

Category A—High

Tamarisk hybrids (*Tamarix* spp.)

Identification and Impacts



Photo credit: J.M. DiTomaso



Photo credit: The Nature Conservancy



Photo Credit: EnviroPlan Partners

Key ID Tips

- Scale-like deciduous leaves.
- Raceme of small white to pink flowers.
- Shrub-like appearance with multiple stems.

Navajo Name

K'eilichii'its'óóz

Origin

Native to the Eurasia and Africa

Description

This description applies to tamarisk species and includes *T. chinensis*, *T. parviflora*, and hybrids. These species are less common in the region. They are tall woody shrubs to shrub-like trees with scaly leaves, similar to junipers or cedars. However, their leaves are deciduous, turning yellow to brown in the fall before falling off. They also produce flowering racemes with small pink to white flowers. All Tamarisk species are phreatophytes with deep taproots that can reach the water table.



Photo credit: S. Dewey, USU

Biology

Tamarisk species prefer saline soils and can grow in arid conditions due to their deep taproots. They often appear along riparian corridors. Their root systems are able to extract water from unsaturated soil layers, which gives them a competitive advantage over native phreatophyte species (Zouhar K. 2003). They also accumulate salt in glands in their leaves that they excrete from the leaf surface, which then accumulate on surface soils. They can tolerate a range of environmental conditions and are able to outcompete native vegetation to form dense monocultures.

Locations

Tamarisk stands that are not *T. ramossisima* have been found in isolated populations on the Navajo Nation.

Ecological Threat and Management Concerns

Tamarisk can increase erosion and stream incision, which affects floodplain dynamics. Their deep roots and salt excretions can make it difficult for native plants to survive and can alter soil salinity. They also affect wildlife habitat for several avian species, such as the endangered Southwestern willow flycatcher. Hybridization can increase the spread of these species and their ecological impacts.

Tamarisk hybrids (*Tamarix spp.*)

Additional safety measures and limitations may apply to each method. Refer to the [Navajo Nation Integrated Weed Management Plan](#) for more information.

Mechanical/Manual Removal

Most mechanical and manual cutting methods are only good at suppressing growth and are not intended for eradication. Hand pulling of small seedlings is feasible for small populations. Grubbing and bulldozing to remove the entire plant are the most effective, but often expensive. Mechanical removal or felling trees is most effective when paired with herbicide treatments to prevent resprouting.

Biological

No biological control organisms are available for use on the Navajo Nation. While the tamarisk leaf beetle is present (*Diorhabda carinulata*), it is not a USDA-approved biological control organism.

Cultural Control

Cattle and goats will graze on young tamarisk or resprouts, but they have little nutritional value. Burning is not recommended for eradicating or controlling tamarisk as it can resprout from its adventitious roots. Burning is recommended for disposing of removed material. Once removed, restoration of native plant communities is highly recommended to prevent reestablishment.

Chemical

Use of herbicides can be effective. Refer to the product labels for application rates, timing, and approved application methods.

Recommended herbicides include:

- Imazapyr

References

DiTomaso, J.M., G.B. Kyser et al. 2013. *Weed Control in Natural Areas in the Western United States*. Weed Research and Information Center. University of California. 544 pp.

USDA, NRCS. 2023. PLANTS Database. Available at <https://plants.sc.egov.usda.gov/>. National Plant Data Team, Greensboro, NC 27401-4901 USA.

Zouhar, K. 2004. *Tamarix spp.* In: Fire Effectives Information System [Online]. U.S. Department of Agriculture, Forest Service, Rocky Mountain Research Station, Fire Sciences Laboratory. Available at <https://www.fs.usda.gov/database/feis/plants/tree/tamspp/all.html>.



Bureau of Indian Affairs
Navajo Region
301 West Hill Street
Gallup, NM 87301
Phone: (505) 863-8314
www.bia.gov/regional-offices/Navajo-region