	$125
	11-20"	$250
	21-30"	$575
	31"+	$875
Removal	4-10"	$375
	11-20"	$950
	21-30"	$2,000
	31"+	$3,250+

Table 6. Park tree maintenance needs by priority and tree size

Task	dbh class				
	0-3"	4-10"	11-20"	21-30"	31"+
Pruning					
Priority 1					3
Priority 2	116	214	245	118	61
Removal					
Priority 1					1
Priority 2		6	13	1	2
Priority 3	6	43	24	11	3

Street tree sample inventory | 2025



Map: Petaluma street tree inventory, random sample
Interactive version: https://arcg.is/XqzH51

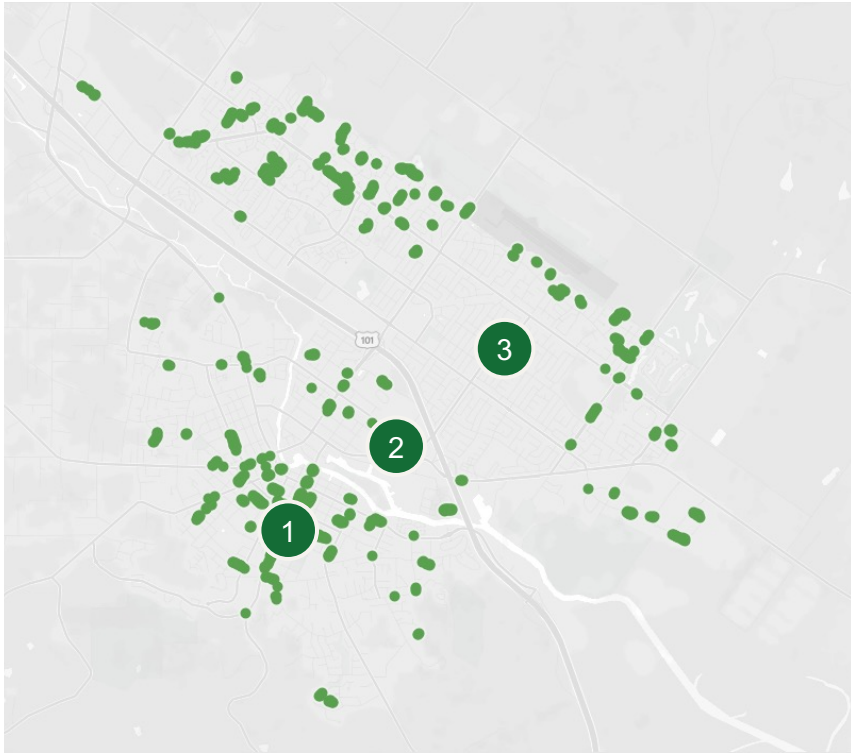
In 2024, Urban Forestry Associates conducted a random sample inventory of the street trees of Petaluma. Funding did not allow for a complete inventory of all street trees, so instead a selection of 10% of street segments throughout the city were chosen randomly (yellow segments). Urban forestry research indicates that this is a sufficient number to generate statistically valid results.

In those street segments, all trees (green dots) were inventoried using the same data collection fields as described earlier for park trees. Available planting spaces (gray dots) were also identified. All results were multiplied by 10 to produce an estimated street tree population as presented here.

Distribution of street trees across Petaluma

The inventory estimates that there are about 11,700 trees along Petaluma's streets and about 7,800 available planting spaces. Those street trees are not, however, evenly distributed across the city. The largest contributing factor to explain why some parts of the city have many street trees and others have almost none is the age of the neighborhood, which is reflected in the street design. The oldest, historic neighborhoods have a wider planting strip between the sidewalk and the curb that allows for planting trees. The midtown area, in contrast, was built out with a narrower planting strip, which has been paved over in areas. Finally, the neighborhoods developed in the 1970s and 1980s have no planting strip at all.

Figure 8. Distribution of street trees across Petaluma with typical street designs for selected neighborhoods



Species diversity

Along the streets of Petaluma, there are 78 species across an estimated* 11,700 trees. The table to the right shows the most common species on Petaluma streets (those that represent at least 1% of the total population). The full list is available in the Appendix.

The table below shows the various measures for describing species diversity. Despite the much larger number of trees on streets than in parks, the species diversity is lower in terms of both the number of distinct species and the distribution of trees among those species.

Table 8: Measures of diversity in Petaluma's park tree inventory

Number of species	78
Shannon diversity index (H')	3.24
Evenness (E)	0.7
Hill's no. of effective species (N_1)	25
Simpson's effective species (N_2)	14

*Note that all values for tree numbers have been extrapolated from the 10% random sample and thus are estimates.

Table 7. Most common street tree species

Species	Number of trees*	Percent of total
Lagerstroemia indica	2,070	18%
Platanus × hispanica	1,610	14%
Acer rubrum	980	8%
Pyrus calleryana	680	6%
Ginkgo biloba	580	5%
Quercus sp.	560	5%
Celtis sp.	530	5%
Pistacia chinensis	400	3%
Quercus lobata	330	3%
Quercus agrifolia	300	3%
Prunus cerasifera	260	2%
Fraxinus angustifolia	250	2%
Liriodendron tulipifera	190	2%
Platanus occidentalis	180	2%
Cercis canadensis	170	2%
Arbutus 'Marina'	150	1%
Cinnamomum camphora	120	1%
Crataegus sp.	120	1%
Quercus rubra	120	1%
Triadica sebifera	120	1%
Gleditsia triacanthos	110	1%
Arbutus unedo	100	1%
Zelkova serrata	100	1%
Other	1,680	14%
Total	11,700	100%

The 10-20-30 species diversity rule

There is less concentration among the most common species along the streets than in the parks. Along streets, only two species exceed the recommended 10% maximum: crape myrtle (*Lagerstroemia indica*, 18%) and the London plane tree (*Platanus* × *hispanica*, 14%). These two urban workhorses thrive in conditions many species can't tolerate, so their frequent use is not unexpected.

No genus or botanical family exceeds the recommended percentages.

Importance value

Table 9 highlights the significant contribution of London plane trees to Petaluma's urban forest. Their IV is 2.5 times greater than the next species, and much higher than their percentage of the population would suggest. In contrast, crape myrtles have an IV much lower than their numbers would indicate because of their small size.

Table 9. Importance value of top ten species

Species	Percent of population	Percent of leaf area	Importance value
Platanus × *hispanica*	13.80	34.7	24.25
Lagerstroemia indica	17.70	2.1	9.90
Acer rubrum	8.40	2.9	5.65
Quercus sp.	4.80	5.6	5.20
Pyrus calleryana	5.90	4.4	5.15
Celtis sp.	4.60	4.6	4.60
Quercus agrifolia	2.60	5.7	4.15
Quercus lobata	2.80	5	3.90
Liriodendron tulipifera	1.60	5.3	3.45
Ginkgo biloba	5.00	0.5	2.75

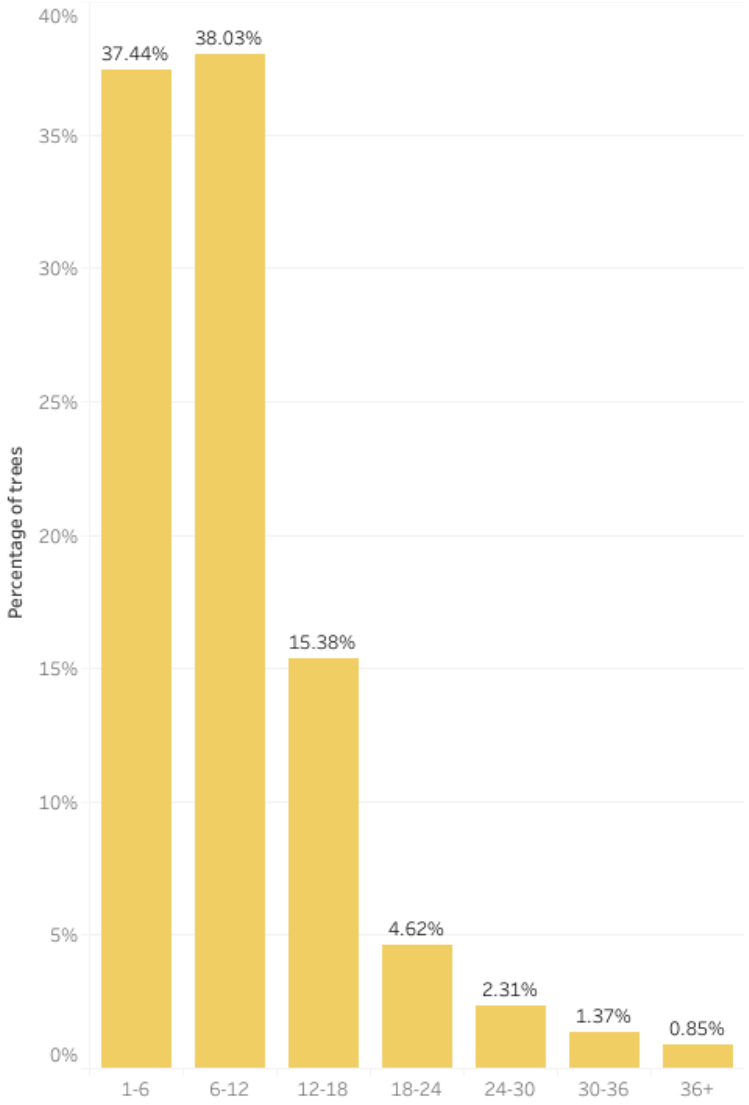
Age structure

The age/size distribution of Petaluma's street trees is not as well balanced as the park trees. A full three-quarters of all street trees have a trunk diameter (dbh) under 12". But what does that actually tell us? Trunk diameter is commonly used as a proxy for tree age, but dbh alone cannot distinguish between a young tree that will eventually grow large and a small-stature species that has already reached its mature size.

A street lined with young oaks looks identical in the data to a street lined with mature crape myrtles — both show up as small-dbh trees. To understand whether the city's urban forest is truly young and growing, or is instead shifting toward smaller species, we need to look at the species composition within each size class.

RECOMMENDATION: Prioritize planting large stature species along streets wherever possible.

Figure 9. Age diversity of Petaluma's street trees (by dbh class)

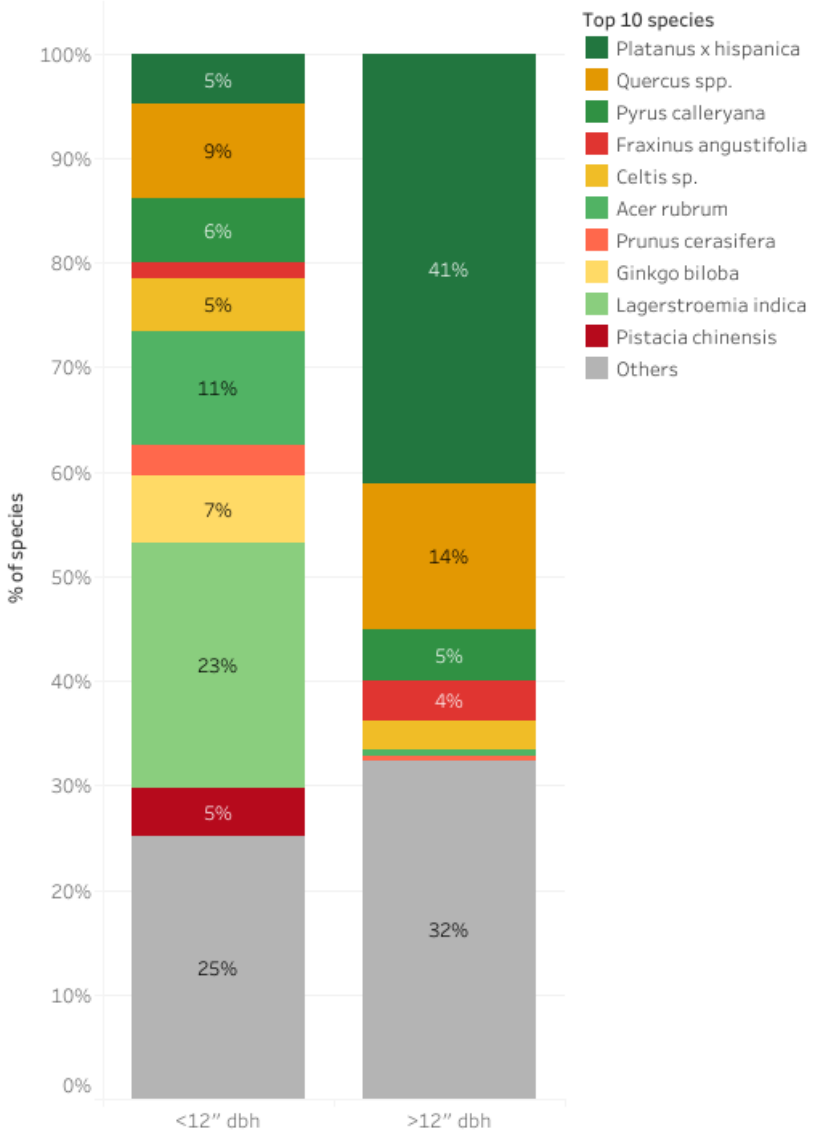


That closer look reveals a striking difference. London plane trees make up nearly half of the large tree category, but only a small fraction of the small trees, suggesting these are not being planted at the rate they once were. As the older London planes eventually die, they will not be replaced in kind. Nearly a quarter of the trees in the small dbh class are crape myrtles, a species that will never achieve the canopy spread of a London plane. Among the small-dbh species, only the oaks and London plane trees will grow to provide significant canopy benefits.

The photo below shows a street scene prized by many — trees arching over the road, creating a shady tunnel to pass under. But will Petaluma's future urban forest have more of these streets or fewer? The answer is fewer, unless the species palette changes.

Figure 10. London plane trees frame a Petaluma street.

Figure 11. Species composition of small vs large trees

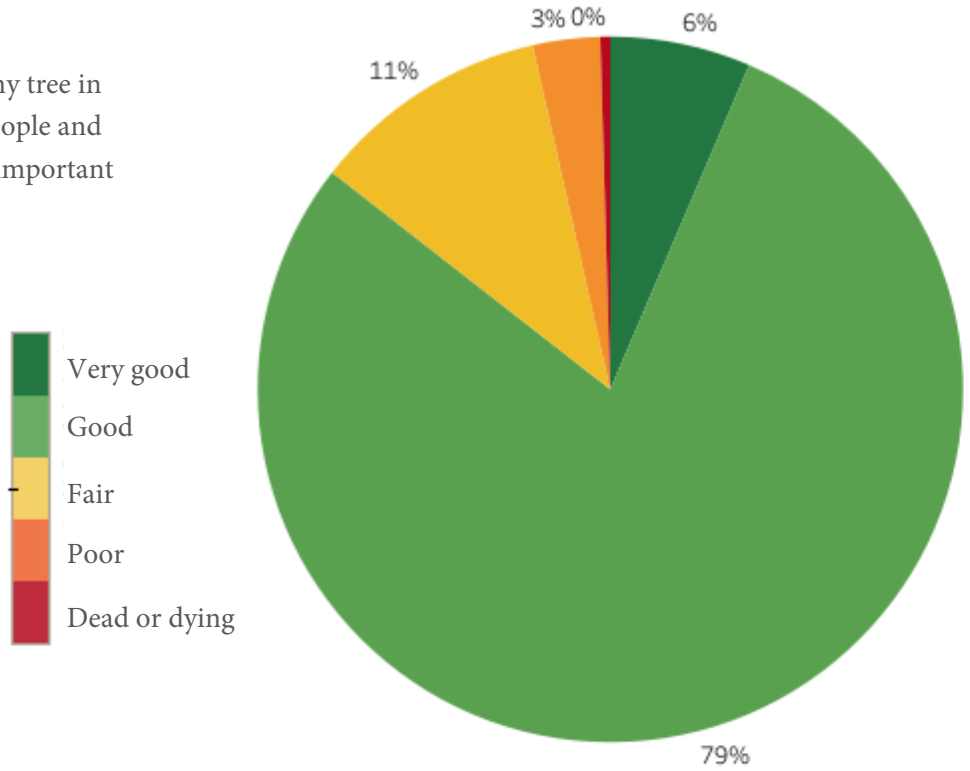


Tree health

Overall, the trees along Petaluma's streets are healthy, with 85% rated as good or very good, 11% as fair, 3% as poor, and only 0.4% as dead or dying.

The health of street trees deserves close attention. While any tree in decline can pose risks, street trees sit right alongside the people and vehicles that use the city every day — making it especially important to identify and address health issues in a timely way.

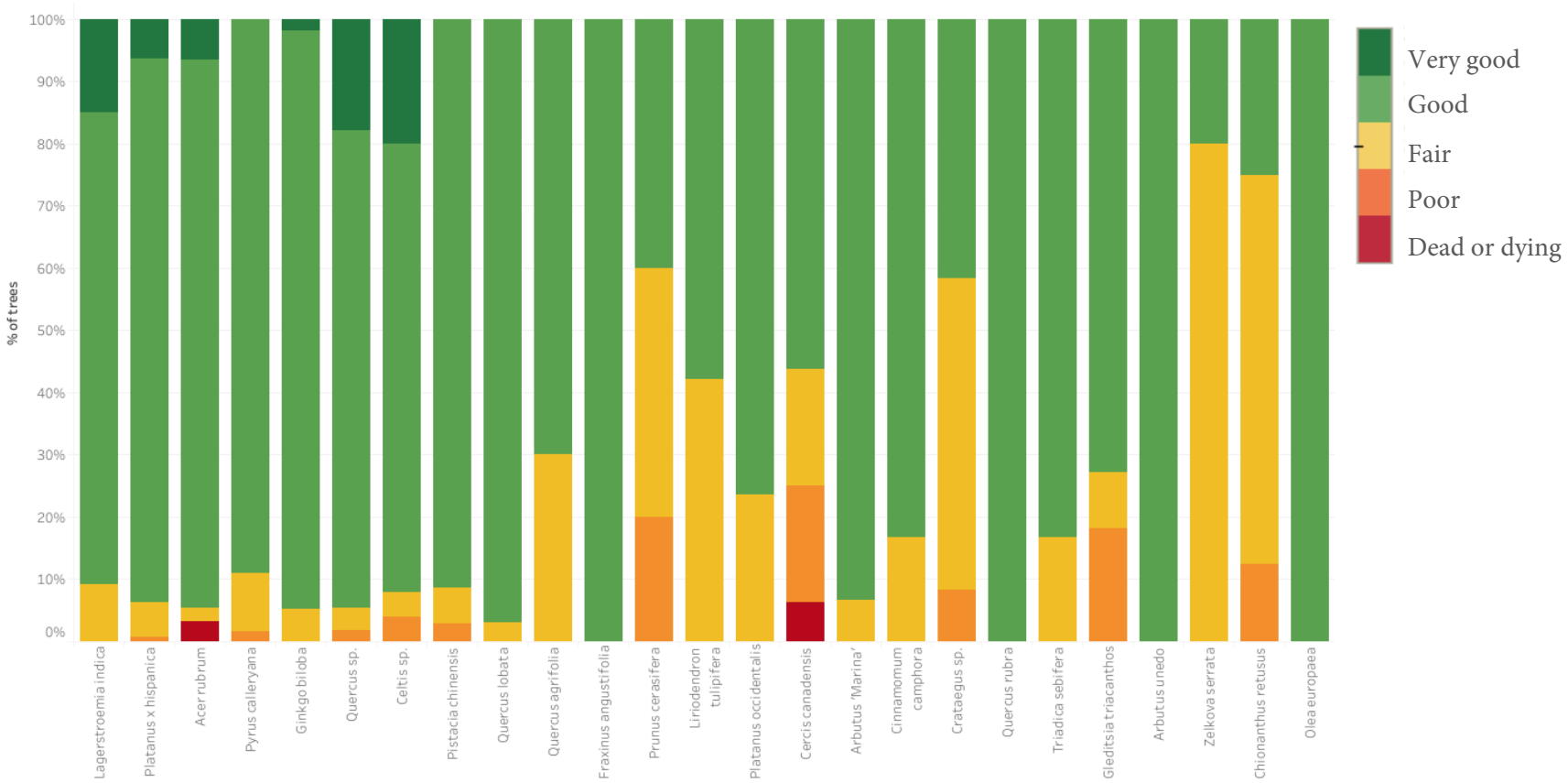
Figure 12. Health scores of Petaluma's street trees



Among the most common species, there are better and poorer performers. Less healthy street tree species include dogwoods (*Cercis* spp.), the red maple (*Acer rubrum*), ornamental cherry plum (*Prunus cerasifera*), and the fringetree (*Chionanthus retusus*).

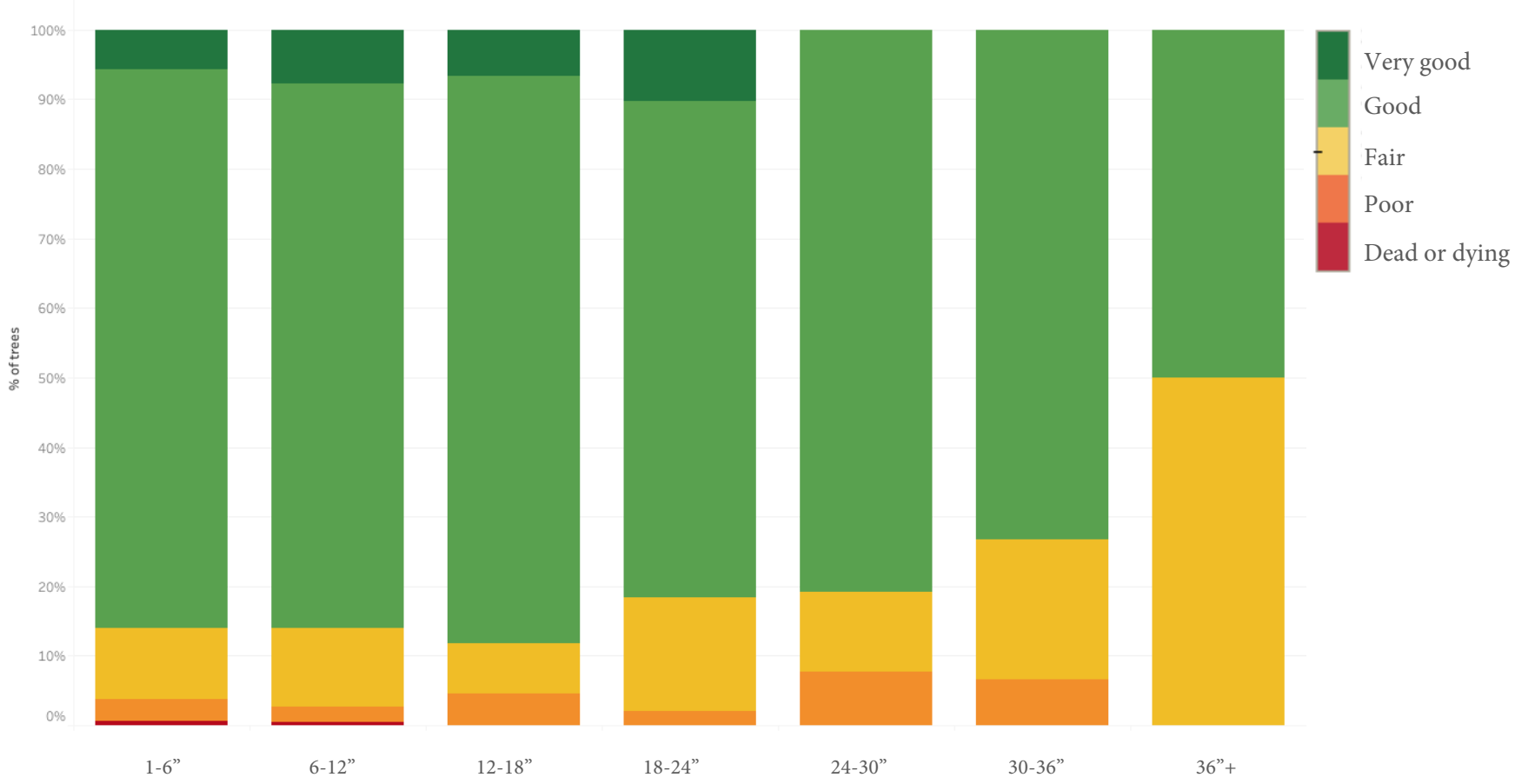
Successful species include crape myrtle, oaks, and hackberries (*Celtis* spp.). The oaks and hackberries are newer additions to the street tree palette. Time will tell if they maintain their good health as they age.

Figure 13. Health scores of Petaluma's street trees (top 25 species)



The patterns of tree health in relation to size/age among street trees are more typical than with the park trees. The largest trees have few specimens that can be described as very good, but also almost none in very poor health (likely removed for safety). The smaller size categories reflect a typical dichotomy of younger trees: they are either healthy or subject to establishment period mortality.

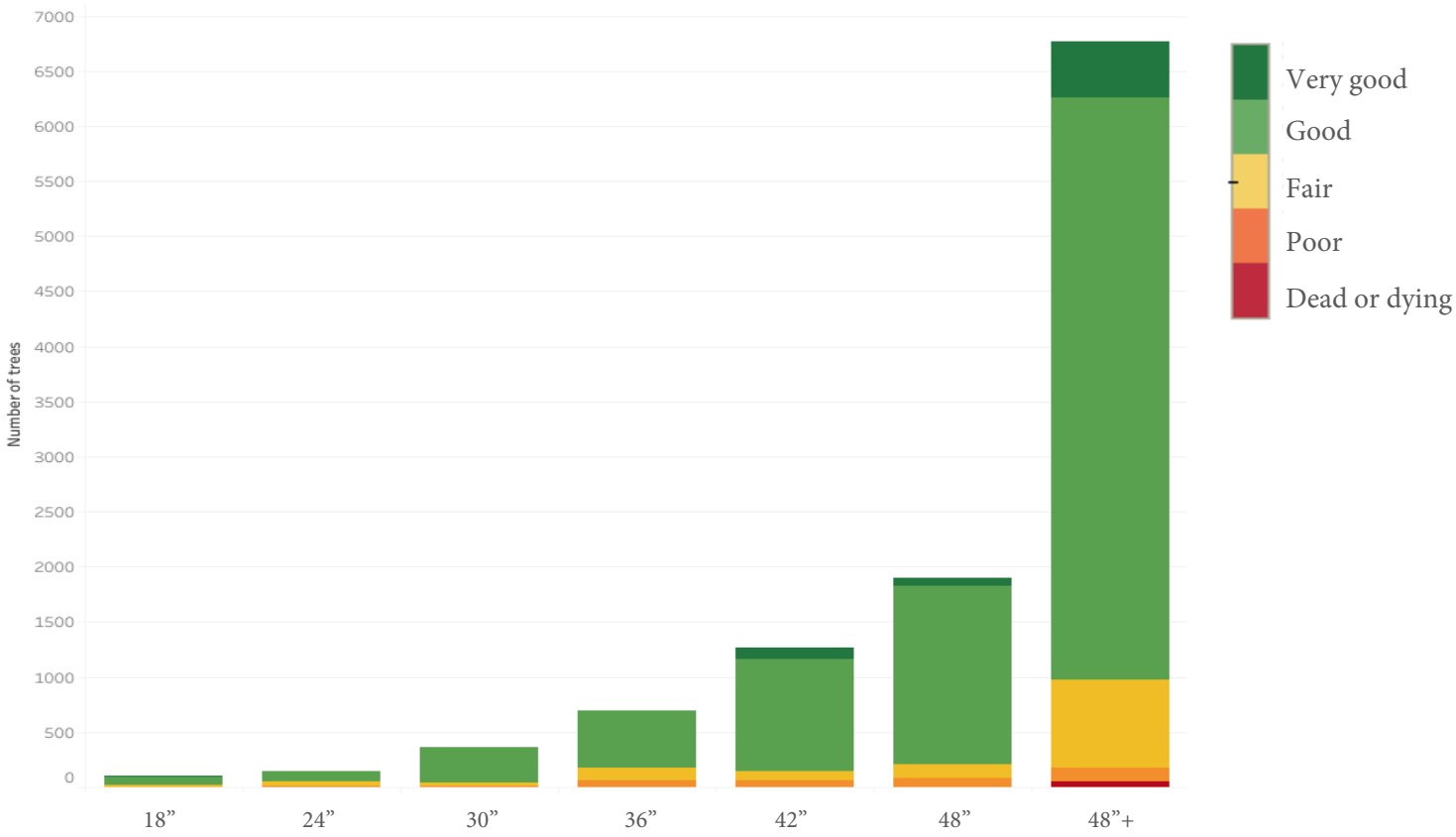
Figure 14. Health scores of Petaluma's street trees, by age (as a function of dbh)



Tree condition and planting space size

The size of each tree's planting space (its longest dimension) was measured during the inventory. It is generally assumed that trees in smaller planting spaces will have a poorer performance than those in larger cutouts, as larger spaces allow for more water and oxygen to reach the tree's roots, have greater volume of soil, and are less likely to create conflicts with infrastructure. Indeed, the largest planting spaces had the most trees in very good condition. Interestingly, the proportion of trees in poor condition did not show a strong relationship to planting space size.

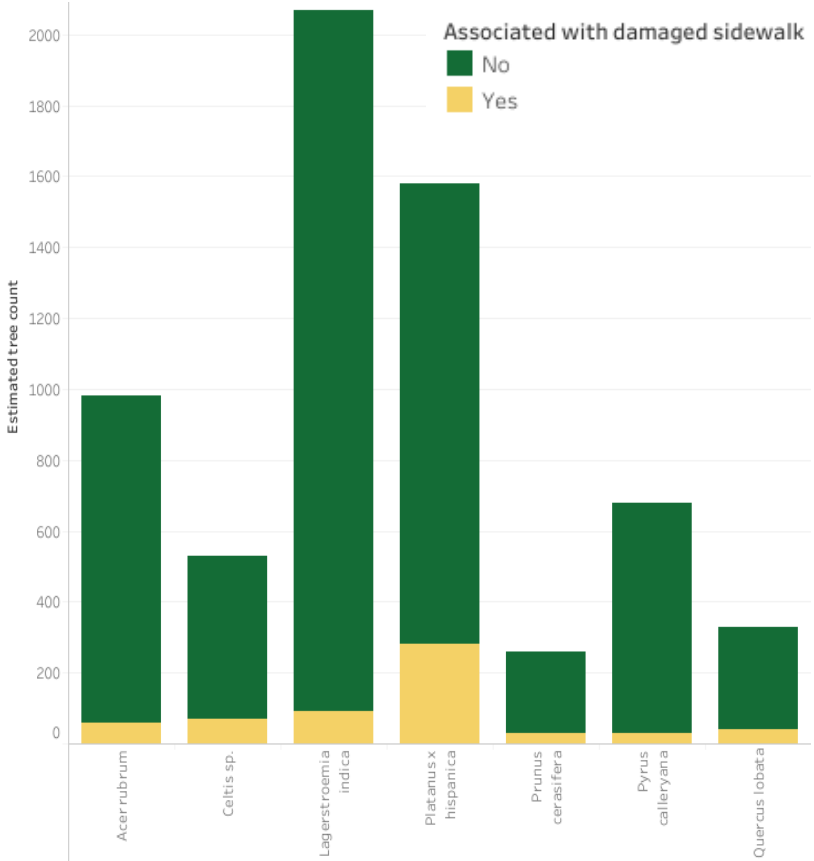
Figure 15. Tree condition by planting space size (longest dimension)



Tree species and sidewalk damage

Only about 7% of street trees were associated with sidewalk damage (Figure 16). London planes, the most frequent of these, tend to be planted in the most urban parts of the city, in the smallest spaces, and are among the largest street trees; their status as most likely to be found near damaged sidewalks is not unexpected.

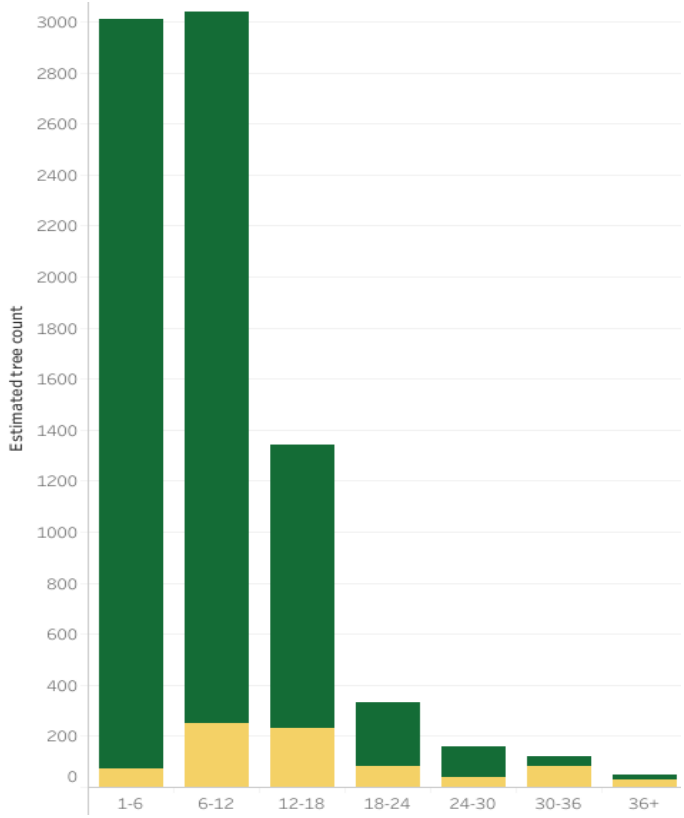
Figure 16. Tree species associated with sidewalk damage



Tree dbh and sidewalk damage

Also not unexpected is the general relationship between trunk diameter (dbh) and adjacent sidewalk damage. Although any given instance of sidewalk damage is not necessarily due to the tree planted nearby (other causes or previous trees could be responsible), we can expect that the largest trees would be most likely to cause damage.

Figure 17. Tree dbh associated with sidewalk damage



Maintenance needs

Along Petaluma's streets, about 3,000 trees are in need of pruning, and about 400 require removal. City staff should work with adjacent property owners to address these potential hazards.

Table 10. Street tree maintenance needs by priority and tree size*

Task	DBH Class				
	0-3"	4-10"	11-20"	21-30"	31"+
Pruning	520	1700	560	190	140
Removal		260	110	40	10

*Note that all values for tree numbers have been extrapolated from the 10% random sample and thus are estimates.

RECOMMENDATION: City staff should use the inventory and a drive-by inspection of un-inventoried streets to identify hazardous trees. They should work with adjacent property owners to remedy these concerns quickly.

Appendix

Park tree statistics

Species	Number of trees	% of all trees	Avg. trunk diameter (in)	Avg. condition (lower is better)
Quercus agrifolia	569	14.8%	8.4	2.1
Sequoia sempervirens	431	11.2%	22.8	1.9
Quercus lobata	364	9.5%	4.4	2.2
Platanus x *hispanica*	328	8.6%	12.3	2.0
Acer rubrum	162	4.2%	5.0	2.1
Aesculus californica	130	3.4%	4.2	2.1
Platanus occidentalis	116	3.0%	11.8	2.0
Lagerstroemia indica	109	2.8%	4.6	1.8
Quercus rubra	107	2.8%	8.0	2.0
Platanus racemosa	94	2.5%	1.5	1.9
Quercus douglasii	70	1.8%	1.1	2.4
Liquidambar styraciflua	68	1.8%	13.7	2.2
Fraxinus angustifolia	67	1.7%	16.4	2.3
Juglans californica	62	1.6%	16.8	2.0
Quercus sp.	56	1.5%	12.2	2.1
Fraxinus angustifolia 'Raywood'	52	1.4%	9.7	2.0
Pyrus calleryana	51	1.3%	10.7	2.5
Acer saccharinum	50	1.3%	19.0	2.5

Appendix

Park tree statistics

Species	Number of trees	% of all trees	Avg. trunk diameter (in)	Avg. condition (lower is better)
Cercis canadensis	45	1.2%	1.5	3.0
Pistacia chinensis	43	1.1%	6.1	1.9
Cedrus deodara	35	0.9%	12.3	2.2
Acer macrophyllum	34	0.9%	3.5	3.1
Populus fremontii	30	0.8%	7.0	1.7
Triadica sebifera	25	0.7%	8.8	2.0
Quercus ilex	25	0.7%	9.6	2.2
Phoenix canariensis	25	0.7%	28.6	1.5
Eucalyptus globulus	23	0.6%	41.9	2.7
Alnus rhombifolia	23	0.6%	3.3	2.0
Prunus cerasifera	22	0.6%	8.5	2.7
Pinus pinea	20	0.5%	23.1	2.7
Ligustrum japonicum	20	0.5%	11.2	2.4
Hesperocyparis macrocarpa	20	0.5%	24.3	2.6
Fraxinus velutina	20	0.5%	21.4	2.5
Cercis occidentalis	20	0.5%	1.5	2.9
Populus sp.	19	0.5%	3.4	1.3
Celtis sp.	18	0.5%	9.8	2.1

Appendix

Park tree statistics

Species	Number of trees	% of all trees	Avg. trunk diameter (in)	Avg. condition (lower is better)
Quercus wislizeni	17	0.4%	3.1	2.2
Quercus virginiana	17	0.4%	8.4	2.2
Aesculus x *carnea*	17	0.4%	6.1	2.2
Quercus kelloggii	16	0.4%	9.8	2.6
Magnolia grandiflora	16	0.4%	18.0	1.9
Pyrus kawakamii	14	0.4%	6.7	2.1
Gleditsia triacanthos	14	0.4%	10.3	2.1
Fraxinus uhdei	14	0.4%	22.7	2.3
Pinus radiata	13	0.3%	24.9	3.0
Quercus robur	12	0.3%	8.7	2.0
Morus alba	12	0.3%	11.8	2.0
Fraxinus sp.	12	0.3%	9.9	2.1
Populus nigra	11	0.3%	9.7	2.5
Olea europaea	11	0.3%	7.6	2.0
Sequoiadendron giganteum	10	0.3%	32.8	3.8
Nyssa sylvatica	10	0.3%	4.1	2.4
Malus sp.	10	0.3%	5.3	1.9
Quercus shumardii	9	0.2%	18.2	2.0
Malus domestica	9	0.2%	2.1	2.8

Appendix

Park tree statistics

Species	Number of trees	% of all trees	Avg. trunk diameter (in)	Avg. condition (lower is better)
Prunus sp.	8	0.2%	6.1	2.5
Cupressus sempervirens	8	0.2%	2.8	2.0
Acer platanoides	8	0.2%	5.6	2.3
Ulmus parvifolia	7	0.2%	15.9	2.0
Quercus palustris	7	0.2%	20.1	2.0
Ginkgo biloba	7	0.2%	6.2	2.6
Cinnamomum camphora	7	0.2%	12.0	2.3
Acer negundo	7	0.2%	7.6	2.6
Tristania laurina	6	0.2%	3.8	2.0
Trachycarpus fortunei	6	0.2%	5.8	2.0
Salix sp.	6	0.2%	16.2	3.0
Salix laevigata	6	0.2%	12.1	2.3
Maytenus boaria	6	0.2%	8.4	2.2
Juglans hindsii	6	0.2%	3.8	2.3
Calocedrus decurrens	6	0.2%	5.5	2.5
Acer palmatum	6	0.2%	7.8	2.7
Ulmus sp.	5	0.1%	26.2	2.2
Robinia pseudoacacia	5	0.1%	6.4	2.6

Appendix

Park tree statistics

Species	Number of trees	% of all trees	Avg. trunk diameter (in)	Avg. condition (lower is better)
Quercus suber	5	0.1%	4.7	1.4
Prunus ilicifolia	5	0.1%	9.0	2.0
Prunus armeniaca	5	0.1%	4.1	2.0
Liriodendron tulipifera	5	0.1%	10.3	2.0
Crataegus sp.	5	0.1%	5.5	2.4
Styphnolobium japonicum	4	0.1%	15.5	2.0
Populus alba	4	0.1%	16.0	3.0
Magnolia x soulangeana	4	0.1%	6.5	1.8
Carpinus betulus	4	0.1%	11.8	2.0
Arbutus 'Marina'	4	0.1%	1.8	2.3
Zelkova serrata	3	0.1%	35.7	1.0
x*Chitalpa tashkentensis*	3	0.1%	4.6	2.0
Umbellularia californica	3	0.1%	32.0	2.0
Schinus molle	3	0.1%	12.3	2.0
Salix lasiolepis	3	0.1%	10.3	2.7
Pittospsorum phillyraeoides	3	0.1%	3.0	2.0
Pinus halepensis	3	0.1%	12.1	3.0
Fraxinus excelsior	3	0.1%	21.2	2.0
Eucalyptus sideroxylon	3	0.1%	17.3	2.3

Appendix

Park tree statistics

Species	Number of trees	% of all trees	Avg. trunk diameter (in)	Avg. condition (lower is better)
Celtis sinensis	3	0.1%	4.0	2.0
Cedrus atlantica	3	0.1%	16.5	2.0
Betula pendula	3	0.1%	9.0	2.0
Arbutus unedo	3	0.1%	8.5	2.3
Taxus brevifolia	2	0.1%	7.5	1.0
Quercus garryana	2	0.1%	1.0	3.0
Prunus dulcis	2	0.1%	4.5	2.0
Diospyros kaki	2	0.1%	3.8	2.5
Acer truncatum	2	0.1%	2.0	3.5
Acacia melanoxylon	2	0.1%	13.5	2.5
Washingtonia robusta	1	0.0%	24.0	2.0
Ulmus thomasii	1	0.0%	13.7	2.0
Ulmus pumila	1	0.0%	15.9	2.0
Tilia sp.	1	0.0%	8.0	2.0
Searsia lancea	1	0.0%	1.0	2.0
Sambucus mexicana	1	0.0%	9.3	2.0
Salix caprea	1	0.0%	11.4	3.0
Quercus x *chasei*	1	0.0%	30.0	2.0
Quercus macrocarpa	1	0.0%	2.5	1.0

Appendix

Species	Number of trees	% of all trees	Avg. trunk diameter (in)	Avg. condition (lower is better)
Quercus austrina	1	0.0%	2.0	4.0
Ligustrum lucidum	1	0.0%	6.0	3.0
Laurus nobilis	1	0.0%	8.2	1.0
Koelreuteria paniculata	1	0.0%	13.0	2.0
Juniperus chinensis	1	0.0%	12.5	2.0
Heteromeles arbutifolia	1	0.0%	4.2	2.0
Grevillea robusta	1	0.0%	42.0	2.0
Fraxinus latifolia	1	0.0%	14.2	2.0
Ficus carica	1	0.0%	6.9	2.0
Fagus sp.	1	0.0%	1.5	2.0
Eucalyptus polyanthemos	1	0.0%	33.8	1.0
Chamaerops humilis	1	0.0%	10.0	2.0
Araucaria bidwillii	1	0.0%	52.0	2.0
Albizia julibrissin	1	0.0%	7.0	2.0

Appendix

Street tree statistics

Species	Estimated tree count	% of all trees	Avg. trunk diameter (in)	Avg. condition (lower is better)
Lagerstroemia indica	2,070	17.7%	4	1.9
Platanus x hispanica	1,610	13.8%	16	2.0
Acer rubrum	980	8.4%	6	2.1
Pyrus calleryana	680	5.8%	9	2.1
Ginkgo biloba	580	5.0%	3	2.0
Quercus sp.	560	4.8%	9	1.9
Celtis sp.	530	4.5%	9	1.9
Pistacia chinensis	400	3.4%	4	2.1
Quercus lobata	330	2.8%	12	2.0
Quercus agrifolia	300	2.6%	13	2.3
Prunus cerasifera	260	2.2%	6	2.7
Fraxinus angustifolia	250	2.1%	11	2.0
Liriodendron tulipifera	190	1.6%	15	2.4
Platanus occidentalis	180	1.5%	13	2.2
Cercis canadensis	170	1.5%	5	2.7
Arbutus 'Marina'	150	1.3%	3	2.1
Crataegus sp.	120	1.0%	4	2.7
Triadica sebifera	120	1.0%	9	2.2
Cinnamomum camphora	120	1.0%	15	2.2
Quercus rubra	120	1.0%	6	2.0

Appendix

Species	Estimated tree count	% of all trees	Avg. trunk diameter (in)	Avg. condition (lower is better)
Gleditsia triacanthos	110	0.9%	8	2.5
Zelkova serrata	100	0.9%	8	2.8
Arbutus unedo	100	0.9%	4	2.0
Olea europaea	90	0.8%	4	2.0
Chionanthus retusus	80	0.7%	9	2.9
Prunus sp.	80	0.7%	8	2.6
Magnolia x *soulangeana*	80	0.7%	1	2.4
Quercus robur	80	0.7%	8	2.0
Platanus racemosa	80	0.7%	1	2.0
Robinia pseudoacacia	60	0.5%	18	3.0
Acer palmatum	60	0.5%	2	2.8
Phoenix canariensis	60	0.5%	26	2.3
Sequoia sempervirens	60	0.5%	23	2.0
Fraxinus sp.	50	0.4%	16	2.2
Eucalyptus grandis	40	0.3%	27	3.0
Searsia lancea	40	0.3%	15	2.8
Malus domestica	40	0.3%	4	2.3
Pinus canariensis	40	0.3%	18	2.0
Ceratonia siliqua	40	0.3%	8	2.0

Appendix

Species	Estimated tree count	% of all trees	Avg. trunk diameter (in)	Avg. condition (lower is better)
Acer saccharinum	40	0.3%	14	2.0
Magnolia sp.	40	0.3%	4	1.8
Maytenus boaria	30	0.3%	11	3.7
Juglans californica	30	0.3%	40	3.0
Malus sp.	30	0.3%	4	2.7
Magnolia grandiflora	30	0.3%	18	2.7
Hesperocyparis macrocarpa	30	0.3%	23	2.7
Quercus virginiana	30	0.3%	8	2.0
Carpinus betulus	30	0.3%	4	2.0
Acer x freemanii	30	0.3%	3	2.0
Fagus sylvatica	20	0.2%	5	3.5
Pittosporum sp.	20	0.2%	3	3.0
Dracaena sp.	20	0.2%	7	3.0
Ficus carica	20	0.2%	3	2.5
Ulmus parvifolia	20	0.2%	18	2.0
Eriobotrya japonica	20	0.2%	5	2.0
Acer sp.	20	0.2%	4	2.0
Cupressus sempervirens	20	0.2%	5	1.0
Acer negundo	10	0.1%	15	4.0

Appendix

Species	Estimated tree count	% of all trees	Avg. trunk diameter (in)	Avg. condition (lower is better)
Prunus persica	10	0.1%	3	3.0
Photinia sp.	10	0.1%	8	3.0
Eucalyptus sp.	10	0.1%	18	3.0
Catalpa sp.	10	0.1%	47	3.0
x*Chitalpa tashkentensis*	10	0.1%	8	2.0
Schinus terebinthifolia	10	0.1%	9	2.0
Quercus palustris	10	0.1%	12	2.0
Quercus kelloggii	10	0.1%	1	2.0
Quercus garryana	10	0.1%	1	2.0
Pyrus kawakamii	10	0.1%	18	2.0
Prunus armeniaca	10	0.1%	2	2.0
Koelreuteria paniculata	10	0.1%	7	2.0
Juniperus chinensis	10	0.1%	6	2.0
Fraxinus uhdei	10	0.1%	20	2.0
Citrus sp.	10	0.1%	4	2.0
Celtis australis	10	0.1%	18	2.0
Aesculus x *carnea*	10	0.1%	22	2.0
Aesculus californica	10	0.1%	1	2.0
Acer macrophyllum	10	0.1%	9	2.0
Quercus tomentella	10	0.1%	1	1.0