
Salt Cedar Eating Beetle

by: Thom Hulen, former DFLT Conservation Director, July 2005

BENEFICIAL BEETLES TAKE A BITE OUT OF SALT CEDAR

Salt cedar or tamarisk¹ tree invasion is a major threat to the biodiversity of central Arizona's riparian areas. The Desert Foothills Land Trust (DFLT) has been leading the effort in the Cave Creek watershed to eliminate or drastically reduce this tree's threat to the riparian areas along Cave Creek by systematically



photo: Dave Mills

cutting and hauling the trees away. Fortunately the DFLT has the support of community folks who are willing to spend a morning or two each year in the field taking this invader to the dumpster. Another advantage we have is that the numbers of salt cedar trees along Cave Creek are fairly low because of the natural flow patterns occurring in the creek.

Rivers such as the Gila, Salt, Verde and the Colorado have levels of salt cedar invasion that are overwhelming and species diversity along these rivers has decreased significantly because of the thick stands of salt cedar that grow there. In some stretches salt cedar grows as a monoculture excluding all other species of plants.

¹ Editor's Note: *Tamarix ramosissima*



Compounding the problem with salt cedar is that little if anything in the southwestern United States finds it palatable, so it grows unchecked by herbivorous animals that feed upon the native plants it competes against for water, nutrients, and space.

In the 1970s Agriculture Research Service (ARS) entomologist Robert Pemberton discovered a beetle in China that fed upon salt cedar. He reported his findings to entomologist Lloyd A. Andres who had sent the word out to ARS entomologists to be on the lookout for salt cedar feeding insects.

The leaf beetle² [*Diorhabda elongata*] is native to the same areas of the world, the Mediterranean region, southwest Asia and parts of China, where salt cedar is native.

Outdoor tests began in 1998 and the results are exceeding expectations. In 2001 near Lovelock, Nevada 1,400 leaf beetles were released along the Humboldt River where in a short time the leaf beetles defoliated about 5,000-acres of salt cedar. Presently the population is in the millions and the range has extended approximately 100 miles along the Humboldt River. Similar results have been recorded on other experimental sites.



The idea of using biological control mechanisms is not new, but their use must be considered with caution. As with anything people do, all the consequences of our actions must be considered, including the unintended ones we may have to manage in the future. After all we would not want the introduced leaf beetle to run amok on non-target native plants and further impact the landscape. This is what happened when salt cedar was introduced as a biological control agent for erosion control - look at the mess we are in today.³

² See [article in Wikipedia](#).

³ Reference: [Wood, M. and Comis, D. Beneficial Beetles Take a Bite Out of Saltcedar.](#) USDA Research Service.

