

**Seasonal measurements of evapotranspiration from the invasive water-using weed,
Arundo donax along the Rio Grande River**

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ABSTRACT

Giant reed (*Arundo donax* L.), a woody grass native to the Mediterranean, is one of the worst weeds in the arid southwest, including Texas and Mexico where it has negatively impacted riparian ecosystems and displaced native flora and fauna. Its distribution along waterways and canals and its tremendous rate of vegetative reproduction and primary production suggest that giant reed is a prolific water user. This study utilizes a three-dimensional eddy covariance system to address the pattern of evapo-transpiration (ET) throughout the growing season for giant reed along the Rio Grande River. Preliminary results show that the ET rate for a 300 day growing season to range between 1.6 meters and 2.7 meters, indicating high water consumption of giant reed even when compared to other known water-using weeds. Our preliminary data suggest that any efforts to reduce the water-using potential of giant reed would be extremely timely, given the growing scarcity of water in agriculturally important areas of the southwestern US.

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