

## BRIAN E. HAGGARD, Ph.D.

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### **Educational Background:**

<u>Degree</u>	<u>Date</u>	<u>University</u>	<u>Major</u>
B.S.	1994	University of Missouri – Rolla	Life Sciences
M.S.	1997	University of Arkansas	Environmental Soil and Water Science
Ph.D.	2000	Oklahoma State University	Biosystems Engineering

### **Professional Experience:**

2000–2000	Hydrologist, GS-9, U.S. Geological Survey, Tulsa, Oklahoma
2000–2001	Hydrologist, GS-11, U.S. Geological Survey, Tulsa, Oklahoma
2001–2004	Research Hydrologist, GS-12, USDA–ARS Poultry Production and Product Safety Research Unit, Fayetteville, Arkansas
2005–2006	Research Hydrologist, GS-13, USDA–ARS Poultry Production and Product Safety Research Unit, Fayetteville, Arkansas
2006–2011	Associate Professor, University of Arkansas College of Engineering, Biological and Agricultural Engineering Department, Fayetteville, Arkansas
2011–Present	Professor, University of Arkansas College of Engineering, Biological and Agricultural Engineering Department, Fayetteville, Arkansas
2008–Present	Director, Arkansas Water Resources Center, University of Arkansas Division of Agriculture, Fayetteville, Arkansas

### **Honors and Awards:**

Letterman University of Missouri – Rolla Golf Team Early 1990s  
Academic All-Conference Missouri Intercollegiate Athletic Association (*Golf*) Early 1990s  
Gentry Land and Water Resources Scholarship, University of Arkansas 1995  
USDA National Needs Water Sciences Fellowship, Oklahoma State University 1997–1999  
Williams Outstanding Thesis Award, College of Agriculture, Oklahoma State University 2000  
USDA–ARS Outstanding Performance 2001, 2002, 2003, 2004 & 2005  
American Society of Agricultural and Biological Engineers, Outstanding Reviewer 2003  
American Society of Agricultural and Biological Engineers, Honorable Mention Paper Award 2005  
USDA–ARS Southern Plains Area, Early Career Research Scientist 2005  
Outstanding Researcher, Biological and Agricultural Engineering Department, College of Engineering, University of Arkansas 2006–2007  
Outstanding Researcher, Biological and Agricultural Engineering Department, College of Engineering, University of Arkansas 2010–2011  
John W. White, Outstanding Team Award, University of Arkansas Division of Agriculture 2012

### **Professional Organizations:**

American Water Resources Association, Member  
American Water Works Association, Member  
National Institute of Water Resources, Member  
SERA17-IEG Organization to Minimize Phosphorus Loss, Member  
University Council on Water Resources, Board Member

### **Expertise:**

Water Quality, Biotic Thresholds, Water Quality Standards, Effluent Discharges, Phosphorus

## BRIAN E. HAGGARD, Ph.D.

### Peer-Reviewed Publications (Since 2014):

- Grantz, E.M., B.E. Haggard, and J.T. Scott. 2014. Stoichiometric imbalance in rates of nitrogen and phosphorus retention, storage, and recycling can perpetuate nitrogen deficiency in highly productive reservoirs. *Limnology and Oceanography* 59(6): 2203-2216.
- Jarvie, H.P., Sharpley, A.N., Brahana, V. Simmons, T., Price, A. Neal, C. Lawlor, A.J., Sleep, D. Thacker, S., and Haggard, B.E. 2014. Phosphorus retention and remobilization along hydrological pathways in karst terrain. *Environmental Science and Technology* 48(9): 4860-4868.
- Toland, D.C., Boyer, M.E., McDonald, G.V., West, C.P., and Haggard, B.E. 2014. Plants influenced by growing media and compost addition on mock green roofs within the Ozark Highlands. *Journal of Green Building* 9(1):130-144.
- White, M.J., Storm, D.E., Mittelstet, A., Busteed, P.R., Haggard, B.E., and Rossi, C. 2014. Development and testing of an in-stream phosphorus cycling model for the Soil and Water Assessment Tool. *Journal of Environmental Quality* 43:215-223.
- Scott, J.T. and B.E. Haggard. 2015. Implementing effects-based water quality criteria for eutrophication in reservoirs: linking standard development and assessment methodology. *Journal of Environmental Quality* 44:1503-1512
- Johnston, R., H.N. Sandefur, P. Bandekar, M. Matlock, B. Haggard and G. Thoma. 2015. Predicting changes in yield and water use in the production of corn under climate change scenarios. *Ecological Engineering* 82: 555-565
- Johnson, T., L. Edgar, B. Haggard, and K. Rucker. 2015. Student Perceptions of the [State] Water Resources Center, Water Resources and Water Issues. *Natural Sciences Education* 44: 136-142
- McCarty, J.A., B.E. Haggard, M.D. Matlock, N. Pai, and D. Saraswat. 2016. Post-model validation of a deterministic water model using measured data. *Transactions ASABE* 59(2): 497-508
- McCarty, J.A., and B.E. Haggard. 2016. Can we manage nonpoint source pollution using nutrient concentrations during seasonal baseflow? *Agricultural and Environmental Letters* 1:160015
- Reavis, M.A., and B.E. Haggard. 2016. Are floodplain soils a potential phosphorus source when inundated that can be effectively managed? *Agricultural and Environmental Letters* 1:160036
- Austin, B.J., E. Scott, others, and B.E. Haggard. 2017. Unconventional natural gas development did not result in detectable changes in water chemistry (within the South Fork Little Red River). *Environmental Monitoring and Assessment* 189:209-222
- Brennon, R., A. Sharpley, others, and B.E. Haggard. 2017. Linking soil erosion to instream dissolved P cycling and periphyton growth. *Journal of the American Water Resources Association* 53(4):809-821.
- Heeren, D.M., G.A. Fox, others, and B.E. Haggard. 2017. Impact of macropores and gravel outcrops on phosphorus leaching at the plot scale in silt loam soils. *Transactions ASABE* 60(3):823-835.
- Lasater, A.L., and B.E. Haggard. 2017. Sediment phosphorus flux at Lake Tenkiller, Oklahoma: How important are internal sources? *Agricultural and Environmental Letters* 2:170017.
- Scott, E., M. Leh and B.E. Haggard. 2017. Spatiotemporal variation in exceedances of bacterial water quality standards and the relationship with pasture land cover. *Journal of Water and Health* 15.6: 839-848.
- Sharpley, A.N., B.E. Haggard, L. Berry, J. Burke, K. Brye, M.D. Daniels, T. Glover, T. Kresse, P. Hays, and K.W. VanDevender. 2017. Nutrient concentrations in Big Creek correlate to regional watershed land use. *Agricultural and Environmental Letters* 2:170027