

## Curriculum Vitae

### **Barbara A. Doll, Ph.D., PE**

Associate Extension Professor & Extension Specialist  
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### **Professional Preparation**

North Carolina State University	Civil Engineering	BS	1989
North Carolina State University	Civil Engineering	MCE	1992
North Carolina State University	Biological & Agricultural Engineering	PhD	2013

### **Appointments**

Jan 2019 – present	Associate Extension Professor, Dept. of Biological & Agricultural Engineering, North Carolina State University (NCSU), Raleigh, NC
Jan 2014 – Jan 2019	Assistant Extension Professor, Dept. of Biological & Agricultural Engineering, North Carolina State University (NCSU), Raleigh, NC
Aug 1992 – present	Extension Specialist, North Carolina Sea Grant, Raleigh, NC
Jun 1989 – May 1990	Staff Engineer, Soil and Material Engineers, Raleigh, N.C.

### **Publications**

Line, D. E., & Doll, B. (2023). Effects of livestock exclusion on pollutant export from a North Carolina beef cow pasture, *Journal of the ASABE*, 66(1), 99–105. <https://doi.org/10.13031/ja.15348>

Fidan, E., Gray, J., Doll, B., & Nelson, N. G. (2023). Machine learning approach for modeling daily pluvial flood dynamics in agricultural landscapes, *Environmental Modeling & Software*, 167. <https://doi.org/10.1016/j.envsoft.2023.105758>

Kurki-Fox, J., Doll, B. A., Monteleone, B., West, K., Putnam, G., Kelleher, L., ... Schneidewind, U. (2023). Microplastic distribution and characteristics across a large river basin: Insights from the Neuse River in North Carolina, USA, *Science of the Total Environment*, 878. <https://doi.org/10.1016/j.scitotenv.2023.162940>

Hovis, M., Cabbage, F., Hollinger, J. C., Shear, T., Doll, B., Kurki-Fox, J. J., ... Potter, T. (2022). Determining the costs, revenues, and cost-share payments for the “floodwise” program: Nature-based solutions to mitigate flooding in eastern, rural North Carolina, *Nature-Based Solutions*, 2, 100016. <https://doi.org/10.1016/j.nbsj.2022.100016>

Kurki-Fox, J. J., Doll, B. A., Line, D. E., Baldwin, M. E., Klondike, T. M., & Fox, A. A. (2022). Estimating Changes in Peak Flow and Associated Reductions in Flooding Resulting from Implementing Natural Infrastructure in the Neuse River Basin, North Carolina, USA, *Water*, 14(9). <https://doi.org/10.3390/w14091479>

Bergeson, C. B., Martin, K. L., Doll, B., & Cutts, B. B. (2022). Soil infiltration rates are underestimated by models in an urban watershed in central North Carolina, USA, *Journal of Environmental*

- Management*, 313. <https://doi.org/10.1016/j.jenvman.2022.115004>
- Kurki-Fox, J., Doll, B. A., Line, D. E., Baldwin, M. E., Klondike, T. M., & Fox, A. A. (2022). The flood reduction and water quality impacts of watershed-scale natural infrastructure implementation in North Carolina, USA, *Ecological Engineering*, 181. <https://doi.org/10.1016/j.ecoleng.2022.106696>
- Hovis, M., Hollinger, J. C., Cabbage, F., Shear, T., Doll, B., Kurki-Fox, J. J., ... Potter, T. (2021). Natural Infrastructure Practices as Potential Flood Storage and Reduction for Farms and Rural Communities in the North Carolina Coastal Plain, *Sustainability*, 13(16). <https://doi.org/10.3390/su13169309Doll>,
- B.A., J.J. Kurki-Fox, D.E. Line. (2020). A Framework for Planning and Evaluating the Role of Urban Stream Restoration for Improving Transportation Resilience to Extreme Rainfall Events. *Water*. 12(6): 1620.
- Doll, B.A., J.J. Kurki-Fox, J.L. Page, N.G. Nelson, J.P. Johnson. (2020). Flood Flow Frequency Analysis to Estimate Potential Floodplain Nitrogen Treatment during Overbank Flow Events in Urban Stream Restoration Projects. *Water*. 12(6): 1568.
- Donatch, S.; B.A. Doll, J.L. Page, N.G. Nelson. (2020). Can the Stream Quantification Tool (SQT) Protocol Predict the Biotic Condition of Streams in the Southeast Piedmont (USA)? *Water* 12(5): 1485.
- Doll, B. Jennings, G.; Spooner, J.; Penrose, D.; Usset, J.; Blackwell, J.; Fernandez, M. (2016). Can Rapid Assessments Predict the Biotic Condition of Restored Streams? *Water* 8:143.
- Doll, B.; Jennings, G.; Spooner, J.; Penrose, D.; Usset, J.; Blackwell, J.; Fernandez, M. (2016). Identifying Watershed, Landscape, and Engineering Design Factors that Influence the Biotic Condition of Restored Streams. *Water* 8:151.
- Doll, B.A.; Jennings, G.D.; Spooner, J.; Penrose, D.L.; Usset, J.L. Evaluating the eco-geomorphological condition of restored streams using visual assessment and macroinvertebrate metrics. (2015) *J. Am. Water Resour. As.* 51, 68–83.
- Doll, B.A.; D. Wise-Frederick, C. Buckner, S. Wilkerson, W. Harman, R. Smith and J. Spooner. (2007). Hydraulic geometry relationships for urban streams through the piedmont of North Carolina. JAWRA
- White, N.M., D.E. Line, J.D. Potts, W. Kirby-Smith, B.A. Doll and W.F. Hunt. (2000). Jump Run Creek Shellfish Restoration Project. *Journal of Shellfish Research*, 19-1:473-476.

### **Recent Awards and Honors**

- 2023- 2024 Teaching Award of Merit, College of Agriculture and Life Sciences, NC State University
- 2018 Mid-Atlantic Sea Grant Region Outstanding Outreach Award
- 2018 NC State University Pride of the Wolfpack Award
- 2016 Sea Grant Outstanding Outreach Award, Mid-Atlantic Sea Grant Region
- 2015 Outstanding Research Awards for Faculty (\$5000), NCSU College of Agriculture and Life Sciences
- 2014 Walter B. Jones Memorial Award; Excellent in Coastal and Marine Graduate Study, National Oceanic and Atmospheric Administration
- 2014 Outstanding Achievement Award, Mid-Atlantic Sea Grant Region