



Figures 1 and 2. Fountain Grass. Photos courtesy Patti Fenner

Arizona's Noxious Weed List *by Patti Fenner¹*

Of the large number of exotic plants growing “feral” in Arizona, only a few have caused significant levels of disturbance. Those species are considered to be “noxious weeds,” a term defined by the Weed Science Society of America as any plant designated by federal, state or local government officials as injurious to public health, agriculture, recreation, wildlife or property. (WSSA 2016)

Like all other U.S. states, the state of Arizona has established and periodically updates an official State Noxious Weed List. Until recently that list largely focused on agricultural crop weeds. But with the sudden upsurge in aggressiveness of new weeds with impacts to both urban and wildland landscapes, noxious weeds are taking a front page in the news. In 2020, Arizona's list was in great need of revision, as the last modification to the list was in 2005, with the addition of *Cenchrus ciliaris* (syn. *Pennisetum ciliare*), or buffelgrass. After many delays, the list was finally updated in January 2020 (AAC 2020). In addition to the updating of species, the classification of noxious weeds was redefined to be consistent with noxious weed lists of adjacent states.

Classifications:

Class A Noxious Weed: *A plant species that is not known to exist or is of limited distribution in the state and is a high priority pest for quarantine, control, or mitigation.*

Class B Noxious Weed: *A plant species that is known to occur, but is of limited distribution in the state and may be a high priority pest for quarantine, control or mitigation if a significant threat to a crop, commodity, or habitat is known to exist.*

Class C Noxious Weed: *A plant species that is widespread but may be recommended for active control based on risk assessment.*

Plants of the Arizona noxious weed list:

Cannot be sold or imported into the state

Should be addressed in environmental clearances

Qualify for federal and state funding for control

Can serve as the basis for municipal codes and Home Owners' Association (HOA) do-not-plant lists

The January 2020 revision included:

Addition of 19 species (Table 1)

Removal of 11 species (Table 2)

Notable weeds newly designated for Arizona:

Fountain Grass (*Pennisetum setaceum*) — Native to Africa and the Middle East, Fountain grass (Figures 1 and 2) has been introduced to many parts of the world as an ornamental grass. It is popular in many countries as an ornamental plant and has dispersed into wildlands across Arizona, California, Florida, Hawaii, Fiji, South Africa, and Australia thanks to

continued next page

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Figure 3. Tree of Heaven. Photo courtesy Patti Fenner

Arizona's Noxious Weed List

continued

sales in nurseries. Fountain grass is apomictic, which means it can reproduce either sexually from fertilized seeds or asexually from unfertilized seeds! This perennial grass is a highly aggressive, fire-adapted colonizer that readily out-competes native plants and rapidly reestablishes after burning. Fountain grass raises fuel loads, which increases the intensity and spread of a fire, and results in severe damage to native desert species including all species of cactus.

Tree of Heaven (*Ailanthus altissima*) — A common tree in urban areas where it causes damage to sewer systems and structures, *Ailanthus* (Figure 3) also poses a threat to agriculture and natural ecosystems. It is a vigorous root-sprouter and seed producer that establishes dense stands which push out natives. Tree of heaven contains chemicals that have been found to be strongly allelopathic which enables it to inhibit the growth of surrounding competing plants and thus more easily establish and spread.

Natal Grass (*Melinis repens*) — Natal grass (Figure 4) is moving north from Sonora, Mexico, and is becoming common along highways, riparian areas, and even entire slopes in southern Arizona. In Mexico, this tall grass

continued next page

Table 1. Revised Arizona State Weed Rule Noxious Weed List (November 2019) — **Species Added to State List in red**

Common name	Scientific name
Class A Noxious Weeds	
African rue	<i>Peganum harmala</i>
Canada thistle	<i>Cirsium arvense</i>
Dudaim melon	<i>Cucumis melo</i> v. Dudaim Naudin
Dyer's woad	<i>Isatis tinctoria</i>
Floating water hyacinth	<i>Eichhornia crassipes</i>
Giant salvinia	<i>Salvinia molesta</i>
Globe-podded hoary cress	<i>Cardaria draba</i>
Hydrilla	<i>Hydrilla verticillata</i>
Leafy spurge	<i>Euphorbia esula</i>
Plumeless thistle	<i>Carduus acanthoides</i>
Purple loosestrife	<i>Lythrum salicaria</i>
Purple starthistle	<i>Centaurea calcitrapa</i>
Quackgrass	<i>Elymus repens</i> (<i>Elytrigia repens</i>)
Rush skeletonweed	<i>Chondrilla juncea</i>
Southern sandbur	<i>Cenchrus echinatus</i>
Spotted knapweed	<i>Centaurea stoebe</i> ssp. <i>micranthos</i>
Sweet resinbush	<i>Euryops subcarnosus</i>
Ward's weed	<i>Carrichtera annua</i>
Wild mustard	<i>Sinapis arvensis</i>
Class B Noxious Weeds	
Black mustard	<i>Brassica nigra</i>
Branched broomrape	<i>Orobanche ramosa</i>
Bull thistle	<i>Cirsium vulgare</i>
Camelthorn	<i>Alhagi maurorum</i> (<i>A. pseudalhagi</i>)
Dalmatian toadflax	<i>Linaria dalmatica</i> (<i>L. genistifolia</i> v. <i>dalmatica</i>)
Diffuse knapweed	<i>Centaurea diffusa</i>
Field sandbur	<i>Cenchrus spinifex</i> (synonym: <i>C. incertus</i>)
Giant reed	<i>Arundo donax</i>
Halogeton	<i>Halogeton glomeratus</i>
Jointed goatgrass	<i>Aegilops cylindrica</i>
Malta starthistle	<i>Centaurea melitensis</i>
Musk thistle	<i>Carduus nutans</i>
Natal grass	<i>Melinis repens</i>
Onionweed	<i>Asphodelus fistulosus</i>
Russian knapweed	<i>Acroptilon repens</i>
Russian olive	<i>Elaeagnus angustifolia</i>
Saharan mustard	<i>Brassica tournefortii</i>
Scotch thistle	<i>Onopordum acanthium</i>
Stinknet/Globe chamomile	<i>Oncosiphon piluliferum</i>
Yellow bluestem	<i>Bothriochloa ischaemum</i>
Yellow starthistle	<i>Centaurea solstitialis</i>
Class C Noxious Weeds	
Buffelgrass	<i>Pennisetum ciliare</i>
Field bindweed	<i>Convolvulus arvensis</i>
Fountain grass	<i>Pennisetum setaceum</i>
Garden or common morning glory	<i>Ipomoea purpurea</i>
Grannyvine	<i>Ipomoea tricolor</i>
Ivy-leaf morning glory	<i>Ipomoea hederacea</i>
Johnsongrass	<i>Sorghum halepense</i>
Kochia	<i>Kochia scoparia</i>
Morning glory	<i>Ipomoea triloba</i>
Morning glory	<i>Ipomoea x leucantha</i>
Puncturevine	<i>Tribulus terrestris</i>
Saltcedar	<i>Tamarix ramosissima</i>
Tree of heaven	<i>Ailanthus altissima</i>



Figure 4. Natal Grass. Photo courtesy Sue Carnahan



Figure 5. Giant Reed. Photo courtesy Sue Carnahan

Arizona's Noxious Weed List *continued*

carries recurrent wildfire along highways, changing ecosystem structure and function. By creating a cycle of regular wildfire in the desert, this plant has a competitive advantage over native vegetation.

Giant Reed (*Arundo donax*) — Giant reed (Figure 5) is native to India and was introduced into the United States in the early 1800s for ornamental purposes. Giant reed invades wetlands such as stream banks and lake shores. It competes for water, nutrients and sunlight, suppresses and excludes native vegetation which degrades wildlife habitat, and increases fire risks.

Stinknet (*Oncosiphon piluliferum*) — Stinknet (Figures 6 and 7), a winter annual plant from South Africa, was first noticed in 1981 in California where it has spread from urban areas to extensive coverage of undisturbed slopes in wildlands (Wilén 2018). It began to be noticed in central Arizona

around 2005. Since that time it has spread rapidly to vacant lots, yards, roadsides, and public lands throughout central Arizona, and it has now been documented in the Tucson area where it has the capability to spread in the same manner. Its invasive potential is higher than that of any plant this author has ever observed.

Sahara Mustard (*Brassica tournefortii*) — Sahara mustard (Figures 8 and 9) grows very fast, out-competing native herbaceous plants and shrubs for light and soil moisture. In wet years, this weed can form a dense ground cover, and can carry fire when it dries in early spring. Even the Mohave hyper-arid desert, including sand dunes, can burn because of this weed. There have been documented fires in the dunes of the Cabeza Prieta National Wildlife Refuge and in Yuma and Pima Counties, where Sahara mustard was observed growing in stands five feet tall and too dense to walk through.

continued next page



Figure 6 and 7. Stinknet. Photos courtesy Tom Van Devender and Max Licher

Table 2. Revised Arizona State Weed Rule Noxious Weed List (November 2019) — Species Dropped.

Common	Scientific name	Reason for dropping
Alligator weed	<i>Alternanthera philoxeroides</i>	A few in L.A. area, mostly SE US east of TX.
Carolina horsenettle	<i>Solanum carolinense</i>	Looks like <i>S. elaeagnifolium</i> , which is very common. Only one documented <i>S. carolinense</i> in AZ, in Phoenix in 1955. Very common throughout eastern US.
Common purslane	<i>Portulaca oleracea</i>	Very common in AZ. Possibly a native species.
Dodder	<i>Cuscuta</i> spp.	All 16 species in AZ are native
Morning glory	<i>Ipomoea</i> spp.	There are many native <i>Ipomoeas</i> that are not problem plants, and are, in fact, rare plants that are protected by state regulations. Only those species that are problem plants are now specifically listed on Arizona's noxious weed list.
Perennial sowthistle	<i>Sonchus arvensis</i>	Documented only in Four Corners area, but probably much more widespread and common. An agricultural weed.
Puna grass	<i>Achnatherum brachychaetum</i> (<i>Stipa brachychaeta</i>)	Documented only in CA, W side of state, mostly N of Los Angeles.
Serrated tussock	<i>Nassella trichotoma</i>	Documented only in Australia and Argentina.
Tansy ragwort	<i>Senecio jacobaea</i>	Nearest documented specimen is in San Jose, CA, near the ocean.
Torpedo grass	<i>Panicum repens</i>	Documented only in SE US, NY, HI, Australia, Taiwan, and Guatemala.
Tropical soda apple	<i>Solanum viarum</i>	Documented only in LA and SE US E of Louisiana and a few in S. America.
Water chestnut	<i>Trapa natans</i>	Documented only in NE US and one site in Austria.
Witchweed	<i>Striga</i> spp.	Documented only in one site in San Francisco, and uncommon in FL and NC.

Arizona's Noxious Weed List *continued*

Malta Starthistle (*Centaurea melitensis*) — Malta starthistle (Figure 10) was introduced to the southwestern U.S. from Europe as a seed contaminant. It is similar to yellow starthistle in appearance. Like yellow starthistle, it has been implicated in case reports of chewing disease of horses. Toxicity effects are cumulative and irreversible. In most cases, poisoning occurs where horses had little or no other palatable feed available to them. Dense infestations of Malta starthistle displace native plants and animals, threatening natural ecosystems.

Salt Cedar (*Tamarix ramosissima*) — Salt cedar (Figures 11 and 12) is a fire-adapted species that grows long tap roots that allow it to intercept deep water tables and interfere with natural aquatic systems. It disrupts the structure and stability of native plant communities and degrades native wildlife habitat by out-competing and replacing native plant species, monopolizing limited moisture, and increasing the frequency, intensity and effect of fires. This tree increases the risk of fire

continued next page



Figures 8 and 9. Sahara Mustard. Photos courtesy April Fletcher and Max Licher Figure 10 . Malta Starthistle. Photo courtesy Max Licher



Figures 11 and 12. Salt Cedar. Photos courtesy Patti Fenner and Liz Makings

Arizona's Noxious Weed List *continued*

in riparian ecosystems through deposition of flammable fuels. Salt cedar carries an extremely hot fast fire in riparian areas, which are not adapted to fire. Salt cedar fires have become frequent events in sites along the Gila River. The foliage of tamarisk can add salt deposits to the soil, inhibiting growth of other species. Although it provides some shelter, the foliage and flowers of salt cedar provide little food value for native wildlife species.

Russian Olive (*Elaeagnus angustifolia*) — Russian olive (Figure 13) was introduced from Europe in the early 1800s as a desirable ornamental shade tree. This fast-growing tree is now invasive in 17 western states. It is especially invasive in riparian woodlands, taking advantage of scouring events to

replace cottonwood and willow trees. It has nitrogen-fixing roots, which enable it to grow on bare mineral substrates and dominate riparian vegetation where overstory cottonwoods have died. It can survive drought conditions, so is adapted to ephemeral riparian drainages that are common in Arizona. Dense thickets of Russian olive increase the occurrence of catastrophic wildfires in riparian areas, due to their heavy fuel-loading.



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Figure 13. Russian Olive. Photo courtesy Max Licher