



## Characterization of Resistance for Saltcedar

<b>Products</b>	A publication describing saltcedar stand characteristics and hydraulic resistance measured at four sites in New Mexico.
<b>Benefits</b>	The publication will give water and resource management personnel the ability to assess the influence of saltcedar stands on flood conveyance
<b>Issue</b>	<p>In the early 1800s, eight species of saltcedar (<i>Tamarix</i> Spp.) were introduced into the United States from Asia as ornamentals. Three of these species have become invasive throughout their range, and successfully invaded nearly every drainage system in arid and semi-arid areas in the southwestern United States. Saltcedar currently occupies over one million acres of riparian habitat. Saltcedar is the most prolific invasive species in the arid region, and one of the most complex to characterize in terms of hydraulic impacts. They can grow 9 to 12 feet in a single season and survive drought conditions by dropping their leaves. Saltcedar grow in dense stands, and can significantly reduce flood conveyance. A means of calculating the potential effects of saltcedar on the hydraulic characteristics of flood flows is needed to assist planners and designers in formulating designs for flood damage reduction and restoration projects.</p>
<b>Description</b>	Four study sites with saltcedar stands of varying age and density located near U.S. Geological Survey (USGS) gauge stations were identified in central New Mexico. At each site, several transects were established and a point frame was used to measure vegetation density across the floodway. Channel geometry, bed material composition and slope were measured at each site, and high water marks from recent over bank flow events were established. Resistance characteristics as a function of depth were calculated using compositing techniques and the measured discharge, vegetation density, and water surface elevation. At one site, detailed measurements of the composition of individual saltcedar plants were made to help establish potential variability in resistance for stands of unknown density.
<b>Sponsor</b>	Urban Flood Damage Reduction and Channel Restoration Development and Demonstration Program for Arid and Semi-Arid Regions (UFDP).



**Measuring saltcedar stand density near Belen, NM**

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**Partners** None.