



Public Works Department,
Park Division
965 Fir Street
(530) 896-7800

Agenda Prepared: 4/8/2019
Agenda Posted: 4/8/2019
Prior to: 6:00 p.m.

**CITY OF CHICO
BIDWELL PARK AND PLAYGROUND COMMISSION (BPPC)
TREE COMMITTEE**

(Commissioners Liles (Chair), Grist, Haar)
Regular Meeting Agenda
April 11, 2019, 6:00 p.m.

Chico Municipal Center Council Chamber Building - 421 Main Street, Conference Room 2

Materials related to an item on this Agenda are available for public inspection in the Park Division Office at 965 Fir Street during normal business hours or online at <http://www.chico.ca.us/>.

1. CALL TO ORDER

2. REGULAR AGENDA

2.1. REVIEW OF APPROVED STREET TREE LIST AND TREE MASTER PLAN

Staff wishes to explore revisions to the City of Chico approved Street Tree List for Streets and Parking lots, and Street Tree Master plan. It is anticipated this discussion will be ongoing and will inform development of the CALFIRE/CCI grant funded City of Chico Urban Forest Master Plan.

Recommendation: *Staff requests the Committee review and discuss revisions and updates to the Street Tree Master plan and the approved Street Tree and parking lot species list.*

3. BUSINESS FROM THE FLOOR

Members of the public may address the Committee at this time on any matter not already listed on the agenda; comments are limited to three minutes. The Committee cannot take any action at this meeting on requests made under this section of the agenda.

4. ADJOURNMENT

Unless otherwise noticed, adjourn to the next regular meeting scheduled for 6:00 pm. May 9, 2019 in Conference Room 2, Chico Municipal Center building (421 Main Street, Chico, California).



Please contact the Park Division Office at (530) 896-7800 if you require an agenda in an alternative format, or if you need to request a disability-related modification or accommodation. This request should be received at least three (3) working days prior to the meeting



DATE: 04/11/19
TO: Bidwell Park and Playground Commission (BPPC) Tree Committee
FROM: Richie Bamlet, Urban Forest Manager
SUBJECT: **REVIEW OF APPROVED STREET TREE LIST AND TREE MASTER PLAN**

REPORT IN BRIEF:

At its 6/26/17 meeting, Commissioners provided Staff with Chico Municipal Code (CMC) sections that they considered to be important and need to be revised. CMC 14.40.080 Street Tree list was noted as needing revision. Staff has also noted that the Street Tree Plan, which functions in accordance with the Street Tree List, also needs to be revised and updated.

In August 2018, the City of Chico was awarded a Climate Change Investment (CCI) Greenhouse Gas Urban and Community Forestry grant. The grant will cover funding for the development of an Urban Forest Master Plan (UFMP) as well as an update to the Citywide inventory of trees in the public right-of-way. Part of the vision for the UFMP will be to update and revise the City approved street tree list and street tree plan. The purpose of these revisions is to provide updated guidance for the use of street trees in Chico's urban canopy.

RECOMMENDATION

Staff recommends that the committee review and provide input on revisions to the Street Tree List and Street Tree Plan. It is anticipated that this discussion will be ongoing.

BACKGROUND

CMC 14.40.080 Street Tree list section:

"Street tree list" shall mean a list of species of trees or shrubs adopted by the Bidwell Park and Playground commission pursuant to this chapter, available for planting in different areas of the City in accordance with the street tree plan. Copies of such list shall be kept on file in the office of the public works department and the office of the community development department.

(Prior code § 23.49-4 (Ord. 852 §6, Ord. 2364 §160), Ord. 2439 §94)

14.40.090 Street tree plan.

"Street tree plan" shall mean a uniform city-wide plan for street tree planting of shrubs or trees, as adopted by the Bidwell Park and Playground Commission, pursuant to this chapter, a copy of which shall be filed with the general services department and the office of the building and development services department. Such plan may consist of several parts adopted at different times for different sections of the city. (Prior code § 23.49-5 (Ord. 852 §7, Ord. 2364 §161))

Attachment A provides the approved Street Tree List approved in 2009. Attachment B shows the approved street tree list as approved in 2011. Note: The Street Tree Plan is 257 pages and is not included in this report, but is available, if requested.

DISCUSSION

Figure 1 and Table 1 below show a comparison of the current canopy analysis as well as various canopy composition recommendations. In the arboricultural literature, Chico's street tree canopy is overly represented by maples, sycamores and pistache trees. Oaks are over the limit of Moll's 1989 and Barkers 1975 recommendations. However, thirteen other oak species represent less than 5% of the city tree canopy. This means that individually the oaks will represent less than 5% of the canopy each. Crape myrtles are 6% of the tree canopy and

exceed the species recommendation. Ginkgo's and Blackgum are under-represented in the tree canopy at 2% and 3% respectively. Redwoods and pears are not desirable species but fortunately they each only represent 2% of the total tree canopy. The remaining 20% of trees are species that comprise less than 1% of the canopy.

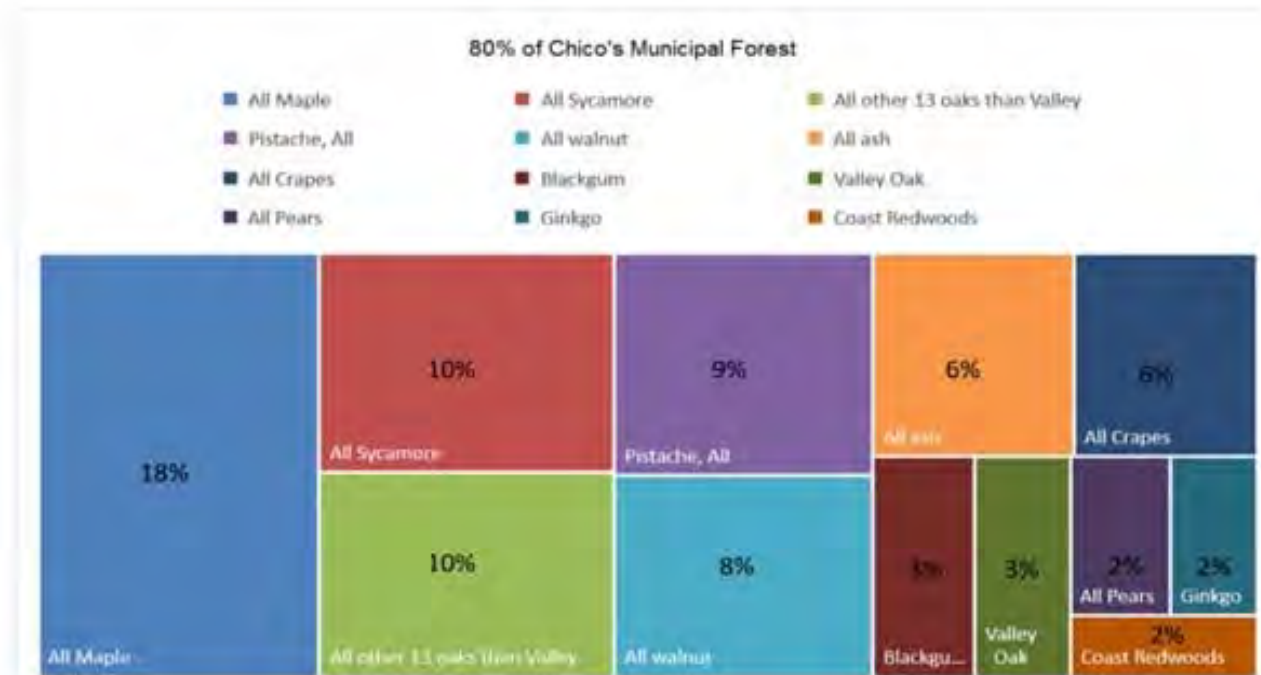


Figure 1 - Tree Composition Chart

For example, the City has only 101 Deodar street trees, spread evenly throughout the City.

The table below outlines conventional thinking as it relates to canopy composition of a healthy and resilient urban forest.

Species Diversity Recommendations	
Author	Diversity Recommendations
Barker (1975)	No single species should make up more than 5% of the total species richness
Miller and Miller (1991); Smiley, Kielbaso and Proffer (1986)	No species shall exceed 10% of the population
Moll (1989)	No species should exceed 5% and no genus should exceed 10%
Santamour, F.S. (1990)	Plant no more than 10% of any species, no more than 20% of any genus and no more than 30% of any family.
Ball, J (2016) Forestry Prof South Dakota State Uni	No More than 5% of the urban forest from any one genus
Citations:	
Barker, P.A. 1975. Ordinance control of street trees. Journal of Arboriculture. 1(11):212-215.	
Moll, G. 1989. Improving the health of the urban forest. Pp. 119-130. In Moll, G. and S. Ebenreck (eds.). Shading our Cities: A Resource Guide for Urban and Community Forests. Island Press. Washington, D.C	
Miller, R.H., and R.W. Miller. 1991. Planting survival of selected street tree taxa. Journal of Arboriculture. 17(7):185-191.	
Santamour, F.S. 1990. Trees for urban planting: diversity, uniformity, and common Sense. Proceedings of the 7th Conference of the Metropolitan Tree Improvement Alliance. 7:57-65.	

Table 1: Summary of tree canopy composition guidelines in arboricultural literature.

An updated street tree list and plan will provide a mechanism to ensure the composition of Chico's street tree canopy remains diverse and resilient. Environmental stressors such as climate change and invasive disease can be minimized and mitigated with a diverse urban tree canopy.

The Street Tree List answers the question "what can be planted?" in the City right-of-way. The Street Tree Plan answers the question "Where should trees be planted?" The example in Figure 2 and Table 2 below highlights an example from the current tree inventory and STP. In the example, it is indicated that odd numbered properties on Idyllwild crescent (highlighted in red in Figure 1) between Lakewest and Dana Point Road should be planted with Shumard oaks (QUSH) and Yarwood sycamores (PLACY). The tree inventory shows that only Yarwood sycamores are present. It is also noted that the STP plan was last updated in 1999

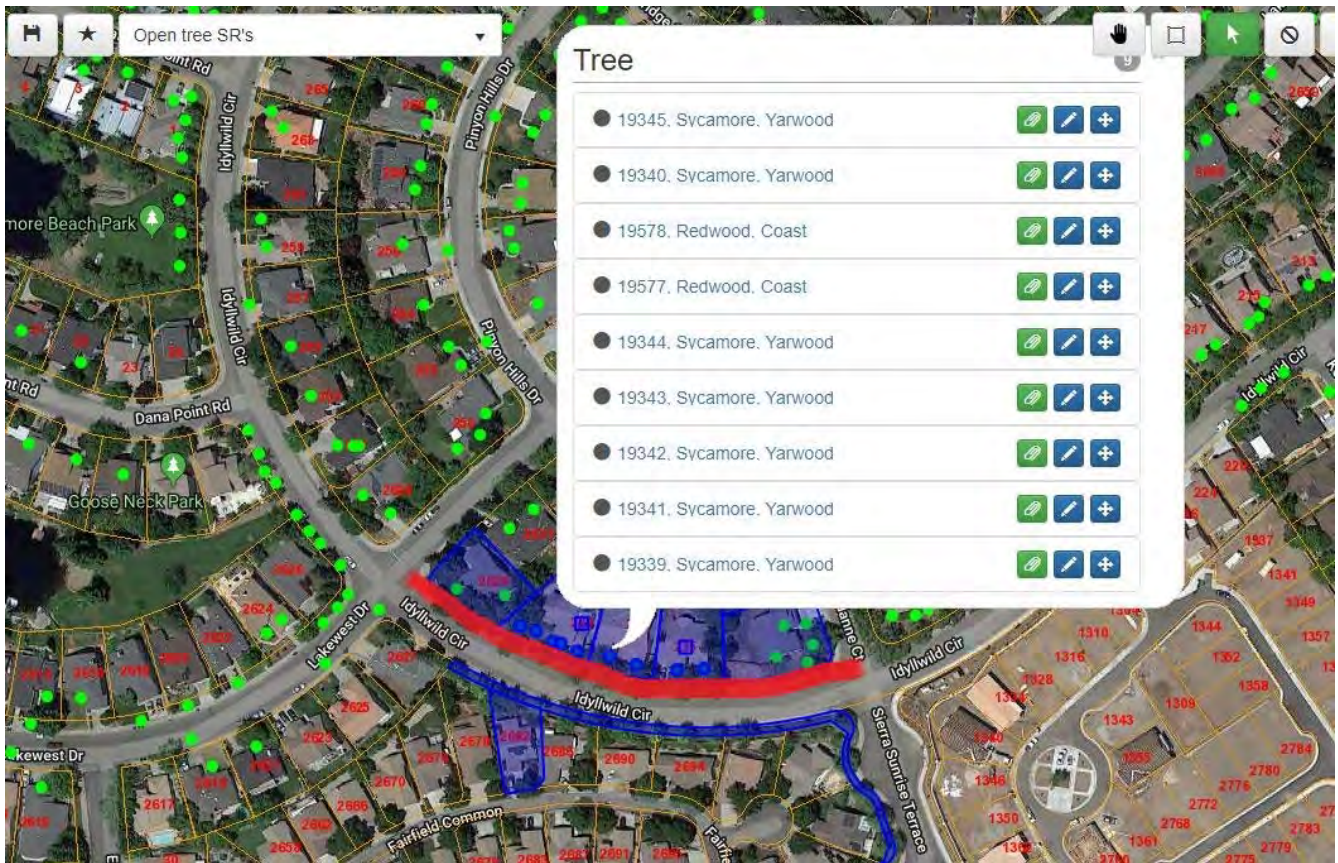


Figure 2. Depiction of current Street tree inventory map. Odd-numbered properties on Idyllwild between Lakewest and Dana Point Road are highlighted in red.

2090	11	IDYLLWILD CR	BANNING PARK DR	GRIFFITH PARK LN	EVEN	07/15/99	QUSH	PLACY
2091	11	IDYLLWILD CR	BANNING PARK DR	YOSEMITE DR	EVEN	07/15/99	QUSH	PLACY
2092	11	IDYLLWILD CR	BANNING PARK DR	GRIFFITH PARK LN	ODD	07/15/99	QUSH	PLACY
2093	11	IDYLLWILD CR	BANNING PARK DR	YOSEMITE DR	ODD	07/15/99	QUSH	PLACY
2094	11	IDYLLWILD CR	BURNEY DR	BURNEY DR	EVEN	07/15/99	QUSH	PLACY
2095	11	IDYLLWILD CR	BURNEY DR	BANNING PARK DR	EVEN	07/15/99	QUSH	PLACY
2096	11	IDYLLWILD CR	BURNEY DR	BURNEY DR	ODD	07/15/99	QUSH	PLACY
2097	11	IDYLLWILD CR	BURNEY DR	BANNING PARK DR	ODD	07/15/99	QUSH	PLACY
2098	11	IDYLLWILD CR	CATALINA POINT RD	LAGUNA POINT RD	EVEN	07/15/99	QUSH	PLACY
2099	11	IDYLLWILD CR	CATALINA POINT RD	LAGUNA POINT RD	ODD	07/15/99	QUSH	PLACY
2100	11	IDYLLWILD CR	DANA POINT RD	CATALINA POINT RD	EVEN	07/15/99	QUSH	PLACY
2101	11	IDYLLWILD CR	DANA POINT RD	CATALINA POINT RD	ODD	07/15/99	QUSH	PLACY
2102	11	IDYLLWILD CR	GRIFFITH PARK LN	YOSEMITE DR	EVEN	07/15/99	QUSH	PLACY
2103	11	IDYLLWILD CR	GRIFFITH PARK LN	YOSEMITE DR	ODD	07/15/99	QUSH	PLACY
2104	11	IDYLLWILD CR	JORDANNE CT	PRINCESS TJ CT	EVEN	07/15/99	QUSH	PLACY
2105	11	IDYLLWILD CR	JORDANNE CT	PRINCESS TJ CT	ODD	07/15/99	QUSH	PLACY
2106	11	IDYLLWILD CR	LAGUNA POINT RD	BURNEY DR	EVEN	07/15/99	QUSH	PLACY
2107	11	IDYLLWILD CR	LAGUNA POINT RD	BURNEY DR	ODD	11/15/05	QUSH	PLACY
2108	11	IDYLLWILD CR	LAKEWEST DR	DANA POINT RD	EVEN	07/15/99	QUSH	PLACY
2109	11	IDYLLWILD CR	LAKEWEST DR	JORDANNE CT	EVEN	11/04/05	QUSH	ZESE
2110	11	IDYLLWILD CR	LAKEWEST DR	DANA POINT RD	ODD	07/15/99	QUSH	PLACY
2111	11	IDYLLWILD CR	LAKEWEST DR	JORDANNE CT	ODD	07/15/99	QUSH	PLACY
2112	11	IDYLLWILD CR	PRINCESS TJ CT	SIR AARON CT	EVEN	07/15/99	QUSH	PLACY
2113	11	IDYLLWILD CR	PRINCESS TJ CT	SIR AARON CT	ODD	07/15/99	QUSH	PLACY
2114	11	IDYLLWILD CR	SIR AARON CT	BANNING PARK DR	EVEN	07/15/99	QUSH	PLACY
2115	11	IDYLLWILD CR	SIR AARON CT	BANNING PARK DR	ODD	07/15/99	QUSH	PLACY

Table 2. Excerpt from Street Tree Plan showing Idyllwild between Lakewest and Dana Point Road highlighted in grey.

Should the streetscape in any one street be homogenous, consisting of one species for a uniform appearance? Or should the streetscape have a mixed canopy of many different variety of trees? Should native trees be preferred over ornamental hybrids? Discussion is sought on various philosophies as to what Chico's canopy should look like. As Chico grows, new subdivisions are being built with street trees as part of the design. As Chico's older canopy matures, trees die and need to be replaced. A few factors to consider when selecting and revising tree species are noted below:

Native / Non-Native selection:

Attachment C shows the current accepted list of trees growing natively in the Chico area. Not all of them are suitable for all growing situations. Trees in downtown and urban sites must be able to withstand the heat and drought and reduced soil volumes that typically exist in these harsh locations. They also should have natural branching habits that are suitable for the location and have limited fruit or nut production that could create a nuisance. While there are some native species that could withstand stressful urban sites, native species can be considered for other locations within a community. The philosophy of planting the largest tree possible to maximize canopy benefits should always be considered.

Non-native species: Selecting tree species that meet the needs of downtown and urban/residential sites means considering non-native species. Drought and soil tolerances, crown shape, size, height, invasiveness as well as potential for streetscape damage should all be considered.

Species height:

Planting a small tree in a large growing space is a waste of that space and the contributions a larger tree could make. Planting a large tree in a small or inadequate space is a waste of resources as that tree will either be repeatedly pruned to control it or must be removed due to site conflicts.

Small maturing trees (20-30') typically grow as wide as they are tall. This means that not all small trees are suitable for urban planting, even if they are tough, as their growth habit will place them in direct conflict with pedestrians, buildings, business signs and vehicles requiring long term conflict management. Some small trees are understory trees, which means that they grow best in light to heavy shade.

Medium maturing trees (30-50') can seem quite large when planted in urban areas without multi-story buildings but provide the shade and aesthetic impact that is appealing to visitors and to people parking their cars on the street. Tree species selection is never a substitute however, for adequate irrigation, soil and root protection and good pruning practices.

Large maturing trees (>50') need space above and below ground. Planting large trees in urban areas requires significant planning and investment in the below ground growing space, so that the tree can have the root area and access to irrigation that it needs.

Rate of growth:

Trees that are “fast growing” tend to have more brittle wood and more root conflicts and tend to not withstand decay due to physical damage. This can be a concern for large maturing trees. Fast growing trees are typically shorter-lived under natural growing conditions. Trees that are “slow growing” take longer to reach their mature size but also tend to have stronger wood, better decay resistance and are slower to develop root conflicts. Slow growing trees are typically longer-lived under natural growing conditions.

Water Use

Water requirements for each plant, if available, as listed in the WUCOLS Species List (Water Use Classification of Landscape Species) need to be considered. Trees with a medium or lower rating must only be used in the City right-of-way.

Strategies:

While having a single species line a city block is a common design practice that can be very attractive, some other considerations can make alternating species desirable: Reduce exposure to large scale problems – having a variety of species means that not all trees are equally susceptible to the same pests or diseases or impacted by catastrophic weather events. However, this strategy can be deployed on a neighborhood scale also; each street has a different palette of a small number of tree species and every street is has a different palette of trees.

Alternating fast and slower maturing trees may be considered to speed up the visual impact of planting, with the expectation that the faster trees may need to be removed sooner and replaced with trees with more desirable characteristics after the slower trees are established.

Alternating small and large maturing trees may be considered to:

- Limit any one type of conflict – pedestrian vs business signage.
- Reduce amount of maintenance – small maturing trees can generally be pruned from the ground which is less expensive.
- Provide impression of continuous large tree cover when looking up or down the street.
- Reduce the visual impact when a tree (large or small) must be removed and replaced. Expected tree longevity should be considered.

Fiscal impact: None. Revision of Chico’s Street Tree lists has already been budgeted and grant funding will pay for incorporation of findings into the UFMP.

Attachments:

Attachment A Approved street tree list 2009

Attachment B: Approved street tree list brochure revised 2011

Attachment C: Calscape list of trees native to Chico

**APPROVED STREET AND PARKING LOT TREES
FOR THE CITY OF CHICO**

**A GUIDE TO THEIR SELECTION,
PLANTING AND LONG TERM CARE**

**Approved by the
Bidwell Park and Playground Commission**

**Prepared and Revised by
City of Chico General Services Department
Urban Forest Manager
June 1, 2009**

ATTACHMENT A - 2009 STREET TREE LIST

RECOMMENDED STREET TREES FOR CHICO

This list of recommended street trees for the Chico area contains a general description of each tree species and its space requirements for planting. For ease of use, the list is divided into small, medium and large trees. Small trees are generally less than 30 feet in height; medium sized trees are generally 30 feet to 60 feet in height; large trees are generally 60 feet in height or taller.

The species on this list have characteristics that make them desirable street trees, though many species are suitable for many different planting locations. All of the trees listed have been selected for their resistance to injurious insects or diseases and suitability to the climate in Chico. Use the information accompanying each tree species as a guide for species selection and determination of planting location.

Each block side within the City has a primary and secondary species designated for that street. The designated trees are chosen from this list based upon conditions along the street. Gain approval for planting or pruning from the Park Department prior to proceeding.

The height and spread figures are given for trees at maturity. Species with rapid growth rate can be expected to grow at least two feet per year when young. Those with moderate growth rates will grow between one and two feet per year when young. Slower growing trees will generally grow less than one foot per year when young. Please keep in mind that growth rates are considered in general terms. Soil conditions, water availability, ground cover, and physical injuries will greatly influence the actual growth rate of a tree.

Root growth is listed as shallow, medium or deep. These are relative terms that describe the root system in its natural setting under ideal growing conditions. The majority of a tree's root system is typically within the upper three feet of soil. Actual soil conditions, ground cover, and irrigation patterns on site will ultimately determine the depth of rooting.

Tree roots require air exchange through the soil for healthy growth. Heavily compacted or high clay content soils typically restrict the movement of oxygen to the top few inches of soil. Under such growth conditions, trees will often grow roots near the surface of the soil in order to more easily acquire water. The shallow root structure that develops leaves the tree susceptible to being blown over by strong winds. Proper soil preparation, adequate watering, and mulch ground cover around the base of trees are important for healthy, deep root development, which leads to healthier trees. Encouraging deep root growth will minimize the potential impact to curbs and sidewalks. In areas of compacted Tuscan or Redding clay soils, removal of soil to a depth of thirty inches and replacement with Vina clay loam will be necessary to facilitate tree growth. Compacted Vina loam soils may be scarified to a depth of twenty four inches.

Turf at the base of a young sapling can inhibit the production of new roots, stunting growth. Chemicals secreted by the roots of turf grasses act as a growth inhibitor for tree roots. The easiest way to solve this problem is to remove lawn turf from around the root ball. Experts at the University of California Cooperative Extension recommend creating a circle at least 6 feet in diameter, **or 3' out from the trunk.** Standard Landscape Details LS-1 and LS-2 call for the installation of root barriers. Root barriers will provide a measure of protection for curbing and sidewalk. They do not guarantee the prevention of infrastructure damage. To provide the greatest level of protection, the barriers must be installed properly with at least ½-inch of barrier above final grade. Failure to install the barrier properly may result in roots growing over the top of the barrier, rendering it ineffective.

ATTACHMENT A - 2009 STREET TREE LIST

The majority of the tree species on this list are deciduous. A small number of the trees are either broadleaf evergreens or conifers. Deciduous trees are preferential in urban landscapes because they drop their leaves in fall and allow solar exposure during the winter while providing shade during the summer.

Users of this list should keep in mind that no tree species is perfect. It is important that a selected tree species or cultivar be adaptable to the space available (laterally, horizontally and vertically) while meeting the aesthetic needs of the area.

The final consideration is the availability of trees on the list. Every effort is made to list trees that are commercially available and to work with local nurseries to ensure they are stocked. If the tree is not in stock at a local nursery, ask the salesperson to order the tree and have it shipped in. Substitutions for designated street trees will be made on a case by case basis, with substitutions possessing characteristics as close to the designated tree as possible.

The City's Parking Lot Shade Ordinance requires that parking lots achieve 50% shade coverage within 15 years. Even with good soils, trees in limited soil volumes grow slowly and may not achieve mature size in 15 years. The square footage listed in the following table is the shade footage allowable for development projects, based upon actual measurements of trees in parking lots that have been established 15 or more years.

Questions regarding street tree characteristics may be called into the Urban Forester at the Park Department at (530) 896-7802. Your questions will be answered as soon as possible.

Bibliography

- Benzie, Sam. 2000. *The Encyclopedia of North American Trees*. Firefly. Buffalo, New York
- Dirr, Michael A. 1997. *Dirr's Hardy Trees and Shrubs*. Timber Press. Portland, Oregon
- Flint, Harrison L. 1997. *Landscape Plants for Eastern North America, Exclusive of Florida and the Immediate Gulf Coast* 2nd ed. John Wiley & Sons, Inc. New York, New York
- Gilman, Edward F. 1997. *Trees for Urban and Suburban Landscapes*. Delmar Publishers. Albany, New York
- Harlow, William M., and Ellwood S. Harrar. 1969. *Textbook of Dendrology* 5th ed. McGraw-Hill. New York, New York
- Jacobson, Arthur Lee. 1996. *North American Landscape Trees*. Ten Speed Press. Berkeley, California

ATTACHMENT A - 2009 STREET TREE LIST

Small Trees

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description
Trident maple <i>Acer buergeranum</i>	25' - 30'	25' 314 sq ft	Moderate	Medium	4'	20' - 25'	A small shade tree with a round shaped crown and small, 3-lobed leaves. The leaves are glossy green turning yellow to red in the fall. This tree must be properly pruned to grow more upright and provide needed pedestrian and vehicular clearance. Somewhat drought tolerant.
Chinese maple <i>Acer truncatum</i>	20' - 25'	20' 314 sq ft	Slow - Moderate	Medium	4'	20'	Small round headed tree with leaves similar to liquidambar. Fall colors vary from red to bright yellow. Drought tolerant when established.
Japanese maple <i>Acer palmatum</i> 'Emperor 1'	15' - 18'	12' - 15'	Slow - Moderate	Medium	3'	20'	Striking dark purple foliage in spring, turning bright red in autumn. Greater resistance to sunburn than other cultivars.
Japanese maple <i>Acer palmatum</i> 'Sangokaku'	15' - 20'	15' - 20'	Slow - Moderate	Medium	3'	20'	Foliage is green, occasionally with orange leaf margins. Prominent coral red bark. Does not create seeds. Requires afternoon shade.
Eastern hornbeam <i>Carpinus caroliniana</i>	20' - 30'	20' - 25' 314 sq ft	Moderate	Medium	4'	20' - 25'	Small tree for areas of restricted space. Similar in form to <i>Ostrya virginiana</i> . Needs summer water.
Eddie's White Wonder dogwood <i>Cornus</i> x 'Eddie's White Wonder'	30'	15' - 20'	Moderate	Medium	3'	20' - 25'	A hybrid between the Eastern and Pacific dogwoods. This cultivar can bloom twice in one year. Very large bracts. Bright red fall color. Other cultivars with similar characteristics are 'Pink blush' and 'Cream Cup'.
Forest Pansy redbud <i>Cornus</i> x 'Forest Pansy'	20' - 25'	20' 314 sq ft	Moderate	Medium	3'	20' - 25'	A cultivar of Eastern redbud, the tree has purple foliage. Good for small spaces. May have caterpillar problems.
Korean dogwood <i>Cornus kousa</i>	20' - 30'	20' - 30' 314 sq ft	Moderate	Medium	4'	20' - 25'	Small vase shaped tree for limited space. Requires summer watering. Showy fall color. Moderate resistance to anthracnose.
Starlight dogwood <i>Cornus kousa x nuttallii</i>	20' - 25'	30' x 20' 314 sq ft	Slow	Medium	4'	20'	Large white flowers, more drought tolerant than other dogwoods. Native cross.

ATTACHMENT A - 2009 STREET TREE LIST

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description
Hybrid Crepe myrtles <i>Lagerstroemia indica X fauriei</i>		176 sq ft	Slow	Deep	3'	20'	Small trees for areas with space limitations. Profuse flowers in the summer. Yellow to red fall colors. Names hybrids are mildew and aphid resistant. <i>L. indica</i> cultivars are not an acceptable substitute for this hybrid.
'Osage'	15'	8'					Pink blossoms
'Dynamite'	20'	15'					Red blossoms
'Tuscarora'	20'	15'					Pink/Red blossoms
'Miami'	20'	16'					Coral pink blossoms
'Muskogee'	25'	15'					Purple blossoms
'Natchez'	30'	18'					White blossoms
'Choctaw'	30'	20'					White/Pink blossoms
Saratoga laurel <i>Laurus 'Saratoga'</i>	20' - 25'	15' - 20' 176 sq ft	Moderate	Medium	4'	20'	Small evergreen for areas with limited space. Deep rooted tree suitable for Mediterranean climates. May produce litter year round.
Little Gem magnolia <i>Magnolia grandiflora 'Little Gem'</i>	20' - 25'	20' 176 sq ft	Slow - Moderate	Medium	4'	20' - 25'	A good magnolia of small stature. Evergreen. Like all evergreen magnolias, this tree has the potential to produce litter all year long.
Saucer magnolia <i>Magnolia soulangiana</i>	20' - 25'	15' - 20' 314 sq ft	Moderate	Deep	4'	25'	Large pink blossoms in early spring prior to leaf emergence. Generally pest free.
American hop-hornbeam <i>Ostrya virginiana</i>	25' - 35'	25' - 35' 176 sq ft	Slow - Moderate	Deep	4'	25' - 30'	Good tree for small areas. Light green elm-like leaves. Bright yellow fall color. Interesting planar-type growth habit. Available in bare-root stock from Oregon growers.
Akebono cherry <i>Prunus X yedoensis 'Akebono'</i>	30'	30' - 35' 176 sq ft	Moderate - Fast	Medium	5'	25' - 30'	This particular variety has true pink blossoms lasting 1 ½ to 2 weeks and no fruit. Bright yellow-red fall color. May be subject to borers on poor sites.
Japanese snowbell <i>Styrax japonicus</i>	20' - 30'	15' - 20' 314 sq ft	Moderate	Medium	4'	20'	Small rounded umbrella shaped tree. Beautiful spring flowers and showy fall color. This tree needs moist, well drained soil.

ATTACHMENT A - 2009 STREET TREE LIST

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description
Golden chain tree <i>Laburnum x watereri</i> 'Vossii'	20' - 25'	15' - 20' 314 sq ft	Slow	Medium	3'	25'	Long hanging clusters of yellow flowers. Requires afternoon shade. A new addition to Chico's street tree list. Not fully tested in Chico.
Goldenrain tree <i>Koelreuteria paniculata</i>	20' - 30'	15' - 20' 314 sq ft	Medium - Fast	Medium	3'	25'	Dramatic purplish red emerging leaves, turning bright green in summer and golden yellow in autumn. Flowers are 1/2" wide, bright yellow, grow in clusters 12-15" long, bloom in early summer. A new addition to Chico's street tree list. Not fully tested in Chico.
Eastern redbud <i>Cercis canadensis</i>	20' - 30'	25' - 30' 314 sq ft	Slow - Moderate	Medium - Deep	3'	20' - 25'	Small tree similar to Western redbud. Good tree for small places. Red flowers. May have caterpillar problems. A new addition to Chico's street tree list. Not fully tested in Chico.
Strawberry tree <i>Arbutus unedo</i>	15' - 30'	10' - 15'	Slow	Medium	3'	20' - 25'	Trunks and large branches of mature trees become twisted and gnarled in appearance. Tolerant of a variety of growing conditions, including full sun, shade, and drought. No serious pest or disease problems. Produces edible reddish-orange fruit. A new addition to Chico's street tree list. Not fully tested in Chico.
Chitalpa <i>x Chitalpa</i>	20' - 25'	10' - 15'	Fast	Deep	3'	20' - 25'	A relatively new tree created by hybridizing desert willow and catalpa trees. Highly tolerant of drought, wind, and poor soils. Produces large clusters of light pink flowers. Because they are hybrids, chitalpa are sterile and do not create seeds or seed pods. A new addition to Chico's street tree list. Not fully tested in Chico.

ATTACHMENT A - 2009 STREET TREE LIST

Medium Trees

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description
Summershade maple <i>Acer plantanoides</i> 'Summershade'	45'	40' 706 sq ft	Moderate	Medium	6'	30' - 35'	This upright growing Norway maple was selected for its ability to withstand dry summer conditions. Leaves turn golden yellow in autumn. Prone to sunburn from afternoon sun. Plant in areas with afternoon shade.
Superform maple <i>Acer plantanoides</i> 'Superform'	50'	40' 706 sq ft	Moderate	Medium	6'	35'	Similar to Summershade, this maple has a rounder canopy. It can also tolerate dry conditions. The fall color is yellow. This cultivar can be used in place of Summershade.
Red Sunset maple <i>Acer rubrum</i> 'Franksred'	45'	35' 706 sq ft	Moderate	Shallow - Medium	7'	30' - 35'	This is a vigorous growing tree with a strong branching habit. The green foliage turns shades of red and orange- red in the fall. May suffer from manganese deficiencies in some Chico soils. Use root barriers to minimize the potential for infrastructure damage.
Redpointe maple <i>Acer rubrum</i> 'Redpointe'	45'	30' 452 sq ft	Moderate	Shallow - Medium	5'	30' -35'	Broadly pyramidal, with a strong central leader. Brilliant reddish-orange fall color. Red flower clusters emerge prior to leaves. A good lawn tree.
Armstrong red maple <i>Acer rubrum</i> 'Armstrong'	50'	35' 706 sq ft	Moderate	Medium	7'	30' - 35'	Narrow form. Foliage emerges bright red, turning dark green through summer. Vibrant red color in fall. Long petioles give the
Autumn splendor maple <i>Acer saccharum</i> 'Autumn Splendor'	45'	40' 707 sq ft	Moderate	Shallow - Medium	5'	30' -35'	Drought tolerant cultivar of sugar maple. Resistant to heat.
October Glory maple <i>Acer rubrum</i> October Glory	50'	35' - 45' 707 sq ft	Rapid	Shallow - Medium	7'	35' - 40'	This cultivar was developed for its gark green foliage and crimson red fall color. Manganese deficiencies are not as much of a problem. Use root barriers to minimize the potential for infrastructure damage.
Norwegian Sunset maple <i>Acer truncatum X platanoides</i> 'Keithsform'	35'	25' 314 sq ft	Moderate	Medium	6'	25' - 30'	Cultivar between Chinese and Norway maple. Heat tolerant. Excellent fall color. Needs early developmental pruning.

ATTACHMENT A - 2009 STREET TREE LIST

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description
Red horsechestnut <i>Aesculus X carnea</i>	35'	30' 314 sq ft	Moderate	Medium	6'	25' - 30'	Medium sized shade tree for avenues and gardens. Dark green palmate foliage. Red flowers in May. This tree needs summer water or leaf scorch may occur. Use only in areas with deep well drained alluvial soil.
Heritage birch <i>Betula nigra</i> 'Dura Heat'	40"	30' 314 sq ft	Fast	Medium	5'	30' - 35'	Glossy dark green foliage with yellow fall color. Resistant to bronze birch borer.
Heritage birch <i>Betula nigra</i> 'Heritage'	40' - 50'	35' - 45' 314 sq ft	Moderate	Medium	7'	30' - 35'	An excellent substitute for white birches. This is the most deeply rooted and drought tolerant of all the birches. Resistant to bronze birch borer and less likely to be bothered by aphids. Bark has a bronze-salmon color to it.
European hornbeam <i>Carpinus betulus</i>	40' - 60'	35' - 45' 707 sq ft	Moderate	Medium	7'	30' - 35'	Medium sized shade tree with dark green birch-like leaves. Strong wood with good branch attachment. Narrow as a juvenile - broadens with age. Do not confuse with the columnar form.
Columnar hornbeam <i>Carpinus betulus</i> 'Fastigiata'	45'	15' 177 sq ft	Moderate	Medium	7'	15' - 20'	Similar to the parent species. Retains the narrow juvenile form as an adult. Good for narrow spaces.
Giant dogwood <i>Cornus controversa</i>	40'	30' 177 sq ft	Moderate	Medium	7'	30' - 35'	One of the larger species of dogwoods, it provides a fairly large canopy. Flowers are small and inconspicuous. Protect the bark of this tree with white latex paint until the canopy begins to grow.
Autumn Purple ash <i>Fraxinus americana</i> 'Autumn Purple'	45' - 55'	40' 707 sq ft	Moderate	Medium	7'	35' - 40'	An upright oval shaped seedless ash noted for its outstanding deep purple fall color. Its branch structure is far superior to 'Raywood ash', which has a tendency to split easily.
Summit ash <i>Fraxinus pennsylvanica lanceolata</i> 'Summit'	45' - 55'	35' 707 sq ft	Moderate	Medium	7'	30' - 35'	A vigorous, straight growing green ash selection. The narrow foliage turns bright yellow in the fall. This cultivar is seedless. Early formative pruning needed to ensure a strong structure.
Autumn Gold ginkgo <i>Ginkgo biloba</i> 'Autumn Gold'	50' - 60'	35' 707 sq ft	Slow	Deep	7'	30' - 35'	Native to China and one of the oldest living trees. This selected male strain produces spectacular golden yellow fall color. Female trees produce extremely smelly fruit.

ATTACHMENT A - 2009 STREET TREE LIST

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description
Princeton Sentry ginkgo <i>Ginkgo biloba</i> 'Princeton Sentry'	60'	30' 707 sq ft	Slow	Deep	7'	25' - 30'	A narrower male cultivar of ginkgo developed at Princeton University.
Saratoga ginkgo <i>Ginkgo biloba</i> 'Saratoga'	60'	45' 707 sq ft	Slow	Deep	7'	30' - 40'	A dense, compact tree with ascending branches and a distinct central leader developed by the Saratoga Horticultural Foundation.
Kentucky Coffee Tree <i>Gymnocladius dioicus</i>	50'	35' 707 sq ft	Fast	Deep	6'	30' - 40'	Deciduous. Upper arching branches, yellow fall color. Dramatic limb structure visible in winter.
Russett magnolia <i>Magnolia grandiflora</i> 'Russett'	60'	40' 707 sq ft	Moderate - Fast	Shallow - Medium	7'	30' - 35'	Smaller magnolia cultivar. This disease resistant tree has fragrant blossoms. Leaf litter may be objectionable. One of the deeper rooted cultivars.
Tupelo <i>Nyssa sylvatica</i>	25' - 50'	20' - 35' 490 sq ft	Slow - Moderate	Medium - Deep	5'	25' - 30'	Tupelo is a very adaptable tree species. It can grow on moist or dry sites. The growing conditions dictate the ultimate height of the tree. Great fall color.
Cork Tree <i>Phellodendron lavellei</i> 'Longnecker'	40'	35' 707 sq ft	Moderate	Medium - Deep	6'	30' - 35'	Seedless if male, bright yellow fall color.
Chinese pistache <i>Pistacia chinensis</i>	50'	40' 1256 sq ft	Slow - Moderate	Medium - Deep	6'	30' - 35'	One of the most attractive fall coloring trees and over planted in Chico. This tree is relatively pest free. Due to its uneven growth habit, it needs pruning early on to develop a good form. 'Keith Davey' is a seed free male cultivar.
Sawtooth oak <i>Quercus acutissima</i>	40' - 60'	30' - 40' 707 sq ft	Moderate	Deep	7'	35'	Simple serrated leaves. Dense, broad canopy. Pyramidal structure exhibited by younger trees. Holds its leaves as a juvenile in Chico's climate.
Holly oak <i>Quercus ilex</i>	45' - 50'	30' - 40' 707 sq ft	Moderate	Medium	7'	30' - 35'	Evergreen oak, dark foliage and dense shade.
Willow oak <i>Quercus phellos</i>	50'	35' 707 sq ft	Moderate - Rapid	Deep	7'	35'	This street tree is the most graceful of all oaks with its slim, willow-like leaves. The fall color is bright yellow. Holds its leaves as a juvenile in Chico's climate.

ATTACHMENT A - 2009 STREET TREE LIST

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description
Water oak <i>Quercus nigra</i>	70'	40' 707 sq ft	Moderate	Medium	7'	35'	A good species for streets and parks because of its dense shade. Adaptable to moist growing sites. Transplants well.
Little Leaf linden <i>Tilia cordata</i> 'Redmond', 'Gleleven', or 'Greenspire'	50'	35' 707 sq ft	Moderate	Medium	6'	35'	Fragrant flowers on bracts in July. Yellow fall color. Flowers attract honey bees.
Spring Flurry serviceberry <i>Amelanchier laevis</i>	35'	20' 176 sq ft	Fast	Medium	4'	30' - 35'	Strong central leader. White blossoms, small blue fruit. Shade tolerant.

ATTACHMENT A - 2009 STREET TREE LIST

Large Trees

Common Name Scientific Name	Height	Spread / Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description
Blue Atlas cedar <i>Cedrus atlantica</i> 'Glauca'	80'- 100'	50' 707 sq ft	Moderate	Deep	8'	35' - 45'	Distinctive canopy form with bluish foliage. This Mediterranean species thrives in the Chico climate and is very drought tolerant. Use where space is adequate.
Deodar cedar <i>Cedrus deodara</i>	80'- 100'	45' 707 sq ft	Fast	Deep	8'	35' - 45'	This conifer produces a graceful form with gray-green foliage. The "weeping" top is characteristic of this species. Use this tree in place of Coastal redwood. Like Blue Atlas cedar, this species requires ample space.
Canary Island pine <i>Pinus canariensis</i>	90'	25' 707 sq ft	Fast	Deep	8'	35' - 45'	A good street tree species because of its tolerance to a variety of soil types and its deep root growth. 7-10" long needles grow in clusters of 3. Requires full sun.
Black oak <i>Quercus kelloggii</i>	80'	40' 1256 sq ft	Moderate	Deep	7'	35' - 40'	This stately tree is native to the foothills and mountains of California. Tolerant of hot summer conditions and some irrigation. Large leaves with yellow fall color. Acorns favored by natives in northern California.
Chinkapin oak <i>Quercus muehlenbergii</i>	70'	40' 1256 sq ft	Moderate	Deep	7'	35' - 40'	Leaves are dark greenish-yellow on top, whitish on underside. Autumn color ranges from yellow and orange to brown. Relatively disease resistant. Prefers rich alkaline soils.
Cork oak <i>Quercus suber</i>	50'	40' 1256 sq ft	Moderate	Medium	7'	35' - 40'	Similar in leaf pattern and growth to the Holly oak, this broadleaf evergreen oak has a characteristic corky bark. Leaves are shed mainly in the late spring, although leaf drop occurs all year long. May be subject to mite infestations. Does not tolerate over watering.
English oak <i>Quercus robur</i>	80'	50' 1256 sq ft	Moderate	Deep	7'	35' - 45'	Good tree for large landscaping areas such as parks and campuses. Native to Europe. Requires full sun; pH tolerant. Susceptible to mildew.
Valley oak <i>Quercus lobata</i>	90'	60' 1256 sq ft	Moderate - Rapid	Deep	8'	35' - 45'	A California native common in the Chico area. This species formed oak savannas that extended over the entire Sacramento Valley. Subject to limb drop in its older age. Use along riparian areas and single loaded greenway streets.

ATTACHMENT A - 2009 STREET TREE LIST

Common Name Scientific Name	Height	Spread / Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description
Scarlet oak <i>Quercus coccinea</i>	65' - 80'	40' 1256 sq ft	Moderate	Deep	7'	35' - 40'	An outstanding shade tree with spectacular fall color. The oak is relatively fast growing and pest free. Fall color is a brilliant scarlet-red. Its only drawback is the potential to hold leaves as a juvenile.
Shingle oak <i>Quercus imbricaria</i>	50' - 60'	30' - 40' 707 sq ft	Moderate	Deep	7'	30' - 35'	Shingle oak is similar in form to Willow oak. Fall color is russet. This species holds its leaves as a juvenile in Chico's climate.
Shumard oak <i>Quercus shumardii</i>	80'	35' 707 sq ft	Moderate	Deep	6'	35'	Similar to pin oak in every way, except one. This species holds its leaves as a juvenile in Chico's climate. Strong upright form with deep green leaves and good fall color.
Evergreen elm <i>Ulmus parvifolia</i>	70'	35' 1256 sq ft	Fast	Medium	7'	30' - 35'	Not a true evergreen in our climate, this elm performs well in harsh urban conditions. This cultivar has more of a vase shape than the parent tree, Chinese Evergreen elm.
Japanese zelkova <i>Zelkova serrata</i>	60' - 80'	60' 707 sq ft	Fast	Medium	7'	30' - 35'	Related to the elm, zelkovas produce a vase-shaped tree with many ascending branches. With age, the bark turns a gray mottling. Fall colors range from yellow to russet.
Village Green Japanese zelkova <i>Zelkova serrata</i> 'Village Green'	80'	60' 707 sq ft	Fast	Medium	7'	30' - 35'	A variety of Japanese zelkova with a rounded vase branching habit and dark green leaves. Fall colors are typically rusty-red.

ATTACHMENT A - 2009 STREET TREE LIST

Foothill Roadway Trees

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description
Black oak <i>Quercus kelloggii</i>	80'	40' 1256 sq ft	Moderate	Deep	7'	35' - 40'	This stately tree is native to the foothills and mountains of California. Tolerant of hot summer conditions and some irrigation. Large leaves with yellow fall color. Acorns favored by natives in northern California.
Blue oak <i>Quercus douglasii</i>	15' - 40'	20' - 50' 707 sq ft	Slow	Deep	Variable	Variable	Native to the foothills, this species grows on a variety of soil types. The deeper the soil, the larger the tree. On poor sites, a six-inch diameter tree can be over one-hundred years old. Plant as a seedling during the winter months and water weekly during the first year or two.
Interior Live oak <i>Quercus wislizenii</i>	20' - 35'	15' - 30' 707 sq ft	Slow	Deep	Variable	Variable	Similar to Blue oak except it is evergreen. In natural situations, this tree can be multi-trunked. Plant as a seedling during the winter months and water weekly during the first year or two.
Bay laurel <i>Umbellularia californica</i>	30' - 50'	25' - 50' 707 sq ft	Slow	Medium	Variable	Variable	An evergreen tree for sites receiving some summer water. Litter can be a problem.

**APPROVED STREET AND PARKING LOT TREES
FOR THE CITY OF CHICO**

**A GUIDE TO THEIR SELECTION,
PLANTING AND LONG TERM CARE**

**Approved by the
Bidwell Park and Playground Commission
June 29, 2009**

**Prepared and Revised by
City of Chico General Services Department
Urban Forest Manager
December, 2011**

ATTACHMENT B - 2011 STREET TREE LIST

RECOMMENDED STREET TREES FOR CHICO

This list of recommended street trees for the Chico area contains a general description of each tree species and its space requirements for planting. For ease of use, the list is divided into small, medium and large trees. Small trees are generally less than 30 feet in height; medium sized trees are generally 30 feet to 60 feet in height; large trees are generally 60 feet in height or taller.

The species on this list have characteristics that make them desirable street trees, though many species are suitable for many different planting locations. All of the trees listed have been selected for their resistance to injurious insects or diseases and suitability to the climate in Chico. Use the information accompanying each tree species as a guide for species selection and determination of planting location.

Each block side within the City has a primary and secondary species designated for that street. The designated trees are chosen from this list based upon conditions along the street. Gain approval for planting or pruning from the Park Department prior to proceeding.

The height and spread figures are given for trees at maturity. Species with rapid growth rate can be expected to grow at least two feet per year when young. Those with moderate growth rates will grow between one and two feet per year when young. Slower growing trees will generally grow less than one foot per year when young. Please keep in mind that growth rates are considered in general terms. Soil conditions, water availability, ground cover, and physical injuries will greatly influence the actual growth rate of a tree.

Root growth is listed as shallow, medium or deep. These are relative terms that describe the root system in its natural setting under ideal growing conditions. The majority of a tree's root system is typically within the upper three feet of soil. Actual soil conditions, ground cover, and irrigation patterns on site will ultimately determine the depth of rooting.

Tree roots require air exchange through the soil for healthy growth. Heavily compacted or high clay content soils typically restrict the movement of oxygen to the top few inches of soil. Under such growth conditions, trees will often grow roots near the surface of the soil in order to more easily acquire water. The shallow root structure that develops leaves the tree susceptible to being blown over by strong winds. Proper soil preparation, adequate watering, and mulch ground cover around the base of trees are important for healthy, deep root development, which leads to healthier trees. Encouraging deep root growth will minimize the potential impact to curbs and sidewalks. In areas of compacted Tuscan or Redding clay soils, removal of soil to a depth of thirty inches and replacement with Vina clay loam will be necessary to facilitate tree growth. Compacted Vina loam soils may be scarified to a depth of twenty four inches.

Turf at the base of a young sapling can inhibit the production of new roots, stunting growth. Chemicals secreted by the roots of turf grasses act as a growth inhibitor for tree roots. The easiest way to solve this problem is to remove lawn turf from around the root ball. Experts at the University of California Cooperative Extension recommend creating a circle at least 6 feet in diameter, **or 3' out from the trunk.** Standard Landscape Details LS-1 and LS-2 call for the installation of root barriers. Root barriers will provide a measure of protection for curbing and sidewalk. They do not guarantee the prevention of infrastructure damage. To provide the greatest level of protection, the barriers must be installed properly with at least ½-inch of barrier above final grade. Failure to install the barrier properly may result in roots growing over the top of the barrier, rendering it ineffective.

ATTACHMENT B - 2011 STREET TREE LIST

The majority of the tree species on this list are deciduous. A small number of the trees are either broadleaf evergreens or conifers. Deciduous trees are preferential in urban landscapes because they drop their leaves in fall and allow solar exposure during the winter while providing shade during the summer.

Users of this list should keep in mind that no tree species is perfect. It is important that a selected tree species or cultivar be adaptable to the space available (laterally, horizontally and vertically) while meeting the aesthetic needs of the area.

The final consideration is the availability of trees on the list. Every effort is made to list trees that are commercially available and to work with local nurseries to ensure they are stocked. If the tree is not in stock at a local nursery, ask the salesperson to order the tree and have it shipped in. Substitutions for designated street trees will be made on a case by case basis, with substitutions possessing characteristics as close to the designated tree as possible.

The City's Parking Lot Shade Ordinance requires that parking lots achieve 50% shade coverage within 15 years. Even with good soils, trees in limited soil volumes grow slowly and may not achieve mature size in 15 years. The square footage listed in the following table is the shade footage allowable for development projects, based upon actual measurements of trees in parking lots that have been established 15 or more years.

Questions regarding street tree characteristics may be called into the Urban Forester at the Park Department at (530) 896-7802. Your questions will be answered as soon as possible.

Bibliography

Bennie, Sam. 2000. *The Encyclopedia of North American Trees*. Firefly. Buffalo, New York

Dirr, Michael A. 1997. *Dirr's Hardy Trees and Shrubs*. Timber Press. Portland, Oregon

Flint, Harrison L. 1997. *Landscape Plants for Eastern North America, Exclusive of Florida and the Immediate Gulf Coast* 2nd ed. John Wiley & Sons, Inc. New York, New York

Gilman, Edward F. 1997. *Trees for Urban and Suburban Landscapes*. Delmar Publishers. Albany, New York

Harlow, William M., and Ellwood S. Harrar. 1969. *Textbook of Dendrology* 5th ed. McGraw-Hill. New York, New York

Jacobson, Arthur Lee. 1996. *North American Landscape Trees*. Ten Speed Press. Berkeley, California

Images courtesy of: Pat Breen, Oregon State University: <http://oregonstate.edu/dept/ldplants/2plants.htm>

University of Connecticut © Copyright Mark Brand, 1997-2001.
<http://www.hort.uconn.edu/plants/index.html>

Photo Credits: W. Mark and J. Reimer SelecTree. "Magnolia grandiflora 'russet' Brief Tree Record." SelecTree. 1995-2011. Oct 12, 2011. <http://selectree.calpoly.edu/treedetail.lasso?rid=852>

ATTACHMENT B - 2011 STREET TREE LIST

SMALL TREES

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description	Image
--------------------------------	--------	--	----------------	----------------	-----------------------------	--------------------	-------------	-------

Trident maple <i>Acer buergeranum</i>	25' - 30'	25' 314 sq ft	Moderate	Medium	4'	20' - 25'		
--	-----------	------------------	----------	--------	----	-----------	--	--

A small shade tree with a round shaped crown and small, 3-lobed leaves. The leaves are glossy green turning yellow to red in the fall. This tree must be properly pruned to grow more upright and provide needed pedestrian and vehicular clearance. Somewhat drought tolerant.

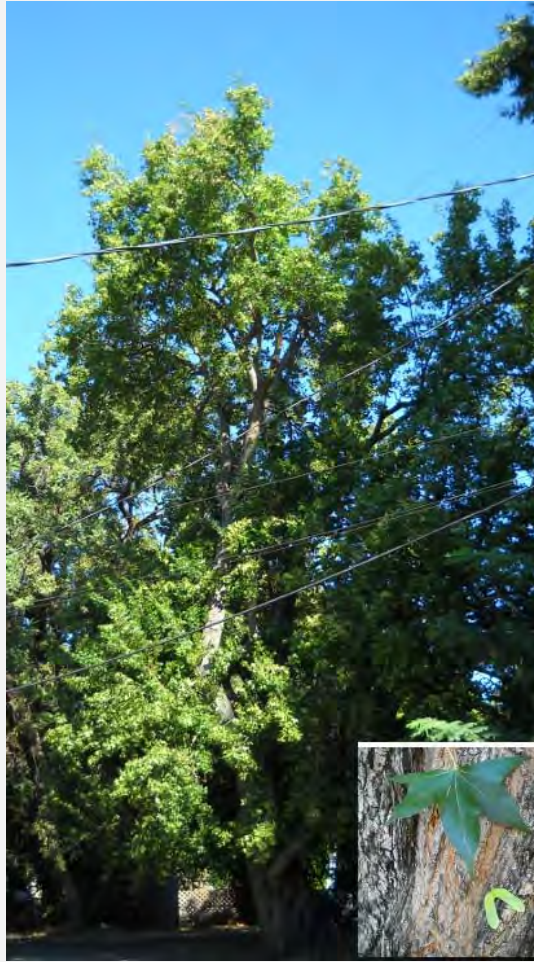
Image from E. 2nd Ave. and Laburnum



ATTACHMENT B - 2011 STREET TREE LIST

Chinese maple
Acer truncatum 20' - 25' 20'
 314 sq ft Slow - Moderate Medium 4' 20'

Small round headed tree with leaves similar to liquidambar. Fall colors vary from red to bright yellow. Drought tolerant when established.
 Image: very mature specimen on Shoshonee Ave.



Japanese maple
Acer palmatum
 'Emperor 1' 15' - 18' 12' - 15' Slow - Moderate Medium 3' 20'

Striking dark purple foliage in spring, turning bright red in autumn. Greater resistance to sunburn than other cultivars. Provide afternoon shade.
 Image

ATTACHMENT B - 2011 STREET TREE LIST

Japanese maple									
Acer palmatum 'Sangokaku'	15' - 20'	15' - 20'	Slow - Moderate	Medium	3'	20'		Foliage is green, occasionally with orange leaf margins. Prominent coral red bark. Does not create seeds. Requires afternoon shade.	
								Image: from the website Wikipedia	



Common Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description	Image
-------------	--------	------------------------------------	-------------	-------------	-----------------------	-----------------	-------------	-------

Eastern hornbeam	20' - 30'	20' - 25' 314 sq ft	Moderate	Medium	4'	20' - 25'	Small tree for areas of restricted space. Similar in form to <i>Ostrya virginiana</i> . Needs summer water.	
<i>Carpinus caroliniana</i>							Image: web: Pat Breen, Oregon State University	



ATTACHMENT B - 2011 STREET TREE LIST

Eddie's White
Wonder dogwood
Cornus x
'Eddie's White
Wonder'

30'

15' - 20'

Moderate

Medium

3'

20' - 25'

A hybrid between the Eastern and Pacific dogwoods. This cultivar can bloom twice in one year. Very large bracts. Bright red fall color. Other cultivars with similar characteristics are 'Pink blush' and 'Cream Cup'.

Provide afternoon shade.

Image is from the 'Diamond Alley' between 3rd and 4th streets next to the downtown parking structure.



Forest Pansy
redbud
Cercis x 'Forest
Pansy'

20' - 25'

20'

314 sq ft

Moderate

Medium

3'

20' - 25'

A cultivar of Eastern redbud, the tree has purple foliage. Good for small spaces. Provide afternoon shade..

Image: web: Pat Breen, Oregon State University



ATTACHMENT B - 2011 STREET TREE LIST

Korean dogwood <i>Cornus kousa</i>	20' - 30'	20' - 30'	Moderate	Medium	4'	20' - 25'
		314 sq ft				

Small vase shaped tree for limited space. Requires summer watering. Showy fall color. Moderate resistance to anthracnose.

Image: web: [Pat Breen, Oregon State University](#)



ATTACHMENT B - 2011 STREET TREE LIST

Starlight
dogwood

*Cornus kousa x
nuttalii*

20' - 25'

30'x 20'

314 sq ft

Slow

Medium

4'

20'

Large white flowers, more drought
tolerant than other dogwoods. Native
cross.

Image: web: [Pat Breen, Oregon State
University](#)



Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description	Image
--------------------------------	--------	--	----------------	----------------	-----------------------------	--------------------	-------------	-------

ATTACHMENT B - 2011 STREET TREE LIST

Hybrid Crepe
myrtles
*Lagerstroemia
indica X fauriei*

176 sq ft
All Varieties

Slow Deep 3' 20'

Small trees for areas with space limitations. Profuse flowers in the summer. Yellow to red fall colors. Names hybrids are mildew and aphid resistant. *L. indica* cultivars are not an acceptable substitute for this hybrid.

Images are from varied locations within Chico



'Osage'	15'	8'				Pink blossoms
'Dynamite'	20'	15'				Red blossoms

ATTACHMENT B - 2011 STREET TREE LIST

'Tuscarora' 20' 15'

Pink/Red blossoms



'Miami' 20' 16'

Coral pink blossoms



ATTACHMENT B - 2011 STREET TREE LIST

'Muskogee' 25' 15'

Purple blossoms



'Natchez' 30' 18'

White blossoms



ATTACHMENT B - 2011 STREET TREE LIST

'Choctaw' 30' 20' White/Pink blossoms



Saratoga laurel <i>Laurus 'Saratoga'</i>	20' - 25'	15' - 20' 176 sq ft	Moderate	Medium	4'	20'	Small evergreen for areas with limited space. Deep rooted tree suitable for Mediterranean climates. .
---	-----------	------------------------	----------	--------	----	-----	---

ATTACHMENT B - 2011 STREET TREE LIST

Little Gem
magnolia
*Magnolia
grandiflora*
'Little Gem'

20' - 25'
20'
176 sq ft

Slow -
Moderate Medium 4'

20' - 25'

A good magnolia of small stature.
Evergreen. Like all evergreen
magnolias, this tree has the potential
to produce litter all year long.

Image from the median of West East
Ave.



ATTACHMENT B - 2011 STREET TREE LIST

Saucer magnolia <i>Magnolia</i> <i>soulangiana</i>	20' - 25'	15' - 20' 314 sq ft	Moderate	Deep	4'	25'
--	-----------	------------------------	----------	------	----	-----

Large pink or purple blossoms in early spring prior to leaf emergence. Generally pest free.

Image from Vallebrosa east of Arbutus



ATTACHMENT B - 2011 STREET TREE LIST

American hop-hornbeam
Ostrya virginiana 25' - 35' 25' - 35'
 176 sq ft Slow - Moderate Deep 4' 25' - 30'

Good tree for small areas. Light green elm-like leaves. Bright yellow fall color. Interesting planar-type growth habit. Available in bare-root stock from Oregon growers.

Image from the Internet, University of Connecticut

© Copyright Mark Brand, 1997-2001.



Akebono cherry
Prunus X yedoensis
 'Akebono' 30' 30' - 35'
 176 sq ft Moderate - Fast Medium 5' 25' - 30'

This particular variety has true pink blossoms lasting 1 ½ to 2 weeks and no fruit. Bright yellow-red fall color. May be subject to borers on poor sites.

Planted around chess table on west side of downtown City Plaza.

Image from the Internet, University of Connecticut

© Copyright Mark Brand, 1997-2001.



ATTACHMENT B - 2011 STREET TREE LIST

Japanese
snowbell
Styrax japonicus

20' - 30'

15' - 20'
314 sq ft

Moderate

Medium

4'

20'

Small rounded umbrella shaped tree. Beautiful spring flowers and showy fall color. This tree needs moist, well drained soil.

Image from Terrace Lane



Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description	Image
--------------------------------	--------	--	----------------	----------------	-----------------------------	--------------------	-------------	-------

ATTACHMENT B - 2011 STREET TREE LIST

Golden chain tree							
<i>Laburnum x</i>		15' - 20'					
<i>watereri</i> 'Vossii'	20' - 25'	314 sq ft	Slow	Medium	3'	25'	

Long hanging clusters of yellow flowers. Requires afternoon shade. A new addition to Chico's street tree list. Not fully tested in Chico.

Image: web: [Pat Breen, Oregon State University](#)



ATTACHMENT B - 2011 STREET TREE LIST

Goldenrain tree <i>Koelreuteria paniculata</i>	20' - 30'	15' - 20' 314 sq ft	Medium - Fast	Medium	3'	25'
---	-----------	------------------------	------------------	--------	----	-----

Dramatic purplish red emerging leaves, turning bright green in summer and golden yellow in autumn. Flowers are 1/2" wide, bright yellow, grow in clusters 12-15" long, bloom in early summer.
Image from Arbutus Ave. and E. 3rd Ave.



ATTACHMENT B - 2011 STREET TREE LIST

Eastern redbud
Cercis canadensis 20' - 30' 25' - 30'
 314 sq ft Slow - Moderate Medium - Deep 3' 20' - 25'

Small tree similar to Western redbud. Good tree for small places. Red flowers. May have caterpillar problems. Located on Cussick between Cromwell and Grafton Park. Image: web: [Pat Breen, Oregon State University](#)



Strawberry tree
Arbutus unedo 15' - 30' 10' - 15' Slow Medium 3' 20' - 25'

Trunks and large branches of mature trees become twisted and gnarled in appearance. Tolerant of a variety of growing conditions, including full sun, shade, and drought. No serious pest or disease problems. Produces edible reddish-orange fruit. Located along East 8th Street

Image: web: [Pat Breen, Oregon State University](#)



ATTACHMENT B - 2011 STREET TREE LIST

Chitalpa
x Chitalpa 20' - 25' 10' - 15' Fast Deep 3' 20' - 25'

A relatively new tree created by hybridizing desert willow and catalpa trees. Highly tolerant of drought, wind, and poor soils. Produces large clusters of light pink flowers. Because they are hybrids, chitalpa are sterile and do not create seeds or seed pods. A new addition to Chico's street tree list. Not fully tested in Chico.

Image: Chico's downtown plaza park at the veterans memorial



Spring Flurry
serviceberry
Amelanchier
laevis 35' 20' 176 sq ft Fast Medium 4' 30' - 35'

Strong central leader. White blossoms, small blue fruit. Shade tolerant.

Image: web: Pat Breen, Oregon State University



MEDIUM TREES

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description	Image
--------------------------------	--------	--	----------------	----------------	-----------------------------	--------------------	-------------	-------

ATTACHMENT B - 2011 STREET TREE LIST

Summershade
maple
Acer
plantanoides
'Summershade'

45'

40'

706 sq ft

Moderate Medium 6'

30' - 35'

This upright growing Norway maple was selected for its ability to withstand dry summer conditions. Leaves turn golden yellow in autumn. Prone to sunburn from afternoon sun. Plant in areas with afternoon shade.

Image taken on 8th St. between Salem and Broadway.



ATTACHMENT B - 2011 STREET TREE LIST

Superform maple
Acer plantanoides
'Superform'

50'

40'

706 sq ft

Moderate

Medium

6'

35'

Similar to Summershade, this maple has a rounder canopy. It can also tolerate dry conditions. The fall color is yellow. This cultivar can be used in place of Summershade.

Image from the Internet, University of Connecticut

© Copyright Mark Brand, 1997-2001.



Red Sunset maple
Acer rubrum
'Franksred'

45'

35'

706 sq ft

Moderate

Shallow -
Medium

7'

30' - 35'

This is a vigorous growing tree with a strong branching habit. The green foliage turns shades of red and orange- red in the fall. May suffer from manganese deficiencies in some Chico soils. Use root barriers to minimize the potential for infrastructure damage.

Image: web: [Pat Breen, Oregon State University](#)



Redpointe maple

45'

30'

Moderate

Shallow

5'

30' -35'

Broadly pyramidal, with a strong

ATTACHMENT B - 2011 STREET TREE LIST

<i>Acer rubrum</i> 'Redpointe'		452 sq ft		- Medium				central leader. Brilliant reddish-orange fall color. Red flower clusters emerge prior to leaves. A good lawn tree.
-----------------------------------	--	-----------	--	-------------	--	--	--	--

Armstrong red maple <i>Acer rubrum</i> 'Armstrong'	50'	35' 706 sq ft	Moderate	Medium	7'		30' - 35'	Narrow form. Foliage emerges bright red, turning dark green through summer. Vibrant red color in fall. Long petioles give the fruit a distinctive appearance.
--	-----	------------------	----------	--------	----	--	-----------	---

Autumn splendor maple <i>Acer saccharum</i> 'Autumn Splendor'	45'	40' 707 sq ft	Moderate	Shallow - Medium	5'		30' -35'	Drought tolerant cultivar of sugar maple. Resistant to heat.
---	-----	------------------	----------	------------------------	----	--	----------	--

October Glory maple <i>Acer rubrum</i> October Glory	50'	35' - 45' 707 sq ft	Rapid	Shallow - Medium	7'		35' - 40'	This cultivar was developed for its dark green foliage and crimson red fall color. Manganese deficiencies are not as much of a problem. Use root barriers to minimize the potential for infrastructure damage. Image from Main St. between 6 th and 7 th Streets.
--	-----	------------------------	-------	------------------------	----	--	-----------	--



ATTACHMENT B - 2011 STREET TREE LIST

Norwegian
Sunset maple
*Acer truncatum X
platanoides*
'Keithsform'

35'

25'

314 sq ft

Moderate

Medium

6'

25' - 30'

Cultivar between Chinese and Norway maple. Heat tolerant. Excellent fall color. Needs early developmental pruning.

Image: web: Pat Breen, Oregon State University



Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description	Image
--------------------------------	--------	--	----------------	----------------	-----------------------------	--------------------	-------------	-------

ATTACHMENT B - 2011 STREET TREE LIST

Red
horsechestnut
Aesculus X
carnea

35'

30'

314 sq ft

Moderate

Medium

6'

25' - 30'

Medium sized shade tree for avenues and gardens. Dark green palmate foliage. Red flowers in May. This tree needs summer water or leaf scorch may occur. Use only in areas with deep well drained alluvial soil.

Image from 57 Oak Drive



ATTACHMENT B - 2011 STREET TREE LIST

Heritage birch <i>Betula nigra</i> 'Dura Heat'	40"	30' 314 sq ft	Fast	Medium	5'	30' - 35'
--	-----	------------------	------	--------	----	-----------

Glossy dark green foliage with yellow fall color. Resistant to bronze birch borer.
Image from the South end of North Ave.



ATTACHMENT B - 2011 STREET TREE LIST

Heritage birch
Betula nigra
 'Heritage'

40' - 50'

35' - 45'

314 sq ft

Moderate

Medium

7'

30' - 35'

An excellent substitute for white birches. This is the most deeply rooted and drought tolerant of all the birches. Resistant to bronze birch borer and less likely to be bothered by aphids. Bark has a bronze-salmon color to it.

Image is from the entrance to the Aspen Glen neighborhood.



European hornbeam
Carpinus betulus

40' - 60'

35' - 45'

707 sq ft

Moderate

Medium

7'

30' - 35'

Medium sized shade tree with dark green birch-like leaves. Strong wood with good branch attachment. Narrow as a juvenile - broadens with age. Do not confuse with the columnar form.

Image: web: [Pat Breen, Oregon State University](#)



ATTACHMENT B - 2011 STREET TREE LIST

Columnar hornbeam <i>Carpinus betulus</i> 'Fastigiata'	45'	15' 177 sq ft	Moderate	Medium	7'	15' - 20'
---	-----	------------------	----------	--------	----	-----------

Similar to the parent species. Retains the narrow juvenile form as an adult. Good for narrow spaces.
Image: 4th St. at the municipal parking lot.



ATTACHMENT B - 2011 STREET TREE LIST

Giant dogwood <i>Cornus controversa</i>	40'	30' 177 sq ft	Moderate	Medium	7'	30' - 35'
--	-----	------------------	----------	--------	----	-----------

One of the larger species of dogwoods, it provides a fairly large canopy. Provide afternoon shade or protect the bark of this tree with white latex paint until the canopy begins to grow.

Image from Penstemon Way at Alamo Ave.



ATTACHMENT B - 2011 STREET TREE LIST

Autumn Purple
ash
*Fraxinus
americana*
'Autumn Purple'

45' - 55'
40'
707 sq ft

Moderate Medium 7'

35' - 40'

An upright oval shaped seedless ash noted for its outstanding deep purple fall color. Its branch structure is far superior to 'Raywood ash', which has a tendency to split easily.

Image taken from Filbert near Madrone



ATTACHMENT B - 2011 STREET TREE LIST

Summit ash
Fraxinus pennsylvanica lanceolata
 'Summit'

45' - 55' 35'
 707 sq ft

Moderate Medium 7'

30' - 35'

A vigorous, straight growing green ash selection. The narrow foliage turns bright yellow in the fall. This cultivar is seedless. Early formative pruning needed to ensure a strong structure.

Image from Flume St. near East 3rd St.



Autumn Gold ginkgo
Ginkgo biloba
 'Autumn Gold'

50' - 60' 35'
 707 sq ft

Slow Deep 7'

30' - 35'


Native to China and one of the oldest living trees. This selected male strain produces spectacular golden yellow fall color. May revert to female trees that produce extremely smelly fruit.

This cultivar has a tendency for the main trunk to bend at about a 25 degree angle.

Image from E. 2nd Ave. and Laburnum Ave.



ATTACHMENT B - 2011 STREET TREE LIST

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description	Image
Princeton Sentry ginkgo <i>Ginkgo biloba</i> ‘ Princeton Sentry’	60'	30' 707 sq ft	Slow	Deep	7'	25' - 30'	A narrower male cultivar of ginkgo developed at Princeton University. An upright, tree with a strong central leader. Image from Vail Dr.	

ATTACHMENT B - 2011 STREET TREE LIST

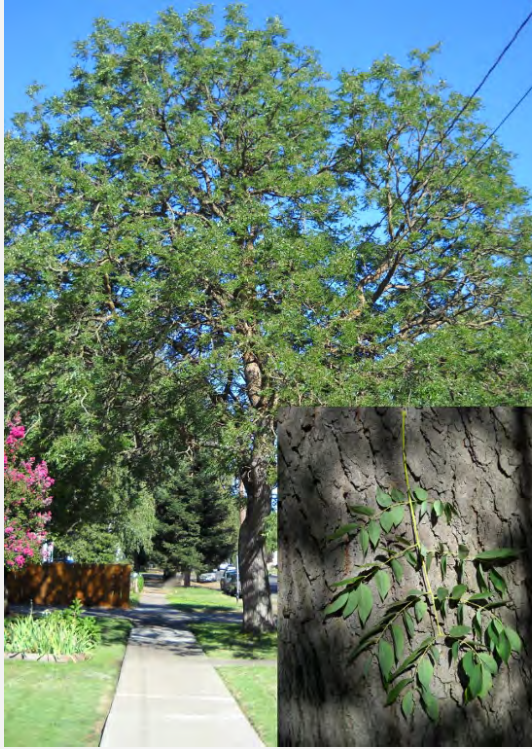
Saratoga ginkgo
Ginkgo biloba
 'Saratoga' 60' 45' 707 sq ft Slow Deep 7' 30' - 40'

A dense, compact tree with ascending branches and a distinct central leader developed by the Saratoga Horticultural Foundation.



Kentucky Coffee Tree
Gymnocladius dioicus 50' 35' 707 sq ft Fast Deep 6' 30' - 40'

Deciduous. Upper arching branches, yellow fall color. Dramatic limb structure visible in winter.
 Picture is from a tree at 5th Ave. and Laburnum Ave.



ATTACHMENT B - 2011 STREET TREE LIST

Russett magnolia <i>Magnolia grandiflora</i> 'Russett'	60'	40' 707 sq ft	Moderate - Fast	Shallow Medium	7'	30' - 35'
--	-----	------------------	--------------------	-------------------	----	-----------

Smaller magnolia cultivar. This disease resistant tree has fragrant blossoms. Leaf litter may be objectionable. One of the deeper rooted cultivars.

Image from the web: SelecTree

Photo Credits:
W. Mark and J. Reimer



ATTACHMENT B - 2011 STREET TREE LIST

Tupelo
Nyssa sylvatica

25' - 50'

20' - 35'
490 sq ft

Slow - Moderate
Medium - Deep

5'

25' - 30'

Tupelo is a very adaptable tree species. It can grow on moist or dry sites. The growing conditions dictate the ultimate height of the tree. Great fall color.

Image taken at the entrance to Chico Municipal Airport on Airpark Blvd at Fortress St.

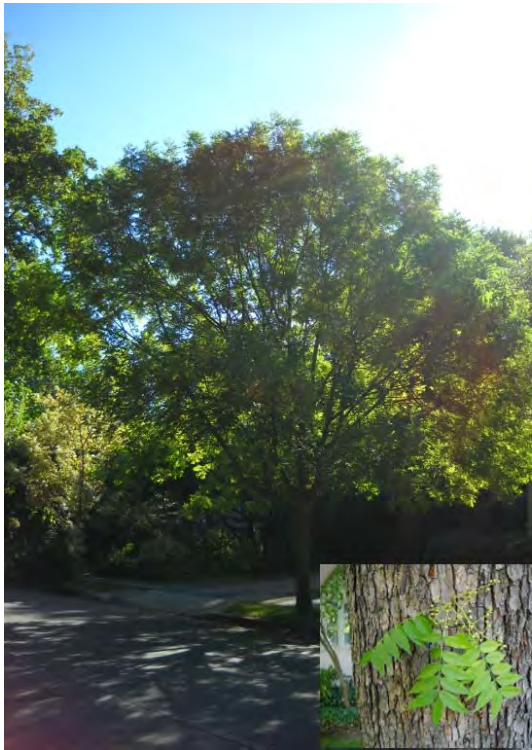


ATTACHMENT B - 2011 STREET TREE LIST

Chinese pistache <i>Pistacia chinensis</i>	50'	40' 1256 sq ft	Slow - Moderate	Medium - Deep	6'	30' - 35'
---	-----	-------------------	--------------------	------------------	----	-----------

One of the most attractive fall coloring trees and over planted in Chico. This tree is relatively pest free. Due to its uneven growth habit, it needs pruning early on to develop a good form. 'Keith Davey' is a seed free male cultivar.

Image from Woodland Ave.



ATTACHMENT B - 2011 STREET TREE LIST

Sawtooth oak	40'- 60'	30' - 40'	Moderate	Deep	7'	35'
<i>Quercus acutissima</i>		707 sq ft				

Simple serrated leaves. Dense, broad canopy. Pyramidal structure exhibited by younger trees. Holds its leaves as a juvenile in Chico's climate.

Image from Shearwater Court near Idyllwild Cir.



ATTACHMENT B - 2011 STREET TREE LIST

Holly oak
Quercus ilex

45' - 50'
30' - 40'
707 sq ft

Moderate Medium 7'

30' - 35'

Evergreen oak, dark foliage and dense shade.
Image: on Oleander near E. 1st Ave.



ATTACHMENT B - 2011 STREET TREE LIST

Willow oak <i>Quercus phellos</i>	50'	35' 707 sq ft	Moderate - Rapid	Deep	7'	35'	<p>This street tree is a graceful oak with its slim, willow-like leaves. The fall color is bright yellow. Holds its leaves as a juvenile in Chico's climate.</p> <p>Image from Greenhaven Lane at Woodminster Ct.</p>
--------------------------------------	-----	------------------	---------------------	------	----	-----	---



Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description
--------------------------------	--------	--	----------------	----------------	-----------------------------	--------------------	-------------

Water oak <i>Quercus nigra</i>	70'	40' 707 sq ft	Moderate	Medium	7'	35'	<p>A good species for streets and parks because of its dense shade. Adaptable to moist growing sites. Transplants well.</p> <p>Image from the corner of Vallombrosa Ave. and Sheridan Ave.</p>
-----------------------------------	-----	------------------	----------	--------	----	-----	--



ATTACHMENT B - 2011 STREET TREE LIST

Little Leaf linden <i>Tilia cordata</i> 'Redmond', 'Gleiven', or 'Greenspire'	50'	35' 707 sq ft	Moderate	Medium	6'	35'	Fragrant flowers on bracts in July. Yellow fall color. Flowers attract honey bees. Image form E. 7 th St. at Poplar St.
---	-----	------------------	----------	--------	----	-----	---



LARGE TREES

Common Name Scientific Name	Height	Spread / Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description	Image
--------------------------------	--------	---	----------------	----------------	-----------------------------	--------------------	-------------	-------

ATTACHMENT B - 2011 STREET TREE LIST

Blue Atlas cedar <i>Cedrus atlantica</i> 'Glauca'	80'- 100'	50' 707 sq ft	Moderate	Deep	8'	35' - 45'
---	--------------	------------------	----------	------	----	-----------

Distinctive canopy form with bluish foliage. This Mediterranean species thrives in the Chico climate and is very drought tolerant. Use where space is adequate.

Image is from the City Of Chico's downtown plaza.



ATTACHMENT B - 2011 STREET TREE LIST

Deodar cedar <i>Cedrus deodara</i>	80'- 100'	45' 707 sq ft	Fast	Deep	8'	35' - 45'
---------------------------------------	--------------	------------------	------	------	----	-----------

This conifer produces a graceful form with gray-green foliage. The “weeping” top is characteristic of this species. Use this tree in place of Coastal redwood. Like Blue Atlas cedar, this species requires ample space.

Image from the corner of 4th St. and Flume St.



ATTACHMENT B - 2011 STREET TREE LIST

Canary Island pine	90'	25'	Fast	Deep	8'	35' - 45'
<i>Pinus canariensis</i>		707 sq ft				

A good street tree species because of its tolerance to a variety of soil types and its deep root growth. 7-10" long needles grow in clusters of 3. Requires full sun. May burn after a hard frost, but the trees generally respond.

Image taken on Raley Blvd.



ATTACHMENT B - 2011 STREET TREE LIST

Black oak	80'	40'	Moderate	Deep	7'	35' - 40'
<i>Quercus kelloggii</i>		1256 sq ft				

This stately tree is native to the foothills and mountains of California. Tolerant of hot summer conditions and some irrigation. Large leaves with yellow fall color. Acorns favored by natives in northern California.

Image from the N.W. corner of 22nd St. and Normal Ave.



ATTACHMENT B - 2011 STREET TREE LIST

Chinkapin oak
Quercus muehlenbergii 70' 40'
 1256 sq ft Moderate Deep 7' 35' - 40'

Leaves are dark greenish-yellow on top, whitish on underside. Autumn color ranges from yellow and orange to brown. Relatively disease resistant. Prefers rich alkaline soils.

Image from Oleander Ave.



Cork oak
Quercus suber 50' 40'
 1256 sq ft Moderate Medium 7' 35' - 40'

Similar in leaf pattern and growth to the Holly oak, this broadleaf evergreen oak has a characteristic corky bark. Leaves are shed mainly in the late spring, although leaf drop occurs all year long. May be subject to mite infestations. Does not tolerate over watering.

Image from the 2000 block of the Esplanade



ATTACHMENT B - 2011 STREET TREE LIST

English oak
Quercus robur 80' 50'
1256 sq ft Moderate Deep 7' 35' - 45'

Good tree for large landscaping areas such as parks and campuses. Native to Europe. Requires full sun; pH tolerant. Susceptible to mildew.

Image take on the Esplanade at MacDonald Ave.




Valley oak
Quercus lobata 90' 60'
1256 sq ft Moderate - Rapid Deep 8' 35' - 45'

A California native common in the Chico area. This species formed oak savannas that extended over the entire Sacramento Valley. Subject to limb drop in its older age. Use along riparian areas and single loaded greenway streets.

Image from Eaton and Cohasset



ATTACHMENT B - 2011 STREET TREE LIST

Common Name Scientific Name	Height	Spread / Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description	Image
Scarlet oak <i>Quercus coccinea</i>	65' - 80'	40' 1256 sq ft	Moderate	Deep	7'	35' - 40'	<p>An outstanding shade tree with spectacular fall color. The oak is relatively fast growing and pest free. Fall color is a brilliant scarlet-red. Its only drawback is the potential to hold leaves as a juvenile.</p> <p>Image from Oak St. near W. 2nd St.</p>	

ATTACHMENT B - 2011 STREET TREE LIST

Shingle oak <i>Quercus imbricaria</i>	50' - 60'	30' - 40' 707 sq ft	Moderate	Deep	7'	30' - 35'
--	-----------	------------------------	----------	------	----	-----------

Shingle oak is similar in form to Willow oak. Fall color is russet. This species holds its leaves as a juvenile in Chico's climate.

Image from Citrus Ave. at West 8th Ave.



ATTACHMENT B - 2011 STREET TREE LIST

Shumard oak <i>Quercus shumardii</i>	80'	35' 707 sq ft	Moderate	Deep	6'	35'
---	-----	------------------	----------	------	----	-----

Similar to pin oak in every way, except one. This species holds its leaves as a juvenile in Chico's climate. Strong upright form with deep green leaves and good fall color.

Image from Idyllwild Cir.



Evergreen elm <i>Ulmus parvifolia</i>	70'	35' 1256 sq ft	Fast	Medium	7'	30' - 35'
--	-----	-------------------	------	--------	----	-----------

Not a true evergreen in our climate, this elm performs well in harsh urban conditions. This cultivar has more of a vase shape than the parent tree, Chinese Evergreen elm.

Image is of a Chinese Evergreen on 7th St. near Main St.



ATTACHMENT B - 2011 STREET TREE LIST

Japanese zelkova
Zelkova serrata 60' - 80' 60'
707 sq ft Fast Medium 7' 30' - 35'

Related to the elm, zelkovas produce a vase-shaped tree with many ascending branches. With age, the bark turns a gray mottling. Fall colors range from yellow to russet.

Image is from 6th Ave. at Citrus Ave. a perfect example of the Zelkova is on Citrus between 6th and 8th on the west side of the street.



Village Green
Japanese zelkova
Zelkova serrata
'Village Green' 80' 60'
707 sq ft Fast Medium 7' 30' - 35'

A variety of Japanese zelkova with a rounded vase branching habit and dark green leaves. Fall colors are typically rusty-red.

Image from the Internet, University of Connecticut

© Copyright Mark Brand, 1997-2001.



FOOTHILL ROADWAY TREES

ATTACHMENT B - 2011 STREET TREE LIST

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description	Image
--------------------------------	--------	--	----------------	----------------	-----------------------------	--------------------	-------------	-------

Black oak <i>Quercus kelloggii</i>	80'	40' 1256 sq ft	Moderate	Deep	7'	35' - 40'		
---------------------------------------	-----	-------------------	----------	------	----	-----------	--	--

This stately tree is native to the foothills and mountains of California. Tolerant of hot summer conditions and some irrigation. Large leaves with yellow fall color. Acorns favored by natives in northern California.

Image from the N.W. corner of 22nd St. and Normal Ave.



ATTACHMENT B - 2011 STREET TREE LIST

Blue oak
Quercus douglasii

15' - 40'

20' - 50'
707 sq ft

Slow

Deep

5-6'

Variable

Native to the foothills, this species grows on a variety of soil types. The deeper the soil, the larger the tree. On poor sites, a six-inch diameter tree can be over one-hundred years old. Plant as a seedling during the winter months and water weekly during the first year or two.

Image from the entrance to Upper park on the south side of Upper Park Rd.



Interior Live oak
Quercus wislizenii

20' - 35'

15' - 30'
707 sq ft

Slow

Deep

6'-8'

Variable

Similar to Blue oak except it is evergreen. In natural situations, this tree can be multi-trunked. Plant as a seedling during the winter months and water weekly during the first year or two.

Image is of a recently pruned private tree in the area of Yosemite



ATTACHMENT B - 2011 STREET TREE LIST

Bay laurel
Umbellularia californica 30' - 50' 25' - 50'
707 sq ft Slow Medium 8' Variable

An evergreen tree for sites receiving some summer water. Litter can be a problem.

Image: web: [Pat Breen, Oregon State University](#)



NEW SPECIES FOR THE ADVENTUROUS

Common Name Scientific Name	Height	Spread /Max Parking Lot SQ Footage	Growth Rate	Root Growth	Minimum Planter Width	Optimum Spacing	Description	Image
Wireless zelkova <i>Zelkova serrata</i> 'Wireless'	24'	36' 707 sq ft	Fast	Medium	5'	30' - 35'	A variety of Japanese zelkova with a rounded vase branching habit and dark green leaves. Fall colors are typically rusty-red. The tree has been bred for its short nature to grow underneath high voltage transmission lines.	
Emerald Flair Elm <i>Ulmus parvifolia</i> 'JFS-Barrett'	40'	35' 707 sq ft	Fast	Medium	5'	30' - 35'	A smaller elm with excellent dark green foliage. Broadly vase shaped, with arching branches. Good red fall color.	
Emerald Sunshine Elm <i>Ulmus parvifolia</i> 'JFS-Barrett'	35'	25' 707 sq ft	Fast	Medium	5'	30' - 35'	A smaller elm with excellent fresh green foliage and neat appearance. Yellow fall color. Resistant to Elm Leaf Beetle, and hot urban environments.	

ATTACHMENT B - 2011 STREET TREE LIST

Celebration
Maple
Acer fremannii
'Celzam'

50'

35'

707 sq ft

Fast

Medium

5'

30' - 35'

Bright green summer color with leaves similar to silver maple. Yellow foliage with orange highlights. Strong branch structure, tolerant of urban soils.

Image: web: [Pat Breen, Oregon State University](#)



Streetspire Oak
Quercus robur X
alba 'JFS-
KW1QX'

45'

15'

256 sq ft

Medium

Medium

3'

30' - 35'

Dark green leaves, columnar form. Resistant to mildew. Wide branch attachments despite narrow form. Turns red in fall and does not hold foliage through the winter.

ATTACHMENT B - 2011 STREET TREE LIST

Giant Dogwood Cornus controversa 'June Snow'	30'	40' 314 sq ft	Fast	Medium	3'	30' - 35'
---	-----	------------------	------	--------	----	-----------

Fast growing and wide spreading, good for small planting strips, but will need to be pruned up for clearance. Flat topped large white flowers. Excellent fall color – orange red. Black fruit. Needs afternoon shade to prevent sunburn. Grows on Black Walnut Street, north of East Avenue.

Image: web: Pat Breen, Oregon State University






Trees native to


Chico,ca




39 trees native to Chico,CA

1  **Fremont Cottonwood** *Populus fremontii* [Add to plant list](#)


The Fremont Cottonwood is a cottonwood native to North America, growing in riparian areas near streams, rivers, and wetlands in the southwestern part of the United States, and downwards into Mexico. It is a large tree growing from 12-35 meters in height, with a trunk up >>

2  **Blue Oak** *Quercus douglasii* [Add to plant list](#)


The Blue Oak is endemic to California and is found in foothills surrounding the Central Valley of California, the South Coast Range, North Coast Range and San Francisco Bay Area. It is also sometimes known as the Mountain Oak, and occasionally the Iron Oak. Blue Oaks are >>

3  **Black Oak** *Quercus kelloggii* [Add to plant list](#)


California Black Oak (*Quercus kelloggii*), also known as simply Black Oak, or Kellogg Oak, is an oak in the red oak section (*Quercus* sect. *Lobatae*), native to western North America. It is a close relative of the Black Oak (*Quercus velutina*) found in eastern and central North America. >>

4  **Western Sycamore** *Platanus racemosa* [Add to plant list](#)


Western Sycamore is a species of plane tree known by several other common names, including California sycamore, California plane, and Aliso. It is native to California and Baja California, where it grows in canyons, floodplains, and along streams in several types of >>

5  **Blue Elderberry** *Sambucus nigra ssp. caerulea* [Add to plant list](#)


Blue Elderberry, Mexican Elderberry, or Tapiro is a deciduous shrub or small tree, growing up to as tall as 30 feet. It is native from Oregon to Baja all the way to western Texas. It has cream or yellow flowers in the spring and purple berries in the fall. Its berries are one of the most >>

6  **Big Leaf Maple** *Acer macrophyllum* [Add to plant list](#)


Acer macrophyllum (Bigleaf Maple or Oregon Maple) is a large deciduous tree. It grows to be up to 35 meters tall, but more commonly 15-20 meters tall. The trunk can get up to a meter in diameter. It is native to western North America, mostly near the Pacific coast, from >>


7  **Box Elder** *Acer negundo* [Add to plant list](#)


Acer negundo is a species in the Sapindaceae (Soapberry) family native to North America known by the common names Box Elder, Boxelder Maple, and Maple Ash. In California it is found in the coastal mountain ranges from Mendocino County to San Diego County and in the >>


 **Valley Oak** *Quercus lobata* [Add to plant list](#)


ATTACHMENT C - CALIFORNIA NATIVE TREE SPECIES


8  The valley oak grows into the largest of North American oaks. It ranges over the hot interior valleys of California where there is a water table within reach of the roots. Valley Oaks grow quickly, reaching 20 feet in 5 years, and 40 feet in 10 years, and up to 60 feet in 20 years. >>


9  **White Alder** *Alnus rhombifolia* [Add to plant list](#)
White Alder is a member of the Birch family (Betulaceae) native to western North America, from Washington east to western Montana and south to San Diego County, occurring at altitudes of 100-2400 meters. It has not been reported from northern Baja California but has >>


10  **Madrone** *Arbutus menziesii* [Add to plant list](#)
The Pacific Madrone (*Arbutus menziesii*), is a species of arbutus found on the west coast of North America, from British Columbia (chiefly Vancouver Island and the Gulf Islands) to California (mainly in the Puget Sound, Oregon Coast Range and California Coast Ranges but >>


11  **Foothill Pine** *Pinus sabiniana* [Add to plant list](#)
Foothill Pine (*Pinus sabiniana*) is a native tree that grows in northern, southern and central California. It is slow growing in nature and moderately long-lived. It grows in an upright form to a height of 80 feet, with active growth during the spring and summer. Flowers are yellow and >>


12  **Red Willow** *Salix laevigata* [Add to plant list](#)
Red Willow is one of the most common riparian trees in California, usually growing in or very near creeks, at elevations from 0-5000 feet. It is an extremely fast growing tree - growing up to about 50 feet in height, and often more than 50 feet in width within 10 years if it gets plenty >>

13  **Hollyleaf Cherry** *Prunus ilicifolia* [Add to plant list](#)
Hollyleaf cherry or Evergreen cherry is a species in the Rosaceae (Rose) family that is native to coastal California and northern Baja California. It is an evergreen shrub or small tree up to 15 meters tall, with dense, sclerophyllous foliage. The leaves are 1.6-12 centimeter long with >>











14  **Arroyo Willow** *Salix lasiolepis* [Add to plant list](#)
Arroyo Willow is an abundant and widespread native tree or shrub that grows in northern, southern and central California. It tends to grow in marshes or other wet areas, at elevations from 0-7000 feet. It grows in or adjacent to many habitats including coastal sage scrub, >>

15  **Southern California Black Walnut** *Juglans californica* [Add to plant list](#)
Juglans californica, the California Black Walnut, also called the California Walnut, or the Southern California Black Walnut, is a large shrub or small tree (up to 30 feet tall) endemic to California. Some authorities (e.g. the California Native Plant Society) combines this species >>











16  **Incense Cedar** *Calocedrus decurrens* [Add to plant list](#)
Calocedrus decurrens (California Incense-cedar; syn. *Libocedrus decurrens* Torr.) is a species of conifer native to western North America, with the bulk of the range in the United States, from central western Oregon through most of California and the extreme west of Nevada, and >>

17  **California Buckeye** *Aesculus californica* [Add to plant list](#)
California Buckeye or California Horse-chestnut is a species in the Sapindaceae family that is endemic to California, and the only buckeye native to the state. It is found over a large part of the state. It is a large shrub or small tree growing to 4-12 meters tall, with gray bark often >>

ATTACHMENT C - CHICO NATIVE TREE SPECIES


- 18  **California Laurel** *Umbellularia californica* [Add to plant list](#)
Bay Laurel is an evergreen tree in the Lauraceae family that is native to coastal forests of California at elevations from 0-5000 feet. It is found throughout the Klamath Range, Coast Ranges, Transverse Range and Sierra foothills and is especially numerous between Sonoma >>
- 19  **Goodding's Black Willow** *Salix gooddingii* [Add to plant list](#)
Goodding's Black Willow (*Salix gooddingii*) is a common native tree that grows throughout the state in wetland areas. It has a moderate growth rate and is moderately long-lived. It grows in an upright form to a height of 15-40 feet, with active growth during the spring and summer. >>
- 20  **Garry's Oak** *Quercus garryana* [Add to plant list](#)
The Garry Oak (*Quercus garryana*), also known as Oregon White Oak or Oregon Oak, is a member of the Fagaceae family (Beeches, Chestnuts and Oaks). It has a range from the mountains of Los Angeles County northward to British Columbia, Canada, particularly in the >>
- 21  **Lodgepole Pine** *Pinus contorta* [Add to plant list](#)
Pinus contorta is a common tree in western North America with the bulk of its population to the north and east of California. Within California it is found primarily in the Sierras, with scattered populations in other mountains. There are three recognized subspecies which can >>
- 22  **Douglas Fir** *Pseudotsuga menziesii* [Add to plant list](#)
Douglas-fir (*Pseudotsuga menziesii*) is an evergreen conifer native to the coastal regions of western North America, from west-central British Columbia, Canada southward to central California. In Oregon and Washington its range is continuous from the Cascades crest west to >>
- 23  **Port Orford Cedar** *Chamaecyparis lawsoniana* [Add to plant list](#)
Chamaecyparis lawsoniana is a tree in the family Cupressaceae, known by the name Lawson's Cypress in the horticultural trade, or Port Orford Cedar in its native range (although not a true cedar). *C. lawsoniana* is native to the southwest of Oregon and the far northwest of >>
- 24  **California Ash** *Fraxinus dipetala* [Add to plant list](#)
Fraxinus dipetala (California Ash or Two-petal Ash) is a species of ash in the Oleaceae (Olive) family native to northwestern Arizona, California, southern Nevada, and Utah, and northern Baja California. In California it is found in the Coast Ranges, Sierra foothills and Peninsular >>
- 25  **Black Elderberry** *Sambucus nigra* [Add to plant list](#)
Sambucus nigra is a species in the relatively newly designated Adoxaceae (Moschatel) family. It is native to most of Europe, northwest Africa southwest Asia, and western North America. It is quite common and widespread in California and is most commonly called Black Elderberry, >>
- 26  **Sandbar Willow** *Salix exigua* [Add to plant list](#)
Salix exigua (Sandbar Willow) is a species in the Salicaceae (Willow) family native to most of North America except for the southeast and far north, occurring from Alaska east to New Brunswick, and south to northern Mexico. It is found in every county in California. It is a >>
-  **Oregon Ash** *Fraxinus latifolia* [Add to plant list](#)


ATTACHMENT C - CHICO NATIVE TREE SPECIES


- 27  Fraxinus latifolia (Oregon ash) is a member of the Oleaceae (Olive) family native to western North America on the west side of the Cascade Range from southwestern British Columbia south through western Washington and western Oregon to central California. It can grow to 25 >>
- 28  **Interior Live Oak** Quercus wislizeni [Add to plant list](#)
Interior Live Oak (Quercus wislizeni) is a native tree or shrub in the Fagaceae (Beech) family. Despite the common name it grows near the coast as well as in the Coast Ranges, central valley, and Sierra foothills. It tends to grow at elevations from sea level to 5,000 feet and is a >>
- 29  **Northern California Black Walnut** Juglans hindsii [Add to plant list](#)
Juglans hindsii, the Hinds' Black Walnut, also called the Northern California Walnut, is a large tree (up to 60 feet tall) endemic to roughly circular area in California centered near Fresno and reaching the San Francisco Bay area. Some authorities (i.e. California Native Plant >>
- 30  **Brown Dogwood** Cornus glabrata [Add to plant list](#)
Cornus glabrata is a species in the Cornaceae (Dogwood) family native to California and Oregon and known by the common name Brown Dogwood and several other names. It is found in the Coast Ranges and the Sierra foothills, below 5,000 ft., and on some of the >>
- 31  **Shining Willow** Salix lasiandra [Add to plant list](#)
Salix lasiandra is a native willow tree that grows in virtually every county of the state in wetland-riparian areas. It is a suckering willow that will extend its roots and spread into any area that has sufficient moisture. It was formerly classified as a subspecies of Salix lucida, >>
- 32  **Garry's Oak** Quercus garryana var. breweri [Add to plant list](#)
Garry's Oak (Quercus garryana var. breweri) is a native tree that grows in northern, southern and central California. It tends to grow in slopes, at elevations from 2000-5900 feet.
- 33  **Western Hoptree** Ptelea crenulata [Add to plant list](#)
Ptelea crenulata, commonly known as the California hoptree, is a species of tree that is endemic to the state of California in the United States. It is found in the western Sierra Nevada and southern Cascade Range foothills, the northern California Coast Ranges, and >>
- 34  **Yellow Willow** Salix lasiandra var. lasiandra [Add to plant list](#)
Yellow Willow (Salix lucida ssp. lasiandra) is a native tree that grows in northern, southern and central California. It is fast growing and short-lived. It grows in an upright form to a height of 53 feet, with active growth during the spring and summer. Flowers are green and bloom in the
- 35  **Fremont Cottonwood** Populus fremontii ssp. fremontii [Add to plant list](#)
Fremont Cottonwood (Populus fremontii ssp. fremontii) is a native tree that grows in northern, southern and central California. It tends to grow in alluvial bottomlands and streamsides, at elevations from 0-6500 feet.
- 36  **Dusky Willow** Salix melanopsis [Add to plant list](#)
Salix melanopsis is a plant species known by the common name dusky willow. It is native to western North America from British Columbia and Alberta to California and Colorado, where it grows in many types of moist and wet habitat such as riverbanks and subalpine mountain >>

grows in many types of moist and wet habitat, such as riparian and subalpine meadows.

ATTACHMENT C - CHICO NATIVE TREE SPECIES

- 37  **Western Douglas Fir** *Pseudotsuga menziesii* var. *menziesii* [Add to plant list](#)
- Pseudotsuga menziesii* var. *menziesii*, also known as coast Douglas-fir, Oregon pine, or Douglas spruce, is an evergreen conifer native to western North America from west-central British Columbia, Canada southward to central California, United States. In Oregon and [>>](#)

- 38  **Sandbar Willow** *Salix exigua* var. *hindsiana* [Add to plant list](#)
- Sandbar Willow (*Salix hindsiana*) is a native tree or shrub that grows in northern, southern and central California. It tends to grow at elevations from 0-5500 feet.

- 39  **Klamath Plum** *Prunus subcordata* [Add to plant list](#)
- Klamath plum, also called Oregon plum, or Sierra plum (*Prunus subcordata*) is a member of the genus *Prunus* (plum, cherry, and other stone fruit), native to the west coast of the United States in California and southern Oregon. It grows in forests, most often at low elevation near [>>](#)

© California Native Plant Society. All rights reserved.

ATTACHMENT C - CHICO NATIVE TREE SPECIES

Trees Native To Chico,CA

<https://calscape.org/loc-chico,ca/cat-trees/ord-popular>

[//calscape.org/qrcode/https://calscape.org/loc-chico,ca/cat-trees/ord-popular](https://calscape.org/qrcode/https://calscape.org/loc-chico,ca/cat-trees/ord-popular)

Common Name	Growth Rate	Soil	Ease of Care	Max Summer Irrigation	Common uses	Availability in Nurseries
Fremont Cottonwood	Fast	Accepts either sandy or clay soil as long as there is sufficient	Very Easy	Keep moist	Bird Gardens,Butterfly Gardens	Commonly Available
Blue Oak	Slow	Tolerant of a variety of soils as long as adequate drainage is provided	Very Easy	Irrigate ~ 1x / mo once established	Bank Stabilization,Deer Resistant,Bird Gardens,Butterfly Gardens	Commonly Available
Black Oak	Moderate,Slow	Occurs in many soil types. Prefers acidic soil.	Very Easy	Irrigate ~ 2x / mo once established	Bank Stabilization,Deer Resistant,Bird Gardens,Butterfly Gardens	Commonly Available
Western Sycamore	Fast,Slow	Tolerates sand and clay	Very Easy	Irrigate ~ 1 / wk once	Deer Resistant,Bird Gardens,Butterfly Gardens	Commonly Available
Blue Elderberry	Fast	Tolerates a variety of soils but prefers well-drained soils with moisture		Irrigate ~ 1x / mo once established	Deer Resistant,Bird Gardens,Butterfly Gardens,Bee Gardens	Commonly Available
Big Leaf Maple	Fast	Prefers clay or loamy soil, tolerates sandy soil	moderately easy	Keep moist	Bird Gardens,Deer Resistant,Butterfly Gardens	Commonly Available
Box Elder	Fast	Tolerates a variety of soils as long as adequate moisture is present	Moderately Easy	Irrigate ~ 2x / mo once established,Irrig	Bird Gardens,Deer Resistant,Butterfly Gardens	
Valley Oak	Fast,Moderate	Prefers deep, rich soil but can utilize other soils if moisture is	Very Easy	Irrigate ~ 2x / mo once	Deer Resistant,Bird Gardens,Butterfly Gardens	Commonly Available
White Alder	Fast	Tolerant of sand and clay		Keep moist	Bird Gardens,Butterfly Gardens	Commonly Available
Madrone	Slow	Heavy	Moderately Easy	Never irrigate once established,Irrig	Bank Stabilization,Hedges,Bird Gardens,Deer	Commonly Available

ATTACHMENT C - CHICO NATIVE TREE SPECIES

Foothill Pine	Fast,Slow	Poor soils, serpentine soils	Very Easy	Never irrigate once established,Irrig	Bank Stabilization,Hedges,Deer Resistant,Bird Gardens	Commonly Available
Red Willow	Fast	Heavy moist soils	Very Easy	Irrigate ~ 1 / wk once established,Ke	Bogs and Ponds,Bird Gardens,Butterfly Gardens,Bee Gardens	Commonly Available
Hollyleaf Cherry	Fast,Moderate	Tolerant of a variety of soils but will grow largest and fastest in coarse, fast draining, relatively fertile garden soil	Very Easy	Irrigate ~ 1x / mo once established	Bank Stabilization,Hedges,Deer Resistant,Bird Gardens,Butterfly	Commonly Available
Arroyo Willow	Fast,Moderate	Tolerates a variety of soils as long as adequate drainage is provided	Very Easy	Keep moist	Bogs and Ponds,Hedges,Bird Gardens,Butterfly	
Southern California Black Walnut	Moderate	Adaptable		Never irrigate once established,Irrig	Bank Stabilization,Deer Resistant,Bird Gardens	Commonly Available
Incense Cedar	Moderate,Slow	Prefers deep woodland soil with high organic content	Very Easy	Irrigate ~ 2x / mo once	Bank Stabilization,Hedges,Deer	Commonly Available
California Buckeye	Moderate	Tolerates a variety of soils including clay	Very Easy	Irrigate ~ 1x / mo once established,Irrigate ~ 2x / mo	Hedges,Bank Stabilization,Deer Resistant,Butterfly Gardens	Commonly Available
California Laurel	Moderate	Tolerates a variety of soils including clay and serpentine	Very Easy	Irrigate ~ 3x / mo once	Bank Stabilization,Hedges,Deer	Commonly Available
Goodding's Black Willow	Moderate,Fast	Tolerates a variety of soils as long as adequate moisture is present		Keep moist	Bogs and Ponds,Bird Gardens,Butterfly Gardens,Bee Gardens	
Garry's Oak	Moderate,Slow	Accepts a variety of soils but performs best in rich, loamy soil	Very Easy	Irrigate ~ 2x / mo once established	Bank Stabilization,Deer Resistant,Bird Gardens,Butterfly Gardens	Commonly Available
Lodgepole Pine	Fast	Tolerates a wide variety of soils	Very Easy	Irrigate ~ 3x / mo once	Bank Stabilization,Hedges,Deer	Commonly Available

ATTACHMENT C - CHICO NATIVE TREE SPECIES

Douglas Fir	Moderate	Prefers rich, forest soil with well-decomposed organic component derived from decaying wood. For garden	Very Easy		Bank Stabilization,Deer Resistant,Butterfly Gardens	Commonly Available
Port Orford Cedar	Moderate	Prefers moist, well-drained, neutral to slightly acidic soil or sandy and clay loams and rocky	Moderately Easy	Irrigate ~ 3x / mo once established	Deer Resistant	Rarely Available
California Ash		Tolerates a variety of soils including clay and decomposed granite	moderately easy	Irrigate ~ 1x / mo once established,Irrig	Bank Stabilization,Bird Gardens	Commonly Available
Black Elderberry	Fast	Tolerates most soils	Very Easy	Irrigate ~ 2x / mo once	Hedges,Deer Resistant,Bird Gardens,Bee Gardens	Commonly Available
Sandbar Willow	Moderate,Fast	Tolerant of various soils as long as there is abundant moisture available		Keep moist	Bogs and Ponds,Bird Gardens,Butterfly Gardens,Bee Gardens	Commonly Available
Oregon Ash	Fast,Moderate	Typically found in poorly drained, moist bottom land with	Very Easy		Bird Gardens	Commonly Available
Interior Live Oak	Moderate	Tolerant of a variety of soils	Very Easy	Never irrigate once established,Irrig	Bank Stabilization,Deer Resistant,Bird Gardens,Butterfly Gardens	Commonly Available
Northern California Black Walnut		Tolerates sand and clay soils			Bird Gardens	Commonly Available
Brown Dogwood	Fast	Tolerates a variety of soils	Moderately Easy	Irrigate ~ 2x / mo once established,Irrig	Deer Resistant,Bird Gardens	Commonly Available
Shining Willow	Fast	Tolerates a variety of soils but prefers alluvial soil		Keep moist	Bogs and Ponds,Bird Gardens,Butterfly Gardens,Bee Gardens	Commonly Available
Garry's Oak					Bank Stabilization,Bird Gardens,Butterfly Gardens	Sometimes Available
Western Hoptree					Butterfly Gardens	Sometimes Available
Yellow Willow			Moderately Easy		Bird Gardens,Butterfly Gardens,Bee Gardens	

ATTACHMENT C - CHICO NATIVE TREE SPECIES

Fremont Cottonwood			Moderately Easy			Rarely Available
Dusky Willow					Bird Gardens, Butterfly Gardens, Bee Gardens	
Western Douglas Fir			Moderately Easy			Rarely Available
Sandbar Willow			Moderately Easy		Bogs and Ponds, Bird Gardens, Butterfly Gardens, Bee Gardens	
Klamath Plum	Moderate	Prefers sandy or loamy soils. Does not grow well in clay soils.	Moderately Easy		Hedges, Bird Gardens, Butterfly	Rarely Available