Kristopher D. Barnswell
Department of Environmental Sciences, University of Toledo
Lake Erie Research Center
6200 Bayshore Rd., Oregon, OH 43616;
C: (419) 356-2401; W: (419) 530-8378; kristopher.barnswell2@rockets.utoledo.edu

PROFESSIONAL PREPARATION

Ph.D. University of Toledo, Biology (Ecology track); 2010
M.S. University of Toledo, Biology (Ecology track); 2005
B.S. University of Toledo, Environmental Sciences; 2003

APPOINTMENTS

2011-present	Research Assistant Professor, Department of Environmental Sciences, University of Toledo
2010-2011	Post Doctoral Associate, Department of Environmental Sciences, University of Toledo
2009-2010	Fellow, National Science Foundation GK-12 Program, University of Toledo
2005-2009	Research Assistant, Department of Environmental Sciences, University of Toledo
2007	Teaching Assistant, Department of Environmental Sciences, University of Toledo

EXPERIENCE

2010-present: Wolf Creek Corridor Restoration Project

Project Coordinator for the University of Toledo's Great Lakes Restoration Initiative grant funded through the Environmental Protection Agency. Major tasks include overseeing all aspects of the project, preparation of the Quality Assurance Project Plan and other EPA reports; coordination between contractors and project team. Leading up to the GLRI grant: managed and analyzed data; prepared two manuscripts for submission to peer reviewed journals; made presentations at public meetings, the University of Toledo departmental seminar series, and the annual Great Lakes Beaches Conference; regularly attended committee meetings to develop design plans and network with representatives from State agencies, local cities, and private companies; prepared several proposals to obtain funding for various phases of the project.

2009-2010: NSF GK-12 Program

Taught a variety of subjects in environmental sciences to 11th and 12th grade students at Bowsher High School; mentored two seniors with research projects; supervised students performing the regional Student Watershed Watch and worked with other Fellows to improve protocols for the program.

2003-2010: King Road Landfill

Conducted vegetation surveys for the inactive King Road Landfill and various plant communities within Oak Openings Metropark; analyzed data and published findings in the Ohio Journal of Science; presented findings to the Ohio EPA, which resulted in the final closure strategy to change from a conventional cover to an evapotranspiration (ET) cover; conducted a series of experiments to design and test the performance of ET covers, which resulted in identifying a beneficial use for dredged material and a publication in the Journal of Environmental Engineering, as well as presentations at public meetings and scientific conferences.

SKILLS AND QUALIFICATIONS

- Clear and concise written and verbal communication with people
- Cooperatively work with team members
- Maintain a positive attitude
- Accurately record and communicate information
- Experience in developing presentations
- Ability to break complex challenges into manageable tasks
- Can produce quality work when under time pressure

- Competent to understand and follow intricate instructions with successful results
- Familiar with statistical analysis programs (SAS, Prism, Excel)
- Experience with Microsoft Office
- 40 Hr OSHA HAZWOPER
- Familiar with national and state environmental regulations
- Strong skills in setting goals, time management
- Organized, understanding for details and logistics
- Supervised grad/undergraduate students with project implementation and monitoring
- Prepared and supervised all phases in research projects including the budget, planning, implementation, monitoring, maintenance, documentation, and presentation
- Performed wetland delineation
- Performed field and laboratory procedures related to biological, chemical, and physical sciences

TEACHING EXPERIENCE

2009-2010 Human Health and the Environment; Senior Science Internship, Bowsher High School, Toledo, OH, (Mentor: David Bourland)

2007 Phytoremediation: An Investigative Field Approach to Developing a New Technology. Lake Erie Center Summer Environment Research Institute. University of Toledo – Lake Erie Center, Oregon, OH.

PUBLICATIONS

Barnswell, K.D., and Dwyer, D.F. (2007) Vascular flora of the King Road Landfill in northwest Ohio. *Ohio Journal of Science*, 107: 91-103.

Barnswell, K.D., and Dwyer, D.F. (2011) Assessing the performance of evapotranspiration covers for municipal solid waste landfills in northwestern Ohio. *Journal of Environmental Engineering*, 137: 301-305.

Barnswell, K.D., Dwyer, D.F., and Struffolino, P. Determination of components for a constructed wetland to reduce loadings of *Escherichia coli* and phosphorus entering Lake Erie. *In review in the Journal of Great Lakes Research.*

Barnswell, K.D., Dwyer, D.F., and Struffolino, P. Development of a simple-linear model to predict fecal contamination at Maumee Bay State Park in western Lake Erie. *In preparation for the Journal of Great Lakes Research.*

Barnswell, K.D., and Dwyer, D.F. Two year performance by evapotranspiration covers for municipal solid waste landfills in northwest Ohio. *Submitted to Waste Management.*

AWARDS

2009 Phyto Scholars Program, Phytotechnologies 6th International Conference, St. Louis, MZ.

PRESENTATIONS

2011 Barnswell, K.D., and Dwyer, D.F. Assessing the performance of evapotranspiration covers for municipal solid waste landfills in northwest Ohio. Oak Openings Research Forum, Toledo, OH, Jan. 15. (poster)

2010 Barnswell, K.D., and Dwyer, D.F. Designing a constructed wetland system to enhance water quality at Maumee Bay State Park. Great Lakes Beaches Association. 10th Annual Conference, Erie, PA, Oct. 19-21. (platform)

2009 Barnswell, K.D., and Dwyer, D.F. Field water balance of evapotranspiration covers in northwest Ohio. Phytotechnologies 6th International Conference, St. Louis, MZ, Dec. 1-4. (platform)

2009 Barnswell, K.D., and Dwyer, D.F. Field water balance of evapotranspiration covers in northwest Ohio. 30th Annual Meeting, Sigma Xi Research Symposium, Toledo, OH, April. (platform)

2009 Rofkar, J., Duncan, A., Barnswell, K., Armenio, P., Frantz, J., and Heckathorn, S Effects of nitrogen on boron toxicity in *Azolla caroliniana*. 52nd Annual Conference on Great Lakes Research, International Association for Great Lakes Research, Toledo, OH, May 18-22. (poster)

2009 Duncan, A.M., Gorr, M.W., Rofkar, J.R., Barnswell, K.D., Gottgens, J.F., and Dwyer, D.F. Plant-mediated reductions of arsenic levels in flow-through wetland microcosms. 52nd Annual Conference on Great Lakes Research, International Association for Great Lakes Research, Toledo, OH, May 18-22. (poster)

2009 Barnswell, K.D., and Dwyer, D.F. Manufactured soil for a landfill evapotranspiration cover using dredged sediment. 10th International In Situ and On-Site Bioremediation Symposium, Presented by Battelle. Baltimore, MD, May 5-8. (poster)

2008 Barnswell, K.D., and Dwyer, D.F., Manufactured soil for a landfill evapotranspiration cover using dredged sediment. 29th Annual Meeting, Sigma Xi Research Symposium, Toledo, OH, Nov. 1. (poster)

2008 Barnswell, K.D., Dwyer, D.F. Vascular plants of the King Road Landfill, Lucas County, Ohio. 117th Annual Meeting, Ohio Academy of Sciences. Toledo, OH, April 11-13. (platform)

2006 Barnswell, K.D., and Dwyer, D.F. Potential use of evapotranspiration covers in northwest Ohio. Oak Openings Region Research Symposium, Toledo, OH, Jan. 20-21. (poster)

2005 Barnswell, K.D., and Dwyer, D.F. Vegetation on a non-capped landfill in the Oak Openings Region. 25th Annual Sgima Xi Student Research Symposium. University of Toledo, Toledo, OH, April 16. (platform).

2004 Rofkar, J.R., Barnswell, K.D., and Dwyer, D.F. Phytoremediation at the King Road Landfill: current progress and future work. 24th Annual Sigma Xi Student Research Symposium, University of Toledo, Toledo, OH, April 24. (poster).

GRADUATE ADVISOR (M.S. and Ph.D)

Dr. Daryl F. Dwyer

COMMITTEE MEMBERS

Ph.D

Dr. Andrew Heydinger, Dr. Helen Michaels, Dr. Daryl Moorhead, Dr. Alison Spongberg

M.S.

Dr. Jiquan Chen, Dr. Alison Spongberg, Dr. Don Stierman, Dr. Elliot Tramer

PROFESSIONAL MEMBERSHIPS

International Association for Great Lakes Research
Society for Ecological Restoration

REVIEWER

Journal of Environmental Engineering

SYNERGISTIC ACTIVITIES

2011 Invited speaker: Development of a predictive model for recreational waters at Maumee Bay State Park. Toledo Metropolitan Area Council of Governments Environmental Council Meeting, Toledo, OH, May 26.

2011 Invited speaker: Improving water quality and public awareness at Maumee Bay State Park, Ohio. Public lecture series, Lake Erie Center, Oregon, OH, May 5.

2010 Invited speaker: Treatment of pathogens and pollutants from the Wolf Creek Watershed. Public meeting, Maumee Bay State Park, Oregon, OH, November 4.

2010 Invited speaker: Designing a constructed wetland system for water quality enhancement at Maumee Bay State Park. University of Toledo, Dept. of Environmental Sciences Seminar Series. Toledo, OH. October 15.

2010 Invited speaker: Waste Management. Northview High School, Environmental Sciences classes. Sylvania, OH.
2008 Invited speaker: Restoration ecology in northwest Ohio. University of Toledo, Conservation Biology course. Sylvania, OH.
2006 Invited speaker: Remediation and restoration of the King Road Landfill located in northwest Ohio. University of Toledo, Conservation Biology course, Sylvania, OH.
2006 Judge, Northwest Ohio Science Fair, Toledo, OH.
2006 Session Chair, Twenty-sixth Annual Sigma Xi Student Research Symposium, Toledo, OH. April
2005 Invited speaker: Current and future research by the University of Toledo at King Road Landfill. Ohio EPA Northwest District Office

COMMUNITY IMPACTS

2009 Public endorsement for implementing the use of an evapotranspiration cover for the King Road Landfill, located in Sylvania, Ohio, and the potential benefits of re-using dredged sediment for constructing the cover at the information session and public hearing regarding the closure of the King Road Landfill, given by the Ohio EPA.
2006 Made significant contributions to re-writing the "Alternatives Array for Proposed Alternative. No. 11 for the King Road Landfill", prepared by the Mannik and Smith Group, Inc.
2005 Introduced the evapotranspiration (ET) cover to the OhioEPA as a final closure strategy for the King Road Landfill.
2004 Identified endangered and threatened plant species at the King Road Landfill.