

## CASE STUDY

### Ventura County | Removing *Arundo donax* to Improve Groundwater Supply and Enhance Habitat



**Summary:** Removal of high water consuming exotic plants from streams and other areas may reduce water consumption thus increasing groundwater recharge. For example, *Arundo donax* (commonly known as “giant reed”), uses six times more water than native plants. In Ventura County, stakeholders are working to include *Arundo* removal in their groundwater sustainability plan (GSP) as a supply enhancement strategy. In addition to improving groundwater supply, removing invasive plants can reduce flood risk, reduce fire risk and improve groundwater dependent ecosystems (GDEs).

#### Program:

*Arundo donax* is a common high water using, non-native, invasive plant that exists in many southern and central California rivers and streams. According to a 2011 report by the California Invasive Plant Council<sup>1</sup>, one acre of the non-native, invasive *Arundo* consumes 24 acre-feet of water per year, whereas an acre of native plants uses 4 acre-feet per year. In other words, *arundo* consumes six times more water than native riparian plants.



*Arundo donax* (giant reed) stand in the Santa Clara River, Ventura County.

Based on the report by the California Invasive Plant Council, it is estimated that the Santa Clara River in Ventura and Los Angeles Counties loses more than 24,300 acre-feet of water per year to consumption by *Arundo*. Furthermore, if all that *Arundo* were removed and replaced with native riparian plants, there would be a net gain of more than 20,000 acre-feet of surface and groundwater annually, enough water to serve about 1,500 Los Angeles city residential customers.

In addition to improving surface flows and groundwater recharge, removal of *Arundo* provides other significant benefits, including expansion of wetland and

<sup>1</sup> *Arundo donax* (giant reed) Impact and Distribution Report. 2011. California Invasive Plant Council

riparian habitat. It is estimated that more than 90%, of southern California's wetlands have been destroyed leaving plants and animals that depend on wetland habitat during some or all of their life cycle in peril resulting in the area's rivers containing large numbers of rare species. For example, the Santa Clara River supports 16 legally protected rare plants and animals.

Arundo can also damage bridges and other infrastructure during high flow events, when floodwaters sweep large masses of Arundo downstream. The Arundo collects on bridge supports exerting great forces on them and reducing the volume of water that can pass under the bridge. The result may be increased flooding of upstream properties and damage to infrastructure.

Finally, Arundo is highly flammable and allows wildfires to enter and rapidly spread within riparian river beds. Wildfires in Arundo choked streams can spread rapidly to adjacent areas.

**Status:** The Fox Canyon GSA in Ventura County has prepared and released a draft GSP for the Las Posas basin that contains brief outlines of potential projects to help meet the plan's sustainability goals. The Nature Conservancy and others support Arundo removal as a cost effective, multi-benefit project that will improve groundwater recharge, enhance habitat for imperiled species, reduce flood risk and reduce fire risk. Together we will endeavor to have this project included in the plan and implemented in the near future.

**Additional Resources:**

Fox Canyon Groundwater Management Agency  
<http://www.fcgma.org/>

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