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Invasive Weeds

As development pushes into the Sonoran Desert, an unintended consequence has been the introduction and spread of invasive plants into natural open spaces. The ecological damage caused by this unwanted vegetation negatively impacts the desert landscape by:

- Replacing native plants
- Damaging the ecosystem by displacing native plants
- Eliminating preferred plants for forage
- Creating fuel for fire and promote the spread of fires
- Altering water flow patterns

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.

THE SONORAN DESERT

Scottsdale is located within the Sonoran Desert. The Sonoran Desert, in its entirety, only covers roughly 100,000 square miles, encompassing most of the southern half of Arizona, much of Sonora, a small portion of southeastern California and most of Mexico's Baja peninsula. This desert is a diverse mixture of plants, animals, geology and climate.

THE MCDOWELL SONORAN PRESERVE

The McDowell Sonoran Preserve is part of the Sonoran Desert. When completed, it will comprise 1/3, or 57 square miles, of Scottsdale's land area. The Preserve contains mountains, narrow valleys and desert washes. These areas create numerous plant and animal microhabitats. The Arizona Game and Fish Department considers the McDowell Mountains and surrounding Sonoran Desert as the most significant wildlife habitat in the Valley outside the Tonto National Forest.

HUMAN IMPACT

Scottsdale citizens should be proud of their efforts in saving, for perpetuity and in a sustainable form, the unique Sonoran Desert environment of the Preserve. But as with anything, human activity can also have negative effects. Unfortunately, due to

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landscaping and other choices on developed land outside but near the Preserve, several invasive plants and noxious weeds have been inadvertently introduced into the Preserve by windblown seeds or carried by birds, humans or water.

FIRE & HABITAT LOSS:

Fire: The Preserve is bordered by homes in many areas. The locations where homes and the Sonoran desert come together are known as wildland/urban interface areas. These areas can be difficult to manage and provide a unique challenge for the residents of the community and the Scottsdale Fire Department.

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

Although no detailed study of all invasive plants has been carried out, eight vegetation types have been identified to exist within the Preserve. **A brief description is outlined below in the order of most troublesome due to the fire danger and habitat degradation they each cause:**



1. Desert Broom (*Baccharis sarothroides*) - native plant

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.

2. Red Bromegrass (*Bromus rubens*) - non-native plant

Found in very dense patches or 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.



3. Buffel Grass (*Pennisetum ciliare*) - non-native plant

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

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

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.



5. Fountain Grass (*Pennisetum setaceum*) - non-native plant

This perennial bunchgrass grows up to 3-feet high and has long, slender green leaves and purple to white feathery spikes. Fountain Grass is a highly aggressive, fire-adapted species that crowds out native plants and spreads quickly. Fountain Grass has been used in landscaping. Native ornamental grasses should be used instead of Fountain Grass. Alternatives: Purple Threeawn, Arizona Cotton Top or Bull Grass.

6. Malta Starthistle (*Centaurea melitensis*) - non-native plant

This erect, winter annual grows up to 2-feet tall and in dense stands. It has grayish-green foliage and yellow, thistle-like flowers with sharp spines of a purplish or brown color that appear in May and June. Malta Starthistle aggressively competes for space with native species and reduces wildlife habitat and food.



7. Saharan Mustard (*Brassica tournefortii*) - non-native plant

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.

8. Bermuda Grass (*Cynodon dactylon*) - non-native plant

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.








HOW CAN YOU HELP?

- Learn to identify problem plants
- Remove invasive plants from private property
- Work with your landscaper/gardener so native plants take priority in your yard
- Report infestations in common areas to your homeowner association board
- Add these plants to your homeowner associations' prohibited plant lists
- Learn about proper eradication methods

- Join a recognized volunteer weed removal group, get trained and participate
- Ask the nursery where you buy landscape materials to stop carrying these plants.
- Help the Fire Department by providing a defensible space on the portions of your property that are nearest to structures and adjacent to natural Sonoran Desert areas.

PLEASE NOTE: Prior to modifying any portion of a dedicated Natural Area Open Spaces – NAOS – you must get approval from the City of Scottsdale. For more information, call 480-312-7800.

REFERENCES

- Scottsdale's [Indigenous Plant List](#)
- Economic and ecological damages [by invasive plants](#) 
- [McDowell Sonoran Conservancy](#) 
- [Arizona Native Plants Society](#) 
- [Desert Botanical Gardens](#) 
- [University of Arizona Cooperative Extension](#) 

CONTACT INFORMATION

- **City of Scottsdale Fire Department,**
480-312-FIRE, www.ScottsdaleFD.com
- **City of Scottsdale, Preservation Division,**
480-312-2504, www.ScottsdaleAZ.gov



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