

Water Depletion by Dense and Monotypic Saltcedar at Bosque NWR

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ABSTRACT

The arid climate of southwestern United States can generate high rates of evapotranspiration (ET) from moist site vegetation such as riparian regions. Various methods have been used to measure and or estimate evapotranspiration (water use) of riparian vegetation. Some of the methods reported in literature include lysimeter, water budget, Bowen ratio energy balance, heat balance/heat pulse, eddy-covariance, and Blaney-Criddle. Daily ET from a dense saltcedar stand was measured in 2006 using eddy covariance methods on the floodplain of the Middle Rio Grande at Bosque del Apache National Wildlife Refuge, New Mexico. A simple and robust one-propeller eddy covariance (OPEC) system was used to measure daily ET of the saltcedar during the growing season (April 11-November 14) at Bosque del Apache National Wildlife Refuge near Socorro, New Mexico (34° N, 107° W).