



DESERT INVADERS

Keep a lookout for Sonoran Desert invaders in Maricopa County!

These invasive species are outcompeting native desert species, which local wildlife depend on for food, shelter and habitat. Many of these invasive species form dense monocultures, altering the desert landscape and creating a hazardous fire risk. These species could be spreading in your area; early detection and eradication can prevent an invasion. Mapping these invaders is the first step to managing them, and preventing further spread.



Stinknet (*Oncosiphon piluliferum*) - Plant is two to three feet tall with round globe flowers and spreading quickly.



Salt Cedar (*Tamarix spp.*) - 20 to 25 feet tall, feathery appearance, small bright pink flowers.



Malta Star Thistle (*Centaurea melitensis*) - Sharp spines at base, deeply lobed leaves with whitish appearance.



Buffelgrass (*Pennisetum ciliare*) - Bunched grass with round reddish stems.



Fountain Grass (*Pennisetum setaceum*) - Purplish upright stems with long inflorescence.



Red Brome Foxtail (*Bromus rubens*) - Dense panicle with purplish tinge.



Sahara Mustard (*Brassica tournefortii*) - Butterfly shaped flowers.

Help save the Desert Habitat! To get involved in mapping these plants, please contact CAZCA at email cazca@dbg.org or call 480-481-8187. Or contact Maricopa County Parks Volunteer Coordinator at email parkvolunteer@maricopa.gov or call 602 506-9510.

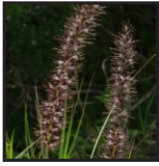
For Control and Management of these species, please visit the following website:

- Southwest Vegetation Management Association - <https://www.swvma.org/invasive-non-native-plants/>.



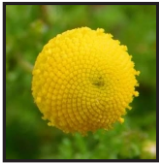
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Found in the Maricopa County Sonoran Desert



Buffelgrass (*Penisetum ciliare*), a perennial grass introduced from Africa for cattle to graze.

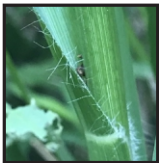
Characteristics: Plants grow in dense bunches up to 40 inches tall; knotty and branching at base. With flat leaf blades, sheaths open, soft long hairy ligule. Purplish or reddish bottlebrush like inflorescence (flower head) 0.8-5.1" long; spikelet's cluster of two to four each. To distinguish from native grasses, the base of the stems are round and reddish in color; and the plants grow from underground crown which forms new stems each year, growing bigger and thicker each year. Germinates from seed, matures and flowers within six weeks. Seed can lie dormant three to eighteen months but remain viable three to five years.



Stinknet (*Oncosiphon piliferum*), a threat spreading quickly across the Phoenix Area, it is a severe allergen. This plant is a winter annual introduced from Africa. It is a highly competitive invasive species and currently under review to be added to the noxious weed

list (February 2019).

Characteristics: It has distinctive round "globe" flowers, erect and an annual growing up to two to three feet tall. They germinate in November and December. Seeds begin ripening in February and can continue to flower and set seed until late May in wet years.



Fountain Grass (*Penisetum setaceum*), a perennial bunchgrass introduced from Africa, used for landscaping in urban settings. Grows in urban and wildland drainages and along roadways.

Characteristics: Plants grow in dense bunches with upright stems, slender, green leaves that appear lush in warm weather when moisture is present. The leaves are bright green to purplish; that turn reddish or tan with colder temperatures. Blades are long slender and arching, sheath margin has still white hairs. The Inflorescence are a showy purplish, bottlebrush spikelet's (six to fifteen inches). Reproduces solely from seed, germinate in late spring after maturing for several months, seed are viable six to seven years.



Red Brome Foxtail (*Bromus rubens*), a tufted cool season annual grass which can often reach a height of 10-20 in. introduced from Europe in the 1870's. It has very little nutritional value and land stabilizing potential is limited.

Characteristics: It is an annual with a transparent lemma, dense panicle with purplish tinge and a hairy culm. It has thick sharp florets and poses a threat to livestock and native wildlife.



Malta Star Thistle (*Centaurea melitensis*), long lived winter annual introduced from Eurasia. This invasive species forms monocultures, rapidly depleting the soil of moisture and out competes native plants usually in disturbed areas.

Characteristics: The plants are gray-green to blue-green with deep, vigorous taproot. The plants are six inches up to five feet in height and produce yellow flowers with sharp spines surrounding the base. Stems and leaves are covered with cottony wool giving them a whitish appearance. Stems appear winged. Basal leaves are two to three inches long and deeply lobed. The seeds germinate fall to spring. After spring the roots can extend down to three feet into the soil profile, allowing this plant to survive the drier summer months. Seeds can remain viable in the soil for three years.



Sahara Mustard (*Brassica tournefortii*), a short lived winter annual introduced from Africa and Asia, invades disturbed arid habitats along roadsides and trails.

Characteristics: The leaves form large basal rosettes, deeply lobed and toothed, decreasing size as the plant bolts and inflorescence form; becoming small bracts just before the flowers start. The flowers are yellow and butterfly shaped, most mustard flowers are cross shaped. Reproduces from seed, with mature seeds by early spring. The plant is prolific and can produce 750-9,000 seeds which are viable for three plus years. Seed germination was found to be 90-100% viable under ideal conditions.



Salt Cedar (*Tamarix chinensis*, *T. ramosissima*, and *T. parviflora*) - Introduced from Eurasia and Africa, the deciduous shrubs/trees were planted in the late 1800's and early 1900's as ornamentals and to aid in erosion control. It invades riparian corridors forming dense

monocultures, choking out native trees and shrubs. When the plant senesce, they become a fire hazard; also the leaves that build up below the tree become extremely flammable.

Characteristics: The trees/shrubs can grow to 20 to 25 feet tall with gray-green leaves and wispy limbs, which give it a feather appearance. The small flowers are bright pink and form clusters. It profusely produces tiny seed that are dispersed by wind, water and animals. Unlike many native trees and shrubs that produce seed for a short period of time, salt cedars continue to produce seed over the entire summer. Producing 500,000 seeds or more and the seeds can germinate within 24 hours.

Photos: J Armstrong-Ullberg, inaturalist.org; James Bailey, Austin Smith, Chris Mallory, Michael Ellis, Nicola Van Berkel, Chris Barrows, Anthony Mendoza, Sharon, Jeremy Barker and Pauline Singleton plus several pictures from iNaturalist.org with no copyrights.