Dam-controlled river deltas as meso-scale analogues for offshore sedimentary systems

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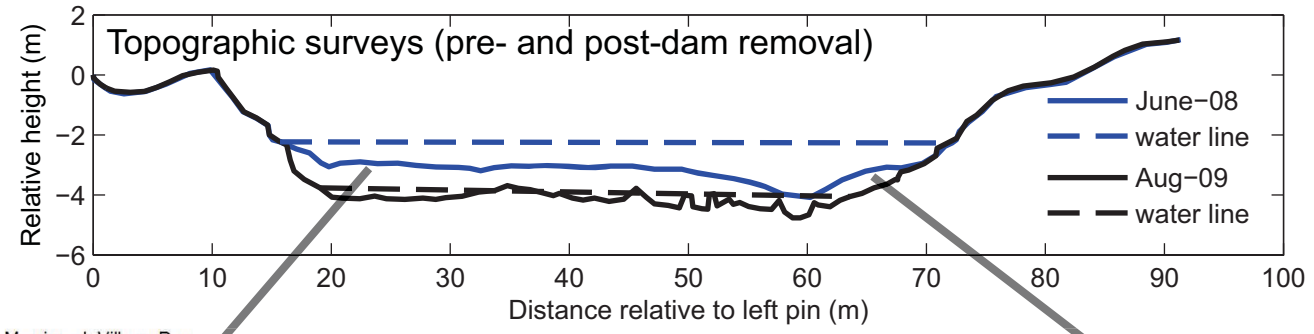
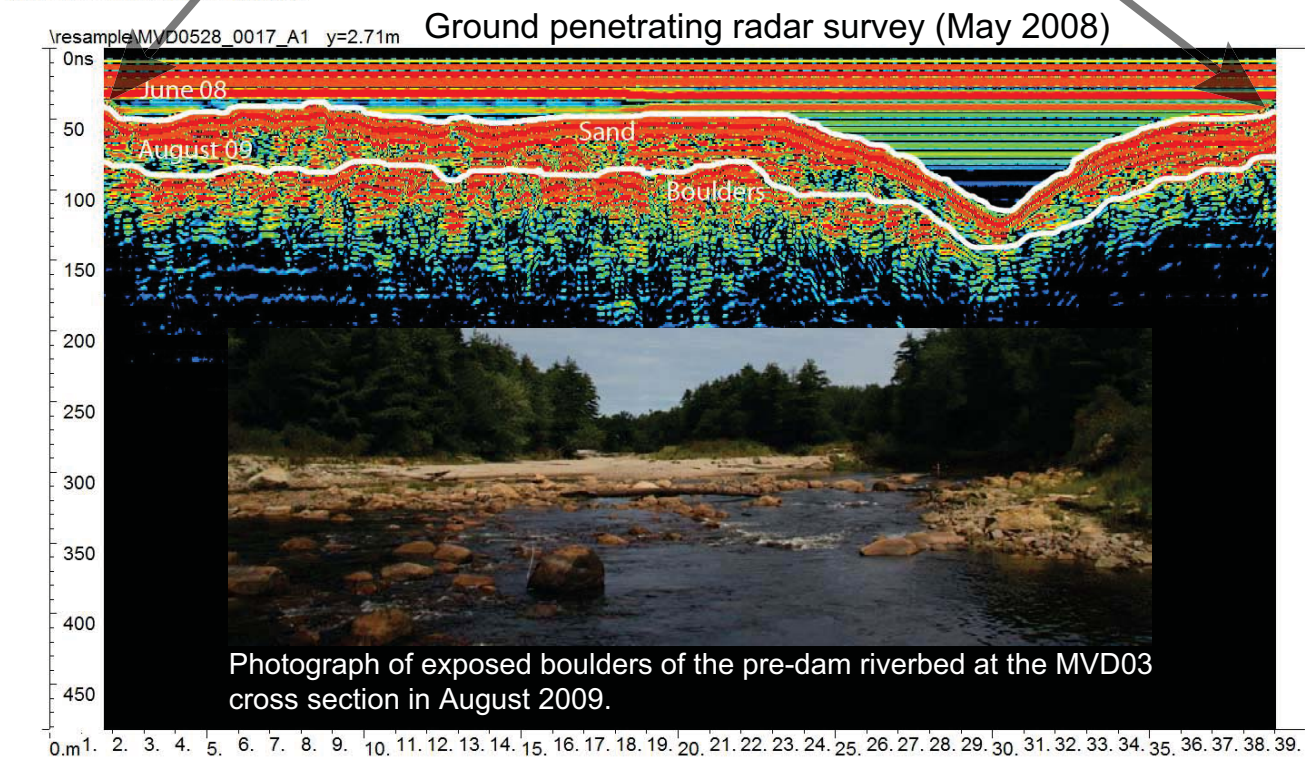
We use the August 2008 removal of the Merrimack Village Dam on the Souhegan River, NH to study river responses to transgression and regression.

Figures (right) show topographic surveys and a ground penetrating radar profile of cross section MVD03 in the Merrimack Village Dam impoundment. White lines on the GPR image show surfaces interpreted to be the water-sediment interface in the impoundment (comparable to the June 2008 survey, above) and the pre-dam riverbed boulders (comparable to the August 2009 survey). The transgressive sand sedimentary package in between was deposited in the impoundment, and is now exposed by the rapid incision following dam removal (regression).





Photograph of exposed boulders of the pre-dam riverbed at the MVD03 cross section in August 2009.