



NATIVE RIPARIAN TREES

Native plant species play a vital role in riparian ecosystems providing food and habitat for other native species. Native species evolve over time in response to climate, soils, drought, and interactions with other species that co-exist within the community. Thus native plants are well adapted to their local environments and contribute to the overall health of natural systems.

Restoring a degraded ecosystem using native plant species will facilitate long-term objectives of creating a functioning riparian habitat that will not only provide habitat for a diverse group of species but will also be capable of regeneration over time.

Riparian areas are interfaces between the land and a river or stream. Riparian plant species are classified as phreatophytes and are dependent on groundwater to survive. In the Southwest U.S., native riparian habitat is typically dominated by **cottonwood trees** and **willow trees**. These trees are naturally found along the flood plains of low elevation rivers and streams. Cottonwood and willow trees as well as other riparian plant species, the hydrology supporting the system and the soil quality together form habitats that contribute significantly to the ecosystem in several ways. They provide important wildlife habitat and support ecological diversity by providing nesting and foraging habitat for many species as well as essential corridor habitat for migrating birds. They also regulate overall temperature fluctuation and nutrients. Additionally they stabilize stream banks and sediment, which in turn prevents soil erosion as well as improving overall water quality through trapping of sediment, which contributes to flood abatement.

Mesquite trees can have a beneficial effect on soil chemical and physical properties by increasing the amount of soil nitrogen beneath their canopies. Mesquites grow very quickly, can establish on a wide variety of soil types, can withstand drought, and provide food and habitat for wildlife. They are especially important in areas where other trees cannot grow. Habitat with mesquite trees can be highly productive, supporting a wide range of species including birds, mammals, insects and reptiles that rely on the shade and food resources the trees provide.





NON-NATIVE PLANTS

Non-native plant species invade native habitats and can dramatically alter the ecological community by outcompeting native plants and altering nutrient cycles, hydrology, and wildfire frequencies. Non-native species invasions are one of the most significant threats to biological diversity second only to habitat loss and fragmentation. Some specific examples include:

Mediterranean grass

This weedy annual grass can stabilize loose sand and sand dune environments on which rare and uncommon plants occur including threecorner milkvetch and sticky buckwheat.

Arundo

Arundo is one of the primary threats to riparian systems in the Southwest U.S. It thrives in disturbed habitats, can grow quickly and up to 30 ft tall, alters the historic fire regimes, and spreads vegetatively down river corridors. Arundo is very difficult to control and will outcompete native tree species such as cottonwood and willow that provide valuable foraging and nesting habitat for the Bell's vireo and Southwestern willow flycatcher among other species. Arundo forms dense stands making it very difficult for wildlife to use the plant for nesting or foraging.



Sahara mustard

Sahara mustard exhibits characteristics such as high seed output, high and efficient seed dispersal, early phenology, rapid growth rate, and can grow taller and larger than native annual species.



Saltcedar / Tamarisk

Saltcedar is a facultative phreatophyte known to transpire large amounts of groundwater, altering fire regimes, desiccating soils and reducing the water table which outcompetes native vegetation. Saltcedar leaf litter alters the salinity levels of the soil which can limit germination of native species that aren't adapted to higher salt concentrations.

