Noah Snyder, Ph.D

Biography

Noah Snyder has been a CALFED Science Fellow since 2002. He works at the U.S. Geological Survey on a project titled "Using stratigraphic and hydrologic data from the Yuba River system to develop reliable sediment transport predictions," with mentor Dr. David Rubin. This work is an extension of the Upper Yuba River Studies Program (UYRSP), which is a study of the feasibility of restoring anadromous fish habitat in the Yuba River upstream of Englebright Dam. The UYRSP is part of the CALFED Ecosystem Restoration Program. Dr. Snyder is a fluvial geomorphologist, and his research is primarily concerned with quantifying rates and processes of erosion and sediment transport by rivers. He received his Ph.D in geology from the Massachusetts Institute of Technology in 2001, and began as postdoctoral researcher with USGS Pacific Science Center in Santa Cruz later that year. His dissertation research was on the erosional response of streams to tectonic processes in coastal northern California. Prior to MIT, Dr. Snyder worked for the Utah Geological Survey. He received his B.S. in geology from Bates College in Lewiston, Maine in 1993. He begins a new position as an assistant professor in the Department of Geology and Geophysics at Boston College during the summer of 2004.

Project title: Using stratigraphic and hydrologic data from the Yuba River system to develop reliable sediment transport predictions

The first year of my CALFED Science Fellows Program postdoctoral project was dominated by laboratory sample processing and data analysis. I worked with sediment from more than 300 m of cores and other samples collected from Englebright Lake during 2002 as part of the CALFED-funded Upper Yuba River Studies Program (UYRSP). Analysis techniques of the 561 subsamples included: grain size distribution, loss on ignition (organic content), and ^{137}Cs and ^{210}Pb geochronology. I used some of the resulting data to calculate that the reservoir is 25.5% full with 2.6×10^{7} metric tons of sediment, of which about 2/3 is sand and gravel. I produced a USGS report (in the form of a poster) visualizing the reservoir stratigraphy from the grain-size analyses of the cored sediments. I also helped with production of a USGS report on the volume of sediment deposited in the reservoir. I presented a poster with preliminary findings from the coring project at the CALFED Science Conference in Sacramento in January 2003. In October 2003, I gave presentations on sediment storage in Englebright Lake at the UYRSP Technical Review Panel meeting in Nevada City, and in a session on management of western U.S. forest lands at the annual meeting of the Geological Society of America in Seattle.

The second year of the project has been dominated by preparation of two more data reports and a manuscript titled "Estimating rates and properties of sediment accumulation behind a dam: Englebright Lake, Yuba River, northern California." I have also begun work on another manuscript on the flood record preserved in Englebright Lake.