Arizona Urban Tree Map

Field Guide

SOUTHWEST DESERT CLIMATE REGION

Tree Identification Guide for the Urban
Forests of Arizona’s Southwest Desert
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INTRODUCTION

The Arizona Urban Tree Map (AZ UTM) is a joint project of the Arizona State Forestry Division and USDA Forest Service. The main goals of the project are to 1) support communities throughout Arizona in conducting urban forest inventories and 2) compile a database of inventory information, local forest resource information, strategies for public involvement and a sustainable plan to enable long-term urban forest management. This Tree Guide and corresponding instruction manual have been created using guidelines from the i-Tree Streets software program, which is an analysis tool for urban forest managers that uses tree inventory data to quantify the dollar value of annual environmental and aesthetic benefits: energy conservation, air quality improvement, CO2 reduction, stormwater control, and property value increase (www.itreetools.org/streets/).

The i-Tree Streets program divides Arizona into three distinct climate zones (Figure 1): Southwest Desert, Interior West and North. This Tree Guide describes trees in the Southwest Desert Climate region as listed in the i-Tree program. This region includes communities located in the Mojave and Sonoran deserts. The region extends south to Mexico bordering western Arizona and eastern California. This guide focuses only on the Arizona portion of the Southwest Desert region.

Users doing an inventory in a city that is near the border of several climate regions should consult the USFS community tree guides at www.fs.fed.us/psw/programs/cufr/ for the reference cities near their study area to compare characteristics (e.g. typical tree species, climate) of the reference city to match with their study area.

This Tree Guide and associated inventory materials, including instructions on how to use the AZ State Forestry database, can be found online at www.azsf.az.gov/azutm.
This tree field guide is designed to aid in the identification of trees commonly found in urban settings of the Southwest Desert region of Arizona. This guide does not contain information on natural setting (e.g. habitat, range, elevation) for each species because this guide is geared for tree identification in an urban setting where trees may have been planted, pruned or supplementally watered. Instead this guide focuses on tree characteristics such as form, leaf, fruit, flower and bark to aid in identification no matter the setting.

Pages 11 and 12 contain information on broad categories of trees that can be recorded during a tree inventory if no other identification can be made. These trees are separated into deciduous broadleaf, deciduous evergreen, conifers, and palms and then further divided by tree size (small, medium, large). Following the broad categories are pages that contain information on specific trees and corresponding identifying characteristics. These pages are grouped by leaf type and then ordered alphabetically by scientific name. Each of these tree pages has a consistent structure to make it easier to locate pertinent information. A leaf icon showing basic leaf type appears on the top right corner of each description box. The scientific name(s) is listed first in italics followed by common name(s) in parentheses. Scientific names with an ‘x’ in the name indicate that the species is a hybrid, or cross, between two other common tree species. Below species name is Family and Species Code, which is a two to six letter/number code in all caps. Each code is composed of the first two letters of the Genus and the first two letters of the species and a numerical identifier if needed (e.g. the code for Pinus eldarica is PIED2). The species code is an easy way to reference trees while in the field without having to record a lengthy scientific or common name. Below the tree name and species code is a list of information that can aid in tree identification, including family, typical height and width, form, leaf, bark, fruit, flower, and commonly associated insect and disease agents. A list of scientific names, common names and species codes appears in the Index at the end of this guide. An expanded guide to the most likely insect and disease agents found in Arizona can be found in the Arizona Urban Tree Insect and Disease Field Guide at www.azsf.az.gov/azutm. This information is meant to be a guide, not an exhaustive description of all tree characteristics. Using leaf type descriptions on page 4 and the dichotomous leaf key on page 5 are the easiest ways to identify a tree. The leaf key presents options related to leaf characteristics that lead to a list of trees and corresponding page numbers. To use the leaf key, determine if the leaf is scaly, needle-shaped or broad. For broad leaves, the next step is to determine if the leaves are simple or compound. Simple leaves are divided into categories based on leaf edges (smooth, serrated or lobed). Compound leaves are divided by leaflet type. This guide does include some technical botanical terms, especially relating to leaf type. A list of technical terms and their definitions can be found in the Glossary (Pg. 71).
**BASIC TREE MEASUREMENTS**

**Diameter at Breast Height**
The most common tree measurement is Diameter at Breast Height, or DBH. DBH refers to the diameter of the trunk 4.5 feet from the ground on the uphill side of the tree and is used to estimate tree volume or weight.

There are several ways to measure DBH. A standard measuring tape does not measure DBH directly, but can be used to measure circumference. Dividing circumference by 3.14 gives the diameter. Calipers can be used, although the most popular tool is a diameter tape, or d-tape. The gradations on a d-tape are already converted from circumference to diameter, which is why it looks different than a standard measuring tape. A third option is a Biltmore stick, a graduated stick much like a yard stick. DBH is measured by holding the stick 25 inches from the eye and at breast height. The left side of the stick is flush with the left side of the tree. The number where the right side of the tree lines up with the stick is the approximate DBH of the tree.

**Height**
A Biltmore stick can also be used to estimate the height of a tree. Height is measured by standing about 65 feet from the tree and holding the stick upright with the back edge of the stick facing the user. The back edge of the stick will be marked with 1, 2, 3, 4, and 5 log markings, indicating the number of 16-foot logs in a tree (i.e. each log equals 16 feet). The bottom of the stick should line up with the bottom of the trunk. The height of the tree is how high the tree goes up on the stick. Another common tool is a clinometer, which uses triangulation to measure tree height.

**Tips for Measuring DBH**

- The tree tapers in such a way that the diameter at a point below 4.5 feet is actually smaller than the diameter at 4.5 feet. Measure the diameter at the smallest point.

- The tree has branches or bumps that interfere with DBH measurement. Measure DBH below the branch or bump, either a foot below or the point where bumps or branches cease to affect diameter of the stem. The underlying concept is to measure the diameter that would be closest to the expected DBH if branches or other irregularities were not present.

- The vertically growing tree is on a slope. Measure the diameter 4.5 feet from the ground on the upper side of the slope.

- The tree leans. Measure 4.5 feet up the stem in the direction of the lean.

- The tree forks below DBH or near DBH. Measure the diameter at the narrowest part of the main stem below the fork.

- The tree splits into several trunks close to ground level. Measure the diameter of each trunk separately, using the principals described above. The DBH for the tree is found by adding each diameter and taking the square root of the sum.
LEAF TYPES

Needles and scaly needles
Needle-like leaves are comparatively long, thin, usually evergreen and most often found on conifers. Needles may be rounded as in pines, flattened as in hemlocks, or scale-like (often triangular-shaped and appressed to the stem) as in junipers and cedars. Needles can be arranged singly or can occur in groups of 2-5 within a fascicle (bundle).

Simple undissected and simple lobed leaves
Simple leaves have a single leaf blade from their point of attachment to the stem. Some simple leaves have leaf margins that are round, elliptical or oval without indentations. These are referred to as simple undissected leaves. Others have a single blade at the point of attachment but have margins that indent - divided into incompletely separated sections (resembling clubs in a deck of cards). These are referred to as simple lobed leaves. Simple undissected and simple lobed leaves may be arranged oppositely or alternately along a stem. Opposite leaves occur directly across from each other while alternate leaves are off-set.

Compound leaves (pinnate or palmate)
A compound leaf is a single leaf that is composed of many small blades (leaflets) that resemble leaves themselves. Each compound leaf has a single point of attachment to the stem. Pinnately compound leaves are the shape of a feather, palmately compound leaves are the shape of a fan or hand.
DICHOTOMOUS LEAF KEY

Scale-Leaved or Needle-Leaved Trees

Scale-Leaved
Leaves scale-like, mostly evergreen

- Shoots distinctly flat
  - *Platycladus orientalis*, Oriental arborvitae, *Thuja orientalis* 18L

- Shoots not flat
  - *Casuarina equisetifolia*, *C. cunninghamiana*, Australian pine 16R
  - *Cupressus sempervirens*, Italian cypress 17L
  - *Juniperus species*, Juniper 17R
  - *Tamarix chinensis*, Fivestamen tamarisk, Saltcedar 18R
  - *Taxodium huegelii*, *Taxodium mucronatum*, Montezuma cypress 19L

Needle-Leaved
Leaves needle-like

- Needles occurring singly (not in clusters/fascicles)
  - None

- Needles in clusters/fascicles of two to three
  - *Pinus species*, Pine 13R
  - *Pinus canariensis*, Canary Island pine 14L
  - *Pinus halepensis*, Aleppo pine 15L

- Needles in clusters/fascicles of five
  - None
Southwest Desert Climate Region

Broad-Leaved Trees

Leaves opposite (or whorled) on the twigs

Leaf edge smooth (entire leaf margin)

Leaves simple, undissected, not compound

Leaves lobed (deeply incised)

Leaves pinnately (feather-like) compound

Leaves palmately (hand-like) compound

Leaves bipinnately (leaflet divided into leaflets) compound

Leaves not linear

Leaves linear (more than twice as long as they are wide)

Chilopsis linearis, Desert willow 20R
Nerium oleander, Oleander 22R
Olea europaea, Olive tree 23L

Lagerstroemia indica, Common crapemyrtle 21L
Ligustrum lucidum, Common, Chinese, Glossy privet 21R
Myrtus communis, Myrtle 22L

Leaf edge toothed (dentate or serrate)

None

Fraxinus uhdei, Evergreen ash 48R
Fraxinus velutina, Velvet ash 49L

Vitex agnus-castus, Chaste tree, Monk’s pepper tree 56R

None
Leaves alternate on the twigs

Leaves simple, undissected, not compound

- Leaf edge smooth (entire leaf margin)
- Leaves linear (more than twice as long as they are wide)
- Fruit woody, bell shaped capsules in clusters
  - Callistemon viminalis, Weeping bottlebrush 27R
  - Eucalyptus species, Gum 29R
  - Eucalyptus camaldulensis, Red gum eucalyptus 30L
  - Eucalyptus leucoxylon, White ironbark 30R
  - Eucalyptus microtheca, Coolibah tree 31L
  - Eucalyptus polyanthemos, Silver dollar gum 31R
  - Eucalyptus rudis, Desert gum eucalyptus 32L
  - Eucalyptus sideroxylon, Red ironbark 32R
  - Eucalyptus spathulata, Swamp mallee 33L
  - Eucalyptus torquata, Coral gum 33R

- Leaf edge toothed (dentate or serrate)
- Leaves not linear
- Fruit other than woody, bell shaped capsules in clusters

Leaves lobed (deeply incised)

- Fruit woody capsules in clusters
  - Acacia species, Acacia 24R
  - Acacia aneura, Mulga 25L
  - Acacia salicina, Willow acacia 25R
  - Acacia saligna, Orange/Blue leaf wattle, 26L
  - Acacia stenophylla, Shoestring acacia 26R
  - Geijera parviflora, Australian willow 34L
  - Thevetia peruviana, Yellow oleander 44L

Leaves compound, dissected leaf blade

- See page 6

- Fruit not woody capsules in clusters
  - Brachychiton populneus, Bottle tree 27L
  - Eucalyptus polyanthemos, Silver dollar gum 31L
  - Eucalyptus rudis, Desert gum eucalyptus 31R
  - Eucalyptus sideroxylon, Red ironbark 32L

- Celtis reticulata, Netleaf hackberry 28L
- Citrus species, Citrus 29R
- Cydonia oblonga, Quince 29L
- Ficus benjamina, Benjamin fig, Weeping fig 34L
- Ficus retusa ssp. nitida, Indian laurel fig 34R
- Magnolia grandiflora, Southern magnolia 35R
Leaves alternate on the twigs

- Leaves simple, undissected, not compound
  - Leaf edge toothed (dentate or serrate)
    - Leaves leathery/rigid
      - Quercus muehlenbergii, Chinkapin oak 41R
      - Quercus suber, Cork oak 41L
      - Quercus virginiana, Live oak 42R
    - Leaves not leathery/rigid
      - Fruit fleshy
        - Bauhinia variegata, Mountain ebony 45R
        - Ficus carica, Common fig 46L
        - Morus alba, White mulberry 46R
        - Platanus racemosa, California sycamore 47L
        - Platanus wrightii, Arizona sycamore 47R
      - Fruit not fleshy
        - Populus species, Cottonwood 36R
        - Populus balsamifera, Balsam poplar 36L
        - Populus fremontii, Fremont cottonwood 37R
        - Salix species, Willow 43L
        - Salix x sepulcralis simonkai, Weeping willow 43R
        - Ulmus parvifolia, Chinese elm 44R

- Leaves compound, dissected leaf blade
  See page 6

Leaves simple, undissected, not compound

- Leaf edge toothed (dentate or serrate)
  - Leaves leathery/rigid
    - Quercus muehlenbergii, Chinkapin oak 41R
    - Quercus suber, Cork oak 41L
    - Quercus virginiana, Live oak 42R
  - Leaves not leathery/rigid
    - Fruit fleshy
      - Bauhinia variegata, Mountain ebony 45R
      - Ficus carica, Common fig 46L
      - Morus alba, White mulberry 46R
      - Platanus racemosa, California sycamore 47L
      - Platanus wrightii, Arizona sycamore 47R
    - Fruit not fleshy
      - Populus species, Cottonwood 36R
      - Populus balsamifera, Balsam poplar 36L
      - Populus fremontii, Fremont cottonwood 37R
      - Salix species, Willow 43L
      - Salix x sepulcralis simonkai, Weeping willow 43R
      - Ulmus parvifolia, Chinese elm 44R

- Leaf edge smooth (entire leaf margin)
  See page 3

- Leaves lobed (deeply incised)

- Leaves compound, dissected leaf blade
  See page 6
Southwest Desert Climate Region

**Broad-Leaved Trees**

Leaves alternate on the twigs

- **Leaves simple, undissected, not compound**
  
  See page 6, 7

- **Leaves pinnately (feather-like) compound**
  
  Tree palm-like (large evergreen leaves spirally arranged at top of stem)
  
  Arecastrum romanzenofianum, Queen palm 67R
  Phoenix canariensis, Canary Island date palm, 68L
  Phoenix dactylifera, Date palm, Arab date 68R

  Tree not palm-like

  Ceratonia siliqua, Carob tree 51L
  Dalbergia sissoo, India rosewood, Sisoo 51R
  Gleditsia triacanthos, Honeylocust 52L
  Olneya tesota, Tesota, Ironwood 53L
  Parkinsonia aculeata, Jerusalem thorn 53R
  Sophora secundiflora, Mescal bean 55L

  Carya illinoinensis, Pecan 50R
  Grevillea robusta, Silk oak 52R
  Pistacia chinensis, Chinese pistache 54L
  Schinus molle, California peppertree 54R

- **Leaves palmately (hand-like) compound**
  
  Tree palm-like (large evergreen leaves spirally arranged at top of stem)
  
  Brahea armata, Mexican blue 69L
  Chamaerops humilis, Mediterranean fan 69R
  Washingtonia filifera, California fan 70L
  Washingtonia robusta, Mexican fan 70R

  Tree not palm-like

  Rhus lancea, African sumac 57R

Leaves compound, dissected leaf blade

- **Leaves compound, dissected leaf blade**
  
  Tree palm-like (leaflet divided into leaflets)
  
  See page 6

- **Leaves bipinnately compound**
  
  Tree palm-like (large evergreen leaves spirally arranged at top of stem)
  
  Tree not palm-like

  Fruit is a bean pod

  Carya illinoinensis, Pecan 50R
  Grevillea robusta, Silk oak 52R
  Pistacia chinensis, Chinese pistache 54L
  Schinus molle, California peppertree 54R

  Fruit is not a bean pod

  Rhus lancea, African sumac 57R
Southwest Desert Climate Region

### Broad-Leaved Trees

**Leaves alternate on the twigs**

- Leaves simple, undissected, not compound
  - See page 6, 7

**Leaves compound, dissected leaf blade**

- Leaves pinnately (feather-like) compound
  - See page 9

- Leaves palmately (hand-like) compound
  - See page 9

**Leaves bipinnately compound (leaflet divided into leaflets)**

- Fruit is a bean pod
  - Jacaranda mimosifolia, Jacaranda 60R
  - Melia azedarach, Chinaberry 61R
  - Acacia species, Acacia 58R
  - Acacia farnesiana, Sweet acacia 59L
  - Albizia julibrissin, Mimosa 60L
  - Lysiloma watsoni, Feather bush 62L

- Young bark is bright green
  - Cercidium praecox, Sonoran palo verde 60R
  - Parkinsonia floridana, Blue paloverde 63L
  - Parkinsonia microphylla, Foothill paloverde 63R

- Young bark is not bright green
  - Flowers arranged in cylindrical spikes (catkins)
    - Acacia millefolia, Santa Rita acacia 59R
    - Ebenopsis ebano, Texas ebony 61L
    - Gleditsia triacanthos, Honeylocust 52L
    - Prosopis species, Mesquite 64L
    - Prosopis alba, Argentine mesquite 64R
    - Prosopis chilensis, Algarrobo, Chilean mesquite 65L
    - Prosopis glandulosa, Honey mesquite 65R
    - Prosopis pubescens, Screwbean mesquite 66L
    - Prosopis velutina, Velvet mesquite 66R
  - Flowers arranged in pompoms (not catkins)

- Fruit is not a bean pod
  - See page 9
Southwest Desert Climate Region

Broadleaf Deciduous

Species code: BDL, BDM, BDS

Broadleaf deciduous trees have broad, flat leaves and are normally leafless at some time during each year. In comparison, conifers (and some others) have leaves resembling needles.

Large (BDL): greater than 40’ at maturity. Examples: sycamore, cottonwood, ash, mulberry, Populus, walnut.

Medium (BDM): 20-40’ at maturity. Examples: palo verde, most mesquite, Albizia, and some Acacia species.

Small (BDS): less than 20’ at maturity. Examples: Prunus, Pyrus, crape myrtle, Texas ebony, pomegranate, Vitex, some Acacia species.

Broadleaf Evergreen

Species code: BEL, BEM, BES

Broadleaf evergreen trees have broad, flat leaves that are normally retained year round. In comparison, conifers (and some others) have leaves resembling needles.

Large (BEL): greater than 40’ at maturity. Examples: Many Eucalyptus species, silk oak, Indian laurel.


Small (BES): less than 20’ at maturity. Examples: Citrus, oleander, Texas mountain laurel, California pepper tree, some Acacia species.
**Southwest Desert Climate Region**

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**Conifer Evergreen**

Species code: CEL, CEM, CES

Conifer evergreen trees bear cones (in lieu of fruits and flowers) and have needle-like or scaly leaves that are normally retained year round. Scaly/needle-leaved flowering plants that are not conifers are included in this category.

**Large (CEL):** greater than 40’ at maturity. Examples: Afghan pine, aleppo pine, atlas cedar, deodar cedar, athel tree, Casuarina, Italian cypress.

**Medium (CEM):** 20-40’ at maturity. Examples: Canary Island pine, pinyon pine, Mexican pinyon pine.

**Small (CES):** less than 20’ at maturity. Examples: Hollywood juniper, Arizona cypress.

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**Palm Evergreen**

Species code: PEL, PEM, PES

Palm evergreen trees have well developed, usually unbranched, erect trunks that normally retain their leaves year round. Leaves are large, simple or most often fan or feather shaped. Flowers (3 part) and fruit ( drupe or nut-like) form on a panicle hanging between leaves.

**Large (PEL):** exceeds 40’ at maturity. Examples: Date palm, Canary Island date palm, California fan palm.

**Medium (PEM):** 20-40’ at maturity. Examples: Queen palm, pindo palm.

**Small (PES):** less than 20’ at maturity. Example: Mediterranean fan palm.
**Clustered Needles**

*Pinus species (Pine)*

- **Family**: Pinaceae  
  **Species code**: PI2
- **Height**: 30-80'  
  **Width**: 15-40'
- **Form**: Generally symmetrical; conical, round or columnar shape
- **Leaf**: Needles either in groups of 2 or 3; light green to dark blue-green
- **Bark**: Furrowed; gray to red-brown
- **Fruit**: Cones from 2-9''
- **Flower**: Insignificant
- **Common Insects/Disease**: Aphids, beetle borers, spider mites, rust, *Phytophthora*, sooty mold and pitch canker
**Pinus canariensis** (Canary Island pine)

- **Family:** Pinaceae
- **Species code:** PICA
- **Height:** 50-80’
- **Width:** 1/3 of the height
- **Form:** Tiered vertical, columnar or conical
- **Leaf:** Dark bluish-green needles, 12” long in bundles of 3
- **Bark:** Red-brown and furrowed
- **Fruit:** Glossy brown cones 4-9” long
- **Flower:** Not significant
- **Common Insects/Disease:** Aphids, beetle borers, spider mites, Phytophthora, sooty mold and pitch canker

**Pinus eldarica** (Afghan pine, Desert pine, Elder pine)

- **Family:** Pinaceae
- **Species code:** PIEL2
- **Height:** 30-50’
- **Width:** 15-25’
- **Form:** Symmetrical and cone-shaped
- **Leaf:** Sheath of paired evergreen needles; 3-6” long; fascicles of 2 or 3; thin and irregularly twisted; bright green to blue green
- **Bark:** Gray and fissured
- **Fruit:** Reddish-brown cone; 5-6” long
- **Flower:** Insignificant
- **Common Insects/Disease:** No significant
**Pinus halepensis** (Aleppo pine)

**Family:** Pinaceae  
**Species code:** PIHA

**Height:** 50'  
**Width:** 20-40'

**Form:** Round to irregular billowing crowns

**Leaf:** Light green needles usually in pairs; 2-4” long

**Bark:** Gray with red-brown; deeply fissured (lower trunk) to flaky (upper trunk)

**Fruit:** Rounded cones; light brown; 2” diameter

**Flower:** Males are cylindrical in a tight cluster at branch tips; females small, reddish purple with loose scales at branch tips

**Common Insects/Disease:** Aleppo pine blight
### SCALY NEEDLES

**Casuarina equisetifolia, C. cunninghamiana**  
(Australian pine)

| Family: | Casuarinaceae  
| Species code: | CAEQ  
| Height: | 40-65’  
| Width: | 20-30’  
| Form: | Upright to spreading  
| Leaf: | Needle-like leaves (jointed branchlets .05-.15")  
| Bark: | Initially smooth, later scaly strips; gray to reddish brown  
| Fruit: | Small cone-like fruit (.5-.75” diameter) with numerous pointed scales; reddish brown  
| Flower: | Light brown; males in slender spikes at branch tips; females in clusters near base of branchlets  
| Common Insects/Disease: | No significant |
**Cupressus sempervirens** (Italian cypress)

**Family:** Cupressaceae  
**Species code:** CUSE  
**Height:** 40-60’  
**Width:** 8-15’  
**Form:** Erect, narrow, tapering column  
**Leaf:** Very small and scale-like; dark-green, dense and fine textured; evergreen  
**Bark:** Light to dark gray; furrowed or smooth  
**Fruit:** Insignificant  
**Flower:** Hard rounded cones, 1” diameter  
**Common Insects/Disease:** Spider mites and Phytophthora

**Juniperus species** (Juniper)

**Family:** Cupressaceae  
**Species code:** JU  
**Height:** 20-50’  
**Width:** 8-20’  
**Form:** Erect, or spreading oval shape  
**Leaf:** Scale-like; blue-green or silver-gray  
**Bark:** Light to dark gray; furrowed or smooth  
**Bark:** Variable; can be blocky, rough and scaly to exfoliating; ridged or striated; light green, gray or red-brown  
**Fruit:** Small (.25-.5”) fleshy, brown or red cone that can look berry-like  
**Flower:** Insignificant  
**Common Insects/Disease:** Aphids, beetle borers, spider mites, spittlebugs and rust
**Platycladus orientalis** (Oriental arborvitae, Thuja orientalis)

- **Family:** Cupressaceae  
  **Species code:** THOR  
- **Height:** 40’  
  **Width:** 20’  
- **Form:** Erect, oval  
- **Leaf:** Scale-like; medium to light green; evergreen  
- **Bark:** Red-brown and scaly or smooth  
- **Fruit:** Brown or blue cones (.5-1.5”) appear in Fall  
- **Flower:** Not a flowering plant  
- **Common Insects/Disease:** Spider mites and Phytophthora

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**Tamarix chinensis** (Fivestamen tamarisk, Saltcedar)

- **Family:** Tamaricaceae  
  **Species code:** TACH2  
- **Height:** 20-40’  
  **Width:** 15-30’  
- **Form:** Single trunk or as a shrub with several spreading erect branches  
- **Leaf:** Small lance-shaped, scale-like leaves which are no more than about .1” long  
- **Bark:** Smooth, reddish brown, numerous lenticels  
- **Fruit:** Small, dry, brown, pointed capsules, .1” long  
- **Flower:** Five petals which are usually pink but range from white to red  
- **Common Insects/Disease:** No significant
Taxodium mucronatum, Taxodium huegelii
(Montezuma cypress)

Family: Taxodiaceae    Species code: TAMU
Height: 60-80’     Width: 20-40’
Form: Erect or weeping
Leaf: Linear and medium to light green; evergreen to partly deciduous
Bark: Red-brown and fissured
Fruit: Brown cone (.5-1.5” long)
Flower: Insignificant
Common Insects/Disease: Beetle borers
**Chilopsis linearis** (Desert willow)

**Family:** Bignoniaceae  
**Species code:** CHLI

**Height:** 30’  
**Width:** 10’

**Form:** Spreading low or high canopy, multi-stemmed, often with a twisted crown

**Leaf:** Alternate and opposite or whorled on the same stem, linear, often slightly curved, 3-5” long

**Bark:** Gray-brown with lighter colored cracks and splits

**Fruit:** Long and thin, slightly twisted brown capsule, 6-12”

**Flower:** Attractive, bell shaped, 1” long, white to pale lavender with purple and yellow streaks inside throat

**Common Insects/Disease:** Fall webworm and Western tent caterpillar
**Lagerstroemia indica** (Common crapemyrtle)

- **Family:** Lythraceae  
  **Species code:** LAIN
- **Height:** 22’  
  **Width:** 22’
- **Form:** Single or multi-stem; spreading and flat-topped
- **Leaf:** Oval bronze or dark green; red, gold, orange or multi-colored in fall
- **Bark:** Smooth, pinkish-gray and mottled; sheds each year
- **Fruit:** Small, brown capsule
- **Flower:** Showy, pink, white or purple
- **Common Insects/Disease:** Aphids, powdery mildew and sooty mold

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**Ligustrum lucidum** (Common, Chinese or Glossy privet)

- **Family:** Oleaceae  
  **Species code:** LILU
- **Height:** 30’  
  **Width:** 20’
- **Form:** Hedge to round-headed tree
- **Leaf:** Dark green, crisp, pointed, elongated oval leaves that curve backwards
- **Bark:** Gray
- **Fruit:** Clusters of dark purple, smaller than pea-sized berries
- **Flower:** Pyramidal clusters of small flowers, whitish, mildly fragrant
- **Common Insects/Disease:** No significant
**Myrtus communis (Myrtle)**

**Family:** Myrtaceae  
**Species code:** MYCO  
**Height:** 15’  
**Width:** 15-20’  
**Form:** Compact and erect or spreading  
**Leaf:** Ovate and glossy; medium green; evergreen  
**Bark:** Red, brown, or gray; scaly or smooth  
**Fruit:** Prolific, blue-black single seeded berry (.25-1.5”) fruiting in fall  
**Flower:** Showy, fragrant, white to pinkish in April and May  
**Common Insects/Disease:** No significant

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**Nerium oleander (Oleander)**

**Family:** Apocynaceae  
**Species code:** NEOL  
**Height:** 20’  
**Width:** 20’  
**Form:** Sprawling shrub or pruned into oval or rounded tree  
**Leaf:** Lanceolate (tapered) to 10” long; dark dull green; evergreen  
**Bark:** Gray, brown or light green; gnarled or smooth  
**Fruit:** Brown or mostly green follicle (.5-1.5” long) with fluffy airborne seeds  
**Flower:** Showy, pink, red, salmon, white or yellow; appear in profusion singly or in pairs at branch tips; some fragrant  
**Common Insects/Disease:** Aphids, scales and sooty mold
**Olea europaea (Olive tree)**

**Family:** Oleaceae  
**Species code:** OLEU  
**Height:** 40-50’ single trunk, 5-30’ multiple  
**Width:** Equal to height  
**Form:** Erect or spreading with a low canopy  
**Leaf:** Ovate and gray-green; evergreen  
**Bark:** Light gray and scaly  
**Fruit:** Prolific black, purple or green drupe (0.5-1.5” long)  
**Flower:** Small, waxy four-petaled flowers in white and yellow clusters  
**Common Insects/Disease:** Scales, anthracnose, sooty mold and Verticillium
Acacia species (Acacia)

Family: Fabaceae  
Species code: ACSP2

Height: 20-40'  
Width: 12-20'

Form: Generally erect or weeping shape with a low canopy

Leaf: Linear to lanceolate undissected leaves

Bark: Variable; can be furrowed, smooth or scaly; light green, brown or light to dark gray; some species with thorns or spines

Fruit: Generally large legume seed pods

Flower: Very small five-petaled flower, almost hidden by the long stamens and arranged in dense clusters; yellow or cream-colored in most species, whitish, purple, or red in some

Common Insects/Disease: Caterpillar
**Acacia aneura** (Mulga)

**Family:** Fabaceae  
**Species code:** ACAN  
**Height:** 20’  
**Width:** 12-20’  
**Form:** Erect or spreading  
**Leaf:** Linear and silver gray; evergreen  
**Bark:** Light green to dark brown and fissured  
**Fruit:** Large, brown pod (1.5-3’’)  
**Flower:** Showy, yellow and rod-shaped  
**Common Insects/Disease:** No significant

**Acacia salicina** (Willow acacia)

**Family:** Fabaceae  
**Species code:** ACSA3  
**Height:** 20-40’  
**Width:** 15’  
**Form:** Spreading or weeping with a low canopy  
**Leaf:** Linear to lanceolate (tapered); blue green or dark green; 6-10’’ long; sometimes cork-screw like  
**Bark:** Smooth, ranging in color from white and grey to red-brown, which is shed in long ribbons  
**Fruit:** Brown pod that varies in size (1-5’’ long and .5’’ wide); somewhat constricted between seeds; curly or flattened  
**Flower:** Numerous clusters (15-25); showy cream, orange or yellow-green color  
**Common Insects/Disease:** No significant
Acacia saligna (Orange wattle, Blue leaf wattle)

- **Family**: Fabaceae  
  **Species code**: ACSA  
- **Height**: 20-30'  
  **Width**: 15-20'  
- **Form**: Spreading or weeping with a low canopy  
- **Leaf**: Linear and blue-green; evergreen  
- **Bark**: Dark brown, furrowed or rough  
- **Fruit**: Brown pod over 3" long  
- **Flower**: Yellow-orange puffballs in spring  
- **Common Insects/Disease**: No significant

Acacia stenophylla (Shoestring acacia)

- **Family**: Fabaceae  
  **Species code**: ACST  
- **Height**: 20'  
  **Width**: 15'  
- **Form**: Erect to bending with an open crown  
- **Leaf**: Linear and gray-green; evergreen  
- **Bark**: Dark gray and furrowed or smooth  
- **Fruit**: Brown pods (over 3" long) that are constricted between seeds  
- **Flower**: Creamy, pale yellow to white puffballs  
- **Common Insects/Disease**: No significant
Brachychiton populneus (Bottle tree)

Family: Malvaceae  
Species code: BRPO

Height: 30-50’  
Width: Up to 30’

Form: Conical shape; erect or spreading with a high canopy

Leaf: Vary in shape: generally ovate; either simple and pointed or having 3-9 lobes; mostly 3” long or less

Bark: Light gray and smooth

Fruit: Large, brown canoe-shaped follicle (1.5-3”) fruiting in summer or fall

Flower: Clusters of bell-shaped, yellow-green flowers with yellowish red inside on short, axillary panicles (on a stalk)

Common Insects/Disease: No significant

Callistemon viminalis (Weeping bottlebrush)

Family: Myrtaceae  
Species code: CAVI

Height: 15-30’  
Width: A third the height

Form: Spreading or weeping, irregular, low canopy, oval or rounded shape

Leaf: Linear and bronze tinged, gray-green or light green; evergreen

Bark: Dark gray and exfoliating or striated

Fruit: Small brown capsule (.25-.5”)

Flower: Showy, red, bottle-brush shaped

Common Insects/Disease: No significant
**Celtis reticulata** (Netleaf hackberry)

- **Family:** Cannabaceae  
  **Species code:** CELAR  
- **Height:** 30-40’  
  **Width:** Up to 30’  
- **Form:** small tree with a short trunk and open wide spreading crown with crooked branches  
- **Leaf:** Alternate, simple, pinnately veined, 2 - 4” long, leathery, ovate in shape, dark green  
  **Bark:** Gray, smooth, becoming corky vertical ridges and/or ring shaped bumps with age  
- **Fruit:** Fleshy, sweet, globose drupe, .25” - .375” in diameter, reddish orange to purple when ripe in late summer  
- **Flower:** Very small (1/8 inch), pale green, appearing in early spring at the base of young leaves.  
- **Common Insects/Disease:** No significant

**Citrus species (Citrus)**

- **Family:** Rutaceae  
  **Species code:** CISP  
- **Height:** 5-30’  
  **Width:** 5-30’  
- **Form:** Spiny small to medium-size trees; either spreading with a low canopy or compact and erect with a round canopy  
- **Leaf:** Ovate, glossy and medium to dark green; evergreen foliage  
- **Bark:** Dark brown to black  
- **Fruit:** Orange, red, yellow or green hesperidium, varying from very large to small (1” key lime to 6” grapefruit)  
- **Flower:** Showy pink or white, waxy, rigid, very fragrant  
- **Common Insects/Disease:** Aphids
Southwest Desert Climate Region

Cydonia oblonga (Quince)

- **Family:** Rosaceae  
  **Species code:** CYOB  
- **Height:** 24’  
  **Width:** 23’  
- **Form:** Single or multiple stems, rounded shape  
- **Leaf:** Oval or oblong and dark green  
- **Bark:** Dark brown or light green and smooth  
- **Fruit:** Green or yellow; soft and fragrant  
- **Flower:** White or pinkish  
- **Common Insects/Disease:** Psyllid, brown rot, chlorosis, fire blight and powdery mildew

Eucalyptus species (Gum)

- **Family:** Myrtaceae  
  **Species code:** EU1  
- **Height:** Variable; 10-150’  
  **Width:** Variable; 18-60’  
- **Form:** Canopy generally makes up little of the height  
- **Leaf:** Commonly form in pairs on opposite sides of a square stem, consecutive pairs being at right angles to each other; waxy or glossy green  
- **Bark:** Varies with age (furrowed or smooth, flaky or hard)  
- **Fruit:** Woody, seed-bearing capsules with valves on top that can be cup, bowl or tube shaped; tend to occur in clusters  
- **Flower:** Numerous fluffy stamens which may be white, cream, yellow, pink or red  
- **Common Insects/Disease:** Beetle borers, thrip, Phytophthora and chlorosis
**Eucalyptus camaldulensis** (Red gum eucalyptus)

- **Family:** Myrtaceae  
  **Species code:** EUCA1
- **Height:** 130-150’  
  **Width:** 20-30’
- **Form:** Erect or spreading with a single vertical stem
- **Leaf:** Juvenile and adult leaves are stalked; adult leaves broad at the base, tapering to the tip
- **Bark:** Smooth and shed in long ribbons; ranging in color from white and grey to red-brown
- **Fruit:** Small, brown or mostly green capsule (.25-.5”) fruiting in summer or fall
- **Flower:** White tendrils
- **Common Insects/Disease:** Beetle borers

**Eucalyptus leucoxylon** (White ironbark)

- **Family:** Myrtaceae  
  **Species code:** EULE
- **Height:** 30-90’  
  **Width:** 18-60’
- **Form:** Erect or weeping; oval shape
- **Leaf:** Falcate (sickle shaped) and 3-6” long; gray-green
- **Bark:** Cream or light green; exfoliating or mottled
- **Fruit:** Small brown or mostly green capsule
- **Flower:** White, pink or red
- **Common Insects/Disease:** Beetle borers
**Eucalyptus microtheca (Coolibah tree)**

Family: Myrtaceae  
Species code: EUMI2  
Height: 30-40’  
Width: Generally greater than height  
Form: Variably upright and irregular in spread  
Leaf: Disjunct, narrowly lanceolate (tapered); 3-6” long and 1” wide; dull grey-green in color  
Bark: Dark grey, thick and furrowed  
Fruit: Small seed capsules  
Flower: Small creamy flowers  
Common Insects/Disease: Beetle borers

**Eucalyptus polyanthemos (Silver dollar gum eucalyptus)**

Family: Fabaceae  
Species code: EUPO  
Height: 20-80’  
Width: 20-45’  
Form: Single, crooked stem  
Leaf: Juvenile leaves are round and grey-green; adult leaves are ovate, between 2-4” long and .75-2” wide with long petioles  
Bark: Smooth or fibrous; grey or green in color  
Fruit: Pear-shaped with enclosed valves  
Flower: Whitish to pink and fragrant  
Common Insects/Disease: Beetle borers
**Eucalyptus rudis** (Desert gum eucalyptus)

*Family:* Myrtaceae  
*Species code:* EURU  
*Height:* 30-65’  
*Width:* 25-40’  
*Form:* Large and upright with a rounded canopy  
*Leaf:* Stalked, alternate, ovate to round; slightly discolourous and dull grey-green; broad at base narrowing to point; reddish petioles and stems  
*Bark:* Blackish or gray; rough on trunk and larger branches; smooth and exfoliating on smaller branches  
*Fruit:* Small capsule containing seeds (.25” long)  
*Flower:* White or cream colored and a feather duster shape  
*Common Insects/Disease:* Beetle borers, thrip and Phytophthora

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**Eucalyptus sideroxylon** (Red ironbark)

*Family:* Fabaceae  
*Species code:* EUSI  
*Height:* 50-80’  
*Width:* 25-30’  
*Form:* Single stem  
*Leaf:* Lanceolate (tapered); up to 8” long and .75” wide  
*Bark:* Gray and deeply fissured  
*Fruit:* Oblong, flat, thin, strap-like pods; 1.5-3” long and .4” wide; light brown  
*Flower:* White, pink, red or pale yellow  
*Common Insects/Disease:* Beetle borers, thrip, chlorosis and Phytophthora
**Eucalyptus spathulata** (Narrow-leaved gimlet, Swamp mallee)

- **Family:** Myrtaceae  
- **Species code:** EUSP  
- **Height:** 20’  
- **Width:** 20’

- **Form:** Erect or spreading with an oval canopy shape
- **Leaf:** Lanceolate (tapered) to linear; ribbon-like and bright green; evergreen foliage
- **Bark:** Smooth and reddish brown
- **Fruit:** Brown or green capsule (.25-.5”)
- **Flower:** Cream or yellow with showy stamens

**Common Insects/Disease:** Beetle borers

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**Eucalyptus torquata** (Coral gum)

- **Family:** Myrtaceae  
- **Species code:** EUTO11  
- **Height:** 10-35’  
- **Width:** Nearly equal to height

- **Form:** Erect or weeping
- **Leaf:** Lanceolate (tapered) with blunt, pointed tip; 3” long; gray to light green
- **Bark:** Smooth, ranging in color from white and grey to red-brown, which is shed in long ribbons
- **Fruit:** Small (.5”) purple or red capsule on a short stalk
- **Flower:** Showy, red or yellow; approximately 1” across

**Common Insects/Disease:** Beetle borers and Phytophthora
**Ficus benjamina** (Benjamin fig, Weeping fig)

*Family:* Moraceae  
*Species code:* FIBE  
*Height:* 45-60’  
*Width:* 60-80’  
*Form:* Symmetrical weeping or round shape with a spreading and dense crown  
*Leaf:* Glossy, pointed, oval to elliptic leaves up to 4” long  
*Bark:* Smooth and pale gray-brown  
*Fruit:* Round, fleshy and red; under .5”  
*Flower:* Non-descript  
*Common Insects/Disease:* No significant

**Ficus retusa ssp. nitida** (Indian laurel fig)

*Family:* Moraceae  
*Species code:* FIRE4  
*Height:* 30-65’  
*Width:* 30’  
*Form:* Spreading, rounded or vase shape  
*Leaf:* Glossy, oval, dark green, leathery leaves alternate up the stem; densely clothed on large, somewhat weeping branches  
*Bark:* Smooth and grey; trunk can grow to 3’ in diameter  
*Fruit:* Small, yellowish-white to green rounded nut  
*Flower:* Small, red flower; insignificant  
*Common Insects/Disease:* Scales and thrip
Geijera parviflora (Australian willow)

**Family:** Rutaceae  
**Species code:** GEPA  
**Height:** 30’  
**Width:** 20’  
**Form:** Spreading or weeping with a low canopy  
**Leaf:** Lanceolate (tapered) to linear with prominent midvein; medium green; up to 6” long  
**Bark:** Gray and deeply fissured  
**Fruit:** Small red or yellow drupe  
**Flower:** Small creamy yellow or white flowers in terminal branched clusters  
**Common Insects/Disease:** Phytophthora

Magnolia grandiflora (Southern magnolia)

**Family:** Magnoliaceae  
**Species code:** MAGR  
**Height:** 80’  
**Width:** 70’  
**Form:** Erect or spreading and requires ample growing space  
**Leaf:** Elliptic to broadly ovate and glossy dark green  
**Bark:** Gray and rough; furrowed in thick plates  
**Fruit:** Very large purple or red follicle  
**Flower:** Showy, fragrant and white  
**Common Insects/Disease:** Aphids, scales, spider mites and Verticillium
**Malus species (Apple)**

Family: Rosaceae  
Species code: MA2  
Height: 13-40’  
Width: 20-25’  
Form: Erect or spreading with a low, oval or umbrella canopy  
Leaf: Simple, alternate leaf with a serrated margin; 1-4” long  
Bark: Gray, brown or reddish-brown; young trees are smooth while older trees have knotty bark  
Fruit: Prolific red, yellow or mostly green pome (typical apple)  
Flower: Flat-topped cluster of 5 petals; may be white, pink or red with a darker bud emerging in April or May  
Common Insects/Disease: Aphids, beetle borers, coddling moths and psyllid, brown rot, canker, crown rot, powdery mildew, scab and sooty mold

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**Populus species (Cottonwood)**

Family: Salicaceae  
Species code: PO  
Height: 60-100’  
Width: 20-100’  
Form: Large open-crowned tree with massive trunk and branches  
Leaf: Simple, lanceolate (tapered) and glossy; 2-3” across; light to medium green  
Bark: Thick gray or brown bark with deep horizontal grooves  
Fruit: Female cottonwoods produce fluffy, white, cotton-like covered seeds  
Flower: Dioecious; catkins on males  
Common Insects/Disease: Wood decay, fall webworm, leaf blight, Western tent caterpillar and epidermal miners
Southwest Desert Climate Region

Populus balsamifera (Balsam poplar)

- **Family:** Salicaceae  
  **Species code:** POBAB2
- **Height:** 65’  
  **Width:** 20-40’
- **Form:** Straight and cylindrical with an open crown
- **Leaf:** Ovate or broadly lanceolate; shiny green above and pale green below with finely toothed margins
- **Bark:** Smooth and light gray to gray-brown; furrows with age
- **Fruit:** Small brown capsule (.25-.50” long) containing numerous small seeds; fruiting in May-July
- **Flower:** Clusters are 2-3.5” with many small flowers; male flowers have 20-30 reddish stamens, female catkins are 4-6”
- **Common Insects/Disease:** Aphids, beetle borers, scales, thrip, anthracnose, canker, mistletoe and sooty mold

Populus fremontii (Fremont cottonwood)

- **Family:** Salicaceae  
  **Species code:** POFR
- **Height:** 20-90’  
  **Width:** 30-50’
- **Form:** Erect or spreading single stem
- **Leaf:** Cordate (heart-shaped); 1.2-2.8” with an elongated tip; white veins and coarse crenate teeth along the sides
- **Bark:** Smooth when young, becoming deeply fissured with whitish cracked bark on older trees
- **Fruit:** Wind dispersed achene (like hanging patches of cotton)
- **Flower:** Long drooping catkin, blooms from March to April
- **Common Insects/Disease:** Aphids, beetle borers, anthracnose, fall webworm, Western tent caterpillar, and mistletoe
Prunus species (Plum)

Family: Rosaceae    Species code: PR
Height: Generally between 12-30’    Width: Equal to height
Form: Low crown with spreading branches; some with thorn-like side branches
Leaf: Simple, alternate, usually lanceolate (tapered), unlobed and often with nectaries (glands) on the leaf stalk
Bark: Smooth and marked by lines running around the stem
Fruit: Fleshy drupe (a “prune”) with a single large, hard-coated seed (a “stone”)
Flower: White to pink, may be red; 5 petals and 5 sepals
Common Insects/Disease: Aphids, beetle borers, spider mites, rust, sooty mold and Verticillium

Prunus armeniaca (Apricot)

Family: Rosaceae    Species code: PRAR
Height: 25’    Width: 20-50’
Form: Erect or spreading with a low canopy
Leaf: Round to ovate and light green
Bark: Bronze or light green; furrowed or scaly
Fruit: Prolific large orange drupe
Flower: Showy, pink or white
Common Insects/Disease: Aphids, beetle borers, scales, thrip, canker, powdery mildew, sooty mold and Verticillium
Prunus cerasifera (Cherry plum)

Family: Rosaceae  
Species code: PRCE  
Height: 15-30’  
Width: 15-25’  
Form: Single stem  
Leaf: Ovate, elliptic or obovate; thin, serrate leaves up to 2.5”  
Bark: Dark brown and furrowed  
Fruit: Small berries  
Flower: White, showy, fragrant flowers  
Common Insects/Disease: Aphids, beetle borers, caterpillars, scales, spider mites, rust, sooty mold and Verticillium

Prunus dulcis (Sweet almond)

Family: Rosaceae  
Species code: PRDU  
Height: 13-30’  
Width: Up to 20’  
Form: Rounded with low canopy; branches erect or horizontally spreading with many short branchlets  
Leaf: Alternate and finely-toothed (serrate); 3-5” long and 1-2.5” wide; often with glands on the petiole (leaf stalk)  
Bark: Greyish and furrowed  
Fruit: Fuzzy, down-covered drupe (outer hull with hard shell and seed inside); fruit held close to the branch  
Flower: White to pink, single or in pairs, with 5 or more petals; flowers are short-stalked and held close to the branch  
Common Insects/Disease: Bacterial cankers, fungal cankers and anthracnose
Prunus persica (Peach)

Family: Rosaceae  
Species code: PRPE2

Height: 10-30'  
Width: 10-15'

Form: Erect or spreading with low canopy and single or multiple stems

Leaf: Simple and alternate; 2-4” long; dark green

Bark: Light green to gray and scaly

Fruit: Yellow or whitish flesh with a delicate aroma and a skin that is either velvety or smooth

Flower: Pink with burgundy striations

Common Insects/Disease: Aphids, beetle borers, husk fly, scales, canker, leaf blight, Phytophthora, powdery mildew, rust, sooty mold and Verticillium

Pyrus communis (Common pear)

Family: Rosaceae  
Species code: PYCO

Height: 25-30'  
Width: 12-20'

Form: Single stem, upright branching and pyramidal form

Leaf: Simple, alternate and ovate with finely serrated margins; 1-4” long; shiny green above, paler and dull below

Bark: Gray-brown to reddish brown, becoming grayish brown with shallow furrows and flat-topped scaly ridges

Fruit: Medium to large golden-yellow pear

Flower: Clusters of showy white flowers, each .5-.75” across

Common Insects/Disease: Fireblight, particularly in years with warm and wet spring weather; anthracnose, canker, scab and powdery mildew
**Pyrus kawakamii (Evergreen pear, Chinese evergreen pear)**

*Family:* Rosaceae  
*Species code:* PYKA  
*Height:* 25’  
*Width:* 25’  
*Form:* Spreading with low, rounded canopy unless trained as a tree  
*Leaf:* Elliptic to ovate and glossy medium green  
*Bark:* Dark brown or light green and blocky  
*Fruit:* Small, brown or green pome (less than .25") fruiting in spring or summer  
*Flower:* Showy white clusters  
*Common Insects/Disease:* Aphids and sooty mold

**Quercus muehlenbergii (Chinkapin oak)**

*Family:* Fagaceae  
*Species code:* QUMU  
*Height:* 20-70'  
*Width:* 50-70'  
*Form:* Single trunk dividing into many branches  
*Leaf:* Alternate, glossy, oblong to slightly obovate with deeply or shallowly crenate (rounded) margins  
*Bark:* Light to dark gray; flaky to papery with deep, irregular furrows  
*Fruit:* Small chestnut brown to nearly black acorn (up to .75" long), singly or in pairs; ripens in September or October  
*Flower:* Insignificant monoecious yellowish-green flowers  
*Common Insects/Disease:* Anthracnose, oak wilt, acorn weevils, spittlebugs and gypsy moth
**Quercus suber (Cork oak)**

- **Family:** Fagaceae  
  - **Species code:** QUSU  
- **Height:** 40-65’  
  - **Width:** Generally equal to height  
- **Form:** Erect or spreading; medium-sized with single stem  
- **Leaf:** Weakly lobed or coarsely toothed; 1.6-2.8” long; dark green above, paler beneath; leaf margins often downcurved  
- **Bark:** Gray, deeply fissured and loosely attached  
- **Fruit:** Acorns are .8-1.2” long, in a deep cup fringed with elongated scales  
- **Flower:** Insignificant  
- **Common Insects/Disease:** Phytophthora and spittlebugs

**Quercus virginiana (Live oak)**

- **Family:** Fagaceae  
  - **Species code:** QUVI  
- **Height:** 50’  
  - **Width:** Generally greater than height  
- **Form:** Erect or spreading with a high canopy  
- **Leaf:** Elliptic to ovate and glossy dark green  
- **Bark:** Gray or brown/black and furrowed longitudinally  
- **Fruit:** Medium brown acorn  
- **Flower:** Insignificant  
- **Common Insects/Disease:** Spider mites, spittlebugs, insect galls and Phytophthora
**Salix species (Willow)**

- **Family:** Salicaceae  
  **Species code:** SA
- **Height:** 40-65'  
  **Width:** 35-45'
- **Form:** Single or branching stem
- **Leaf:** Alternate leaves about 2-4.5" long and .25-.75" wide; 
  occur along the twigs and shoots; narrowly elliptic or 
  lanceolate in shape and finely serrated along margins
- **Bark:** Gray, rough and deeply fissured
- **Fruit:** Small brown capsule, fruiting in summer
- **Flower:** Male flowers arranged in narrowly cylindrical catkins 
  about 1-2.5" long
- **Common Insects/Disease:** Aphids, fall webworm and Western 
  tent caterpillar

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**Salix x sepulcralis Simonkai (Weeping willow)**

- **Family:** Salicaceae  
  **Species code:** SABA
- **Height:** Up to 40'  
  **Width:** Up to 40'
- **Form:** Spreading crown; trunk often splits low to the ground
- **Leaf:** Simple, alternate, lanceolate (tapered) to narrowly 
  ovate and finely serrated; 2-4" long; shiny green above, 
  white-ish and silky below
- **Bark:** Grayish brown; irregularly furrowed into narrow ridges
- **Fruit:** 1-2" long cluster of valve-like, light brown capsules, 
  containing many fine, cottony seeds
- **Flower:** Upright, yellowish, fuzzy catkins, 1.5-2" long, 
  appearing before or with the leaves
- **Common Insects/Disease:** Fall webworm
Thevetia peruviana, Thevetia nereifolia, Cascabela thevetia (Luckynut, Yellow oleander, “Be-still” tree)

- **Family:** Apocynaceae  
  **Species code:** THPE3  
- **Height:** 8-20’  
  **Width:** 8-20’  
- **Form:** Shrub or spreading small tree (if trained)  
- **Leaf:** Shiny, dark green, narrow and linear up to 6” long  
- **Bark:** Dark or light gray and rough  
- **Fruit:** Hard, angular drupe that is green then red and later turns black; .5-1.5”  
- **Flower:** Showy, fragrant, apricot-colored flowers, 2” across; appear in clusters almost year round  
- **Common Insects/Disease:** No significant

Ulmus parvifolia (Chinese elm)

- **Family:** Ulmaceae  
  **Species code:** ULPA  
- **Height:** 40-60’  
  **Width:** 25-40’  
- **Form:** Single stem  
- **Leaf:** Small, lustrous green, single-toothed leaves (.75-2” long and .75-1.25” wide)  
- **Bark:** Mottled greys with tans and reds  
- **Fruit:** Samara; elliptic to ovate; 4-5” long and 2.25-3.25” wide  
- **Flower:** Greenish yellow in late summer  
- **Common Insects/Disease:** Aphids, beetle borers, caterpillars, scales, Dutch elm disease, sooty mold and Verticillium
**Bauhinia variegata** (Mountain ebony)

**Family:** Fabaceae  
**Species code:** BAVA  
**Height:** 30-40’  
**Width:** 20-30’  
**Form:** Spreading with a low, rounded or umbrella-shaped canopy  
**Leaf:** Long, broad, rounded, and bilobed at base and apex  
**Bark:** Rough gray/brown; appears to grow in strips  
**Fruit:** Flattened pod, green and transparent when young, drying to blackish-brown  
**Flower:** Pure white to deep pink, usually with a dark purple-red center on the upper petal  
**Common Insects/Disease:** Aphids
**Ficus carica (Common fig)**

**Family:** Moraceae  
**Species code:** FICA  
**Height:** 25’  
**Width:** 25’  
**Form:** Broadly spreading shrub or small tree  
**Leaf:** Simple, alternate; about 5” in diameter but sometimes larger; palmately lobed with (usually) 5 finger-like lobes; dark green above and lighter green below  
**Bark:** Smooth and silvery gray, somewhat warty  
**Fruit:** An edible fig, 1-2”; commonly purple-brown but can range from yellow to black; pear- or onion-shaped  
**Flower:** Small, not showy; green, fleshy and rounded; located on the inner surface of a hollow receptacle  
**Common Insects/Disease:** Canker and fusarium

**Morus alba (White mulberry)**

**Family:** Moraceae  
**Species code:** MOAL  
**Height:** 30-50’  
**Width:** 30-50’  
**Form:** Spreading with a high canopy  
**Leaf:** Ovate to cordate (heart shaped) and sometimes lobed; dark green; gold in fall  
**Bark:** Light green and fissured  
**Fruit:** Prolific black, purple or white multiple fruit drupelets; .5-1.5” and edible; fruiting in summer  
**Flower:** Usually dioecious; male catkins are narrow, small (1-2” long); female flowers are plump and 1” long  
**Common Insects/Disease:** Beetle borers, caterpillars, spider mites, white fly, chlorosis and crown rot
**Platanus racemosa (California sycamore)**

**Family**: Platanaceae  
**Species code**: PLRA  
**Height**: 75’  
**Width**: 20-50’  
**Form**: May have 2 or more trunks splitting into many branches  
**Leaf**: Large palmately lobed leaves up to 9.75” wide; 3 or 5 pointed lobes; range from bright green, brown or red in fall  
**Bark**: Cream, light brown or light green; smooth or furrowed and exfoliating  
**Fruit**: Brown or mostly green achene; .5-1.5”  
**Flower**: Yellow  
**Common Insects/Disease**: Leaf miner, scales, spider mites, Phytophthora, mistletoe and anthracnose

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**Platanus wrightii (Arizona sycamore)**

**Family**: Platanaceae  
**Species code**: PLWR2  
**Height**: 50-100’  
**Width**: Up to 55’  
**Form**: Single vertical trunk produces a high number of branches that grow in every direction  
**Leaf**: Alternate, simple and 6-9” long; somewhat star-shaped with 3-5 pointed lobes; swollen petiole base; green above, pale green and fuzzy below  
**Bark**: Exfoliating white with patches of brown  
**Fruit**: Seeds that hang on flowers from stalks  
**Flower**: Red flowers that grow in bunches of 2-4  
**Common Insects/Disease**: Leaf miner, scales, spider mites and anthracnose
### Fraxinus uhdei (Evergreen ash)

**Family:** Oleaceae  
**Species code:** FRUH  
**Height:** 80'  
**Width:** 60'  
**Form:** Erect or spreading and requires ample growing space  
**Leaf:** Pinnately compound and odd; glossy dark green  
**Bark:** Light gray and fissured  
**Fruit:** Medium sized yellow or mostly green winged seed (.5-1.5") fruiting in summer or fall  
**Flower:** Insignificant; flowers in spring  
**Common Insects/Disease:** Aphids, scales, white fly, fusarium, fall webworm and sooty mold

**PINNATELY COMPOUND**  
**OPPOSITE LEAVES**
Fraxinus velutina (Velvet ash)

Family: Oleaceae  
Species code: FRVE

Height: 50’  
Width: 20-50’

Form: Single stem splitting into several large branches

Leaf: Pinnately compound; usually 3-5 leaflets per leaf, leaflets .75-2.5” long; upper surface glossy green, lower surface soft and velvety

Bark: Light gray and fissured

Fruit: Yellow or mostly green winged seed

Flower: Produced in small clusters in early spring

Common Insects/Disease: Beetle borers, fall webworm, spider mites, white fly, anthracnose, mistletoe and Verticillium
Carya illinoiinensis (Pecan)

Family: Juglandaceae  Species code: CAIL
Height: 66-130’  Width: 35-75’
Form: Spreading, oval or rounded shape; single stem
Leaf: Pinnate with 9-17 leaflets, each leaflet 2-4.7” long; narrow, pointed, and curved at the tip with tooth margins; yellow-green above and paler below
Bark: Dark brown or dark gray; furrowed, ridged or scaly
Fruit: Large (1.5-3”), brown nut in a husk; fruiting in fall
Flower: Male catkins up to 7” long and hanging; female catkins are small with 3-6 flowers clustered together
Common Insects/Disease: Aphids, beetle borers, beetle grubs and caterpillars, chlorosis, mistletoe, Phytophthora, sooty mold and Verticillium
**Ceratonia siliqua (Algarrobo europeo, Carob tree)**

- **Family**: Fabaceae
- **Species code**: CESI3
- **Height**: 35’
- **Width**: 67’
- **Form**: Round and spreading canopy; coarsely branched with a single stem
- **Leaf**: Pinnately compound and alternate; glossy dark green; 4-6” long with leaflets in pairs of 2 or 3
- **Bark**: Dark brown and scaly
- **Fruit**: Large brown pod
- **Flower**: Red with unpleasant fragrance
- **Common Insects/Disease**: No significant

**Dalbergia sissoo (India rosewood, Sisoo)**

- **Family**: Fabaceae
- **Species code**: DASI
- **Height**: 80’
- **Width**: Nearly equal to height
- **Form**: Single stem
- **Leaf**: Pinnately compound and alternate; leathery and approximately 6” long
- **Bark**: Gray and deeply fissured
- **Fruit**: Oblong, flat, thin, strap-like pods; 1.6-3.1” long and .4” wide; light brown
- **Flower**: Whitish to pink and fragrant
- **Common Insects/Disease**: Gunner bees and whiteflies; fusarium wilt is rare
Gleditsia triacanthos (Honeylocust)

Family: Fabaceae  Species code: GLTR
Height: 50-80’  Width: 50-80’
Form: Erect or spreading with a single stem
Leaf: Pinnately compound on older trees but bipinnately compound on young trees
Bark: Black or dark brown and furrowed, ridged or scaly; wild specimens may have simple and branched thorns up to 8” long on the trunk
Fruit: Very large (over 3”) flat brown pod; matures in early fall
Flower: Strongly scented and cream-colored
Common Insects/Disease: Caterpillars, insect galls, pod gall midge and spider mites, mistletoe and Phytophthora

Grevillea robusta (Silk oak)

Family: Proteaceae  Species code: GRRO
Height: 30-80’  Width: 30-40”
Form: Single verticle stem
Leaf: Bipinnate and delicately dented; dark green; reminiscent of a fern frond
Bark: Gray, irregular and deeply fissured
Fruit: Woody, boat-shaped follicles
Flower: Horizontal, one-sided, brush-like inflorescences; orange-yellow
Common Insects/Disease: Phytophthora and scales
**Southwest Desert Climate Region**

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### Olneya tesota (Tesota, Ironwood)

**Family:** Fabaceae  
**Species code:** OLTE  
**Height:** 15-30’  
**Width:** Equal to height  
**Form:** Erect or spreading and rounded or vase-shaped with a low canopy  
**Leaf:** Pinnately compound, even and gray-green; evergreen  
**Bark:** Light gray, scaly and striated; branches thorny in youth  
**Fruit:** Light brown or green pod (1.5-3” long)  
**Flower:** Clusters of lavender-pink pea-shaped flowers in spring  
**Common Insects/Disease:** No significant

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### Parkinsonia aculeata (Jerusalem thorn)

**Family:** Fabaceae  
**Species code:** PAAC  
**Height:** 25’  
**Width:** 15-25’  
**Form:** Rounded, umbrella or vase form with low spreading or weeping canopy  
**Leaf:** Bipinnately compound and medium green  
**Bark:** Green or red-brown; scaly or smooth  
**Fruit:** Large brown pod (over 3”) fruiting in fall  
**Flower:** Showy, fragrant, yellow flowers in spring or summer  
**Common Insects/Disease:** No significant
Pistacia chinensis (Chinese pistache)

Family: Anacardiaceae  Species code: PICH
Height: 50-100’  Width: 20-50’
Form: Umbrella top, coarse branch architecture, oval to rounded high canopy
Leaf: Alternate and 1.5” long with leaflets in 6-10 pairs; leaflets reaching 1-2 .5” long and .75” wide
Bark: Dark brown, light gray or light green; furrowed or scaly
Fruit: The female produces a small, round (.25” diameter) orange to red nut
Flower: Red
Common Insects/Disease: Phytophthora and Verticillium

Schinus molle (California peppertree)

Family: Fabaceae  Species code: SCMO
Height: 26’  Width: 25-40’; generally greater than height
Form: Single stem with an open, spreading canopy
Leaf: Pinnately compound with 19-41 alternate leaflets
Bark: Rough and fissured; grayish; drips sap
Fruit: Round drupes with woody seeds that turn from green to red, pink or purplish and grow in dense clusters
Flower: Yellow-green or greenish-white conical panicles
Common Insects/Disease: Aphids, psyllid, scales, thrip, Phytophthora, sooty mold and Verticillium
**Sophora secundiflora** (Mescal bean, Texas mountain laurel)

- **Family:** Fabaceae
- **Species code:** SOSE
- **Height:** 20-30’
- **Width:** 20’
- **Form:** Erect or spreading with a low canopy
- **Leaf:** Pinnately compound and even; obovate leaflets that are glossy dark green; evergreen foliage
- **Bark:** Light green to dark brown; furrowed or scaly
- **Fruit:** Silver-gray woody pods; more than 3” long; bright red seeds
- **Flower:** Fragrant blue, purple or white flowers in 8” clusters
- **Common Insects/Disease:** No significant
Vitex agnus-castus (Chaste tree, Monk’s pepper tree)

Family: Verbenaceae  Species code: VIAG
Height: 15-25'  Width: 10-20'
Form: Spreading with a low canopy
Leaf: Palmately compound opposite; 2-6” across; usually 5 leaflets per leaf (sometimes 7); leaflets mostly lanceolate with entire margins; dark and shiny green above and pale pubescent below; very aromatic when crushed
Bark: Dark or light gray; blocky, furrowed or smooth
Fruit: Small, black drupe
Flower: Spikes of lavender flowers in late summer
Common Insects/Disease: No significant

Palmately compound opposite leaves

[Images of the plant and flowers]
**Rhus lancea (African sumac)**

**Family:** Anacardiaceae  
**Species code:** RHLA  
**Height:** 30-40'  
**Width:** Slightly greater than height  
**Form:** Spreading or weeping with a low canopy  
**Leaf:** Trifoliate (3 leaflets); leaflets are narrow and lanceolate (tapered), up to 4’; light green when young, growing darker when mature  
**Bark:** Gray and deeply fissured  
**Fruit:** Small, red or yellow drupe, usually hidden under canopy  
**Flower:** Insignificant, greenish in winter; musty fragrance  
**Common Insects/Disease:** Aphids
Acacia species (Acacia)

**Family:** Fabaceae  
**Species code:** ACSP2

**Height:** 20-40'  
**Width:** 12-20'

**Form:** Generally erect or weeping shape with a low canopy

**Leaf:** Small, finely divided leaflets that give the leafstalk a feathery or fernlike (i.e. bipinnate) appearance

**Bark:** Variable; can be furrowed, smooth or scaly; light green, brown or light to dark gray; some species with thorns or spines

**Fruit:** Generally large legume seed pods

**Flower:** 5 very small petals, almost hidden by the long stamens and arranged in dense clusters; yellow or cream-colored in most species, whitish, purple, or red in some

**Common Insects/Disease:** Caterpillar
Acacia farnesiana (Sweet acacia)

- **Family:** Fabaceae  
  **Species code:** ACFA  
- **Height:** 25’  
  **Width:** Generally greater than height  
- **Form:** Stems erect or ascending; armed with thorns, spines or prickles  
- **Leaf:** Bipinnately compound; blue green or dark green  
- **Bark:** Dark brown, dark gray, light gray or light green; scaly or smooth  
- **Fruit:** Light brown pods  
- **Flower:** White or yellow  
- **Common Insects/Disease:** Caterpillars

Acacia millefolia (Milfoil wattle, Santa Rita acacia)

- **Family:** Fabaceae  
  **Species code:** ACMI  
- **Height:** 12’  
  **Width:** 15’  
- **Form:** Rounded  
- **Leaf:** 6” long, light green, divided into 5-10 pairs of leaflets each 1” long, which are further divided into 20-30 leaflets; leaves arch gracefully downward  
- **Bark:** Light gray and furrowed  
- **Fruit:** Papery light brown/tan pods 4” long by .5” wide  
- **Flower:** Cream color and arranged in spikes that are 2” long and .5” wide  
- **Common Pests/Diseases:** No significant
Albizia julibrissin (Mimosa)

- **Family:** Fabaceae  
- **Species code:** ALJU  
- **Height:** 15-40'  
- **Width:** 20'  
- **Form:** Spreading with a low, rounded canopy  
- **Leaf:** Fern-like, 5-8" long and 3-4" wide; alternate along the stems; finely divided into 6-12 pairs of pinnae, each with 20-30 pairs of leaflets  
- **Bark:** Dark greenish grey; striped vertically when older  
- **Fruit:** Flat brown pod containing several seeds; 4-7.75" long and .75-1" wide  
- **Flower:** Fragrant pink with white base, 1.5" long resembling pom-poms; arranged in panicles at ends of branches  
- **Common Insects/Disease:** Caterpillars and fusarium

Cercidium praecox (Sonoran palo verde)

- **Family:** Fabaceae  
- **Species code:** CEPR  
- **Height:** 10-30'  
- **Width:** generally greater than height  
- **Form:** Single or multiple stems; erect or spreading, round shape  
- **Leaf:** Small, pinnately compound leaves  
- **Bark:** Green and smooth  
- **Fruit:** Light brown pods  
- **Flower:** Brilliant yellow flowers  
- **Common Insects/Disease:** No significant
**Ebenopsis ebano, Pithecellobium flexicaule**  
(Texas ebony)

*Family:* Fabaceae  
*Species code:* EBEB  
*Height:* 30’  
*Width:* 15’  
*Form:* Spreading oval or vase-shaped  
*Leaf:* Pinnately compound, even and deep green; evergreen  
*Bark:* Smooth and gray  
*Fruit:* Brown woody pods 4-6” long; edible  
*Flower:* Creamy-yellow catkin-like flowers in dense clusters  
*Common Insects/Disease:* Palo verde beetle borers

**Jacaranda mimosifolia** (Jacaranda)

*Family:* Bignoniaceae  
*Species code:* JAMI  
*Height:* 16-50’  
*Width:* 15-60’  
*Form:* Spreading, arching vase-shaped crown (commonly pruned into one dominant trunk in urban areas)  
*Leaf:* Alternate, bipinnately compound, 8-15” long, 13-25 pairs of major leaflets with a similar number of minor leaflets  
*Bark:* Thin; gray-brown; smooth when young, scaly when older  
*Fruit:* Round, flat, reddish brown, woody capsule, 1.5-2” in diameter, containing numerous small winged seeds  
*Flower:* Lavender, tubular, 1” long, appearing in dense 6-10” terminal clusters in spring  
*Common Insects/Disease:* Phytophthora and aphids
**Southwest Desert Climate Region**

**Lysiloma microphylla var. thornberi, Lysiloma watsoni** (Feather bush)

**Family:** Fabaceae  
**Species code:** LYMI  
**Height:** 15-20’ (5’ in frost conditions)  
**Width:** 25’ (5’ in frost)  
**Form:** Erect or spreading, rounded to vase shape  
**Leaf:** Pinnately compound, odd and medium to light green  
**Bark:** Dark or light gray; scaly or smooth  
**Fruit:** Flat brown pods 4-8” long, appear in fall and remain on tree for long periods  
**Flower:** Creamy white clusters of puffballs  
**Common Insects/Disease:** No significant

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**Melia azedarach** (Chinaberry)

**Family:** Meliaceae  
**Species code:** MEAZ  
**Height:** 50’  
**Width:** 20-50’  
**Form:** Single stem branching into several with a rounded crown  
**Leaf:** Alternate, long-petioled, two or three times compound (odd-pinnate); the leaflets are dark green above and lighter green below, with serrate margins  
**Bark:** Purplish to reddish  
**Fruit:** Marble-sized drupe that is light yellow at maturity  
**Flower:** Purple or white  
**Common Insects/Disease:** No significant
**Parkinsonia florida** (Blue paloverde)

- **Family:** Fabaceae  
  **Species code:** CEFL  
- **Height:** 40’  
  **Width:** Equal to or greater than height  
- **Form:** Multi-trunk deciduous tree  
- **Leaf:** Bipinnate leaves, each segment having only 2-4 pairs of relatively large leaflets  
- **Bark:** Green  
- **Fruit:** Pods contain 1 or 2 flattened, extremely hard seeds the size of small lima beans  
- **Flower:** Loose clusters of bright yellow flowers with 5 lobes  
- **Common Insects/Disease:** No significant

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**Parkinsonia microphylla** *(Yellow paloverde, Foothill paloverde)*

- **Family:** Fabaceae  
  **Species code:** CEMI  
- **Height:** 16-25’  
  **Width:** 12-18’  
- **Form:** Spiny shrub or small tree that branches about 8” from the ground into 4-6 major stems  
- **Leaf:** Pinnately compound leaves about 1” long with minute leaflets  
- **Bark:** Thin, green and photosynthetic  
- **Fruit:** 2-3” long; 1-5 seeds with constrictions between the seeds  
- **Flower:** Bright yellow flowers with 5 lobes in clusters .5” across  
- **Common Insects/Disease:** No significant
Prosopis species (Mesquite)

Family: Fabaceae  
Species code: PR6

Height: Up to 30’  
Width: Up to 30’

Form: Single or multiple stems

Leaf: Narrow, alternate, bipinnate; 2-3” with secondary leaflets that are sharply pointed

Bark: Rough and gray/brown

Fruit: Legume; abundant large seedpods that are constricted between seeds

Flower: Yellow flowers with 5 petals

Common Insects/Disease: No significant

Prosopis alba (Argentine mesquite)

Family: Fabaceae  
Species code: PRAL2

Height: Up to 40’  
Width: Up to 60’

Form: Oval, rounded or umbrella; spreading with a low canopy

Leaf: Bipinnately compound in groups of 2 or 4; closely-spaced, paired leaflets; 25-50 leaflets per pinnae

Bark: Dark gray and furrowed; thorns usually present, sometimes strongly, usually large (1”) thorns in zig-zag form

Fruit: Very large (over 3”) brown pod fruiting in summer

Flower: Green or yellow flowers in spring; male and female parts in each flower

Common Insects/Disease: Aphids
Southwest Desert Climate Region

Prosopis glandulosa (Honey mesquite)

Family: Fabaceae  Species code: PRGL2
Height: 13-20’  Width: Equal to or greater than height
Form: Spreading, rounded canopy, single stem
Leaf: Alternate, bipinnate with 1-2” linear leaflets; shiny, bright green
Bark: Rough and gray/brown; appears to grow in strips
Fruit: Straight and nearly as thick as they are broad; legumes are reddish-brown in color and constricted between seeds
Flower: Yellow, axillary spikes that are .25-.375” long with 10 stamens and white woolly ovaries
Common Insects/Disease: No significant

Prosopis chilensis (Algarrobo, Chilean mesquite)

Family: Fabaceae  Species code: PRCH
Height: 30’  Width: 30’
Form: Single or multiple stems; presence of thorns is variable
Leaf: Bipinnately compound and dark green color
Bark: Smooth when young, growing darker and rough with maturity
Fruit: Tan to greenish pods; 3-5” long and .5” across
Flower: Small, yellowish or cream catkin
Common Insects/Disease: No significant
**Prosopis pubescens** (Screwbean mesquite)

*Family:* Fabaceae  
*Species code:* PRPU2  
*Height:* 10-30’  
*Width:* 10-30’  
*Form:* Single or multi-stemmed; vase shaped, open, and spreading canopy  
*Leaf:* Alternate, bipinnately compound; hairy with as many as 18 leaflets  
*Bark:* Gray and rough with deep fissures  
*Fruit:* Spirally coiled seed pods  
*Flower:* Radial, small, greenish white or yellow  
*Common Insects/Disease:* No significant

**Prosopis velutina** (Velvet mesquite)

*Family:* Fabaceae  
*Species code:* PRVE  
*Height:* 30-50’  
*Width:* Generally greater than height  
*Form:* Single or multiple stems that may have 1” thorns on young branches  
*Leaf:* 3-6” long, fine, and bipinnately compound  
*Bark:* Young bark is reddish-brown and smooth; becomes dark, dusty gray or brown and takes on a shredded texture with maturity  
*Fruit:* Light brown pods  
*Flower:* Brilliant yellow flowers in dense cylindrical clusters (catkins) roughly 4” long  
*Common Insects/Disease:* No significant
**Arecastrum romanzoffianum, Syagrus romanzoffiana (Queen palm)**

**Family:** Arecaceae  
**Species code:** ARRO  
**Height:** 50’  
**Width:** 20’  
**Form:** Erect with a high canopy  
**Leaf:** Long, arching pinnately compound fronds up to 10’ long with distinct frond sheaths and up to 200 leaflets per leaf; medium to bright glossy green; evergreen  
**Bark:** Gray-brown and shallowly furrowed; segmented  
**Fruit:** Stalks of .5-1.5” orange husked drupes  
**Flower:** Feather duster stalks of showy white flowers  
**Common Insects/Disease:** Scales and spider mites

**Palm Trees**

**Pinnately Compound Alternate Leaves**

**Palmately Compound Alternate Leaves**
**Phoenix canariensis** (Canary Island date palm, Pineapple palm)

- **Family:** Arecaceae  
- **Species code:** PHCA  
- **Height:** 60’  
- **Width:** 20-30’  
- **Form:** Erect, feather palm  
- **Leaf:** Long, sometimes half-twisting pinnately compound fronds up to 20’; medium green; evergreen  
- **Bark:** Light brown and fibrous  
- **Fruit:** Orange or yellow clusters of drupes: .5-1.2”  
- **Flower:** Waxy yellow to white clusters on stalks  
- **Common Insects/Disease:** Fusarium

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**Phoenix dactylifera** (Date palm, Arab date)

- **Family:** Arecaceae  
- **Species code:** PHDA4  
- **Height:** 60’  
- **Width:** 25’  
- **Form:** Erect, feather palm, multi-trunked if left untrained  
- **Leaf:** Pinnate frond up to 15’ long; gray-green; evergreen  
- **Bark:** Gray-brown, fibrous and corky  
- **Fruit:** Large, brown drupe (1.5-3”)  
- **Flower:** Small yellow flowers on spreading stalks  
- **Common Insects/Disease:** No significant
Brahea armata (Mexican blue palm, Blue hesper palm, Rock palm)

Family: Arecaceae  Species code: BRAR
Height: 20-50’  Width: 12-25’
Form: Erect fan palm with a low canopy
Leaf: Large fronds with a longitudinal rib; silver-gray, evergreen foliage
Bark: Gray and furrowed to smooth
Fruit: Reddish-brown; hard, berry-like structures that hang below fronds
Flower: Fragrant cream or white flowers hang on garlands that can extend 15-18’
Common Insects/Disease: Crown rot

Chamaerops humilis (Mediterranean fan palm)

Family: Arecaceae  Species code: CHHU
Height: 10-20’  Width: 20’ clusters
Form: Erect fan palm with evergreen foliage
Leaf: Palmately compound and blue-green or medium to dark green with thorny stems
Bark: Fibrous and dark brown to light green
Fruit: Clusters of small, shiny dark brown beads develop on stalks below leaves
Flower: Yellow green clusters of small, unobtrusive flowers
Common Insects/Disease: No significant
**Washingtonia filifera** (California fan palm)

- **Family:** Arecaceae  
- **Species code:** WAFI
- **Height:** 80’  
- **Width:** 20-40’
- **Form:** Erect, fan palm
- **Leaf:** Large fan-shaped fronds with hairy filaments on young fronds extending from frond margin; dark gray-green; becomes straw-colored thatch if not pruned
- **Bark:** Red-brown and furrowed to smooth
- **Fruit:** Small stalks of black drupes (.25-.5”)
- **Flower:** Streamer-like stalks that hold white blossoms
- **Common Insects/Disease:** No significant

**Washingtonia robusta** (Mexican fan palm)

- **Family:** Arecaceae  
- **Species code:** WARO
- **Height:** 80-100’  
- **Width:** 10-15’
- **Form:** Erect, fan palm
- **Leaf:** Large fan-shaped, palmately compound fronds; dark green; evergreen foliage
- **Bark:** Red-brown and furrowed or smooth
- **Fruit:** Black drupes (.25-.5”) develop on streamers
- **Flower:** Streamers with sprays of tiny white flowers
- **Common Insects/Disease:** Crown rot
GLOSSARY

Achene: simple dry fruit containing one seed produced by many species of flowering plants
Alternate: leaf attachments are singular at nodes, and leaves alternate direction, to a greater or lesser degree, along the stem
Apex: the end furthest from where the leaf attaches to the stalk; terminus
Axillary: the upper (adaxial) angle between a leaf and a stem; often the location of a bud
Bipinnate: pinnately compound leaves in which the leaflets are themselves pinnately compound
Calyx: the outermost group of floral parts; the sepals
Catkin: a slim, cylindrical flower cluster, with inconspicuous or no petals, usually wind-pollinated; contain many, usually unisexual flowers, arranged closely along a central stem which is often drooping
Conifer: mostly needle-leaved or scale-leaved, chiefly evergreen, cone-bearing gymnospermous trees or shrubs such as pines, spruces, and firs
Cordate: heart-shaped, with the petiole or stem attached at the indentation
Crenate: leaf margin or edge is wavy-toothed; dentate with rounded teeth
Deciduous: a tree that sheds leaves annually
Dioecious: a species that has male and female reproductive parts on different plants
Drupe: any fruit consisting of an outer skin, a usually pulpy and succulent middle layer, and a hard and woody inner shell usually enclosing a single seed, as a peach, cherry or plum
Drupelet: a small drupe, such as one of the many subdivisions of a raspberry or blackberry
Elliptic: leaf margins curve with the widest section in the middle
Evergreen: having green leaves throughout the entire year, the leaves of the past season not being shed until after the new foliage has been completely formed
Falcate: hooked or curved like a sickle
Fissured: a long narrow opening; a crack or indentation; a natural division or groove
Follicles: dry open fruit which splits on one side only; may contain one or many seeds
Hesperidium: a berry with a tough, aromatic rind as an orange, grapefruit or lemon
Lanceolate: tapering from a rounded base toward an apex; lance-shaped

Legume: fruit or seed from a plant in the family Fabaceae (or Leguminosae); a pod, such as that of a pea or bean, that splits into two capsules with the seeds attached to one edge of the capsules

Lenticel: one of the small, corky or spongy pores or narrow lines on the bark of woody plants that allows the interchange of gases between the interior tissue and the surrounding air

Monoecious: male and female flowers occur on the same plant

Nectaries: a gland-like organ, located outside or within a flower, that secretes nectar

Oblong: leaves almost resemble a rectangle, except that their corners are rounded; at least twice as long as they are wide

Obovate: leaves are shaped like an egg, with the broader end of the leaf farthest from the petiole

Odd-pinnate: leaflets occur on each side of the petiole with a single leaflet at the tip of the petiole

Opposite: leaves occur one on each opposite side of the stem

Ovate: leaves are shaped like an egg, with the broader end of the leaf nearest the petiole

Palmate: consisting of leaflets or lobes radiating from the base of the leaf

Palmately lobed: indented with the indentations reaching to the center

Panicles: a branched cluster of flowers

Petiole: the stalk attaching the leaf blade to the stem

Photosynthetic: process by which plants use energy from the sun and chlorophyll to convert carbon dioxide, water, and certain inorganic salts into carbohydrates

Pinnae: the leaflets or segments in ferns

Pinnate: featherlike compound leaf that is divided up into many small leaflets, arranged in rows along either side of an axis

Pinnate compound: once-divided leaf blades having leaflets arranged on both sides of a rachis (main axis of a compound structure)

Pistil: the female reproductive part of a flower; centrally located, typically consists of a swollen base, the ovary, which contains the potential seeds, or ovules; a stalk, or style, arising from the ovary; and a pollen-receptive tip, the stigma, variously shaped and often sticky

Pome: fleshy fruit with a thin skin, not formed from the ovary but from another part of the plant; seeds are contained in chambers in the center of the fruit as in apple and pear
**Radial**: roughly identical petals, sepals, and stamen occur at regular intervals around the center of the flowers

**Samara**: type of dry fruit where one seed is surrounded by papery tissue that helps carry the seed away from the tree as the wind blows; often found in large groups on the tree

**Sepals**: one of the four basic parts of a flower; found below the petals and often small and green; when flowers do not have petals the sepals may be big and colorful

**Serrate**: saw-toothed with asymmetrical teeth pointing forward

**Stamen**: the pollen-producing reproductive organ of a flower; typically consists of a stalk called the filament and an anther

**Striation**: a series of ridges, furrows or linear marks

**Trifoliate**: a leaf divided into three leaflets

**Whorl**: three or more leaves attach at each point or node on the stem
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| TAMU         | Taxodium mucronatum
Taxodium huegelii | Montezuma cypress            | 19L  |
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| THPE3        | *Thevetia peruviana*  
               | *Thevetia nereifolia*  
               | *Cascabela thevetia* | Luckynut, Yellow oleander, Be still tree | 44L   |
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| WAFI         | *Washingtonia filifera* |                                 | 70L   |
| WARO         | *Washingtonia robusta* |                                         | 70R   |
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xviii.  Biopix (biopix.com)
xix.  Biolib (biolib.cz)
xix.  Australia plants (australiaplants.com)
xx.  Lady Bird Johnson Wildflower Center (wildflower.org)

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Page 11L: iii, BL (mesquite); i, TL (ash), TC (sycamore), BC (crape myrtle); iv, TR (ironwood); Native Plants for Southwestern Landscapes, Judy Mielke (1993) p 54, BR
Page 11R: i, TL (Grevillea), TC (Eucalyptus), TR (African sumac), BC (oleander), BR (citrus); ix, BL (olive)
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Page 37L: ii, TL leaves, Lynden Gerdes. USDA NRCS. 1995. Northeast wetland flora: Field office guide to plant species. Northeast National Technical Center, Chester. Courtesy of USDA NRCS Wetland Science Institute; ii, TR flower, BL bark, J.S. Peterson@USDA-NRCS PLANTS Database & Sheri Hagwood@USDA NRCS PLANTS Database & Susan McDougall@USDA-NRCS PLANTS Database; vi, TC leaf; i, BR, tree
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Page 38L: i, TL leaves, TLC leaves, CL red fruit, TC bark, TRC pink flower, BL green fruit, BC bark, BR tree; v, TR white flowers, BioImages - the Virtual Fieldguide (UK)
Page 38R: i, TL leaves (close-up); ii, TR flowers, BL bark, BR tree, Herman, D.E., et al. 1996. North Dakota tree handbook. USDA NRCS ND State Soil Conservation Committee; NDSU Extension and Western Area Power Administration, Bismarck.
Page 39L: i, TL leaves, TR fruit, BC bark; v, BL flowers, BioImages - the Virtual Fieldguide (UK); xvi, BR tree, Chicago Botanic Garden 2010
Page 39R: v, TL fruit, TR flower, BL bark, BR tree, © Hermann Falkner & Wikimedia Commons
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Page 40R: ii, TR fruit, BL flower, Jeff McMillian@USDA-NRCS PLANTS Database & © Robin R. Buckallew. United States, OK, Edmond; iii, BC tree, Have Randers; xviii, TL leaves and fruit, BR tree
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Page 50R: ii, TL leaves, TR fruit, BL bark, Robert H. Mohlenbrock@USDA-NRCS PLANTS Database/USDA SCS. 1989. Midwest wetland flora: Field office illustrated guide to plant species. Midwest National Technical Center, Lincoln & Larry Allain@USDA-NRCS PLANTS Database & Robin R. Buckallew@USDA-NRCS PLANTS Database; iv, BR tree
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Page 66L: iii, TL leaves and flowers, TR fruit, L.R. Landrum & Leslie Landrum; v, BL bark, BR tree,
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Page 67R: i, all
Page 68L: BL flowers, Santa Monica Mountains National Recreation Area (smmflowers.org/bloom/species/); i, TL pair of trees,
TCL tree, TCR leaf, TR bark, BR fruit
Page 68R: i, TL grove, TC canopy, BL flowers, BR bark: v, TR fruit, B. Simpson Cairocamels
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Special thanks to the pilot inventory communities:

City of Bisbee
Lake Havasu City
City of Mesa
Town of Prescott Valley
Town of Pinetop-Lakeside
Arizona State Parks: Oracle State Park
University of Arizona Campus Arboretum


Major funding provided by the USDA Forest Service State and Private Forestry Program. Collaborators include the University of Arizona Campus Arboretum and the School of Natural Resources and the Environment.

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Prepared and designed by Cori Dolan, Alan Shoults and Susanne Kaplan.