

# Management of Invasive Saltcedar in the Upper Brazos Watershed

Treatment & Monitoring Information for Landowners

## Project Contact for More Information

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(See also additional contacts listed on last page)

## Project Goals

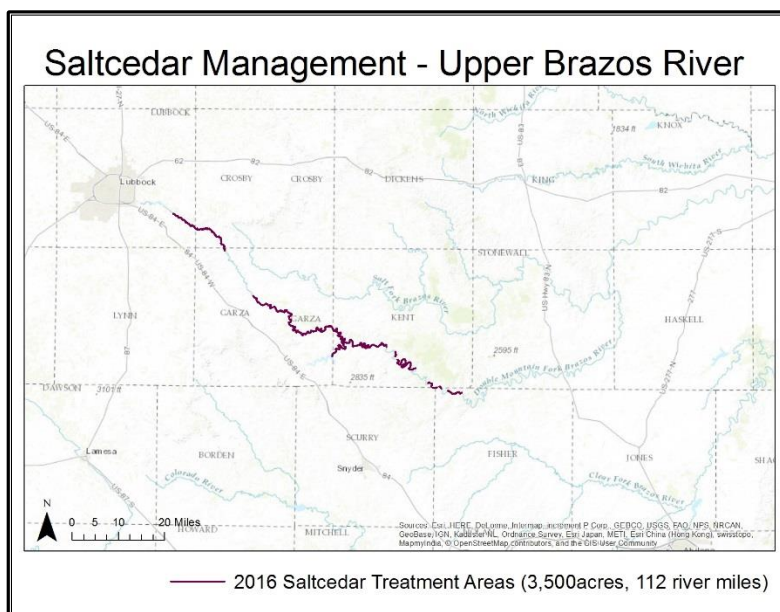
This project focuses on improving fish and wildlife habitat quality in the Upper Brazos River watershed through targeted saltcedar control provided for landowner partners **free of charge**. Because of the hydrological conditions present in the Brazos River, there may be a good chance of increasing the amount of water flow.

## Project Area and Methods

In 2015, the Texas Parks and Wildlife Department (TPWD) and a group of partners (US Fish and Wildlife Service, the University of Texas, Texas Tech, and Texas A&M) began a massive effort to provide landowners along the Upper Brazos River no-cost treatment of invasive saltcedar while studying the effectiveness and treatment benefits. In 2016, we used aerial herbicide application to treat 3,500 acres of saltcedar on the Double Mountain Fork and its tributaries, working our way downstream. In 2017, we are working to fill in gaps in treatment coverage and expand these efforts downstream. Although our current priority area is upstream in Lubbock, Crosby, Garza, Kent, and Stonewall counties on the Double Mountain and Salt forks, we will continue working downstream toward Possum Kingdom Reservoir.

## Impacts of Saltcedar Invasion

Saltcedar (*Tamarix* spp.) is a shrubby, invasive tree, native to the Middle East and Asia, that now plagues and dominates floodplain habitats across more than half a million acres in Texas. Its dense thickets displace native plants along rivers where it grows—typically in areas within 25 feet of the water table. Saltcedar provides little nutritional value for livestock and other grazers and can block access to water. Saltcedar thickets reduce habitat quality for wildlife such as wild turkeys, which require grassy, open understory, and is a “game-changer” for aquatic life. The thickets armor the banks and cause sediment to build up in the floodplain.



## Impacts of Saltcedar Invasion (continued)

As the river digs a deeper, ditch-like channel with faster moving currents to replace the naturally shallow, meandering channel, fish and aquatic insects that need shallow riffles and diverse habitats fare poorly. Saltcedar also uses a lot of water—some estimates suggest that each acre of saltcedar may lose 1-2 acre-feet of water per day through evaporation.

## Landowner Participation

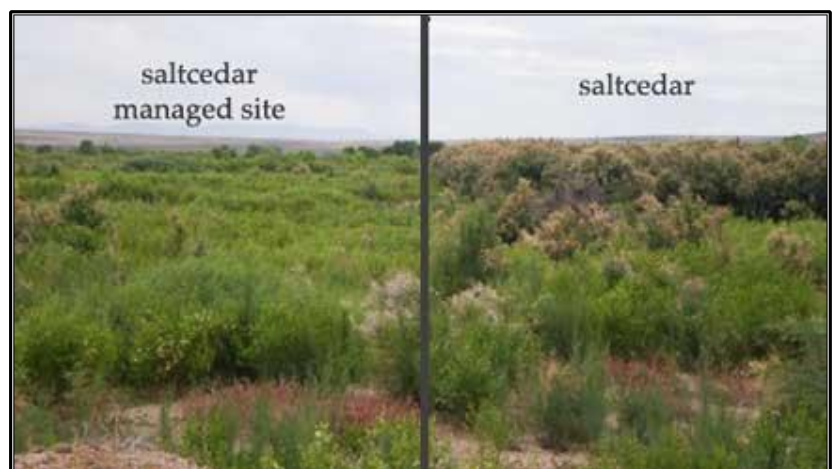
Landowner partners are critical to efforts to manage saltcedar in the Upper Brazos watershed. If you received this fact sheet with a letter or if your property is located on the Brazos River or a tributary above Possum Kingdom Reservoir we would like to visit with you by phone and possibly set up a site visit. During the visit, we will evaluate saltcedar coverage for treatment and whether your property may be a good location for monitoring the positive effects of saltcedar control. We will also talk about any potential concerns you have for non-target damage that we need to relay to our licensed expert herbicide application contractors.

During the site visit (or before) you'll need to sign the landowner permission form for us and, depending where you're located and how much saltcedar is present, we may want to visit with you about the possibility of monitoring at your site. Landowner participation in allowing access for monitoring is essential for documenting success and for securing ongoing funding for long-term control of saltcedar in the Upper Brazos River watershed. The permission form has different participation levels for you to initial. First, select and initial whether you are interested in both aerial herbicide treatment and ground-based herbicide treatment, which may be needed at some sites to avoid non-targets or touch up re-sprouting. Next are options for you to approve occasional access for monitoring the native plants after treatment, condition of the channel and aquatic life, or even to elect to participate in the hydrological monitoring study if your site is chosen. If you partner with us in these monitoring studies, you'll need to sign the permission option to release location-specific data—meaning that you'll allow the specific location of a study site or shallow groundwater well on your property to be shown on a map in a report or presentation.

*Contractors/biologists will provide advanced notice before any aerial treatment or visit to private property where permission has been granted and communicate frequently.*

## NO-COST Herbicide Treatment

Contractors will use a helicopter to apply an aquatic-approved herbicide containing imazapyr (e.g., Arsenal) to control invasive saltcedar, taking care to avoid non-target plants. This is a systemic herbicide that attacks an essential enzyme process that animals don't have (so they're not affected). In some cases (e.g., around large cottonwood groves), ground-based application of herbicides may be necessary.



## Riverside and Instream Habitat Monitoring

Biologists from TPWD and Texas Tech University are monitoring how the plant community on the riverbank, aquatic life in the river, and the shape of the river itself changes over time in response to the treatment. If you are chosen as a potential site for biological monitoring and choose to participate, you would be agreeing to allow biologists with TPWD or a partner university to access your property up to a couple of times a year to take a look at the riverside and aquatic life and the shape and health of the river.

## Hydrological Monitoring

Sites selected for hydrological monitoring will help us to learn more about how saltcedar management influences groundwater availability and river flow. Researchers will install conductivity, temperature, soil moisture and other sensors in shallow test holes/wells (2-inch diameter PVC, ~50 feet deep). Hydrological monitoring requires installation of three shallow groundwater wells installed that will be visited by TPWD biologists or UT hydrologists up to four times a year to check the instruments.



## Project Website

<http://tpwd.texas.gov/landwater/water/aquatic-invasives/saltcedar-upperbrazos.phtml>

## Contact Us

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