The *E.coli* Reduction on the San Francisco River Through Alternative Livestock Water on Kaler Ranch Project, Phase II

This project was funded by a grant from the United States Environmental Protection Agency and the Arizona Department of Environmental Quality.
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**Project Background**

The Kaler Ranch has been the location of numerous grant projects implemented by the Gila Watershed Partnership to address the health of the San Francisco River and riparian area.
We completed two ADEQ Water Quality Improvement Grant projects and an Arizona Water Protection Fund grant project that addressed the erosion and sediment deposition caused by huge culverts. These projects have noticeably improved the water quality of the San Francisco River.
The partnership is currently implementing an ADEQ Targeted Watershed grant to determine the source of an *E. coli* exceedence that is listed in EPA's 303(d) list of impaired waters.

Addressing the *E. coli* in the San Francisco River

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Even though the source of the impairment is not yet determined, the presence of the Kaler livestock in the riparian area lead us to believe that the livestock must be a contributing factor.
The erosion and excess sedimentation caused by the livestock affects the fish and vegetation, as sediment particles in the water clogs the gills of fish, and decreases the amount of sunlight available to aquatic plants.
The Kalers have water rights that enable them to water their livestock year-round in the riparian area of the San Francisco River. And, unfortunately, no alternative water is available.
Through an agreement crafted by the partnership, the Kalers will exclude their cattle permanently from grazing in the riparian area when they have enough watering capacity outside of the riparian area.
These wells will also allow the Kaler Ranch to distribute their livestock more evenly within their ranch, which includes their private land, BLM, State of Arizona, and private grazing leases.
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**Benefits to the Landowner**

The Kaler Ranch will be able to hold more livestock, which will make their ranch more profitable, but they will be grazed more responsibly and sustainably.
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The Gila Watershed Partnership, in cooperation with the BLM, and the NRCS, determined that the Kaler ranch would need four solar-powered wells, tanks and troughs. This picture shows the road construction needed for the well locations.
Funding from the ADA was matched by ADEQ for the first well. The second well was implemented with a second grant from the ADA. This well, funded by ADEQ, completes well number three.
We have a grant from AWPF for the fourth and final well, which will begin soon. This will result in the exclusion of all Kaler livestock, and a meaningful reduction in the *E. coli* in the San Francisco River.
The Gila Watershed Partnership believes that this series of wells will complete the restoration of this section of the San Francisco River and riparian area, and will be sustainable for many decades to come.
This project was funded by a grant from the United States Environmental Protection Agency and the Arizona Department of Environmental Quality.

Their support made this project possible and continues to help us with the many important environmental issues in the Upper Gila Watershed.