

# **The Relationship of Giant Reed Control to the Long-term Success of Riparian Restoration**

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## **ABSTRACT**

Considered one of the worst invasive species wherever it occurs, giant reed (*Arundo donax*) is a clonal grass which infests the waterways of California and provides poor wildlife habitat. Invasive species removal creates gaps in the community which will be filled by plants over time. These gaps may be filled by native species or reinvaded by locally common invasive species. My research investigates the role of giant reed control methods in the long-term success of riparian restoration. My hypothesis states that methods of giant reed management affect the subsequent trajectory of establishing vegetation and long-term habitat composition. Older giant reed removal sites (>5yrs) across southern California will be sampled for plant composition, density, and canopy cover, and soil moisture and temperature over the summer and fall 2011. I predict that methods incorporating chemical treatments applied to giant reed during the initial phase of control will promote subsequent establishment of more native cover than in sites where other control methods were used. Discussions with land managers suggest this relationship, but the variability between sites and the dynamic nature of the ecosystem make conclusions difficult. We also predict that control combined with native replanting, resulting in higher native canopy cover, will promote more native than exotic weed cover. Multiple regression analysis will be used to test for relationships among these variables.