
Geoffrey M. Hales, M.S., P.G.

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BACKGROUND

I am a professional geologist licensed in California and Oregon specializing in fluvial and hillslope geomorphology. My work emphasizes projects that focus on flow and sediment management needs to restore geomorphic processes on regulated rivers, including sediment supply and sediment yield analyses, developing sediment management plans designed to help mitigate physical and biological impacts resulting from streamflow and sediment regulation, and developing and implementing monitoring programs to evaluate sediment mobility, transport, and associated geomorphic changes. My professional technical background also includes engineering geology (hillslope processes, slope stability, fault trenching, drilling, soils sampling and testing) and environmental geology (soil, surface water, and groundwater sampling; contaminant fate and transport analysis).

EDUCATION

- **Master of Science, 1999, Environmental Systems Program, Geology Option, Humboldt State University.** Thesis title: *Bed Scour as a Function of Shields Parameter: Evaluation of a Predictive Model with Implications for River Management.*
- **Bachelor of Arts, 1995, Geology, Humboldt State University.**

LICENSURE

- California Professional Geologist, #7060, May 2000
- Oregon Registered Geologist, #G2075, September 2005

CURRENT PROFESSIONAL WORK

Senior Geologist, McBain Associates Applied River Sciences, Arcata, CA

2001 - present

Field and research assistant, 1995 - 1999

Disciplines: Geology, Fluvial and Hillslope Geomorphology, Hydrology, Hydrogeology, River Ecology.

Experience: Project management, staff management, study plan preparation and sampling design, salmonid habitat restoration design, project implementation including field data collection, analysis, and report preparation.

Lecturer, Cal Poly Humboldt, Arcata, CA

2015 - present

Teaching: Beginning and Advanced Field Methods (Geol 335, 435)

Graduate student advisor and committee member: M. Curran (2017). Application of Agisoft Photoscan and Sediment Transport Modeling for the Analysis of Sediment Wave Propagation Succeeding Gravel Augmentation, Oak Grove Fork of the Clackamas River, Oregon.

PAST PROFESSIONAL WORK

Geologist, Kleinfelder, Inc., Salt Lake City, UT

1999 – 2001

Disciplines: Engineering and Environmental Geology, Hydrogeology, Geomorphology.

Experience: Project management, geotechnical and environmental drilling, soil and sediment sampling, surface water and groundwater sampling, well installation and development, seismic hazards investigations including fault trenching, streamflow and streambed scour analyses, gas transmission pipeline and roadway alignments geohazards investigations, and report preparation.

Geologist, Busch Geotechnical Consultants, Arcata, CA

1995 – 1999

Disciplines: Engineering Geology, Geomorphology

Experience: Slope stability evaluations and monitoring, fault trenching and mapping, geotechnical drilling, timber harvest plan geohazards evaluation, bluff retreat analyses, geotechnical soils testing (direct shear, compaction, infiltration, coarse and fine particle size distribution), and report preparation.

Geologist, U.S. Geological Survey, Water Resources Division, Carson City, NV

1995

Disciplines: Hydrology, Geology

Experience: Streamflow discharge measurements (boat, wading, cableway) and records computation, gaging station installation and service, exploratory drilling to identify and delineate aquifers, groundwater and surface water sampling up to parts per billion protocol.

APPOINTMENTS

Humboldt State University Geology Alumni Advisory Board

Director, 2/20 – present

Appointed by Humboldt State University Geology faculty in February 2020.

North Coast Regional Water Quality Control Board

Board Member, 2007 – 2017

Appointed by Governor Arnold Schwarzenegger February 2007, Reappointed by Governor Edmund G. Brown in 2008, 2012, and 2016. Chairman, September 2009 to January 2012; vice-chairman, January 2008 to September 2009, and January 2012 to January 2014. All appointments confirmed by the California State Senate.

CERTIFICATIONS AND TRAINING

- U.S. Geological Survey Sediment Data-Collection (SW1901W), March 2003
- Wetland Training Institute Advanced Hydric Soils, April 2022
- Utah UST Groundwater and Soil Sampler #GS1289 (expired)
- 40-Hour Hazardous Waste Operations and Emergency Response (HAZWOPR) (expired)
- Whitewater Rescue and Safety, June 2022
- Wilderness First Aid, June 2022
- Adult CPR / AED , June 2022

PROFESSIONAL AFFILIATIONS

Association of Environmental and Engineering Geologists
National Association of Geoscience Teachers

SELECTED PUBLICATIONS AND REPORTS

- Hales, G., A. Hilton, S. McBain, and S. Howlin. 2020. Statistical evaluation of Trinity River point bar bed mobility and bed scour during annual spring ROD releases for WY 2009 - 2013. Report for the Trinity River Restoration Program (TRRP). McBain Associates, Arcata, California.
- Hales, G. and M. Curran. 2019. Application and Case Study of Sediment Augmentation on the Clackamas River, Oregon. In Proceedings of SEDHYD 2019: Conference on Sedimentation and Hydraulic Modeling, 24-28 June 2019 in Reno, Nevada, USA.
- Hales, G., T. Shibahara, B. Snyder. 2018. Habitat Enhancement Opportunities in Upstream Reservoir Transitional Reaches. Proceedings of the 17th Annual River Restoration Northwest Conference, p.79.
- Curran, M.C., G. Hales, M.J. Michalak. 2017. Ground Based Application of Structure from Motion (SfM) to Quantify Gravel Storage in Response to Gravel Augmentation on a High Gradient, Mountainous Stream, with no Access to the Global Positioning System (GPS), 35th Annual Salmonid Restoration Conference Proceedings, p.81.
- Hales, G., T. Šindlarová, and S. McBain. 2015. Trinity River active bar mapping, Lewiston Dam to the North Fork Trinity River confluence, summer 2014. Prepared for Hoopa Valley Tribal Fisheries, Hoopa, CA. 48 p.
- Alvarez, J., J. Bair, D.H. Goodman, G. Hales, A. Hilton, S. McBain, A. Martin, and J. Polos. 2015. Integrated Habitat Assessment Project for the Upper Trinity River, 2009. U.S. Fish and Wildlife Service. Arcata Fish and Wildlife Office, Arcata Fisheries Technical Report Number TR- 2015-28, Arcata, CA. 491 p.
- McBain Associates and Moffatt & Nichol (G. Hales lead preparer). 2014. Salt River Ecosystem Restoration Project strategies for streamflow and sediment management on Williams Creek, Ferndale, CA. Prepared for the U.S. Army Corps of Engineers, San Francisco District, Water Resources Division. 54 p.
- Hales, G. 2012. Review of existing turbidity conditions and estimated potential turbidity influence from planned gravel augmentation, Clackamas River below River Mill Dam. Portland General Electric Company, Portland, OR. 20 p.
- Hales, G. and S. McBain. 2008. Upper Tuolumne River Ecosystem Studies sediment source and sediment transport capacity evaluation: O'Shaughnessy Dam to Poopenaut Valley, San Francisco Public Utilities Commission, San Francisco, CA, 29 p.
- Hales, G., C. Pryor, S. McBain. 2006. Duration of High Flow Releases from Dams: Insights from Recent Bedload Transport Measurements. *Eos Trans. AGU*, 87(52), Fall Meet. Suppl., Abstract H41C-0429
- McBain, S., W. Trush, G. Hales, P. Wampler, G. Grant. 2001, Geomorphic Setting Summary Report for the Mainstem Clackamas River and Oak Grove Fork of the Clackamas River, Portland General Electric Company. 57 p.
- Hales, G. M. 1999. Bed Scour as a Function of Shields Parameter: Evaluation of a Predictive Model with Implications for River Management. Humboldt State University, Arcata, CA, MS thesis, 136 p.

SELECTED SPEAKING AND TEACHING ENGAGEMENTS

May 2022. Invited speaker, with Tim Shibahara (Portland General Electric). Economic Investments and Biological Response in the Clackamas River Watershed. Journey Down the Clackamas Conference.

[FIS15: ECONOMIC INVESTMENTS & BIOLOGICAL RESPONSE IN THE CLACKAMAS RIVER WATERSHED](#)

March 2022. Invited speaker, with Brian Bair (USFS). Applied Restoration on the Clackamas River, Oregon.

Journey Down the Clackamas Conference. [FIS11 ADVANCED STREAM RESTORATION AND PROTECTION PRACTICES – NATURAL RIVER DESIGN APPROACH](#)

September 2017. Invited speaker, Humboldt State University Geology Colloquium, Arcata, CA. “Revisiting Clackamas River Coarse Sediment Augmentation Following Program Implementation”.

May 2014. Panel speaker, Humboldt State University OLLI course: Climate Change: Water and Forests in the North Coast Region.

March 2014: Invited speaker. Humboldt State University Geology Colloquium, Arcata, CA. “Scaling the Geomorphology and Sediment Load in Rivers to Match Their Anthropogenically-Altered Sediment Regime: A Case Study on the Clackamas River, Oregon”

February 2012: Invited speaker. Clear Creek Environmental Water Program Core Effectiveness Monitoring Workshop, Anderson, CA. “Trinity River Geomorphic Monitoring”.

April 2009: Instructor. Geomorphic monitoring methods workshop for the San Francisco Public Utilities Commission, Biological Resources Division, San Francisco, CA.

March 2009: Instructor, Humboldt State University OLLI program. Course title: Humboldt Bay Watersheds: From Slope to Stream and to the Bay.

July 2004: Invited speaker. Humboldt Friends of Geology, Eureka, CA. “Estimating Basin-Scale Sediment Yield: A Case Study Highlighting Methods, Limitations, and Uncertainties”.

July 2002, 2000, 1999: Invited speaker / instructor. River Channels short course, Teton Science School, Kelly, WY; with Dr. Luna Leopold, Dr. William Trush, and Scott McBain.

OTHER SERVICE AND COMMUNITY OUTREACH

- Board Member, Sequoia FC Soccer Club (2019 – present; president 2021 - present).
- Board Member, AC Samoa Soccer Club (2016 – 2019).
- Member, Humboldt County McKay Forest Advisory Group (2014 – present).
- Volunteer, Freshwater Elementary School (2008 – 2018): classroom science lectures and field trips.
- Co-founder and co-director, Humboldt Friends of Geology (2002 – 2007).
- Research mentor for Cal Poly Humboldt undergraduate and graduate students.

RECOGNITION

- 2017 North Coast Regional Water Quality Control Board, Resolution R1-2017-0060 expressing recognition of service.
- 1995 USGS / NAGT Cooperative Field Training Program for summer field camp excellence. http://nagt.org/nagt/programs/usgs_field.html
- 1994 Humboldt State University Man of the Year nominee for outstanding contribution to a campus club or organization.

REFERENCES

Mr. Scott McBain, CEO, McBain Associates Applied River Sciences
980 7th Street
Arcata, CA 95521
(707) 826-7794 Scott@mcbainassociates.com

Mr. Garth Wyatt, Hydro Operations Manager, Portland General Electric
33831 SE Faraday Rd, Estacada, OR 97023
(503) 630-8231 Garth.Wyatt@pgn.com

Mr. Matthias St. John, Executive Officer, California North Coast Regional Water Quality Control Board
5550 Skylane Blvd, Suite A
Santa Rosa, CA 95403
(707) 576-2610 MStJohn@waterboards.ca.gov

Dr. Mark Hemphill-Haley, Professor Emeritus, Humboldt State University Geology Department
Founders Hall, Room 7
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