

What Will Take the Place of the Tamarisk?

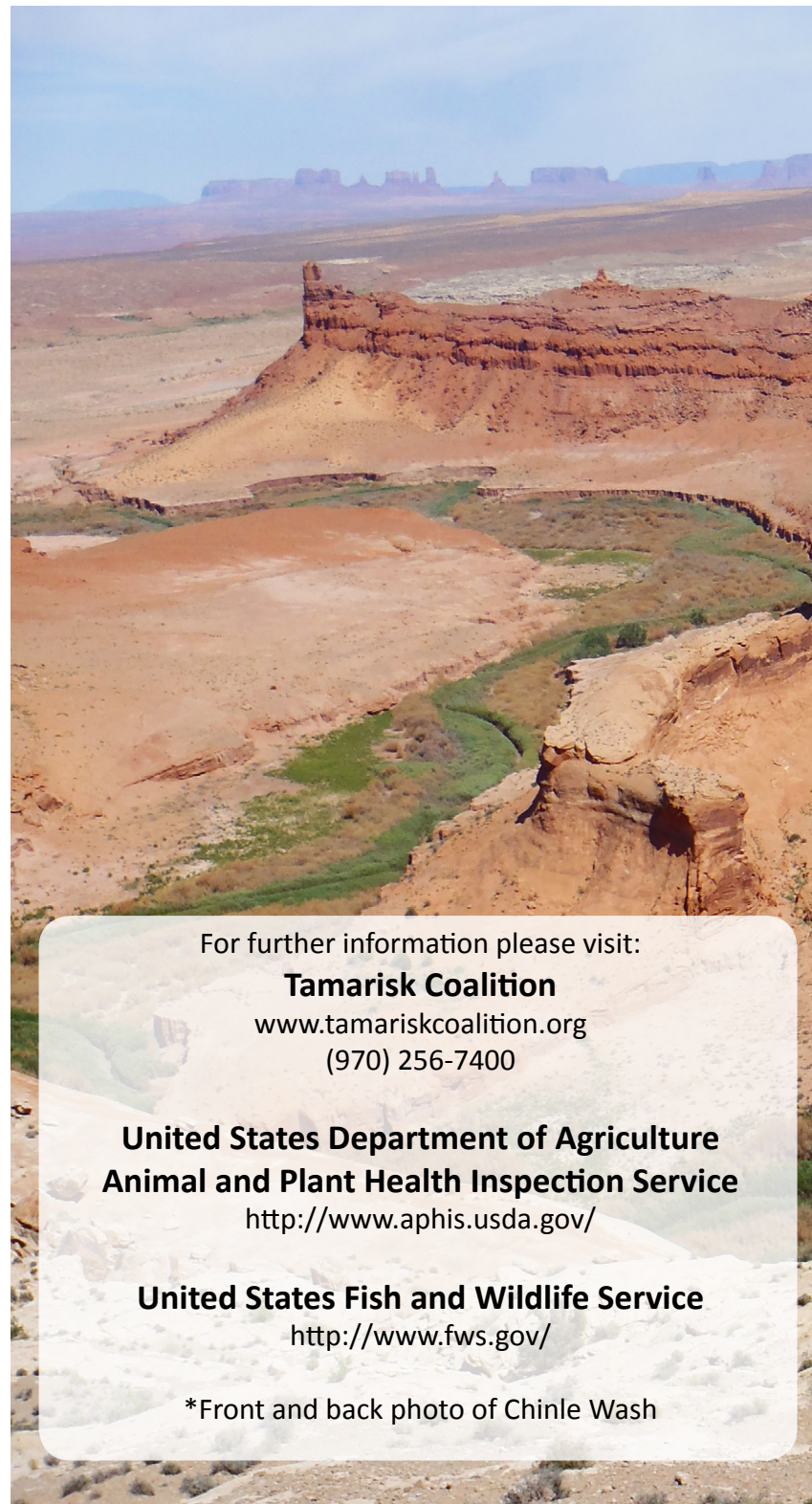
Land managers and researchers estimate that the tamarisk leaf beetle will probably contribute to the defoliation and eventual mortality of 70-85% of tamarisk in infested areas over the next several years. As tamarisk gradually dies back space will open up, allowing native plants to re-grow if conditions are suitable. However, native vegetation is often out-competed by weedy species and consequently land managers are encouraged to monitor their respective river corridors that have been impacted by the tamarisk leaf beetle to understand specific vegetative impacts in their area. Controlled burns and native plant re-vegetation can be used for riparian habitat restoration. Restoration methods to enhance riparian recovery and create conditions that favor natural re-colonization of native species are available and being tested.

Other Environmental Concerns

Although biological control can play an important role in suppressing tamarisk and restoring native plant biodiversity, there is inherent risk when releasing a foreign organism. One unforeseen consequence of tamarisk leaf beetle defoliation is the risk posed to the endangered southwestern willow flycatcher, where beetle populations and flycatcher critical habitat overlap. Tamarisk defoliation during the flycatcher breeding season can expose nests and eggs to the elements and predators. Reestablishment of native trees can provide good habitat in the future, but takes a considerable amount of time. Monitoring of beetle dispersal is needed to assess impacts to the flycatcher and to identify where restoration should be focused to minimize risks.



Tamarisk defoliation



For further information please visit:

Tamarisk Coalition

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United States Department of Agriculture Animal and Plant Health Inspection Service

<http://www.aphis.usda.gov/>

United States Fish and Wildlife Service

<http://www.fws.gov/>

*Front and back photo of Chinle Wash



Why Are My Trees Brown?

Tamarisk and the Tamarisk Beetle

What is Tamarisk?

Tamarisk, or saltcedar, (*Tamarix* spp.) is an invasive woody tree native to Asia. It was originally brought to North America for erosion control, but has taken the place of native trees and shrubs, like cottonwood, aspen, gamble oak, willow, and mesquite and now infests rivers, streams, wetlands, reservoirs, and springs across the West. Dense stands of tamarisk can block access to rivers and dominate riverside habitat – areas which support a range of native plant materials and other important cultural resources. Tamarisk can be poor habitat for many types of wildlife, poor forage for livestock, can increase soil salinity and wildfire severity and can be costly to control. Tamarisk is considered to be a high priority noxious weed in many areas through out western United States. Public support for tamarisk control has increased over the past decade and Public Law 109320: Salt Cedar and Russian Olive Control Demonstration Act was passed by Congress in 2006 garnering federal and state support for control projects.

A Biological Control for Tamarisk

Mechanical and chemical control methods are commonly used to manage tamarisk but may have limited applicability due to landowner goals, site accessibility, size of the tamarisk stands, expense, and other factors. Biological control, or biocontrol, is another management tool being used to control tamarisk. Biocontrol is the introduction of an insect or other “natural enemy” that predate the invasive plant of concern. The insect selected for the control of tamarisk, called the tamarisk leaf beetle (*Diorhabda* spp.), was tested by the US Department of Agriculture for over 10 years to ensure that it would be effective, and would not feed on native plants or crops here in the western United States. The beetle was first released in 2001, and can now be found throughout the Colorado Plateau and Texas. Although the tamarisk leaf beetle will not singlehandedly eliminate tamarisk, the goal is to help control the spread of tamarisk by reducing its reproductive viability, consequently giving native plants a chance to recover.

What Does the Tamarisk Leaf Beetle do to Tamarisk?

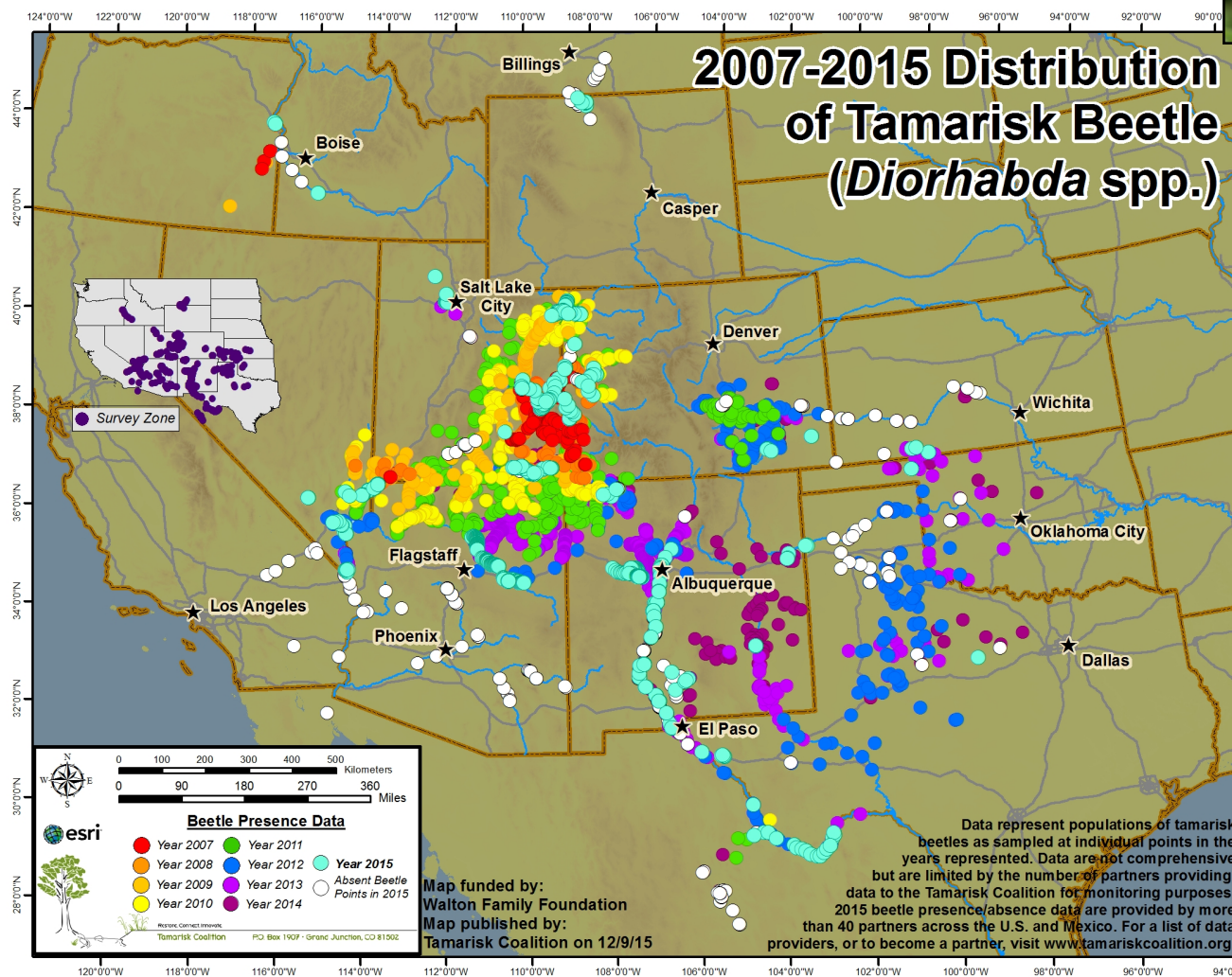
The tamarisk leaf beetle and its larvae feed on the leaves of tamarisk, leaving them dry and brown with many straw-like desiccated leaves still attached to the plant. This is referred to as “defoliation” or “browning”. Following defoliation many tamarisk will re-sprout along the stems of the tree. Browning may happen several times during a growing season, and does not signify mortality. Recent research indicates that a tree can be killed within 5-7 years of beetle infestation depending on location and specific micro-environmental factors. Defoliated tamarisk may also exhibit a yellowish color which may be caused by another insect that feeds upon the tamarisk, the tamarisk leafhopper. This insect is entirely green, resembles a legless grasshopper and is about half the size of the tamarisk leaf beetle.



Diorhabda spp. - clockwise from top left: Egg Mass; Molting Early Stage Larvae; Late Stage Larvae; Adult Tamarisk Beetle

What Does the Tamarisk Leaf Beetle Look Like?

The adult beetle is yellow to straw colored with roughly four brown stripes running down the forewings covering its back. This beetle is roughly the same size as a ladybug, with a thinner body. Pinkish egg masses are laid near the ends of individual branches. The larvae are very small and appear completely black in the earliest stage; the second and third stages are typically characterized by a long yellow stripe running down either side of its abdomen.



Tamarisk Leafhopper



Tamarisk Weevil

For more information concerning the Tamarisk beetle monitoring program, contact:
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