

Curriculum Vitae

Paul Bigelow

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Paul Bigelow is a process-based geomorphologist with over 22 years of professional experience in geology and geomorphology. His work has focused on watershed analyses, the dynamic interaction of hillslope and fluvial processes in the creation aquatic habitat, the dynamics of sediment and wood in mountain streams within the context of land management, and the development of GIS terrain mapping technology. Paul began Bigelow Watershed Geomorphology in 2006 and continues to work on the dynamics of wood and sediment at reach to watershed scales with a recent emphasis on areas with both rural and urban influences, often involving GIS terrain analysis, and in collaboration with other institutes and consultants.

Education

M.S. 2003 Geology (Geomorphology), Humboldt State University
B.A. 1987 Geology, UC Santa Barbara

Employment

2006-present Geomorphologist, Bigelow Watershed Geomorphology, San Lorenzo, CA
2001-2006 Geomorphologist, Earth Systems Institute, Mt Shasta, CA
1990-2001 Geomorphologist/Geologist, Tetra Tech, San Francisco/Arcata, CA
1988-1989 Geological Tech, Chevron Overseas Petroleum Inc., San Ramon, CA

Selected Publications and Reports

Bigelow P. and L. Benda. 2013. On the Patterns and Processes of Wood in Northern California Streams. *Geomorphology*. Funded by the California Board of Forestry. [pdf](#)

Bigelow P., S. Pearce, L. McKee. 2012. Evaluation of Sediment Sources to Don Castro Reservoir: on the magnitude, spatial distribution, and potential reduction of sediment supply in the upper San Lorenzo Creek watershed, Alameda County, California. Prepared for the Alameda County Flood Control District.

Bigelow P., L. Benda, S. Pearce, K. Andras, J. Beagle, J. Kass, and L. McKee. 2012. Relative erosion estimates for Arroyo Mocho Watershed using GIS-based terrain mapping, Alameda County, California. Prepared for the Zone 7 Water Agency, Livermore, CA.

Beagle J., P. **Bigelow**, S. Pearce, L. McKee. 2012. Sediment Source Reconnaissance of Stonybrook and Sinbad Creek Watersheds A rapid evaluation of two small tributaries near the Alameda Creek Flood Control Channel, Alameda County, California. Prepared for the Alameda County Flood Control District.

- Bigelow P.** 2012. Terrain Mapping of Potential Sediment Sources within the Stonybrook and Sinbad Watersheds, Alameda County, California. Prepared for SFEI and the Alameda County Flood Control District.
- S. Pearce, **Bigelow P.**, and L. McKee. 2009. Sediment source reconnaissance for Dry Creek watershed. Prepared for the Alameda County Flood Control District. [pdf](#)
- Bigelow P.**, S. Pearce, L. McKee, and A. Gilbreath. 2008. A sediment budget for two reaches of Alameda Creek. Prepared for the Alameda County Flood Control District. [pdf](#)
- Bigelow P.**, L. Benda, D. Miller, and K. Burnett. 2007. On debris flows, river networks, and the spatial structure of channel morphology. *Forest Science* 53(2): 220-238 (special issue on headwater streams). [pdf](#)
- Benda L., D. Miller, K. Andras, P. **Bigelow**, G. Reeves, and D. Michael. 2007. NetMap: A new tool in support of watershed analysis and resource management. *Forest Science* 53(2): 206-219 [pdf](#)
- Bigelow P.** 2005. Testing and improving predictions of scour and fill depths in a northern California coastal stream. *River Research and Applications* 21: 909-923. [pdf](#)
- Benda L. and P. **Bigelow**. 2005. Wood recruitment to streams in the Sierra Nevada Mountains, Northern and Central California. Prepared for Sierra Pacific Industries. [pdf](#)
- Bigelow P.**, L. Benda, D. Miller, and K. Andras. 2005. Systematically comparing watershed environments across regions for prioritizing restoration and conservation. New currents in conserving freshwater systems, spring symposium. American Museum of Natural History -Center for Biodiversity and Conservation, NYC.
- Benda L. and P. **Bigelow** . 2005. South Fork Wages Creek sediment budget, Mendocino County, California. Prepared for Campbell Timberland Management.
- Andras K., L. Benda, and **Bigelow P.** 2005. Long-term erosion rates from cosmogenics in Ten Mile Creek, Mendocino County, California. Prepared for Campbell Timberland Management.
- Benda L. and P. **Bigelow** . 2004. Little North Fork Noyo River wood budget, Mendocino County, California. Prepared for Campbell Timberland Management. [pdf](#)
- Benda L., K. Andras, D. Miller, and P. **Bigelow**. 2004. Confluence effects in rivers: interactions of basin scale, network geometry, and disturbance regimes. *Water Resources Research* 40(5): 1-15 [pdf](#)
- Benda L. and P. **Bigelow**. 2004. Wood recruitment to streams, Mendocino Coast (Summary). Prepared for Campbell Timberland Management. [pdf](#)

- Benda L. and P. **Bigelow**. 2003. Sediment budget for a small forested watershed in the Southern Cascade Range, Northern California. Prepared for Sierra Pacific Industries. [pdf](#)
- Benda L. and P. **Bigelow**. 2003. Wood recruitment to streams: Cascades and Klamath Mountains, Northern California. Prepared for Sierra Pacific Industries. [pdf](#)
- Bigelow** P., L. Benda, D. Miller, and K. Andras. 2003. Effects of alluvial and debris flow fans on channel morphology in Idaho, Washington, and Oregon. AGU Fall Meeting Eos Trans. 84(46) H31C-0477. [abstract](#)
- Bigelow** P. 2003. Scour, fill, and salmon spawning in a Northern California coastal stream. MS Thesis. Humboldt State University. [pdf \(big file\)](#)
- Benda L., D. Miller, P. **Bigelow**, and K. Andras. 2003. Effects of post-fire erosion on channel environments. *Journal of Forest Ecology and Management* 178: 105-119. [pdf](#)
- Benda L., P. **Bigelow**, and T. Worsley. 2002. Recruitment of wood to streams in old-growth and second-growth redwood forests, northern California, USA. *Canadian Journal of Forest Research* 32:1460-1477. [pdf](#)
- Benda, L. and P. **Bigelow**. 2002. Bear Haven and Redwood Creek wood and sediment budgets, Mendocino County, California. Prepared for Campbell Timberland Management.
- Benda L. and P. **Bigelow**. 2002. Van Duzen watershed analysis – stream channel assessment section. Prepared by Tetra Tech for the Pacific Lumber Company.
- Bigelow** P. and J. Gerstien. 2001. Bolinas Lagoon watershed study input sediment budget (sediment budget sections 3 – 5 only). Prepared by Tetra Tech for the US Army Corps of Engineers. [pdf](#)