KARL W.J. WILLIARD
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I. Professional Preparation

Lehigh University, Bethlehem, PA	Biology	Honors, B.A., 1994
Pennsylvania State University	Environmental Pollution Control	M.S., 1996
Pennsylvania State University	Ecology, Forest Hydrology	Ph.D., 1999

II. Appointments

Program Coordinator, Forestry, Southern Illinois University Carbondale. July 2020 - present.

Professor of Forest Hydrology/Watershed Science. Aug. 1999 – present (Professor since April 15, 2009). Dept. of Forestry, Southern Illinois University Carbondale. Courses Taught: Wildland Watershed Management, Forest Hydrology, Advanced Watershed Hydrology, Watershed Management Field Laboratory, Forest Soils.

Executive Director. Universities Council on Water Resources. July 2014 - present.

USDA National Needs Water Science Fellow. Aug. 1996 – Aug. 1999. The Pennsylvania State University.

III. Research

A. Research Interests and Specialties

Agricultural land management impacts on soil and water quality, quantifying the water quality benefits of cover crops and riparian buffers in agricultural watersheds, the impacts of forest management on hydrology, erosion, and sedimentation, and watershed management and planning.

B. Peer reviewed journal articles – 54; Web of Science h-index = 17. (A listing of recent articles follows)

*Singh, G. *A.D. Thilakarathne, K.W.J. Williard, J.E. Schoonover, R.L. Cook, K.L. Gage, and R. McElroy. 2020. Tillage and legume non-legume cover cropping effects on corn-soybean production. *Agronomy Journal* 112:2636-2648. DOI 10.1002/agj2.20221

*Singh, G., G. Kaur, K. Williard, J. Schoonover, and K.A. Nelson. 2020. Managing phosphorus loss from agroecosystems of the Midwestern United States: A review. *Agronomy* 10, 561 doi:10.3390/agronomy10040561

*Singh, G. A.D., M. Dhakal, L. Yang, G. Kaur, K.W.J. Williard, J.E. Schoonover, and A. Sadeghpour. 2020. Decomposition and nitrogen release of cover crops in reduced- and no-tillage systems. *Agronomy Journal* 112:3605–3618. doi: 10.1002/agj2.20268

*Singh, G., *N.M.M. Mejia, K.W.J. Williard, J.E. Schoonover, J.W. Groninger. 2019. Watershed Vulnerability to Invasive N_2-Fixing Autumn Olive and Consequences for Stream Nitrogen Concentrations. *Journal of Environmental Quality* 48:614-623.

Sebestyen, S.D., D.S. Ross, J.B. Shanley, K.W.J. Williard, + 26 additional authors. 2019. Unprocessed Atmospheric Nitrate in Waters of the Northern Forest Region in the U.S. and Canada. *Environmental Science & Technology* 53:3620-3633.

*Singh, G., K. Williard, J. Schoonover, K.A. Nelson, and G. Kaur. 2019. Cover crops and landscape position effects on nitrogen dynamics in plant-soil-water pools. *Water* 11, 513 doi:10.3390/w11030513

*Singh, G., G. Kaur, K.W.J. Williard, K. Nelson, and J.E. Schoonover. 2019. Cover crops and topography differentially impacts weeds at a watershed scale. *Weed Technology; https://doi.org/10.1017/wet.2019.83*

*Singh, G., J.E. Schoonover, K.W.J. Williard, G. Kaur, and J. Crim. 2018. Carbon and Nitrogen Pools in Deep Soil Horizons at Different Landscape Positions. *Soil Science Society of America Journal* 82:1512-1525. DOI 10.2136/sssaj2018.03.0092

*Singh, G., D. Goble, J.E. Schoonover, K.W.J. Williard, and J.J. Zaczek. 2018. Allometry, Morphometry, and Soil Characterization of Giant Cane (Arundinaria gigantea) Stands. *Ecological Restoration*. 36. 314. 10.3368/er.36.4.315.

*Singh, G., K.W.J. Williard, and J.E. Schoonover. 2018. Cover Crops and Tillage Influence on Nitrogen Dynamics in Plant-Soil-Water Pools. *Soil Science Society of America Journal*. 82. 10.2136/sssaj2018.03.0111.

*Shrestha, P., K.W.J. Williard, J.E. Schoonover, and L. Park. 2018. Prevalence of Concentrated Flow Paths in Agricultural Fields in Southern Illinois. *Water, Air, & Soil Pollution.* 229. 10.1007/s11270-018-3841-y.

Eade, A., *G. Singh, J.E. Schoonover, K.W.J. Williard, and J.J. Zaczek. 2018. Innovative Sandbag Propagation Method for Giant Cane (Arundinaria gigantea (Walter) Muhl.). *Castanea*. 83. 10.2179/17-142.

*Singh, G., J.E. Schoonover, and K.W.J. Williard. 2018. Cover Crops for Managing Stream Water Quantity and Improving Stream Water Quality of Non-Tile Drained Paired Watersheds. *Water*. 10. 10.3390/w10040521.

C. Grants and Contracts Awarded - $13,101,957 total. (A partial listing of recent grants follows)

Willard, K.W.J., J.E. Schoonover, G. Singh, A. Sadeghpour, K. Gage. 2018-2022. Minimizing Phosphorus and Nitrogen Loss from Agricultural Systems with Cover Crops and Tillage in Southern Illinois. Nutrient Research and Education Council. ($702,327)

Williard, K.W.J., J.E. Schoonover, G. Singh, and D. Sanders. 2017-2021. Water Quality and Agronomic Impacts of Gypsum Applications in Southern Illinois. Nutrient Research and Education Council. ($419,171)

Schoonover, J.E., K.W.J. Williard, G. Singh. 2018-2023. Modelling and Designing Saturated Buffers for Nitrogen and Phosphorus Mitigation in Illinois. Nutrient Research and Education Council. ($725,402)

Schoonover, J.E., K.W.J. Williard, G. Singh. 2018-2023. Water and Sediment Control Basins (WASCoBs) influence on Crop Yields and Water Quality. Nutrient Research and Education Council. ($602,472)

Williard, K.W.J., K. Wagner, D. Parker, and D. Kreamer. 2017-2018. Addressing irrigation aquifer depletion and challenges to sustainability: enhancing dialogue on solutions. National Science Foundation. ($18,241)

Williard, K.W.J. May 2016 – July 2021. Developing Indicators of Riparian Buffer Restoration Success. USDA McIntire-Stennis Cooperative Forestry Research Program ($118,017).

Young, B., K.W.J. Williard, J.E. Schoonover, M. Lydy, J. Bond, and A. Fakhoury. Mar. 2011 – Feb. 2017. Field-scale research for sustainable crop production. Howard G. Buffett Foundation. ($5,283,980).

D. Graduate students who have completed Master's Theses and Ph.D. dissertations under my direction - 27 (25 M.S., 2 Ph.D.)

E. Honors and Awards

- Chair, American Water Resources Association Agricultural Hydrology and Water Quality Conference (international conference). St. Louis, MO. Mar. 25-27, 2013
- Outstanding Scholar, College of Agricultural Sciences, SIUC, 2012.
- Board of Directors, American Water Resources Association. Term 2009 – 2011.
- Outstanding Scholar, College of Agricultural Sciences, SIUC, 2009
- Technical Program Chair, 2007 Annual American Water Resources Association Conference. Responsible for conducting and coordinating abstract review (420 abstracts) and creating the technical program (81 oral sessions and 6 poster sessions).
- Pyramid Award, American Water Resources Association. 2002. The national award - recognizes a young professional who has demonstrated outstanding achievements, talents, and leadership potential through their professional activities in water resources.