

Curriculum Vitae for Kristopher D. Barnswell

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Curriculum: M.S. (2005) Biology
B.S. (2003) Environmental Sciences

Employment:

2003 Research Assistant, Department of Environmental Sciences, University of Toledo, Toledo, OH

Education:

Current Ph.D. (University of Toledo), Dissertation: "Determining preliminary design components for a landfill evapotranspiration cover", Advisor: Prof. Daryl F. Dwyer

2005 M.S. (University of Toledo), Thesis: "Phytoremediation potential at an inactive landfill in northwest Ohio", Advisor: Prof. Daryl F. Dwyer

2003 B.S. (University of Toledo), Activities: Baseball

Research Experience:

Alternative Landfill Covers, Field Botany, Restoration Ecology, Soil Science

Societies of Interest:

Ohio Academy of Science

Recent Research Projects:

Research goals center on developing strategies for remediation and restoration of an inactive landfill located in northwest Ohio. Projects include:

1. The selection process of plant species appropriate for a landfill evapotranspiration cover.
Primary objectives:
 - (a) identify the prevalent plant species at the King Road Landfill, Sylvania, Ohio - *completed*
 - (b) determine the pathway of vegetation development on the landfill - *completed*
 - (c) evaluate transpiration rates for selected plant species using greenhouse experiments - *in progress*
2. The selection process of soil appropriate for a landfill evapotranspiration cover.
Primary objectives:
 - (a) evaluate biomass production by native plant species in (i) locally abundant soil and (ii) formulated soil constructed with dredged material and structure-improving agents - *in progress*

3. The development of an evapotranspiration cover.
Primary objectives:
 - (a) monitor the water balance of small-scale evapotranspiration covers in field lysimeters
 - (b) compare percolation rates to EPA requirements for landfill covers
 - (c) contrast to data collected by alternative landfill cover studies
 - (d) simulate long-term performance using computer-based models

Invited Speaker:

1. Remediation and restoration of the King Road Landfill located in northwest Ohio. 2006. Conservation Biology field-trip to the King Road Landfill, University of Toledo, Sylvania, OH.
2. Restoration ecology in northwest Ohio. 2008. Conservation Biology field trip to Stranahan Arboretum University of Toledo, Sylvania, OH.

Symposia/Workshop:

1. Session Chair “Pharmacy and Medical Science”, 2006: Twenty-sixth Annual Sigma Xi Student Research Symposium, Toledo, OH. April
2. Judge, 2006: Northwest Ohio Science Fair, Toledo, OH.

Teaching:

1. 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, 2007.

Publications:

1. Barnswell, K.D., and Dwyer, D.F. Vascular flora of the King Road Landfill in northwest Ohio. *Ohio Journal of Science*, 107: 91-103.
2. Barnswell, K.D. and Dwyer, D.F. Selection of plant species for a landfill evapotranspiration cover. *In preparation*.

Abstracts of Posters and Presentations:

1. Barnswell, K.D., and Dwyer, D.F. (2006). Potential use of evapotranspiration covers in northwest Ohio. Oak Openings Region Research Symposium. Toledo, OH. January 20-21. (Poster)
2. Barnswell, K.D., and Dwyer, D.F. (2005). Vegetation on a non-capped landfill in the Oak Openings Region. Twenty-fifth Annual Sigma Xi Student Research Symposium, University of Toledo. Toledo, OH. April 16. (Oral)
3. Barnswell, K.D., Rofkar, J., and Dwyer, D.F. (2004). Phytoremediation at the King Road Landfill: current progress and future work. Twenty-fourth Annual Sigma Xi Student Research Symposium, University of Toledo. Toledo, OH. April 24. (Poster)

updated 9/27/2008