



**CALIFORNIA STATE SCIENCE FAIR
2009 PROJECT SUMMARY**

Name(s) Austin K. Russell	Project Number J1124
Project Title The Water Lover: Water Harvesting and Recycling System for Residential and Commercial Landscapes	
<p style="text-align: center;">Abstract</p> <p>Objectives/Goals The objective was to determine if a system could be created to harvest and recycle excess irrigation and rain water in residential and commercial landscape areas.</p> <p>Methods/Materials A system was designed, created and tested by irrigating turf placed on sand and cheesecloth above a grate-covered, gravel filled drainage device. Harvested water gravity flowed through a pipe, and into a tank initially filled with eight quarts of water. A fountain pump recycled the water to the riser. This six inch square section of turf was irrigated for five minutes per day over a seven day period. Residual water measurements were taken and compared daily.</p> <p>Results The system was successful in harvesting and recycling irrigated water. Over the testing period, an average daily residual water yield of 99.8958% was achieved. Measurements obtained over a one-week period revealed a total savings of 301.2003 quarts of harvested water. It was determined that the amount of harvested water available for recycling would be significantly greater if the system were to be installed under an entire lawn.</p> <p>Conclusions/Discussion With a critical shortage of fresh water resources in the Western United States, active conservation measures are being implemented. The Water Lover system would benefit the environment by conserving and preserving scarce fresh water supplies, and reducing runoff in environmentally sensitive areas.</p>	
Summary Statement The Water Lover system was created to harvest and recycle landscape irrigation and rainwater.	
Help Received No help.	