

appendix B
approved plant list

Plant Selection

Successful riparian habitat mitigation requires sufficient diversity of plant species and structure to provide food and cover for a variety of wildlife. A mix of annual and perennial plant species will provide structural diversity required for a naturalistic habitat. When selecting plant species for your Mitigation Plan, consider using plants native to the site. Plant species naturally occurring on your site are well-adapted to the site's soils, elevation, and water availability.

Use of Native Top Soil

Salvaging topsoil can provide an abundant source of native seed, organic matter and beneficial soil organisms.

If the property owner decides to salvage topsoil for redistribution on the site, the following procedure is recommended:

- Only use topsoil from undisturbed, native plant communities. If noxious and/or invasive plant species are present, it is not recommended the topsoil be salvaged.
- Topsoil should be salvaged to a depth of 4 to 6 inches and stockpiled no higher than 3 feet in height.
- Topsoil shall be stored for as short a duration as possible to ensure survival of seeds and soil organisms.

Approved Class H Seed Mix

Approved Class H seed mixes shall be selected from the Approved Plant List and contain at least 12 plant species appropriate for the site elevation, soil type and watershed location. Of the 12 species, 4 shall be shrubs, 4 shall be annuals/perennials/vines, and 4 shall be grasses. These quantities are to serve as guidance in developing seed mixes appropriate for individual sites. Applicants may also contact local seed vendors (see page B-5) for additional seed mixes. To help prevent the spread of noxious and/or invasive plant species, ask vendors if the seed mix is certified "weed-free".

Below is an example seed mix for a property located in the Sabino Creek Watershed.

Baccharis salicifolia
Seep Willow
Anisacanthus thurberi
Desert Honeysuckle
Aristida ternipes
Spidergrass
Brickellia coulteri
Brickelbush
Epilobium canum ssp. *latifolium*
Hummingbird Trumpet
Garryea wrightii
Wright's Silktassel
Hilaria belangeri var. *belangeri*
Curly-mesquite
Ipomoea coccinea var. *hederifolia*
Scarlet creeper
Leptochloa dubia
Green Sprangletop
Muhlenbergia rigens
Deergrass
Penstemon pseudospectabilis
Desert Penstemon
Rhus trilobata

Note: Onsite seed collection is encouraged. Seeds collected onsite may be used within the approved seed mix, given appropriate seed application rates are verified through a seed vendor and noted on the Riparian Habitat Mitigation Plan (RHMP).

Approved Xeroriparian Seed Mix

Approved Xeroriparian seed mixes shall be selected from the Approved Plant List and contain at least 12 plant species appropriate for the site elevation, soil type, and watershed location. Of the 12 species, 4 shall be shrub species, 4 shall be annual/perennial/vine species, and 4 shall be grasses. These quantities are to serve as guidance in developing seed mixes appropriate for individual sites. Applicants may also contact local seed vendors (see page B-5) for additional seed mixes. To help prevent the spread of noxious and/or invasive plant species, ask vendors if the seed mix is certified “weed -free”.

Below is an example seed mix for a property located in the Black/Brawley Wash Watershed.

Ambrosia ambrosioides
Canyon Ragweed
Aristida ternipes
Spidergrass
Atriplex canescens
Four-Winged Saltbush
Atriplex lentiformis
Quailbush
Cucurbita digitata
Fingerleaf Gourd
Hilaria belangeri var. belangeri
Curly-mesquite
Hymenoclea monogyra
Burrobrush
Larrea tridentata var. tridentata
Creosote Bush
Lesquerella gordonii var. gordonii
Gordon's Bladderpod
Machaeranthera tanacetifolia
Purple Aster
Muhlenbergia rigens
Deergrass
Vulpia octoflora
Sixweeks Fescue

Note: Onsite seed collection is encouraged. Seeds collected onsite may be used within the approved seed mix, given appropriate seed application rates are verified through a seed vendor and noted on the RHMP.

Seed Vendors

Plant species selected for your RHMP shall be native to Pima County. The following is a partial list of local seed vendors that sell native plant seed and seed mixes. This list is for information only and is in no way exhaustive. It is not required that you purchase seed from these vendors.

The approved seed mix can be purchased from one of the following vendors:

- Curtis & Curtis (505) 762-4759
Clovis, New Mexico
- Desert Seed Source (602) 226-4886
Tempe, Arizona
- Double O Enterprises (480) 831-5564
Chandler, Arizona
- Granite Seed (800) 992-5040
Lehi, Utah (801) 768-4422
- Native Seeds/SEARCH (520) 622-5561
Tucson, Arizona
- Southwestern Native Seeds Contact through
P.O. Box 50503 mail only
Tucson, Arizona 85224
- Western Native Seed (719) 942-3935
Coaldale, Colorado
- Wildland Restoration (520) 882-0969
Tucson, Arizona
- Wild Seed (602) 276-3536
Tempe, Arizona

Seed Vendors

Where can I buy native plants?

Plants selected for your RHMP shall be native to Pima County. The following is a partial list of local nurseries that sell native plants. This list is for information only and is in no way exhaustive. It is not required that you purchase your plants from these vendors. The Arizona Native Plant Society website has an extensive list of native plant and seed sources in addition to the ones listed on pages B-5 and B-7. This list is available online at:

<http://www.aznps.com/sources.html>

When purchasing plants from the nursery, verify plant species nativity by checking the botanical name to ensure the plant species noted matches plant species on your RHMP. Many of the non-native plants look similar to native species. For example, hybrid mesquites look similar when young, but have a very different growth habit and do not provide the same value for wildlife as native mesquites. In addition, native mesquites are one of the most difficult species to identify correctly. Plant identification sheets have been included in this appendix (pages B-9 thru B-11) to assist applicants in distinguishing between native and non-native Mesquite species.

Note: Onsite seed collection and propagation is encouraged including the establishment of an onsite plant nursery. The onsite nursery will act as a supplement to required mitigation and will not act as a replacement for onsite plant requirements.

Where can I buy
native plants?

PLANT NURSERY

<i>Civano Nursery Inc.</i> (520) 546-9200 www.civanonursery.net	5301 S. Houghton Rd. Tucson, Arizona 85747
<i>Desert Survivors Nursery</i> (520) 791-9309 www.desertsurvivors.org/Nursery	1020 W. Star Pass Blvd. Tucson, Arizona 85713
<i>Desert Trees Nursery</i> (520) 297-5664 (Wholesale, open for retail on Saturdays)	9559 N. Camino Del Plata Tucson, Arizona 85742
<i>Harlow Gardens</i> (520) 298-3303 www.harlowgardens.com	5620 E. Pima Street Tucson, Arizona 85712
<i>Mesquite Valley Growers</i> (520) 721-8600	8005 E. Speedway Blvd. Tucson, Arizona 85715
<i>Mountain States Nursery</i> 1-800-840-8509 (Wholesale only) www.mswm.com	10020 W. Glendale Ave. Glendale, Arizona 85307
<i>Nighthawk Native Nursery</i> (520) 882-0969 (Wholesale and retail, preferably contract grow-out)	2944 N. Castro Avenue Tucson, Arizona 85705
<i>Plants for the Southwest</i> (520) 628-8773 www.lithops.net/index	50 E. Blacklidge Drive Tucson, Arizona 85705
<i>Signature Botanica, LLC</i> (623) 238-3342 www.signaturebotanica.com (Wholesale only, preferably contract grow-out, tall pot vendor)	P.O. Box 512 Morristown, Arizona 85342
<i>Silverbell Nursery</i> (520) 622-3894 www.sbnursery.com	2730 N. Silverbell Rd. Tucson, Arizona 85745
<u>SPECIALTY NURSERY</u>	
<i>B & B Cactus Farm</i> (520) 721-4687	11550 E. Speedway Blvd. Tucson, Arizona 85748

**Where can I find
more information
on plants?**

For more information on these and other native plants, the following resources may be helpful.

Native Plants for the Southwestern Landscapes

Judy Milke, 1993, University of Texas Press

Landscape Plants for Dry Regions

Warren Jones & Charles Sacamano. 2000 Fischer Books.

A Field Guide to the Plants of Arizona

Anne O. Epple & Lewis E. Epple. 1995. LewAnne Publishing Company

Pruning, Planting and Care: Johnson's Guide to Gardening Plants for the Arid West.

Eric A. Johnson, et.al. 1997. Ironwood Press.

The Arizona Native Plant Society

The Arizona Native Plant Society has an extensive list of native plant and seed sources.

<http://www.aznps.com>

How to distinguish between the native mesquite species:

	velvet mesquite	screwbean mesquite	honey mesquite
Number of minor leaflets	15 - 20 pairs	6 - 9 pairs	10 - 16 pairs
Hairy leaflets?	yes		no
Leaflet spacing	close	intermediate	wide
Pods	straight or slightly curved	tightly coiled	flattened, straight, or curved

Native mesquites are easily confused with non-native South American mesquites (*P. chilensis*, *P. alba*) and hybrids! Indicators of non-native mesquites:

- Thornless or extremely long thorns
- More upright form
- Bright green, more widely-spaced leaflets that are not fuzzy



Pima County Master Gardeners



www.arbolesornamentales.com

Maricopa County Master Gardeners

Velvet Mesquite (*Prosopis velutina*)

RANGE: Central and southern Arizona, extreme southwestern New Mexico, and adjacent northern Mexico below 5,000 feet.

FORM: Large shrub or small tree with spreading crown. May be single-stemmed and up to 50 feet tall or grow as an erect, multi-stemmed shrub.

LEAVES: Alternate and bi-pinnately compound; usually about 6 inches long. Each leaflet has **15 to 20 pairs of minor leaflets**, less than one half inch long. **Finely fuzzy surface**; dull green above, and paler below. Deciduous in the winter.

FLOWERS: 2—3 inch **catkins of pale yellow flowers**; late spring to early summer.

FRUITS: **Straight or slightly curved tan pods** 3—7 inches long; solitary or clustered, ripen mid to late summer and drop in the fall.

TWIGGS: Light brown and velvety, slightly zig-zagged with **paired slender spines at the base of each leaf**. Bark on young stems can be greenish.

BARK: **Dark brown, rough and shreddy, sometimes gnarled and twisted**. Newer bark can be reddish brown.



Screwbean Mesquite (*Prosopis pubescens*)



RANGE: Riparian areas of the Sonoran and Chihuahuan deserts.

FORM: Single or multistemmed small tree or shrub; sometimes forms thickets. Several crooked and arching stems form a broad round crown.

LEAVES: Deciduous, alternate, and bipinnately compound, 1 to 2 inches long, usually with only two major leaflets. *Each leaflet with 6 to 9 pairs of narrow minor leaflets* (1/2 to 1 inch long). Entire margins and a *fuzzy surface*, green to gray-green above, paler below.

FLOWERS: Pale yellow pendulous yellow spikes in groups of 2 to 6, appearing late spring to early summer.

FRUIT: : *A very unique, tightly coiled pod, 1 to 2 inches long, light brown, ripening in mid to late summer.*

TWIG: Paired whitish spines (up to 1 inch long) at the base of each leaf; knobby spur branches may also be present.

Alphabetical listing of trees, shrubs and grasses, etc. by Scientific Name.
For a version on 8.5" x 11" paper, please see District web site (or separate appendix)

Watershed								Botanical Name	Common name	Important Riparian Habitat Areas			Life Form	Water Requirements	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships	
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon			Hydroriparian	Mesoriiparian	Xeroriiparian							
TREES																			
	X	X		X	X			<i>Acacia constricta</i>	Whitethorn acacia			X	X	Perennial shrub/small tree	Low-Moderate	Perennial; 2500'-5000', occurs in a variety of settings including washes, slopes, shallow caliche-lined soils and grasslands; to 15' tall	Deciduous; very small yellow-orange flowers in spherical clusters present May-September, followed by seedpods; pairs of whitish spines on branches; nitrogen-fixer	Midstory shrubby tree occurring in a variety of situations; often associated with velvet mesquite, desert hackberry, wolfberry, and various cacti	Nectar: eaten by insects and nectar-eating birds including verdin; Seeds: eaten by a wide variety of birds and other wildlife; Foliage: eaten by deer and jackrabbits; host plant for larval butterflies; Provides cover and nest sites for birds
X	X	X	X	X	X	X	X	<i>Acacia greggii</i>	Catclaw acacia			X	X	Perennial Tree	Low	Long-lived perennial; below 5000', occurs within and along slopes, canyons, riparian bottomlands, and desert washes; shrub or small tree to 20' tall	Small yellow flowers on cylindrical spikes bloom April-October; seedpods produced in summer to fall; semi-deciduous in winter and extreme drought; has small but sharp "cat-claw-like" thorns; nitrogen-fixer	Under- to mid-story shrub on slopes, along washes; occasionally a tree where moisture plentiful; associated with common xeroriiparian species such as velvet mesquite, desert hackberry, and graythorn.	Seeds: eaten by birds and other wildlife; Nectar: attracts butterflies and other insects including ants, which in turn attract horned lizards; Shelter for a wide variety of wildlife
X	X	X				X		<i>Celtis laevigata (Celtis reticulata)</i>	Netleaf/Canyon hackberry	X	X			Perennial Tree	Moderate	Long-lived perennial; 1500'-6000'; occurs in moist riverbeds, and along intermittent streams, and canyons; to 35' tall	Deciduous; very small greenish flower blooms March-April; small reddish fruits available June to November	Midstory to overstory tree associated with Mexican elderberry, velvet ash, Fremont cottonwood, velvet mesquite, western soapberry, and Arizona walnut	Berries: eaten by a wild variety of wildlife; Provides cover and nest sites for birds including raptors
X	X	X					X	<i>Chilopsis linearis</i>	Desert willow			X	X	Perennial shrub/small tree	Low-Moderate	Perennial, moderate lifespan; 1500' – 5000', occurs in desert flats, and along washes and streams; to 25'	Deciduous; showy lavender pea-shaped blooms Apr-Aug/Sep	Midstory to overstory tree in variety of upland and riparian situations; commonly associated with desert wash communities including velvet mesquite, Mexican elderberry, and desert hackberry.	Nectar: consumed by hummingbirds, insects including bees (bumble bees, carpenter bees, and others), and nectar-eating birds; Insects attracted by nectar provide food for insect-eating birds; Leaves: host plant for larvae of pollinating moths; Shelter and nesting for birds and other wildlife
X	X		X				X	<i>Fraxinus velutina</i>	Arizona ash, Velvet ash	X	X			Perennial Tree	Moderate-High	Perennial; 2000' – 7000'; within and along streams, moist canyons and washes; to 30' tall	Deciduous; Blooms March-April; very small yellow flowers appear before leaves	Overstory tree in riparian bottomlands; associated with Arizona walnut, netleaf hackberry, and Mexican elderberry.	Seeds: eaten by a wide variety of wildlife
	X					X		<i>Juglans major</i>	Arizona black walnut	X	X			Perennial Tree	High	Long-lived perennial; 3000'-7000'; occurs in streams and moist canyons from desert to oak or pine forestlands; to 50' tall	Deciduous; small greenish blooms before or during spring or summer leaf growth; produces large edible nut	Mid-or overstory tree in moist areas; associated with velvet ash, Mexican elderberry, Acacia spp.; understory often canyon hackberry	Nuts: eaten by a wide variety of wildlife; Provides shelter including nesting cavities for birds and other wildlife
		X			X			<i>Olneya tesota</i>	Desert Ironwood				X	Perennial Tree	Low	Long-lived perennial; below 2500', occurs on foothills and desert slopes where cold air doesn't settle; 26' to 30' tall	Purple, pink or white pea-like flowers bloom May-June; seedpods produced June-July; pairs of spines emerge from stems at base of leaves; nitrogen-fixer	Mid-sized desert tree; associated with saguaro, desert hackberry, wolfberry, graythorn, and desert lavender	Seeds: eaten by numerous wildlife species; Flowers: provide food for nectar-eating birds; Leaves and twigs: valuable browse for bighorn sheep and mule deer; Retains leaves during summer drought and provides important breeding and year-round thermal shelter; Considered a keystone species due to the abundance of wildlife that rely on this tree

Alphabetical listing of trees, shrubs and grasses, etc. by Scientific Name.
For a version on 8.5" x 11" paper, please see District web site (or separate appendix)

Watershed								Botanical Name	Common name	Important Riparian Habitat Areas			Life Form	Water Requirements	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon			Hydroriparian	Mesoriiparian	Xeroriiparian						
X	X	X	X	X			X	<i>Parkinsonia florida</i> (<i>Cercidium floridum</i>)	Blue paloverde				Perennial Tree	Low-Moderate	Perennial, moderate age; 500'-4000', occurs in washes, valleys, and floodplains, grasslands; to 30' tall	Bright yellow flowers bloom April-May; seedpods appear May-June; winter and drought deciduous; some spines on branches and stems; needs higher moisture levels than foothills paloverde; nitrogen-fixer	Mid to overstory associate within a wide variety of habitats including desert, grassland and xeroriiparian understory; often associated with velvet mesquite and desert hackberry	Seeds: eaten by a variety of wildlife; Nectar: used by bees and other insects and nectar-eating birds; Fallen flowers: eaten by desert tortoise and other wildlife species; Branches: provide nesting sites for numerous bird species and nighttime roosts for many wildlife species; Host plant for mistletoe which is a key food source for phainopepla;
	X	X			X		X	<i>Parkinsonia microphylla</i> (<i>Cercidium microphyllum</i>)	Foothills Palo Verde, yellow palo verde				Perennial Tree	Low	Long-lived perennial; 500-4000'; occurs throughout Sonoran desertscrub habitats and along washes and streams; slow to medium growth rate, depending on water availability; shrub or tree to 26' tall	Large yellow flowers bloom Mar-May; seedpods mature June-July; tolerates drier conditions than blue paloverde; nitrogen-fixer	Mid to overstory associate within a wide variety of habitats including desert, grassland and xeroriiparian understory; often associated with saguaro and other cacti, creosotebush, desert ironwood, and mesquite.	Seeds: eaten by birds and mammals; Flowers: provide pollen and nectar for insects including solitary bees, and also eaten by wildlife; Branches: used for nesting and roosting sites; Host for mistletoe providing food for phainopepla and other birds
	X				X	X	X	<i>Platanus wrightii</i>	Arizona sycamore	X	X		Perennial Tree	Moderate	Perennial; 2000'-6000', occurs within and along streams and rocky canyons; to 80' tall	Deciduous; inconspicuous flowers bloom March-April; flowers followed by cylindrical fruits	Overstory tree in canyons near streams; associated with Arizona walnut, Fremont cottonwood, and Goodding's willow	Seeds: eaten by wildlife; Leaves, stems, wood: utilized by beaver; Provides habitat for wildlife including sites for cavity-nesting birds
X		X					X	<i>Populus fremontii</i> ssp. <i>Fremontii</i>	Fremont cottonwood	X	X		Perennial Tree	High	Long-lived perennial; 150' - 6000'; occurs along streams, rivers, and cienegas with surface water or near-surface groundwater; to 100' tall	Deciduous; very small, green-yellow flowers bloom early spring (often late February in Tucson area)	Overstory tree in moist areas along streams and rivers, or elsewhere where water table is near surface; associated with Arizona sycamore, Arizona ash, Goodding's willow, sacaton, grasslands, and canyon grape	Twigs and foliage: eaten by deer, beaver, and other mammals; Buds and catkins: eaten by birds; Insects attracted by fragrant buds provide additional forage for wildlife; Large size: offers abundant sheltering, resting, nesting and foraging habitat for numerous wildlife species
		X	X	X				<i>Prosopis pubescens</i>	Screwbean mesquite		X	X	Perennial Tree	Moderate	Perennial, moderate lifespan; below 4000', occurs in floodplains and bottomlands; to 15'-20' tall	Deciduous; small, yellow flowers in clusters bloom May-August; seedpods in summer to fall; branches have spines; nitrogen-fixer	Medium-sized tree; fixes nitrogen in soil; associates with velvet mesquite, wolfberry, graythorn, and four-winged saltbush	Seeds and pods: eaten by a wide variety of wildlife; Host plant for mistletoe, which is an important food source for phainopepla and other birds;
X	X	X	X	X	X	X		<i>Prosopis velutina</i>	Velvet mesquite		X	X	Perennial tree	Low	Long-lived perennial; 1000'-5000'; occurs in riparian floodplains; along washes, on scrubland slopes, and scattered in grasslands; generally to 30' tall, but larger in old-growth bosques in bottomlands	Deciduous; clusters of yellow flowers bloom April-May, and again in August; seedpods are produced June-September; nitrogen-fixer	Mid- to over-story tree associated with wide variety of desert and riparian plants including saltbush, wolfberry, desert hackberry, graythorn, desert lavender, and a wide variety of grasses and forbs	Seeds, pods, bark, twigs and leaves: eaten by a wide variety of wildlife including birds, bighorn sheep, deer, antelope, coyote, and rodents; Flowers: attract 60 species of native bees, plus wasps and butterflies; Nectar and larval plant for butterflies; Nesting sites: utilized by white winged doves, mourning doves, and many other birds; Host plant for mistletoe, which is an important food source for phainopepla and other birds; Insects on plant gleaned by birds
	X							<i>Quercus emoryi</i>	Emory oak		X	X			Perennial; 4,000 - 7,000', occurs on dry slopes, and along moist canyons in grasslands; shrub or small tree to 50'	Evergreen; small inconspicuous flowers appear in spring; acorns produced in summer	Midstory to overstory tree in variety of mid- to high-elevation settings; often along drainages in grassland settings.	Leaves and stems: browse for deer; Acorns: eaten by a variety of wildlife; Perennial cover valued by a wide variety of wildlife

Alphabetical listing of trees, shrubs and grasses, etc. by Scientific Name.
For a version on 8.5" x 11" paper, please see District web site (or separate appendix)

Watershed								Botanical Name	Common name	Important Riparian Habitat Areas			Life Form	Water Requirements	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon			Hydroriparian	Mesoriiparian	Xeroriiparian						
X	X	X					X	<i>Salix gooddingii</i>	Goodding's willow	X	X		Perennial Tree	High	Perennial; below 7000', occurs along streams, rivers, and moist bottomlands with surface water or near-surface groundwater; to 45' tall	Deciduous; tiny flowers in bunches bloom in spring and then release seeds that float in cottony fluff	Mid to overstory tree, often draping branches to the ground, associated with Fremont cottonwood, velvet ash, and canyon grape	Twigs and foliage: eaten by deer, beaver, and other mammals; Buds and catkins: eaten by birds, sites for insect gleaned birds; Dense cover: provides thermal shelter and cover from predators, and sheltered nest sites
	X					X		<i>Sambucus nigra ssp. Cerulea (Sambucus mexicana)</i>	Mexican elderberry, blue elderberry		X		Perennial shrub/small tree	Moderate	Perennial; 1000' – 4000', occurs along streams, rivers, and bottomlands, and scattered across moist grasslands; shrub to small tree to 30' tall	Drought deciduous; yellow-white cluster of small blooms appears March-June; small, abundant berries May-October	Mid-sized tree, occasionally large, associated with Goodding's willow, velvet mesquite, netleaf hackberry, graythorn, climbing milkweed, and old man's beard	Berries: eaten by a wide variety of wildlife; Foliage: eaten by deer, livestock, and other mammals
	X					X		<i>Sapindus saponaria var. drummondii</i>	Western soapberry		X	X	Perennial Tree	Low	Perennial; 2,400' – 6,000'; occurs in canyons, streams, desert grasslands, and oak woodlands; 20' to 50' tall	Deciduous; small white flower appears May – August, followed by yellowish berries	Multi-trunked tree occurring in riparian communities; common codominants include Arizona black walnut and velvet ash	Leaves and twigs: generally not palatable for wildlife due to the presence of poisonous saponids; Nectar: eaten by butterflies Clonal growth provides dense cover for a numerous wildlife species
SHRUBS																		
		X					X	<i>Ambrosia deltoidea</i>	Triangle-leaf bursage			X	Perennial shrub or subshrub	Low	Perennial, ,1000-3000', low-growing, less than 2' tall. Often in nearly pure stands on bajadas, plains, and mesas	Evergreen; inconspicuous pale yellow flowers, fruit a small bur. Flowers February to July	Low-growing subshrub prefers coarse, rapidly draining soils. Often associated with foothill palo verde and saguaro	Flowers probably provide nectar and pollen for insects. Plant provides cover for small vertebrates.
	X	X			X	X	X	<i>Antisacanthus thurberi (Drejera thurberi)</i>	Desert honeysuckle		X		Perennial Shrub	Moderate	Perennial; 2500-5500', colonizes sandy washes, canyons, and riparian bottomlands; upright shrub to 6' tall	Showy red to orange flowers appear mostly in spring, but during other times when adequate moisture is present	Understory shrub, sometimes forming large clumps; often found alongside desert washes with velvet mesquite, ironwood, paloverde, chuperosa, and desert willow	Nectar and pollen: eaten by hummingbirds and solitary bees; Leaves and twigs: browsed by bighorn sheep, cattle, and other mammals; Host plant for several butterfly species
	X				X			<i>Asclepias tuberosa</i>	Butterfly milkweed		X		Perennial subshrub	Moderate	Perennial; 4,000 – 8,000', dry grasslands, meadows; Bushy to 3' high	Low to mid-sized herb with bright orange or yellow flower blooming May – September	Low to mid-sized meadow herb	
	X	X		X				<i>Atriplex canescens</i>	Four-winged saltbush			X	Perennial shrub	Low	Perennial; 2000'-8000'; occurs in valleys and along washes, and in sandy soil from creosote valleys to pinyon flats; shrub to 8' tall	Evergreen; inconspicuous pale flowers bloom July - August; prominent winged seeds present April-September; alkaline tolerant	Mid-sized to large shrub; associated with variety of low to mid-elevation plant communities including triange bursage, burrobrush and grasses and forsbs	Seeds: eaten by birds and small mammals; Insects attracted to flowers are gleaned by birds; Leaves and twigs: valuable forage for mammals including deer; Plant provides good cover and nesting sites
		X		X				<i>Atriplex lentiformis</i>	Quailbush			X	Perennial Shrub	Low	Perennial; below 4000'; inhabits a range of dry to moist soils in desert flats, floodplains and drainages; dense shrub, to 8' tall and 12' wide	Semi-deciduous; small green flower blooms February-April; alkaline tolerant	Mid- to large-sized shrub in open areas or under- to mid-story in other areas; frequent associates include velvet mesquite, four-winged saltbush, and saltgrass	Seeds: eaten by quail and other birds; Flowers: provide pollen and nectar for bees; Twigs and foliage: browsed by deer, pronghorn and bighorn sheep; Cover plant for wildlife including quail
X	X		X	X	X	X	X	<i>Baccharis salicifolia</i>	Seep willow	X	X		Perennial Shrub	Moderate-High	Perennial; 2000'-5500; occurs along streams and moist washes, and in riparian bottomlands; tall shrub or small tree to 12' tall	White flowers on ends of branches bloom March-Dec; seeds in summer to fall	Associated with, and contributes to growth of, willows and Fremont cottonwoods	Nectar: eaten by butterflies, wasps and beneficial bees

Alphabetical listing of trees, shrubs and grasses, etc. by Scientific Name.
For a version on 8.5" x 11" paper, please see District web site (or separate appendix)

Watershed								Botanical Name	Common name	Important Riparian Habitat Areas			Life Form	Water Requirements	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
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X								<i>Barkleyanthus salicifolius</i> (<i>Senecio salignus</i>)	Senecio, willow ragwort		X		Perennial Shrub	Moderatae	Perennial; 2000-4000'; occurs along moist washes and streams, and disturbed areas; shrub to 3' tall	Bright yellow flowers in dense clusters from February-April; frost-sensitive	Occurs in desertscrub and grassland habitats; common associates include cacti and a wide variety of grasses and forbs	Flowers: provide pollen and nectar for butterflies and other insects; Foliage: browsed by deer and other mammals
	X	X	X			X	X	<i>Calliandra eriophylla</i>	Fairy duster			X	Perennial Shrub	Low	Perennial; below 5000'; occurs on hillsides, desert flats, washes, and grasslands; shrub to 4' tall	Semi-deciduous; puffy, pink flower clusters appear any time of year, but mostly October-May	Small to medium sized cold-hardy shrub; associated with bricklebush, Trixis, limberbush, and a wide variety of grasses and forbs	Foliage: browse for mammals; Flowers: provide nectar eaten by butterflies, hummingbirds, and bees; Seeds: eaten by birds and other wildlife; Provides dense cover often lacking in the lower strata
X	X	X	X	X	X	X		<i>Celtis ehrenbergiana</i> (<i>Celtis pallida</i>)	Desert hackberry, spiny hackberry	X	X	X	Perennial shrub	Low	Long-lived perennial; 1500 – 3500'; occurs in uplands along washes and canyons, and in open desert and riparian bottomlands; shrub 10'-20' tall	Deciduous or semi-evergreen shrub; flowers are small and whitish, appearing in summer; bright orange berries present from June-October; dense and thorny	Large shrub in open desert or midstory in riparian bottomlands; associated with velvet mesquite, graythorn, wolfberry, catclaw acacia, and prickly pear and other cactus	Berries: valuable forage for a wide variety of wildlife; Foliage: browsed by deer, attracts insects, which are eaten by birds; Provides dense cover and nesting habitat for birds and small mammals
X					X	X	X	<i>Cephalanthus occidentalis</i>	Buttonbush, Common buttonbush	X			Perennial shrub	High	Long-lived perennial, 1,000-5000'; inhabits wet soils adjacent to streams and open waters; shrub or small tree to 10'.	Deciduous shrub with warts on stems; flowers are white balls to 1.5 inches in diameter that appear between June and September; fruit a rough button to 3/4" in diameter;	Mid-story shrub, usually in saturated soils adjacent to streams or other water bodies. Associated with three-leafed sumac and silktassel.	Waterfowl are the principle users of the seeds and the plants are browsed by deer. Insects come to the blooms for nectar.
	X					X	X	<i>Condalia warnockii</i>	Warnock condalia, Warnock's snakeweed		X	X	Perennial shrub	Low	Long-lived perennial, 2500-5000' occurs in uplands on bajadas and mesas and in canyons to 10' tall	Evergreen, tiny flowers in August to October, also spring. Fruits are red-blackish and up to 1/4 inch in diameter	Associated with mesquite and palo verde, graythorn and wolfberry	provides excellent cover for nesting birds such as Pyrrhuloxia
		X			X	X	X	<i>Dodonaea viscosa</i>	Hopbush			X	Perennial Shrub	Moderate	Perennial; 2000' - 5000', found along washes, canyons, rocky slopes; and floodplains; shrub to 12' tall	Evergreen; small yellowish flowers bloom February-October, followed by winged fruits	Mid- to large-sized deep green shrub scattered in open areas; often associated with ocotillo and jojoba	Seeds: eaten by some birds; Provides dense shelter for wildlife
X	X	X	X			X	X	<i>Encelia farinosa</i>	Brittlebush			X	Perennial Shrub	Low	Perennial; occurs on hillsides, washes, roadsides and other flat areas below 3000'; Shrub to 3' tall	Silvery-gray leaves may drop in spring droughts; showy yellow flowers November-May in frost free areas	Sub-shrub with showy, yellow "daisy-like" flowers; often associated with creosotebush, paloverde, and various cacti and grasses	Flowers: pollinated by nectar-eating butterflies, moths, and small bees; Seeds: eaten by birds, rodents, and other wildlife; Leaves and twigs: eaten by bighorn sheep and other mammals
	X	X			X	X	X	<i>Ericameria laricifolia</i> (<i>Haplopappus laricifolius</i>)	Turpentine bush			X	Perennial Shrub	Low	Perennial; 3000' - 6000', occurs in canyons, and on rocky slopes and desert flats; to 3' tall	Small and numerous yellow to golden flowers bloom August-December	Small, deep green shrub found in open areas or understory in oak woodland; has strong-smelling	Flowers: provide nectar and pollen for bees and other insects
		X			X	X	X	<i>Eriogonum fasciculatum</i> var. <i>Foliolosum/polifolium</i>	Flat-top buckwheat, Eastern Mohave buckwheat			X	Perennial Shrub	Moderate	Perennial; 1000'-4500'; grows on hillsides and other scrub-dominated uplands; to 3' tall	Very small white to pink persistent flowers in clusters that dry to an orangish-white color	Sub-shrub often associated with odora and fairy duster	Seeds: eaten by birds and other wildlife; Flowers: produce nectar eaten by butterflies and bees; Foliage: browsed and gleaned by mammals and some birds
	X				X	X	X	<i>Garrya wrightii</i>	Wright's silktassel			X	Perennial Shrub	Moderate	Evergreen perennial, 3000'-8000', occurs as scattered individuals in many different plant communities; generally to 8' tall, rarely reaching 15'	Inconspicuous tasseled flower bloom March – August; prefers partial summer shade in Tucson area	Mid-sized to large cold-hardy shrub; generally an understory component of pinyon-juniper woodlands and interior chaparral dominated by evergreen oaks and birchleaf mountain-mahogany	Foliage: browsed by deer, and other mammals; Provides good thermal and visual cover

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	X						X	<i>Gossypium thurberi</i> (<i>Thurberia thespesioides</i>)	Native cotton, Thurber's cotton			X	X	Perennial shrub	Moderate	Perennial; 2500-5000'; occurs in canyons, wash bottoms, and on rocky slopes; shrub to 7' tall	White to pinkish flowers bloom May-September; seed capsule with fuzzy seeds with short cottony hairs	Occurs on rocky hillsides or in washes or canyons; frequent associates include desert honeysuckle, catclaw acacia, and burrobrush.	Leaves: host plant and larval food for the splendid royal moth
X	X		X	X	X	X	X	<i>Hymenoclea monogyra</i> (<i>Ambrosia monogyra</i>)	Burrobrush, single whorl burrobrush				X	Perennial Shrub	Moderate	Perennial; 1000' – 4000'; occurs in valleys, flats, and strands with sandy soil; lanky shrub 3'- 6' tall	Small inconspicuous flowers appear in fall, followed by winged fruits	Understory to midstory shrub growing in sandy or disturbed soils; often associated with desert broom, seep willow, and other plants that are tolerant of frequent disturbance	Offers cover and nesting sites for wildlife in otherwise sparsely vegetated landscapes
		X				X	X	<i>Hyptis emoryi</i>	Desert lavender				X	Perennial Shrub	Low	Perennial; below 5000'; occurs within desert washes, on dry rocky slopes, and in canyons; medium shrub to 15' tall	Violet to blue flowers in clusters that may bloom any time of the year; very drought tolerant	Attractive medium to large shrub; often a component of creosotebush scrub communities	Flowers: important to bees, butterflies, and hummingbirds; Seeds: eaten by variety of wildlife
						X	X	<i>Justicia candidans</i>	Red justicia, Arizona water-willow		X	X		Perennial Shrub	Moderate	Perennial; 1500' - 3000', occurs within and along washes or slopes; to 3' tall	Drought deciduous; attractive red, sometimes yellow, flowers bloom spring and fall	Semi-frost hardy small shrub; associated white-thorn acacia and a wide variety of grasses and forbs	Flowers: hummingbirds use nectar Foliage: browsed by javelina
X	X	X	X	X		X	X	<i>Larrea tridentata</i> var. <i>tridentata</i>	Creosote bush				X	Perennial Shrub	Low	Long-lived perennial; below 4500'; inhabits dry plains and desert valleys; shrub to 10' tall	Small yellow flowers bloom Mar-April and November-December, followed by small, fuzzy white fruit	Medium to large shrub; associated species include saguaro, night-blooming cereus, paperflower, desert zinnia, and Christmas cholla; sometimes dominates extensive areas on bajadas and valley floors	Flowers: extremely important for native insects (22 species of native bees feed only on its flowers and it supports 17 species of gall forming insects); Seeds: eaten by a variety of birds and other wildlife; Provides valuable shelter in harsh landscapes
	X	X		X		X		<i>Lycium andersonii</i> var. <i>andersonii</i>	Anderson Wolfberry, water jacket		X	X		Perennial shrub	Low	Perennial; below 5500'; occurs in desert flats and along desert washes; 3 – 6' tall	Drought deciduous; lavender flowers bloom February-April; fruits present late spring to summer	Alone or as understory in some areas; frequently associated with graythorn, velvet mesquite, catclaw acacia, and desert hackberry	Fruits: eaten by birds and other wildlife
X		X						<i>Lycium fremontii</i>	Fremont Wolfberry, Fremont's desert-thorn		X	X		Perennial shrub	Low	Perennial; below 2500', occurs in desert valleys, and within and along washes, slopes, riparian bottomlands; shrub to 9' tall	Drought deciduous; small, lavender flowers blooms year round, but primarily Jan-Mar; can produce fruit year-round	Open areas or as understory shrub in mesori-parian to xero-riparian areas; associated with saltbush, velvet mesquite, graythorn, desert hackberry, and canyon ragweed	Flowers: provides nectar and pollen for a wide variety of insects; Fruits: eaten by birds and other wildlife
		X						<i>Mahonia haematocarpa</i> (<i>Berberis haematocarpa</i>)	Red mahonia, red barberry		X			Perennial Shrub	Low-Moderate	Perennial; 3000' - 5000', occurs within desert grasslands and oak woodlands; shrub to 6' tall	Cold-tolerant evergreen; yellow flowers in loose clusters bloom February-May, followed by red berries	Medium shrub in full sun or as understory in oak woodlands; associated with oak, <i>Ceanothus</i> , juniper, sugar bush, soap tree	Flowers: provide nectar and pollen for ;bees; Berries: eaten by birds and other wildlife; Foliage: browsed by deer, elk, bighorn, rabbits, and ringtail
X			X					<i>Parthenium incanum</i>	Mariola				X	Perennial Shrub	Low	Perennial; 3000' - 6000', occurs on dry slopes in the Sonoran desertscrub-Chihuahuan desertscrub transition zone; to 2' tall	White flowers with small petals bloom April-October	Small aromatic shrub occurring on well-drained rocky hillsides; often occurring with creosotebush, desert zinnia, snakeweed, brittlebush, and a variety of cacti; very drought-tolerant.	Provides cover for small mammals and birds

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	X				X	X	X	<i>Rhus glabra</i>	Smooth sumac					Perennial Shrub	Moderate	Perennial; 5000' - 7000', flats and forests with rich soil; to 20' tall	Small white flowers in attractive terminal clusters bloom June-August, followed by clusters of red berries	Large shrub standing alone or in forest settings; requires good soil	Foliage: browsed by deer
			X					<i>Rhus microphylla</i>	Littleleaf sumac			X	X	Perennial sub-shrub	Moderate	Perennial; generally 3,000 - 6,500 feet; occurs on dry desert foothills, and in canyons and along washes and valleys; shrub to 15' tall	Greenish-white flowers occur in dense compound spikes; hairy, red-orange fruit	Small to medium shrub in desert grasslands and scrublands; common associates include velvet mesquite, creosotebush, catclaw acacia, soap tree yucca, sideoats grama, and bush muhly	Fruit: eaten by birds and rodents; Leaves and twigs: browsed by deer and small mammals
					X	X	X	<i>Rhus ovata</i>	Sugar bush, sugar sumac				X	Perennial Shrub	Moderate	Perennial shrub or small tree; 3000' - 5000'; occurs in desert canyons, mountain and on slopes with chaparral; to 15' tall	Small cream-colored flowers appear February-March, followed by sticky, reddish fruit	Evergreen, cold-hardy, medium to large shrub stands alone or grows among chaparral or scrub-oak; associated with <i>Ceanothus</i> , canyon hackberry, catclaw acacia, velvet mesquite, and scrub oak woodland associations	Fruit: eaten by a wide variety of birds and other wildlife; Evergreen foliage provides year-round shelter
	X				X	X	X	<i>Rhus trilobata</i>	Three-leafed sumac, skunkbush sumac			X		Perennial Shrub	Moderate	Perennial; 2500' - 7500', occurs in canyons, and on mountain slopes; to 10' tall	Yellow flowers in dense clusters bloom March-June; red fruits mature in summer	Deciduous, attractive shrub often as understory component of pinyon pine or oak woodlands	Berries: eaten by small mammals and birds; Foliage: eaten by and small mammals; Bark: eaten by small mammals
					X	X	X	<i>Ribes aureum var. aureum</i>	Wax currant, golden currant		X			Perennial Shrub	Moderate-High	Perennial; 2600-8000'; occurs in mid- to high-elevation grasslands, and mixed deciduous and coniferous woodlands; to 10' tall	Deciduous; fragrant yellow flowers in spring and berries in summer; small to medium, lanky shrub	Occurs in grasslands, coniferous forests and woodlands, and riparian and mountain shrub communities	Berries: eaten by variety of wildlife; Foliage: browsed by large mammals
	X	X					X	<i>Simmondsia chinensis</i>	Jojoba				X	Perennial shrub	Low	Perennial; 1000'-5000'; occurs on desertscrub habitats and along washes, slopes, and rocky hillsides; shrub to 7' tall	Evergreen; inconspicuous greenish flower, male and female flowers occur on separate plants and bloom variable from December-July; nuts appear from May- July	Small to medium shrub scattered across upland desert areas; often associated with velvet mesquite, palo verde, hopbush, creosotebush, brittlebush and various cacti	Nuts: eaten by birds and a wide variety of mammals including javelina; Foliage: eaten by deer, bighorn sheep and other mammals
X					X	X	X	<i>Tecoma stans</i>	Yellow bells, yellow trumpetbush				X	Perennial shrub	Low	Perennial; 3,000-5,500'; occurs on rocky or gravelly slopes along desert washes; shrub with upright form to 12' tall.	Deciduous; elongated, serrated leaves. Bright yellow trumpet-shaped flowers May through October.	Medium shrub of rocky slopes associated with plants of the Sonoran and Chihuahuan deserts. Often occurs with foothill palo verde and saguaro on hillsides.	Browsed by bighorn sheep and probably mule deer. Carpenter bees pirate nectar from blossoms by cutting into the base of the flower.
	X	X	X		X	X	X	<i>Trixis californica</i>	Trixis, American threefold				X	Perennial shrub	Low	Perennial up to 5000', probably long-lived up to 3' tall	Bright yellow flowers up to 3/4-inch in diameter	Rocky slopes in the Arizona Upland Subdivision of the Sonoran Desert	Browsed to some extent by cattle
	X	X						<i>Vauquelinia californica ssp. Californica/sonorensis</i>	Arizona rosewood				X			Perennial; 2500' - 5000', occurs on mid-elevation canyons and mountains, oak woodlands; shrub or small tree to 25' tall	Slow-growing evergreen; small white flowers in clusters bloom May - June, followed by woody fruits that persist through winter	Shrub or small tree associated in canyons and on slopes with shrub live oak, (<i>Quercus turbinella</i>) and as scattered individuals in grama grasslands with scattered velvet mesquite.	Dense perennial foliage: provide valuable cover for wildlife

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X	X	X	X		X	X		<i>Ziziphus obtusifolia var. canescens</i>	Graythorn, lotebush			X	Perennial shrub	Low	Perennial; 1000' -5000'; found scattered in desert uplands, and along washes, riparian bottomlands, and mesquite bosque; to 10' tall	Deciduous; tiny whitish-green blooms appear May-September; fruits August to January	Mid-sized shrub; often associated with wolfberry, desert hackberry, catclaw acacia, desert honeysuckle, and velvet mesquite	Berries: eaten by birds, especially white-winged dove and Gambel's quail; Flowers: nectar and pollen eaten by honeybees, native bees, tarantula hawks, and other insects; Insects attracted to plant are gleaned by birds; Dense and thorny character provides valuable shelter and nesting sites
VINES																		
	X	X	X					<i>Clematis drummondii</i>	Old man's beard, Virgin's bower, Drummond's Clematis		X	X	Perennial vine	Moderate	Perennial; below 4000'; occurs in moist open areas and along the edges of riparian woodlands; woody, climbing vine can reach heights of trellises or trees	White flowers bloom March-September, and later yield fluffy, white plumed seeds	Vine often seen climbing shrubs and trees in riparian bottomlands or thick vegetation where some moisture available; common associates include netleaf hackberry, velvet ash, and seep willow	Serves as a larval host plant for butterflies
X	X	X	X	X	X	X	X	<i>Cucurbita digitata</i>	Fingerleaf gourd			X	Perennial vine	Low-Moderate	Perennial vine; below 5000'; occurs from low desert valleys to mid-elevation grasslands	Deciduous; large yellow blooms June - October; gourds mature in fall	Associated with fourwing saltbush, and a wide variety of grasses and forbs	Vines, leaves, root and seeds: eaten by wildlife including javelina; Flowers: provide pollen for pollinators including bees
		X	X	X				<i>Cucurbita palmata (Cucurbita californica)</i>	Coyote melon, Coyote gourd			X	Perennial vine	Moderate	Annual ground-hugging vine with trailing stems from a large root; usually below 3,000' on sandy plains, mesas, or rocky slopes; often in arroyo bottoms.	Has incised palmate leaves and large funnel-shaped yellow-orange flowers that appear between May and August. Produces round white-striped gourds.	Ground-hugging vine; may be associated with datura, clumping grasses, small shrubs or cacti.	Flowers visited by bees. Plant stems are a reservoir for the squash vine borer, which is an economically important pest species of cucurbits.
							X	<i>Ipomoea hederifolia (Ipomoea coccinea var. hederifolia)</i>	Scarlet creeper	X	X	X	Annual vine	Moderate	Perennial vine; 2500 - 6000'; occurs along desert washes, canyons and rivers; 2-10' long	Tubular red flowers from May-October;	Common associates include Fremont cottonwood, Goodding's willow, mesquite, and seep willow	Nectar: major food source for hummingbirds;
X	X		X	X	X	X	X	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	X	X	X	Perennial vine	Moderate	Perennial herbaceous climbing vine with dark green arrow-shaped leaves; often associated with rocky slopes or wash areas where it	Reddish pink or lilac blooms with whitish throat with pink lines appear from April through October. Fruit is a dehiscent round capsule.	Common associates include wolfberry, hackberry, and burrowbrush.	Flowers probably provide nectar and pollen for insects.
X	X							<i>Vitis arizonica</i>	Arizona wild grape, Canyon grape		X		Perennial vine	Moderate	Perennial vine; 2000' - 7500'; occurs in canyons and along washes and rivers, to 30' long	Deciduous; greenish flower in clusters from April-July; fruit present July-August	Associated with riparian plants such as netleaf hackberry, Fremont cottonwood, and velvet ash	Berries: eaten by a wide variety of wildlife; Vines and leaves: browsed by mammals including javelina and used by birds for nesting material; Flowers: provide nectar and pollen for
CACTI & SUCCULENTS																		
	X	X	X					<i>Cylindropuntia arbuscula, (Opuntia arbuscula)</i>	Arizona Pencil cholla			X	Perennial cactus	Low	Perennial; 1000' - 4000'; occurs in open areas on rocky slopes and bajadas; to 9' tall	Blooms from May-June; fruit present in fall and may persist through winter	Associated with desert scrub vegetation including other cholla species, saguaro cactus, triangle bursage, mesquite, and paloverde	Fruits: eaten by deer, javelina, small mammals and birds; Seeds: eaten by birds including mourning dove and Gambel's quail; Flowers: provide nectar and pollen for bees; Provides sheltered sites for small mammal burrows
	X	X	X	X				<i>Cylindropuntia leptocaulis, (Opuntia leptocaulis)</i>	Christmas cholla, desert Christmas cactus			X	Perennial cactus	Low	Perennial; 1000' - 5000'; occurs in open areas on rocky slopes and bajadas; to 4' tall	Small yellowish-greenish blooms from May-June; bright red fruit present in fall and may persist through winter	Associated with desert scrub vegetation including other cholla species, saguaro cactus, triangle bursage, mesquite, and paloverde	Fruits and seeds: eaten by birds and mammals including deer and javelina; Nectar and pollen: eaten by bees and nectar-eating birds; Provides protective nest sites for cactus wren, curve billed thrasher, and other birds

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X	X	X	X	X	X	X	X	<i>Ferocactus wislizeni</i> (<i>Echinocactus wislizeni</i>)	Candy barrel cactus				X	Perennial Cactus	Low	Long-lived, to 11' tall, but mostly less than 6' tall. Up to 4500'	Flowers July-September, very persistent, waxy, yellow fruit	Mexquite and mixed palo verde-cactus, variable soils	Pollen and nectar utilized by a variety of insects; fruit used by ground squirrels.	
	X	X			X	X	X	<i>Nolina microcarpa</i>	Beargrass, sacahuista				X	Perennial Lily	Low	Perennial; 3000-6000'; occurs in open areas on rocky slopes and bajadas; to 3' tall, flowering stalk to 8'	Evergreen; small creamy white flowers form showy plumes on stalks that bloom in May-June; coarse leaves are somewhat abrasive	Not a true grass but resembles a coarse bunchgrass; usually in the open rather than in understory; often found with Arizona rosewood, turpentine bush, ocotillo; sotol, manzanita, and oak	Plant: larval plant for <i>Melinis</i> hairstreak butterfly; Flowers: provide nectar and pollen for bees and butterflies; Foliage: sometimes browsed when other food scarce	
	X	X			X	X	X	<i>Opuntia phaeacantha</i>	prickly pear				X	Perennial cactus	Low	Perennial; to 6500'; occurs in desertscrub habitats on bajadas and alongside canyons and washes; generally to 3' tall	Large rose-like flowers appear April-June, with bright red fruits maturing July-August; some fruits persist through most of winter	Occurs in open desertscrub and grassland habitats; common associates include mesquite, paloverde, other cacti, creosotebush, triangle bursage, and fluffgrass.	Fruits: eaten by deer, javelina, small mammals and birds; Seeds: eaten by birds including mourning dove and Gambel's quail; Flowers: provide nectar and pollen for bees; Provides sheltered sites for small mammal burrows	
	X				X			<i>Yucca elata</i>	Soaptree yucca				X	Perennial shrub	Low	Perennial; 1500' – 6000'; occurs in open areas on rocky slopes and bajada; to 15' tall	Evergreen; dense cluster of yellowish-white flowers on tall stalk bloom May –June; fruits mature in summer	Occurs in open desertscrub and grassland habitats; common associates include ocotillo; sotol, oak, and a wide variety of grasses and forbs	Flower stalks: browsed by mammals including mule deer and javelina; Seeds: eaten by birds and other wildlife; Larval plant for butterflies; Pollinated by symbiotic yucca moth	
PERENNIAL FORBS/SUB-SHRUBS																				
	X			X				<i>Allionia incarnata</i>	Trailing windmills, trailing four-o'clock				X	Perennial forb	Low	Perennial forb; to 6500'; occurs in open areas including sandy washes and valley bottoms; trailing plant to 6" high and 24 " wide	Vibrant rose-pink flowers present April-October	Often associated with desert strand species including clammyweed, datura, slimpod senna, and burrobrush. Also found along in disturbed roadside areas and in four-wing saltbush associations.	Provides temporary cover and moist microsites for insects and small mammals	
X	X	X	X	X	X	X	X	<i>Ambrosia ambrosioides</i>	Canyon ragweed				X	X	Perennial Subshrub	Moderate	Medium to large perennial shrub; occurs in washes and strand areas below 4,500'. Plants get to about 6' in height.	Indistinct yellowish-green flowers in a terminal spike appear between February and May. Fruit has a cocklebur form.	Found in association with mesquite, paloverde, burrobrush, datura, seepwillow, and brickellia.	There is little use this plant as forage; leaves are consumed by leaf beetles; wind pollinated, does not provide a nectar source for insects.
						X		<i>Anemopsis californica</i>	Yerba Mansa		X	X		Perennial forb	High	Perennial forb; 2000-5000'; colonizes moist alkaline soils in meadows and alongside streams and cienegas; to 20" tall	Large white flowers borne on tall stalks present from May-Aug; highly aromatic leaves; plants spread by stolons and can form extensive groundcover	Often occurs in mesquite bosques; associated with other saline-tolerant plants including saltgrass and alkali sacaton	Provides temporary cover and moist microsites for insects and small mammals	
	X						X	<i>Aquilegia chrysantha</i>	Columbine, yellow		X	X		Perennial forb	High	Perennial forb; 3000'-11000', occurs in shady, moist canyons and forest associations; to 4' tall	Showy yellow flower appears April-September	Associated with grasses, forbs and other wildflowers in rich soils along streams or other moist areas	Flowers: provide nectar and pollen for insects and hummingbirds; Seeds: eaten by birds and small mammals	
X	X		X					<i>Baileya multiradiata</i>	Desert marigold				X	Perennial forb	Low	Annual or short lived perennial; below 5000'; occurs on sandy and gravelly slopes and desert flats, and along roadsides in sunny open areas; to 2' tall	Bright yellow flowers at ends of leafless stems appear March-October when moisture available	Associated with desert broom, desert globemallow, lupine, and fluffgrass	Seeds: eaten by birds including Inca dove, and ants; Insects on plant gleaned by birds	

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X	X		X	X	X	X	X	<i>Brickellia coulteri</i>	Brickelbush, Coulter's brickelbush		X	X	Perennial Subshrub	Moderate	Perennial shrub; 2,000-4,000'; along washes, canyons, and dry rocky slopes.	Plant is sticky, with brittle stems; produces an inconspicuous, slender flowerhead of yellow-green rayless flowers.	Associated with mesquite, desert hackberry, grasses; often associated with plants on tops of banks.	Seeds consumed by Gambel's Quail and probably other birds.
X	X	X	X	X		X	X	<i>Dichelostemma capitatum (Dichelostemma pulchellum)</i>	Bluedicks		X	X	Perennial forb	Low	Perennial (bulb); below 5000', occurs on mesas, open slopes, and plains; to 30" tall	Beautiful lavender flower at the top of a slender stem, blooms February-May	Prefers gravelly soils; in our area, often found in association with grasses and low stature shrubs including acacia, mariola, and creosotebush.	Bulbs: highly valuable forage for small and large mammals
X		X			X	X	X	<i>Dicliptera resupinata</i>	Arizona foldwing		X	X	Perennial forb	Low	Perennial forb or subshrub to 2' in height; on rocky slopes, in canyons, and along wash embankments between 3,000 and 6,000'.	Densely branching, erect to spreading form; lanceolate leaves; red-violet blooms subtended by clasping bracts occur between May and October.	Associated with mesquite bosque, graythorn, wolfberry, and desert hackberry.	Flowers probably provide nectar for insects and hummingbirds.
X	X	X			X	X	X	<i>Epilobium canum ssp. latifolium (Zauschneria californica)</i>	Hummingbird trumpet		X	X	Perennial forb	Moderate	Perennial; suffrutescent; to about 20" height; damp places and on rocky slopes and in canyons from 2,500-7,000'.	Long-tubular scarlet to red flowers from June to December.	Associated with streamside or hillside vegetation including deergrass, agaves, and juniper and oaks.	Provides nectar for hummingbirds.
	X	X				X		<i>Glandularia gooddingii (Verbena gooddingii)</i>	Goodding's verbena, southwest mock vervain			X	Perennial forb	Low	Annual or short-lived perennial forb; below 5000'; occurs in open canyons and along slopes add washes with sandy soils; to 2' tall and 4' wide	Purple clusters of flowers bloom from Feb-Oct; easily propagated through cuttings and self-seeding	Occurs in open areas with clammyweed, desert marigold, Arizona blazing star, windmills, and datura.b	Flowers: nectar and pollen attract butterflies and moths; Good groundcover that provides temporary shelter and moist, resting microsites for insects, birds, and small mammals
					X	X	X	<i>Lobelia cardinalis</i>	Cardinalflower	X			Perennial forb	Moderate-High	Perennial forb; 3000'-7500'; occurs with streamside and cienegas; to 5' tall	Tubular bright red flower bloom June-October	Associated with other streamside plants including giant sacaton, deergrass, Fremont cottonwood, and Goodding's willow	Flowers: provide nectar for hummingbirds and insects
X			X	X	X	X	X	<i>Machaeranthera tanacetifolia (Aster tanacetifolius)</i>	Tanseyleaf tansyaster, purple aster			X	Perennial forb	Low	Perennial forb; 1000'-8000'; occurs in disturbed soils along washes, fields, paths, and roadsides; to 16" tall	Handsome "daisy-like" bluish-purple rays surrounding yellow disk flowers, blooms June – October	Usually open areas with other species that pioneer disturbed and sandy soils including windmills, clammyweed, and desert marigold	Provides temporary cover and moist microsites for insects and small mammals
	X	X			X			<i>Penstemon parryi</i>	Penstemon, Parry, beardtongue			X	Perennial forb	Low	Perennial forb; 1500-5000'; occurs in well-drained soils on grassy slopes, alongside canyons and along roadsides; to 4' tall	Tubular pink flower appear March-July	Associated with a wide variety of desert-adapted shrubs, grasses and forbs; frequent associates include velvet mesquite, paloverde, lupine, desert globemallow, and Goodding's verbena	Flowers:provide nectar and pollen for insects and hummingbirds
X		X	X	X	X	X	X	<i>Penstemon pseudospectabilis</i>	Desert Penstemon		X		Perennial forb	Moderate	Perennial forb; 2000'-7000'; occurs on arid slopes, and along canyons and desert washes; to 4' tall	Tubular red flower appears February-May	Associated with a wide variety of desert-adapted shrubs, grasses and forbs; frequent associates include, velvet mesquite, soaptree yucca, and spidergrass	Flowers: provide nectar and pollen for insect and hummingbirds
	X		X		X			<i>Rumex hymenosepalus</i>	Canaigre dock		X	X	Perennial forb	Moderate	Perennial forb; to 6000'; occurs in sandy soils in valley floors and along washes; clustered leaves to 12' with flowering stem to 4' tall	Small green flowers appear on spikes from March-April; followed by clustered pinkish, winged fruits; roots form a stout tuber	Occurs in sandy soils along with paloverde, velvet mesquite, four-wing saltbush, and Mexican elderberry	Seeds, leaves, tubers: eaten by a wide variety of wildlife

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				X				<i>Ruellia nudiflora</i> var. <i>nudiflora</i>	Violet wild petunia	X	X		Perennial forb	Moderate	Perennial forb; 2500-4000'; occurs in moist woodlands along streams and washes; to 24' tall	Large purple flowers present May-Oct	Associated with mesquite, graythorn, desert hackberry, wolfberry, and scarlet creeper	Provides temporary cover and moist microsites for insects and small mammals	
	X					X		<i>Senna hirsuta</i> var. <i>glaberrima</i> (<i>Cassia leptocarpa</i> var. <i>glaberrima</i>)	Slimpod senna, woolly senna		X	X	Perennial forb	Moderate	Perennial forb; 2500- 5500'; occurs in sandy washes and disturbed areas such as roadsides; to 3' tall	Bright yellow flower clusters present July-Sept; followed by long, slender pods	Associated with desert strand species including clammyweed, datura, windmills, <i>Hymenoclea monogyra</i>	Pollen: collected by insects including bumblebees and butterflies; Seeds and pods: eaten by a wide variety of wildlife	
X	X	X	X	X				<i>Sphaeralcea ambigua</i> ssp. <i>Ambigua</i>	Desert globemallow, apricot globemallow			X	Perennial forb	Low	Perennial; below 3500'; occurs in sandy flats and washes, and along roadsides; to 3' tall	Attractive flowers vary in color from white to orange, salmon, lavender, or pinkish; flowers appear throughout year when moisture available; woody stem	Frequently associated with prickly pear, creosotebush, and other a variety of other Sonoran desertscrub plants that grow in the open and along roadsides	Flowers: provide nectar and pollen for insects including native bees, and eaten by desert tortoise, birds, and other wildlife; Leaves and twigs: provide browse for bighorn sheep and other mammals; Larval food plant for butterflies	
X	X	X	X	X	X	X	X	<i>Zinnia acerosa</i> (<i>Zinnia pumila</i>)	Desert zinnia			X	Perennial Subshrub	Low	Perennial; 2000' – 5000', occurs in dry valleys and on rocky slopes; to 10" tall	Evergreen; white to pale yellow flowers bloom March-October when moisture is adequate	Frequently associated with prickly pear, creosotebush, triangle bursage, fluffgrass, and other Sonoran desertscrub plants that grow in open, exposed sites	Flower petals: eaten by quail, finches, sparrows, and other birds; Seeds: eaten by harvester ants, which in turn attract horned lizards; Insects on plant gleaned by birds	
ANNUAL WILDFLOWERS																			
	X		X					<i>Bowlesia incana</i>	Bowlesia, hoary bowlesia			X	X	Annual forb	Low	Annual forb; to 3000'; occurs along sandy washes and woodlands; trailing stems to 20" long	Tiny, seldom-noticed flowers appear March-April; shade-tolerant	Abundant after winter rains along with other spring ephemerals forming a carpet under velvet mesquite, paloverde, catclaw acacia, and wolfberry. Associated with other spring ephemerals and annual grasses.	Provides temporary cover and moist microsites for insects and small mammals
	X					X		<i>Datura wrightii</i>	Datura, sacred, jimsonweed, sacred thorn-apple		X	X	Annual or Perennial forb	Low	Annual or perennial forb; 700-6000'; occurs in open disturbed areas including strands and valley bottoms; to 5' tall and 7' wide	Large white tubular flowers present May –Oct, followed by big spiny fruits	Often associated with desert strand species including clammyweed, slimpod senna, and burrobrush. Also present in riparian buffers, disturbed roadside areas, and saltbush associations	Nectar and pollen: utilized by bees, moths and other insects; Birds forage on insects attracted by flowers	
X			X	X	X	X	X	<i>Eriastrum diffusum</i>	Miniature woollystar			X	Annual forb	Low	Annual to 4 1/2"; 1,000-5,500'; sandy areas of deserts and mesas.	Pale bluish to white tubular flowers to 1/2" long on bristle-tipped heads appear between March and June.	Associated with subshrubs, cacti, and forbs in Sonoran desertscrub and semidesert grassland habitats.	Provides nectar for insects.	
	X	X		X				<i>Eschscholzia californica</i> ssp. <i>Mexicana</i> (<i>Eschscholtzia mexicana</i>)	Mexican Gold Poppy, California poppy			X	Annual forb	Low	Annual forb; below 4,500'; occurs in dr , gravelly or sandy places, often alongside desert washes; to 16" tall	Bright orange flowers appear from mid-Feb to May; useful as a quick soil stabilizer following disturbance	Abundant after winter rains along with Gordon's bladderpod, lupine, <i>Phacelia</i> spp., and owl's clover	Provides temporary cover and moist microsites for insects and small mammals	
X	X	X	X	X	X	X	X	<i>Kallstroemia grandiflora</i>	Arizona poppy		X	X	Annual forb	Low	Summer annual; spreading to 3'; open plains, deserts, wash strand areas, and desert slopes.	Flowers bright orange with a red center appear between July and October. Leaves and stems hairy.	Late summer bloomer responding to summer rains. Common along roadsides; occurs with tansyaster (<i>Machaeranthera</i> sp.), mesquite, and grasses.	Fowers visited by insects.	

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	X			X	X	X		<i>Lesquerella gordonii</i> var. <i>gordonii</i>	Gordon's bladderpod			X	X	Annual or Perennial forb	Moderate	Annual forb; 100-5000'; occurs in sandy open places; to 16" tall	Profuse yellow flowers appear from Feb-May; round pea-sized pods follow flowers; useful as a quick soil stabilizer following disturbance	Abundant after winter rains along with Mexican gold poppy, lupine, <i>Phacelia</i> spp., and owl's clover	Pods eaten by large and small mammals, birds, and other wildlife	
X	X		X	X	X	X	X	<i>Lupinus sparsiflorus</i> ssp. <i>mohavensis</i>	Coulter's lupine				X	X	Annual forb	Moderate	Annual forb to 16" height; below 4,500' on slopes and mesas on sandy soils.	Pale blue to violet flowers from January to May. Improves soil quality through nitrogen infusion.	Abundant after winter rains along with other spring ephemerals including Mexican gold poppy, Gordon's bladderpod, <i>Cryptantha</i> spp., bowlesia and purplemat	Flowers: provide nectar: eaten by bees and butterflies.
X			X	X	X	X	X	<i>Nama demissum</i> var. <i>demissum</i>	Purplemat				X	X	Annual forb	Moderate	Annual forb to 8"; desert flats and washes; below 3,500'.	Red-purple flowers between February and May; may carpet the desert when rains are abundant.	Occurs with other spring annuals including Mexican gold poppy, lupines, <i>Cryptantha</i> spp., and owl clover.	Flower are visited by insects.
	X				X			<i>Phacelia distans</i>	Blue-eyed scorpionweed, distant phacelia				X	X	Annual or Perennial forb	Moderate	Annual forb; to 5000'; occurs in dry, gravelly or sandy places, often alongside desert washes; to 12" tall	Deep blue, bell-shaped flowers unfurl from a coiled spike from Feb-April; useful as a quick soil stabilizer following disturbance	Abundant after winter rains along with other spring ephemerals including Mexican gold poppy, Gordon's bladderpod, <i>Cryptantha</i> spp., bowlesia and purplemat	Nectar and pollen: eaten by insects Provides temporary cover for small mammals
X								<i>Platystemon californicus</i>	Creamcups		X	X	X			Annual forb; 1500-4500'; occurs in open areas with moist, gravelly soil, primarily along streams and washes and moist meadows; to 15" tall	Cream-colored "poppy-like" flowers present March-May; does not tolerate heavy shade	Associated with a wide variety of forbs and grasses in open moist habitats such as grassland meadows and streamside edges. Associated plants include Fremont cottonwood, seep willow and various grasses and forbs	Provides temporary cover and moist microsites for insects and small mammals	
	X					X		<i>Polansia dodecandra</i>	Western Clammyweed				X	X	Annual forb	Moderate	Annual forb; 1000-6500'; occurs in wash channels and other sandy areas subject to frequent disturbance; to 30" tall	Clusters of white to pinkish flowers borne on tall stalks from May-Oct; strongly scented leaves and stems	Often associated with desert strand species including datura, slimpod senna, windmills, and burrobrush.	Flowers: provide nectar: eaten by bees and butterflies
	X		X					<i>Salvia columbariae</i> var. <i>columbariage</i>	Chia				X	X	Annual forb	Low	Annual forb; to 3000'; occurs in open, exposed areas along sandy washes, dry slopes, woodland hillsides and gravelly disturbed sites such as roadsides; to 60" high if sufficient moisture is present	Whorls of tubular blue flowers on tall stems appear from March - May; seeds follow flowers in summer; requires full sun; readily self-sowing	Occurs in open areas subject to frequent disturbance with other annuals including Mexican gold poppy, Gordon's bladderpod, <i>Cryptantha</i> spp., and annual grasses	Seeds: valuable high-protein food source for a wide variety of wildlife; Flowers: provide nectar: eaten by bees and butterflies
GRASSES																				
	X			X			X	<i>Aristida ternipes</i>	Spidergrass				X	X	Perennial grass	Low	Tufted perennial grass; 2,500 – 5,500'; occurs on rocky and sandy slopes and often along roadsides and other frequently disturbed areas; to 3' tall	Long drooping panicles lend a delicate feature to the landscape; flowers mostly Aug – Nov but sometimes in the spring	Associated with Sonoran desertscrub plant communities, often with paloverde, velvet mesquite, cacti, and various forbs and other grasses	Leaves and seeds: browsed by large and small mammals; Provides nesting materials for birds and small mammals
	X	X					X	<i>Bothriochloa barbinodis</i> (<i>Andropogon barbinoides</i>)	Cane beardgrass					X	Perennial bunchgrass	Moderate	Tufted perennial; 1,000-6000'; occurs on rocky and sandy slopes and in floodplains, desert uplands, and disturbed roadside areas; to 5 feet tall	Spikelet with dense long hairs blooms Apr-Oct; attractive "fluffy" appearance; extremely drought-resistant	Associated plants include velvet mesquite, paloverde, creosotebush, triangle bursage, cacti, and a wide variety of forbs and other grasses	Leaves: considered good forage for grazing mammals when green; Seeds: eaten by mammals and birds; Serves as nesting materials and cover for birds and small mammals

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X	X		X	X	X			<i>Bouteloua aristidoides</i>	Needle grama			X	X	Annual tufted grass	Low	Low, tufted, annual grass; to 6000'; occurs on dry mesas, and in and along washes and disturbed areas; to 6 inches tall	One-sided raceme of flowers appearing in spring, summer, or fall, depending upon rainfall; useful as a quick soil stabilizer following disturbance	Associated with Sonoran desertscrub and xeroriiparian plant communities, often with paloverde, velvet mesquite, cacti, and various forbs and other grasses	Leaves and seeds: utilized by birds and small mammals	
X	X	X			X			<i>Bouteloua curtipendula</i>	Sideoats grama				X	Perennial tufted grass	Low	Tufted perennial grass; to 7,000', occurs on rocky slopes, grasslands, and in woodlands and forest openings; 1-2' tall	Raceme of hanging spikelets bloom from summer to early fall	Associated plants include oak, juniper, velvet mesquite, fairy duster, creosotebush, triangle bursage, cacti, and a variety of forbs and other grasses	Seeds: eaten by birds and small mammals; Leaves: considered excellent forage for grazing mammals when green	
	X	X			X			<i>Bouteloua rothrockii</i>	Rothrock grama				X	Perennial tufted grass	Low	Short-lived perennial grass; 2,300-5,500'; occurs in scattered clumps on dry rocky hillsides and sandy mesas; 10-36" tall	One-sided raceme of flowers arranged on curving spikelets bloom in warm season; very hardy and drought-resistant	Associated with Sonoran desertscrub and xeroriiparian plant communities, often with paloverde, velvet mesquite, cacti, and various forbs and other grasses.	Leaves: considered valuable forage for grazing mammals due to drought resistance, though not as good as other grama species; Seeds: eaten by birds and small mammals; Provides cover and nesting materials for birds and small mammals	
X	X	X	X	X	X	X	X	<i>Dasyochloa pulchella (Erioneuron pulchellum, Tridens pulchellus)</i>	Fluffgrass, low woolly grass				X	Perennial Grass	Low	Low densely-tufted perennial grass; under 5500'; occurs on dry, rocky slopes and desert flats; in scattered clumps less than 6" tall	Short spikelets bloom spring, summer and fall; abundant in overgrazed lands	Associated with Sonoran desertscrub plant communities; often with paloverde, velvet mesquite, cacti, desert zinnia, and various forbs and other grasses.	Seeds: eaten by mammals and birds; Leaves: not utilized by large grazers but utilized by small mammals and desert tortoise; Serves as nesting materials for birds and small mammals	
X						X		<i>Distichlis stricta</i>	Desert saltgrass	X	X	X		Perennial turfgrass	Moderate	Low-growing perennial; up to 7000'; occurs on alkaline and saline soil; 8-15" tall	Warm season flowers in dense spikes; spreads by stolons and forms dense turfgrass that is a good native alternative to the invasive Bermudagrass	Occurs near riparian areas and at the edges of mesquite bosques; associated with other saline-tolerant plants including yerba mansa and alkali sacaton	Leaves and seeds: browsed by large and small mammals but considered poor forage for cattle; Provides nesting materials for birds and small mammals	
X			X	X	X	X	X	<i>Hilaria belangeri var. belangeri (Anthephora belangeri)</i>	Curly-mesquite				X	Perennial tufted grass	Moderate	Tufted perennial to about 12"; occurs on rocky slopes, dry hillsides, and sandy plains from 1,500-6,000 feet.	Flowers mostly from August to November. Most palatable of the <i>Hilarias</i> for forage.	Associated with grammas (<i>Bouteloua</i> spp.), three-awn (<i>Aristida</i> spp.), tanglehead, bush muhly, and other grasses.	Leaves: considered excellent forage for livestock and deer. Provides nesting materials for birds and small mammals;	
						X	X	<i>Leptochloa dubia</i>	Green sprangletop				X	X	Annual grass	Moderate	Tufted perennial; 2500'-6000'; coarse soils from bottomlands to uplands and hills, most common in higher elevations; 2-3' tall	Large drooping flower spikes in spring and summer; bluish green leaves	Associated with Sonoran desertscrub and grassland plant communities, often with paloverde, velvet mesquite, cacti, and various forbs and other grasses	Leaves and seeds: valuable forage for by large and small mammals; Provides nesting materials for birds and small mammals; Sometimes harvested as hay
	X	X		X				<i>Muhlenbergia porteri</i>	Bush muhly				X	X	Perennial tufted grass	Moderate	Tufted perennial grass; 2000-6000'; occurs on dry mesas and rocky slopes;; 2'-4' tall and 3' wide	Flowers in numerous delicate panicles blooming Aug-Oct; shade-tolerant	Associated plants include velvet mesquite, paloverde, creosotebush, triangle bursage, cacti, and a variety of forbs and other grasses; often seen growing under the protection of shrubs	Leaves: excellent forage for livestock, deer and pronghorn; Seeds: eaten by mammals and birds; Serves as nesting materials and cover for birds and small mammals
	X	X	X	X		X	X	<i>Muhlenbergia rigens</i>	Deergrass				X	X	Perennial bunchgrass	Moderate	Perennial bunchgrass; 2000-7500', occurs on woodland slopes, and in canyons and along water courses; 2-5' tall	Tall, dense, compressed spikelets bloom in the warm season; attractive drooping leaves provide a good alternative to the invasive fountaingrass	Associated plant include Fremont cottonwood, velvet mesquite, oak, velvet ash, and a wide variety of shrubs, forbs and other grasses	Leaves: considered good forage for grazing mammals when green, but poor when dry; Seeds: eaten by mammals and birds; Serves as nesting materials and cover for birds and small mammals

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	X		X					<i>Panicum obtusum</i>	Vine mesquite	X	X		Perennial tufted grass	Moderate	Perennial bunchgrass; 1000' -6000'; occurs along streams, roadsides, and moist lowlands; to 30" tall	Flowers May - Oct; bluish-green leaves; spreads by stolons forming dense stands that are useful in erosion control	Occurs in hydro- and mesori-parian plant communities; frequent associates include Fremont cottonwood, Goodding's willow, velvet ash, netleaf hackberry, and seep willow	Seeds: eaten by a wide variety of wildlife including birds; Leaves: considered good forage for grazing mammals when green; Provides nesting materials for birds and small mammals
X	X	X						<i>Setaria macrostachya</i>	Plains bristlegrass, large-spike bristlegrass	X	X	X	Perennial bunchgrass	Moderate	Tufted perennial grass; 2000 – 7000'; occurs on slopes and along washes, often at the edge of tree canopies or disturbed roadsides; 1 - 4' tall	Dense spike-like panicle of flowers with stiff hairs blooms May–Oct; provides a good alternative to the invasive fountaingrass	Associated plants velvet mesquite, paloverde, giant sacaton, graythorn, and a variety of forbs and other grasses	Leaves: considered relatively poor forage for grazing mammals; Seeds and foliage: eaten by birds and small mammals; Provides cover and nesting materials for small mammals
	X	X				X		<i>Sporobolus airoides</i>	Alkali sacaton	X	X	X	Perennial bunchgrass	Moderate	Dense, tall perennial bunchgrass; 2500' – 6500'; occurs in and along sandy valleys and washes, and riparian bottomlands; 2 - 4' tall	Large spreading panicle of flowers bloom May - Oct; tolerant of alkaline and saline soils	Associated with other riparian and saline-tolerant plants including Fremont cottonwood, velvet mesquite, desert saltgrass, and yerba mansa	Leaves: though tough are considered valuable browse, especially where alternatives are lacking; Seeds: eaten by mammals and birds; Provides cover in otherwise open landscapes
	X	X	X					<i>Sporobolus cryptandrus</i>	Sand dropseed, spike dropseed		X	X	Perennial bunchgrass	Moderate	Perennial bunchgrass; 150-7000', occurs on upland slopes and within floodplains with sandy soil; to 3' tall	Slender, erect panicle of flowers bloom July – October; highly adaptable to a wide range of environmental conditions and thus valuable for erosion control	Associated plants include velvet mesquite, four-winged saltbush, giant sacaton, alkali sacaton, and desert saltgrass	Seeds: eaten by numerous birds including wild turkey, and small mammals; Leaves: considered good forage for grazing mammals when green
X								<i>Sporobolus wrightii</i>	Giant sacaton, big sacaton	X	X		Perennial bunchgrass	Moderate	Perennial bunchgrass; 2000' –5000'; occurs in riparian floodplains and along slopes and sandy washes; 3 – 6.5' tall	Large spreading panicle of tiny flowers bloom May - October	Associated with other riparian plants including Fremont cottonwood, Goodding's willow, velvet mesquite, graythorn, buttonbush, and deergrass	Leaves: considered good forage for grazing mammals when green; Seeds: eaten by mammals and birds; Provides nesting materials and cover for birds and small mammals
			X	X				<i>Vulpia octoflora (Festuca octoflora)</i>	Sixweeks fescue				Annual grass	Low	Short-lived annual grass; up to 5,500'; widespread on rocky slopes; generally to 12", occasionally to 20" tall	Lush spring growth after summer rains; useful as a quick soil stabilizer following disturbance	Associated with Sonoran desertscrub and xerori-parian plant communities, often with paloverde, velvet mesquite, cacti, and various forbs and other grasses including desert strand species	Leaves and seeds: browsed by large and small mammals

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriiparian	Xeroriiparian		
								TREES					
	X	X		X	X			<i>Acacia constricta</i> (Whitethorn acacia)		X	X	Perennial shrub/small tree	Low-Moderate
X	X	X	X	X	X	X	X	<i>Acacia greggii</i> (Catclaw acacia)		X	X	Perennial Tree	Low
X	X	X				X		<i>Celtis laevigata</i> (<i>Celtis reticulata</i>) (Netleaf/Canyon hackberry)	X	X		Perennial Tree	Moderate
X	X	X					X	<i>Chilopsis linearis</i> (Desert willow)		X	X	Perennial shrub/small tree	Low-Moderate
X	X		X				X	<i>Fraxinus velutina</i> (Arizona ash, Velvet ash)	X	X		Perennial Tree	Moderate-High
	X					X		<i>Juglans major</i> (Arizona Black Walnut)	X	X		Perennial Tree	High

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
TREES				
<i>Acacia constricta</i> (Whitethorn acacia)	Perennial; 2500'-5000', occurs in a variety of settings including washes, slopes, shallow caliche-lined soils and grasslands; to 15' tall	Deciduous; very small yellow-orange flowers in spherical clusters present May-September, followed by seedpods; pairs of whitish spines on branches; nitrogen-fixer	Midstory shrubby tree occurring in a variety of situations; often associated with velvet mesquite, desert hackberry, wolfberry, and various cacti	Nectar: eaten by insects and nectar-eating birds including verdin; Seeds: eaten by a wide variety of birds and other wildlife; Foliage: eaten by deer and jackrabbits; host plant for larval butterflies; Provides cover and nest sites for birds
<i>Acacia greggii</i> (Catclaw acacia)	Long-lived perennial; below 5000', occurs within and along slopes, canyons, riparian bottomlands, and desert washes; shrub or small tree to 20' tall	Small yellow flowers on cylindrical spikes bloom April–October; seedpods produced in summer to fall; semi-deciduous in winter and extreme drought; has small but sharp “cat-claw-like” thorns; nitrogen-fixer	Under- to mid-story shrub on slopes, along washes; occasionally a tree where moisture plentiful; associated with common xeroriparian species such as velvet mesquite, desert hackberry, and graythorn.	Seeds: eaten by birds and other wildlife; Nectar: attracts butterflies and other insects including ants, which in turn attract horned lizards; Shelter for a wide variety of wildlife
<i>Celtis laevigata</i> (<i>Celtis reticulata</i>) (Netleaf/Canyon hackberry)	Long-lived perennial; 1500'-6000'; occurs in moist riverbeds, and along intermittent streams, and canyons; to 35' tall	Deciduous; very small greenish flower blooms March-April; small reddish fruits available June to November	Midstory to overstory tree associated with Mexican elderberry, velvet ash, Fremont cottonwood, velvet mesquite, western soapberry, and Arizona walnut	Berries: eaten by a wild variety of wildlife; Provides cover and nest sites for birds including raptors
<i>Chilopsis linearis</i> (Desert willow)	Perennial, moderate lifespan; 1500' – 5000', occurs in desert flats, and along washes and streams; to 25'	Deciduous; showy lavender pea-shaped blooms Apr–Aug/Sep	Midstory to overstory tree in variety of upland and riparian situations; commonly associated with desert wash communities including velvet mesquite, Mexican elderberry, and desert hackberry.	Nectar: consumed by hummingbirds, insects including bees (bumble bees, carpenter bees, and others), and nectar-eating birds; Insects attracted by nectar provide food for insect-eating birds; Leaves: host plant for larvae of pollinating moths; Shelter and nesting for birds and other wildlife
<i>Fraxinus velutina</i> (Arizona ash, Velvet ash)	Perennial; 2000'– 7000'; within and along streams, moist canyons and washes; to 30' tall	Deciduous; Blooms March-April; very small yellow flowers appear before leaves	Overstory tree in riparian bottomlands; associated with Arizona walnut, netleaf hackberry, and Mexican elderberry.	Seeds: eaten by a wide variety of wildlife
<i>Juglans major</i> (Arizona Black Walnut)	Long-lived perennial; 3000'-7000'; occurs in streams and moist canyons from desert to oak or pine forestlands; to 50' tall	Deciduous; small greenish blooms before or during spring or summer leaf growth; produces large edible nut	Mid-or overstory tree in moist areas; associated with velvet ash, Mexican elderberry, Acacia spp.; understory often canyon hackberry	Nuts: eaten by a wide variety of wildlife; Provides shelter including nesting cavities for birds and other wildlife

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriiparian	Xeroriiparian		
		X			X			<i>Olneya tesota</i> (Desert Ironwood)			X	Perennial Tree	Low
X	X	X	X	X			X	<i>Parkinsonia florida</i> (<i>Cercidium floridum</i>) (Blue paloverde)		X	X	Perennial Tree	Low-Moderate
	X	X			X		X	<i>Parkinsonia microphylla</i> (<i>Cercidium microphyllum</i>) (Foothills Palo Verde, yellow palo verde)			X	Perennial Tree	Low
	X				X	X	X	<i>Platanus wrightii</i> (Arizona sycamore)	X	X		Perennial Tree	Moderate
X		X					X	<i>Populus fremontii</i> ssp. <i>fremontii</i> (Fremont cottonwood)	X	X		Perennial Tree	High
		X	X	X				<i>Prosopis pubescens</i> (Screwbean mesquite)		X	X	Perennial Tree	Moderate

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
<i>Olneya tesota</i> (Desert Ironwood)	Long-lived perennial; below 2500', occurs on foothills and desert slopes where cold air doesn't settle; 26' to 30' tall	Purple, pink or white pea-like flowers bloom May-June; seedpods produced June-July; pairs of spines emerge from stems at base of leaves; nitrogen-fixer	Mid-sized desert tree; associated with saguaro, desert hackberry, wolfberry, graythorn, and desert lavender	Seeds: eaten by numerous wildlife species; Flowers: provide food for nectar-eating birds; Leaves and twigs: valuable browse for bighorn sheep and mule deer; Retains leaves during summer drought and provides important breeding and year-round thermal shelter; Considered a keystone species due to the abundance of wildlife that rely on this tree
<i>Parkinsonia florida</i> (<i>Cercidium floridum</i>) (Blue paloverde)	Perennial, moderate age; 500'-4000', occurs in washes, valleys, and floodplains, grasslands; to 30' tall	Bright yellow flowers bloom April-May; seedpods appear May-June; winter and drought deciduous; some spines on branches and stems; needs higher moisture levels than foothills paloverde; nitrogen-fixer	Mid to overstory associate within a wide variety of habitats including desert, grassland and xeroriparian understory; often associated with velvet mesquite and desert hackberry	Seeds: eaten by a variety of wildlife; Nectar: used by bees and other insects and nectar-eating birds; Fallen flowers: eaten by desert tortoise and other wildlife species; Branches: provide nesting sites for numerous bird species and nighttime roosts for many wildlife species; Host plant for mistletoe which is a key food source for phainopepla;
<i>Parkinsonia microphylla</i> (<i>Cercidium microphyllum</i>) (Foothills Palo Verde, yellow palo verde)	Long-lived perennial; 500-4000'; occurs throughout Sonoran deserts scrub habitats and along washes and streams; slow to medium growth rate, depending on water availability; shrub or tree to 26' tall	Large yellow flowers bloom Mar-May; seedpods mature June-July; tolerates drier conditions than blue paloverde; nitrogen-fixer	Mid to overstory associate within a wide variety of habitats including desert, grassland and xeroriparian understory; often associated with saguaro and other cacti, creosotebush, desert ironwood, and mesquite.	Seeds: eaten by birds and mammals; Flowers: provide pollen and nectar for insects including solitary bees, and also eaten by wildlife; Branches: used for nesting and roosting sites; Host for mistletoe providing food for phainopepla and other birds
<i>Platanus wrightii</i> (Arizona sycamore)	Perennial; 2000'-6000', occurs within and along streams and rocky canyons; to 80' tall	Deciduous; inconspicuous flowers bloom March-April; flowers followed by cylindrical fruits	Overstory tree in canyons near streams; associated with Arizona walnut, Fremont cottonwood, and Goodding's willow	Seeds: eaten by wildlife; Leaves, stems, wood: utilized by beaver; Provides habitat for wildlife including sites for cavity-nesting birds
<i>Populus fremontii</i> ssp. <i>fremontii</i> (Fremont cottonwood)	Long-lived perennial; 150' - 6000'; occurs along streams, rivers, and cienegas with surface water or near-surface groundwater; to 100' tall	Deciduous; very small, green-yellow flowers bloom early spring (often late February in Tucson area)	Overstory tree in moist areas along streams and rivers, or elsewhere where water table is near surface; associated with Arizona sycamore, Arizona ash, Goodding's willow, sacaton, grasslands, and canyon grape	Twigs and foliage: eaten by deer, beaver, and other mammals; Buds and catkins: eaten by birds; Insects attracted by fragrant buds provide additional forage for wildlife; Large size: offers abundant sheltering, resting, nesting and foraging habitat for numerous wildlife species
<i>Prosopis pubescens</i> (Screwbean mesquite)	Perennial, moderate lifespan; below 4000', occurs in floodplains and bottomlands; to 15'-20' tall	Deciduous; small, yellow flowers in clusters bloom May-August; seedpods in summer to fall; branches have spines; nitrogen-fixer	Medium-sized tree; fixes nitrogen in soil; associates with velvet mesquite, wolfberry, graythorn, and four-winged saltbush	Seeds and pods: eaten by a wide variety of wildlife; Host plant for mistletoe, which is an important food source for phainopepla and other birds;

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriiparian	Xeroriiparian		
X	X	X	X	X	X	X		<i>Prosopis velutina</i> (Velvet mequite)		X	X	Perennial tree	Low
	X							<i>Quercus emoryi</i> (Emory oak)		X			X
X	X	X					X	<i>Salix gooddingii</i> (Goodding's willow)	X	X		Perennial Tree	High
	X					X		<i>Sambucus nigra</i> <i>spp.cerulea</i> (<i>Sambucus mexicana</i>) (Mexican elderberry, blue elderberry)		X		Perennial shrub/small tree	Moderate
	X					X		<i>Sapindus saponaria</i> var. <i>drummondii</i> (Western soapberry)		X	X	Perennial Tree	Low
SHRUBS													
		X					X	<i>Ambrosia deltoidea</i> (Triangle-leaf bursage)			X	Perennial shrub or subshrub	Low
X	X				X	X	X	<i>Anisacanthus thurberi</i> (<i>Drejera thurberi</i>) (Desert honeysuckle)		X		Perennial Shrub	Moderate

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
<i>Prosopis velutina</i> (Velvet mequite)	Long-lived perennial; 1000' - 5000'; occurs in riparian floodplains; along washes, on scrubland slopes, and scattered in grasslands; generally to 30' tall, but larger in old-growth bosques in bottomlands	Deciduous; clusters of yellow flowers bloom April-May, and again in August; seedpods are produced June-September; nitrogen-fixer	Mid- to over-story tree associated with wide variety of desert and riparian plants including saltbush, wolfberry, desert hackberry, graythorn, desert lavender, and a wide variety of grasses and forbs	Seeds, pods, bark, twigs and leaves: eaten by a wide variety of wildlife including birds, bighorn sheep, deer, antelope, coyote, and rodents; Flowers: attract 60 species of native bees, plus wasps and butterflies; Nectar and larval plant for butterflies; Nesting sites: utilized by white winged doves, mourning doves, and many other birds; Host plant for mistletoe, which is an important food source for phainopepla and other birds; Insects on plant gleaned by birds
<i>Quercus emoryi</i> (Emory oak)	Perennial; 4,000 – 7,000', occurs on dry slopes, and along moist canyons in grasslands; shrub or small tree to 50'	Evergreen; small inconspicuous flowers appear in spring; acorns produced in summer	Midstory to overstory tree in variety of mid- to high-elevation settings; often along drainages in grassland settings.	Leaves and stems: browse for deer; Acorns: eaten by a variety of wildlife; Perennial cover valued by a wide variety of wildlife
<i>Salix gooddingii</i> (Goodding's willow)	Perennial; below 7000', occurs along streams, rivers, and moist bottomlands with surface water or near-surface groundwater; to 45' tall	Deciduous; tiny flowers in bunches bloom in spring and then release seeds that float in cottony fluff	Mid to overstory tree, often draping branches to the ground, associated with Fremont cottonwood, velvet ash, and canyon grape	Twigs and foliage: eaten by deer, beaver, and other mammals; Buds and catkins: eaten by birds, sites for insect gleaned birds; Dense cover: provides thermal shelter and cover from predators, and sheltered nest sites
<i>Sambucus nigra</i> <i>ssp. cerulea</i> (<i>Sambucus mexicana</i>) (Mexican elderberry, blue elderberry)	Perennial; 1000' – 4000', occurs along streams, rivers, and bottomlands, and scattered across moist grasslands; shrub to small tree to 30' tall	Drought deciduous; yellow-white cluster of small blooms appears March-June; small, abundant berries May-October	Mid-sized tree, occasionally large associated with Goodding's willow, velvet mesquite, netleaf hackberry, graythorn, climbing milkweed, and old man's beard	Berries: eaten by a wide variety of wildlife; Foliage: eaten by deer, livestock, and other mammals
<i>Sapindus saponaria</i> <i>var. drummondii</i> (Western soapberry)	Perennial; 2,400' – 6,000'; occurs in canyons, streams, desert grasslands, and oak woodlands; 20' to 50' tall	Deciduous; small white flower appears May – August, followed by yellowish berries	Multi-trunked tree occurring in riparian communities; common codominants include Arizona black walnut and velvet ash	Leaves and twigs: generally not palatable for wildlife due to the presence of poisonous saponids; Nectar: eaten by butterflies Clonal growth provides dense cover for a numerous wildlife species
SHRUBS				
<i>Ambrosia deltoidea</i> (Triangle-leaf bursage)	Perennial, ,1000-3000', low-growing, less than 2' tall. Often in nearly pure stands on bajadas, plains, and mesas	Evergreen; inconspicuous pale yellow-green flowers, fruit a small bur. Flowers February to July	Low-growing subshrub prefers coarse, rapidly draining soils. Often associated with foothill palo verde and saguaro	Flowers probably provide nectar and pollen for insects. Plant provides cover for small vertebrates.
<i>Anisacanthus thurberi</i> (<i>Drejera thurberi</i>) (Desert honeysuckle)	Perennial; 2500-5500', colonizes sandy washes, canyons, and riparian bottomlands; upright shrub to 6' tall	Showy red to orange flowers appear mostly in spring, but during other times when adequate moisture is present	Understory shrub, sometimes forming large clumps; often found alongside desert washes with velvet mesquite, ironwood, paloverde, chuperosa, and desert willow	Nectar and pollen: eaten by hummingbirds and solitary bees; Leaves and twigs: browsed by bighorn sheep, cattle, and other mammals; Host plant for several butterfly species

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriarian	Xeroriarian		
	X				X			<i>Asclepias tuberosa</i> (Butterfly milkweed)		X		Perennial subshrub	Moderate
	X	X		X				<i>Atriplex canescens</i> (Four-winged saltbush)			X	Perennial shrub	Low
		X		X				<i>Atriplex lentiformis</i> (Quailbush)			X	Perennial Shrub	Low
X	X		X	X	X	X	X	<i>Baccharis salicifolia</i> (Seep willow)	X	X		Perennial Shrub	Moderate-High
X								<i>Barkleyanthus salicifolius</i> (<i>Senecio salignus</i>) (Senecio, willow ragwort)		X		Perennial Shrub	Moderate
	X	X	X			X	X	<i>Calliandra eriophylla</i> (Fairy duster)			X	Perennial Shrub	Low
X	X	X	X	X	X	X		<i>Celtis ehrenbergiana</i> (<i>Celtis pallida</i>) (Desert hackberry, spiny hackberry)	X	X		Perennial shrub	Low
X					X	X	X	<i>Cephalanthus occidentalis</i> (Buttonbush, Common buttonbush)	X			Perennial shrub	High

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
<i>Asclepias tuberosa</i> (Butterfly milkweed)	Perennial; 4,000 – 8,000'; dry grasslands, meadows; Bushy to 3' high	Low to mid-sized herb with bright orange or yellow flower blooming May – September	Low to mid-sized meadow herb	
<i>Atriplex canescens</i> (Four-winged saltbush)	Perennial; 2000'-8000'; occurs in valleys and along washes, and in sandy soil from creosote valleys to pinyon flats; shrub to 8' tall	Evergreen; inconspicuous pale flowers bloom July - August; prominent winged seeds present April-September; alkaline tolerant	Mid-sized to large shrub; associated with variety of low to mid-elevation plant communities including triange bursage, burrobrush and grasses and forsbs	Seeds: eaten by birds and small mammals; Insects attracted to flowers are gleaned by birds; Leaves and twigs: valuable forage for mammals including deer; Plant provides good cover and nesting sites
<i>Atriplex lentiformis</i> (Quailbush)	Perennial; below 4000'; inhabits a range of dry to moist soils in desert flats, floodplains and drainages; dense shrub, to 8' tall and 12' wide	Semi-deciduous; small green flower blooms February-April; alkaline tolerant	Mid- to large-sized shrub in open areas or under- to mid-story in other areas; frequent associates include velvet mesquite, four-winged saltbush, and saltgrass	Seeds: eaten by quail and other birds; Flowers: provide pollen and nectar for bees; Twigs and foliage: browsed by deer, pronghorn and bighorn sheep; Cover plant for wildlife including quail
<i>Baccharis salicifolia</i> (Seep willow)	Perennial; 2000'-5500'; occurs along streams and moist washes, and in riparian bottomlands; tall shrub or small tree to 12' tall	White flowers on ends of branches bloom March-Dec; seeds in summer to fall	Associated with, and contributes to growth of, willows and Fremont cottonwoods	Nectar: eaten by butterflies, wasps and beneficial bees
<i>Barkleyanthus salicifolius</i> (<i>Senecio salignus</i>) (Senecio, willow ragwort)	Perennial; 2000-4000'; occurs along moist washes and streams, and disturbed areas; shrub to 3' tall	Bright yellow flowers in dense clusters from February-April; frost-sensitive	Occurs in desertscrub and grassland habitats; common associates include cacti and a wide variety of grasses and forbs	Flowers: provide pollen and nectar for butterflies and other insects; Foliage: browsed by deer and other mammals
<i>Calliandra eriophylla</i> (Fairy duster)	Perennial; below 5000'; occurs on hillsides, desert flats, washes, and grasslands; shrub to 4' tall	Semi-deciduous; puffy, pink flower clusters appear any time of year, but mostly October-May	Small to medium sized cold-hardy shrub; associated with bricklebush, Trixis, limberbush, and a wide variety of grasses and forbs	Foliage: browse for mammals; Flowers: provide nectar eaten by butterflies, hummingbirds, and bees; Seeds: eaten by birds and other wildlife; Provides dense cover often lacking in the lower strata
<i>Celtis ehrenbergiana</i> (<i>Celtis pallida</i>) (Desert hackberry, spiny hackberry)	Long-lived perennial; 1500 – 3500'; occurs in uplands along washes and canyons, and in open desert and riparian bottomlands; shrub 10'-20' tall	Deciduous or semi-evergreen shrub; flowers are small and whitish, appearing in summer; bright orange berries present from June-October; dense and thorny	Large shrub in open desert or midstory in riparian bottomlands; associated with velvet mesquite, graythorn, wolfberry, catclaw acacia, and prickly pear and other cactus	Berries: valuable forage for a wide variety of wildlife; Foliage: browsed by deer, attracts insects, which are eaten by birds; Provides dense cover and nesting habitat for birds and small mammals
<i>Cephalanthus occidentalis</i> (Buttonbush, Common buttonbush)	Long-lived perennial, 1,000-5000'; inhabits wet soils adjacent to streams and open waters; shrub or small tree to 10'.	Deciduous shrub with warts on stems; flowers are white balls to 1.5 inches in diameter that appear between June and September; fruit a rough button to 3/4" in diameter;	Mid-story shrub, usually in saturated soils adjacent to streams or other water bodies. Associated with three-leafed sumac and silktassel.	Waterfowl are the principle users of the seeds and the plants are browsed by deer. Insects come to the blooms for nectar.

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
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	X					X	X	<i>Condalia warnockii</i> (Warnock condalia, Warnock's snakeweed)			X	Perennial shrub	Low
		X			X	X	X	<i>Dodonaea viscosa</i> (Hopbush)			X	Perennial Shrub	Moderate
X	X	X	X			X	X	<i>Encelia farinosa</i> (Brittlebush)			X	Perennial Shrub	Low
	X	X			X	X	X	<i>Ericameria laricifolia</i> (<i>Haplopappus laricifolius</i>) (Turpentine bush)			X	Perennial Shrub	Low
		X			X	X	X	<i>Eriogonum fasciculatum</i> var. <i>foliolosum/polifolium</i> (Flat-top buckwheat, Eastern Mohave buckwheat)			X	Perennial Shrub	Moderate
	X				X	X	X	<i>Garrya wrightii</i> (Wright's silktassel)		X		Perennial Shrub	Moderate
	X						X	<i>Gossypium thurberi</i> (<i>Thurberia thespesioides</i>) (Native cotton, Thurber's cotton)		X	X	Perennial shrub	Moderate
X	X		X	X	X	X	X	<i>Hymenoclea monogyra</i> (<i>Ambrosia monogyra</i>) (Burrobrush, single whorl burrobrush)			X	Perennial Shrub	Moderate
		X				X	X	<i>Hyptis emoryi</i> (Desert lavender)			X	Perennial Shrub	Low

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
<i>Condalia warnockii</i> (Warnock condalia, Warnock's snakeweed)	Long-lived perennial, 2500-5000' occurs in uplands on bajadas and mesas and in canyons to 10' tall	Evergreen, tiny flowers in August to October, also spring. Fruits are red-blackish and up to 1/4 inch in diameter	Associated with mesquite and palo verde, graythorn and wolfberry	provides excellent cover for nesting birds such as Pyrrhuloxia
<i>Dodonaea viscosa</i> (Hopbush)	Perennial; 2000' - 5000', found along washes, canyons, rocky slopes; and floodplains; shrub to 12' tall	Evergreen; small yellowish flowers bloom February-October, followed by winged fruits	Mid- to large-sized deep green shrub scattered in open areas; often associated with ocotillo and jojoba	Seeds: eaten by some birds; Provides dense shelter for wildlife
<i>Encelia farinosa</i> (Brittlebush)	Perennial; occurs on hillsides, washes, roadsides and other flat areas below 3000'; Shrub to 3' tall	Silvery-gray leaves may drop in spring droughts; showy yellow flowers November-May in frost free areas	Sub-shrub with showy, yellow "daisy-like" flowers; often associated with creosotebush, paloverde, and various cacti and grasses	Flowers: pollinated by nectar-eating butterflies, moths, and small bees; Seeds: eaten by birds, rodents, and other wildlife; Leaves and twigs: eaten by bighorn sheep and other mammals
<i>Ericameria laricifolia</i> (<i>Haplopappus laricifolius</i>) (Turpentine bush)	Perennial; 3000' - 6000', occurs in canyons, and on rocky slopes and desert flats; to 3' tall	Small and numerous yellow to golden flowers bloom August-December	Small, deep green shrub found in open areas or understory in oak woodland; has strong-smelling foliage	Flowers: provide nectar and pollen for bees and other insects
<i>Eriogonum fasciculatum</i> var. <i>foliolosum/polifolium</i> (Flat-top buckwheat, Eastern Mohave buckwheat)	Perennial; 1000'-4500'; grows on hillsides and other scrub-dominated uplands; to 3' tall	Very small white to pink persistent flowers in clusters that dry to an orangish-white color	Sub-shrub often associated with odora and fairy duster	Seeds: eaten by birds and other wildlife; Flowers: produce nectar eaten by butterflies and bees; Foliage: browsed and gleaned by mammals and some birds
<i>Garrya wrightii</i> (Wright's silktassel)	Evergreen perennial, 3000' - 8000', occurs as scattered individuals in many different plant communities; generally to 8' tall, rarely reaching 15'	Inconspicuous tasseled flower bloom March – August; prefers partial summer shade in Tucson area	Mid-sized to large cold-hardy shrub; generally an understory component of pinyon-juniper woodlands and interior chaparral dominated by evergreen oaks and birchleaf mountain-mahogany	Foliage: browsed by deer, and other mammals; Provides good thermal and visual cover
<i>Gossypium thurberi</i> (<i>Thurberia thespesioides</i>) (Native cotton, Thurber's cotton)	Perennial; 2500-5000'; occurs in canyons, wash bottoms, and on rocky slopes; shrub to 7' tall	White to pinkish flowers bloom May-September; seed capsule with fuzzy seeds with short cottony hairs	Occurs on rocky hillsides or in washes or canyons; frequent associates include desert honeysuckle, catclaw acacia, and burrobrush.	Leaves: host plant and larval food for the splendid royal moth
<i>Hymenoclea monogyra</i> (<i>Ambrosia monogyra</i>) (Burrobrush, single whorl burrobrush)	Perennial; 1000' – 4000'; occurs in valleys, flats, and strands with sandy soil; lanky shrub 3' - 6' tall	Small inconspicuous flowers appear in fall, followed by winged fruits	Understory to midstory shrub growing in sandy or disturbed soils; often associated with desert broom, seep willow, and other plants that are tolerant of frequent disturbance	Offers cover and nesting sites for wildlife in otherwise sparsely vegetated landscapes
<i>Hyptis emoryi</i> (Desert lavender)	Perennial; below 5000'; occurs within desert washes, on dry rocky slopes, and in canyons; medium shrub to 15' tall	Violet to blue flowers in clusters that may bloom any time of the year; very drought tolerant	Attractive medium to large shrub; often a component of creosotebush scrub communities	Flowers: important to bees, butterflies, and hummingbirds; Seeds: eaten by variety of wildlife

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriarian	Xeroriarian		
						X	X	<i>Justicia candidans</i> (Red justica, Arizona water-willow)		X	X	Perennial Shrub	Moderate
X	X	X	X	X		X	X	<i>Larrea tridentata</i> var. <i>tridentata</i> (Creosote bush)			X	Perennial Shrub	Low
	X	X		X		X		<i>Lycium andersonii</i> var. <i>andersonii</i> (Anderson's Wolfberry), water jacket		X	X	Perennial shrub	Low
X		X						<i>Lycium fremontii</i> (Fremont Wolfberry, Fremont's desert-thorn)		X	X	Perennial shrub	Low
		X						<i>Mahonia haematocarpa</i> (<i>Berberis haematocarpa</i>) (Red mahonia, red barberry)		X		Perennial Shrub	Low-Moderate
X			X					<i>Parthenium incanum</i> (Mariola)			X	Perennial Shrub	Low
	X				X	X	X	<i>Rhus glabra</i> (Smooth sumac)		X		Perennial Shrub	Moderate
			X					<i>Rhus microphylla</i> (Littleleaf sumac)		X	X	Perennial sub-shrub	Moderate

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
<i>Justicia candidans</i> (Red justica, Arizona water-willow)	Perennial; 1500' - 3000', occurs within and along washes or slopes; to 3' tall	Drought deciduous; attractive red, sometimes yellow, flowers bloom spring and fall	Semi-frost hardy small shrub; associated white-thorn acacia and a wide variety of grasses and forbs	Flowers: hummingbirds use nectar Foliage: browsed by javelina
<i>Larrea tridentata</i> var. <i>tridentata</i> (Creosote bush)	Long-lived perennial; below 4500'; inhabits dry plains and desert valleys; shrub to 10' tall	Small yellow flowers bloom Mar-April and November–December, followed by small, fuzzy white fruit	Medium to large shrub; associated species include saguaro, night-blooming cereus, paperflower, desert zinnia, and Christmas cholla; sometimes dominates extensive areas on bajadas and valley floors	Flowers: extremely important for native insects (22 species of native bees feed only on its flowers and it supports 17 species of gall forming insects); Seeds: eaten by a variety of birds and other wildlife; Provides valuable shelter in harsh landscapes
<i>Lycium andersonii</i> var. <i>andersonii</i> (Anderson's Wolfberry), water jacket	Perennial; below 5500'; occurs in desert flats and along desert washes; 3 – 6' tall	Drought deciduous; lavender flowers bloom February-April; fruits present late spring to summer	Alone or as understory in some areas; frequently associated with graythorn, velvet mesquite, catclaw acacia, and desert hackberry	Fruits: eaten by birds and other wildlife
<i>Lycium fremontii</i> (Fremont Wolfberry, Fremont's desert-thorn)	Perennial; below 2500', occurs in desert valleys, and within and along washes, slopes, riparian bottomlands; shrub to 9' tall	Drought deciduous; small, lavender flowers blooms year round, but primarily Jan-Mar; can produce fruit year-round	Open areas or as understory shrub in mesoriparian to xeroriparian areas; associated with saltbush, velvet mesquite, graythorn, desert hackberry, and canyon ragweed	Flowers: provides nectar and pollen for a wide variety of insects; Fruits: eaten by birds and other wildlife
<i>Mahonia haematacarpa</i> (<i>Berberis haematacarpa</i>) (Red mahonia, red barberry)	Perennial; 3000' - 5000', occurs within desert grasslands and oak woodlands; shrub to 6' tall	Cold-tolerant evergreen; yellow flowers in loose clusters bloom February-May, followed by red berries	Medium shrub in full sun or as understory in oak woodlands; associated with oak, <i>Ceanothus</i> , juniper, sugar bush, soap tree yucca, and canyon hackberry	Flowers: provide nectar and pollen for bees; Berries: eaten by birds and other wildlife; Foliage: browsed by deer, elk, bighorn, rabbits, and ringtail
<i>Parthenium incanum</i> (Mariola)	Perennial; 3000' - 6000', occurs on dry slopes in the Sonoran desertscrub-Chihuahuan desertscrub transition zone; to 2' tall	White flowers with small petals bloom April-October	Small aromatic shrub occurring on well-drained rocky hillsides; often occurring with creosotebush, desert zinnia, snakeweed, brittlebush, and a variety of cacti; very drought-tolerant.	Provides cover for small mammals and birds
<i>Rhus glabra</i> (Smooth sumac)	Perennial; 5000' - 7000', flats and forests with rich soil; to 20' tall	Small white flowers in attractive terminal clusters bloom June-August, followed by clusters of red berries	Large shrub standing alone or in forest settings; requires good soil	Foliage: browsed by deer
<i>Rhus microphylla</i> (Littleleaf sumac)	Perennial; generally 3,000 - 6,500 feet; occurs on dry desert foothills, and in canyons and along washes and valleys; shrub to 15' tall	Greenish-white flowers occur in dense compound spikes; hairy, red-orange fruit	Small to medium shrub in desert grasslands and scrublands; common associates include velvet mesquite, creosotebush, catclaw acacia, soap tree yucca, sideoats grama, and bush muhly	Fruit: eaten by birds and rodents; Leaves and twigs: browsed by deer and small mammals

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriarian	Xeroriarian		
					X	X	X	<i>Rhus ovata</i> (Sugar bush, sugar sumac)		X		Perennial Shrub	Moderate
	X				X	X	X	<i>Rhus trilobata</i> (Three-leafed sumac, skunkbush sumac)		X		Perennial Shrub	Moderate
					X	X	X	<i>Ribes aureum</i> var. <i>aureum</i> (Wax currant, golden currant)	X			Perennial Shrub	Moderate-High
	X	X					X	<i>Simmondsia chinensis</i> (Jojoba)			X	Perennial shrub	Low
X					X	X	X	<i>Tecoma stans</i> (Yellow bells, yellow trumpetbush)			X	Perennial shrub	Low
	X	X	X		X	X	X	<i>Trixis californica</i> (Trixis, American threefold)			X	Perennial shrub	Low
	X	X						<i>Vauquelinia californica</i> ssp. <i>californica/sonorensis</i> (Arizona rosewood)			X		
X	X	X	X		X	X		<i>Ziziphus obtusifolia</i> var. <i>canescens</i> (Graythorn, lotebush)			X	Perennial shrub	Low

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
<i>Rhus ovata</i> (Sugar bush, sugar sumac)	Perennial shrub or small tree; 3000' - 5000'; occurs in desert canyons, mountain and on slopes with chaparral; to 15' tall	Small cream-colored flowers appear February-March, followed by sticky, reddish fruit	Evergreen, cold-hardy, medium to large shrub stands alone or grows among chaparral or scrub-oak; associated with <i>Ceanothus</i> , canyon hackberry, catclaw acacia, velvet mesquite, and scrub oak woodland associations	Fruit: eaten by a wide variety of birds and other wildlife; Evergreen foliage provides year-round shelter
<i>Rhus trilobata</i> (Three-leafed sumac, skunkbush sumac)	Perennial; 2500' - 7500', occurs in canyons, and on mountain slopes; to 10' tall	Yellow flowers in dense clusters bloom March-June; red fruits mature in summer	Deciduous, attractive shrub often as understory component of pinyon pine or oak woodlands	Berries: eaten by small mammals and birds; Foliage: eaten by and small mammals; Bark: eaten by small mammals
<i>Ribes aureum</i> var. <i>aureum</i> (Wax currant, golden currant)	Perennial; 2600-8000'; occurs in mid- to high-elevation grasslands, and mixed deciduous and coniferous woodlands; to 10' tall	Deciduous; fragrant yellow flowers in spring and berries in summer; small to medium, lanky shrub	Occurs in grasslands, coniferous forests and woodlands, and riparian and mountain shrub communities	Berries: eaten by variety of wildlife; Foliage: browsed by large mammals
<i>Simmondsia chinensis</i> (Jojoba)	Perennial; 1000'-5000'; occurs on desertscrub habitats and along washes, slopes, and rocky hillsides; shrub to 7' tall	Evergreen; inconspicuous greenish flower, male and female flowers occur on separate plants and bloom variable from December-July; nuts appear from May- July	Small to medium shrub scattered across upland desert areas; often associated with velvet mequite, paloverde, hopbush, creosotebush, brittlebush and various cacti	Nuts: eaten by birds and a wide variety of mammals including javelina; Foliage: eaten by deer, bighorn sheep and other mammals
<i>Tecoma stans</i> (Yellow bells, yellow trumpetbush)	Perennial; 3,000-5,500'; occurs on rocky or gravelly slopes along desert washes; shrub with upright form to 12' tall.	Deciduous; elongated, serrated leaves. Bright yellow trumpet-shaped flowers May through October.	Medium shrub of rocky slopes associated with plants of the Sonoran and Chihuahaun deserts. Often occurs with foothill paloverde and saguaro on hillsides.	Browsed by bighorn sheep and probably mule deer. Carpenter bees pirate nectar from blossoms by cutting into the base of the flower.
<i>Trixis californica</i> (Trixis, American threefold)	Perennial up to 5000', probably long-lived up to 3' tall	Bright yellow flowers up to 3/4-inch in diameter	Rocky slopes in the Arizona Upland Subdivision of the Sonoran Desert	Browsed to some extent by cattle
<i>Vauquelinia californica</i> ssp. <i>californica/sonorensis</i> (Arizona rosewood)	Perennial; 2500' – 5000', occurs on mid-elevation canyons and mountains, oak woodlands; shrub or small tree to 25' tall	Slow-growing evergreen; small white flowers in clusters bloom May – June, followed by woody fruits that persist through winter	Shrub or small tree associated in canyons and on slopes with shrub live oak, (<i>Quercus turbinella</i>) and as scattered individuals in grama grasslands with scattered velvet mesquite.	Dense perennial foliage: provide valuable cover for wildlife
<i>Ziziphus obtusifolia</i> var. <i>canescens</i> (Graythorn, lotebush)	Perennial; 1000'-5000'; found scattered in desert uplands, and along washes, riparian bottomlands, and mesquite bosque; to 10' tall	Deciduous; tiny whitish-green blooms appear May–September; fruits August to January	Mid-sized shrub; often associated with wolfberry, desert hackberry, catclaw acacia, desert honeysuckle, and velvet mesquite	Berries: eaten by birds, especially white-winged dove and Gambel's quail; Flowers: nectar and pollen eaten by honeybees, native bees, tarantula hawks, and other insects; Insects attracted to plant are gleaned by birds; Dense and thorny character provides valuable shelter and nesting sites

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriiparian	Xeroriiparian		
								VINES					
	X	X	X					<i>Clematis drummondii</i> (Old man's beard, Virgin's bower, Drummond's Clematis)		X	X	Perennial vine	Moderate
X	X	X	X	X	X	X	X	<i>Cucurbita digitata</i> (Fingerleaf gourd)			X	Perennial vine	Low-Moderate
		X	X	X				<i>Cucurbita palmata</i> (<i>Cucurbita californica</i>) (Coyote melon, Coyote gourd)			X	Perennial vine	Moderate
							X	<i>Ipomoea hederifolia</i> (<i>Ipomoea coccinea</i> var. <i>hederifolia</i>) (Scarlet creeper)	X	X	X	Annual vine	Moderate
X	X		X	X	X	X	X	<i>Maurandya antirrhiniflora</i> (Snapdragon vine, roving sailor)	X	X	X	Perennial vine	Moderate
X	X							<i>Vitis arizonica</i> Arizona wild grape, Canyon grape		X		Perennial vine	Moderate
								CACTI & SUCCULENTS					
	X	X	X					<i>Cylindropuntia arbuscula</i> (<i>Opuntia arbuscula</i>) (Arizona Pencil cholla)			X	Perennial cactus	Low

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
VINES				
<i>Clematis drummondii</i> (Old man's beard, Virgin's bower, Drummond's Clematis)	Perennial; below 4000'; occurs in moist open areas and along the edges of riparian woodlands; woody, climbing vine can reach heights of trellises or trees	White flowers bloom March-September, and later yield fluffy, white plumed seeds	Vine often seen climbing shrubs and trees in riparian bottomlands or thick vegetation where some moisture available; common associates include netleaf hackberry, velvet ash, and seep willow	Serves as a larval host plant for butterflies
<i>Cucurbita digitata</i> (Fingerleaf gourd)	Perennial vine; below 5000'; occurs from low desert valleys to mid-elevation grasslands	Deciduous; large yellow blooms June - October; gourds mature in fall	Associated with fourwing saltbush, and a wide variety of grasses and forbs	Vines, leaves, root and seeds: eaten by wildlife including javelina; Flowers: provide pollen for pollinators including bees
<i>Cucurbita palmata</i> (<i>Cucurbita californica</i>) (Coyote melon, Coyote gourd)	Annual ground-hugging vine with trailing stems from a large root; usually below 3,000' on sandy plains, mesas, or rocky slopes; often in arroyo bottoms.	Has incised palmate leaves and large funnel-shaped yellow-orange flowers that appear between May and August. Produces round white-striped gourds.	Ground-hugging vine; may be associated with datura, clumping grasses, small shrubs or cacti.	Flowers visited by bees. Plant stems are a reservoir for the squash vine borer, which is an economically important pest species of cucurbits.
<i>Ipomoea hederifolia</i> (<i>Ipomoea coccinea</i> var. <i>hederifolia</i>) (Scarlet creeper)	Perennial vine; 2500 - 6000'; occurs along desert washes, canyons and rivers; 2-10' long	Tubular red flowers from May-October;	Common associates include Fremont cottonwood, Goodding's willow, mesquite, and seep willow	Nectar: major food source for hummingbirds;
<i>Maurandya antirrhiniflora</i> (Snapdragon vine, roving sailor)	Perennial herbaceous climbing vine with dark green arrow-shaped leaves; often associated with rocky slopes or wash areas where it climbs over vegetation to 8' height. Occurs from 1,500 to 6,000'.	Reddish pink or lilac blooms with whitish throat with pink lines appear from April through October. Fruit is a dehiscent round capsule.	Common associates include wolfberry, hackberry, and burrowbrush.	Flowers probably provide nectar and pollen for insects.
<i>Vitis arizonica</i> Arizona wild grape, Canyon grape	Perennial vine; 2000' - 7500'; occurs in canyons and along washes and rivers, to 30' long	Deciduous; greenish flower in clusters from April-July; fruit present July-August	Associated with riparian plants such as netleaf hackberry, Fremont cottonwood, and velvet ash	Berries: eaten by a wide variety of wildlife; Vines and leaves: browsed by mammals including javelina and used by birds for nesting material; Flowers: provide nectar and pollen for bees
CACTI & SUCCULENTS				
<i>Cylindropuntia arbuscula</i> (<i>Opuntia arbuscula</i>) (Arizona Pencil cholla)	Perennial; 1000' - 4000'; occurs in open areas on rocky slopes and bajadas; to 9' tall	Blooms from May-June; fruit present in fall and may persist through winter	Associated with desert scrub vegetation including other cholla species, saguaro cactus, triangle bursage, mesquite, and paloverde	Fruits: eaten by deer, javelina, small mammals and birds; Seeds: eaten by birds including mourning dove and Gamble's quail; Flowers: provide nectar and pollen for bees; Provides sheltered sites for small mammal burrows

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriarian	Xeroriarian		
	X	X	X	X				<i>Cylindropuntia leptocaulis</i> (<i>Opuntia leptocaulis</i>) (Christmas cholla, desert Christmas cactus)			X	Perennial cactus	Low
X	X	X	X	X	X	X	X	<i>Ferocactus wislizeni</i> (<i>Echinocactus wislizeni</i>) (Candy barrel cactus)			X	Perennial Cactus	Low
	X	X			X	X	X	<i>Nolina microcarpa</i> (Beargrass, sacahuista)			X	Perennial Lily	Low
	X	X			X	X	X	<i>Opuntia phaeacantha</i> (Prickly Pear)			X	Perennial cactus	Low
	X				X			<i>Yucca elata</i> (Soaptree Yucca)			X	Perennial shrub	Low
								PERENNIAL FORBS/SUB-SHRUBS					
	X			X				<i>Allionia incarnata</i> (Trailing windmills, trailing four-o'clock)			X	Perennial forb	Low
X	X	X	X	X	X	X	X	<i>Ambrosia ambrosioides</i> (Triangle-leaf bursage)		X	X	Perennial Subshrub	Moderate
						X		<i>Anemopsis californica</i> (Yerba Mansa)	X	X		Perennial forb	High

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
<i>Cylindropuntia leptocaulis</i> (<i>Opuntia leptocaulis</i>) (Christmas cholla, desert Christmas cactus)	Perennial; 1000' – 5000'; occurs in open areas on rocky slopes and bajadas; to 4' tall	Small yellowish-greenish blooms from May-June; bright red fruit present in fall and may persist through winter	Associated with desertscrub vegetation including other cholla species, saguaro cactus, triangle bursage, mesquite, and paloverde	Fruits and seeds: eaten by birds and mammals including deer and javelina; Nectar and pollen: eaten by bees and nectar-eating birds; Provides protective nest sites for cactus wren, curve billed thrasher, and other birds
<i>Ferocactus wislizeni</i> (<i>Echinocactus wislizeni</i>) (Candy barrel cactus)	Long-lived, to 11' tall, but mostly less than 6' tall. Up to 4500'	Flowers July-September, very persistent, waxy, yellow fruit	Mexquite and mixed palo verde-cactus, variable soils	Pollen and nectar utilized by a variety of insects
<i>Nolina microcarpa</i> (Beargrass, sacahuista)	Perennial; 3000-6000'; occurs in open areas on rocky slopes and bajadas; to 3' tall, flowering stalk to 8'	Evergreen; small creamy white flowers form showy plumes on stalks that bloom in May-June; coarse leaves are somewhat abrasive	Not a true grass but resembles a coarse bunchgrass; usually in the open rather than in understory; often found with Arizona rosewood, turpentine bush, ocotillo; sotol, manzanita, and oak	Plant: larval plant for Melinus hairstreak butterfly; Flowers: provide nectar and pollen for bees and butterflies; Foliage: sometimes browsed when other food scarce
<i>Opuntia phaeacantha</i> (Prickly Pear)	Perennial; to 6500'; occurs in desertscrub habitats on bajadas and alongside canyons and washes; generally to 3' tall	Large rose-like flowers appear April-June, with bright red fruits maturing July-August; some fruits persist through most of winter	Occurs in open desertscrub and grassland habitats; common associates include mesquite, paloverde, other cacti, creosotebush, triangle bursage, and fluffgrass.	Fruits: eaten by deer, javelina, small mammals and birds; Seeds: eaten by birds including mourning dove and Gamble's quail; Flowers: provide nectar and pollen for bees; Provides sheltered sites for small mammal burrows
<i>Yucca elata</i> (Soaptree Yucca)	Perennial; 1500' – 6000'; occurs in open areas on rocky slopes and bajada; to 15' tall	Evergreen; dense cluster of yellowish-white flowers on tall stalk bloom May-June; fruits mature in summer	Occurs in open desertscrub and grassland habitats; common associates include ocotillo; sotol, oak, and a wide variety of grasses and forbs	Flower stalks: browsed by mammals including mule deer and javelina; Seeds: eaten by birds and other wildlife; Larval plant for butterflies; Pollinated by symbiotic yucca moth
PERENNIAL FORBS/SUB-SHRUBS				
<i>Allionia incarnata</i> (Trailing windmills, trailing four-o'clock)	Perennial forb; to 6500'; occurs in open areas including sandy washes and valley bottoms; trailing plant to 6" high and 24 " wide	Vibrant rose-pink flowers present April-October	Often associated with desert strand species including clammyweed, datura, slimpod senna, and burrobrush. Also found along in disturbed roadside areas and in four- wing saltbush associations.	Provides temporary cover and moist microsites for insects and small mammals
<i>Ambrosia ambrosioides</i> (Triangle-leaf bursage)	Medium to large perennial shrub; occurs in washes and strand areas below 4,500'. Plants get to about 6' in height.	Indistinct yellowish-green flowers in a terminal spike appear between February and May. Fruit has a cocklebur form.	Found in association with mesquite, paloverde, burrobrush, datura, seepwillow, and brickellia.	There is little use this plant as forage; leaves are consumed by leaf beetles; wind pollinated, does not provide a nectar source for insects.
<i>Anemopsis californica</i> (Yerba Mansa)	Perennial forb; 2000-5000'; colonizes moist alkaline soils in meadows and alongside streams and cienegas; to 20" tall	Large white flowers borne on tall stalks present from May-Aug; highly aromatic leaves; plants spread by stolons and can form extensive groundcover	Often occurs in mesquite bosques; associated with other saline-tolerant plants including saltgrass and alkali sacaton	Provides temporary cover and moist microsites for insects and small mammals

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriarian	Xeroriarian		
	X						X	<i>Aquilegia chrysantha</i> (Yellow Columbine)	X	X		Perennial forb	High
X	X		X					<i>Baileya multiradiata</i> (Desert marigold)			X	Perennial forb	Low
X	X		X	X	X	X	X	<i>Brickellia coulteri</i> (Brickelbush, Coulter's brickelbush)		X	X	Perennial Subshrub	Moderate
X	X	X	X	X		X	X	<i>Dichelostemma capitatum</i> (<i>Dichelostemma pulchellum</i>) (Bluedicks)		X	X	Perennial forb	Low
X		X			X	X	X	<i>Dicliptera resupinata</i> (Arizona foldwing)		X	X	Perennial forb	Low
X	X	X			X	X	X	<i>Epilobium canum</i> <i>ssp. latifolium</i> (<i>Zauschneria californica</i>) (Hummingbird Trumpet)		X	X	Perennial forb	Moderate
	X	X				X		<i>Glandularia gooddingii</i> (<i>Verbena gooddingii</i>) (Goodding's verbena, southwest mock vervain)			X	Perennial forb	Low
					X	X	X	<i>Lobelia cardinalis</i> (Cardinalflower)	X			Perennial forb	Moderate-High
X			X	X	X	X	X	<i>Machaeranthera tanacetifolia</i> (<i>Aster tanacetifolius</i>) (Tanseyleaf tansyaster, purple aster)			X	Perennial forb	Low

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
<i>Aquilegia chrysantha</i> (Yellow Columbine)	Perennial forb; 3000' - 11000'; occurs in shady, moist canyons and forest associations; to 4' tall	Showy yellow flower appears April-September	Associated with grasses, forbs and other wildflowers in rich soils along streams or other moist areas	Flowers: provide nectar and pollen for insects and hummingbirds; Seeds: eaten by birds and small mammals
<i>Baileya multiradiata</i> (Desert marigold)	Annual or short lived perennial; below 5000'; occurs on sandy and gravelly slopes and desert flats, and along roadsides in sunny open areas; to 2' tall	Bright yellow flowers at ends of leafless stems appear March-October when moisture available	Associated with desert broom, desert globemallow, lupine, and fluffgrass	Seeds: eaten by birds including Inca dove, and ants; Insects on plant gleaned by birds
<i>Brickellia coulteri</i> (Brickelbush, Coulter's brickelbush)	Perennial shrub; 2,000-4,000'; along washes, canyons, and dry rocky slopes.	Plant is sticky, with brittle stems; produces an inconspicuous, slender flowerhead of yellow-green rayless flowers.	Associated with mesquite, desert hackberry, grasses; often associated with plants on tops of banks.	Seeds consumed by Gambel's Quail and probably other birds.
<i>Dichelostemma capitatum</i> (<i>Dichelostemma pulchellum</i>) (Bluedicks)	Perennial (bulb); below 5000', occurs on mesas, open slopes, and plains; to 30" tall	Beautiful lavender flower at the top of a slender stem, blooms February-May	Prefers gravelly soils; in our area, often found in association with grasses and low stature shrubs including acacia, mariola, and creosotebush.	Bulbs: highly valuable forage for small and large mammals
<i>Dicliptera resupinata</i> (Arizona foldwing)	Perennial forb or subshrub to 2' in height; on rocky slopes, in canyons, and along wash embankments between 3,000 and 6,000'.	Densely branching, erect to spreading form; lanceolate leaves; red-violet blooms subtended by clasping bracts occur between May and October.	Associated with mesquite bosque, graythorn, wolfberry, and desert hackberry.	Flowers probably provide nectar for insects and hummingbirds.
<i>Epilobium canum</i> ssp. <i>latifolium</i> (<i>Zauschneria californica</i>) (Hummingbird Trumpet)	Perennial; suffrutescent; to about 20" height; damp places and on rocky slopes and in canyons from 2,500-7,000'.	Long-tubular scarlet to red flowers from June to December.	Associated with streamside or hillside vegetation including deergrass, agaves, and juniper and oaks.	Provides nectar for hummingbirds.
<i>Glandularia gooddingii</i> (<i>Verbena gooddingii</i>) (Goodding's verbena, southwest mock vervain)	Annual or short-lived perennial forb; below 5000'; occurs in open canyons and along slopes and washes with sandy soils; to 2' tall and 4' wide	Purple clusters of flowers bloom from Feb-Oct; easily propagated through cuttings and self-seeding	Occurs in open areas with clammyweed, desert marigold, Arizona blazing star, windmills, and datura.	Flowers: nectar and pollen attract butterflies and moths; Good groundcover that provides temporary shelter and moist, resting microsites for insects, birds, and small mammals
<i>Lobelia cardinalis</i> (Cardinalflower)	Perennial forb; 3000'-7500'; occurs with streamside and cienegas; to 5' tall	Tubular bright red flower bloom June-October	Associated with other streamside plants including giant sacaton, deergrass, Fremont cottonwood, and Gooding's willow	Flowers: provide nectar for hummingbirds and insects
<i>Machaeranthera tanacetifolia</i> (<i>Aster tanacetifolius</i>) (Tansyleaf tansyaster, purple aster)	Perennial forb; 1000'-8000'; occurs in disturbed soils along washes, fields, paths, and roadsides; to 16" tall	Handsome "daisy-like" bluish-purple rays surrounding yellow disk flowers, blooms June – October	Usually open areas with other species that pioneer disturbed and sandy soils including windmills, clammyweed, and desert marigold	Provides temporary cover and moist microsites for insects and small mammals

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriiparian	Xeroriiparian		
	X	X			X			<i>Penstemon parryi</i> (Penstemon, Parry, Beardtongue)			X	Perennial forb	Low
X		X	X	X	X	X	X	<i>Penstemon pseudospectabilis</i> (Desert Penstemon)		X		Perennial forb	Moderate
	X		X		X			<i>Ruellia nudiflora</i> var. <i>nudiflora</i> (Violet wild petunia)	X	X		Perennial forb	Moderate
				X				<i>Rumex hymenosepalus</i> (Canaigre dock)		X	X	Perennial forb	Moderate
	X					X		<i>Senna hirsuta</i> var. <i>glaberima</i> (<i>Cassia leptocarpa</i> var. <i>glaberrima</i>) (Sлимпod senna, woolly senna)		X	X	Perennial forb	Moderate
X	X	X	X	X				<i>Sphaeralcea ambigua</i> ssp. <i>ambigua</i> (Desert globemallow, apricot globemallow)			X	Perennial forb	Low
X	X	X	X	X	X	X	X	<i>Zinnia acerosa</i> (<i>Zinnia pumila</i>) (Desert Zinnia)			X	Perennial Subshrub	Low

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
<i>Penstemon parryi</i> (Penstemon, Parry, Beardtongue)	Perennial forb; 1500-5000'; occurs in well-drained soils on grassy slopes, alongside canyons and along roadsides; to 4' tall	Tubular pink flower appear March-July	Associated with a wide variety of desert-adapted shrubs, grasses and forbs; frequent associates include velvet mesquite, paloverde, lupine, desert globemallow, and Goodding's verbena	Flowers: provide nectar and pollen for insects and hummingbirds
<i>Penstemon pseudospectabilis</i> (Desert Penstemon)	Perennial forb; 2000'-7000'; occurs on arid slopes, and along canyons and desert washes; to 4' tall	Tubular red flower appears February-May	Associated with a wide variety of desert-adapted shrubs, grasses and forbs; frequent associates include, velvet mesquite, soaptree yucca, and spidergrass	Flowers: provide nectar and pollen for insect and hummingbirds
<i>Ruellia nudiflora</i> var. <i>nudiflora</i> (Violet wild petunia)	Perennial forb; 2500-4000'; occurs in moist woodlands along streams and washes; to 24' tall	Large purple flowers present May-Oct	Associated with mesquite, graythorn, desert hackberry, wolfberry, and scarlet creeper	Provides temporary cover and moist microsites for insects and small mammals
<i>Rumex hymenosepalus</i> (Canaigre dock)	Perennial forb; to 6000'; occurs in sandy soils in valley floors and along washes; clustered leaves to 12' with flowering stem to 4' tall	Small green flowers appear on spikes from March-April; followed by clustered pinkish, winged fruits; roots form a stout tuber	Occurs in sandy soils along with paloverde, velvet mesquite, four-wing saltbush, and Mexican elderberry	Seeds, leaves, tubers: eaten by a wide variety of wildlife
<i>Senna hirsuta</i> var. <i>glaberima</i> (<i>Cassia leptocarpa</i> var. <i>glaberrima</i>) (Slimpod senna, woolly senna)	Perennial forb; 2500- 5500'; occurs in sandy washes and disturbed areas such as roadsides; to 3' tall	Bright yellow flower clusters present July-Sept; followed by long, slender pods	Associated with desert strand species including clammyweed, datura, windmills, <i>Hymenoclea monogyra</i>	Pollen: collected by insects including bumblebees and butterflies; Seeds and pods: eaten by a wide variety of wildlife
<i>Sphaeralcea ambigua</i> ssp. <i>ambigua</i> (Desert globemallow, apricot globemallow)	Perennial; below 3500'; occurs in sandy flats and washes, and along roadsides; to 3' tall	Attractive flowers vary in color from white to orange, salmon, lavender, or pinkish; flowers appear throughout year when moisture available; woody stem	Frequently associated with prickly pear, creosotebush, and other a variety of other Sonoran desertscrub plants that grow in the open and along roadsides	Flowers: provide nectar and pollen for insects including native bees, and eaten by desert tortoise, birds, and other wildlife; Leaves and twigs: provide browse for bighorn sheep and other mammals; Larval food plant for butterflies
<i>Zinnia acerosa</i> (<i>Zinnia pumila</i>) (Desert Zinnia)	Perennial; 2000' – 5000', occurs in dry valleys and on rocky slopes; to 10" tall	Evergreen; white to pale yellow flowers bloom March-October when moisture is adequate	Frequently associated with prickly pear, creosotebush, triangle bursage, fluffgrass, and other Sonoran desertscrub plants that grow in open, exposed sites	Flower petals: eaten by quail, finches, sparrows, and other birds; Seeds: eaten by harvester ants, which in turn attract horned lizards; Insects on plant gleaned by birds

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriarian	Xeroriarian		
								ANNUAL WILDFLOWERS					
	X		X					<i>Bowlesia incana</i> (Bowlesia, hoary bowlesia)		X	X	Annual forb	Low
	X					X		<i>Datura wrightii</i> (Datura, sacred, jimsonweed, sacred thorn- apple)		X	X	Annual or Perennial forb	Low
X			X	X	X	X	X	<i>Eriastrum diffusum</i> (Miniature woollystar)			X	Annual forb	Low
	X	X		X				<i>Eschscholzia californica</i> <i>ssp. Mexicana</i> (<i>Eschscholtzia mexicana</i>) (Mexican Gold Poppy, California poppy)			X	Annual forb	Low
X	X	X	X	X	X	X	X	<i>Kallstroemia grandiflora</i>		X	X	Annual forb	Low
	X			X	X	X		<i>Lesquerella gordonii</i> var. <i>gordonii</i> (Gordon's bladderpod)		X	X	Annual or Perennial forb	Moderate

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
ANNUAL WILDFLOWERS				
<i>Bowlesia incana</i> (Bowlesia, hoary bowlesia)	Annual forb; to 3000'; occurs along sandy washes and woodlands; trailing stems to 20" long	Tiny, seldom-noticed flowers appear March-April; shade-tolerant	Abundant after winter rains along with other spring ephemerals forming a carpet under velvet mesquite, paloverde, catclaw acacia, and wolfberry. Associated with other spring ephemerals and annual grasses.	Provides temporary cover and moist microsites for insects and small mammals
<i>Datura wrightii</i> (Datura, sacred, jimsonweed, sacred thorn-apple)	Annual or perennial forb; 700-6000'; occurs in open disturbed areas including strands and valley bottoms; to 5' tall and 7' wide	Large white tubular flowers present May –Oct, followed by big spiny fruits	Often associated with desert strand species including clammyweed, slimpod senna, and burrobrush. Also present in riparian buffers, disturbed roadside areas, and saltbush associations	Nectar and pollen: utilized by bees, moths and other insects; Birds forage on insects attracted by flowers
<i>Eriastrum diffusum</i> (Miniature woollystar)	Annual to 4 1/2"; 1,000-5,500'; sandy areas of deserts and mesas.	Pale bluish to white tubular flowers to 1/2" long on bristle-tipped heads appear between March and June.	Associated with subshrubs, cacti, and forbs in Sonoran desertscrub and semidesert grassland habitats.	Provides nectar for insects.
<i>Eschscholzia californica ssp. Mexicana</i> (<i>Eschscholtzia mexicana</i>) (Mexican Gold Poppy, California poppy)	Annual forb; below 4,500'; occurs in dr, gravelly or sandy places, often alongside desert washes; to 16 " tall	Bright orange flowers appear from mid-Feb to May; useful as a quick soil stabilizer following disturbance	Abundant after winter rains along with Gordon's bladderpod, lupine, <i>Phacelia</i> spp., and owl's clover	Provides temporary cover and moist microsites for insects and small mammals
<i>Kallstroemia grandiflora</i>	Summer annual; spreading to 3'; open plains, deserts, wash strand areas, and desert slopes.	Flowers bright orange with a red center appear between July and October. Leaves and stems hairy.	Late summer bloomer responding to summer rains. Common along roadsides; occurs with tansyaster (<i>Machaeranthera</i> sp.), mesquite, and grasses.	Fowers visited by insects.
<i>Lesquerella gordonii</i> var. <i>gordonii</i> (Gordon's bladderpod)	Annual forb; 100-5000'; occurs in sandy open places; to 16" tall	Profuse yellow flowers appear from Feb-May; round pea-sized pods follow flowers; useful as a quick soil stabilizer following disturbance	Abundant after winter rains along with Mexican gold poppy, lupine, <i>Phacelia</i> spp., and owl's clover	Pods eaten by large and small mammals, birds, and other wildlife

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriiparian	Xeroriiparian		
X	X		X	X	X	X	X	<i>Lupinus sparsiflorus ssp. Mohavensis</i> (Coulter's lupine)		X	X	Annual forb	Moderate
X			X	X	X	X	X	<i>Nama demissum var. demissum</i> (Purplemat)		X	X	Annual forb	Moderate
	X				X			<i>Phacelia distans</i> (Blue-eyed scorpionweed, distant phacelia)		X	X	Annual or Perennial forb	Moderate
X								<i>Platystemon californicus</i> (Creamcups)	X	X	X		
	X					X		<i>Polansia dodecandra</i> (Western Clammyweed)		X	X	Annual forb	Moderate
	X		X					<i>Salvia columbariae var. columbariae</i> (Chia)		X	X	Annual forb	Low

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
<i>Lupinus sparsiflorus</i> ssp. <i>Mohavensis</i> (Coulter's lupine)	Annual forb to 16" height; below 4,500' on slopes and mesas on sandy soils.	Pale blue to violet flowers from January to May. Improves soil quality through nitrogen infusion.	Abundant after winter rains along with other spring ephemerals including Mexican gold poppy, Gordon's bladderpod, <i>Cryptantha</i> spp., bowlesia and purplemat	Flowers: provide nectar: eaten by bees and butterflies.
<i>Nama demissum</i> var. <i>demissum</i> (Purplemat)	Annual forb to 8"; desert flats and washes; below 3,500'.	Red-purple flowers between February and May; may carpet the desert when rains are abundant.	Occurs with other spring annuals including Mexican gold poppy, lupines, <i>Cryptantha</i> spp., and owl clover.	Flower are visited by insects.
<i>Phacelia distans</i> (Blue-eyed scorpionweed, distant phacelia)	Annual forb; to 5000'; occurs in dry, gravelly or sandy places, often alongside desert washes; to 12" tall	Deep blue, bell-shaped flowers unfurl from a coiled spike from Feb-April; useful as a quick soil stabilizer following disturbance	Abundant after winter rains along with other spring ephemerals including Mexican gold poppy, Gordon's bladderpod, <i>Cryptantha</i> spp., bowlesia and purplemat	Nectar and pollen: eaten by insects Provides temporary cover for small mammals
<i>Platystemon californicus</i> (Creamcups)	Annual forb; 1500-4500'; occurs in open areas with moist, gravelly soil, primarily along streams and washes and moist meadows; to 15" tall	Cream-colored "poppy-like" flowers present March-May; does not tolerate heavy shade	Associated with a wide variety of forbs and grasses in open moist habitats such as grassland meadows and streamside edges. Associated plants include Fremont cottonwood, seep willow and various grasses and forbs	Provides temporary cover and moist microsites for insects and small mammals
<i>Polansia dodecandra</i> (Western Clammyweed)	Annual forb; 1000-6500'; occurs in wash channels and other sandy areas subject to frequent disturbance; to 30" tall	Clusters of white to pinkish flowers borne on tall stalks from May-Oct; strongly scented leaves and stems	Often associated with desert strand species including datura, slimpod senna, windmills, and burrobrush.	Flowers: provide nectar: eaten by bees and butterflies
<i>Salvia columbariae</i> var. <i>columbariae</i> (Chia)	Annual forb; to 3000'; occurs in open, exposed areas along sandy washes, dry slopes, woodland hillsides and gravelly disturbed sites such as roadsides; to 60" high if sufficient moisture is present	Whorls of tubular blue flowers on tall stems appear from March - May; seeds follow flowers in summer; requires full sun; readily self-sowing	Occurs in open areas subject to frequent disturbance with other annuals including Mexican gold poppy, Gordon's bladderpod, <i>Cryptantha</i> spp., and annual grasses	Seeds: valuable high-protein food source for a wide variety of wildlife; Flowers: provide nectar: eaten by bees and butterflies

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriiparian	Xeroriiparian		
								GRASSES					
	X			X			X	<i>Aristida ternipes</i> (Spidergrass)		X	X	Perennial grass	Low
	X	X					X	<i>Bothriochloa barbinodis</i> (<i>Andropogon barbinoides</i>) (Cane beardgrass)			X	Perennial bunchgrass	Moderate
X	X		X	X	X			<i>Bouteloua aristidoides</i> (Needle grama)		X	X	Annual tufted grass	Low
X	X	X			X			<i>Bouteloua curtipendula</i> (Sideoats grama)			X	Perennial tufted grass	Low
	X	X			X			<i>Bouteloua rothrockii</i> (Rothrock Grama)			X	Perennial tufted grass	Low
X	X	X	X	X	X	X	X	<i>Distichlis stricta</i> (Desert saltgrass)	X	X	X	Perennial turfgrass	Moderate
X						X		<i>Dasyochloa pulchella</i> (<i>Erioneuron pulchellus</i> , <i>Tridens pulchellus</i>) (Fluffgrass, low woolly grass)			X	Perennial Grass	Low
X			X	X	X	X	X	<i>Hilaria belangeri</i> var. <i>belangeri</i> (<i>Anthephora</i> <i>belangeri</i>) (Curly-mequite)			X	Perennial tufted grass	Moderate

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
GRASSES				
<i>Aristida ternipes</i> (Spidergrass)	Tufted perennial grass; 2,500 – 5,500'; occurs on rocky and sandy slopes and often along roadsides and other frequently disturbed areas; to 3' tall	Long drooping panicles lend a delicate feature to the landscape; flowers mostly Aug – Nov but sometimes in the spring	Associated with Sonoran desertscrub plant communities, often with paloverde, velvet mesquite, cacti, and various forbs and other grasses	Leaves and seeds: browsed by large and small mammals; Provides nesting materials for birds and small mammals
<i>Bothriochloa barbinodis</i> (<i>Andropogon barbinooides</i>) (Cane beardgrass)	Tufted perennial; 1,000-6000'; occurs on rocky and sandy slopes and in floodplains, desert uplands, and disturbed roadside areas; to 5 feet tall	Spikelet with dense long hairs blooms Apr-Oct; attractive "fluffy" appearance; extremely drought-resistant	Associated plants include velvet mesquite, paloverde, creosotebush, triangle bursage, cacti, and a wide variety of forbs and other grasses	Leaves: considered good forage for grazing mammals when green; Seeds: eaten by mammals and birds; Serves as nesting materials and cover for birds and small mammals
<i>Bouteloua aristidoides</i> (Needle grama)	Low, tufted, annual grass; to 6000'; occurs on dry mesas, and in and along washes and disturbed areas; to 6 inches tall	One-sided raceme of flowers appearing in spring, summer, or fall, depending upon rainfall; useful as a quick soil stabilizer following disturbance	Associated with Sonoran desertscrub and xeroriparian plant communities, often with paloverde, velvet mesquite, cacti, and various forbs and other grasses	Leaves and seeds: utilized by birds and small mammals
<i>Bouteloua curtipendula</i> (Sideoats grama)	Tufted perennial grass; to 7,000'; occurs on rocky slopes, grasslands, and in woodlands and forest openings; 1-2' tall	Raceme of hanging spikelets bloom from summer to early fall	Associated plants include oak, juniper, velvet mesquite, fairy duster, creosotebush, triangle bursage, cacti, and a variety of forbs and other grasses	Seeds: eaten by birds and small mammals; Leaves: considered excellent forage for grazing mammals when green
<i>Bouteloua rothrockii</i> (Rothrock Grama)	Short-lived perennial grass; 2,300-5,500'; occurs in scattered clumps on dry rocky hillsides and sandy mesas; 10-36" tall	One-sided raceme of flowers arranged on curving spikelets bloom in warm season; very hardy and drought-resistant	Associated with Sonoran desertscrub and xeroriparian plant communities, often with paloverde, velvet mesquite, cacti, and various forbs and other grasses.	Leaves: considered valuable forage for grazing mammals due to drought resistance, though not as good as other grama species; Seeds: eaten by birds and small mammals; Provides cover and nesting materials for birds and small mammals
<i>Distichlis stricta</i> (Desert saltgrass)	Low-growing perennial; up to 7000'; occurs on alkaline and saline soil; 8-15" tall	Warm season flowers in dense spikes; spreads by stolons and forms dense turfgrass that is a good native alternative to the invasive Bermudagrass	Occurs near riparian areas and at the edges of mesquite bosques; associated with other saline-tolerant plants including yerba mansa and alkali sacaton	Leaves and seeds: browsed by large and small mammals but considered poor forage for cattle; Provides nesting materials for birds and small mammals
<i>Dasyochloa pulchella</i> (<i>Erioneuron pulchellus</i> , <i>Tridens pulchellus</i>) (Fluffgrass, low woolly grass)	Low densely-tufted perennial grass; under 5500'; occurs on dry, rocky slopes and desert flats; in scattered clumps less than 6" tall	Short spikelets bloom spring, summer and fall; abundant in overgrazed lands	Associated with Sonoran desertscrub plant communities; often with paloverde, velvet mesquite, cacti, desert zinnia, and various forbs and other grasses.	Seeds: eaten by mammals and birds; Leaves: not utilized by large grazers but utilized by small mammals and desert tortoise; Serves as nesting materials for birds and small mammals
<i>Hilaria belangeri</i> var. <i>belangeri</i> (<i>Antheophora belangeri</i>) (Curly-mequite)	Tufted perennial to about 12"; occurs on rocky slopes, dry hillsides, and sandy plains from 1,500-6,000 feet.	Flowers mostly from August to November. Most palatable of the <i>Hilarias</i> for forage.	Associated with grammas (<i>Bouteloua</i> spp.), three-awn (<i>Aristida</i> spp.), tanglehead, bush muhly, and other grasses.	Leaves: considered excellent forage for livestock and deer. Provides nesting materials for birds and small mammals;

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriiparian	Xeroriiparian		
						X	X	<i>Leptochloa dubia</i> (Green sprangletop)		X	X	Annual grass	Moderate
	X	X		X				<i>Muhlenbergia porteri</i> (Bush muhly)		X	X	Perennial tufted grass	Moderate
	X	X	X	X		X	X	<i>Muhlenbergia rigens</i> (Deergrass)		X	X	Perennial bunchgrass	Moderate
	X		X					<i>Panicum obtusum</i> (Vine mesquite)	X	X		Perennial tufted grass	Moderate
X	X	X						<i>Setaria macrostachya</i> (Plains bristlegrass, large- spike bristlegrass)	X	X	X	Perennial bunchgrass	Moderate
	X	X				X		<i>Sporobolus airoides</i> (Alkali sacaton)	X	X	X	Perennial bunchgrass	Moderate
	X	X	X					<i>Sporobolus cryptandrus</i> (Sand dropseed, Spike dropseed)		X	X	Perennial bunchgrass	Moderate

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
<i>Leptochloa dubia</i> (Green sprangletop)	Tufted perennial; 2500'-6000'; coarse soils from bottomlands to uplands and hills, most common in higher elevations; 2-3' tall	Large drooping flower spikes in spring and summer; bluish green leaves	Associated with Sonoran desertscrub and grassland plant communities, often with paloverde, velvet mesquite, cacti, and various forbs and other grasses	Leaves and seeds: valuable forage for by large and small mammals; Provides nesting materials for birds and small mammals; Sometimes harvested as hay
<i>Muhlenbergia porteri</i> (Bush muhly)	Tufted perennial grass; 2000-6000'; occurs on dry mesas and rocky slopes;; 2'- 4' tall and 3' wide	Flowers in numerous delicate panicles blooming Aug–Oct; shade-tolerant	Associated plants include velvet mesquite, paloverde, creosotebush, triangle bursage, cacti, and a variety of forbs and other grasses; often seen growing under the protection of shrubs	Leaves: excellent forage for livestock, deer and pronghorn; Seeds: eaten by mammals and birds; Serves as nesting materials and cover for birds and small mammals
<i>Muhlenbergia rigens</i> (Deergrass)	Perennial bunchgrass; 2000-7500', occurs on woodland slopes, and in canyons and along water courses; 2-5' tall	Tall, dense, compressed spikelets bloom in the warm season; attractive drooping leaves provide a good alternative to the invasive fountaingrass	Associated plant include Fremont cottonwood, velvet mesquite, oak, velvet ash, and a wide variety of shrubs, forbs and other grasses	Leaves: considered good forage for grazing mammals when green, but poor when dry; Seeds: eaten by mammals and birds; Serves as nesting materials and cover for birds and small mammals
<i>Panicum obtusum</i> (Vine mesquite)	Perennial bunchgrass; 1000'-6000'; occurs along streams, roadsides, and moist lowlands; to 30" tall	Flowers May - Oct; bluish-green leaves; spreads by stolons forming dense stands that are useful in erosion control	Occurs in hydro- and mesoriparian plant communities; frequent associates include Fremont cottonwood, Goodding's willow, velvet ash, netleaf hackberry, and seep willow	Seeds: eaten by a wide variety of wildlife including birds; Leaves: considered good forage for grazing mammals when green; Provides nesting materials for birds and small mammals
<i>Setaria macrostachya</i> (Plains bristlegrass, large-spike bristlegrass)	Tufted perennial grass; 2000 – 7000'; occurs on slopes and along washes, often at the edge of tree canopies or disturbed roadsides; 1 - 4' tall	Dense spike-like panicle of flowers with stiff hairs blooms May–Oct; provides a good alternative to the invasive fountaingrass	Associated plants velvet mesquite, paloverde, giant sacaton, graythorn, and a variety of forbs and other grasses	Leaves: considered relatively poor forage for grazing mammals; Seeds and foliage: eaten by birds and small mammals; Provides cover and nesting materials for small mammals
<i>Sporobolus airoides</i> (Alkali sacaton)	Dense, tall perennial bunchgrass; 2500' – 6500'; occurs in and along sandy valleys and washes, and riparian bottomlands; 2 - 4' tall	Large spreading panicle of flowers bloom May - Oct; tolerant of alkaline and saline soils	Associated with other riparian and saline-tolerant plants including Fremont cottonwood, velvet mesquite, desert saltgrass, and yerba mansa	Leaves: though tough are considered valuable browse, especially where alternatives are lacking; Seeds: eaten by mammals and birds; Provides cover in otherwise open landscapes
<i>Sporobolus cryptandrus</i> (Sand dropseed, Spike dropseed)	Perennial bunchgrass; 150-7000', occurs on upland slopes and within floodplains with sandy soil; to 3' tall	Slender, erect panicle of flowers bloom July – October; highly adaptable to a wide range of environmental conditions and thus valuable for erosion control	Associated plants include velvet mesquite, four-winged saltbush, giant sacaton, alkali sacaton, and desert saltgrass	Seeds: eaten by numerous birds including wild turkey, and small mammals; Leaves: considered good forage for grazing mammals when green

Watershed								Botanical Name (Common Name)	Riparian Classification			Life Form	Water Requirements
San Pedro River	Santa Cruz River	Western Pima County	Pantano/Rillito/Lower Canyon del Oro Wash	Black/Brawley Wash	Upper Canyon del Oro Wash	Tanque Verde/Agua Caliente/Rincon Creek	Sabino Canyon		Hydroriparian	Mesoriparian	Xeroriparian		
X								<i>Sporobolus wrightii</i> (Giant sacaton, big sacaton)	X	X		Perennial bunchgrass	Moderate
			X	X				<i>Vulpia octoflora</i> (<i>Festuca octoflora</i>) (Sixweek fescue)		X	X	Annual grass	Low

Botanical Name (Common Name)	Lifespan, elevation, size	Seasonality; flower, fruit, berries, other	Plant guild relationships	Animal relationships
<i>Sporobolus wrightii</i> (Giant sacaton, big sacaton)	Perennial bunchgrass; 2000'–5000'; occurs in riparian floodplains and along slopes and sandy washes; 3 – 6.5' tall	Large spreading panicle of tiny flowers bloom May - October	Associated with other riparian plants including Fremont cottonwood, Goodding's willow, velvet mesquite, graythorn, buttonbush, and deergrass	Leaves: considered good forage for grazing mammals when green; Seeds: eaten by mammals and birds; Provides nesting materials and cover for birds and small mammals
<i>Vulpia octoflora</i> (<i>Festuca octoflora</i>) (Sixweek fescue)	Short-lived annual grass; up to 5,500'; widespread on rocky slopes; generally to 12", occasionally to 20" tall	Lush spring growth after summer rains; useful as a quick soil stabilizer following disturbance	Associated with Sonoran desertscrub and xeroriparian plant communities, often with paloverde, velvet mesquite, cacti, and various forbs and other grasses including desert strand species	Leaves and seeds: browsed by large and small mammals

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

SAN PEDRO RIVER				
	Botanical Name	Common Name	Life Form	Water Requirements
HYDRORIPARIAN				
TREES				
	<i>Celtis laevigata (Celtis reticulata)</i>	Netleaf/Canyon hackberry	Perennial Tree	Moderate
	<i>Fraxinus velutina</i>	Arizona ash, Velvet ash	Perennial Tree	Moderate-High
	<i>Populus fremontii ssp. fremontii</i>	Fremont cottonwood	Perennial Tree	High
	<i>Salix gooddingii</i>	Goodding's willow	Perennial Tree	High
SHRUBS				
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	Low
	<i>Cephalanthus occidentalis</i>	Buttonbush, Common buttonbush	Perennial Shrub	High
VINES				
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
ANNUAL WILDFLOWERS				
	<i>Platystemon californicus</i>	Creamcups	Annual Forb	Moderate
GRASSES				
	<i>Distichlis stricta</i>	Desert saltgrass	Perennial Turfgrass	Moderate
	<i>Setaria macrostachya</i>	Plains bristlegrass, Large-spike bristlegrass	Perennial Bunchgrass	Moderate
	<i>Sporobolus wrightii</i>	Giant sacaton, Big sacaton	Perennial Bunchgrass	Moderate
MESORIPARIAN				
TREES				
	<i>Acacia greggii</i>	Catclaw acacia	Perennial Tree	Low
	<i>Celtis laevigata (Celtis reticulata)</i>	Netleaf/Canyon hackberry	Perennial Tree	Moderate
	<i>Chilopsis linearis</i>	Desert willow	Perennial Shrub/Small tree	Low-Moderate
	<i>Fraxinus velutina</i>	Arizona ash, Velvet ash	Perennial Tree	Moderate-High
	<i>Parkinsonia florida (Cercidium floridum)</i>	Blue paloverde	Perennial Tree	Low-Moderate
	<i>Populus fremontii ssp. fremontii</i>	Fremont cottonwood	Perennial Tree	High
	<i>Prosopis velutina</i>	Velvet mesquite	Perennial Tree	Low
	<i>Salix gooddingii</i>	Goodding's willow	Perennial Tree	High
SHRUBS				
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Barkleyanthus salicifolius (Senecio salignus)</i>	Senecio, Willow ragwort	Perennial Shrub	Moderate
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, Spiny hackberry	Perennial Shrub	Low
	<i>Lycium fremontii</i>	Fremont Wolfberry, Fremont desert-thorn	Perennial Shrub	Low
VINES				
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
	<i>Vitis arizonica</i>	Arizona wild grape, Canyon grape	Perennial Vine	Moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Brickellia coulteri</i>	Brickelbush, Coulter's brickelbush	Perennial Sub-Shrub	Moderate
	<i>Dichelostemma capitatum (Dichelostemma pulchellum)</i>	Bluedicks	Perennial Forb	Low
	<i>Dicliptera resupinata</i>	Arizona foldingwing	Perennial Forb	Low
	<i>Epilobium canum ssp. latifolium (Zauschneria californica)</i>	Hummingbird trumpet	Perennial Forb	Moderate
	<i>Penstemon pseudospectabilis</i>	Desert Penstemon	Perennial Forb	Moderate
ANNUAL WILDFLOWERS				
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
	<i>Lupinus sparsiflorus</i>	Coulter's lupine	Annual Forb	Moderate
	<i>Nama demissum</i>	Purplemat	Annual Forb	Moderate
	<i>Platystemon californicus</i>	Cream cups	Annual Forb	Moderate
GRASSES				
	<i>Bouteloua aristidoides</i>	Needle grama	Annual Tuftedgrass	Low
	<i>Distichlis stricta</i>	Desert saltgrass	Perennial Turfgrass	Moderate
	<i>Setaria macrostachya</i>	Plains bristlegrass, large-spike bristlegrass	Perennial Bunchgrass	Moderate
	<i>Sporobolus wrightii</i>	Giant sacaton	Perennial Bunchgrass	Moderate

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

SAN PEDRO RIVER				
	Botanical Name	Common Name	Life Form	Water Requirements
XERORIPARIAN				
TREES				
	<i>Acacia greggii</i>	Catclaw acacia	Perennial Tree	Low
	<i>Chilopsis linearis</i>	Desert willow	Perennial Shrub/Small Tree	Low-Moderate
	<i>Parkinsonia florida (Cercidium floridum)</i>	Blue paloverde	Perennial Tree	Low-Moderate
	<i>Prosopis velutina</i>	Velvet mesquite	Perennial Tree	Low
SHRUBS				
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, Spiny hackberry	Perennial Shrub	Low
	<i>Encelia farinosa</i>	Brittlebush	Perennial Shrub	Low
	<i>Hymenoclea monogyra (Ambrosia monogyra)</i>	Burrobrush, Single whorl burrobrush	Perennial Shrub	Moderate
	<i>Larrea tridentata var. tridentata</i>	Creosote bush	Perennial Shrub	Low
	<i>Lycium fremontii</i>	Fremont Wolfberry, Fremont's desert-thorn	Perennial Shrub	Low
	<i>Parthenium incanum</i>	Mariola	Perennial Shrub	Low
	<i>Tecoma stans</i>	Yellow bells, yello trumpetbush	Perennial Shrub	Low
	<i>Ziziphus obtusifolia var. canescens</i>	Graythorn, Lotebush	Perennial Shrub	Low
VINES				
	<i>Cucurbita digitata</i>	Fingerleaf gourd	Perennial Vine	Low-Moderate
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
CACTI & SUCCULENTS				
	<i>Ferocactus wislizeni (Echinocactus wislizeni)</i>	Candy barrel cactus	Perennial Cactus	Low
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Baileya multiradiata</i>	Desert marigold	Perennial Forb	Low
	<i>Brickellia coulteri</i>	Brickelbush, Coulter's brickelbush	Perennial Sub-Shrub	Moderate
	<i>Dichelostemma capitatum (Dichelostemma pulchellum)</i>	Bluedicks	Perennial Forb	Low
	<i>Dicliptera resupinata</i>	Arizona foldingwing	Perennial Forb	Low
	<i>Epilobium canum ssp. latifolium (Zauschneria californica)</i>	Hummingbird trumpet	Perennial Forb	Moderate
	<i>Machaeranthera tanacetifolia (Aster tanacetifolius)</i>	Tanseyleaf tansyaster, purple aster	Perennial Forb	Low
	<i>Sphaeralcea ambigua ssp. Ambigua</i>	Desert globemallow, apricot globemallow	Perennial Forb	Low
	<i>Zinnia acerosa (Ainnia pumila)</i>	Desert zinnia	Perennial Sub-Shrub	Low
ANNUAL WILDFLOWERS				
	<i>Eriastrum diffusum</i>	Miniature woollystar	Annual Forb	Low
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
	<i>Lupinus sparsiflorus ssp. mohavensis</i>	Coulter's lupine	Annual Forb	Moderate
	<i>Nama demissum var. demissum</i>	Purplemat	Annual Forb	Moderate
	<i>Platystemon californicus</i>	Creamcups	Annual Forb	Moderate
GRASSES				
	<i>Bouteloua aristidoides</i>	Needle grama	Annual Tuftedgrass	Low
	<i>Bouteloua curtipendula</i>	Sideoats grama	Annual Tuftedgrass	Low
	<i>Dasyochloa pulchella (Erioneuron pulchellum, Tridens pulchellus)</i>	Fluffgrass, low wooly grass	Perennial Grass	Low
	<i>Distichlis stricta</i>	Desert saltgrass	Annual Tuftedgrass	Moderate
	<i>Hilaria belangeri var. belangeri (Anthephora belangeri)</i>	Curly-mesquite	Annual Tuftedgrass	Moderate
	<i>Setaria macrostachya</i>	Plains bristlegress, large-spike bristlegress	Perennial Bunchgrass	Moderate

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

SANTA CRUZ RIVER				
	Botanical Name	Common Name	Life Form	Water Requirements
HYDRORIPARIAN				
TREES				
	<i>Celtis laevigata (Celtis reticulata)</i>	Netleaf/Canyon hackberry	Perennial Tree	Moderate
	<i>Fraxinus velutina</i>	Arizona ash, Velvet ash	Perennial Tree	Moderate-High
	<i>Juglans major</i>	Arizona black walnut	Perennial Tree	High
	<i>Platanus wrightii</i>	Arizona sycamore	Perennial Tree	Moderate
	<i>Salix gooddingii</i>	Goodding's willow	Perennial Tree	High
SHRUBS				
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Celtis ehrenbergiana</i>	Desert Hackberry	Perennial shrub	low
VINES				
	<i>Maurandya antirrhiniflora</i>	Snaptail vine, roving sailor	Perennial Vine	Moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Aquilegia chrysantha</i>	Yellow Columbine	Perennial Forb	High
GRASSES				
	<i>Panicum obtusum</i>	Vine mesquite	Perennial Tufted Grass	Moderate
	<i>Setaria macrostachya</i>	Plains bristlegrass, large-spike bristlegrass	Perennial Bunchgrass	Moderate
	<i>Sporobolus airoides</i>	Alkali sacaton	Perennial Bunchgrass	Moderate
MESORIPARIAN				
TREES				
	<i>Acacia constricta</i>	Whitethorn Acacia	Perennial shrub/small tree	low-moderate
	<i>Acacia greggii</i>	Catclaw Acacia	Perennial tree	low
	<i>Celtis laevigata (Celtis reticulata)</i>	Netleaf/Canyon hackberry	Perennial Tree	Moderate
	<i>Chilopsis linearis</i>	Desert Willow	Perennial shrub/small tree	low-moderate
	<i>Fraxinus velutina</i>	Arizona ash, Velvet ash	Perennial Tree	moderate-high
	<i>Juglans major</i>	Arizona black walnut	Perennial Tree	high
	<i>Parkinsonia florida</i>	Blue Palo Verde	Perennial tree	low-moderate
	<i>Platanus wrightii</i>	Arizona sycamore	Perennial Tree	moderate
	<i>Prosopis velutina</i>	Velvet Mesquite	Perennial tree	low
	<i>Quercus emoryi</i>	Emory Oak	Perennial tree	low
	<i>Salix gooddingii</i>	Goodding's willow	Perennial Tree	high
	<i>Sambucus nigra ssp. cerulea (Sambucus mexicana)</i>	Mexican elderberry, blue elderberry	Perennial Shrub/Small Tree	moderate
	<i>Sapindus saponaria var. drummondii</i>	Western soapberry	Perennial Tree	low
SHRUBS				
	<i>Anisacanthus thurberi (Drejera thurberi)</i>	Desert honeysuckle	Perennial Shrub	moderate
	<i>Asclepias tuberosa</i>	Butterfly milkweed	Perennial Sub-Shrub	moderate
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	moderate-High
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	low
	<i>Garrya wrightii</i>	Wright's silktassel	Perennial Shrub	moderate
	<i>Gossypium thurberi (Thurberia thespesioides)</i>	Native cotton, Thurber's cotton	Perennial Shrub	moderate
	<i>Rhus glabra</i>	Smooth sumac	Perennial Shrub	moderate
	<i>Rhus trilobata</i>	Three-leafed sumac, skunkbush sumac	Perennial Shrub	moderate
VINES				
	<i>Clematis drummondii</i>	Old Man's Beard	Perennial vine	moderate
	<i>Maurandya antirrhiniflora</i>	Snaptail vine, roving sailor	Perennial Vine	moderate
	<i>Vitis arizonica</i>	Arizona wild grape, Canyon grape	Perennial Vine	moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	moderate
	<i>Aquilegia chrysantha</i>	Yellow Columbine	Perennial Forb	high
	<i>Brickellia coulteri</i>	Brickellbush	Perennial subshrub	moderate
	<i>Dichelostemma capitatum (Dichelostemma pulchellum)</i>	Bluedicks	Perennial Forb	low
	<i>Epilobium canum ssp. latifolium (Zauschneria californica)</i>	Hummingbird trumpet	Perennial Forb	moderate
	<i>Lycium andersonii var. andersonii</i>	Anderson Wolfberry, water jacker	Perennial Shrub	low
	<i>Rumex hymenosepalus</i>	Canaigre dock	Perennial Forb	moderate
	<i>Senna hirsuta var. glaberima (Cassia leptocarpa var. glaberrima)</i>	Slimpod senna, woolly senna	Perennial Forb	moderate
ANNUAL WILDFLOWERS				
	<i>Bowlesia incana</i>	Bowlesia, hoary bowlesia	Annual Forb	low
	<i>Datura wrightii</i>	Datura, sacred, jimsonweed, sacred thorn-apple	Annual or Perennial Forb	low
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	low
	<i>Lesquerella gordonii</i>	Gordon's bladderpod	Annual or Perennial forb	moderate
	<i>Lupinus sparsiflorus ssp. mohavensis</i>	Coulter's lupine	Annual Forb	moderate
	<i>Phacelia distans</i>	Blue-eyed scorpionweed, distant phacelia	Annual or Perennial Forb	moderate
	<i>Polansia dodecandra</i>	Western Clammyweed	Annual Forb	moderate
	<i>Salvia columbariae var. columbariae</i>	Chia	Annual Forb	low
GRASSES				
	<i>Aristida ternipes</i>	Spidergrass	Perennial Grass	low
	<i>Bouteloua aristidoides</i>	Needle grama	Annual Tufted Grass	low
	<i>Leptochloa dubia</i>	Green sprangletop	Annual Grass	moderate
	<i>Muhlenbergia porteri</i>	Bush Muhly	Perennial tufted grass	moderate
	<i>Muhlenbergia rigens</i>	Deergrass	Perennial Bunchgrass	moderate
	<i>Panicum obtusum</i>	Vine mesquite	Perennial Tufted Grass	moderate
	<i>Setaria macrostachya</i>	Plains bristlegrass, large-spike bristlegrass	Perennial Bunchgrass	moderate
	<i>Sporobolus airoides</i>	Alkali sacaton	Perennial Bunchgrass	moderate
	<i>Sporobolus cryptandrus</i>	Sand dropseed, spike dropseed	Perennial Bunchgrass	moderate

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

SANTA CRUZ RIVER				
	Botanical Name	Common Name	Life Form	Water Requirements
XERORIPARIAN				
TREES				
	<i>Acacia constricta</i>	Whitethorn Acacia	Perennial shrub/small tree	low-moderate
	<i>Acacia greggii</i>	Catclaw Acacia	Perennial tree	low
	<i>Chilopsis linearis</i>	Desert Willow	Perennial shrub/small tree	low-moderate
	<i>Parkinsonia florida</i>	Blue Palo Verde	Perennial tree	low-moderate
	<i>Parkinsonia microphylla</i>	Foothills Palo Verde	Perennial tree	low
	<i>Prosopis velutina</i>	Velvet Mesquite	Perennial tree	low
	<i>Quercus emoryi</i>	Emory Oak	Perennial tree	low
	<i>Sapindus saponaria</i> var. <i>drummondii</i>	Western soapberry	Perennial Tree	low
SHRUBS				
	<i>Atriplex canescens</i>	Four-winged Saltbush	Perennial shrub	low
	<i>Calliandra eriophylla</i>	Fairy duster	Perennial Shrub	low
	<i>Celtis ehrenbergiana</i> (<i>Celtis pallida</i>)	Desert hackberry, spiny hackberry	Perennial Shrub	low
	<i>Condalia warnockii</i>	Warnock condalia, Warnock's snakeweed	Perennial Shrub	low
	<i>Encelia farinosa</i>	Brittlebush	Perennial shrub	low
	<i>Ericameria laricifolia</i> (<i>Haplopappus laricifolius</i>)	Turpentine bush	Perennial Shrub	low
	<i>Gossypium thurberi</i> (<i>Thurberia thespesioides</i>)	Native cotton, Thurber's cotton	Perennial Shrub	moderate
	<i>Hymenoclea monogyra</i> (<i>Ambrosia monogyra</i>)	Burrobrush, Single whorl burrobrush	Perennial Shrub	Moderate
	<i>Larrea tridentata</i> var. <i>tridentata</i>	Creosote bush	Perennial Shrub	low
	<i>Lycium andersonii</i> var. <i>andersonii</i>	Anderson Wolfberry, water jacke	Perennial Shrub	low
	<i>Simmondsia chinensis</i>	Jojoba	Perennial Shrub	low
	<i>Trixis californica</i>	Trixis, American threefold	Perennial Shrub	low
	<i>Vauquelinia californica</i> ssp. <i>californica/sonorensis</i>	Arizona Rosewood	Perennial shrub	low
	<i>Ziziphus obtusifolia</i>	Graythorn	Perennial shrub	low
VINES				
	<i>Clematis drummondii</i>	Old Man's Beard	Perennial vine	moderate
	<i>Cucurbita digitata</i>	Fingerleaf gourd	Perennial Vine	low-moderate
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailoi	Perennial Vine	moderate
CACTI & SUCCULENTS				
	<i>Cylindropuntia arbuscula</i>	Arizona Pencil Cholla	Perennial cactus	low
	<i>Cylindropuntia leptocaulis</i>	Christmas Cholla	Perennial cactus	low
	<i>Ferocactus wislizeni</i>	Candy Barrel Cactus	Perennial cactus	low
	<i>Nolina microcarpa</i>	Beargrass, sacahuista	Perennial Lily	low
	<i>Opuntia phaeacantha</i>	Prickley Pear	Perennial cactus	low
	<i>Yucca elata</i>	Soaptree Yucca	Perennial shrub	low
PERENNIAL FORB/SUB-SHRUBS				
	<i>Allionia incarnata</i>	Trailing windmills, trailing four-o'clock	Perennial Forb	low
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	moderate
	<i>Baileya multiradiata</i>	Desert Marigold	Perennial forb	low
	<i>Brickellia coulteri</i>	Brickelbush	Perennial subshrub	moderate
	<i>Dichelostemma capitatum</i> (<i>Dichelostemma</i>)	Bluedicks	Perennial Forb	low
	<i>Epilobium canum</i> ssp. <i>latifolium</i>	Hummingbird trumpet	Perennial Forb	moderate
	<i>Glandularia gooddingii</i> (<i>Verbena</i>)	Goodding's verbena, southwest mock	Perennial Forb	low
	<i>Penstemon parryi</i>	Penstemon, Parry, beardtongue	Perennial Forb	low
	<i>Rumex hymenosepalus</i>	Canaigre dock	Perennial Forb	moderate
	<i>Senna hirsuta</i> var. <i>glaberima</i> (<i>Cassia leptocarpa</i> var. <i>glaberrima</i>)	Stimpod senna, woolly senna	Perennial Forb	moderate
	<i>Sphaeralcea ambigua</i> ssp. <i>Ambigua</i>	Desert globemallow, apricot globemallow	Perennial Forb	low
	<i>Zinnia acerosa</i>	Desert Zinnia	Perennial subshrub	low
ANNUAL WILDFLOWERS				
	<i>Bowlesia incana</i>	Bowlesia, hoary bowlesit	Annual Forb	low
	<i>Datura wrightii</i>	Datura, sacred, jimsonweed, sacred thorn-apple	Annual or Perennial Forb	low
	<i>Eschscholzia californica</i> ssp. <i>Mexicana</i> (<i>Eschscholtzia mexicana</i>)	Mexican Gold Poppy, California poppy	Annual Forb	low
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	low
	<i>Lesquerella gordonii</i>	Gordon's bladderpod	Annual or Perennial forb	moderate
	<i>Lupinus sparsiflorus</i> ssp. <i>mohavensis</i>	Coulter's lupine	Annual Forb	moderate
	<i>Phacelia distans</i>	Blue-eyed scorpionweed, distant phacelia	Annual or Perennial Forb	moderate
	<i>Polansia dodecandra</i>	Western Clammyweec	Annual Forb	moderate
	<i>Salvia columbariae</i> var. <i>columbariae</i>	Chia	Annual Forb	low
GRASSES				
	<i>Aristida ternipes</i>	Spidergrass	Perennial Grass	low
	<i>Bothriochloa barbinodis</i> (<i>Andropogon barbinoides</i>)	Cane beardgrass	Perennial Bunchgrass	moderate
	<i>Bouteloua aristidoides</i>	Needle grama	Annual Tufted Grass	low
	<i>Bouteloua curtipendula</i>	Sideoats grama	Perennial Tufted Grass	low
	<i>Bouteloua rothrockii</i>	Rothrock grama	Perennial Tufted Grass	low
	<i>Dasyochloa pulchella</i>	Fluffgrass	Perennial grass	low
	<i>Leptochloa dubia</i>	Green sprangletop	Annual Grass	moderate
	<i>Muhlenbergia porteri</i>	Bush Muhly	Perennial tufted grass	moderate
	<i>Muhlenbergia rigens</i>	Deergrass	Perennial Bunchgrass	moderate
	<i>Setaria macrostachya</i>	Plains bristlegrass, large-spike bristlegrass	Perennial Bunchgrass	moderate
	<i>Sporobolus airoides</i>	Alkali sacaton	Perennial Bunchgrass	moderate
	<i>Sporobolus cryptandrus</i>	Sand dropseed, spike dropseed	Perennial Bunchgrass	moderate

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

Western Pima County				
	Botanical Name	Common Name	Life Form	Water Requirements
HYDRORIPARIAN				
TREES				
	<i>Celtis laevigata (Celtis reticulata)</i>	Netleaf/Canyon hackberry	Perennial Tree	Moderate
	<i>Populus fremontii ssp. fremontii</i>	Fremont cottonwood	Perennial Tree	High
	<i>Salix goodingii</i>	Goodding's willow	Perennial Tree	High
SHRUBS				
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	Low
GRASSES				
	<i>Setaria macrostachya</i>	Plains bristlegrass, large-spike bristlegrass	Perennial Bunchgrass	Moderate
	<i>Sporobolus airoides</i>	Alkali sacaton	Perennial Bunchgrass	Moderate
MESORIPARIAN				
TREES				
	<i>Acacia constricta</i>	Whitethorn Acacia	Perennial shrub/small tree	low-moderate
	<i>Acacia greggii</i>	Catclaw Acacia	Perennial tree	low
	<i>Celtis laevigata (Celtis reticulata)</i>	Netleaf/Canyon hackberry	Perennial Tree	Moderate
	<i>Chilopsis linearis</i>	Desert Willow	Perennial shrub/small tree	low-moderate
	<i>Parkinsonia florida</i>	Blue Palo Verde	Perennial tree	low-moderate
	<i>Populus fremontii ssp. fremontii</i>	Fremont cottonwood	Perennial Tree	High
	<i>Prosopis pubescens</i>	Screwbean mesquite	Perennial Tree	Moderate
	<i>Prosopis velutina</i>	Velvet mesquite	Perennial Tree	Low
	<i>Salix goodingii</i>	Goodding's willow	Perennial Tree	High
SHRUBS				
	<i>Anisacanthus thurberi (Drejera thurberi)</i>	Desert honeysuckle	Perennial Shrub	Moderate
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	Low
	<i>Lycium andersonii var. andersonii</i>	Anderson Wolfberry, water jacket	Perennial Shrub	Low
	<i>Lycium fremontii</i>	Fremont Wolfberry, Fremont's desert-thorn	Perennial Shrub	Low
	<i>Mahonia haematocarpa (Berberis haematocarpa)</i>	Red Mahonia, Red Barberry	Perennial Shrub	low-moderate
VINES				
	<i>Clematis drummondii</i>	Old man's beard, Virgin's bower, Drummond's Clematis	Perennial Vine	Moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Dichelostemma capitatum (Dichelostemma pulchellum)</i>	Bluedicks	Perennial Forb	Low
	<i>Dicliptera resupinata</i>	Arizona foldwing	Perennial Forb	Low
	<i>Glandularia goodingii (Verbena goodingii)</i>	Goodding's verbena, southwest mock vervain	Perennial Forb	Low
	<i>Penstemon pseudospectabilis</i>	Desert Penstemon	Perennial Forb	Moderate
ANNUAL WILDFLOWERS				
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
GRASSES				
	<i>Muhlenbergia porteri</i>	Bush muhly	Perennial Tufted Grass	Moderate
	<i>Muhlenbergia rigens</i>	Deergrass	Perennial Bunchgrass	Moderate
	<i>Setaria macrostachya</i>	Plains bristlegrass, large-spike bristlegrass	Perennial Bunchgrass	Moderate
	<i>Sporobolus airoides</i>	Alkali sacaton	Perennial Bunchgrass	Moderate
	<i>Sporobolus cryptandrus</i>	Sand dropseed, spike dropseed	Perennial Bunchgrass	Moderate

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

Western Pima County				
	Botanical Name	Common Name	Life Form	Water Requirements
XERORIPARIAN				
TREES				
	<i>Acacia constricta</i>	Whitethorn Acacia	Perennial shrub/small tree	low-moderate
	<i>Acacia greggii</i>	Catclaw Acacia	Perennial tree	low
	<i>Chilopsis linearis</i>	Desert Willow	Perennial shrub/small tree	low-moderate
	<i>Olneya tesota</i>	Desert Ironwood	Perennial Tree	Low
	<i>Parkinsonia florida</i>	Blue Palo Verde	Perennial tree	low-moderate
	<i>Parkinsonia microphylla</i>	Foothills Palo Verde	Perennial tree	low
	<i>Prosopis pubescens</i>	Screwbean mesquite	Perennial Tree	Moderate
	<i>Prosopis velutina</i>	Velvet mesquite	Perennial Tree	Low
SHRUBS				
	<i>Ambrosia deltoidea</i>	Triangle-leaf bursage	Perennial Shrub	Low
	<i>Atriplex canescens</i>	Four-winged saltbush	Perennial Shrub	Low
	<i>Atriplex lentiformis</i>	Quailbush	Perennial Shrub	Low
	<i>Calliandra eriophylla</i>	Fairy duster	Perennial Shrub	Low
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	Low
	<i>Dodonaea viscosa</i>	Hopbush	Perennial Shrub	Moderate
	<i>Encelia farinosa</i>	Brittlebush	Perennial Shrub	Low
	<i>Ericameria laricifolia (Haplopappus laricifolius)</i>	Turpentine bush	Perennial Shrub	Low
	<i>Eriogonum fasciculatum var. foliolosum/poliifolium</i>	Flat-top buckwheat	Perennial Shrub	Moderate
	<i>Hyptis emoryi</i>	Desert lavender	Perennial Shrub	Low
	<i>Larrea tridentata var. tridentata</i>	Creosote bush	Perennial Shrub	Low
	<i>Lycium andersonii var. andersonii</i>	Anderson Wolfberry, water jacket	Perennial Shrub	Low
	<i>Lycium fremontii</i>	Fremont Wolfberry, Fremont's desert-thorn	Perennial Shrub	Low
	<i>Simmondsia chinensis</i>	Jojoba	Perennial Shrub	Low
	<i>Trixis californica</i>	Trixis, American threefold	Perennial Shrub	Low
	<i>Vauquelinia californica ssp. Californica/sonorensis</i>	Arizona Rosewood	Perennial shrub	low
	<i>Ziziphus obtusifolia var. canescens</i>	Graythorn, lotebush	Perennial Shrub	Low
VINES				
	<i>Clematis drummondii</i>	Old man's beard, Virgin's bower, Drummond's Clematis	Perennial Vine	Moderate
	<i>Cucurbita digitata</i>	Fingerleaf gourd	Perennial Vine	Low-Moderate
	<i>Cucurbita palmata (Cucurbita californica)</i>	Coyote melon, Coyote gourd	Perennial Vine	Moderate
CACTI & SUCCULENTS				
	<i>Cylindropuntia arbuscula, (Opuntia arbuscula)</i>	Arizona Pencil cholla	Perennial Cactus	Low
	<i>Cylindropuntia leptocaulis, (Opuntia leptocaulis)</i>	Christmas cholla, desert Christmas cactus	Perennial Cactus	Low
	<i>Ferocactus wislizeni (Echinocactus wislizeni)</i>	Candy barrel cactus	Perennial Cactus	Low
	<i>Nolina microcarpa</i>	Beargrass, sacahuista	Perennial Lily	Low
	<i>Opuntia phaeacantha</i>	prickly pear	Perennial Cactus	Low
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Dichelostemma capitatum (Dichelostemma pulchellum)</i>	Bluedicks	Perennial Forb	Low
	<i>Dicliptera resupinata</i>	Arizona foldwing	Perennial Forb	Low
	<i>Epilobium canum ssp. latifolium</i>	Hummingbird trumpet	Perennial Forb	Moderate
	<i>Glandularia gooddingii (Verbena gooddingii)</i>	Goodding's verbena, southwest mock vervain	Perennial Forb	Low
	<i>Penstemon parryi</i>	Penstemon, Parry, beardtongue	Perennial Forb	Low
	<i>Sphaeralcea ambigua ssp. Ambigua</i>	Desert globemallow, apricot globemallow	Perennial Forb	Low
	<i>Zinnia acerosa (Zinnia pumila)</i>	Desert zinnia	Perennial Sub-Shrub	Low
ANNUAL WILDFLOWERS				
	<i>Eschscholzia californica ssp. Mexicana (Eschscholtzia mexicana)</i>	Mexican Gold Poppy, California poppy	Annual Forb	Low
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
GRASSES				
	<i>Bothriochloa barbinodis (Andropogon barbinoides)</i>	Cane beardgrass	Perennial Bunchgrass	Moderate
	<i>Bouteloua curtipendula</i>	Sideoats grama	Perennial Tufted Grass	Low
	<i>Bouteloua rothrockii</i>	Rothrock grama	Perennial Tufted Grass	Low
	<i>Dasyochloa pulchella (Erioneuron pulchellus, Tridens pulchellus)</i>	Fluffgrass, low woolly grass	Perennial Grass	Low
	<i>Muhlenbergia porteri</i>	Bush muhly	Perennial Tufted Grass	Moderate
	<i>Muhlenbergia rigens</i>	Deergrass	Perennial Bunchgrass	Moderate
	<i>Setaria macrostachya</i>	Plains bristlegrass, large-spike bristlegrass	Perennial Bunchgrass	Moderate
	<i>Sporobolus airoides</i>	Alkali sacaton	Perennial Bunchgrass	Moderate
	<i>Sporobolus cryptandrus</i>	Sand dropseed, spike dropseed	Perennial Bunchgrass	Moderate

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

PANTANO/RILLITO/LOWER CANYON DEL ORO WASH				
	Botanical Name	Common Name	Life Form	Water Requirements
HYDRORIPARIAN				
TREES				
	<i>Fraxinus velutina</i>	Arizona ash, Velvet ash	Perennial Tree	Moderate-High
SHRUBS				
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	Low
VINES				
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
GRASSES				
	<i>Panicum obtusum</i>	Vine mesquite	Perennial Tufted Grass	Moderate
MESORIPARIAN				
TREES				
	<i>Acacia greggii</i>	Catclaw acacia	Perennial Tree	Low
	<i>Fraxinus velutina</i>	Arizona ash, Velvet ash	Perennial Tree	Moderate-High
	<i>Parkinsonia florida (Cercidium floridum)</i>	Blue paloverde	Perennial Tree	Low-Moderate
	<i>Prosopis pubescens</i>	Screwbean mesquite	Perennial Tree	Moderate
	<i>Prosopis velutina</i>	Velvet mesquite	Perennial Tree	Low
SHRUBS				
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	Low
	<i>Rhus microphylla</i>	Littleleaf sumac	Perennial Sub-Shrub	Moderate
VINES				
	<i>Clematis drummondii</i>	Old man's beard, Virgin's bower, Drummond's Clematis	Perennial Vine	Moderate
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Brickellia coulteri</i>	Brickelbush, Coulter's brickelbush	Perennial Sub-Shrub	Moderate
	<i>Dichelostemma capitatum (Dichelostemma pulchellum)</i>	Bluedicks	Perennial Forb	Low
	<i>Penstemon pseudospectabilis</i>	Penstemon, desert	Perennial Forb	Moderate
ANNUAL WILDFLOWERS				
	<i>Bowlesia incana</i>	Bowlesia, hoary bowlesia	Annual Forb	Low
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
	<i>Lupinus sparsiflorus ssp. mohavensis</i>	Coulter's lupine	Annual Forb	Moderate
	<i>Nama demissum var. demissum</i>	Purplemat	Annual Forb	Moderate
	<i>Salvia columbariae var. columbariae</i>	Chia	Annual Forb	Low
GRASSES				
	<i>Bouteloua aristidoides</i>	Needle grama	Annual Tufted Grass	Low
	<i>Muhlenbergia rigens</i>	Deergrass	Perennial Bunchgrass	Moderate
	<i>Panicum obtusum</i>	Vine mesquite	Perennial Tufted Grass	Moderate
	<i>Sporobolus cryptandrus</i>	Sand dropseed, spike dropseed	Perennial Bunchgrass	Moderate
	<i>Vulpia octoflora (Festuca octoflora)</i>	Sixweeks fescue	Annual Grass	Low

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

PANTANO/RILLITO/LOWER CANYON DEL ORO WASH				
	Botanical Name	Common Name	Life Form	Water Requirements
XERORIPARIAN				
TREES				
	<i>Acacia greggii</i>	Catclaw acacia	Perennial Tree	Low
	<i>Parkinsonia florida (Cercidium floridum)</i>	Blue paloverde	Perennial Tree	Low-Moderate
	<i>Prosopis pubescens</i>	Screwbean mesquite	Perennial Tree	Moderate
	<i>Prosopis velutina</i>	Velvet mesquite	Perennial Tree	Low
SHRUBS				
	<i>Calliandra eriophylla</i>	Fairy duster	Perennial Shrub	Low
	<i>Encelia farinosa</i>	Brittlebush	Perennial Shrub	Low
	<i>Hymenoclea monogyra (Ambrosia monogyra)</i>	Burrobrush, single whorl burrobrush	Perennial Shrub	Moderate
	<i>Larrea tridentata var. tridentata</i>	Creosote bush	Perennial Shrub	Low
	<i>Parthenium incanum</i>	Mariola	Perennial Shrub	Low
	<i>Rhus microphylla</i>	Littleleaf sumac	Perennial Sub-Shrub	Moderate
	<i>Trixis californica</i>	Trixis, American threefold	Perennial Shrub	Low
	<i>Ziziphus obtusifolia var. canescens</i>	Graythorn, lotebush	Perennial Shrub	Low
VINES				
	<i>Clematis drummondii</i>	Old man's beard, Virgin's bower, Drummond's Clematis	Perennial Vine	Moderate
	<i>Cucurbita digitata</i>	Fingerleaf gourd	Perennial Vine	Low-Moderate
	<i>Cucurbita palmata (Cucurbita californica)</i>	Coyote melon, Coyote gourd	Perennial Vine	Moderate
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
CACTI & SUCCULENTS				
	<i>Ferocactus wislizeni (Echinocactus wislizeni)</i>	Candy barrel cactus	Perennial Cactus	Low
	<i>Cylindropuntia arbuscula, (Opuntia arbuscula)</i>	Arizona Pencil cholla	Perennial Cactus	Low
	<i>Cylindropuntia leptocaulis, (Opuntia leptocaulis)</i>	Christmas cholla, desert Christmas cactus	Perennial Cactus	Low
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Baileya multiradiata</i>	Desert marigold	Perennial Forb	Low
	<i>Brickellia coulteri</i>	Brickellbush, Coulter's brickellbush	Perennial Sub-Shrub	Moderate
	<i>Dichostemma capitatum</i>	Bluedicks	Perennial Forb	Low
	<i>Machaeranthera tanacetifolia (Aster tanacetifolius)</i>	Tansyleaf tansyaster, purple aster	Perennial Forb	Low
	<i>Sphaeralcea ambigua ssp. Ambigua</i>	Desert globemallow, apricot globemallow	Perennial Forb	Low
	<i>Zinnia acerosa (Zinnia pumila)</i>	Desert zinnia	Perennial Sub-Shrub	Low
ANNUAL WILDFLOWERS				
	<i>Bowlesia incana</i>	Bowlesia, hoary bowlesia	Annual Forb	Low
	<i>Eriastrum diffusum</i>	Miniature woollystar	Annual Forb	Low
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
	<i>Lupinus sparsiflorus ssp. mohavensis</i>	Coulter's lupine	Annual Forb	Moderate
	<i>Nama demissum var. demissum</i>	Purplemat	Annual Forb	Moderate
	<i>Salvia columbariae var. columbariae</i>	Chia	Annual Forb	Low
GRASSES				
	<i>Bouteloua aristoides</i>	Needle grama	Annual Tufted Grass	Low
	<i>Dasyochloa pulchella (Erioneuron pulchellum, Tridens pulchellus)</i>	Fluffgrass, low woolly grass	Perennial Grass	Low
	<i>Hilaria belangeri var. belangeri</i>	Curly-mesquite	Perennial Tufted Grass	Moderate
	<i>Muhlenbergia rigens</i>	Deergrass	Perennial Bunchgrass	Moderate
	<i>Sporobolus cryptandrus</i>	Sand dropseed, spike dropseed	Perennial Bunchgrass	Moderate
	<i>Vulpia octoflora (Festuca octoflora)</i>	Sixweeks fescue	Annual Grass	Low

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

BLACK/BRAWLEY WASH				
	Botanical Name	Common Name	Life Form	Water Requirements
HYDRORIPARIAN				
SHRUBS				
	<i>Acacia constricta</i>	Whitethorn acacia	Perennial Shrub/Small Tree	Low-Moderate
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	Low
VINES				
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ruellia nudiflora var. nudiflora</i>	Violet wild petunia	Perennial Forb	Moderate
MESORIPARIAN				
TREES				
	<i>Acacia greggii</i>	Catchlaw acacia	Perennial Tree	Low
	<i>Parkinsonia florida (Cercidium floridum)</i>	Blue paloverde	Perennial Tree	Low-Moderate
	<i>Prosopis pubescens</i>	Screwbean mesquite	Perennial Tree	Moderate
	<i>Prosopis velutina</i>	Velvet mesquite	Perennial Tree	Low
SHRUBS				
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	Low
	<i>Lycium andersonii var. andersonii</i>	Anderson Wolfberry, water jacket	Perennial Shrub	Low
VINES				
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Brickellia coulteri</i>	Brickelbush, Coulter's brickelbush	Perennial Sub-Shrub	Moderate
	<i>Dichelostemma capitatum (Dichelostemma pulchellum)</i>	Bluedicks	Perennial Forb	Low
	<i>Penstemon pseudospectabilis</i>	Desert penstemon	Perennial Forb	Moderate
	<i>Ruellia nudiflora var. nudiflora</i>	Violet wild petunia	Perennial Forb	Moderate
ANNUAL WILDFLOWERS				
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
	<i>Lesquerella gordonii var. gordonii</i>	Gordon's bladderpod	Annual or Perennial Forb	Moderate
	<i>Lupinus sparsiflorus ssp. mohavensis</i>	Coulter's lupine	Annual Forb	Moderate
	<i>Nama demissum var. demissum</i>	Purplemat	Annual Forb	Moderate
GRASSES				
	<i>Aristida ternipes</i>	Spidergrass	Perennial Grass	Low
	<i>Bouteloua aristidoides</i>	Needle grama	Annual Tufted Grass	Low
	<i>Muhlenbergia porteri</i>	Bush muhly	Perennial Tufted Grass	Moderate
	<i>Muhlenbergia rigens</i>	Deergrass	Perennial Bunchgrass	Moderate
	<i>Vulpia octoflora (Festuca octoflora)</i>	Sixweeks fescue	Annual Grass	Low

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

BLACK/BRAWLEY WASH				
	Botanical Name	Common Name	Life Form	Water Requirements
XERORIPARIAN				
TREES				
	<i>Acacia greggii</i>	Catclaw acacia	Perennial Tree	Low
	<i>Parkinsonia florida</i> (<i>Cercidium floridum</i>)	Blue paloverde	Perennial Tree	Low-Moderate
	<i>Prosopis pubescens</i>	Screwbean mesquite	Perennial Tree	Moderate
	<i>Prosopis velutina</i>	Velvet mesquite	Perennial Tree	Low
SHRUBS				
	<i>Atriplex canescens</i>	Four-winged saltbush	Perennial Shrub	Low
	<i>Atriplex lentiformis</i>	Quailbush	Perennial Shrub	Low
	<i>Hymenoclea monogyra</i> (<i>Ambrosia monogyra</i>)	Burrobrush, single whorl burrobrush	Perennial Shrub	Moderate
	<i>Larrea tridentata</i> var. <i>tridentata</i>	Creosote bush	Perennial Shrub	Low
	<i>Lycium andersonii</i> var. <i>andersonii</i>	Anderson Wolfberry, water jacket	Perennial Shrub	Low
VINES				
	<i>Cucurbita digitata</i>	Fingerleaf gourd	Perennial Vine	Low-Moderate
	<i>Cucurbita palmata</i> (<i>Cucurbita californica</i>)	Coyote melon, Coyote gourd	Perennial Vine	Moderate
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
CACTI & SUCCULENTS				
	<i>Ferocactus wislizeni</i> (<i>Echinocactus wislizeni</i>)	Candy barrel cactus	Perennial Cactus	Low
	<i>Cylindropuntia leptocaulis</i> , (<i>Opuntia leptocaulis</i>)	Christmas cholla, desert Christmas cactus	Perennial Cactus	Low
PERENNIAL FORB/SUB-SHRUBS				
	<i>Allionia incarnata</i>	Trailing windmills, trailing four-o'clock	Perennial Forb	Low
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Brickellia coulteri</i>	Brickelbush, Coulter's brickelbush	Perennial Sub-Shrub	Moderate
	<i>Dichelostemma capitatum</i>	Bluedicks	Perennial Forb	Low
	<i>Machaeranthera tanacetifolia</i> (<i>Aster tanacetifolius</i>)	Tanseyleaf tansyaster, purple aster	Perennial Forb	Low
	<i>Sphaeralcea ambigua</i> ssp. <i>Ambigua</i>	Desert globemallow, apricot globemallow	Perennial Forb	Low
	<i>Zinnia acerosa</i> (<i>Zinnia pumila</i>)	Desert zinnia	Perennial Sub-Shrub	Low
ANNUAL WILDFLOWERS				
	<i>Eriastrum diffusum</i>	Miniature woollystar	Annual Forb	Low
	<i>Eschscholzia californica</i> ssp. <i>Mexicana</i> (<i>Eschscholtzia mexicana</i>)	Mexican Gold Poppy, California poppy	Annual Forb	Low
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
	<i>Lesquerella gordonii</i> var. <i>gordonii</i>	Gordon's bladderpod	Annual or Perennial Forb	Moderate
	<i>Lupinus sparsiflorus</i> ssp. <i>mohavensis</i>	Coulter's lupine	Annual Forb	Moderate
	<i>Nama demissum</i> var. <i>demissum</i>	Purplemat	Annual Forb	Moderate
GRASSES				
	<i>Aristida ternipes</i>	Spidergrass	Perennial Grass	Low
	<i>Bouteloua aristidoides</i>	Needle grama	Annual Tufted Grass	Low
	<i>Dasyochloa pulchella</i> (<i>Erioneuron pulchellum</i> , <i>Tridens pulchellus</i>)	Fluffgrass, low woolly grass	Perennial Grass	Low
	<i>Hilaria belangeri</i> var. <i>belangeri</i> (<i>Antheplora belangeri</i>)	Curly-mesquite	Perennial Tufted Grass	Moderate
	<i>Muhlenbergia porteri</i>	Bush muhly	Perennial Tufted Grass	Moderate
	<i>Muhlenbergia rigens</i>	Deergrass	Perennial Bunchgrass	Moderate
	<i>Vulpia octoflora</i> (<i>Festucaoctoflora</i>)	Sixweeks fescue	Annual Grass	Low

**APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS,
PIMA COUNTY, ARIZONA**

UPPER CANYON DEL ORO WASH				
	Botanical Name	Common Name	Life Form	Water Requirements
HYDRORIPARIAN				
TREES				
	<i>Platanus wrightii</i>	Arizona sycamore	Perennial Tree	Moderate
SHRUBS				
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	Low
	<i>Cephalanthus occidentalis</i>	Buttonbush, Common buttonbush	Perennial Shrub	High
	<i>Ribes aureum var. aureum</i>	Wax currant, golden currant	Perennial Shrub	Moderate-High
VINES				
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Lobelia cardinalis</i>	Cardinalflower	Perennial Forb	Moderate-High
MESORIPARIAN				
TREES				
	<i>Acacia greggii</i>	Catclaw acacia	Perennial Tree	Low
	<i>Platanus wrightii</i>	Arizona sycamore	Perennial Tree	Moderate
	<i>Prosopis velutina</i>	Velvet mesquite	Perennial Tree	Low
SHRUBS				
	<i>Anisacanthus thurberi (Drejera thurberi)</i>	Desert honeysuckle	Perennial Shrub	Moderate
	<i>Asclepias tuberosa</i>	Butterfly milkweed	Perennial Sub-Shrub	Moderate
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	Low
	<i>Garrya wrightii</i>	Wright's silktassel	Perennial Shrub	Moderate
	<i>Rhus glabra</i>	Smooth sumac	Perennial Shrub	Moderate
	<i>Rhus ovata</i>	Sugar bush, sugar sumac	Perennial Shrub	Moderate
	<i>Rhus trilobata</i>	Three-leafed sumac, skunkbush sumac	Perennial Shrub	Moderate
VINES				
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Brickellia coulteri</i>	Brickellbush	Perennial Sub-Shrub	Moderate
	<i>Dicliptera resupinata</i>	Arizona foldwing	Perennial Forb	Low
	<i>Epilobium canum ssp. latifolium (Zauschneria californica)</i>	Hummingbird trumpet	Perennial Forb	Moderate
	<i>Penstemon pseudospectabilis</i>	Desert penstemon	Perennial Forb	Moderate
	<i>Rumex hymenosepalus</i>	Canaigre dock	Perennial Forb	Moderate
ANNUAL WILDFLOWERS				
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
	<i>Lesquerella gordonii var. gordonii</i>	Gordon's bladderpod	Annual or Perennial Forb	Moderate
	<i>Lupinus sparsiflorus ssp. mohavensis</i>	Coulter's lupine	Annual Forb	Moderate
	<i>Nama demissum var. demissum</i>	Purplemat	Annual Forb	Moderate
	<i>Phacelia distans</i>	Blue-eyed scorpionweed, distant phacelia	Annual or Perennial Forb	Moderate
GRASSES				
	<i>Bouteloua aristidoides</i>	Needle grama	Annual Tufted Grass	Low

**APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS,
PIMA COUNTY, ARIZONA**

UPPER CANYON DEL ORO WASH				
	Botanical Name	Common Name	Life Form	Water Requirements
XERORIPARIAN				
TREES				
	<i>Acacia greggii</i>	Catclaw acacia	Perennial Tree	Low
	<i>Olneya tesota</i>	Desert Ironwood	Perennial Tree	Low
	<i>Parkinsonia microphylla</i> (<i>Cercidium microphyllum</i>)	Foothills Palo Verde, yellow palo verde	Perennial Tree	Low
	<i>Prosopis velutina</i>	Velvet mesquite	Perennial Tree	Low
SHRUBS				
	<i>Dodonaea viscosa</i>	Hopbush	Perennial Shrub	Moderate
	<i>Ericameria laricifolia</i> (<i>Haplopappus laricifolius</i>)	Turpentine bush	Perennial Shrub	Low
	<i>Eriogonum fasciculatum</i> var. <i>foliolosum/polifolium</i>)	Flat-top buckwheat, Eastern Mohave buckwheat	Perennial Shrub	Moderate
	<i>Hymenoclea monogyra</i> (<i>Ambrosia monogyra</i>)	Burrobrush, single whorl burrobrush	Perennial Shrub	Moderate
	<i>Tecoma stans</i>	Yellow bells, yellow	Perennial Shrub	Low
	<i>Trixis californica</i>	Trixis	Perennial Shrub	Low
	<i>Ziziphus obtusifolia</i> var.	Graythorn, lotebush	Perennial Shrub	Low
VINES				
	<i>Cucurbita digitata</i>	Fingerleaf gourd	Perennial Vine	Low-Moderate
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
CACTI & SUCCULENTS				
	<i>Ferocactus wislizeni</i> (<i>Echinocactus wislizeni</i>)	Candy barrel cactus	Perennial Cactus	Low
	<i>Nolina microcarpa</i>	Beargrass, sacahuista	Perennial Cactus-Grasslike	Low
	<i>Opuntia phaeacantha</i>	prickly pear	Perennial Cactus	Low
PERENNIAL FORB/SUB-SHRUBS				
	<i>Yucca elata</i>	Soaptree yucca	Perennial Shrub	Low
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Brickellia coulteri</i>	Brickelbush, Coulter's brickelbush	Perennial Sub-Shrub	Moderate
	<i>Dicliptera resupinata</i>	Arizona foldwing	Perennial Forb	Low
	<i>Epilobium canum</i> ssp. <i>latifolium</i> (<i>Zauschneria californica</i>)	Hummingbird trumpet	Perennial Forb	Moderate
	<i>Machaeranthera tanacetifolia</i> (<i>Aster tanacetifolius</i>)	Tanseyleaf tansyaster, purple aster	Perennial Forb	Low
	<i>Penstemon parryi</i>	Penstemon, Parry, beardtongue	Perennial Forb	Low
	<i>Rumex hymenosepalus</i>	Canaigre dock	Perennial Forb	Moderate
	<i>Zinnia acerosa</i> (<i>Zinnia pumila</i>)	Desert zinnia	Perennial Sub-Shrub	Low
ANNUAL WILDFLOWERS				
	<i>Eriastrum diffusum</i>	Miniature woollystar	Annual Forb	Low
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
	<i>Lesquerella gordonii</i> var. <i>gordonii</i>	Gordon's bladderpod	Annual or Perennial Forb	Moderate
	<i>Lupinus sparsiflorus</i> ssp. <i>mohavensis</i>	Coulter's lupine	Annual Forb	Moderate
	<i>Nama demissum</i> var. <i>demissum</i>	Purplemat	Annual Forb	Moderate
	<i>Phacelia distans</i>	Blue-eyed scorpionweed, distant phacelia	Annual or Perennial Forb	Moderate
GRASSES				
	<i>Bouteloua curtipendula</i>	Sideoats grama	Perennial Tufted Grass	Low
	<i>Bouteloua rothrockii</i>	Rothrock grama	Perennial Tufted Grass	Low
	<i>Dasyochloa pulchella</i> (<i>Erioneuron pulchellum</i> , <i>Tridens pulchellus</i>)	Fluffgrass, low woolly grass	Perennial Grass	Low
	<i>Hilaria belangeri</i> var. <i>belangeri</i> (<i>Antheophora belangeri</i>)	Curly-mesquite	Perennial Tufted Grass	Moderate

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

TANQUE VERDE/AQUA CALIENTE/RINCON WASH				
	Botanical Name	Common Name	Life Form	Water Requirements
HYDRORIPARIAN				
TREES				
	<i>Celtis laevigata (Celtis reticulata)</i>	Netleaf/Canyon hackberry	Perennial Tree	Moderate
	<i>Juglans major</i>	Arizona black walnut	Perennial Tree	High
	<i>Platanus wrightii</i>	Arizona sycamore	Perennial Tree	Moderate
SHRUBS				
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	Low
	<i>Cephalanthus occidentalis</i>	Buttonbush, Common buttonbush	Perennial Shrub	High
	<i>Ribes aureum var. aureum</i>	Wax currant, golden currant	Perennial Shrub	Moderate-High
VINES				
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Anemopsis californica</i>	Yerba Mansa	Perennial Forb	High
	<i>Lobelia cardinalis</i>	Cardinalflower	Perennial Forb	Moderate-High
GRASSES				
	<i>Distichlis stricta</i>	Desert saltgrass	Perennial Turfgrass	Moderate
	<i>Sporobolus airoides</i>	Alkali sacaton	Perennial Bunchgrass	Moderate
MESORIPARIAN				
TREES				
	<i>Acacia greggii</i>	Catclaw acacia	Perennial Tree	Low
	<i>Celtis laevigata (Celtis reticulata)</i>	Netleaf/Canyon hackberry	Perennial Tree	Moderate
	<i>Juglans major</i>	Arizona black walnut	Perennial Tree	High
	<i>Mahonia haematocarpa (Berberis haematocarpa)</i>	Red mahonia, red barberry	Perennial Shrub	Low-Moderate
	<i>Platanus wrightii</i>	Arizona sycamore	Perennial Tree	Moderate
	<i>Prosopis velutina</i>	Velvet mesquite	Perennial Tree	Low
	<i>Sambucus nigra ssp. cerulea (Sambucus mexicana)</i>	Mexican elderberry, blue elderberry	Perennial Shrub/Small Tree	Moderate
	<i>Sapindus saponaria var. drummondii</i>	Western soapberry	Perennial Tree	Low
SHRUBS				
	<i>Anisacanthus thurberi (Drejera thurberi)</i>	Desert honeysuckle	Perennial Shrub	Moderate
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Celtis ehrenbergiana (Celtis pallida)</i>	Desert hackberry, spiny hackberry	Perennial Shrub	Low
	<i>Condalia warnockii</i>	Warnock condalia, Warnock's snakeweed	Perennial Shrub	Low
	<i>Garrya wrightii</i>	Wright's silktassel	Perennial Shrub	Moderate
	<i>Justicia candidans</i>	Red justicia, Arizona water-willow	Perennial Shrub	Moderate
	<i>Lycium andersonii var. andersonii</i>	Anderson Wolfberry, water jacket	Perennial Shrub	Low
	<i>Rhus glabra</i>	Smooth sumac	Perennial Shrub	Moderate
	<i>Rhus ovata</i>	Sugar bush, sugar sumac	Perennial Shrub	Moderate
	<i>Rhus trilobata</i>	Three-leafed sumac, skunkbush sumac	Perennial Shrub	Moderate
VINES				
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Anemopsis californica</i>	Yerba Mansa	Perennial Forb	High
	<i>Brickellia coulteri</i>	Brickelbush, Coulter's brickelbush	Perennial Sub-Shrub	Moderate
	<i>Dichelostemma capitatum (Dichelostemma pulchellum)</i>	Bluedicks	Perennial Forb	Low
	<i>Dicliptera resupinata</i>	Arizona foldwing	Perennial Forb	Low
	<i>Epilobium canum ssp. latifolium (Zauschneria californica)</i>	Hummingbird trumpet	Perennial Forb	Moderate
	<i>Penstemon pseudospectabilis</i>	desert penstemon	Perennial Forb	Moderate
	<i>Senna hirsuta var. glaberima (Cassia leptocarpa var. glaberrima)</i>	Slimpod senna, woolly senna	Perennial Forb	Moderate
ANNUAL WILDFLOWERS				
	<i>Datura wrightii</i>	Datura, sacred, jimsonweed, sacred thorn-apple	Annual or Perennial Forb	Low
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
	<i>Lesquerella gordonii var. gordonii</i>	Gordon's bladderpod	Annual or Perennial Forb	Moderate
	<i>Lupinus sparsiflorus ssp. mohavensis</i>	Coulter's lupine	Annual Forb	Moderate
	<i>Nama demissum var. demissum</i>	Purplemat	Annual Forb	Moderate
	<i>Polansia dodecandra</i>	Clammyweed, western	Annual Forb	Moderate
GRASSES				
	<i>Distichlis stricta</i>	Desert saltgrass	Perennial Turfgrass	Moderate
	<i>Leptochloa dubia</i>	Green sprangletop	Annual Grass	Moderate
	<i>Muhlenbergia rigens</i>	Deergrass	Perennial Bunchgrass	Moderate

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

TANQUE VERDE/AQUA CALIENTE/RINCON WASH				
	Botanical Name	Common Name	Life Form	Water Requirements
	<i>Sporobolus airoides</i>	Alkali sacaton	Perennial Bunchgrass	Moderate
XERORIPARIAN				
TREES				
	<i>Acacia greggii</i>	Catclaw acacia	Perennial Tree	Low
	<i>Prosopis velutina</i>	Velvet mesquite	Perennial Tree	Low
	<i>Sapindus saponaria</i> var. <i>drummondii</i>	Western soapberry	Perennial Tree	Low
SHRUBS				
	<i>Calliandra eriophylla</i>	Fairy duster	Perennial Shrub	Low
	<i>Condalia warnockii</i>	Warnock condalia, Warnock's snakeweed	Perennial Shrub	Low
	<i>Dodonaea viscosa</i>	Hopbush	Perennial Shrub	Moderate
	<i>Encelia farinosa</i>	Brittlebush	Perennial Shrub	Low
	<i>Ericameria laricifolia</i> (<i>Haplopappus laricifolius</i>)	Turpentine bush	Perennial Shrub	Low
	<i>Eriogonum fasciculatum</i> var. <i>foliolosum/polifolium</i>	Flat-top buckwheat, Eastern Mohave buckwheat	Perennial Shrub	Moderate
	<i>Hymenoclea monogyra</i> (<i>Ambrosia monogyra</i>)	Burrobrush, single whorl burrobrush	Perennial Shrub	Moderate
	<i>Hyptis emoryi</i>	Desert lavender	Perennial Shrub	Low
	<i>Justicia candidans</i>	Red justicia, Arizona water-willow	Perennial Shrub	Moderate
	<i>Larrea tridentata</i> var. <i>tridentata</i>	Creosote bush	Perennial Shrub	Low
	<i>Lycium andersonii</i> var. <i>andersonii</i>	Anderson Wolfberry, water jacket	Perennial Shrub	Low
	<i>Tecoma stans</i>	Yellow bells, yellow trumpetbush	Perennial Shrub	Low
	<i>Trixis californica</i>	Trixis, American threefold	Perennial Shrub	Low
	<i>Ziziphus obtusifolia</i> var. <i>canescens</i>	Graythorn, lotebush	Perennial Shrub	Low
VINES				
	<i>Cucurbita digitata</i>	Coyote gourd	Perennial Vine	Low-Moderate
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine	Perennial Vine	Moderate
CACTI & SUCCULENTS				
	<i>Ferocactus wislizeni</i> (<i>Echinocactus wislizeni</i>)	Candy barrel cactus	Perennial Cactus	Low
	<i>Nolina microcarpa</i>	Beargrass, sacahuista	Perennial Lily	Low
	<i>Opuntia phaeacantha</i>	prickly pear	Perennial Cactus	Low
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Brickellia coulteri</i>	Brickelbush, Coulter's brickelbush	Perennial Sub-Shrub	Moderate
	<i>Dichelostemma capitatum</i> (<i>Dichelostemma pulchellum</i>)	Bluedicks	Perennial Forb	Low
	<i>Dicliptera resupinata</i>	Arizona foldwing	Perennial Forb	Low
	<i>Epilobium canum</i> ssp. <i>latifolium</i> (<i>Zauschneria californica</i>)	Hummingbird trumpet	Perennial Forb	Moderate
	<i>Glandularia gooddingii</i> (<i>Verbena gooddingii</i>)	Goodding's verbena, southwest mock vervain	Perennial Forb	Low
	<i>Machaeranthera tanacetifolia</i> (<i>Aster tanacetifolius</i>)	Tansyleaf tansyaster, purple aster	Perennial Forb	Low
	<i>Senna hirsuta</i> var. <i>glaberima</i> (<i>Cassia</i>)	Slimpod senna, woolly senna	Perennial Forb	Moderate
	<i>Zinnia acerosa</i> (<i>Zinnia pumila</i>)	Desert zinnia	Perennial Sub-Shrub	Low
ANNUAL WILDFLOWERS				
	<i>Datura wrightii</i>	Datura, sacred, jimsonweed, sacred thorn-apple	Annual or Perennial Forb	Low
	<i>Eriastrum diffusum</i>	Miniature woollystar	Annual Forb	Low
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
	<i>Lesquerella gordonii</i> var. <i>gordonii</i>	Gordon's bladderpod	Annual or Perennial Forb	Moderate
	<i>Lupinus sparsiflorus</i> ssp. <i>mohavensis</i>	Coulter's lupine	Annual Forb	Moderate
	<i>Nama demissum</i> var. <i>demissum</i>	Purplemat	Annual Forb	Moderate
	<i>Polansia dodecandra</i>	Western Clammyweed	Annual Forb	Moderate
GRASSES				
	<i>Distichlis stricta</i>	Desert saltgrass	Perennial Turfgrass	Moderate
	<i>Dasyochloa pulchella</i> (<i>Erioneuron pulchellum</i> , <i>Tridens pulchellus</i>)	Fluffgrass, low woolly grass	Perennial Grass	Low
	<i>Hilaria belangeri</i> var. <i>belangeri</i>	Curly-mesquite	Perennial Turfgrass	Moderate
	<i>Leptochloa dubia</i>	Green sprangletop	Annual Grass	Moderate
	<i>Muhlenbergia rigens</i>	Deergrass	Perennial Bunchgrass	Moderate
	<i>Sporobolus airoides</i>	Alkali sacaton	Perennial Bunchgrass	Moderate

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

SABINO CANYON WASH				
	Botanical Name	Common Name	Life Form	Water Requirements
HYDRORIPARIAN				
TREES				
	<i>Fraxinus velutina</i>	Arizona ash, Velvet ash	Perennial Tree	Moderate-High
	<i>Platanus wrightii</i>	Arizona sycamore	Perennial Tree	Moderate
	<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood	Perennial Tree	High
	<i>Salix gooddingii</i>	Goodding's willow	Perennial Tree	High
SHRUBS				
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Cephalanthus occidentalis</i>	Buttonbush, Common buttonbush	Perennial Shrub	High
	<i>Ribes aureum</i> var. <i>aureum</i>	Wax currant, golden currant	Perennial Shrub	Moderate-High
VINES				
	<i>Ipomoea coccinea</i> var. <i>hederifolia</i>	Scarlet creeper	Annual Vine	Moderate
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Aquilegia chrysantha</i>	Yellow Columbine	Perennial Forb	High
	<i>Lobelia cardinalis</i>	Cardinalflower	Perennial Forb	Moderate-High
MESORIPARIAN				
TREES				
	<i>Acacia greggii</i>	Catclaw acacia	Perennial Tree	Low
	<i>Chilopsis linearis</i>	Desert willow	Perennial Shrub/Small Tree	Low-Moderate
	<i>Fraxinus velutina</i>	Arizona ash, Velvet ash	Perennial Tree	Moderate-High
	<i>Parkinsonia florida</i> (<i>Cercidium floridum</i>)	Blue paloverde	Perennial Tree	Low-Moderate
	<i>Platanus wrightii</i>	Arizona sycamore	Perennial Tree	Moderate
	<i>Populus fremontii</i> ssp. <i>fremontii</i>	Fremont cottonwood	Perennial Tree	High
	<i>Salix gooddingii</i>	Goodding's willow	Perennial Tree	High
SHRUBS				
	<i>Anisacanthus thurberi</i> (<i>Drejera thurberi</i>)	Desert honeysuckle	Perennial Shrub	Moderate
	<i>Baccharis salicifolia</i>	Seep willow	Perennial Shrub	Moderate-High
	<i>Garrya wrightii</i>	Wright's silktassel	Perennial Shrub	Moderate
	<i>Gossypium thurberi</i> (<i>Thurberia thespesioides</i>)	Native cotton, Thurber's cotton	Perennial Shrub	Moderate
	<i>Justicia candidans</i>	Red justicia, Arizona water-willow	Perennial Shrub	Moderate
	<i>Rhus glabra</i>	Smooth sumac	Perennial Shrub	Moderate
	<i>Rhus ovata</i>	Sugar bush, sugar sumac	Perennial Shrub	Moderate
	<i>Rhus trilobata</i>	Three-leafed sumac, skunkbush sumac	Perennial Shrub	Moderate
VINES				
	<i>Ipomoea hederifolia</i> (<i>Ipomoea coccinea</i> var. <i>hederifolia</i>)	Scarlet creeper	Annual Vine	Moderate
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Aquilegia chrysantha</i>	Yellow Columbine	Perennial Forb	High
	<i>Brickellia coulteri</i>	Brickelbush, Coulter's brickelbush	Perennial Sub-Shrub	Moderate
	<i>Dichelostemma capitatum</i> (<i>Dichelostemma pulchellum</i>)	Bluedicks	Perennial Forb	Low
	<i>Dicliptera resupinata</i>	Arizona foldwing	Perennial Forb	Low
	<i>Epilobium canum</i> ssp. <i>latifolium</i> (<i>Zauschneria californica</i>)	Hummingbird trumpet	Perennial Forb	Moderate
	<i>Penstemon pseudospectabilis</i>	Desert Penstemon	Perennial Forb	Moderate
ANNUAL WILDFLOWERS				
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
	<i>Lupinus sparsiflorus</i> ssp. <i>mohavensis</i>	Coulter's lupine	Annual Forb	Moderate
	<i>Nama demissum</i> var. <i>demissum</i>	Purplemat	Annual Forb	Moderate
GRASSES				
	<i>Aristida ternipes</i>	Spidergrass	Perennial Grass	Low
	<i>Leptochloa dubia</i>	Green sprangletop	Annual Grass	Moderate
	<i>Muhlenbergia rigens</i>	Deergrass	Perennial Bunchgrass	Moderate

APPROVED PLANT SPECIES (BY WATERSHED) FOR USE IN RIPARIAN MITIGATION AREAS, PIMA COUNTY, ARIZONA

SABINO CANYON WASH				
	Botanical Name	Common Name	Life Form	Water Requirements
XERORIPARIAN				
TREES				
	<i>Acacia greggii</i>	Catclaw acacia	Perennial Tree	Low
	<i>Chilopsis linearis</i>	Desert willow	Perennial Shrub/Small Tree	Low-Moderate
	<i>Parkinsonia florida (Cercidium floridum)</i>	Blue paloverde	Perennial Tree	Low-Moderate
	<i>Parkinsonia microphylla (Cercidium microphyllum)</i>	Foothills Palo Verde, yellow palo verde	Perennial Tree	Low
	<i>Ambrosia deltoidea</i>	Triangle-leaf bursage	Perennial Shrub or Sub-Shrub	Low
SHRUBS				
	<i>Ambrosia deltoidea</i>	Triangle-leaf bursage	Perennial Shrub	Low
	<i>Calliandra eriophylla</i>	Fairy duster	Perennial Shrub	Low
	<i>Condalia warnockii</i>	Warnock condalia, Warnock's snakeweed	Perennial Shrub	Low
	<i>Dodonaea viscosa</i>	Hopbush	Perennial Shrub	Moderate
	<i>Encelia farinosa</i>	Brittlebush	Perennial Shrub	Low
	<i>Ericameria laricifolia (Haplopappus laricifolius)</i>	Turpentine bush	Perennial Shrub	Low
	<i>Eriogonum fasciculatum</i> var. <i>foliolosum/polifolium</i>	Flat-top buckwheat	Perennial Shrub	Moderate
	<i>Gossypium thurberi (Thurberia thespesioides)</i>	Native cotton, Thurber's cotton	Perennial Shrub	Moderate
	<i>Hymenoclea monogyra (Ambrosia monogyra)</i>	Burrobrush, single whorl burrobrush	Perennial Shrub	Moderate
	<i>Hyptis emoryi</i>	Desert lavender	Perennial Shrub	Low
	<i>Justicia candidans</i>	Red justicia, Arizona water-willow	Perennial Shrub	Moderate
	<i>Larrea tridentata</i> var. <i>tridentata</i>	Creosote bush	Perennial Shrub	Low
	<i>Simmondsia chinensis</i>	Jojoba	Perennial Shrub	Low
	<i>Tecoma stans</i>	Yellow bells, yellow trumpetbush	Perennial Shrub	Low
	<i>Trixis californica</i>	Trixis, American threefold	Perennial Shrub	Low
VINES				
	<i>Cucurbita digitata</i>	Fingerleaf gourd	Perennial Vine	Low-Moderate
	<i>Ipomoea hederifolia (Ipomoea coccinea</i> var. <i>hederifolia)</i>	Scarlet creeper	Annual Vine	Moderate
	<i>Maurandya antirrhiniflora</i>	Snapdragon vine, roving sailor	Perennial Vine	Moderate
CACTI & SUCCULENTS				
	<i>Ferocactus wislizeni (Echinocactus wislizeni)</i>	Candy barrel cactus	Perennial Cactus	Low
	<i>Nolina microcarpa</i>	Beargrass, sacahuista	Perennial Lily	Low
	<i>Opuntia phaeacantha</i>	prickly pear	Perennial Cactus	Low
PERENNIAL FORB/SUB-SHRUBS				
	<i>Ambrosia ambrosioides</i>	Canyon ragweed	Perennial Sub-Shrub	Moderate
	<i>Brickellia coulteri</i>	Brickellbush, Coulter's brickellbush	Perennial Sub-Shrub	Moderate
	<i>Dichelostemma capitatum</i>	Bluedicks	Perennial Forb	Low
	<i>Dicliptera resupinata</i>	Arizona foldwing	Perennial Forb	Low
	<i>Epilobium canum</i> ssp. <i>latifolium (Zauschneria californica)</i>	Hummingbird trumpet	Perennial Forb	Moderate
	<i>Machaeranthera tanacetifolia (Aster tanacetifolius)</i>	Tanseyleaf tansyaster, purple aster	Perennial Forb	Low
	<i>Zinnia acerosa (Zinnia pumila)</i>	Desert zinnia	Perennial Sub-Shrub	Low
ANNUAL WILDFLOWERS				
	<i>Eriastrum diffusum</i>	Miniature woollystar	Annual Forb	Low
	<i>Kallstroemia grandiflora</i>	Arizona poppy	Annual Forb	Low
	<i>Lupinus sparsiflorus</i> ssp. <i>mohavensis</i>	Coulter's lupine	Annual Forb	Moderate
	<i>Nama demissum</i> var. <i>demissum</i>	Purplemat	Annual Forb	Moderate
GRASSES				
	<i>Aristida ternipes</i>	Spidergrass	Perennial Grass	Low
	<i>Bothriochloa barbinodis (Andropogon barbinoides)</i>	Cane beardgrass	Perennial Bunchgrass	Moderate
	<i>Dasyochloa pulchella (Erioneuron pulchellus, Tridens pulchellus)</i>	Fluffgrass, low woolly grass	Perennial Grass	Low
	<i>Hilaria belangeri</i> var. <i>belangeri (Anthephora belangeri)</i>	Curly-mesquite	Perennial Tufted Grass	Moderate
	<i>Leptochloa dubia</i>	Green sprangletop	Annual Grass	Moderate
	<i>Muhlenbergia rigens</i>	Deergrass	Perennial Bunchgrass	Moderate