

Shawn Allen Hawkins

Associate Professor. Biosystems Engineering and Soil Sciences Department, University of Tennessee, 2506 E.J. Chapman Drive, Knoxville, TN. shawkins@utk.edu.

Education

Ph.D., 2005	Civil Engineering, University of Tennessee
M.S., 2000	Environmental Engineering, University of Tennessee
B.S.E., Chem. Minor, 1994	Environmental Engineering, University of Tennessee-Chattanooga

Work Experience

- 2013-. Associate Professor. Biosystems Engr. and Soil Science Department, University of TN.
- 2007-2013. Assistant Professor. Biosystems Engr. and Soil Science Department, University of TN.
- 2005-2007. Post-Doc. Research Ass., Center Environmental Biotechnology, University of TN.
- 2000-2005. Graduate Teaching Associate/Research Assistant, University of TN.
- 1999-2000. Graduate Teaching/Research Assistant, University of TN.
- 1994-1999. Haz Waste Proj Manager, Koester Environmental Services, Evansville, IN.

Professional

- Registered Professional Engineer, State of TN, #104939, 1999-present.

Awards and Honors

- Dutch and Marilee Cavender Publication Award, 2012
- Biosystems Engr & Soil Sci Department Outreach Citation, 2014

Research and Agricultural Extension Grants (active and select completed projects only)

- Walker, F., Clark, C., Gale, P., Griffith, A., **Hawkins, S. A.**, Lambert, D., Leib, B., Papanicolaou, T., Boyer, C., Buschermohle, M., English, B., Lamber, L., Rhinehart, J., Steckel, L., and Tyler, D., Increasing the Resilience of Agricultural Production in the Tennessee and Cumberland River Basins through More Efficient Water Resource Use. USDA-NIFA-CAP. 2015-2020. \$4,999,884.
- Clark, C., Walker, F., Papanicolaou, T., Lambert, D., Boyer, C., **Hawkins, S. A.**, Lambert, L., and Duncan, L. Using Hydro-Economic Modeling to Optimally Allocate Water in the Humid Southeastern U.S. USDA. USDA-NIFA. 2014-2017. \$659,926.
- **Hawkins, S. A.**, Jackson, S., Smith, M., Walker, F. R., Bates, G., Taylor, M., and Boyer, C. On-farm production and utilization of biofuel crops and bedding byproducts for wintertime heating at broiler chicken grow-out farms. USDA NRCS Conservation Innovation Grant. 2012-. \$502,916.
- Walker, F. R., Ludwig, A., DeBruyn, J., Essington, M., **Hawkins, S. A.**, Clark, C., Lambert, D. Watershed Scale Project in Oostanaula Creek. USDA NIFA. 2012-. \$633,400.
- Buschermohle, M., Duncan, L., Walker, F., Tyler, D., Savoy, H., **Hawkins, S.A.**, Freeland, R. and Velandia. Increasing the Adoption of Best Management Practices (BMPs) that Promote Sustainable Row Crop Production Systems within the Obion River Watershed. Tennessee Department of Agriculture. 2013-. \$96,480.
- **Hawkins, S. A.**, Clark, C., Lambert, D., and Walker, F. SWAT modeling to support the development of a statewide nitrogen and phosphorus pollution reduction strategy in Tennessee. Tennessee Department of Environment and Conservation - EPA Region 4 104(b)(3). 2012-. \$85,000.
- Eldridge, M., Meyers, A. J., Menn, F.-M., Connolly, M., Layton, A. C., and **Hawkins, S. A.** Leaching of potential trace organic contaminants from land-applied biosolids – a field and greenhouse study. Hampton Roads Utility District. 2011-. \$413,039.
- Walker, F. R. and **Hawkins, S. A.** Assessment of Nashville Metro EQ biosolids as an alternative fertilizer for no till corn and winter wheat rotation in TN. Mannco Fertilizer. 2011-Completed. \$84,048.

- **Hawkins, S. A.**, Layton, A. C., Johnson, A. M., and Walker, F. Combustion of poultry litter in an outside hydronic furnace for wintertime heating of broiler production houses. USEPA RARE grant. 2009-Completed. \$199,891.
- Walker, F., **Hawkins, S. A.**, Layton, A. C., Clark, C., and Lambert, D. Enhancing water quality in Oostanaula watershed: an integrated approach towards understanding adoption and efficacy of BMPs. USDA CSREES. 2009-Completed. \$652,000.
- Walker, F. and **Hawkins, S. A.** Oostanaula creek restoration project. Tennessee Department of Agriculture. 2009-. \$155,400.
- **Hawkins, S. A.** and Walker, F. Yield and forage quality of tall fescue amended with biosolids, broiler litter, and chemical fertilizers. Mannco Fertilizer. 2009-Completed. \$99,406.
- **Hawkins, S. A.**, Lee, J., Sherfy, A., Johnson, A., Walker, F. Prioritizing pollutant causes and sources using CADDIS and Arc-SWAT for biologically impaired streams in Tennessee. Tennessee Department of Environment and Conservation. 2009-Completed. \$50,084.
- Johnson A., **Hawkins, S. A.**, Walker, F. Phosphorus speciation and availability of land-applied waste materials and effects on in-stream nutrient dynamics. Tennessee Department of Environmental and Conservation. 2008-Completed. \$50,332.
- Ripp, S., **Hawkins, S. A.**, Layton, A. C. Unbiased tagging, isolation, and genomic characterization of bacteriophage transduction events in wastewater ecosystems. USDA CSREES Biotechnology Risk Assessment Grant. 2007-Completed. \$280,368.

Publications (select peer reviewed journal, excluding Extension peer review publications)

- Lambert, D. M., Clark, C. D., Walker, F. R., Layton, A., and **Hawkins, S. A.** 2014. A study of cattle producer preferences for best management practices in an East Tennessee watershed. *Journal of Soil and Water Conservation*. 69(1):41-53.
- **Hawkins, S. A.**, Robinson, K. G., Layton, A. C. Sayler, G. S. 2012. Molecular indicators of *Nitrobacter* spp. population and growth activity during an induced inhibition event in a bench scale nitrification reactor. *Water Research*, 46(6):1793-1802.
- Lopes, N., **Hawkins, S. A.**, Jegier, P., Menn, F.-M., Sayler, G. S., and Ripp, S. 2011. Detection of dichloromethane with a bioluminescent (lux) bacterial bioreporter. *Journal of Industrial Microbiology and Biotechnology*, Online First™, 21 June 2011.
- **Hawkins, S. A.**, Robinson, K. G., Layton, A. C., and Sayler, G. S. 2010. Limited impact of free ammonia on *Nitrobacter* spp. inhibition assessed by chemical and molecular techniques. *Bioresource Technology*, 101:4522-4528.
- Henry TB, McPherson JT, Rogers ED, Heah TP, **Hawkins S.A.**, Layton AC, Sayler GS. 2009. Changes in the relative expression pattern of multiple vitellogenin genes in adult male and larval zebrafish exposed to exogenous estrogens. *Comparative Biochemistry and Physiology: Part A Molecular and Integrative Physiology*.
- **Hawkins, S. A.**, Robinson, K. G., Layton, A. C., Sayler, G. S. 2008. Response of *Nitrobacter* spp. ribosomal gene and transcript abundance following nitrite starvation and exposure to mechanistically distinct inhibitors. *Environmental Science and Technology*, 42(3), 901-907.
- **Hawkins, S. A.**, Layton, A. C., Ripp, S., Williams, D., and Sayler, G. S. 2008. Genome sequence of the *Bacteroides fragilis* phage ATCC 51477-B1. *Virology Journal*, 5:97.
- **Hawkins, S. A.**, Robinson, K.G., Layton, A.C., and Sayler, G. S. 2006. A comparison of ribosomal gene and transcript abundance during high and low nitrite oxidizing activity using a newly developed real time PCR detection system targeting the *Nitrobacter* spp. 16S-23S intergenic spacer region. *Env. Engr. Sci.*, 23(3):551-532.

Service (select)

- TN Air Pollution Control Board. Appointed by TN Governors Phil Bredesen, Bill Haslem, 2008-.
- USDA NRCS Technical Advisory Committee for Tennessee. 2008-.

Conflict of Interest Disclosure Form

^{SP} CHESAPEAKE BAY PROGRAM WATER QUALITY GOAL IMPLEMENTATION TEAM ^{SP}
BMP EXPERT PANEL CONFLICT OF INTEREST DISCLOSURE

Version date: July 13, 2015

NAME: Shawn Hawkins TELEPHONE: 865-974-7722
 ADDRESS: Biosystems Engineering and Soil Science
2506 E. J. Chapman Drive, Room 310
Knoxville, TN 37996-4531
 EMAIL ADDRESS: shawkins@utk.edu
 EMPLOYER: University of Tennessee
 BMP PANEL: Animal Waste Systems Nutrient Retention Performance

INSTRUCTIONS¹

The primary focus of the CBP BMP expert panels is to develop BMP-specific nutrient and sediment reduction effectiveness estimates (*i.e.*, performance estimates). A secondary focus may include describing future BMP-specific research needs and ancillary benefits. It is essential that the work of BMP expert panels not be compromised by significant conflicts of interest. Except for those situations in which the Chesapeake Bay Program (CBP) partnership determines that a conflict of interest is unavoidable and publicly discloses the conflict of interest, no individual can be appointed to serve (or continue to serve) on an expert panel if the individual has a conflict of interest that is relevant to the functions to be performed.

For the purposes of the BMP expert panels convened by the CBP partnership, the term "conflict of interest" is any financial or other interest which conflicts with the service of the individual because it (1) could significantly impair the individual's objectivity or (2) could create an unfair competitive advantage for any person or organization. The term "conflict of interest" applies only to *current interests*. It does not apply to past interests that have expired, no longer exist, and cannot reasonably affect current behavior. Nor does it apply to possible interests that may arise in the future, because such future interests are inherently speculative and uncertain.

"Conflict of interest" means something more than individual bias. A point of view or bias is not necessarily a conflict of interest. Expert panel members are expected to have points of view and the CBP partnership attempts to balance points of view by supporting diverse expert panel membership. Panel members are asked to consider respectfully the viewpoints of other members, to reflect their own views rather than to be a representative of any organization, and to base their scientific conclusions and judgment on relevant evidence.

This conflict of interest disclosure form is designed to prophylactically eliminate potentially compromising situations from arising, and thereby to protect the individual, the other members of the expert panel, the CBP partnership, and the public interest. The individual, the expert panel, and the partnership should not be placed in a situation where others could reasonably question, and perhaps discount or dismiss, the work of the expert panel simply because of the existence of conflicting interests.

The overriding objective of this conflict of interest disclosure form is to identify whether there are interests – primarily financial in nature – that conflict with the expert panel service of the individual because they could impair the individual's objectivity or could create an unfair competitive advantage for any person or organization. The fundamental question in each case is this: Does the individual, or others with whom the individual has substantial common financial interests, have identifiable

¹ Note: This form was created and informed by National Academies documentation found at <http://www.nationalacademies.org/coi>.

interests that could be directly affected by the outcome of the activities of the expert panel on which the individual has been asked to serve? The following questions are designed to elicit information from potential expert panel members concerning potential, relevant conflicts of interest.

1. FINANCIAL INTERESTS.

- a) Taking into account stocks, bonds, and other financial instruments and investments including partnerships (but excluding broadly diversified mutual funds and any investment or financial interests valued at less than \$10,000), do you or, to the best of your knowledge others with whom you have substantial common financial interests, have financial investments that could be affected, either directly or by a direct effect on the business enterprise or activities underlying the investments, by the recommendations made by the expert panel on which you have been invited to serve?
- b) Taking into account real estate and other tangible property interests, as well as intellectual property (patents, copyrights, etc.) interests, do you or, to the best of your knowledge others with whom you have substantial common financial interests, have property interests that could be directly affected by the findings made by the expert panel on which you have been invited to serve?
- c) Could your employment (or the employment of your spouse), or the financial interests of your employer or clients (or the financial interests of your spouse's employer or clients) be directly affected by the findings made by the expert panel on which you have been invited to serve?
- d) Taking into account research funding and other research support (e.g., equipment, facilities, industry partnerships, research assistants and other research personnel, etc.), could your current research funding and support (or that of your close research colleagues and collaborators) be directly affected by the findings made by the expert panel on which you have been invited to serve?
- e) Could your service on the expert panel on which you have been invited to serve create a specific financial or commercial competitive advantage for you or others with whom you have substantial common financial interests?

If the answer to all of the above questions under **FINANCIAL INTERESTS** is either "no" or "not applicable," check here X (NO).

If the answer to any of the above questions under **FINANCIAL INTERESTS** is "yes," check here ____ (YES), and briefly describe the circumstances below.

EXPLANATION OF "YES" RESPONSES: (attach additional pages, if needed)

2. OTHER INTERESTS.

- a) For the expert panel on which you have been invited to serve, is a principal charge to provide a critical review and evaluation of your own work or that of your employer?

- b) Do you have any existing professional obligations that effectively require you to publicly defend a previously established position on an issue that is relevant to the functions to be performed by this expert panel?
- c) To the best of your knowledge, will your participation on this expert panel enable you to obtain access to a competitor's or potential competitor's confidential proprietary information?
- d) If you are, or have ever been, a federal, state, or local government employee, to the best of your knowledge are there any conflict of interest restrictions that may be applicable to your service on this expert panel?

If the answer to all of the above questions under **OTHER INTERESTS** is either "no" or "not applicable," check here X (NO).

If the answer to any of the above questions under **OTHER INTERESTS** is "yes," check here ____ (YES), and briefly describe the circumstances below.

EXPLANATION OF "YES" RESPONSES: (attach additional pages, if needed)

Per the CBP BMP Protocol,² all proposed panel members are subject to review and approval by the appropriate sector Workgroup or WQGIT. Please read and initial each of the following statements.

- SAH In addition to this conflict of interest disclosure form, I have received a copy of the current BMP Protocol and, if I am accepted as a panel member, I will, to the best of my ability and with guidance from the Panel Chair and Coordinator, adhere to the expectations and procedures described therein.
- SAH I understand that a conflict of interest may prevent my participation as a member of the proposed BMP expert panel if the CBP partnership, in coordination with the Panel Chair, determine that the circumstances of my particular conflict of interest are not consistent with the intentions or purpose of the expert panel or the BMP Protocol. Furthermore, I understand that any such finding would NOT reflect an assessment by the CBP partnership of my actual expected behavior or in any way be an assessment of my character or my ability to act objectively despite the relevant conflicting interest.
- SAH If I am not confirmed by the CBP partnership as a panel member, I understand that there can be other opportunities to provide my expert input to the panel, as described in the BMP Protocol and that I am welcome to discuss these opportunities with the Panel Chair and Coordinator.
- SAH I affirm that as a panel member I will respectfully consider the expert opinions and judgments of other members within the context of their perspectives, expertise, and experience, and I will reflect on these as I express my own expert opinions and formulate my own professional judgments. Further, I will base my findings, conclusions, and professional judgment on all of the relevant scientific evidence available to the expert panel on which I serve.

During your period of service in connection with the panel for which this form is being completed, any changes in the information reported, or any new information which needs to be reported, should be reported promptly by written or electronic communication to the Panel Chair and Coordinator.

Shawn Hawkins
Signature

9/15/2015
Date

Shawn Hawkins
Print Name

Reviewed WQGIT Co-Chair

Date

Print Name

Reviewed WQGIT Co-Chair

Date

Print Name

² http://www.chesapeakebay.net/publications/title/bmp_review_protocol

Douglas W. Hamilton, Ph.D. P.E.

Associate Professor and Extension Waste Management Specialist.
Biosystems and Agricultural Engineering. Oklahoma State University
Stillwater, OK 74078

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405-744-7089

<http://osuwastemanage.bae.okstate.edu> www.youtube.com/osuwastemanagement

EDUCATION

Ph. D. Agricultural Engineering Pennsylvania State University. 1992
M.S. Agricultural Engineering Iowa State University. 1985
B.S. Agricultural Engineering University of Arkansas. 1983

PROFESSIONAL EXPERIENCE

Associate Professor	Biosystems and Agricultural Engineering and Extension Waste Management Specialist	Oklahoma State University 2000-present
Assistant Professor	Biosystems and Agricultural Engineering and Extension Waste Management Specialist	Oklahoma State University 1995-2000
Assistant Professor	Biosystems and Agricultural Engineering and Extension Soil and Water Specialist	University of Tennessee. 1992-1995.
Inspection Engineer II	Department of Pollution Control and Ecology	State of Arkansas 1985-1988

PROFESSIONAL REGISTRATION

Tennessee: PE # 00101266

AWARDS

Blue Ribbon ASABE Education Aids Competition. 2013, 2011, 2002 and 2000

Secretary of Agriculture Honor Award. 2002. Leadership of Oklahoma Poultry Waste Management Education Team.

Certificate of Achievement USDA-CSREES. 2002. Leadership of Oklahoma Poultry Waste Management Education Team.

PROFESSIONAL ASSOCIATIONS

American Society of Agricultural and Biological Engineers
Water Environment Federation
Air and Waste Management Association

ELECTED SCIENTIFIC AND SERVICE COMMITTEES.

Board of Directors, North American Manure Expo, Inc. 2014-2017.

Stakeholders Advisory Group for the Growth Promoters, Wind, and Human Ecological Health USDA-NRI Integrated Project at Texas Tech University. 2010-2013.

Manure and Byproduct Utilization. USDA-ARS/CSREES. St Louis, MO. 2008.

Water Quality Research Summit. National Pork Board. Des Moines, IA 2008.

OK Delegation to the First International Forum on Permaculture and Intensive Agriculture. Facultad de Zootecnia, UA Chihuahua, Mexico. 2004.

Assessment of Ammonia Emissions from the Stores of Animal Wastes in Reggio Piemonte. Univerista degli Studi di Torino, Italy. 2003-2004.

SELECTED PUBLICATIONS

Hamilton, D.W. and M.T. Steele. 2014. Operation and performance of a farm-scale anaerobic sequencing batch reactor (ASBR) treating dilute swine manure. *Transactions of ASABE*. 57(5) in press.

Hamilton, D.W. and J.A. Ogejo. 2014. *Strategies to Control Farmstead Odors*, BAE 2905. Stillwater, OK: Oklahoma Cooperative Extension Service.

Hamilton, D.W. 2014. *Particle Size Distribution of Manure and Byproduct Slurries*, BAE-1765. Stillwater, OK: Oklahoma Cooperative Extension Service.

Lim, T.T., G. Arnold, A. Douridas, K. Erb, T. Bay, C.E. Henry, C.E., R.E. Meinen, and **D.W. Hamilton**. 2013. North American Manure Expo: Creating a permanent, sustainable base for hands-on manure applicator education, final report. Great Lakes Water Quality Program.

Hamilton, D.W. 2013. *What Every Pork Producer Should Know About Anaerobic Digestion*. Factsheet in Pork Information Gateway (PIG) of the US Pork Center for Excellence. <http://www.porkgateway.org/PIGLibraryDetail/PF/2072.aspx>

Hawkins, S.A., R.S. Frazier, **D.W. Hamilton**. 2012. *The Oklahoma Agricultural Producers Comprehensive Guide to Federal Oil Pollution Prevention Regulations*, E-1029. Stillwater, OK: Oklahoma Cooperative Extension Service.

Hamilton, D.W. 2012. *Organic Matter Content of Wastewater and Manure*, BAE 1760. Stillwater, OK: Oklahoma Cooperative Extension Service.

Hamilton, D.W. 2010. *Solids Separation in Swine Manure Handling Systems*. eXtension Hogs, Pigs, and Pork. <http://www.extension.org/pages/27470/solids-separation-in-swine-manure-handling-systems#.Uyyb7ahdV0M>

Hamilton, D.W., M. Hubert, M. Kerley, N. Meister, A. Parks, J. Payne, and J.M Sweeten. 2009. Agricultural industries byproduct workgroup results, pp 37-44. In, *Feedstocks Workshop Report*. Stillwater, OK: South Central Region Sun Grant Center.

Conflict of Interest Disclosure Form

CHESAPEAKE BAY PROGRAM WATER QUALITY GOAL IMPLEMENTATION TEAM BMP EXPERT PANEL CONFLICT OF INTEREST DISCLOSURE

Version date: July 13, 2015

NAME: Douglas W. Hamilton TELEPHONE: (405) 744-7089

ADDRESS: 226 Agriculture Hall
Stillwater OK, 74078-6059

EMAIL ADDRESS: dhamilt@okstate.edu

EMPLOYER: Oklahoma State University

BMP PANEL: Animal Waste Management Systems and Poultry Heavy Use Area Concrete Pads Phase 6.0

INSTRUCTIONS¹

The primary focus of the CBP BMP expert panels is to develop BMP-specific nutrient and sediment reduction effectiveness estimates (*i.e.*, performance estimates). A secondary focus may include describing future BMP-specific research needs and ancillary benefits. It is essential that the work of BMP expert panels not be compromised by significant conflicts of interest. Except for those situations in which the Chesapeake Bay Program (CBP) partnership determines that a conflict of interest is unavoidable and publicly discloses the conflict of interest, no individual can be appointed to serve (or continue to serve) on an expert panel if the individual has a conflict of interest that is relevant to the functions to be performed.

For the purposes of the BMP expert panels convened by the CBP partnership, the term "**conflict of interest**" is **any financial or other interest which conflicts with the service of the individual because it (1) could significantly impair the individual's objectivity or (2) could create an unfair competitive advantage for any person or organization.** The term "conflict of interest" applies only to *current* interests. It does not apply to past interests that have expired, no longer exist, and cannot reasonably affect current behavior. Nor does it apply to possible interests that may arise in the future, because such future interests are inherently speculative and uncertain.

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case is this: Does the individual, or others with whom the individual has substantial common financial interests, have identifiable interests that could be directly affected by the outcome of the activities of the expert panel on which the individual has been asked to serve? The following questions are designed to elicit information from potential expert panel members concerning potential, relevant conflicts of interest.

1. FINANCIAL INTERESTS.

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- b) Taking into account real estate and other tangible property interests, as well as intellectual property (patents, copyrights, etc.) interests, do you or, to the best of your knowledge others with whom you have substantial common financial interests, have property interests that could be directly affected by the findings made by the expert panel on which you have been invited to serve?
- c) Could your employment (or the employment of your spouse), or the financial interests of your employer or clients (or the financial interests of your spouse's employer or clients) be directly affected by the findings made by the expert panel on which you have been invited to serve?
- d) Taking into account research funding and other research support (e.g., equipment, facilities, industry partnerships, research assistants and other research personnel, etc.), could your current research funding and support (or that of your close research colleagues and collaborators) be directly affected by the findings made by the expert panel on which you have been invited to serve?
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EXPLANATION OF "YES" RESPONSES: (attach additional pages, if needed)

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- b) Do you have any existing professional obligations that effectively require you to publicly defend a previously established position on an issue that is relevant to the functions to be performed by this expert panel?
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- X *I understand that a conflict of interest may prevent my participation as a member of the proposed BMP expert panel if the CBP partnership, in coordination with the Panel Chair, determine that the circumstances of my particular conflict of interest are not consistent with the intentions or purpose of the expert panel or the BMP Protocol. Furthermore, I understand that any such finding would NOT reflect an assessment by the CBP partnership of my actual expected behavior or in any way be an assessment of my character or my ability to act objectively despite the relevant conflicting interest.*
- X *If I am not confirmed by the CBP partnership as a panel member, I understand that there can be other opportunities to provide my expert input to the panel, as described in the BMP Protocol and that I am welcome to discuss these opportunities with the Panel Chair and Coordinator.*
- X *I affirm that as a panel member I will respectfully consider the expert opinions and judgments of other members within the context of their perspectives, expertise, and experience, and I will reflect on these as I express my own expert opinions and formulate my own professional judgments. Further, I will base my findings, conclusions, and professional judgment on all of the relevant scientific evidence available to the expert panel on which I serve.*

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Doug Hamilton

Signature

September 11, 2015

Date

Douglas W. Hamilton

Print Name

Reviewed WQGIT Co-Chair

Date

Print Name

Reviewed WQGIT Co-Chair

Date

Print Name

² http://www.chesapeakebay.net/publications/title/bmp_review_protocol

Bridgett J. McIntosh

Equine Extension Specialist, Department of Animal & Poultry Sciences, Virginia Polytechnic Institute & State University. Middleburg Agricultural Research and Extension Center, 5527 Sullivans Mill Rd., Middleburg, VA
bmcintosh@vt.edu

EDUCATION

2006	PhD	Virginia Polytechnic Institute & State University, Animal and Poultry Sciences
2003	MS	Virginia Polytechnic Institute & State University, Animal and Poultry Sciences
1997	BA	Hollins College, Biology

PROFESSIONAL EXPERIENCE

Extension Equine Specialist	2014-current	Dept. Animal and Poultry Sciences, Virginia Tech
Assistant & Associate Professor (Equine Extension Specialist)	2007-2014	Dept. Animal Science, University of Tennessee
Equine Nutrition Specialist	2006-2007	Blue Seal Feeds, Inc.

SELECTED AWARDS AND HONORS

Equine Science Society Outstanding Young Professional Award, 2015
Cavendar Award for Best Publication, University of Tennessee Institute of Agriculture, 2012
J. E. Moss Faculty Achievement Award, University of Tennessee Institute of Agriculture, 2012

RESEARCH & AGRICULTURAL EXTENSION GRANTS (Select completed projects)

2015	Circulating microRNAs as novel biomarkers for equine insulin resistance. Grayson Jockey Club, \$34,870 . 2 year. Role: Co-investigator. Collaborators: T.Hess, J. Bruemmer, and R. Splan
2015	New Horse Owner Certification Series. Virginia Horse Industry Board. \$2,500 . 1 year. Role: P.I.
2013	Using eXtension HorseQuest and My Horse University online educational outreach resources to deliver the research results funded by USEF, Inc. Equine Health Research Fund to the Equestrian Community. <i>USA Equestrian Trust, Inc.</i> \$17,000 . 2 years. Role: Co-P.I., Collaborators: C. Brady, K. Anderson, C. Skelly, B. Greene, and A. Griffin.
2012	Horse Farm Management and Water Quality Improvement Project: On Farm BMP Implementation. <i>Tennessee Department of Agriculture Non-Point Source Pollution 319 Program.</i> \$50,000 . 3 years. Role: P.I., Collaborators: S. Hawkins, F. Walker, G. Bates, F. Hopkins and J. Rhinehart.
2011	Horse farm management and water quality improvement project. <i>Tennessee Department of Agriculture Non-Point Source Pollution 319 Program.</i> \$100,000 . 5 years. Role: P.I., Collaborators: S. Hawkins, F. Walker, G. Bates, F. Hopkins and J. Rhinehart.
2010	The effect of soil fertility and harvest time on nonstructural carbohydrate content of warm season grasses. <i>UT Extension.</i> \$5,000 . 2 years. Role: P.I., Collaborators: G. Bates, D. McIntosh and G. Parks.
2010	Demonstration of large animal mortality management. <i>Tennessee Department of Agriculture.</i> \$10,000 . 1 year. Role: Co-P.I., Collaborators: F. Walker, S. Hawkins, J. Buchanan, and J. Rhinehart.
2009	Pilot Study: Development of a Tennessee 4-H Animal Science Extension Associate Position. <i>ARRA Grant Program.</i> \$103,250 . 3 years. Role: P.I., Collaborators: F. Hopkins, S. Sutton, and J. Neel.

Total grants and contracts: **\$322,620**

Total gifts, donations, and sponsorships: **\$333,825**

Publications (select peer reviewed journal, excluding Extension publications)

- Beloshapka, A, Godoy, M, Carter, R, Fascetti A, Yu, Z, **McIntosh, B**, Swanson, K and Buff, P (2013). Changes in blood metabolites and oxidative stress markers in American Foxhounds undergoing endurance exercise over several months. *Brit. J. Nutr. Accepted*.
- McIntosh, B**, Bates, G, McIntosh D, and Beeler, J (2013). Effects of cutting height, nitrogen fertilization, and time of day on nonstructural carbohydrate content of bermudagrass (*Cyndodon dactylon*). *J. Equine Vet. Sci.* 33:5. 369.
- Hardcastle, A, Bates, G, McIntosh, D, Beeler, J and **McIntosh, B**. (2013). Effects of cutting height, nitrogen fertilization, and time of day on crude protein content of bermudagrass (*Cyndodon dactylon*). *J. Equine Vet. Sci.* 33:5. 398.
- Johnson, R, Rivard, C, Lanaspas, M, Ottobachian- Smith, S, Ishimoto, T, Cicerchi, C, Cheeke, P, **McIntosh, B** and Hess, T (2012). Fructokinase, fructans, intestinal permeability, and metabolic syndrome: An equine connection? *J. Equine Vet. Sci.* 33(2): 120-126.
- McIntosh, B**, Joines, D, Parks, G and Buff, P (2011). Evaluation of hay fed to horses in Tennessee. *J. Equine Vet. Sci.* 31(5): 301-302.
- Parks, G, **McIntosh, B** and Smith, F (2011). Results of a 2010 survey assessing Tennessee 4-H horse and livestock volunteer training needs. *J. Equine Vet. Sci.* 31(5) 343-344.
- McIntosh, B** and Hopkins, F (2009). The Tennessee master horse owner program: Evaluation of in-service training. *J. Equine Vet. Sci.* 29(5): 462-463.
- Longland, A and **McIntosh (Byrd), B** (2006). The importance of pasture nonstructural carbohydrates in the development of laminitis in grazing horses. *J. Nutr.* 136:2099S- 2102S.
- Kronfeld, D, Treiber, K, Hess, T, Splan, R, **McIntosh (Byrd), B**, Staniar, W and White, N (2006). Metabolic syndrome in healthy ponies facilitates nutritional countermeasures against pasture laminitis. *J. Nutr.* 136:2090S-2093S.
- Cubitt, TA, Staniar, WB, Kronfeld, DS, **McIntosh (Byrd), B**, and Harris, PA (2006). Environmental effects on nutritive value of equine pastures in northern Virginia. *Pferdeheilkunde.* 23(2): 151-154.
- Treiber, K.H., Kronfeld, D., Hess, T, **McIntosh (Byrd), B.**, Splan, R and Staniar. W (2005). Insulin resistance, inheritance and pre-laminitic metabolic syndrome in ponies. *J. Am.Vet. Med. Ass.* 228:1538-1545.

EXTENSION & OUTREACH PRESENTATIONS (Select recent. 119 total)

- 2015 Horse Paddock Grazing Systems: Forage and Horse Health Relationships . Piedmont Environmental Council Greening Your Paddock System Conference. Warrenton, VA.
- 2015 Forage & Pasture Based Nutrition for Horses. Virginia Forage and Grassland Council Equine Forage Conference. Upperville, VA.
- 2015 Pasture Based Nutrition for Horses. 69th Annual Convention Virginia State Feed Association. Roanoke, VA.
- 2015 Pasture problems: Safe grazing tips for managing equine metabolic disorders. Rutgers University Equine Grazing Rewards and Concerns Seminar. New Brunswick, NJ.
- 2015 Managing Pastures to Optimize Horse and Environmental Health, Marion Dupont Scott Equine Medical Center, January 13. Leesburg, VA.

Service (select)

- Virginia Horse Industry Board, 2014-current
- Virginia Horse Council, 2014-current
- Virginia Forage and Grassland Council, 2014-current

Conflict of Interest Disclosure Form**CHESAPEAKE BAY PROGRAM WATER QUALITY GOAL IMPLEMENTATION TEAM
BMP EXPERT PANEL CONFLICT OF INTEREST DISCLOSURE**

Version date: July 13, 2015

NAME: Bridgett McIntosh TELEPHONE: 540-687-3521ADDRESS: 5527 Sullivans Mill Rd
Middleburg VA 20117EMAIL ADDRESS: bmcintosh@vt.eduEMPLOYER: Virginia TechBMP PANEL: Animal Waste Systems Nutrient Retention Performance**INSTRUCTIONS¹**

The primary focus of the CBP BMP expert panels is to develop BMP-specific nutrient and sediment reduction effectiveness estimates (*i.e.*, performance estimates). A secondary focus may include describing future BMP-specific research needs and ancillary benefits. It is essential that the work of BMP expert panels not be compromised by significant conflicts of interest. Except for those situations in which the Chesapeake Bay Program (CBP) partnership determines that a conflict of interest is unavoidable and publicly discloses the conflict of interest, no individual can be appointed to serve (or continue to serve) on an expert panel if the individual has a conflict of interest that is relevant to the functions to be performed.

For the purposes of the BMP expert panels convened by the CBP partnership, the term "conflict of interest" is any financial or other interest which conflicts with the service of the individual because it (1) could significantly impair the individual's objectivity or (2) could create an unfair competitive advantage for any person or organization. The term "conflict of interest" applies only to *current interests*. It does not apply to past interests that have expired, no longer exist, and cannot reasonably affect current behavior. Nor does it apply to possible interests that may arise in the future, because such future interests are inherently speculative and uncertain.

"Conflict of interest" means something more than individual bias. A point of view or bias is not necessarily a conflict of interest. Expert panel members are expected to have points of view and the CBP partnership attempts to balance points of view by supporting diverse expert panel membership. Panel members are asked to consider respectfully the viewpoints of other members, to reflect their own views rather than to be a representative of any organization, and to base their scientific conclusions and judgment on relevant evidence.

This conflict of interest disclosure form is designed to prophylactically eliminate potentially compromising situations from arising, and thereby to protect the individual, the other members of the expert panel, the CBP partnership, and the public interest. The individual, the expert panel, and the partnership should not be placed in a situation where others could reasonably question, and perhaps discount or dismiss, the work of the expert panel simply because of the existence of conflicting interests.

The overriding objective of this conflict of interest disclosure form is to identify whether there are interests – primarily financial in nature – that conflict with the expert panel service of the individual because they could impair the individual's objectivity or could create an unfair competitive advantage for any person or organization. The fundamental question in each case is this: Does the individual, or others with whom the individual has substantial common financial interests, have identifiable

¹ Note: This form was created and informed by National Academies documentation found at <http://www.nationalacademies.org/ooi>.

BTM

interests that could be directly affected by the outcome of the activities of the expert panel on which the individual has been asked to serve? The following questions are designed to elicit information from potential expert panel members concerning potential, relevant conflicts of interest.

1. FINANCIAL INTERESTS.

- a) Taking into account stocks, bonds, and other financial instruments and investments including partnerships (but excluding broadly diversified mutual funds and any investment or financial interests valued at less than \$10,000), do you or, to the best of your knowledge others with whom you have substantial common financial interests, have financial investments that could be affected, either directly or by a direct effect on the business enterprise or activities underlying the investments, by the recommendations made by the expert panel on which you have been invited to serve?
- b) Taking into account real estate and other tangible property interests, as well as intellectual property (patents, copyrights, etc.) interests, do you or, to the best of your knowledge others with whom you have substantial common financial interests, have property interests that could be directly affected by the findings made by the expert panel on which you have been invited to serve?
- c) Could your employment (or the employment of your spouse), or the financial interests of your employer or clients (or the financial interests of your spouse's employer or clients) be directly affected by the findings made by the expert panel on which you have been invited to serve?
- d) Taking into account research funding and other research support (e.g., equipment, facilities, industry partnerships, research assistants and other research personnel, etc.), could your current research funding and support (or that of your close research colleagues and collaborators) be directly affected by the findings made by the expert panel on which you have been invited to serve?
- e) Could your service on the expert panel on which you have been invited to serve create a specific financial or commercial competitive advantage for you or others with whom you have substantial common financial interests?

If the answer to all of the above questions under FINANCIAL INTERESTS is either "no" or "not applicable," check here X (NO).

If the answer to any of the above questions under FINANCIAL INTERESTS is "yes," check here ____ (YES), and briefly describe the circumstances below.

EXPLANATION OF "YES" RESPONSES: (attach additional pages, if needed)

2. OTHER INTERESTS.

- a) For the expert panel on which you have been invited to serve, is a principal charge to provide a critical review and evaluation of your own work or that of your employer?

- b) Do you have any existing professional obligations that effectively require you to publicly defend a previously established position on an issue that is relevant to the functions to be performed by this expert panel?
- c) To the best of your knowledge, will your participation on this expert panel enable you to obtain access to a competitor's or potential competitor's confidential proprietary information?
- d) If you are, or have ever been, a federal, state, or local government employee, to the best of your knowledge are there any conflict of interest restrictions that may be applicable to your service on this expert panel?

If the answer to all of the above questions under OTHER INTERESTS is either "no" or "not applicable," check here X (NO).

If the answer to any of the above questions under OTHER INTERESTS is "yes," check here ____ (YES), and briefly describe the circumstances below.

EXPLANATION OF "YES" RESPONSES: (attach additional pages, if needed)

Per the CBP BMP Protocol,² all proposed panel members are subject to review and approval by the appropriate sector Workgroup or WQGIT. Please read and initial each of the following statements.

BOM In addition to this conflict of interest disclosure form, I have received a copy of the current BMP Protocol and, if I am accepted as a panel member, I will, to the best of my ability and with guidance from the Panel Chair and Coordinator, adhere to the expectations and procedures described therein.

BOM I understand that a conflict of interest may prevent my participation as a member of the proposed BMP expert panel if the CBP partnership, in coordination with the Panel Chair, determine that the circumstances of my particular conflict of interest are not consistent with the intentions or purpose of the expert panel or the BMP Protocol. Furthermore, I understand that any such finding would NOT reflect an assessment by the CBP partnership of my actual expected behavior or in any way be an assessment of my character or my ability to act objectively despite the relevant conflicting interest.

BOM If I am not confirmed by the CBP partnership as a panel member, I understand that there can be other opportunities to provide my expert input to the panel, as described in the BMP Protocol and that I am welcome to discuss these opportunities with the Panel Chair and Coordinator.

BOM I affirm that as a panel member I will respectfully consider the expert opinions and judgments of other members within the context of their perspectives, expertise, and experience, and I will reflect on these as I express my own expert opinions and formulate my own professional judgments. Further, I will base my findings, conclusions, and professional judgment on all of the relevant scientific evidence available to the expert panel on which I serve.

During your period of service in connection with the panel for which this form is being completed, any changes in the information reported, or any new information which needs to be reported, should be reported promptly by written or electronic communication to the Panel Chair and Coordinator.

Bridgett J. McIntosh
Signature

10/19/15
Date

Bridgett J. McIntosh
Print Name

Reviewed WQGIT Co-Chair

Date

Print Name

Reviewed WQGIT Co-Chair

Date

Print Name

² http://www.chesapeakebay.net/publications/title/bmp_review_protocol

Curriculum Vitae of **Jonathan R. Moyle**

Poultry Extension Specialist, University of Maryland Extension, Lower Eastern Shore Research
and Education Center, 27664 Nanticoke Road, Salisbury, MD 21801, Tel: 410-742-1178 ext.
309, Email: jmoyle@umd.edu

Educational Background:

1989 Brigham Young University, B.S., Animal Science
2008 University of Arkansas, M.S., Poultry Science
Thesis: Behavior and reproduction performance of broiler breeder hens raised on various
growth curves.
2010 University of Arkansas, Ph.D., Poultry Science
Dissertation: The physiological development and reproductive behavior of broiler breeder
males raised on shortened growth cycles.

Certifications:

Institutional Animal Care and Use Committee (IACUC) training January, 2008
Maryland Department of Agriculture Poultry/Rabbit processing May, 2013
Private applicator pesticide license March, 2014

Employment Background:

2013 – Present	Poultry Specialist, Agriculture and Natural Resources University of Maryland Extension, Lower Eastern Shore Research and Education Center
2010 – 2012	Research Associate USDA, Agricultural Research Service, Poultry Production and Product Safety Research Unit, Fayetteville, AR
2006 –2010	Graduate Research Assistant with both research and teaching responsibilities, University of Arkansas, Poultry Science Department University of Arkansas, Fayetteville, AR
2000 –2010	Commercial broiler breeder farm owner/operator, Story, AR

Grants (Total value of grants funded):

1. 2015 – 2018, Lee, Khan, Keeler, Jackwood, Lin, Benson, Moyle, et. al. Control of
Endemic, Emerging, and Re-Emerging Poultry Respiratory Diseases in the United States,
7,200,000 (\$51,410 UMD)
2. 2014 – McCrea, B.A., J. Moyle (Co-I), and B. Brown. Determining the risks associated
with scavenging raptors to the biosecurity of broiler farms on Delmarva. NESARE
Partnership grant proposal, \$11,309 (awarded).

Articles in Refereed Journals (last 2 years):

1. J.A. England, J.R. Moyle, D.E. Yoho, R.K. Bramwell, R.D. Ekmay, R. Kriseldi and C.N.
Coon, 2014. Effect of Rearing Program, Body Conformation and Protein Level of
Breeder Feed on Broiler Breeder Hen Reproductive Performance. International Journal
of Poultry Science 13 (12): 670-679.
2. Moyle J. R., K. Arsi, D. J. Donoghue, F. D. Clark and A. M. Donoghue, 2014. Growth
performance of fast growing broilers reared under different types of pasture management:
Implications for organic and alternative production systems. Journal of Applied Poultry
Research. 23: 212-220.

Abstracts (published, from poster presentations, last 2 years):

Rhodes, J. L., and J. R. Moyle, 2015. Accessing Heavy Use Area Protection on Poultry Farms. NACAA AMPIC, Sioux Falls, SD.

McCrea, B.A., L.A. Brooks, J. R. Moyle, and W.R. Brown, 2015. Game Camera and Farmer Scouting Results at Delmarva Broiler Farm Composters. Poultry Science Association, Louisville, Kentucky.

Moyle, K., F. D. Clark and J. R. Moyle, 2015. Prevalence of internal parasites in backyard poultry in Arkansas. International Poultry Scientific Forum, Atlanta Georgia.

Brooks, L., J. R. Moyle, B. Brown and B McCrea, 2015. Prevalence of Vultures at Delmarva Broiler Farm Composters. International Poultry Scientific Forum, Atlanta Georgia.

Moyle, J. R. and J. L. Rhodes, 2015. An on-farm assessment of Heavy Use Area Protection at capturing nutrients. International Poultry Scientific Forum, Atlanta Georgia.

Moyle, J. R. and W. R. Brown, 2015. On-farm performance and electrical savings of LED lighting. International Poultry Scientific Forum, Atlanta Georgia.

Rhodes, J. L., and J. R. Moyle, 2014. Using Sustainable Switchgrass As Poultry Bedding. NACAA AMPIC, Mobile, Alabama.

Moyle, K. F. D. Clark, and J. R. Moyle, 2014. Prevalence of internal parasites in backyard poultry in Arkansas. Poultry Science Association, Corpus Christy Texas.

Moyle, J. R., J. L. Rhodes, and W. R. Brown, 2014. Switchgrass bedding as an alternative to pine shavings on poultry farms with multiple grow-outs between cleanouts. International Poultry Scientific Forum, Atlanta Georgia.

Reports and Extension Publication (last 2 years):

1. Goeringer, L.P., A.N. Newhall, and Moyle, J.R., 2015. Privacy Issues and the Use of UASs/Drones in Maryland. University of Maryland Extension Factsheet FS-998-2015.
2. Moyle, J. R, N. L. Tablante, D. Bautista, F. D. Clark, 2015. Recognizing and Preventing Mycoplasma gallisepticum (MG) Infection in Poultry. University of Maryland Extension Factsheet FS-1008-2015.
3. Moyle, J. R, N. L. Tablante, D. Bautista, F. D. Clark, 2015. Recognizing and Preventing Marek's Disease in Small Flocks. University of Maryland Extension Factsheet FS-1007-2015. Moyle, K., F. D. Clark, J. R. Moyle, T. Tabler and S. Barber, 2014. Coccidiosis in Chickens. University of Arkansas Division of Agriculture Research and Extension publication FSA8020.
4. Miller, J. O., and J. R. Moyle, 2014. Manure as a Natural Resource: Alternative Management Opportunities. University of Maryland Extension Bulletin EB-420.
5. Tabler, T., J. Wells, Y. Liang, J. R. Moyle, F. D. Clark, 2014. Water Quality and Quantity Influence Flock Performance. Mississippi State University Extension Publication 2869.
6. Timmons, J., and J. R. Moyle, 2014. A Guide for Maryland Department of Agriculture's Rabbit and Poultry Slaughter Requirements. University of Maryland Extension Bulletin, EB-419.

Conflict of Interest Disclosure Form

CHESPEAKE BAY PROGRAM WATER QUALITY GOAL IMPLEMENTATION TEAM BMP EXPERT PANEL CONFLICT OF INTEREST DISCLOSURE

Version date: July 13, 2015

NAME: JONATHAN MOYLE _____ TELEPHONE: 443-754-0539 _____

ADDRESS: 27664 NANTICOKE ROAD _____
SALISBURY, MD 21801 _____

EMAIL ADDRESS: JMOYLE@UMD.EDU _____

EMPLOYER: UNIVERSITY OF MARYLAND _____

BMP PANEL: Animal Waste Management Systems and Poultry Heavy Use Area Concrete Pads Phase 6.0 Expert Panel

INSTRUCTIONS¹

The primary focus of the CBP BMP expert panels is to develop BMP-specific nutrient and sediment reduction effectiveness estimates (*i.e.*, performance estimates). A secondary focus may include describing future BMP-specific research needs and ancillary benefits. It is essential that the work of BMP expert panels not be compromised by significant conflicts of interest. Except for those situations in which the Chesapeake Bay Program (CBP) partnership determines that a conflict of interest is unavoidable and publicly discloses the conflict of interest, no individual can be appointed to serve (or continue to serve) on an expert panel if the individual has a conflict of interest that is relevant to the functions to be performed.

For the purposes of the BMP expert panels convened by the CBP partnership, the term **"conflict of interest"** is any financial or other interest which conflicts with the service of the individual because it (1) could significantly impair the individual's objectivity or (2) could create an unfair competitive advantage for any person or organization. The term "conflict of interest" applies only to *current* interests. It does not apply to past interests that have expired, no longer exist, and cannot reasonably affect current behavior. Nor does it apply to possible interests that may arise in the future, because such future interests are inherently speculative and uncertain.

"Conflict of interest" means something more than individual bias. A point of view or bias is not necessarily a conflict of interest. Expert panel members are expected to have points of view and the CBP partnership attempts to balance points of view by supporting diverse expert panel membership. Panel members are asked to consider respectfully the viewpoints of other members, to reflect their own views rather than to be a representative of any organization, and to base their scientific conclusions and judgment on relevant evidence.

This conflict of interest disclosure form is designed to prophylactically eliminate potentially compromising situations from arising, and thereby to protect the individual, the other members of the expert panel, the CBP partnership, and the public interest. The individual, the expert panel, and the partnership should not be placed in a situation where others could reasonably question, and perhaps discount or dismiss, the work of the expert panel simply because of the existence of conflicting interests.

The overriding objective of this conflict of interest disclosure form is to identify whether there are interests – primarily financial in nature – that conflict with the expert panel service of the individual because they could impair the individual's objectivity or could create an unfair competitive advantage for any person or organization. The fundamental question in each case is this: Does the individual, or others with whom the individual has substantial common financial interests, have identifiable

¹ Note: This form was created and informed by National Academies documentation found at <http://www.nationalacademies.org/coi>.

interests that could be directly affected by the outcome of the activities of the expert panel on which the individual has been asked to serve? The following questions are designed to elicit information from potential expert panel members concerning potential, relevant conflicts of interest.

1. FINANCIAL INTERESTS.

- a) Taking into account stocks, bonds, and other financial instruments and investments including partnerships (but excluding broadly diversified mutual funds and any investment or financial interests valued at less than \$10,000), do you or, to the best of your knowledge others with whom you have substantial common financial interests, have financial investments that could be affected, either directly or by a direct effect on the business enterprise or activities underlying the investments, by the recommendations made by the expert panel on which you have been invited to serve?
- b) Taking into account real estate and other tangible property interests, as well as intellectual property (patents, copyrights, etc.) interests, do you or, to the best of your knowledge others with whom you have substantial common financial interests, have property interests that could be directly affected by the findings made by the expert panel on which you have been invited to serve?
- c) Could your employment (or the employment of your spouse), or the financial interests of your employer or clients (or the financial interests of your spouse's employer or clients) be directly affected by the findings made by the expert panel on which you have been invited to serve?
- d) Taking into account research funding and other research support (e.g., equipment, facilities, industry partnerships, research assistants and other research personnel, etc.), could your current research funding and support (or that of your close research colleagues and collaborators) be directly affected by the findings made by the expert panel on which you have been invited to serve?
- e) Could your service on the expert panel on which you have been invited to serve create a specific financial or commercial competitive advantage for you or others with whom you have substantial common financial interests?

If the answer to all of the above questions under FINANCIAL INTERESTS is either "no" or "not applicable," check here ☒ (NO).

If the answer to any of the above questions under FINANCIAL INTERESTS is "yes," check here ☐ (YES), and briefly describe the circumstances below.

EXPLANATION OF "YES" RESPONSES: (attach additional pages, if needed)

2. OTHER INTERESTS.

- a) For the expert panel on which you have been invited to serve, is a principal charge to provide a critical review and evaluation of your own work or that of your employer?

- b) Do you have any existing professional obligations that effectively require you to publicly defend a previously established position on an issue that is relevant to the functions to be performed by this expert panel?
- c) To the best of your knowledge, will your participation on this expert panel enable you to obtain access to a competitor's or potential competitor's confidential proprietary information?
- d) If you are, or have ever been, a federal, state, or local government employee, to the best of your knowledge are there any conflict of interest restrictions that may be applicable to your service on this expert panel?

If the answer to all of the above questions under **OTHER INTERESTS** is either "no" or "not applicable," check here ____ (NO).

If the answer to any of the above questions under **OTHER INTERESTS** is "yes," check here ✓ (YES), and briefly describe the circumstances below.

EXPLANATION OF "YES" RESPONSES: (attach additional pages, if needed)

I don't think it's a conflict, but I have done some preliminary work looking at the amount of litter Heavy Use Area Concrete Pads prevent from entering the environment.

Per the CBP BMP Protocol,² all proposed panel members are subject to review and approval by the appropriate sector Workgroup or WQGIT. **Please read and initial each of the following statements.**

- JM* In addition to this conflict of interest disclosure form, I have received a copy of the current BMP Protocol and, if I am accepted as a panel member, I will, to the best of my ability and with guidance from the Panel Chair and Coordinator, adhere to the expectations and procedures described therein.
- JM* I understand that a conflict of interest may prevent my participation as a member of the proposed BMP expert panel if the CBP partnership, in coordination with the Panel Chair, determine that the circumstances of my particular conflict of interest are not consistent with the intentions or purpose of the expert panel or the BMP Protocol. Furthermore, I understand that any such finding would NOT reflect an assessment by the CBP partnership of my actual expected behavior or in any way be an assessment of my character or my ability to act objectively despite the relevant conflicting interest.
- JM* If I am not confirmed by the CBP partnership as a panel member, I understand that there can be other opportunities to provide my expert input to the panel, as described in the BMP Protocol and that I am welcome to discuss these opportunities with the Panel Chair and Coordinator.
- JM* I affirm that as a panel member I will respectfully consider the expert opinions and judgments of other members within the context of their perspectives, expertise, and experience, and I will reflect on these as I express my own expert opinions and formulate my own professional judgments. Further, I will base my findings, conclusions, and professional judgment on all of the relevant scientific evidence available to the expert panel on which I serve.

During your period of service in connection with the panel for which this form is being completed, any changes in the information reported, or any new information which needs to be reported, should be reported promptly by written or electronic communication to the Panel Chair and Coordinator.

Jonathan Mayle
Signature

9-10-2015
Date

Jonathan Mayle
Print Name

Reviewed WQGIT Co-Chair

Date

Print Name

Reviewed WQGIT Co-Chair

Date

Print Name

² http://www.chesapeakebay.net/publications/title/bmp_review_protocol

LAWRENCE MARK RISSE

Education

Ph.D. in Agricultural Engineering, Purdue University, May 1994.
M.S. in Agricultural Engineering, University of Georgia, March 1989.
B.S. in Agricultural Engineering, University of Georgia, March 1987.

Employment

Director of Marine Outreach programs, The University of Georgia, July 2013-present. Serve as Director and Lead Contact for the Georgia Sea Grant College program and Marine Extension at the University of Georgia.
Georgia Power Professor of Water Policy, Joint Appointment with Carl Vinson Institute of Government, University of Georgia, June 2009-present.
Professor, Biological and Agricultural Engineering, University of Georgia, July 2006-2009.
Associate Professor, Biological and Agricultural Engineering, University of Georgia, April 1999-July 2006.
Public Service Assistant, University of Georgia, Serve as State Extension Specialist in Agricultural Pollution Prevention. December 1994 to April 1999.
Agricultural Engineer, USDA-ARS National Soil Erosion Research Laboratory. January 1992 to November 1994.
Engineer, Hill-Fister Engineering Corp. Athens, GA. January 1989 to July 1989.
Hydrologic Technician, United States Geological Survey, Atlanta, GA, Summer 1986.

Professional Societies

ASAE, National Association of County Agents, Soil and Water Conservation Society
Serve on five National Committees for ASAE and more than ten State-level committees
Past President of Georgia Section ASAE and Georgia SWCS
Editor for Transactions of the ASAE, Soil and Water Division

Awards

2011 Barnard Hill Fellow Award for Distinguished Public Service and Outreach
2009 Barnard Hill Award for Distinguished Public Service and Outreach
2009 Appointed Georgia Power Endowed Professor of Water Resources Policy
2009 Elected Fellow in the International Soil and Water Conservation Society
2003 Georgia Engineer of the Year
2001 Nolan Mitchell Young Extension Specialist of the Year from ASAE
1999 Hammer Award presented to Farm*A*Syst from Vice President Al Gore
1999 "Working together for Rural America" Award from the U.S. Forest Service
1998 ASAE Blue Ribbon Educational Awards for AWARE team
1997 Superior ASAE Paper Award in *Transactions of the ASAE*
1997 Outstanding Young Extension Professional (State Staff) from Georgia Association of County Agricultural Agents

Publications

1 book edited, 6 book chapters, 54 journal articles, 48 Extension bulletins, 202 abstracts or Convention Papers

Recent Research Publications:

Oliver, C., D.E. Radcliffe, M. Habteselassie, L.M. Risse, and R. Mukantan. 2014. The Impact of On-Site Wastewater Treatment Systems on the Nitrogen Load and Baseflow in Streams of Watersheds in Metropolitan Atlanta, Georgia. Accepted for publication in Transactions of the ASABE, December, 2013.
Bellflower, J.B., B.H. Kiepper, J.C. Perry, L.M. Risse, and R.C. Smith, 2012, Water and Electricity Consumption on Pasture and Confined Dairies in Georgia, Applied Engineering in Agriculture 28(2):259-263.
Bellflower, J.B., J.K. Bernard, D.K. Gattie, D.W. Hancock, L.M. Risse, and C.A. Rotz, 2012, A case study of the potential environmental impacts of different dairy production systems in Georgia. Agricultural Systems 108:84-93.
Singh, K., L.M. Risse, K.C. Das, J. Worley and S. Thompson, 2012. Pyrolysis of Poultry Litter Fractions for Bio-Char and Bio-Oil Production, Journal of Agricultural Science and Applications 1(2):37-44.

- Mullen, J., U. Bekchanov, B. Karali, D. Kissel, M. Risse, K. Rowles, and S. Collier, 2011. Assessing the Market for Poultry Litter in Georgia: Are Subsidies Needed to Protect Water Quality? *Journal of Agricultural and Applied Economics* 43(4):553-568.
- Romeis, J.J., C. R. Jackson, L.M. Risse, A.N. Sharpley, and D.E. Radcliffe, 2011. Hydrologic and Phosphorus export Behavior of Small streams in Commercial Poultry-Pasture Watersheds. *Journal of the American Water Resources Association* 47(2):367-385.
- Butler, D.M., D. Franklin, M.L. Cabrera, L.M. Risse, D.E. Radcliffe, L.T. West, and J.W. Gaskin, 2010. Assessment of the Georgia P Index on-farm at the field-scale for grassland management. *Journal of Soil and Water Conservation* 65(3):200-210.
- Mukundan, R., D.E. Radcliffe, and L.M. Risse, 2010. Spatial resolution of soil data and channel erosion effects on SWAT model predictions of flow and sediment, *Journal of Soil and Water Conservation*. 65(2):92-104.
- Mukundan, R., D.E. Radcliffe, J.C. Ritchie, L.M. Risse, and R.A. McKinley, 2010. Sediment Fingerprinting to Determine the Source of Suspended Sediment in a Southern Piedmont Stream, *Journal of Environmental Quality* 39:1328-1337.
- Singh, K., K. Lee, J. Worley, L.M. Risse, and K.C. Das, 2010. Anaerobic Digestion of Poultry Litter: A Review. *Applied Engineering in Agriculture*. Feb. 12, 2010.
- Singh, K., L.M. Risse, K.C. Das, J. Worley, and S. Thompson, 2010. Effect of Fractionation and Pyrolysis on Fuel Properties of Poultry Litter. *Journal of Air & Waste Management Association* 60:875-883.
- Zhu, X., L. M. Risse, S. C. McCutcheon, E. W. Tollner, T. C. Rasmussen and L. West, 2010. Laboratory Investigation of Rill Erosion on Compost Blankets under Concentrated Flow Conditions. *Transactions of the ASABE* 53(4):

Recent Extension Publications:

- Bauske, E., M. Habtesalassie, and M. Risse, 2013. A beginners guide to Septic Systems. UGA Cooperative Extension Bulletin 1421. http://www.caes.uga.edu/Publications/pubDetail.cfm?pk_id=8062&pg=al&ak=A
- Risse, L.M., F. Henning, and C. Butts, 2012. Know how and when to Watersmart. UGA Cooperative Extension Circular 1024.
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Conflict of Interest Disclosure Form

CHESAPEAKE BAY PROGRAM WATER QUALITY GOAL IMPLEMENTATION TEAM BMP EXPERT PANEL CONFLICT OF INTEREST DISCLOSURE

Version date: July 13, 2015

NAME: Mark Risse TELEPHONE: 706 202 9576
 ADDRESS: 4990 Colham Ferry Rd
Watkinsville GA 30677
 EMAIL ADDRESS: mrisse@uga.edu
 EMPLOYER: University of Georgia
 BMP PANEL: Animal Waste Management Systems Phase 6.0 Expert Panel

INSTRUCTIONS¹

The primary focus of the CBP BMP expert panels is to develop BMP-specific nutrient and sediment reduction effectiveness estimates (*i.e.*, performance estimates). A secondary focus may include describing future BMP-specific research needs and ancillary benefits. It is essential that the work of BMP expert panels not be compromised by significant conflicts of interest. Except for those situations in which the Chesapeake Bay Program (CBP) partnership determines that a conflict of interest is unavoidable and publicly discloses the conflict of interest, no individual can be appointed to serve (or continue to serve) on an expert panel if the individual has a conflict of interest that is relevant to the functions to be performed.

For the purposes of the BMP expert panels convened by the CBP partnership, the term "**conflict of interest**" is any financial or other interest which conflicts with the service of the individual because it (1) could significantly impair the individual's objectivity or (2) could create an unfair competitive advantage for any person or organization. The term "conflict of interest" applies only to *current interests*. It does not apply to past interests that have expired, no longer exist, and cannot reasonably affect current behavior. Nor does it apply to possible interests that may arise in the future, because such future interests are inherently speculative and uncertain.

"Conflict of interest" means something more than individual bias. A point of view or bias is not necessarily a conflict of interest. Expert panel members are expected to have points of view and the CBP partnership attempts to balance points of view by supporting diverse expert panel membership. Panel members are asked to consider respectfully the viewpoints of other members, to reflect their own views rather than to be a representative of any organization, and to base their scientific conclusions and judgment on relevant evidence.

This conflict of interest disclosure form is designed to prophylactically eliminate potentially compromising situations from arising, and thereby to protect the individual, the other members of the expert panel, the CBP partnership, and the public interest. The individual, the expert panel, and the partnership should not be placed in a situation where others could reasonably question, and perhaps discount or dismiss, the work of the expert panel simply because of the existence of conflicting interests.

The overriding objective of this conflict of interest disclosure form is to identify whether there are interests – primarily financial in nature – that conflict with the expert panel service of the individual because they could impair the individual's objectivity or could create an unfair competitive advantage for any person or organization. The fundamental question in each case is this: Does the individual, or others with whom the individual has substantial common financial interests, have identifiable

¹ Note: This form was created and informed by National Academies documentation found at <http://www.nationalacademies.org/coi>.

interests that could be directly affected by the outcome of the activities of the expert panel on which the individual has been asked to serve? The following questions are designed to elicit information from potential expert panel members concerning potential, relevant conflicts of interest.

1. FINANCIAL INTERESTS.

- a) Taking into account stocks, bonds, and other financial instruments and investments including partnerships (but excluding broadly diversified mutual funds and any investment or financial interests valued at less than \$10,000), do you or, to the best of your knowledge others with whom you have substantial common financial interests, have financial investments that could be affected, either directly or by a direct effect on the business enterprise or activities underlying the investments, by the recommendations made by the expert panel on which you have been invited to serve?
- b) Taking into account real estate and other tangible property interests, as well as intellectual property (patents, copyrights, etc.) interests, do you or, to the best of your knowledge others with whom you have substantial common financial interests, have property interests that could be directly affected by the findings made by the expert panel on which you have been invited to serve?
- c) Could your employment (or the employment of your spouse), or the financial interests of your employer or clients (or the financial interests of your spouse's employer or clients) be directly affected by the findings made by the expert panel on which you have been invited to serve?
- d) Taking into account research funding and other research support (e.g., equipment, facilities, industry partnerships, research assistants and other research personnel, etc.), could your current research funding and support (or that of your close research colleagues and collaborators) be directly affected by the findings made by the expert panel on which you have been invited to serve?
- e) Could your service on the expert panel on which you have been invited to serve create a specific financial or commercial competitive advantage for you or others with whom you have substantial common financial interests?

If the answer to all of the above questions under **FINANCIAL INTERESTS** is either "no" or "not applicable," check here X (NO).

If the answer to any of the above questions under **FINANCIAL INTERESTS** is "yes," check here ____ (YES), and briefly describe the circumstances below.

EXPLANATION OF "YES" RESPONSES: (attach additional pages, if needed)

2. OTHER INTERESTS.

- a) For the expert panel on which you have been invited to serve, is a principal charge to provide a critical review and evaluation of your own work or that of your employer?

- b) Do you have any existing professional obligations that effectively require you to publicly defend a previously established position on an issue that is relevant to the functions to be performed by this expert panel?
- c) To the best of your knowledge, will your participation on this expert panel enable you to obtain access to a competitor's or potential competitor's confidential proprietary information?
- d) If you are, or have ever been, a federal, state, or local government employee, to the best of your knowledge are there any conflict of interest restrictions that may be applicable to your service on this expert panel?

If the answer to all of the above questions under **OTHER INTERESTS** is either "no" or "not applicable," check here X (NO).

If the answer to any of the above questions under **OTHER INTERESTS** is "yes," check here (YES), and briefly describe the circumstances below.

EXPLANATION OF "YES" RESPONSES: (attach additional pages, if needed)

Per the CBP BMP Protocol,² all proposed panel members are subject to review and approval by the appropriate sector Workgroup or WQGIT. **Please read and initial each of the following statements.**

MR In addition to this conflict of interest disclosure form, I have received a copy of the current BMP Protocol and, if I am accepted as a panel member, I will, to the best of my ability and with guidance from the Panel Chair and Coordinator, adhere to the expectations and procedures described therein.

MR I understand that a conflict of interest may prevent my participation as a member of the proposed BMP expert panel if the CBP partnership, in coordination with the Panel Chair, determine that the circumstances of my particular conflict of interest are not consistent with the intentions or purpose of the expert panel or the BMP Protocol. Furthermore, I understand that any such finding would NOT reflect an assessment by the CBP partnership of my actual expected behavior or in any way be an assessment of my character or my ability to act objectively despite the relevant conflicting interest.

MR If I am not confirmed by the CBP partnership as a panel member, I understand that there can be other opportunities to provide my expert input to the panel, as described in the BMP Protocol and that I am welcome to discuss these opportunities with the Panel Chair and Coordinator.

MR I affirm that as a panel member I will respectfully consider the expert opinions and judgments of other members within the context of their perspectives, expertise, and experience, and I will reflect on these as I express my own expert opinions and formulate my own professional judgments. Further, I will base my findings, conclusions, and professional judgment on all of the relevant scientific evidence available to the expert panel on which I serve.

During your period of service in connection with the panel for which this form is being completed, any changes in the information reported, or any new information which needs to be reported, should be reported promptly by written or electronic communication to the Panel Chair and Coordinator.

MR MR
Signature

9/11/15
Date

Mark Risse
Print Name

Reviewed WQGIT Co-Chair

Date

Print Name

Reviewed WQGIT Co-Chair

Date

Print Name

² http://www.chesapeakebay.net/publications/title/bmp_review_protocol

Conflict of Interest Disclosure Form

CHESAPEAKE BAY PROGRAM WATER QUALITY GOAL IMPLEMENTATION TEAM

BMP EXPERT PANEL CONFLICT OF INTEREST DISCLOSURE

Version date: July 13, 2015

NAME: Peter J. Vanderstappen TELEPHONE: 717-237-2228 (w) 717-460-7508 (Per Cell)

ADDRESS: 2120 Cornwall Road, Suite 4
Lebanon, PA 17042

EMAIL ADDRESS: peter.vanderstappen@pa.usda.gov

EMPLOYER: USDA - NRCS - PA

BMP PANEL: "Animal Waste Management Systems and Poultry Heavy Use Area Conservation
Phase 6.0 Expert Panel"

INSTRUCTIONS¹

The primary focus of the CBP BMP expert panels is to develop BMP-specific nutrient and sediment reduction effectiveness estimates (*i.e.*, performance estimates). A secondary focus may include describing future BMP-specific research needs and ancillary benefits. It is essential that the work of BMP expert panels not be compromised by significant conflicts of interest. Except for those situations in which the Chesapeake Bay Program (CBP) partnership determines that a conflict of interest is unavoidable and publicly discloses the conflict of interest, no individual can be appointed to serve (or continue to serve) on an expert panel if the individual has a conflict of interest that is relevant to the functions to be performed.

For the purposes of the BMP expert panels convened by the CBP partnership, the term **"conflict of interest"** is any financial or other interest which conflicts with the service of the individual because it (1) could significantly impair the individual's objectivity or (2) could create an unfair competitive advantage for any person or organization. The term "conflict of interest" applies only to *current interests*. It does not apply to past interests that have expired, no longer exist, and cannot reasonably affect current behavior. Nor does it apply to possible interests that may arise in the future, because such future interests are inherently speculative and uncertain.

"Conflict of interest" means something more than individual bias. A point of view or bias is not necessarily a conflict of interest. Expert panel members are expected to have points of view and the CBP partnership attempts to balance points of view by supporting diverse expert panel membership. Panel members are asked to consider respectfully the viewpoints of other members, to reflect their own views rather than to be a representative of any organization, and to base their scientific conclusions and judgment on relevant evidence.

This conflict of interest disclosure form is designed to prophylactically eliminate potentially compromising situations from arising, and thereby to protect the individual, the other members of the expert panel, the CBP partnership, and the public interest. The individual, the expert panel, and the partnership should not be placed in a situation where others could reasonably question, and perhaps discount or dismiss, the work of the expert panel simply because of the existence of conflicting interests.

The overriding objective of this conflict of interest disclosure form is to identify whether there are interests – primarily financial in nature – that conflict with the expert panel service of the individual because they could impair the individual's objectivity or could create an unfair competitive advantage for any person or organization. The fundamental question in each case is this: Does the individual, or others with whom the individual has substantial common financial interests, have identifiable

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interests that could be directly affected by the outcome of the activities of the expert panel on which the individual has been asked to serve? The following questions are designed to elicit information from potential expert panel members concerning potential, relevant conflicts of interest.

1. FINANCIAL INTERESTS.

- a) Taking into account stocks, bonds, and other financial instruments and investments including partnerships (but excluding broadly diversified mutual funds and any investment or financial interests valued at less than \$10,000), do you or, to the best of your knowledge others with whom you have substantial common financial interests, have financial investments that could be affected, either directly or by a direct effect on the business enterprise or activities underlying the investments, by the recommendations made by the expert panel on which you have been invited to serve?
- b) Taking into account real estate and other tangible property interests, as well as intellectual property (patents, copyrights, etc.) interests, do you or, to the best of your knowledge others with whom you have substantial common financial interests, have property interests that could be directly affected by the findings made by the expert panel on which you have been invited to serve?
- c) Could your employment (or the employment of your spouse), or the financial interests of your employer or clients (or the financial interests of your spouse's employer or clients) be directly affected by the findings made by the expert panel on which you have been invited to serve?
- d) Taking into account research funding and other research support (e.g., equipment, facilities, industry partnerships, research assistants and other research personnel, etc.), could your current research funding and support (or that of your close research colleagues and collaborators) be directly affected by the findings made by the expert panel on which you have been invited to serve?
- e) Could your service on the expert panel on which you have been invited to serve create a specific financial or commercial competitive advantage for you or others with whom you have substantial common financial interests?

If the answer to all of the above questions under FINANCIAL INTERESTS is either "no" or "not applicable," check here ✓ (NO). PJV

If the answer to any of the above questions under FINANCIAL INTERESTS is "yes," check here ____ (YES), and briefly describe the circumstances below.

EXPLANATION OF "YES" RESPONSES: (attach additional pages, if needed)

N/A

2. OTHER INTERESTS.

- a) For the expert panel on which you have been invited to serve, is a principal charge to provide a critical review and evaluation of your own work or that of your employer?

- b) Do you have any existing professional obligations that effectively require you to publicly defend a previously established position on an issue that is relevant to the functions to be performed by this expert panel?
- c) To the best of your knowledge, will your participation on this expert panel enable you to obtain access to a competitor's or potential competitor's confidential proprietary information?
- d) If you are, or have ever been, a federal, state, or local government employee, to the best of your knowledge are there any conflict of interest restrictions that may be applicable to your service on this expert panel?

If the answer to all of the above questions under **OTHER INTERESTS** is either "no" or "not applicable," check here ☒ (NO). PJ✓

If the answer to any of the above questions under **OTHER INTERESTS** is "yes," check here ☐ (YES), and briefly describe the circumstances below.

EXPLANATION OF "YES" RESPONSES: (attach additional pages, if needed)

N/A

Per the CBP BMP Protocol,² all proposed panel members are subject to review and approval by the appropriate sector Workgroup or WQGIT. **Please read and initial each of the following statements.**

- PJV *In addition to this conflict of interest disclosure form, I have received a copy of the current BMP Protocol and, if I am accepted as a panel member, I will, to the best of my ability and with guidance from the Panel Chair and Coordinator, adhere to the expectations and procedures described therein.*
- PJV *I understand that a conflict of interest may prevent my participation as a member of the proposed BMP expert panel if the CBP partnership, in coordination with the Panel Chair, determine that the circumstances of my particular conflict of interest are not consistent with the intentions or purpose of the expert panel or the BMP Protocol. Furthermore, I understand that any such finding would NOT reflect an assessment by the CBP partnership of my actual expected behavior or in any way be an assessment of my character or my ability to act objectively despite the relevant conflicting interest.*
- PJV *If I am not confirmed by the CBP partnership as a panel member, I understand that there can be other opportunities to provide my expert input to the panel, as described in the BMP Protocol and that I am welcome to discuss these opportunities with the Panel Chair and Coordinator.*
- PJV *I affirm that as a panel member I will respectfully consider the expert opinions and judgments of other members within the context of their perspectives, expertise, and experience, and I will reflect on these as I express my own expert opinions and formulate my own professional judgments. Further, I will base my findings, conclusions, and professional judgment on all of the relevant scientific evidence available to the expert panel on which I serve.*

During your period of service in connection with the panel for which this form is being completed, any changes in the information reported, or any new information which needs to be reported, should be reported promptly by written or electronic communication to the Panel Chair and Coordinator.

Peter J. Van der Stappen
Signature

9/10/2015
Date

Peter J. Vanderstappen
Print Name

Reviewed WQGIT Co-Chair

Date

Print Name

Reviewed WQGIT Co-Chair

Date

Print Name

² http://www.chesapeakebay.net/publications/title/bmp_review_protocol

RESUME

Peter J. Vanderstappen, PE

Office Phone: 717-237-2228 or 717-274-2597 x121

Personal Cell: 717-460-7508

Professional History

USDA-NRCS, Assistant State Engineer, current position

Located in Lebanon Technical Center, but part of the State Engineer's staff. Spend 50% of my time at the NRCS state office in Harrisburg. Scope of responsibility is statewide. Provide day to day technical support for all conservation programs from simple to complex engineering issues requiring assistance and guidance for field and area engineers. Give direction and recommendations within policy and standards. Most issues solved that day. Examples include advice on design procedures on concrete retaining walls, solving construction installation issues, complex rip-rap or Turf Reinforced channels on steep grades with high velocities, and interpretation of proper usage of cost-scenarios. Recognized as the person to answer conservation manure storage construction issues, designing HDPE lined storage facilities, and silage leachate control.

Services also provided to other agency personnel, partners such as Pennsylvania Association of Conservation District (PACD), State Conservation Commission (SCC), regional and state DEP offices, local conservation districts, Technical Service Providers, and other consultants.

Participate with Area Engineering staff during their area meeting, training sessions, field office annual inspections, and several function appraisals. I have been the lead engineer for several area office technical quality assurance reviews responsible for evaluating installed practices against standards and policies. Summary findings include deficiencies, agreed to items, and commendable items reported to appropriate Area Conservationist and State Engineer. This process helps to assure consistent delivery of engineering services across the state. My inputs influenced the final policy on how many sides of a roofed heavy use area could be enclosed after identifying inconsistencies in different areas. I review work at various levels and work towards improving other engineers output to the correct level of detail and design for engineering projects. This includes reviewing complex projects that are above the job approval level of the area engineer's. Examples include roof spans over 60 feet, large manure storages over their storage capacity limit, and advanced technology systems. These include poultry litter burning, several small digester systems, and other nutrient reduction strategies. Also, have used or get Protracts data to analyze workload and provide information to the area engineers to assist them in workload management.

Responsible for reviewing Technical Service Provider initial applications in CNMP plans. Six different providers to date. Scheduled annual TSP Training sessions each year to update them on current standards and issues working closely with the state engineer

and other technical leads in the Ecological Sciences section. Provided input and final verbiage on the PA NRCS TSP Checklist for the I&E portion. Work with the various area engineers dealing with local TSP product issues and get resolution. Major issue is making sure that TSP proposal is technically sound and feasible. Several CNMP reports were rejected as impractical; too costly and required revision. Solution we developed was to have NRCS staff review initial planning and design. The other major TSP workload has been reviewing Energy Audits. As lead Energy Engineer, I work to train area engineers and other staff with the proper use and implementation of this new program. Provide suggestions to National Energy leaders as program develops. Recently worked thru the first lighting design meeting the new Conservation Practice Standard 670.

Participated in Emergency Watershed Protection program in several counties in the Northeast to support area staff. Did the DSR, designs, contract package, site showings, guidance for inspection and final approval for 15 sites in three contracts. Work was completed on time and under original estimated cost. Contracts ranged in cost from \$15,000 to \$75,000.

Assist State Conservation for Programs with understanding or resolving questions in contracts with complex engineering practices. Work with all parties to resolve or clarify engineering issue. Typically address one situation per month. Lead engineer for reviewing the engineering done on equitable relief cases and making recommendations back to State Conservation for Programs.

NRCS Engineering representative for the PA Nutrient Management Program operated by the PA State Conservation Commission. Provided engineering interpretations of NRCS standards and to guide them to assure their program follows the Field Office Technical Guide. Provided updates on technical sections dealing with manure storage sizing and evaluating existing facilities. Provide several days of training as the engineering lead on addressing Animal Concentration Areas for their Act 38 program. Answer any engineering type questions in the program. Actions have resulted in continued appreciation of NRCS support and authored several sections of their Technical Manual.

Instructor for Engineering portions of "PA Boot Camps I and II". Responsible to coordinate activities with other instructors and find training farms.

Work directly with DEP to assist them in interpretation of our standards and work with them to develop their criteria as close to NRCS as possible. Made several presentations explaining both Animal Concentrations Areas and implementation of their Chapter 102, Erosion and Sedimentation Control. Worked closely with State Engineer to develop guidance for installation of our engineering practices within their regulations. This support has built a strong support from DEP for NRCS activities.

My involvement with outside agencies and as a member of several national organizations results in NRCS getting advanced information on regulatory changes and an opportunity to affect the outcome. Information passed to State Engineer and State Conservationist.

Assisted various ecological staff on interpretation of engineering practices or practices that are held jointly. Includes WRP, ACEP, CSP, EQIP, and other emerging programs. Recently reviewed updated contract statements for O&M and engineering aspects. Part of a team to provide conservation planning dealing with the engineering aspects and building a team effort to accomplish quality planning. Developed Hydrology portion of a three day wetlands sessions. Information developed from National and Regional office information, previous Hydrology Tools Training, and participating a one-week Army Corp of Engineers wetland training.

Participated as an instructor with Penn State Extension on two occasions on a one day workshop on "How to do On-Farm Energy Audit".

Completed various existing standards updates on a regular basis such as 313, 425, etc,. In addition completed development of new standards with construction specifications, instruction for use, Design and Checkout Notes, and Items of work for the new 374, 670, and 672 conservation practice standards. These all relate to energy improvements. As part of the new trend to move details out of the standard, using a team approach we developed a new Design Guide for handling silage leachate. Provided the method and calculations for the Design Guide. Also developed a "Design Guide 9" for use of the old TR-9 Midwest plan service design reference for use by contractors and other staff to implement cost effective design.

Regularly participate in draft reviews of new or existing National Practice Standards. Provide input based on years of experience. Examples include the draft Roof and Covers Standard and the draft Waste Storage Facility.

Wrote EFH and AWMFH Notices, PA Bulletins, and developed several PA supplements to the new NEM. Make sure updates to the FOTG, new policies, changes to NEM and AWMFH including changes to NRCS standard drawings, concurred designs by others and Design Aids are properly reviewed and posted. As part of this process worked with Website manager to update and improve the information shown and provided on the PA NRCS website under Engineering Technical resources section. This resulted in easier access for information for both internal and external customers.

USDA-NRCS, Area Engineer, Lebanon, PA (9/2006 to 10/2009) GS-12

Selected to become the Area Engineer located in Lebanon Technical Center. Provided overall engineering leadership and technical support for 12 counties in SE Pennsylvania. Supervised a diverse staff including several NRCS engineers, an area Technician, and two technicians funded thru the Pennsylvania Association of Conservation Districts (PACD). Implemented a spreadsheet to track project status and individual performance to assist in management of a diverse staff. PRS not effective for products produced by the area engineering staff at the design phase. This process helped to assure consistent

evaluations. Information was used to support a recommendation for several "Spot Awards". Held meetings with staff to update them on current activities and work with the individuals to access their workload and redirect if needed.

Position required reviewing and/or approving complex engineering projects developed by lower grade engineers. Over 300 Ag waste systems ranging from small storages associated with Amish operations to large complex systems with separation equipment, settling lanes, and multistage manure storages were done during my tenure. Also made technical reviews of more complex irrigation systems implemented in several counties receiving AMA funding. Systems ranged from small drip systems for orchards to very large irrigation systems for vegetable operations.

Maintained and updated over 80 job approval charts for NRCS and partner staff in the area. Performed annual spotchecks on various field offices and rotated assignments to others to develop staff. Participated in field reviews on two field teams. Wrote engineering reports with commendable, recommended, and agreed to items for consideration by the Area Conservationist. Worked closely with Area Conservationist on one specific employee issue that required a reduction in job approval. Implemented a plan with that individual to the point that the work performance was improved to allow reinstate to their previous level after approval by the AC.

USDA-NRCS, Ag Engineer, Lebanon, Pa (11/1992 to 9/2006) GS-12

Agricultural Engineer located in Lebanon Technical Center. Providing engineering leadership and technical support for the Red & White Clay PL-566 watershed project. Initially worked on project plan proposal and have worked on implementation since 1997. Provided engineering support on over 100 contracts. Contract cost share ranged from \$500 to a maximum of \$100,000. Several projects required determination of water surface profiles using single x-sections for stream crossing. Involved with a complex stream restoration project using HEC-RAS, both as a designer and a technical reviewer of outside engineering projects for stream restoration. Also, coordinated payments, modifications, update meetings, information and tracking to the CO, and other administrative activities. Total obligations at 3.2 million with implementation of 4.5 million dollars of work. Position included coordination with activities associated with watershed activities in New Castle County, DE. Resulted in significant numbers of practice implementation. In addition, provided engineering support on Tulpehocken PL-566 project in Lebanon county. Other duties involve providing engineering program support in several other counties in SE Pennsylvania Engineering support was for programs supported by funding under EQIP, WRP, AMA, Act 6, C-Bay, Growing Greener, and CCCD Brandywine.

Completed over 15 roof designs using PPSA-4 software to analyze the more complex projects. Resulted in getting "Woodsizing" and "LVL Design Software" to reduce design time and verify design assumptions.

Unique projects included a 14' high dam for a water supply for Linnville Orchard in Chester county Pa. to a 3' high dam used to divert water to a small park complex that required a DEP general permit that was approved after meeting with DEP officials. The largest facility was a 10 acre composting pad draining into an HDPE lined storage with capacity in excess of 5 million gallons

Produced an average of 12 Ag waste designs per year. As requested, assisted Area Engineer in training sessions, spotchecks, reviewing Ag Waste designs, and other special projects. Signed and approved work done by other engineers on staff. Reviewed to assure design meant standards and policy and was practical to implement. Addition projects included EWP assessments for several storm events. One event in NE Pennsylvania and several in SE Pennsylvania. Scope included program eligibility, ranking, and guidance on recommended solutions to DEP and State Engineer.

USDA-NRCS Area Engineer, State College, Pa (4/1984-10/1992 Office closed) GS-11

Provided Engineering Leadership for area office located in central Pa. Covered 12 counties. I supervised inspectors and lower grade engineers and provided technical supervision for the Area Technician and several C-Bay Engineers. Most of the CO-O1 type work involved providing design guidance and approval on a variety of Ag Waste systems and more complex conservation practices. Also had RAMP (Rural Abandoned Mine Program) funding in several former coal counties. Supervised or did design work on over 15 projects ranging in value from \$9,600 to \$322,231. GR three separate EWP events over a three year period. These EWP events required site selection, design, bidding, awarding contracts, and construction installation and inspection. In this area we were involved in several PL-566 dam project upgrades. Provided annual Dam Safety Inspections on 5 older SCS flood control dams with accepted reports to DEP. Coordinated several Area wide training sessions each year along with one-on-one training as needed. Coordinated workload with three C-Bay engineers covering this area of the state with several conservation districts. Assisted several conservation districts in technical reviews of E&S and Storm water issues on difficult projects. Worked with Penn State on their manure stacking facilities and liquid storage facility. Other duties included Spot-checks, program appraisals, and coordinated use of engineering software.

Listed below are other duty stations with both ag and project work experience

USDA-NRCS Project Engineer, Meadville, Pa (10/1983-3/1984) Promotion to GS-11

USDA-NRCS Civil Engineer, State College, PA (11/1982-9/1983) GS-9

USDA-SCS, Site Engineer, Project Office, Beaver Springs, PA (3/1981-10/1982) GS-9

USDA-SCS Civil Engineer, Project Office, Collegeville, PA (3/1980-2/1981) GS-9

USDA-SCS Ag & Shoreline Engineer, Warsaw Field Office, VA (3/1978-2/1980) GS-5 thru GS-9

USDA-SCS Civil Engineer, Culpeper Area Office, VA (6/1977-2/1978) GS-5

USDA-SCS Student Trainee Engineer, Chase City, VA (6/1996-9/1996) GS-4

Training courses attended and completed (Partial listing)

Water Quality Training 3/1991
Structural Design Workshop 1990
Constructed Wetlands for Stormwater Workshop 2/1996
NEDC Hydrology Tools for Wetland Determination 7/1996
NEDC Designing with Geosynthetics for Ag Waste Containment 3/1999
NEDC Roof Design Workshop
ESTSC Writing Practice Standards
ESTSC Irrigation Training 6/2009

Accomplishments and Awards (Partial listing)

Pennsylvania Registered Engineer 31794-E. August 1982 thru current
Instructor on NEDS "Liner Design for Animal Waste Containment", Fort Worth Texas
Co-Authored paper on "Environmental Problems with Silage Leachate" that was presented at the National Silage Production Conference in February 1993
Co-Authored paper on "Base-Flow Silage Leachate Control" presented at ASAE conference in December 1994
Presented paper "Case Study: Gravity Flow systems" at NRAES conference 2002
Presented paper "Regulatory Issues facing Small Ag Waste Expansions in Pennsylvania" 2004
Presented paper "Working Together on Ag Waste Systems: Public and Private Partnerships" at NABEC meeting August, 2005
Acknowledged Reviewer Part 651, AWMFH, CH 10
Manure De Jour Webinar Series Presenter "Planning, Designing, and Handling Semi-solid/Solid Manure, PSU, 2/2009
Paper written on "Projecting HDPE Liner Durability for Waste Storage Facilities"

Education

Conneaut Lake Area High School, College Prep, 1973
Pennsylvania State University, BS in Agricultural Engineering, 1977

References

Hosea Latshaw, Conservation Engineer, NRCS, Harrisburg, PA
(717) 237-2212 (hosea.latshaw@pa.usda.gov)
Denise Coleman, State Conservationist, NRCS, Harrisburg, PA
(717) 237-2203 (denise.coleman@pa.usda.gov)