To: Brush, Jason[Brush.Jason@epa.gov]
From: Julia Fonseca
Sent: Fri 6/2/2017 9:57:21 PM
Subject: New isotope information just sent to Forest Service on Las Cienegas water source
McIntosh letter to USFS on new results.pdf

Hi, Jason, I want you to be aware of this new information about the source waters to wetlands in Las Cienegas NCA.

- The cienegas and shallow groundwater in the Las Cienegas National Conservation Area are dependent on basin groundwater. The SO_4^{2-} to Cl^- ratios of water in the cienegas and underlying shallow groundwater in alluvial aquifers are similar to basin groundwater throughout the year. Unlike in the San Pedro Basin, there was no evidence of monsoon floodwater recharge into the shallow alluvial aquifers during the study period.

The researcher's conclusion is notable:

- The combination of relatively old groundwater and limited modern recharge indicates that groundwater resources across the basin are vulnerable to over-extraction from unregulated groundwater use with resulting depletion of connected surface water resources.

I also sent a copy to Elizabeth and Rob, along with a copy of our new information.

Julia Fonseca, Environmental Planning Manager
Pima County Office of Sustainability and Conservation
201 N. Stone Avenue, 6th floor
Tucson, AZ 85701