

# Carefree Mountain Estates Landscaping Guidelines

## Revised 6/2018

Each lot in Carefree Mountain Estates Community Associations has three types of areas; natural, transitional, and private. These guidelines are followed by a list of all recommended plants for each area.

### Natural Area

Natural area is that portion of the Lot, which lies outside the Building Envelope and should remain natural desert. Irrigation of the Natural Area is not permitted, since the indigenous vegetation does not require additional water. Irrigation of the Natural Area can lead to disease and death of the native plants, particularly cactus, and aid in the spread of undesirable plant species or weeds. **Any alterations to this area must have design approval.**

### Transitional Area

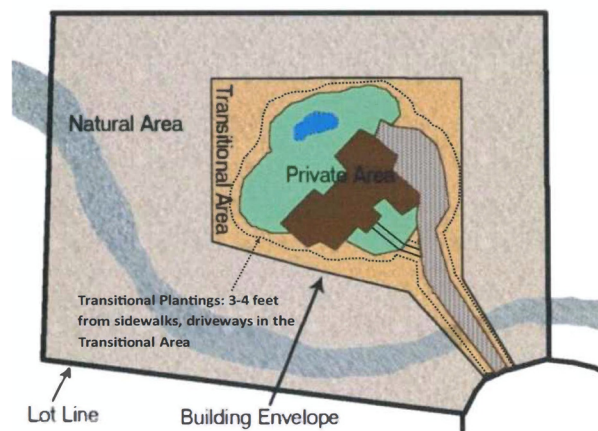
The transitional Area is that portion of the building envelope, which lies between the Natural Area and the wall of a Residence or Improvement and is visible from the adjacent properties, streets or public areas. **Any alterations to this area must have design approval. No approval for TRIMMING is necessary in the normal course of landscape maintenance in the Transitional Area.**

### Private Area

The Private Area is that portion of the building Envelope that is not visible from adjacent properties, streets, or public spaces because it is hidden behind walls or structures. Attached is a list of recommended plants for the Private Area but the Private Area may be designed as a mini-oasis area, which may be as lush and varied as desired by the owner. All plants visible from a street or public area should be from this list. **The Private Area is your private space and any alterations to this area do not have to be approved by the design committee unless it would be visible from the street.**

### Mineral Landscape Features

Boulders, mineral ground covers, and similar features should be limited to materials indigenous to Carefree Mountain Estates or materials similar in color and appearance to indigenous materials. Over the years a number of owners have added granite to their yards along with rocks to prevent dirt runoff. This is allowed on a design approval basis. A sample of the granite and rock should be provided with the design application listing the size, type, and color of granite and rock. Photos of approved Granite ground cover are listed on page 11.



# **RECOMMENDED NATURAL AREA PLANT LIST**

## **Natural Area**

Natural area is that portion of the Lot, which lies outside the Building Envelope and should remain natural desert. Irrigation of the Natural Area is not permitted, since the indigenous vegetation does not require additional water. Irrigation of the Natural Area can lead to disease and death of the native plants, particularly cactus, and aid in the spread of undesirable plant species or weeds. Any alterations to this area must have design approval. Trimming dead limbs from trees and cleaning up weeds and trees that are a fire hazard does not require approval.

## **RECOMMENDED TREES FOR THE NATURAL AREA**

1. **Desert Ironwood** (*Olneya tesota*)  
30' high x 30' wide, lavender spring flower, fine gray-green foliage, fast grower on water, low water use, no thorns, minimal litter.
2. **Foothill or Little-leaf Palo Verde** (*Cercidium microphyllum*)  
20' x 20', yellow-green bark and foliage, yellow spring flower, slow grower, low water use, thorns, moderate litter.
3. **Blue Palo Verde** (*Cercidium floridum*)  
34' x 30', blue-green bark and foliage, yellow spring flower, fast grower, low to moderate water use, thorns, moderate litter.
4. **Velvet Mesquite** (*Prosopis velutina*)  
30' x 20', yellow spring flower, gray-green foliage and dense shade, fast growth rate, low water use will give best structural growth, deep water 1x/month April -August.
5. **Catclaw Acacia** (*Acacia greggii*)  
10' x 15', pale yellow flower, perfumes spring air but spines grab and hang on, feathery gray-green foliage, winter-deciduous, moderate growth on low water.

## RECOMMENDED NATURAL AREA PLANT LIST (CONTINUED)

### ACCENT OR TEXTURE PLANTS:

- Saguaro (*Carnegiea gigantea*) 30' high x 2' wide
- Ocotillo (*Fouquieria splendens*) 15' x 20'
- Crucifixion Thorn (*Canotia holacantha*) 15' x 10'
- Banana Yucca (*Yuucca baccata*) 4' x 6'
- Soaptree Yucca (*Yucca elata*) 15' x 8-10'
- Buckhorn Cholla (*Opuntia acanthocarpa*) 4' x 5'
- Desert Christmas Cholla (*Opuntia leptocaulis*) 2' x 3'
- Compass Barrel Cactus (*Ferocactus acanthodes*) 4' x 2'
- Prickly Pear Species (*Opuntia phaeacantha*) 4' x 4'
- Hedgehog Cactus (*Echinocereus engelmannii*) 1' x 3'

### SHRUBS:

- Tomatillo (*Lycium frremontii*) 10' x 10'
- Sugar Bush (*Rhus ovata*) 8-15' x 8-15'
- Jojoba (*Simmondsia chinensis*) 10' x 6'
- Desert Hackberry (*Eltis pallida*) 8' x 10'
- Desert Wolfberry (*Lycium andersonii*) 6' x 16'
- Creosote Bush (*Larrea tridentate*) 6' x 6'
- Chuparosa (*Justicia californica*) 3' x 4'
- Giant Bursage (*Ambrosia ambrosiodides*) 3' x 4'
- Pink Fairy Dist (*Calliandra ariophylla*) 3' x 4'
- Mormon Tea (*Ephedra species*) 3' x 3'
- Turpentine Bush (*Ericameria laricifolia*) 2' x 3'
- Bursage (*Ambrosia deltoidea*) 1.5' x 2'

### GROUND COVERS:

- Skeletonleaf Goldeneye (*Viguiera stenoloba*) 3' x 3'
- Globemallow (*Sphaeralcea ambigua*) 3' x 3'
- Texas Betony (*Stachys coccinea*) 1' x 2'

**Competent Professionals should be consulted prior to planting or transplanting any desert plant materials.**

**Recommended Book:** NATIVE PLANTS FOR SOUTHWESTERN LANDSCAPES by Judy Mielke. Available on Amazon.com

## RECOMMENDED TRANSITIONAL AREA PLANT LIST

Carefree Mountain Estates' Goal: to mitigate the effect of construction upon the native Sonoran Desert by inconspicuously slipping homes in amongst the native vegetation.

The transitional Area is that portion of the building envelope, which lies between the Natural Area and the wall of a Residence or Improvement and is visible from the adjacent properties, streets or public areas. Any alterations to this area must have design approval. Trimming dead limbs from trees and cleaning up weeds and trees that are a fire hazard does not require approval.

### RECOMMENDED TREES FOR THE TRANSITIONAL AREA

1. Desert Ironwood  
30' high x 30' wide, lavender spring flower, fine gray-green foliage, fast grower on water, low water use, no thorns, minimal litter.
2. Foothill or Little-leaf Palo Verde (*Cercidium microphyllum*)  
20' x 20', yellow-green bark and foliage, yellow spring flower, slow grower, low water use, thorns, moderate litter.
3. Blue Palo Verde (*Cercidium floridum*)  
34' x 30', blue-green bark and foliage, yellow spring flower, fast grower, low to moderate water use, thorns, moderate litter.
4. Desert Willow (*Chilopsis linearis*)  
25' x 15' fragrant pink to lavender, ruffled, trumpet-shaped flowers similar to an orchid appear April - September, medium green foliage, winter-deciduous but attractive seed pods hang through the winter, can be grown as a large shrub.
5. Velvet Mesquite (*Prosopis velutina*)  
30' x 20' yellow spring flowers, gray-green foliage and dense shade, fast growth rate, low water use will give best structural growth, deep water 1x/month April - August.
6. Catclaw acacia (*Acacia greggii*)  
10' x 15', pale yellow flower perfumes spring air but spines grab and hang on, feathery gray-green foliage, winter-deciduous, moderate growth on low water.

**RECOMMENDED TRANSITIONAL AREA PLANT LIST (continued)**

**COLOR: (also see Groundcovers, below)**

- Firecracker Red Penstemon (*Penstemon eatoni*) 2' high x 2' wide
- Hot Pink Perry's Penstemon (*Penstemon parryi*) 2' x 2'
- Fuchsia Desert Penstemon (*Penstemon pseudospectabilis*) 2' x 2'
- Coral Superb Penstemon (*Penstemon superbus*) 2' x 2'
- Native Verbena (*Verbena gooddingii*) 1' x 2'
- Sacred Datura (*Datura nieteloides*) 1' x 4'

#### **SHRUBS:**

- Jojoba (*Simmondsia chinensis*) 10' x 6'
- Desert Hackberry (*Celtis pallida*) 8' x 10'
- Desert Wolfberry (*Lycium andersonii*) 6' x 16'
- Creosote Bush (*Larrea tridentata*) 6' x 6'
- Chuparosa (*Justicia californica*) 3' x 4'
- Giant Bursage (*Ambrosia ambrosioides*) 3' x 4'
- Pink Fairy Distr (*Calliandra eriophylla*) 3' x 4'
- Brittlebush (*Encelia farinosa*) 3' x 4'
- Desert Holly (*Atriplex hymenelytra*) 3' x 3'
- Mormon Tea (*Ephedra* species) 3' x 3'
- Turpentine Bush (*Ericameria laricifolia*) 2' x 3'
- Bursage (*Ambrosia deltoidea*) 1.5' x 2'

#### **GROUNDCOVERS:**

- Skeletonleaf Goldeneye (*Viguera stenoloba*) 3' x 3'
- Globemallow (*Sphaeralcea ambigua*) 3' x 3'
- Paperflower (*Psilostrophe cooperi*) 2' x 2'
- Shrubby Dear Vetch (*Lotus rigidus*) 1.5' x 2'
- Texas Betony (*Stachys coccinea*) 1' x 2'
- Blackfoot Daisy (*Melampodium leucanthum*) 1' x 2'
- Desert Marigold (*Baileya multiradiata*) 1' x 1'
- White Primrose (*Oenothera caespitosa*) 6" x 1'

**Competent Professionals should be consulted prior to planting or transplanting any desert plant materials.**

**Recommended Book:** NATIVE PLANTS FOR SOUTHWESTERN LANDSCAPES by Judy Mielke Available on Amazon.com

## RECOMMENDED PLANT LIST FOR PRIVATE AREA

The Design Review Committee has found the plants included in the following list to be inherently compatible with the natural desert existing at Carefree Mountain Estates and encourages their use. All species of cacti are acceptable for use within Carefree Mountain Estates as are any species of trees or shrubs not listed below which have been found to be indigenous to the Carefree Mountain Estates area. The Private Area is your private space and any alterations to this area do not have to be approved by the design committee unless it would be visible from the street.

Non-indigenous plant materials, which normally reach a mature height greater than 20 feet, may not be used.

### TREES

Acacia abyssinica  
Acacia aneuria  
Acacia cavenia  
Acacia constricta  
Acacia eburnia  
Acacia farnesiana (smallii)  
Acacia greggii  
Acacia pennatula  
Acacia occidentalis  
Acacia schaffneri  
Acacia stenophylla  
Acacia willardiana  
Caesalpinia cacalaco  
Caesalpinia Mexicana  
Caesalpinia platyloba  
Caesalpinia pumila  
Canotia holacantha  
Celtis pallida  
Celtis reticulata  
Cercidium floridum  
Cercidium microphyllum  
Ghilopsis linearis  
Juniperus monosperma  
Lysilona candida  
Lysilona thornberi  
Nicotiana glauca  
Olneya Tesota  
Pithecollobium bervefolium

### ALSO KNOWN AS

Abyssinian Acacia  
Mulga Acacia  
  
White Thorn Acacia  
Needle Acacia  
Sweet Acacia  
Catclaw Acacia  
  
Shoestring Acacia  
White Bark Acacia  
  
Mexican Poinciana  
Bird of Paradise  
Copper Bird of Paradise  
Crucifixion Thorn  
Desert Hackberry  
Net Leaf Hackberry  
Blue Palo Verde  
Littleleaf Palo Verde  
Desert Willow or Desert Catalpa  
One-seed Juniper  
Palo Blanco  
Fern of the Desert  
Tree Tobacco  
Ironwood  
Apes Earring

## **TREES CONTINUED**

Pithecolobium flexicaule  
Pithecolobium Mexicana  
Pittosporum phylliraeoides  
Prosopis alba  
Prosopis chilensis  
Prosopis glandulosa  
Prosopis pubescens  
Prosopis velutina  
Rhus ovata  
Zizyphus obtusifolius

## **SHRUBS**

Abutilon incanum  
Acacia angustissima  
Acacia craspedocarpa  
Acourtia wrightii  
Aloysia lyciodes  
Aloysia wrightii  
Agave Species  
Ambrosia deltoidea  
Ambrosia ambrosioides  
Aristolochia watsoni  
Artemesia ludoviciana  
Asclepias subulata  
Astragalus praelongus  
Atriplex canescens  
Atriplex lentiformis  
Atriplex lentiformis  
Atriplex mullaria  
Atriplex Nummularia  
Atriplex polycarpa  
Atriplex rhagodiodes  
Atriplex torreyi  
Baileya multiradiata  
Bebbia juncea  
Berberis haematocarpa  
Brickellia coulteri  
Buddleia marrubifolia  
Bursera microphylla  
Bursera fagaroides

## **ALSO KNOW AS**

Texas Ebony  
Mexicaca Ebony  
Willow Pittosporum  
White or Argentine Mesquite  
Chilean Mesquite  
Honey Mesquite  
Fremont Screwbean  
Velvet Mesquite  
Mountain Laurel  
Graythorn

Indian Mallow  
Fern Acacia  
Leather Leaf Acacia  
Perezia  
White Bush  
  
Century Plants  
Bursage  
Gaintleaf Bursage or Spanish Daggers  
Arrow Root  
Wormwood  
Desert Milkweed  
Locoweed  
Four Wing Salt Bush  
Desert Holly  
Quail Bush  
  
Old Man Salt Bush  
Desert Salt Bush  
Cattle Spinach  
Nevada Salt Bush  
Desert Marigold  
Chuckawalla's Delight  
Barberry  
Coulters Bricklebush  
Woold Butterfly Bush or Summer lilac  
Elepant Tree  
Fragrant Bursera

## SHRUBS CONTINUED

Caesalpinia gilliesii  
Caesalpinia pulcherrima  
Calliandra californica  
Calliandra eriophylla  
Calliandra penninsularis  
Cassia artemisioides  
Cassia biflora  
Cassia candoleana  
Cassia circinnata  
Cassia goldmannii  
Cassia leptophylla  
Cassia nemophylla  
Cassia philodinea  
Cassia purpussiae  
Cassia Sturtii  
Cassia wislizenii  
Castilleja chromosa  
Ceanothus greggii  
Cercocarpus montanus  
Cirsium neomexicanum  
Clanthus formosus  
Cordia parvifolia  
Crossosoma bigelovii  
Dalea bicolor  
Dalea Formosa  
Dalea pulchra  
Dalea spinosa  
Dalea wislizeni  
Dasylirion wheeleri  
Delphinium scaposum  
Dichelostemma pulchellum  
Dysodia porophylloides  
Dodonaea viscosa  
Encelia farinosa  
Ephedra species  
Ericameria laricifolia  
Erigeron species  
Eriogonum fasciculatum  
Eriogonum inflatum  
Eriogonum wrightii  
Eysenhardia polystachya

## ALSO KNOW AS

Yellow Bird of Paradise  
Mexican Bird of Paradise  
Fairy Duster  
Fairy Duster or False Mesquite  
Baja Fairy Duster  
Feathery Cassia  
Texas Cassia  
New Zealand Cassia  
  
Green Feathery Cassia  
Silver Cassia  
  
Sturts Cassia  
Shrubby Cassia  
Indian Paint Brush  
Buckthorn  
Mountain Mahogany  
Thistle  
Sturts Desert Pea  
  
Bigelow Ragged Flower  
Indigo Bush  
Feather Dalea  
Gregg Dalea  
Smoke Tree  
Indigo Bush  
Desert Spoon  
Bartemmed Larkspur  
Blue-dick  
Dysodia  
Hop Biush  
Brittle Bush  
Mormon Tea  
Turpentine Bush  
Fleabone Daisy  
Buckwheat  
Flat-topped Buckwheat  
Wrights Buckwheat  
Kidney Wood



## SHRUBS CONTINUED

Fallugia paradox  
Forestiera neomexicana  
Fouquieria splendens  
Galium (Relbunium) microphyllum  
Gutierrezia sarothrae  
Hedeoma species  
Hesperaloe funifera  
Hesperaloe parviflora  
Holacantha emoryi  
Hymenoclea monogyra  
Hyptis emoryi  
Isocoma acradenia  
Jatropha cardiophylla  
Jojoba simmondsia  
Justicia candicans  
Justicia californica  
Justicia ghiesbreghtiana  
Keckiella antirrhinoides  
Krameria grayl  
Larrea tridentate  
Leucaena retusa  
Leucophyllum frutescens  
Leucophyllum laevigatum  
Lotus rigidus  
Lycium Andersonii  
Lycium brevipes  
Lycium fremontii  
Machaeranthera species  
Marah gilensis  
Maytenus phyllanthiodes  
Melampodium leucanthum  
Mentzelia species  
Menodora scabra  
Mimosa biuncifera  
Mirabilis bigelovii  
Mimosa dysocarpa  
Nicotiana trigonophylla  
Nolina bigelovii  
Nolina microcarpa  
Penstemon species  
Porophyllum gracile

## ALSO KNOW AS

Apache Plume  
Desert Olive  
Ocotillo  
Bedstraw  
Snake Weed  
Mock Pennyroyal  
  
Coral Yucca  
Crucifixion Thorn  
Burrobush  
Desert Lavender  
Alkaline Bush  
Limber Bush  
Jojoba  
Firecracker Bush  
Chuparosa  
Desert Honeysuckle  
  
White Rantany  
Creosote Bush  
Gold Lead Ball Tree  
Texas Sage or Texas Ranger  
Chihuahuan Sage  
Desert Rock-pea  
Anderson Thornbush  
Thornbush  
Wolfberry, Tomatillo  
Aster  
Marah  
Gutta Percha Mayten  
Blackfoot Daisy  
Stickleaf  
Menodora  
Cataclaw  
Wishbone Bush  
Velvet Pod Mimosa  
Wild Tobacco  
Bigelow Nolina  
Bear Grass  
Beard Tongue  
Odora

## SHRUBS CONTINUED

*Psilostrophe cooperi* (tagetina)  
*Quercus tubinella*  
*Rhamnus californica*  
*Rhamnus Crocea*  
*Rhus trilobata*  
*Ruellia californica*  
*Ruellia penninsularis*  
*Rumex hymenosepalus*  
*Salvia farinacea*  
*Salvia greggii*  
*Salvia chamyorioides*  
*Senna covesii*  
*Senecio douglasii*  
*Sophora arizonica*  
*Sophora secundiflora*  
*Sphaeralcea ambigua*  
*Tecoma stans*  
*Tetracoccus hallii*  
*Trixis californica*  
*Vauquelinia californica*  
*Verbena* (Glandularia)  
*Viguiera deltoidea*  
*Yucca baccata*  
*Yucca elata*  
*Zauschneria latifolia*  
*Zizyphus obtusifolia*

## ANNUALS

*Amsinckia intermedia*  
*Amsinckia tessellata*  
*Cryptantha*  
*Datura meteloides*  
*Emmenanthe penduliflora*  
*Eriogonum deflexum*  
*Eriogonum Circutarium*  
*Erodium texanum*  
*Eschscholtzia Mexicana*  
*Euphorbia species*  
*Gilia flavocincta*  
*Lysinius concinnus*  
*Lysinius sparsiflorus*

## ALSO KNOWN AS

Paperflower  
Shrub Oak  
Coffee Berry  
Redberry Buckthorn  
Lemonade Bush  
  
Canagre, Wild Rhubarb  
Mealy Cup Sage  
Texas Red Salvia  
Blue Sage  
Desert Senna  
Willow-Leaf Groundsel  
Arizona Sophora  
Mescal Bean, Texas Mountain Laurel  
Globe Mallow  
Arizona Yellow Bells  
  
Trixis  
Arizona Redwood  
Vervain  
Golden Eye  
Banana Yucca  
Soap Tree Yucca  
Hummingbird Flower, Calif. Fuchsia  
Graythorn  
  
Fiddleneck  
Fiddleneck  
Cryptantha  
Sacred Datura  
Whispering Bells  
Buckwheat Sleltonweed  
Filaree  
Filaree  
Mexican Poppy  
Spurge  
Gilia  
Lysine  
Lysine

**ANNUALS CONTINUED**

Oenothern species  
Phlox tenuifolia  
Plantago species  
Rafinesquia species

**ALSO KNOWN AS**

Evening Primrose  
Phlox  
Plantain  
Desert Chicory

**LAWNS**

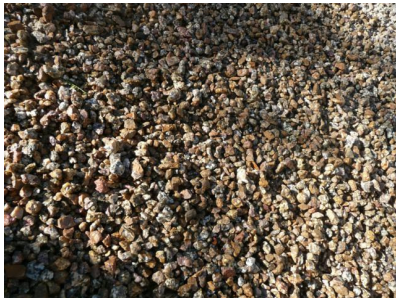
Any grass except Common Bermuda Grass may be used in lawns. Lawns and irrigated ground cover will be limited in uses to areas confined by walls or structures and may not be visible from natural desert areas.

**MINERAL LANDSCAPE FEATURES**

Boulders, mineral ground covers, and similar features should be limited to materials indigenous to Carefree Mountain Estates or materials similar in color and appearance to indigenous materials. Over the years a number of owners have added granite to their yards along with rocks to prevent dirt runoff. This is allowed on a design approval basis. A sample of the granite and rock should be provided with the design application listing the size, type, and color of granite and rock.

The approved Granite for Carefree Mountain Estates are:

**Madison Gold 1/2 Washed for  
Private & Transitional Areas**



**Madison Gold 1/2 Minus  
for Private, Transitional  
& Natural Areas**



**Madison Gold 1/4 Minus  
for Private, Transitional  
& Natural Areas**



### **PROTECTED PLANTS**

Any and all transplantable species of Yucca, Ocotillo (*fouquieria splendens*), and all members of the Cactus family including, but not limited to, Barrel, Saguaro, Staghorn Cholla, Mammalaria (or Nipple Cactus), and Hedgehog, but excluding Teddy Bear (or Jumping) Cholla (*opuntia bigelovii*), Chain Fruit Challa, and Prickly Pear.

Indigenous trees, which are four inches or greater in caliper measured one foot above ground level, of the following species:

**BOTANICAL NAME**

Acacia Constricta  
Acacia Greggii  
Canotia Holocantha  
Celtis Reticulate  
Cercidium Floridum  
Cercidium  
Microphylum  
Chilopsis Linearis  
Juniperous species  
Olneya Tesota  
Populus Fremontii  
Prosopis species  
Quercus species  
Rhus Ovata  
Vauquelinea  
Californica

**COMMON NAME**

Whitehone Acacia  
Catclaw Acacia  
Crucifixion Thorn  
Hackberry  
Blue Palo Verde  
Foothills Palo Verde  
  
Desert Willow  
Juniper  
Ironwood  
Cottonwood  
Mesquite  
Scrub Oak  
Sugar Sumac  
Arizona Rosewood

## **PROHIBITED PLANT LIST**

The following may not be planted or maintained anywhere in Carefree Mountain Estates:

1. Any species of tree or shrub whose mature height may reasonably be expected to exceed 18 feet, with the exception of those species specifically listed as approved by the Design Review Committee.
2. All Palms whose mature height may reasonably be expected to exceed six feet will be prohibited for aesthetic reasons as well as their high maintenance requirements. Dwarf varieties whose mature height may reasonably be expected to be less than six feet will be allowed only within the confines of a private garden.
3. All Pines (Pinus), Cypress (Cupressus), False Cypress (Chamaecyparis), Juniper or Cedar (Juniperus) except those species specifically approved, whose mature height may reasonably be expected to exceed six feet will be prohibited for aesthetic reasons. Dwarf varieties, and those whose mature height may reasonably be expected to be less than six feet, may be used immediately adjacent to dwellings or connecting structures, or within the confines of a private garden.
4. Olive trees (Olea Europaea) **will** be prohibited for reasons of their profuse production of allergy- producing pollen, as well as for aesthetic reasons.
5. Oleanders (Nerium Oleander) and Thevetia will be prohibited for aesthetic reasons as well as for their profuse production of allergy-producing pollen. These poisonous plants will also be prohibited for their high maintenance requirements and excessive height. Dwarf varieties will be allowed within a private garden.
6. Fountain Grass (Pennisetum Setaceum) **will** be prohibited as a defined weed with the potential to spread throughout the development and also as a fire hazard.
7. All varieties of Citrus will be prohibited for aesthetic reasons and for their profuse production of allergy-producing pollen. Dwarf varieties are permissible within the confines of a private garden.
8. Common Bermuda Grass (Cynodon Dactylon) will be prohibited as a defined weed.
9. Mexican Palo Verde (Parkinsonia Aculeatra) will be prohibited as a harbinger of pests and because of its ability to spread throughout the development, thereby altering the present natural desert

# INVASIVE PLANTS IN THE DESERT

As development pushes into the Sonoran Desert, an unintended consequence has resulted in the introduction and spread of invasive plants into natural open spaces. Invasive plants are generally not native and tend to compete with and take over native plants. Unfortunately, due to landscaping and other choices on developed land, several invasive plants have been inadvertently introduced into the area by windblown seeds or carried by birds, humans or water. The ecological damage caused by invasive plants negatively impacts the desert landscape by replacing native plants, damaging lands for animal habitat, eliminating preferred plants for forage and significantly increasing the risk of potential fire damage. All of these elements can permanently alter the landscape of our Sonoran Desert.

## What is an Invasive Plant?

An invasive plant is generally not native to the Sonoran Desert. These plants compete with native plants and have the ability to take over an area. Invasive plants upset the sensitive and natural ecological balance of the surrounding area and can also disrupt the habitat for desert wildlife. In addition to the impact on native plants, this vegetation becomes a major fire fuel source during the hot weather when these weeds dry out.

## Fire

The invasive plants that have been introduced provide a substantial increase in the available fuel and can serve to increase the risk and intensity of wildland fire incidents. These types of invasive plants can more quickly regenerate themselves. This gives them a distinct advantage over the native plant species, which will take a much longer time to recover and regenerate after a fire incident. The result is the potential for hotter and more destructive fires in the Sonoran desert that can lead to the irreversible destruction of the native vegetation and local eco-system.

## Habitat Loss

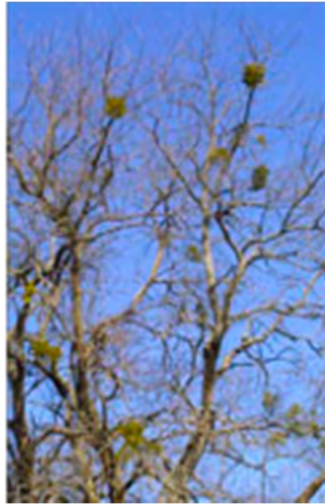
Because invasive plants can displace native plants, this can also result in negative impacts on desert fauna. The Preserve is an attractive home to desert wildlife. If forced to feed on invasive species, animals can become sick, leave the area for a more palatable food source or possibly die.

## The Culprits

Nine vegetation types have been identified to exist within our area and are outlined below

- Mistletoe the Plant
- Desert Broom (*Baccharis sarothroides*)
- Red Bromegrass (*Bromus rubens*)
- Saharan Mustard (*Brassica tournefortii*)
- Bermuda Grass
- Buffel Grass (*Pennisetum ciliare*)
- Tamarisk/Salt Cedar (*Tamarix* spp.)
- Fountain Grass (*Pennisetum setaceum*)
- Malta Starthistle (*Centaurea melitensis*)

Invasive Plants Continued:



### **Mistletoe The Plant**

Mistletoe is a parasitic plant that can affect the growth and vigor of its host and expose trees to attacks by diseases and insects. It has leaves to produce its own food, but steals water and nutrients from its host. In some instances, mistletoe can cause branches to die back, and heavy, shrubby mistletoes can break entire limbs. In other situations, mistletoe is simply a cosmetic problem which only affects the appearance of the tree. There are two main types of mistletoes, true mistletoes and dwarf mistletoes.

It's a perennial flowering plant that has specialized roots, which are able to penetrate the host plant from which it takes water and nutrients. Mistletoe spreads slowly and it takes many infections and years to kill a tree, however they do draw a lot of water from their hosts and can seriously desiccate the host during a drought unless you water adequately at these times. One or a few infections on a vigorous tree will cause no harm, although the portion of a branch beyond infections may be stunted or die. Numerous infections can cause significant stress, leading to premature death either directly or indirectly through secondary disease or insect infestations.

The good news is that mistletoes are obligate parasites, which mean they survive only in living tissue. Pruning an infected branch kills the mistletoe on that branch. The bad news is that you cannot eliminate mistletoe from a tree unless all infected limbs are removed.

The only effective way of ridding your tree of a mistletoe infestation is pruning. However, care must be taken to avoid over-pruning. This can damage the tree.

Cut the infected limb one to two feet (30 to 60 cm) below the plant, because mistletoe "roots" may extend up to a foot (30 cm) on either side of the point of attachment. Breaking off the tops will only encourage re-growth.

**Invasive Plants Continued:**





**Desert Broom (*Baccharis sarothroides*) *native***

This native desert shrub, that is almost always green, grows quickly to nearly 10-feet high. In autumn, the blooms, containing a mass of seeds with white bristles, easily become airborne and spread freely. Desert Broom is viewed as an invasive plant because of its aggressiveness in overtaking disturbed areas (such as roadsides and new landscaped areas), and because it burns fiercely and is a significant threat to nearby structures.



**Red Bromegrass (*Bromus rubens*) *non-native***

Found in very dense patches to widely dispersed as individual plants, the Red Bromegrass is a fast-growing annual grass that reaches over 10-inches tall. Characteristic brush-like heads start out green in color, become reddish purple when mature and then light brown when seeds dry. The seed carrying portion of the grass have sharp ends and easily attach to animals or clothing for transport to other locations where the seeds then germinate. Red Bromegrass has become a major threat to the Sonoran Desert because it is so well established.



**Buffel Grass (*Pennisetum ciliare*) *non-native***

This perennial bunchgrass grows up to 4-feet tall and has a mass of long, tough roots that can grow up to 8-feet deep. Narrow, light green leaves are 1 to 4-inches long. Bristly flower heads may be purple, gray or yellowish and turn a distinctive golden-brown when dry. Buffel Grass will burn while still green. When native plants die, Buffel Grass moves in and chokes our native seedlings.



**Tamarisk/Salt Cedar (*Tamarix* spp.) *non-native***

This shrubby tree grows up to 15-feet with gray-green foliage and slender branches. Pink-white flowers appear from January to October. Tamarisk spreads rapidly and forms dense thickets. Once established, it is difficult to eradicate. These trees use large amounts of ground water causing desert springs to dry up and crowding out native trees such as cottonwood, mesquite and desert willow. Because this plant is difficult to remove, it is advised to contact a specialist if you detect a Tamarisk in your area or in the Preserve.

## Invasive Plants Continued:



### **Saharan Mustard (*Brassica tournefortii*) *non-native***

This annual, spring herb forms rosettes 6 to 12-inches in diameter. Leaves vary in size and have tiny bristles on the undersides. Small pale yellow flowers appear from January to April or May. Tiny reddish seeds are formed in narrow pods. Saharan Mustard can grow in large stands, creating barriers to normal wildlife movement when plants are alive. As desert temperatures rise, parts of the plant die and increase wildfire fuel loads dramatically.



### **Bermuda Grass (*Cynodon dactylon*) *non-native***

This perennial grass is common to many lawns in southern regions and grows well in our hot, desert climate. It is the most common summer lawn choice in the desert southwest. Bermuda Grass competes with native plants and invades disturbed areas. It is a leading cause of hay fever in the Sonoran Desert.

**Please remember to keep these invasive weeds from your property. Work with your landscaper / gardener so native plants take priority in your own yard. These weeds should be removed as they not only infect you're your but your surrounding neighborhood.**