

# MANAGEMENT RECOMMENDATIONS

## Abundant Coyote Willow Stands

Prepared for Landowners | By Christa Brown | 2024

This document is intended to provide general management recommendations with associated references. It is not exhaustive or intended to be prescriptive.

### SITE GOALS

Coyote willow stands (*Salix exigua*) play an important role in ecological health, wildlife habitat, and erosion control. However, they can grow rapidly and become large, dense populations that no longer line up with land management goals. If this is something you are struggling with, outlined in this document are some management practices with these goals:

- Undergo some removal of native vegetation along portions of the riparian area
- Increase fire breaks for wildlife and human safety
- Improve designated access areas by opening up the streambank

### IMPORTANCE vs INVASION

The native willow stands are an important part of watershed health. These stands act as an erosion control along the streambank that provides stabilization during different stream flows throughout the year. The root system holds the soil in place and also acts as a slow release for water downstream, avoiding further runoff erosion and improving water quality. These thick stands are also beneficial for wildlife, providing wood and habitat for birds and forage for deer ([USDA 2002](#)).

Native willow stands can hit an abundance threshold and become weedy or invasive ([USDA 2002](#)). They are part of the natural regime in local watersheds but can spread easily and grow intensely ([OSU 2023](#)). Physical management of overpopulation by cutting /mowing down or burning the stands has proven to be ineffective in lowering overabundant growth because of their fast root regrowth. Complete removal from the roots is also not recommended since this requires the most labor and causes the highest soil disturbance that lowers bank stabilization and increases total erosion.



Photo by Pamela Beane/Unsplash

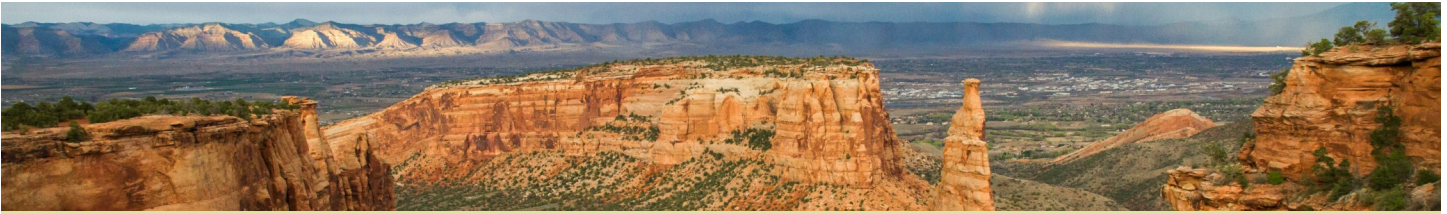


Photo by Holly Mandarich/Unsplash

## RECOMMENDATIONS

### **1. Consideration of the total amount of willow stands to be removed.**

- Maintain populations of willow stands throughout the length of the watershed, leaving an adequate amount of the existing population for erosion control.
- Its important to know the locations of pool establishments for fish habitat where willows should remain.
  - Fish habitat will benefit from willow stands for protection, shade cover to regulate water temperature, and overall erosion control as seen with the Greenbank sandbar willow ([USDA 2014](#)).

### **2. Aquatic herbicide control will best manage abundant willow stands.**

- The AgriLife Extension office at Texas A&M has a list of recommendations for aquatic herbicide controls for willows that are similar to USDA recommendations for other invasive trees ([AgriLife 2023](#)).
- Application of the herbicide is dependent on the choice of herbicide but can commonly be applied to the foliage of the willows before removing them or the surface of the stump after cutting them down.

### **3. Impacts after mitigation of willow stands.**

- Alterations may include, but are not limited to, premature sloughing and undercutting (altered stream channels), higher erosion and greater sediment movement (higher water turbidity), and fluctuation in water temperature and water quality ([Wheeler 2005](#)).
  - All of these potential impacts could also have an effect on the downstream stretches of the watershed beyond your property.
- Invasive forbs may establish overtime since they favor open soil surface areas and areas of high soil disturbance ([Back 2013](#)). These can be mitigated as suggested in these provided documents on these forbs ([CDA 2015](#)).



Photo by Holly Mandarich/Unsplash

## REFERENCES

- AgriLife Extension Texas A&M. (2023) *How to Control Willow*. <https://aquaplant.tamu.edu/management-options/willow/>
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- Wheeler, M. (2005) *Colorado State Parks Stewardship Prescription: Cottonwood and Willow Management*. <https://cpw.state.co.us/Documents/ResourceStewardship/CottonwoodWillowManagementPrescription.pdf>