

**Assessing Channel Erosion in Arcade Creek
Sacramento County, California
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Executive Summary

Accelerated stream channel erosion is a major natural resource issue in the United States and around the world. Next to agriculture, urban landscape conversion is responsible for more miles of sediment impaired streams than any other landuse. Sediment impairment negatively affects the stream biota and also can lead to increased flooding and water treatment costs. Urbanization changes the hydrologic regime and the balance in sediment supply, transport, and deposition. Streams generally respond to these changes by progressing through a stepwise process of downcutting, widening, bank sloughing, and ultimate detachment from the existing floodplain. Because larger flows cannot reach the floodplain, the higher energy is confined to within the channel and leads to further channel erosion.

Identifying these erosive areas is often a challenging task and usually results in many hours of office preparation and field work. Remote sensing technology offers a way to make a “first tier” cut at identifying erosive areas and prioritizing areas for further ground truthing, thus saving considerable time and effort and making resources available for covering more area in a given period of time. This project evaluated the use of high resolution digital orthoimagery within a reach of Arcade Creek, Sacramento County to identify areas where accelerated erosion is occurring.