Distribution and expansion of *Diorhabda elongata* across the Colorado Plateau

by the Tamarisk Coalition
GTS 2010

Abstract: Spreading rapidly across the region, the tamarisk leaf beetle (*Diorhabda elongata*) has now been established over nearly half of the Colorado Plateau. Yearly surveys of the Colorado River Basin have tracked the expansion of *D. elongata* as it has spread from multiple release sites in Utah and Colorado. This summer (2009) a large scale mapping effort was taken underway to map the distribution of *D. elongata* across the Colorado Plateau expanding from release sites in the northern half of the region. Distribution was found to be widespread in both Eastern Utah and Western Colorado, accompanied by widespread defoliation zones.

Surveys monitored *D. elongata* populations along the Colorado, Dolores, Green, Gunnison, San Juan, Virgin, and White Rivers and their associated tributaries. Dispersing adults and aggregations of larvae were also located in multiple watersheds south of the 37th parallel in northern Arizona and New Mexico. Beetles moving south were found established in many of the Grand Canyons northern tributaries like Kanab Creek and the Paria River and around Page, AZ and the Marble Canyon Gorge. Maps from the surveys show an expanding assortment of semi-isolated populations growing and converging to create a patchwork of large interconnected population zones disseminating across the Colorado Plateau.

Results also point towards a significant amount of translocation occurring due to unintentional human dispersal, most likely the result of high volume tourist travel during the summer months, when *D. elongata* dispersal is also occurring. The distribution and establishment of the beetles within the Colorado Plateau and the Western USA will undoubtedly lead to significant changes in western riparian zones and is occurring at very a rapid pace. Overall management and research should be understood at a broad regional scale and is best viewed as an interconnected phenomenon to be addressed over an entire landscape.