TUBAC NATURE CENTER

Invasive Plants

A plant or animal is typically considered invasive when

- It is non-native,
- It is prone to spreading widely and rapidly,
- It displaces native species, harming the ecosystem.

Invasive species are a problem worldwide, causing billions of dollars of economic damage and incalculable ecological harm by reducing the diversity and abundance of native species. Invasive plants have few or none of the ecological associations of native plants – for example, as host plants for insects – and thus are detrimental to ecosystem function. Invasive plants have greatly altered the Santa Cruz River ecosystem. They contribute to increased risk of wildfire, lowering of water tables, the inhibition of native wildflowers and woody understory plants in the riparian forest, and ultimately, the decline of the forest and other sensitive habitats.

In 2025, the Tubac Nature Center received a $76,000 grant from the Arizona Department of Forestry and Fire Management - Invasive Plant Grant Program for a three-year project to control invasive trees and grasses on 83 acres of land in the Santa Cruz River floodplain, from the Tubac Borrow Pit south to Clark Crossing Rd. The Nature Center contracted with the Tucson Bird Alliance to perform the work, which began in fall 2025. The top priority is removal of tamarisk (*Tamarix spp*.), also known as salt cedar, in and around the Borrow Pit. Control of tamarisk is essential for successful restoration of the Borrow Pit wetland, because it uses great amounts of water and causes soil salinity to increase as it drops its leaves, inhibiting the growth of native plants.

DEPARTMENT OF FORESTRY AND FIRE MANAGEMENT AZ

Tucson Bird Alliance

The project is also addressing several grasses and other invasive plants. The project includes monthly volunteer work events where people can join Bird Alliance and Nature Center experts to learn about and help control invasive plants.

Invasive Plants Infesting the Santa Cruz River Floodplain

Following are descriptions of some of the more significant invasive plants in the Santa Cruz River floodplain in Tubac. This list is not exhaustive.

Tamarisk (*Tamarix spp.)*



Several species of tamarisk are invasive in southern Arizona, the primary one being *T. ramosissima* and hybrids thereof. Tamarisk trees are native to dry areas of Eurasia and Africa. Tamarisk was introduced to North America intentionally in the early-to-mid 1800s as an ornamental shrub, windbreak, and for erosion control along waterways. It is salt tolerant and causes increased salinity levels in soils. It is more flammable than our native trees, and stands of tamarisk use more water than equivalent stands of native trees. It spreads vegetatively as well as through seeds, and grows well in disturbed areas. Control involves cutting trees to stump and precise application of an herbicide to the cuts to prevent regrowth, followed by long-term monitoring to prevent new infestations. Photo by James Guntis.

African sumac (*Searsia lancea*)



This evergreen tree is native to southern Africa, and is particularly invasive in the Sonoran Desert. It was introduced to Arizona in the early 20th century as an ornamental and shade tree. It is fast-growing and outcompetes native flora for water. It spreads rapidly via seeds and root suckers, forming dense thickets that displace native plants. The limited nature of the current infestation in Tubac provides an opportunity for eradication of this population during The Nature Center's current project. Photo by James Guntis.

Johnson grass (*Sorghum halepense*)



This grass is native to Asia and north Africa. It was introduced to North America in the 19th century for cattle grazing and as a seedlot contaminant, and soon spread widely. It looks a bit like a corn plant and can grow over 6 feet tall and form dense stands. It spreads via rhizomes and also produces copious seeds. It is abundant in open areas in the Tubac floodplain. Dead plants are fire prone.

Buffel grass (*Cenchrus ciliaris*)



Buffel grass is native to tropical Africa, the Mediterranean region and the hotter and drier parts of Asia. It was introduced to Arizona in the 1930s for livestock grazing. The introduction was largely unsuccessful, but it soon started appearing beside roadways and in cleared fields and over-grazed land. It grows quickly and can kill native plants by taking away nearby water. It is easily ignited and can burn even during the peak growing season. It is especially dangerous to the ecology of the lower Sonoran Desert, where Saguaros and other native plants are not fire adapted. Photo credit - Tucson Bird Alliance.

Bermuda grass (*Cynodon dactylon*)



Bermuda grass is native to most of the old world and Australia. It is widely cultivated as turf grass in warm climates including the southern U.S., and is abundant in sunny areas in southern Arizona. It has very deep roots and is thus exceptionally hard to control by physical removal. In addition, most herbicides are ineffective. It spreads by above-ground creeping stems called stolons, below-ground horizontal stems known as rhizomes, and via seeds. This allows it to quickly fill in gaps and spread over wide areas. The Nature Center's project is not focusing on controlling Bermuda grass due to its abundance and the difficulty of control.

London rocket (*Sisymbrium irio*)



This annual herb in the cabbage family was introduced to North America through contaminated seed and other agricultural products, and perhaps intentional transport of seeds. It is native to the Middle East, north Africa and southern Europe. In Arizona, it thrives in disturbed land in towns, deserts and farmland. It grows in abundance, especially after rains, along the Anza Trail and other areas in Tubac, where it easily crowds out native ephemeral wildflowers and other herbaceous vegetation. While not difficult to remove, its fast growth and large soil seed bank make control difficult.

Poison hemlock (*Conium maculatum*)



This is a highly poisonous flowering plant in the carrot family. All parts of the plant are toxic, and handling the plant risks exposure to the toxins. It is thus not readily controllable by physical removal. Grazing animals will not eat it. It is well adapted to a wide variety of habitats, and is shade tolerant, growing in large stands in the forest along the Santa Cruz River. It grows rapidly and can reach 8 feet in height. It is native to Europe and north Africa, and was introduced to North America in the 1800s as a cultivated garden plant.

Giant reed (*Arundo donax*)

This bamboo-like perennial grass is native to the Mediterranean region. It occurs mostly in wet areas, uses massive amounts of water, and grows very fast, outcompeting native plants. It forms dense monoculture stands 20 feet or more in

height, often with little space for wildlife. It spreads primarily via huge rhizomes that can penetrate deep into the soil. It is extremely flammable and can act as a “ladder” allowing flames to reach the tree canopy. It was introduced to southern California in the 1820s for roofing material and erosion control in drainage canals. It is widely promoted as a biofuel, raising concerns about further spread.

A portion of a giant reed rhizome.



Photo by Mary Normandia



Photo by James Guntis

Russian Thistle (*Salsola tragus*)

Also known as tumbleweed, this staple of movie and TV westerns is, in fact, a non-native invasive, widespread in the southwest U.S. It is native to Russia. Dry plants laden with many thousands of seeds break off at ground level and tumble across the landscape, distributing the seeds widely. New plants grow even with little rainfall. Its rapid growth quickly takes over native habitats. The plants are short-lived and are a serious fire hazard. Young plants have short roots and are easy to pull. Small populations can be controlled with 2-3 years of effort if plants are not allowed to go to seed.



Photo by Stefan Lefnaer CC BY-SA 3.0



Russian Thistle (*Salsola tragus*) in bloom.

Additional Resources

- Non-Native, Invasive Plants of Arizona
- Arizona Native Plant Society – Invasive Plants
- Arizona Noxious Weeds List

All other photos by Seth Ausubel

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