San Joaquin River Restoration Program – MAP Study #22 Update for 2013

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Task #22: USGS San Joaquin Major Tributary Sediment Transport and Geomorphology Study

In 2013, the USGS performed several tasks for the Major Tributary study, including: collecting topographic data and roughness estimates to construct 1D models of the tributaries, further improving the existing 2D hydraulic models for select sub-reaches to model sediment transport, investigating the Big Dry Creek diversion effects on Little Dry Creek, installing ISCOs and pressure transducers on both creeks during the rainy season, and beginning a USGS Open-file Report. For the 1D models, the USGS used RTK-GPS to collect additional topographic data and Wolman count and photogrammetric grain size estimates from Little Dry and Cottonwood Creeks for the lowest ~500 m of Cottonwood Creek and the lowest ~3,000 m of Little Dry Creek. The 1D HEC-RAS models are being developed and, lacking any subsequent high flows, the models are being calibrated to water surface elevations collected during summer 2011 that correspond to the March 2011 storm event (approximately 1,000 cfs at Cottonwood Creek, and 3,200 cfs at Little Dry Creek). During the rainy season, three ISCO pump samplers were installed on Little Dry Creek, one ISCO was installed on Cottonwood Creek, and twelve pressure transducers were deployed, however, only small flows occurred during 2013. As such, very little useful sediment data was collected in 2013. The results of the last two seasons are being compiled into a USGS Open-file Report.