

## AEG Student Night Poster Session 2018

### Theme Session: “Applied Environmental Geology: Perspectives in River Restoration”

This theme session involves presentation by a team of 16 Earth Science students enrolled in ES473 Environmental Geology at Western Oregon University, Spring Term 2018. As part of a first-course in Environmental Geology, the class project focuses on techniques in river restoration with case-study examples from Oregon. Watersheds are comprised of channel networks and represent one of the most fundamental landscape systems on the Earth’s surface. They provide ecological services along riparian corridors that form critical habitat, with salmonid fisheries serving as a key indicator of aquatic health in the Pacific Northwest. The historic interplay between human occupation, intensive land management, and fluvial systems has resulted in significant impairment of waterways over the past century. River restoration is the act of improving hydrologic, geomorphic, and ecological processes in a degraded watershed system; and replacing compromised elements therein. This theme session provides an overview of watershed assessment strategies and restoration techniques. Topics include: watershed assessment, salmonid habitat recovery, fluvial geomorphology, floodplain connectivity, spawning gravel maintenance, wood recruitment, fish passage, riparian vegetation, water quality, engineered structures and channel modification techniques.

### Poster Titles and Student Presenters

1. **“Overview of River Restoration Practice in the Pacific Northwest”**, Walter Schoen  
(email: wschoen14@wou.edu Major: B.S. Earth Science, Minor: *GIScience*)
2. **“The Role of Woody Debris and Channel Bed Composition in Salmonid Habitat”**, Cassie Borcher  
(email: cborcher15@wou.edu Major: B.S. Biology, Minor: Environmental Studies)
3. **“Channel Form and Morphology: The Meander Problem”**, Jared Bynum-Lewis  
(email: jmbynumlewis16@wou.edu Major: B.S. Sustainability, Minor: Leadership)
4. **“Channel Incision and Bank Erosion”**, Lance Nielsen  
(email: lnielsen15@wou.edu Major: B.S. Earth Science)
5. **“Streamflow Hydrology and River Restoration”**, Aaron Orr  
(email: aorr13@wou.edu Major: B.S. Earth Science, Minors: Chemistry / Music / *GIScience*)
6. **“Floodplain Connectivity and Side Channel Restoration”**, Maddie Peterson  
(email: mpeterson17@wou.edu Major: B.S. Earth Science)
7. **“Sediment Transport and Gravel Distribution”**, Austin Wegner  
(email: awegner16@wou.edu Major: B.S. Earth Science, Minor: *GIScience*)
8. **“Stream Temperature and Salmonid Habitat Quality”**, Sophie Hall  
(email: shall15@wou.edu Major: B.S. Sustainability, Minor: Earth Science)
9. **“Nutrient Supplementation and Water Quality”**, Nicole Niskanen  
(email: nniskanen16@wou.edu Major: B.S. Earth Science, Minor: Environmental Chemistry)
10. **“Turbidity Effects on Water Quality and Habitat”**, Adam Baron  
(email: abaron16@wou.edu Major: B.S. Chemistry, Minor: Environmental Chemistry)

11. **“Fish Passage and Culvert Modification”**, Tunya Dhevaphalin  
(email: vdhevaphalin14@wou.edu Major: B.S. Earth Science / B.S. Dance; Minor: Geograpy)
12. **“Small Dam Removal and Geomorphic Response”**, Nick Barrera  
(email: nbarrera15@wou.edu Major: B.S Earth Science, Minor: Geography)
13. **“Riparian Vegetation and Habitat Restoration”**, Peggy Smith  
(email: smithp@wou.edu Major: B.A. Interdisciplinary Studies)
14. **“Wood Placement and Habitat Modification”**, Ethan Muncrief  
(email: emuncrief16@wou.edu Major: B.S. Earth Science)
15. **“Sediment Transport and Spawning Gravel Maintenance”**, Samantha Abel  
(email: sabel14@wou.edu Major: B.S. Earth Science, Minor: Public Policy)
16. **“Channel Modification and Engineered Solutions”**, Makani Stormont  
(email: mstormont14@wou.edu Major: B.S. Earth Science, Minor GIScience)

**Team Facilitator:** Steve Taylor, PhD, RG-LG, Professor of Geology, Earth and Physical Science Department, Western Oregon University, Monmouth, Oregon email: [taylors@wou.edu](mailto:taylors@wou.edu)