

# CAL POLY HUMBOLDT

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WEB

## ANDREW P. STUBBLEFIELD

*Professor of Hydrology and Watershed Management*

### EDUCATION

- University of California, Davis. Ph.D. in Watershed Hydrology received August 2002. Hydrological Sciences Graduate Group. Dissertation Title: "Spatial and Temporal Dynamics of Watershed Sediment Delivery, Lake Tahoe, California"
- University of Michigan, Ann Arbor, Michigan. M.S. in Terrestrial Ecosystem Science received May 1994. School of Natural Resources and Environment.
- Oberlin College, Ohio. B.A. in Biology received May 1990.

### POSITIONS HELD

- Professor, Department of Forestry and Wildland Resources, California Polytechnic University Humboldt. 2017-present. Associate Professor, 2012-2017. Assistant Professor, 2006-2012.
- Research Associate. Sabbatical at the Centro Hispano Luso para Investigaciones Agrarias (CIALE) University of Salamanca, Salamanca, Spain. Training in Matlab and use of satellite-derived soil moisture data. 2019-2020.
- Research Associate. Sabbatical with Watershed Management Section of Catholic Relief Services, Nicaragua. Conducted studies of the water quality impacts of coffee depulping mills and the water quality of groundwater resources in Nicaragua. 2012-2013.
- Research Associate. Case Western Reserve University. Department of Geological Sciences. Cleveland, Ohio. Research on the use of fallout radionuclides as tracers of soil erosion and deposition. 2003 to 2006.
- Postdoctoral Researcher. University of California, Davis. Department of Geology. Research on interactions of fluvial geomorphology, sediment and nutrient fluxes and groundwater on the Truckee Marsh, South Lake Tahoe, California. 2002-2003.

## **PUBLICATIONS IN SEDIMENT TRANSPORT & WATERSHED MANAGEMENT**

- Stubblefield, A. P., & Reddy, K. 2022. Measurement and prediction of water consumption by Douglas-fir, Northern California, USA. *Ecohydrology*, 15(2), e2388. <https://doi.org/10.1002/eco.2388>
- A.P. Stubblefield, S. Beach, C. Faubion, N. Harrison, A. Niepoth. 2021. Railroad Gulch Best Management Practices Evaluation Elk River Watershed Final Report. Technical Report Prepared for the California Department of Forestry and Fire Protection. 157 pp.
- Medel, I.D. A.P. Stubblefield and C. Shea. 2020. Sedimentation and erosion patterns within anabranching channels in a lowland river restoration project, *International Journal of River Basin Management*, DOI: 10.1080/15715124.2020.1809435.
- Grantham, T, A. Laird, L. Quinn-Davidson, D. Sarna-Wojcicki, J. Stackhouse, A.Stubblefield, A. Torregrosa, Y. Valachovic. 2018. Hydrology component of North Coast Region Report - for California's 4th Climate Assessment: (Bedsworth, Louise, et al. "California's Fourth Climate Change Assessment." Statewide Summary Report: SUMCCCA4-2018-013.
- Queener, N., & Stubblefield, A. P. 2016. Spatial and Temporal Variability in Baseflow in the Mattole River Headwaters, California, USA. *Hydrology and Earth System Sciences Discussions*, 1-39.
- Flannery, J., A.P. Stubblefield, Fiore, R., and C. Shea. 2016. Observations of channel change from constructed wood jams on a forested gravelbed stream. *Transactions of the American Fisheries Society*. 146(1): 181-193.
- Harrison, N.M., A.P. Stubblefield, J.M. Varner and E.E. Knapp. 2016. Finding balance between fire hazard reduction and erosion control in the Lake Tahoe Basin, California-Nevada. *Forest Ecology and Management* 360: 40-51.
- Stubblefield, A.P., Beach, S., Harrison, N., and M. Haskins\*. Watershed-Scale Evaluation of Humboldt Redwood Company's HCP Timber Harvest Best Management Practices, Railroad Gulch, Elk River, California. United States Forest Service General Technical Report: Proceedings of the Coast Redwood Forest Symposium, Eureka, CA. September 13-15, 2016. General Technical Report PSW-GTR-258
- Bond, R.M., A.P. Stubblefield, and R.W. Van Kirk. 2015. Sensitivity of summer stream temperatures to climate variability and riparian restoration strategies. *Journal of Hydrology: Regional Studies* 4: 267-279.
- Madrone, S., and A.P. Stubblefield. 2012. Fine sediment sources in coastal watersheds with uplifted marine terraces in Northwest Humboldt County, California. United States

Forest Service General Technical Report: Coast Redwoods in a Changing California, a Symposium for Scientists and Managers. PSW-GTR-238

- O'Dowd, A. and A.P. Stubblefield. 2013. Stream Condition Assessment of the Lake Tahoe Basin in 2009 and 2010 using the River Invertebrate Prediction and Classification System (RIVPACS). Technical Report to the Tahoe Regional Planning Agency. 51 pp.
- Stubblefield, A.P., P. Hicks, M. Sheridan, and A. Kline. 2013. Beyond the quality of the water in your cup: coffee and water resources at origin. *Specialty Coffee Chronicle*. Specialty Coffee Association of America. 2013 issue no. 3.
- Royer, C.F., and A.P. Stubblefield. 2009. Klamath River Basin Water Quality Monitoring Plan. Report assembled for the Klamath Basin Monitoring Program, a multi-state stakeholder group consisting of over 40 agencies, tribal nations and non-profit organizations.
- Huggett, B.W., A.P. Stubblefield, A.S. Dhakal, and K. Sullivan. 2009. Distributed Hydrology Soil Vegetation Model (DHSVM) and Sediment Discharge Validation in a small, Pacific Northwestern Watershed. *EOS Trans. AGU* 90 (52), Fall Meet, Suppl., Abstract H11E-0849.
- Parker, T., and A.P. Stubblefield. Fluorometry as a bacterial source tracking tool in coastal watersheds, Trinidad, CA. *United States Forest Service General Technical Report: Coast Redwoods in a Changing California, a Symposium for Scientists and Managers*. PSW-GTR-238
- Maurin, L.P., and A.P. Stubblefield. 2011. First-Year Erosion Responses Following Stream Channel Crossing Fill Removal, Northern California, USA. *Ecological Restoration*. 29 (4) 382-391.
- Stubblefield, A.P., J.E. Reuter, and C.R. Goldman. 2009. Sediment budget for subalpine watersheds, Lake Tahoe California, USA. *Catena* 76: 163-172.
- Stubblefield, A.P., J.E. Reuter, R.A. Dahlgren, and C.R. Goldman. Suspended sediment flux and the use of turbidometry in the Lake Tahoe basin. *Hydrological Processes*. 21:281-291. 2007.
- Stubblefield, A.P., M.I. Escobar, E.W. Larsen. Retention of suspended sediment and phosphorus on a freshwater delta, South Lake Tahoe, California. *Wetlands Ecology and Management*. 14:287-302. 2006.
- Stubblefield, A.P., S. Chandra, S. Eagan, T. Dampil, G. Davaadorzh, D. Gilroy, J. Sampson, B. Allen, J. Thorne, Z. Hogan. Impacts of goldmining and land use alterations on the water quality of central Mongolian rivers. 2005. *Integrated Environmental Assessment and Management*. 1(4): 365-373.
- Stubblefield, A.P., P.J. Whiting, G. Matisoff, C. Fondran, and M.E. Ketterer. Radionuclide and rare earth element tracers of erosional processes on the plot scale. *Proceedings of the*

*8<sup>th</sup> Federal Interagency Sedimentation Conference*. Reno, Nevada. April 3-6, 2006.

- Stubblefield, A.P., J.E. Reuter, E.W. Larsen, M.I. Escobar C.R. Goldman. Turbidity measurements for determination of sediment source and retention in river and marsh environments. *Proceedings of the 8<sup>th</sup> Federal Interagency Sedimentation Conference*. Reno, Nevada. April 3-6, 2006.
- Stubblefield, A.P. Sediment Loading and Stream Channel Condition in Ward and Blackwood Creeks. Development of TMDL Work Products. Report to the California Regional Water Quality Control Board. October 2002.
- Reuter, J.E., A.P. Stubblefield, T.J. Swift. Sediment Sources in the Tahoe Basin, chapter in Lake Tahoe Watershed Assessment. United States Forest Service Report. Presidential Deliverable. January 2000.

## **GRANTS RECEIVED IN SEDIMENT TRANSPORT & WATERSHED MANAGEMENT**

- California Department of Forestry and Fire Protection. Railroad Gulch Best Management Practices Evaluation Project- Cooperative Instream Monitoring Project. 2015-2019. \$126,885.
- Humboldt Redwoods Company, LLC. Monitoring In-Stream Effectiveness and Implementation of a Timber Harvest Plan in Railroad Gulch, Elk River, California. 2014-2017. \$60,000.
- McIntire Stennis Program. Cooperative State Research, Education and Extension Service. United States Department of Agriculture. Sole PI. Water for Streams: Investigating the Potential for Forest Thinning to Augment Summer Flows in Northern California Watersheds. 2014-2017. \$100,000.
- LW Schatz Demonstration Tree Farm. Sole PI. Water for Streams: Investigating the Potential for Forest Thinning to Augment Summer Flows in Northern California Watersheds. 2014-2017. \$88,352.
- McIntire Stennis Program. Cooperative State Research, Education and Extension Service. United States Department of Agriculture. Sole PI. Optimizing forest management for stream thermal protection under climate change: insights into radiative and hydrologic processes. 2011-2012. \$56,714.
- Tahoe Environmental Improvement Program. United States Forest Service. Co-PI with A. O'Dowd, C. Praul. Indices of Biotic Integrity. 2011-2012. \$112,000.
- California Regional Water Quality Control Board Water Board. Sole PI. Development of a Water Quality Monitoring Database for the Klamath River Basin. 2010-2012. \$27,666.

- Tahoe Environmental Improvement Program. USFS. Co-PI with J. Varner, E. Knapp. Developing burning prescriptions for balancing fuel reduction, soil exposure, and potential for erosion in the Tahoe Basin. 2008-2011. \$262,000.
- McIntire Stennis Program. Cooperative State Research, Education and Extension Service. United States Department of Agriculture. Sole PI. Evaluation of impacts of timber harvest Best Management Practices on fine sediment loading and salmonid habitat use, Freshwater Creek, California. 2007-2010. \$54,000.
- EPA Region 9/North Coast Regional Water Quality Control Board. Co-PI with S. Steinberg. Developing a coordinated monitoring plan for water quality of the Klamath Basin. 2007-2010. \$275,000.
- Green Diamond Resource Company. Sole PI. Instrumentation of Experimental Watersheds: Little River, Ryan Creek, AhPah Creek, Winchuk Creek, California. 2006-2013. \$86,000.
- Institute for Sustainable Forestry. Sole PI. Sapflow Measurements of Forest Water Use in the Mattole River. 2007-2008. \$9,500.
- Humboldt Redwoods Company. Sole PI. Erosion assessment of McReady Gulch. 2007. \$9,600.
- California Tahoe Conservancy. Co-PI with E. Larsen. Sediment and Nutrient Deposition in Relation to Hydrologic Regime, Truckee Marsh, South Lake Tahoe, California. 2002-2003. \$55,000.
- California Water Resources Control Board. Co-PI with J. Reuter. Sediment Sources in Ward and Blackwood Creeks, Development of TMDL Work Products. 2001. \$64,000.

## **GRADUATE PROGRAM**

- Major Advisor for 16 students receiving M.S. degree in Natural Resources Forest, Watershed and Wildland Science, with four students in progress.

## **PROFESSIONAL MEMBERSHIPS**

- Memberships include: American Water Resources Association, Member and Faculty Advisor to Student Chapter; American Geophysical Union, and Xi Sigma Phi National Forestry Honor Society, Member and Faculty Advisor to Student Chapter.

## **SCIENTIFIC REVIEWING**

- Have performed peer-reviews for 20+ scientific journals in watershed management-related fields. Associate Reviewer, *Water*.

## **PROFESSIONAL REFERENCES**

- David Greene, Chair of the Department of Forestry and Wildland Resources, California Polytechnic University Humboldt, Arcata, CA. Email: dfg67@humboldt.edu. Phone: 707-826-5244.
- Ivan Medel, Associate Ecologist, Integral Ecology Research Center. Blue Lake, CA. Email: imedel@ierceecology.org. Phone: 707-668-4030.
- Conor Shea, Ph.D., P.E. Civil Engineer - Hydraulics and Geomorphology Habitat Restoration Program Arcata Fish and Wildlife Office, USFWS. Email: Conor\_Shea@fws.gov. Phone: 707-499-6479.