

ANNE HAZEL BOWER

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Education

Graduate Certification in Herbal Medicine. 2014-2016 Maryland University of Integrative Health.

Ph.D. 1996. School of Forest Resources and Conservation, University of Florida, Gainesville, FL
Dissertation Title: Technology Transfer of Cocoa Management Practices in Agroforestry for Hillside Farmers in Jamaica

M. S. 1991. School of Forest Resources and Conservation, University of Florida, Gainesville, FL
Thesis Title: Improving Seed Germination in Two Multi-Purpose Tree Species from Sierra Leone, West Africa (*Cassia sieberiana* and *Dialium guineense*)

B. S. 1983. *cum laude* with Ding Darling Research Award in Biology, double major in Behavioral Biology & Psychology, Beloit College, Beloit, WI

Awards:

College of Life Sciences Teaching Award 2019

Philadelphia University NEXUS Learning Award April 2014

Schuylkill Center for Environmental Education Distinguished Service Board of Trustees 2005-2012

Philadelphia University Presidents Award for Teaching Excellence 2009

Professional Experience

Full Professor of Biology. Philadelphia University July 2000-present

- Development, designed, taught and assessed over 17 different discovery-based ecology, biology, medicinal plants, public health, biodiversity, sustainability, conservation and environmental health courses for both general education and science majors ranging from freshmen to senior level. Actively served as both NEXUS and Advising Advocate for C-SHLA. Honors Advocate for College of Life Sciences, Developed, directed and assessed an Environmental and Conservation Biology major over an eleven year period. Lead PI on NSF-funded science pedagogy initiative, legally-binding Conservation Easement for 350 acres and Wild Resources Conservation study on PA threatened red-bellied turtles. Faculty Coordinator on NASA SCRIBE outreach to high school students, summer camp, and teacher training. Lead Coordinator of Environmental Science service learning projects for 600 freshman non-science majors working with over 40 agencies in the Delaware Valley for seven years. Organized and led student environmental trips including hawk watching, horseshoe crab tagging, whale watching, and carnivorous plant canoe trip. Directed design, planting and on-going monitoring of a butterfly garden on-campus by non-science majors and a native wildflower garden by science majors. Co-facilitator for Global Medical Brigades in Nicaragua. Designed and co-taught courses at Yellowstone National Park, USA, Centro Ecological Akumal in Mexico and Parque Nacional Guanacoste in Costa Rica. Designed and led student course to Jamaica to collect data for the establishment of a marine park by the Portland Environmental Protection Agency (NGO).
- Since tenure, mentored over sixty upper division research students on long-term study of deer management, bird migration and NE forest regeneration at the Schuylkill Center for Environmental Education. Active applied research program with students on radiotelemetry of endangered turtle migration patterns. Additional studies, review of clinical trials of health impacts of complementary and alternative medicine,

antibiotic potential of soil bacteria from Jamaica, erosion control using alternative fabrics, development and testing of organic control methods to manage invasive earthworm populations, and evaluation methods for measuring forest restoration in urban parks.

Monitoring and Evaluation Director. Yale University and Community Resources 1997-2002

- Coordinated monitoring and evaluation of the \$26 million grant awarded by the William Penn Foundation to the 8,900 acre Fairmount Park Commission, City of Philadelphia for park restoration, volunteer program development and environmental education programming. Provided technical assistance in the development of city-wide environmental education program, park staff training, innovative volunteer park maintenance & stewardship program and wide-scale ecological restoration of urban park system.
- Led consultant M&E team from Yale University and Community Resources (NGO) in data collection, analysis feedback process to agencies and reporting, supervised six Yale University graduate student research projects, oversaw \$600,000 evaluation budget, facilitated quarterly meetings and liaison to numerous city, state and federal agencies involved in the project.

Environmental Science Adjunct Faculty. Philadelphia University 1998-2000

- Taught five freshman Environmental Science lecture/laboratory sections with 35 students/section. Designed and implemented an intensive field-based junior level ecology course. Designed and implemented a senior level tropical biology course. Supervised undergraduate field work and thesis projects in fire ecology, deer monitoring and water quality assessment.
- Led a team of faculty to design curriculum, secure funding, implement and evaluate an innovative service learning pilot program in environmental science in which freshman students engage in direct community service to an environmental agency in Philadelphia. Following the field experience, students research their environmental issue, write a field analysis paper and prepare a professional quality poster presentation to share their results with the community.

Forest Certification Meeting Facilitator. Tropical Forest Management Trust and Tall Timbers Research 1997

- Developed, facilitated and evaluated a participatory meeting process for consensus-building and information on the controversial topic of forest certification in the SE United States in FL, AL and NC.

Gender Workshop Designer and Trainer. Lutheran World Relief 1997

- Implemented a needs assessment, designed, facilitated and evaluated a two-day workshop on gender analysis skills training for 15 senior international staff (all regions) in Philadelphia, PA.

Curriculum Development Specialist. USDA Cooperative Extension Service, University of Florida 1995-97

- Developed and co-coordinated design and internet and television delivery of semester graduate level course in agricultural sustainability for extension agents, teachers and environmental professionals at six sites: University of Florida, Florida A & M University, Clemson University, South Carolina State University, Auburn University and University of Kentucky.
- Facilitated faculty team development of a series of five training manuals and accompanying facilitator's handbooks which included video production, satellite delivery, case study, group participatory and hands-on field exercises to compare the sustainability of different farming systems in the USDA Southern Region. Course modules included: water quality assessment, biodiversity (IPM), land-use and soil erosion, economic and energy analysis. *Evaluating Sustainability* won the 1996 National Award of Excellence in Communications
- Designed and delivered Training of Trainers and course delivery for cooperating institutions in AK, FL, KY, SC.
- Team from Auburn University and University of Florida created complete curriculum, pretested, and extended via teacher in-service trainings in FL, IN and AL secondary school aquaculture modules for the National Council for Agricultural Education (NCAE).

Forest Stewardship/Urban Forestry Extension. Cooperative Extension USDA Forest Service 1994/1997

- Designed graphics and text for newsletters, extension circulars and brochures aimed at increasing multiple-use management of timber, wildlife, soil & water, recreation and grazing resources by private forest

landowners in Florida. Team member in designing and delivering the Urban Forestry Institute, an annual technical workshop for urban forestry for the Southern Region.

- Collaborated in a team with the FL Division of Forestry, University of Florida, Cooperative Extension Service and other organizations to design graphics and text for newsletters and organize workshops for non-industrial forest landowners interested in increasing multiple-use management of timber, wildlife, soil & water, recreation and grazing in Florida.

Environmental Education/Human Resource Development Evaluator. USAID/Government of Botswana 1996

- Final evaluation team member for USAID community-based natural resource management project in Botswana. Interviewed personnel, reviewed activities and wrote evaluation report in human resource development and environmental education within Department of Wildlife and National Parks, Botswana Wildlife Training Institute, and Ministry of Education.

Agroecologia Faculty. Organization for Tropical Studies (OTS) 1996-1997

- Designed, and implemented with team of faculty a two, six week intensive graduate level field course conducted in spanish throughout Costa Rica for professionals from 13 Central and South American nations in agroecological methods

Doctoral Research Assistant. University of Florida 1991-1996

- Designed, secured funding from USAID/JADF and implemented research in agroforestry extension with 100 farmers and conducted a social survey of fertilizer, pruning and pest management practices with 50 farmers. Designed, analyzed and interpreted on-farm trials in pest management on highly-intercropped cocoa farms in Jamaica. Presented results at JADF National Symposium, Kingston, Jamaica and at National Farming Systems Conference, Gainesville, FL.

Gender Training Specialist. University of Florida 1994-95

- Co-managed outreach program in natural resource management with gender emphasis, coordinated international networking with electronic mail, designed and team-taught graduate training program on teaching techniques for gender analysis in natural resource management including supervision and evaluation of student teachers.

Master Trainer/Curriculum Coordinator. International Training Division, University of Florida 1989-1995

- Responsible for design, implementation and evaluation of all training activities for a two, six week Farming Systems Research and Extension shortcourse for senior Bangladesh and Turkish Ministry of Agriculture officials.
- Designed and implemented with training team a two-week Florida study tour for a delegation from Pakistan on multiple land-use and management of forest resources. Program included technical discussions with county, state, and federal officials, research institutions and private landowners.
- Developed the training design, logistics plan and delivered training components on gender analysis, diagnostic interview techniques and action plans for two, six week agroforestry extension and training shortcourse at the University of Florida and Les Cayes, Haiti.
- Adult education training design advisor and technical trainer in PRA (Participatory Rural Appraisal) and training of trainers methods for community forestry for delegation from Pakistan
- Designed a general marketing strategy and developed brochures for ten international agricultural technical shortcourses offered by the University of Florida's International Training Division.
- Designed and delivered participatory team-building workshop for staff of the International Programs Office of the Institute for Food and Agricultural Programs Division

Socio-economic Survey Analyst. IICA/USAID Jamaica 1992-1993

- Supervised data entry, performed statistical analysis using SAS, SYSTAT and STATXACT and wrote final baseline survey report for 300 farmers for the MINAG/IICA/USAID Farming Systems Research Hillside Agriculture Sub-project.
- Evaluated research plots, prepared on-farm experimental designs for ackee, coconut, cocoa, coffee, and mango trials and demonstrated field plot establishment and measurement techniques to research assistants for the MINAG/IICA/USAID Farming Systems Research Hillside Agriculture Sub-project.

- Developed the training design and implemented a diagnostic and design field exercise (RRA) for Hillside Agricultural Project personnel (USAID/Gov. of Jamaica) and University of Florida agroforestry shortcourse participants.

Fulbright African Area Studies Fellow. University of Florida 1988-91

- Designed, collected data, analyzed, and published applied forestry research studies in seed technology for two West African tree species.

Environmental Education Technical Trainer. US Peace Corps Natural Resources Sector/OTAPS 1988-89

- Designed and implemented a series of environmental training and teaching tools sessions for Peace Corps volunteers and their counterparts from 17 African nations in Arusha, Tanzania, Shenandoah National Park, VA and Cumberland Island National Seashore, GA Workshop sessions were specific to Africa and included topics such as: developing environmental awareness programs, designing environmental education extension materials and organizing strategies for creating community nature clubs.

Peace Corps Volunteer: Conservation Education. US Peace Corps Sierra Leone 1985-1988

- Coordinated the planning, funding (AWF, WCI), construction and management of the Tiwai Island Wildlife Sanctuary's visitor facilities and conservation awareness program. Launched village-based development projects in education and business.
- Administered local staff, budget, equipment and logistical support for Njala University (Sierra Leone) and Hunter College (USA) biological research station (WWF). Supervised the construction of primary school sponsored by research station and obtained teacher from the Ministry of Education.
- Instructed senior secondary students in remote rural area in biology, chemistry, physics, health science and statistics. Designed, coordinated and obtained funding for public health project to construct school latrines and community theater production on cholera and sanitation. Wrote grant proposal and obtained funding for construction of two primary school buildings.

Environmental Education Intern. Lake County Metroparks 1985

- Assisted park staff in operating an animal rehabilitation unit which included 24 hr care of injured and newborn wildlife. Designed and taught K-3rd Grade environmental education classes.

Population Biology Field Research Assistant. School for Field Studies 1983

- Collected data on the endangered population of Agrimi (*Capra aegagrus*) during a six week field research project on Theodoru Island, Greece.

Ethology Research Assistant. Beloit College 1981-83

- Recorded behavioral data and vocalizations of Red-Winged Blackbirds (*Agelaius phoeniceus*) at Newmans Prairie Reserve, Beloit, WI and Rockefeller Field Research Station, Poughkeepsie, NY

Publications

Peer-reviewed Journal Articles (* denotes student)

Flax, B. **Bower, A.**, Wagner-Graham, M., Bright*, M., Cooper*, I., Nguyen*, W., Nuneza*, H., Purdy*, B., Wahbab*, N., Savage*, T., D'Souza*, I., LaCour*, A. and E. Akelaitis*. 2021. Natural Dyes from Three Invasive Plant Species in The United States. *Journal of Natural Fibers*. (Nov): 1-15.
<https://doi.org/10.1080/15440478.2021.2002784>

Bower, AH. and Cundell, DR. 2014. Immunomodulatory Activity of Astragalus, Ginseng and Echinacea: From Keith Block and Mark Mead to Today, Have We Moved On? *Current Immunology Reviews*. (10): 99-112

Bower, AH. 2014. Immunomodulatory Activity of Garlic. *Current Immunology Reviews*. (10): 113-121.

Piechoski*, M. Cundell, D, **Bower, AH** and J Porter. 2012. Biossay and Antibiotic Activity of Jamaican Soil Isolates; Identification of Narrow Spectrum Antibiotic Compounds. Oct. *Journal of Young Investigators*

<http://www.jyi.org/site/issue/bioassay-and-antibiotic-activity-of-jamaican-actinomycetes-isolates/> Circulation: 40,000 unique webvisits per month. Fifty academic institutions participating in consortium peer review.

Abdulhaqq*, S.A., Miller*, J.J., **Bower, A.H.**, Donahue, J., and F. Lawn, (2009). Use of Resident Macroinvertebrates to Monitor the Improvement of a Restored First Order Stream. *Journal of Young Investigators* 19 (5) <http://www.jyi.org/research/re.php?id=1573>. Circulation: 40,000 unique webvisits per month. Fifty academic institutions participating in consortium peer review.

Hagenbuch, Brian E., Nora Bynum, Eleanor Sterling, **Anne H. Bower**, John A. Cigliano, Barbara J. Abraham, Christine Engels, John F. Mull, John D. Pierce, Michelle L. Zjhra, Jennifer M. Rhode, Stuart R. Ketcham, and Margaret-Ann Mayer. 2009. Evaluating A Multi-Tiered Assessment Framework for Biodiversity Education. *Teaching Issues and Experiments in Ecology*. Volume 6
<http://www.esa.org/tiee/vol/v6/research/hagenbuch/abstract.html>

Bower, A., Ashley, J., Buchanan, G., Dispensa, J., Pierce, J. and F. Ross. (2007). Fostering Science Literacy: Non-science Majors Discover the Science behind National Public Health Issues *Science Education and Civic Engagement: An International Journal*. Winter 1(1): 24-40.

Mason, J.*, **Bockarie, A.**, Czarnecki, C.*, Bryant, A.*, Miller, J.*, Vath, R.*, Burton, D., Lawn, F. and D.R. Cundell. 2006. Microbial Assessment of Effective Earthworm Management Trials for Restoration of an Urban Temperate Forest Site. *J. Young Invest.* 15(7) <http://www.jyi.org/research/re.php?id=866>

George, B., **Bockarie, A.**, Cundell, D., McBride, H., Hoppy, D. and A. Scutti. 2002. Utilization of Turkey Feather Fibers in Nonwoven Erosion Control Fabrics. *International Nonwovens Journal*. Vol 12 (2):45-52.

Todd-Bockarie, A., M. L. Duryea, S. H. West and T. L. White. 1993. Pretreatment to Overcome Seed Coat Dormancy in *Cassia sieberiana*. *Seed Science & Technology*. 21:383-398.

Todd-Bockarie, A. and M. L. Duryea. 1993. Seed Pretreatment Methods to Improve Germination of the Multipurpose West African Forest Species *Dialium guineense*. *Forest Ecology & Management* 57:257-273.

Todd-Bockarie, A. and M. L. Duryea. 1990. Seed Sizing: Do Big Seed Perform Better? p 65. In: Proceedings of the Southern Forest Nursery Association, July 23-26 in Biloxi, MS. Southern Forest Nursery Association, S.C.

Todd-Bockarie, A. 1989. Developing environmental education extension materials. pp. 70-77. In: Proceedings of the Environmental Education Workshop, May 14-20 in Arusha, Tanzania. Peace Corps\OTAPS. Washington, D.C.

Todd-Bockarie, A. and M. Magona. 1989. Nature Clubs of Sierra Leone. pp. 80-87. In: Proceedings of the Environmental Education Workshop, May 14-20 in Arusha, Tanzania. Peace Corps\OTAPS. Washington, D.C.

Peer Reviewed Book Chapters

Bower, AH, Savage, T., Cooper, I. and Spellman, B. 2021. Ch 3: Ginger as an Antifungal Agent. In: Cundell, C. (ed) *Ginger's Antimicrobial, Anti-nausea and Anti-osteoarthritic Activities*. Nova Publishers, New York. ISBN: IN PRESS

Cundell, DR and **Bower, AH.** 2020. Ch 10: Cardiovascular Disease & Allicin. Pp 221-254. In: Cundell, C. (ed) *Allicin: The Natural Sulfur Compound from Garlic with Many Uses*. Nova Publishers, New York. ISBN: 9781536173390

Cundell, DR and **Bower, AH**. 2015. Potential for Turmeric in Preventing Chronic Inflammatory Disease: A Review of the Clinical Evidence. pp 51-132. In: Taylor, G. (ed) *Turmeric: Nutritional Properties, Uses and Potential Benefits*. Nova Publishers, New York. ISBN: 978-1-63484-011-8

Bockarie, A. 2005. Contributing Author for Ch 2 Environmental Ethics pp 19-37 and Ch 16 Water Management pp 352-387 in Enger, E and B Smith. 2005. *Environmental Science*. 10th Edition. McGraw Hill, New York, NY

George, B.R., Evazynajad, A., **Bockarie, A.**, and McBride, H. 2003. Chapter 5: Production and Characterization of Yarns and Fabrics Utilizing Turkey Feather Fibers. In: Wallenberger and Weston (eds.) *Natural Fibers and Polymers - Recent Advances*. Kluwer Academic Publishers, Boston, MA.

Peer Reviewed Conservation Easement

Bower, A. and Lee, E. Dec. 15, 2010. Conservation Easement Baseline Documentation for The Schuylkill Center for Environmental Education. Natural Lands Trust and Pennsylvania Department of Natural Resources. \$750,000. 78 pp.

Peer Reviewed Oral and Poster Presentations

Bower, A. (2022) Positive Health Outcomes of a Novel Active-Learning Medicinal Plants Course for Undergraduate STEM Majors. Workshop. Hawaii University International Conference (HUIC). June 9. Honolulu, Hawaii.

LaCour, A., Akelaitis, E., Blanck, L., Bower, A. and R. Flax (2022) Natural Dye Potential of Invasive Plant Species for Commercial Textile Applications. Thomas Jefferson University College of Life Sciences Undergraduate Research Symposium. April 22. Philadelphia, PA

Phan, S. and A. Bower (2021). Solutions to Improve Positive Zoo Interactions of Visitors and Western Lowland Gorilla (*Gorilla gorilla gorilla*). Jefferson University College of Life Science Research Symposium, Philadelphia, PA. April 16 (virtual)

Bradley, O. and A. Bower (2021). Pair Bonding of Captive Siamang Gibbons (*Symphalangus syndactylus*). Jefferson University College of Life Science Research Symposium, Philadelphia, PA. April 16 (virtual)

Dinero, M. and A. Bower (2021). Conservation Analysis for the Critically Endangered Blue-eyed Black Lemur (*Eulemur flavifrons*) in Madagascar. Jefferson University College of Life Science Research Symposium, Philadelphia, PA. April 16 (virtual)

Wahba, N., Akelaitis, E., Bower, A., Bright, M., Cooper, I., D'Souza, I., Farruggio, A., Flax, B., LaCour, A., Nguyen, W., Nunez, H., Ponnala, N. and Savage T. (2021) Virtual Interdisciplinary Collaboration on Commercial Fibers and Dyes from Invasive Plants for Biodiversity and Environmental Sustainability. Undergraduate Field Experiences Research Network (UFERN). Oregon State University. Mar. 1-5. (virtual)

Alvaro, M., Bayruns, K., Berger, Z., Blanck, L., Bower, A., Chan, J., Cooper, I., Dinero, M., D'Agostino, J-L., Dunne, P., Mulders, T., Nardi, B., Ruch, Z. and Savage, T. (2021). High Impact Learning: Real-World Multidisciplinary Citizen Science Collaboration for Improving Water Quality. Undergraduate Field Experiences Research Network (UFERN). Oregon State University. Mar. 1-5. (virtual)

Cooper, I., Jagra, A., Nguyen, W., Savage, T., Bright, M., Wahba, N., Lacour, A., Miller, P., Nunez, H., Purdy, B., **Bower, A.**, Flax, R. and Wagner-Graham, M (2020). Novel Invasive Plant Management for Restoration Using

Commercial Textile Applications. The Marshall M. Weinberg Student Conference for Conservation Science-NY. The American Museum of Natural History Center for Biodiversity & Conservation, NY, NY, USA Oct 7 -9. (virtual)

Cooper, I., Jagra, A., Nguyen, W., Savage, T., Bright, B., Wahba, N., **Bower, A.**, & R. Flax. 2020. Natural Dye Potential of Invasive Plant Species for Commercial Textiles. Jefferson University College of Life Science Research Symposium, Philadelphia, P.A. Virtual. April 17th

Marie-Christine Potvin, Monique Chabot, Abby Garrity, Colleen Zane, **Anne Bower**. 2019. Occupational Therapy Students' Note-Taking Preferences and Self-Perceived Effectiveness. The American Occupational Therapy Association (AOTA) Educational Summit, Las Vegas, NV. October 18th

Manning, O., Alexander, R., Buonanno, T., Patel, V., Sweeney, T., **Bower, A.** & Flax, R. 2019. Commercial Dye Opportunities for Invasive Plants. 30th Annual Sigma Xi Undergraduate Research Symposium at St. Joseph University, Philadelphia, PA. April 5th.

Bower, A., Chabot, M. Potvin, M.C., Adedeji, A., Jagra, A., Zane, C. & Fuller, M. 2019. Comparing Student Success using Metacognitive Software to Traditional Notetaking Strategies. 16th Annual Faculty Conference on Teaching Excellence. Temple University, Philadelphia PA. Jan. 10th.

Parenti, N*, & **Bower, A.** 2018. Investigation of Aromatherapy on Anxiety in Hospice Nurses. CSHLA Faculty Student Scholarship Showcase April 13st and 29th Annual Sigma Xi Undergraduate Research Symposium at St Joseph University, Philadelphia, PA. April 20th.

Johal*, J., Alexander*, R., McIlhenney*, A., Keiper*, K., Grozier*, C., Grehlinger*, M., Smith*, P., Ragusa*, M., Gibson, A. *, & **Bower, A.** 2018. Hand Sanitation Compliance and Efficacy of Sanitation Treatments in Combatting Disease-Causing Bacteria. 29th Annual Sigma Xi Undergraduate Research Symposium, St Joseph University, Philadelphia, PA. April 20th.

Bower, A. 2018. Scaffolding a Semester-long Project to Increase Real World Impact, National Lilly Conference on Evidence-Based Teaching and Learning Austin, TX. Jan 5-7th

Sweeney, T.*, Buonanno, T.*, Balsirow, B.*, Bhatt, J.*, Buleza, B.*, Grosso, N.*, Paulose, T.*, Pease, M.*, Petrie, R., Zaveri, A., & **Bower, A.** 2017. Sleep Quality and Quantity may differ by Design versus Health Science Majors at Philadelphia University. CSHLA Faculty Student Scholarship Showcase April 21st and 28th Annual Sigma Xi science research symposium St Joseph University, Philadelphia, PA. April 21st.

Bower, A., Mickle, K., Klemens, J. Wagner-Graham, M. & Slomowitz*, A. 2017. Active Learning Strategies to Improve Mastery of Anatomy and Physiology of the Human Endocrine, Neural and Excretory Systems in Freshman and Sophomore Foundational Biology Courses. Hawaii University International Conferences on STEM/STEAM and Education, Honolulu, Hawaii. June 8-10

Bower, A., Mickle, K., Klemens, J. & Slomowitz*, A. 2017. Multisensory Active Learning Techniques Engage Health Care Professionals in Essential Anatomy and Physiology of the Kidney. 15th Annual Faculty Conference on Teaching Excellence. Temple University, Philadelphia PA. Jan. 10th.

Bower, A. 2017. Integrating Career Development for Health Professions in Freshman Biology, National Lilly Conference on Evidence-Based Teaching and Learning Austin, TX. Jan 5-7th

Bower, A. 2016. Incorporating Career Development in College Introductory Biology Promotes Clinical Experience in the Health Professions. Hawaii University International Conferences on STEM/STEAM and Education, Honolulu, Hawaii. June 10-12

Bower, A. 2016. Engaging Students in Career Development for the Health Professions Fosters Learning. 14th Annual Faculty Conference on Teaching Excellence. Temple University, Philadelphia PA January 22

Machorro, V*, Gargano, A., Carr, S. Gallivan, K. Dunne, L., Manoranjan, A. Slomowitz, A. Mickle, K & **Bower, A.** 2016. Active Pedagogy for Mastering the Anatomy and Physiology of the Kidney for Future Health Care Professionals. 27th Annual Sigma Xi Undergraduate Research Symposium St Joseph University, Philadelphia, PA. April 15th.

Albertson, A, M*1, O'Neill, T. G., Sarno, A.N. Nase, M. & **Bower, A. H.** 2016. Monitoring Key Ecological Factors for an Urban Riparian Stream Restoration Over Ten Years. 27th Annual Sigma Xi Undergraduate Research Symposium St Joseph University, Philadelphia, PA. April 15th.

Sulon*, D., McFoy*, S., Soroka, R., Nase, M & **Bower, A.** 2015. Challenge of Invasive Species in the Herbaceous Layer for Urban Forest Restoration. International Student Conference on Conservation, Center for Biodiversity, American Museum of Natural History, New York, NY. Oct 8th

Soroka*, R, Sulon*, D, Nase, M & **Bower A.** 2015. Effects of Deer Management on Native and Invasive Plant Species. 26th Annual Sigma Xi Undergraduate Research Symposium St Joseph University, Philadelphia, PA. April 17th.

McFoy*, S, Farmer, G and **Bower A.** 2015. Effects of Deer Populations and the Herbaceous Layer on Passeriformes. 26th Annual Sigma Xi Undergraduate Research Symposium. St Joseph University, Philadelphia, PA. April 17th

Branagan*, F, Lent*, G. Rogan* C and **Bower A.** 2015. Volunteers Participating in Toad Detour Educational Programming: How it works. 26th Annual Sigma Xi Science Symposium. St Joseph University, Philadelphia, PA. April 17th

McGrath*, C, Logue*, D, Miehle*, N. Spezialetti*, B. Supperer*, J. and **Bower A.** 2015. The Effects of Music on the Negative Consequences of Stress in College-aged Students. 26th Annual Sigma Xi Science Symposium. St Joseph University, Philadelphia, PA. April 17th (NOTE: ALL FRESHMAN HONORS STUDENTS)

Rozaieski*, R. Faist, A, Farnham, A. Dixon, A. **Bower, A.** Kueppers, L. and S. Ferrenberg. 2011. Arthropod Populations in a Changing Alpine Environment. 22nd Annual Sigma Xi Student Research Symposium. Saint Joseph's University. Philadelphia, PA. April 8th

Bower, A. Mason*, J. Bryant*, A. Czarnecki*, C. Cundell, D. and F. Lawn. 2011. Microbial Assessment of Effective Invasive Earthworm Control Methods for Restoration of an Urban Forest Site. US Fish & Wildlife Service Northeast Biologists Conference. Baltimore, MD Feb 15-18, 2011.

Klein*, C. Ziemba*, M and A. **Bower.** 2010. Philadelphia University EcoChallenge. Northeast Regional Honors Council Annual Conference. Harrisburg, PA. April 8-11.

Bower, A. 2009. Energy Conservation Success at The Miquon School: A Case Study of Energy Conservation. Energy, Environment & Sustainability Science: An Institute for Teacher Leaders. Widener University, PA, Mar 16

Bower, A, Lawn, F, Donohue, J. Wetzel*, P, Granato*, S. Miller*, J. and Abdulhaqq*, S. 2009. Is the Riparian Forest Restoration Successful? A University and Nature Center Partnership of Research for Management Decisions. Bridging the Gap: Connecting Ecological Research and Restoration Practice Joint Conference of the Mid-Atlantic Chapters of the Ecological Society of America and the Society for Ecological Restoration. The College of New Jersey, NJ, March 13-14

Bower, AH, JD Pierce et al. 2007. Emerging tools in teaching biodiversity across disciplines. Ecological Society of America and Society for Ecological Restoration National Meetings San Jose, CA Aug 5-10

Bryant*, AK, **AH Bower**, JC Maerz, CP Czarnecki*, JW Mason* and DR Cundell. 2007. Impact of invasive earthworm control treatments on soil microflora and vertebrate fauna in an urban northeast forest restoration site. Ecological Society of America and Society for Ecological Restoration National Meetings San Jose, CA Aug 5-10

Ashley, J., **Bockarie, A.** and J. Pierce. June 10, 2006. Building Life-Long Science Literacy and Inquiry Through a Hands-on Approach Centering on Health-Related Issues. Invited Workshop/Presentation at the Annual Conference of the Mid-Atlantic Discovery in Chemistry Project, Lancaster, PA.

Fleming, R., C.G. Phillips, **A. Bockarie**. May 31-June 4, 2006. Sustainable Design Education: A New Pedagogical Paradigm? Oral Presentation at ARCC-EAAE International Architectural Research Conference, Philadelphia, PA.

Bockarie, A., Ashley, J., Buchanan, J., Dispensa, J., Pierce, J. and F. Ross. April 28, 2006. Fostering Science Literacy: Non-science Majors Discover the Science behind National Public Health Issues. Poster Presentation at the SENCER Capitol Hill Symposium hosted by Honorable Tammy Baldwin (D-WI), Washington, DC.

Bockarie, A, Ashley, J., Buchanan, G., Pierce, J and F. Ross. Nov. 18, 2005. Non-science Majors Discover the Science behind National Public Health Issues. Oral Presentation at the 25th Annual Lilly Conference on College Teaching. Miami University, Oxford, OH.

Ashley, J., **Bockarie, A.**, Bryant*, A., Buchanan, G., Dispensa, J., Halscheid*, E., Miller*, J., Pierce, J., Ross, F., and E. Simon*. Nov. 2005. Exploring Science: A Undergraduate Non-Science Majors Course Aimed at Developing Life-Long Environmental Science Literacy. Oral Presentation at the 26th Annual Conference of the Society for Environmental Toxicology and Chemistry, Baltimore, MD.

Burton, D. and **A. Bockarie**. Aug 2005. Recent Findings on Long Term Invasive Earthworm Control Studies. Oral Presentation at the Invasive Plants: Perspectives, Prescriptions and Partnerships. Mid-Atlantic Exotic Pest Plant Council. University of Pennsylvania, PA

Ashley, J., **Bockarie, A.**, Buchanan, G., Pierce, J. and F. Ross. Aug. 2005. Using Hands-On Research in Environmental Chemistry to Build Science Literacy for Non-Science Majors. Oral Presentation at 230th Annual Meeting of the American Chemical Society, Washington, DC.

Ashley, J., **Bockarie, A.**, Buchanan, G., Pierce, J. and F. Ross. June 2005. Incorporating Guided Inquiry and Hands-On Research in Environmental Chemistry to Build Science Literacy for Non-Science Majors. Invited Workshop at the Annual Conference of the Mid-Atlantic Discovery in Chemistry Project, Bethlehem, PA

Bockarie, A., Bryant*, A. and Miller*, J. April 9, 2005. Red-backed Salamanders Population Dynamics in Response to Forest Restoration. Poster Presentation at Mid-Atlantic Chapter of the Society for Conservation Biology. Rowan University, NJ.

Bryant*, A, Miller*, J., Levy*, S and **A. Bockarie** April 8, 2005. Effects of Earthworm Control Treatments on the Red-backed Salamander (*Plethodon cinereus*) population. Poster Presentation at 16th Annual Student *Sigma Xi* Research Symposium. St. Joseph's University. Philadelphia, PA.

Bockarie, A. Burton, D. Czarnecki*, C. Bryant*, A. Hulitt*, J., Bourassa*, L. and Fran Lawn. Nov. 2004. Managing Invasive Earthworms to Restore an Urban Forest Site. Poster Presentation at the Mid-Atlantic Society for Ecological Restoration Urban Interface Symposium. Schuylkill Center for Environmental Education. Philadelphia, PA.

Bockarie, A. Burton, D., Bryant*, A. Miller*, J., Bourassa*, L., and F. Lawn. Aug. 26, 2004. Restoring Northeast Urban Forest Soils through Invasive Earthworm Management Strategies. 16th International Conference of the Society for Ecological Restoration. Victoria, British Columbia, Canada

Bockarie, A., Burton, D. Czarnecki*, C., Bryant*, B., Hulitt*, J., Bourassa*, L. and F. Lawn. Aug. 1, 2004. Managing Invasive Earthworms Restore an Urban Forest Site. Oral Presentation at the Society for Conservation Biology 18th Annual Meeting. Columbia University, New York, NY.

Czarnecki*, C., Bryant*, A. and **A. Bockarie**. April 23, 2004. Invasive Earthworm Control Methods to Promote the Restoration of a Forest Ecosystem. Poster Presentation at the 15th Annual Student *Sigma Xi* Research Symposium. St. Joseph's University. Philadelphia, PA.

Czarnecki*, C., Bryant*, A., Halscheid*, E., Tustin*, R. **Bockarie, A.**, Burton, D. and F. Lawn. Mar 25-26. 2004. Invasive Earthworm Control Methods to Promote the Restoration of a Forest Ecosystem. Expanding the Ark: The Emerging Science and Practice of Invertebrate Conservation. American Museum of Natural History and Center for Biodiversity Conservation, New York, NY.

Ashley, J., **Bockarie, A.** and B. Thompson. Jan., 2004. Community Partnerships: A Model for Environmental Science Service Learning at Undergraduate Institutions. Invited Presentation at the SENCER Symposium V, Rutgers University, NJ.

Bockarie, A. Burton, D. Bryant* A., Czarnecki*, C. and F. Lawn. Nov. 20, 2003. Invasion of the Earthworms: Research Trials to Test Management Options. Restoration Symposium: The Restoration of Urban/Suburban Green Space. Schuylkill Center for Environmental Education and Society for Ecological Restoration. Philadelphia, PA.

Sorkin, N. Eliason, J. and **A. Bockarie**. Oct. 24, 2003. The (Mostly Happy) Story of a Cross-Campus Collaboration: Writing Science. International Writing Centers Assoc and Nat. Conf. on Peer Tutoring in Writing. Hershey, PA.

Bockarie, A., Burton, D. Bryant*, A., Czarnecki*, C. and F. Lawn. August 6-7, 2003. Invasion of the Earthworms: Diversity Destruction at Ground Level. Mid-Atlantic Invasive Exotic Plant Pest Council Symposium. University of Pennsylvania. Philadelphia, PA

Ashley, J, Czarnecki*, C. **Bockarie, A.** Thompson, B and W. Brendley. Aug 8-12, 2003. Community Partnerships: A Model for Environmental Science Service Learning at Undergraduate Institutions. Poster Presentation at the SENCER (Science Education for New Civic Engagements and Responsibilities) Summer Institute, Santa Clara University, Santa Clara, CA

Scutti*, A, Tustin*, R. Ashley, J and **A. Bockarie**. May 2003. Assessment of Metal Concentrations in Jamaican Sediment and Soil. Poster Presentation at the Annual Conference of the Hudson-Delaware Chapter of the Society for Environmental Toxicology and Chemistry, Prallsville, NJ

Bryant*, A. Czarnecki*, C. Wade*, D and **A Bockarie**. April 11, 2003. Halting an Invasion: Management Trials for Controlling Exotic Earthworms (*Amyntas* spp). Poster Presentation at the 14th Annual *Sigma Xi* Student Research Symposium at Saint Joseph's University. Philadelphia, PA

Bockarie, A. Jan. 30, 2003. Environmental Science Student Enrollment and Interest at Philadelphia University. Oral Presentation at the McGraw-Hill National Environmental Science Symposium. Key West, FL.

George, B.R., **Bockarie, A.**, and A. McBride*. Nov. 17-22, 2002. Production of Fabrics Utilizing Turkey Feather Fibers and Potential Use in Erosion Control Fabrics. Oral Presentation at the ASME International Mechanical Engineering Congress & Exposition, New Orleans, LA.

Bockarie, A. George, B. Hoppy*, D and A. Scutti*. Aug. 5-9, 2002. How Does Poultry Feather Fabric Stand Up to Coconut Matting for Erosion Control? Poster Presentation at the Ecological Society of America National Meeting, Tucson, AZ

Emanuel*, S. Bunik*, T. Cundell, DR and A. Bockarie. April, 2002. Jamaican Soil as Source of Antibiotic-Secreting Actinomycete and Bacillus Soil Isolates. Poster Presentation at the 13th Annual *Sigma Xi* Student Research Symposium at Saint Joseph's University. Philadelphia, PA.

Bockarie, A. Nov. 25, 2001. Environmental Awareness: What Does the Public Know about Restoration? Oral Presentation at the Regional Conference on Urban/Suburban Restoration. Schuylkill Center for Environmental Education. Philadelphia, PA.

Emanuel*, S. Bunik*, T. Damico*, C. Cundell, DR and **A. Bockarie**. 2001. Antibiotic Secreting Soil Isolates from Jamaican Soil. Oral Presentation at the 4th Annual Undergraduate Research Symposium in the Chemical and Biological Sciences. University of Maryland Baltimore Campus, Baltimore, MD.

Bockarie, A. Nov. 9, 2000. Evaluation of a Philadelphia Park Restoration Project, Lessons from the Cities. Oral Presentation at the Ecosystem Restoration and Community Revitalization Symposium. Yale University, School of Forestry and Environmental Studies. New Haven, CT.

Bockarie, A. and G. Fonjweng, June 26, 2000. Service Learning in Environmental Science: A Philadelphia Case Study. Oral Presentation at the National Association of Environmental Professionals National Symposium. Portland, ME.

Bockarie, A. Feb.18, 2000. Extension Strategies in Forestry. Invited Workshop at Yale University, School of Forestry and Environmental Studies. New Haven, CT

Bockarie, A. Feb 10, 2000. Environmental Education Evaluations Methods: How do they differ from Research? Invited Workshop at the Association of Conservation Executives. Philadelphia, PA.

Bockarie, A. and G. Fonjweng. Nov 11, 1999. **Service Learning in Environmental Education.** PHENND Annual Symposium. Philadelphia, PA

Magona, M. and **A. Todd-Bockarie**. May 14-20, 1989. Tiwai Island Conservation Project. Paper presented at The Environmental Education Workshop, Arusha, Tanzania. Peace Corps\OTAPS. Washington, D. C.

Grant Funded Projects

Lead-PI Funded Projects

Bower, A. and R. Flax. 2019-20. Commercial Fibers and Dyes from Invasive Plants for Biodiversity and Environmental Sustainability. Faculty Research and Scholarship Grant. \$5,000.

Bower, A. and K. Mickle. 2015-16. Human Case Studies and Demonstrations for Active Learning and Application of Critical Thinking for Improved Mastery of Anatomy and Physiology from the Freshman to the Sophomore Foundational Courses. NEXUS Learning Grant. \$6,000.

Bower, A. and F. Wilkinson. 2014-15. Design, Implementation, Assessment and Professional Development Training of Faculty for Innovative Pedagogical Approaches to Biology Foundation Instruction. NEXUS Learning Grant. \$6,000.

Bower, A. and G Ranly (Schuylkill Center for Environmental Education). 2007-2009. Wild Resources Conservation Program of Pennsylvania Department of Conservation and Natural Resources. Conservation of threatened red-bellied turtles (*Pseudemys rubriventris* (LeConte) using radiotelemetry research on home range and habitat use combined with educational programming on habitat threats. \$37,500

Bockarie, A., Ashley, J., Pierce, J and F. Ross. 2004-06. Exploring Science: Using Hands-on Research to Build Science Literacy for Non-Science Majors. National Science Foundation CCLI A&I Interdisciplinary (DUE 0410216) \$85,000

Bockarie, A. 2004. Management of White-tailed deer (*Odocoileus virginianus*) to Promote Forest Regeneration. Philadelphia University Summer Research Grant. \$5,000.

Bockarie, A., Ashley, J., Brendley, W., Pierce, J., Schrand, T. and F. Ross. 2003. SENCER Summer Institute. Association of American Colleges and Universities (AACU). \$3,500.

Bockarie, A. and C. Cundell. 2002. Halting an Invasion: Ecological and Microbial Assessment of Invaded and Non-Invaded Forest Sites. Philadelphia University Summer Research Grant. \$5,000.

Bockarie, A. 2001: Creation of Environmental Science Projects in Textiles and Architecture to Meet Community Clothing and Housing Needs. Philadelphia Higher Education Network for Neighborhood Development (PHENND). \$3,000

Bockarie, A. 2000. Expanding the Environmental Science Connection. Philadelphia Higher Education Network for Neighborhood Development: \$3,000

Bockarie, A. and G. Fonjweng. 2000 Developing Hands-on Service Learning Projects in Environmental Science. Philadelphia University Curriculum Development Grant \$5,000

Bockarie, A. 1991-93. USAID/JADF Graduate Research Grant \$20,000

Bockarie, A. 1988-93 Fulbright Foreign Language and Area Studies Fellowship, African Sector. University of Florida.

Co-PI funded Projects

Nguyen, W., Nunez, H., Cooper, I., Bright, M., Wahba, N., D'Souza, I., Bower, A, Flax, R. and MA Wagner-Graham (2021). Invasive Plant Dyes for Commercial Textile Applications to Promote Environmental Management. Jefferson University Martinson Fund Award Senior Capstone, \$550.

Sweeney, T. Manning, O., Alexander, R., Buonanno, T., Flax, R. and **A. Bower.** (2019). HONORS Research Grant. Jefferson University.

Manning, O., Alexander, R., Sweeney, T., Buonanno, T., Flax, R. and **A. Bower.** (2019). Commercial Fibers and Dyes from Invasive Plants for Biodiversity and Environmental Sustainability. Jefferson University Martinson Fund Award Senior Capstone, \$2,500

Sulon, D, McFoy, S. and **A. Bower.** (2015). Deer Management Impacts on the Forest Herbaceous Layer. Philadelphia University Martinson Fund Award Senior Capstone \$2,500

Lawn, F and **A Bower.** 2007-2009. National Fish and Wildlife Foundation Delaware Valley Estuary Program in partnership with Schuylkill Center for Environmental Education for restoration of Smith's Run Riparian Buffer. \$25,000.

George, B. and **A. Bockarie.** 2003. Use of Kudzu Nonwoven Fabrics For Erosion Control. Philadelphia University Summer Research Grant \$5,000.

Cundell, C and **A. Bockarie.** 2001. Antibiotic Properties of Soil Bacteria from Disturbed Ecosystems in Jamaica. Philadelphia University Summer Research Grant. \$5,000.

George, B., Cundell, C and **A Bockarie.** 2001. Development of Erosion Control Fabrics from Turkey Feathers compared to Core Matting of Forest Slopes. Philadelphia University Summer Research Grant. \$10,000

Fonjweng, G. and **A. Bockarie.** 1999. Philadelphia Higher Education Network for Neighborhood Development: Making the Environmental Science Connection: A Pilot Program in Service Learning \$3,000

Grant and Journal Reviews

Peer Review of book chapter manuscript for: Allicin and Our Changing World. Aug 4, 2019

Peer Review of manuscript for: *Biomedicine and Pharmacotherapy* entitled: Ginseng for Prostate Cancer Treatment Efficacy, Sept 1, 2017

National Science Foundation CCLI-A&I Grant Reviewer Jan 30-Feb 1, 2005 Washington, DC

Grant Reviewer for the National Fish and Wildlife Foundation 2003

Grant Reviewer for National Tree Trust 2000

Technical Reports

Bower, A. 2010. Conservation of threatened red-bellied turtles (*Pseudemys urbirventris* (LeConte) using radiotelemetry research on home range and habitat use combined with educational programming on habitat threats. Wild Resources Conservation Program of Pennsylvania Department of Conservation and Natural Resources.

Bower, A. 2009. WRCP Grants at Work: Researching Red-bellied Turtles. Keystone Wild! Notes. PA Wild Resources Conservation Program. <http://www.dcnr.state.pa.us/wrcp/wildnotes/fall09/red-bellied1-fall09.html>

Bower, A. 2006-09. Annual Deer Management Analysis and Report for Schuylkill Center for Environmental Education. Philadelphia, PA (four annual reports)

Bockarie, A. 2000-2005. Annual Deer Management Analysis and Report for Schuylkill Center for Environmental Education. Philadelphia, PA (five annual reports)

Burch, W., **Bockarie, A.**, Jahnige, P. and L. Tritton. 1997-2002. Monitoring and Evaluation Report of the Fairmount Park Commission's Natural Lands Restoration and Environmental Education Program Grant #13897 and #24098. (20 quarterly and five annual reports)

Swisher, M. and **A. Todd Bockarie.** (co-editors). 1995. Evaluating Sustainability Training and Facilitator's Guides in Biodiversity, Water Quality, Economic Analysis, Land-use and Soil Erosion and Energy Analysis. USDA Cooperative Extension Service/University of Florida/SARE/ACE.

Todd Bockarie, A. and M. L. Duryea. 1995. Florida's Forest Stewardship Program. Florida Division of Forestry/University of Florida Forestry Extension Service Circular 1047.

Long, A. and **A. Todd Bockarie.** 1994. Trails, Bridges & Boardwalks. Florida Division of Forestry/University of Florida Forestry Extension Service SS-FOR-5.

Hammer, B. and **A. Todd.** 1988. A Nature Club Handbook. New York Zoological Society & African Wildlife Foundation. Freetown, Sierra Leone. 25 p.

Todd, A. and B. Hammer. 1988. Bush Bif Buk. New York Zoological Society & African Wildlife Foundation. Freetown, Sierra Leone. 15 p.

Todd, A. and B. Hammer. 1988. Tiwai Island Wildlife Sanctuary Forest Guide Training Manual, Teachers Guide and Trainee Workbook. New York Zoological Society. Freetown, Sierra Leone. 82 p.

Book, Proceedings, Case Studies, Curricular Reviews & Online Learning Tool Development

Bower, A. 2014. *Integrated Science*. 6th edition. Tillery/Enger/Ross. LearnSmart Subject Matter Expert. Ch 2: The Nature of Living Things. McGraw Hill Publishers

Bower, A. 2013. *Scientific American Environmental Science for a Changing World* Active Learning Activities on Climate Change. Scientific American and MacMillan Publishers

Bower, A. 2013. *Environmental Science* 14th edition. Enger/Smith. All 19 chapters content, illustrations and on-line pedagogical exercises

Bower, A. 2012. Three Chapter Reviews: *Environmental Science*. 12th edition. Cunningham. McGraw-Hill Publishers. Ch 8: Environmental Health, Ch 9 Food and Hunger, Ch 10 Farming Conventional and Sustainable Practices.

Bower, A. 2012. TextSmart On-line Learning Tool for Environmental Science. Instructor and student hands-on evaluation for Energy, Agriculture and Hazardous Waste. McGraw-Hill Publishers

Bower, A. 2012. Five Chapter Reviews: *Biology: Science for Life with Physiology*. 4th Edition. Belk and Maier. Ch 12: Who am I? Species and Races, Ch 21: Is there Something in the Water? Reproductive and Developmental

Biology, Ch 22: Attention Deficit Disorder: Brain Structure and Function, Ch 23: Feeding the World: Plant Structure and Growth and Ch 24: Growing a Green Thumb: Plant Physiology. Pearson-Benjamin Cummings Publishers.

Bower, A. 2012. Six Module Reviews: *Everyday Biology*. 1st Edition. Module 1A: The Big Picture in Biology, 1B: Characteristics of Life, 1C Using Microscopes in Biology, Module 2A: Science is a Process, 2B: Experimentation and 2C: Hypothesis and Theory. Pearson- Benjamin Cummings Publishers.

Bower, A. 2012. Two Chapter Reviews: *Environmental Science: Principles of Environmental Science*. Cunningham 7th Edition. Ch 4: Human Populations and Ch 5: Biomes and Biodiversity. McGraw-Hill Publishers

Bower, A. 2012. Four Chapter Reviews: *Environmental Science For a Changing World*: Ch 2: Science Literacy and the Process of Science. Ch 6: Environmental Health. Ch 18: Agriculture. Ch 22: Climate Change. WH Freeman and Scientific American Publishers.

Bower, A. 2010. Chapter Review: A Changing Planet Ecosystems & Biomes. Pearson Education. Biology & Environmental Sciences, San Francisco, CA.

Bower, A. 2010. Four Chapter Reviews: Ch 1: Environmental Interrelationships, Ch 2: Environmental Ethics, Ch 18 Environmental Regulations: Hazardous Substance & Waste, Ch 19: Environmental Policy & Decision-making, Enger and Smith: *Environmental Science: A Study of Interrelationships* 12e McGraw-Hill Publishers

Bockarie, A. 2006. Proceedings Review: Challenging Courses and Curricula Workshops April 17-19, 2005 & Sept 25-27, 2005. Committee on Mathematics and Science Partnerships: Helping Partners Understand and Implement Improvements to STEM Education Programs Based on Research and Best Practices. The National Research Council of the National Academy of Science. Washington, DC

Bockarie, A. 2005 Chapter Review: Ch 12 Biodiversity: Species and So Much More by Robert Kaufman and Cutler Cleveland. Environmental Science, First edition for McGraw-Hill Publishers.

Bockarie, A. 2005. Review of Management Plan and Mission for Pennypack Restoration Trust. Andropogon Associates. Philadelphia, PA.

Bockarie, A. 2004. Textbook Review of Cunningham and Cunningham's *Environmental Science, A Global Concern*, 8th edition for McGraw-Hill Publishers

Bockarie, A. 2004. Teaching Modules from the Network of Conservation Educators and Practitioners. Center for Biodiversity and Conservation. American Museum of Natural History

Bockarie, A. 2003. Critical Thinking Supplement Review (5 chapters) of Braude, S. and B. Low *Higher Level Interactions: Active Learning Exercises in Ecology* for McGraw-Hill Publishers.

Bockarie, A. 2003. Deer Hunting in the City of Brotherly Love: An Ethical Dilemma. In: Smith, E and B. Enger. *Environmental Science* 9th Edition. McGraw-Hill.

Bockarie, A. 2002. The Evolution of Environmental Action Projects at Philadelphia University. In: Zlotowski, E. (ed.) *Service Learning and the First Year Experience: Preparing Students for Personal Success and Civic Responsibility*. University of South Carolina, National Resource Center for First Year Experience. Columbia, SC 166 p.

Bockarie, A. 2002. Comparative Review of Van Dyke, F. *Conservation Biology: Foundations, Concepts and Applications* for McGraw-Hill Publishers

Bockarie, A. 2002. Comparative Review of Miller, G.T. *Environmental Science* 8th Edition and Enger, E and B.Smith. *Environmental Science: A Study of Interrelationships* 8th edition for McGraw-Hill Publishers

Bockarie, A. 2001. Review of Molles, M. 2002. *Ecology: Chapter 12 Life Strategies* for McGraw-Hill Publishers

Professional Practice

Appointments

Board of Trustees at the Schuylkill Center for Environmental Education 2005-2012,
Vice-President, 2009-2012

Co-Chair of Land Management & Facilities, 2010-2012

Chair Executive Director Search Committee, 2010-2011

Vice-President Stewardship Committee, 2009- 2011

Chair Wildlife Rehabilitation Clinic, 2005-2009

Research Affiliate Yale University School of Forestry and Environmental Studies 1997-2003

Certifications

July 2017: Therapy Dog: Comfort Caring Canines

Feb 2020 (5 year): Child abuse clearance, Police clearance, FBI clearance

Feb 2020 Child Abuse training: Darkness to Light Stewards of Children

Contributions at Professional Meetings

Presenter. Flax, R. & Bower, A. 2019. Dye Properties History and Demonstration of Wineberry (*Rubus phoenicolasius*) and Oriental bittersweet (*Celastrus orbiculatus*) on wool. Awbury Arboretum, Philadelphia, PA. Aug 14th

Moderator. 2019. Jefferson Faculty Days

Presenter. Bower, A. and M. Wagner-Graham. 2018. Backward Design in Pedagogy. CampAdventure. Aug 3rd

Moderator. 2018. Jefferson Faculty Days

Presenter. Ashley, J. Bower, A., Klemens, J., Kratzer, D., Laine, E., Tulante, M., Frosten, S. and L. Russow. 2017. How Active Learning Spaces Changed the Way I Teach and My Students Learn. Thomas Jefferson University Faculty Days Philadelphia, PA June 6th

Workshop Leader. Public Health Issues: Do On-line Tools Empower People to Quit Smoking? 2016. Nexus Maximus III Personal Health: Innovation, Data and Empowerment. Philadelphia University. September 9-12th

Workshop Leader. Active Learning in Continuing Education and On-line Delivery. Teaching Summit. Aug 15, 2016

Workshop Leader. Active Learning Pedagogies. New Faculty Orientation. Philadelphia University. Aug 17, 2016

Discussant and Mentor. International Student Conference on Conservation, Center for Biodiversity, American Museum of Natural History, New York, NY. Oct 7-9, 2015

Participant. Lehigh Gap Nature Center Forest management impacts on rattlesnakes in PA. Dec. 2014

Participant. Schuylkill Center for Environmental Education. Workshop Invasive Species Foraging Field Identification. April 14, 2014.

Thesis Defense:

Victoria Unger. "Biogeochemistry Changes of Tidal Wetlands in Response to Climate Change in Delaware and Barnaget Bay NJ". Department of Biodiversity, Earth and Environmental Science. The Academy of Natural Sciences of Drexel University 8/21/13

Session Moderator. Monitoring, Biogeography & Conservation Hotspots. 26th International Congress for Conservation Biology Baltimore, MD. 7/23/13

Participant. Truth, Trust and Fracking. April 2012. Wagner Free Institute.

Participant. National Science Teachers Association National Convention. Mar 2010. Philadelphia

Session Moderator. Society for Ecological Restoration Mid-Atlantic Annual Conference. Feb 2010. Rutgers University

Discussant. Climate Change in the Delaware Valley Union of Concerned Scientists. Jan 2010. John Heinz National Wildlife Refuge

Booth Presenter. Go Green Expo, Philadelphia Convention Center Mar. 15, 2009

Workshop Presenter. 2007. Your Coffee Choice Matters Curriculum Example. NCEP Biodiversity Faculty Focus Group. American Museum of Natural History/Black Rock Lodge, NY, NY. Feb 6th

Moderator and Host Lead Organizer. Society for Ecological Restoration International Conference (Mid-Atlantic Chapter) Philadelphia University Jan 10, 2006

Written Testimony. Philadelphia City Council on Ballot Issue Dec. 12, 2005. Merger of Fairmount Park Commission with Recreation Department. Free Library of Philadelphia, Philadelphia, PA

Lead Teacher. Fall 2004-Spring 2005 Sexual Education course for middle school group at Unitarian Universalist Church of the Restoration in Mt. Airy.

Session Chair. Invasive Species Management II. 16th International Conference of the Society for Ecological Restoration. Aug 26, 2004. Victoria, British Columbia, Canada

Session Chair. Alien and Invasive Species II Symposium. Society for Conservation Biology 18th Annual Meeting. Aug 1, 2004. Columbia University New York, NY

Session Chair. Peer Review Session for the Center for Biodiversity and Conservation. American Museum of Natural History. Environmental Justice Module at the Society for Conservation Biology 18th Annual Meeting. July 29, 2004. Columbia University NYC

Discussant. Applied Course Reform for Conservation Biology Workshop. Society for Conservation Biology 18th Annual Meeting. July 29, 2004. Columbia University NYC

Discussant. 2002. A New Era for Philadelphia's Parks, Friend of Philadelphia Parks. Feb. 20.

Session Chair. PHENND Annual Conference Jan 25, 2001. Philadelphia, PA.

Co-teacher, Fall 2000-Spring 2001. Sexual Education course for middle school group at Unitarian Universalist Church of the Restoration in Mt. Airy.

Workshop Leader. 2001. Urban Parks Restoration and Community Participation Workshop Leader for the Yale University Graduate Seminar on Ecosystem Management –Community Forestry and Protected Areas. Philadelphia, PA. April 19-22.

Graduate Seminar. 2001. Community Forestry: Getting Your Message Across. Invited Workshop at the Graduate Seminar on Rehabilitation Ecology and Community Revitalization. Yale University, School of Forestry and Environmental Studies. New Haven, CT. Feb 16.

Session Chair. PHENND Quarterly Meeting Feb. 8, 2000

Presentation. 2000. Conservation Issues in Africa. Oral Presentation at the University of Pennsylvania Environmental Issues Seminar. Philadelphia, PA. Feb 8.

Consultant. Carpenters Woods Restoration project July 9, 2000

Invited Presentations, Community Outreach & Press (* denotes student)

Bower, A., Cooper, I., Diarra, F., Dinero, M., & T. Savage (2020, Oct 21) What do you need to know about climate change before election day? *THE NEXUS 2020 Voter Guide: Climate Change*. Thomas Jefferson University, Philadelphia, PA, USA. Available virtually: <https://nexus.jefferson.edu/science-and-technology/2020-voter-guide-climate-change/>

Akelaitis, E, Cooper, I., Dinero, M., Savage, T. & Bower, A. (2020) Environmental Justice: The Science and Legal Framework of Indoor Air Pollution Disparities in Philadelphia. Jefferson University- East Falls, Philadelphia PA

Bower, A. (2020) CAYENNE PEPPER (*Capsicum annuum*), MARIGOLD (*Calendula officinalis*) & WATERCRESS (*Nasturtium officinale*): Medicinal & Horticultural Use. Pennsylvania Horticultural Society.

Bower, A. 9/20/19 THE NEXUS: Spotted Lanternfly Alert. Jefferson University Social Media & Website

Bower, A. and S. Weeks. 9/17/20 Roxborough Roundtable: How to Register to Vote

Bower, A. and D. Cundell. 10/30/20 SPECTORCAST: Terrific Turmeric: What Can Spices and Herbs Do for Your Health? Thomas Jefferson University, Philadelphia, PA, USA

Flax, R., Bower, A., Cooper, I., Nunez, H. & T. Savage (2020) Creativity Workshop #15: Natural Dyes from Kitchen Foods and Invasive Plant Species: Environmental & Social Justice. Thomas Jefferson University, Philadelphia, PA, USA

Bower, A., Cooper, I., Diarra, F., Dinero, M., & T. Savage (2020) THE NEXUS: Your Vote Counts: What do you need to know about climate change before election day? Thomas Jefferson University, Philadelphia, PA, USA

Bower, A. 9/20/19 THE NEXUS: Spotted Lanternfly Alert Social Media expert post on Jefferson University website

Bower, A. 3/15/18 Public Workshop on use of Medicinal Plants in a Plant-based Diet for Chronic Disease Prevention. The Barnes Foundation Arboretum Medicinal Plants Garden, Lower Merion, PA

Bower, A. 3/15/18 Public Workshop on use of Medicinal Plants for Stress and Insomnia Prevention and Treatment, The Barnes Foundation Arboretum Medicinal Plants Garden, Lower Merion, PA

Bower, A. 3/16/17 Public Workshop on use of Medicinal Plants for Chronic Disease Prevention The Barnes Foundation Arboretum Medicinal Plants Garden, Lower Merion, PA

Bower, A. 3/18/17 Public Workshop on use of Medicinal Plants for Stress and Insomnia Prevention and Treatment, The Barnes Foundation Arboretum Medicinal Plants Garden, Lower Merion, PA

Bower, A., Sarno*, A., Albertson*, A., and T. O'Neill*. 2016 Climate Change Impacts in Northeast Forests. Friends of the Wissahickon Trail Ambassadors Training. Philadelphia, PA April 27.

Bower, A. 2015. Ecology of Pennsylvania and the Mid-Atlantic Region. PA Master Naturalist Training. Schuylkill Center for Environmental Education. Philadelphia PA April 13

Bower, A. and G. Lent*. 2015. Demonstration of Medicinal Plants to Use Throughout a Woman's Life Cycle. FemFest. Weavers Way Coop, Philadelphia PA Mar 7th

Bower, A. Audience Assessment and Announcer. 2000-2018. Gardeners Studio at Philadelphia Flower Show. Pennsylvania Horticultural Society. Annual event every year in first week of March.

Lent*, G. Rogan* C and **Bower A.** 2015. Toad Detour Volunteer Training Survey. Schuylkill Center for Environmental Education. Philadelphia, PA Feb 21st

The Philadelphia Inquirer. 12/26/14. Professor spreads words on her benefits from medicinal plants. Article and Interview with V. Smith. http://articles.philly.com/2014-12-27/entertainment/57423917_1_medicinal-plants-health-claims-statin

RadioTimes WHYY. 12/18/13. Alien Earthworms and Urban Squirrels. Interview with Marty Moss-Coane on earthworm research and impacts. <http://whyy.org/cms/radiotimes/2013/12/18/alien-earthworms-and-urbanized-squirrels/>

The Philadelphia Inquirer 12/9/13. Asian Earthworm Invaders Wreak Ecological Havoc. Article and Interview with V. Smith. http://www.philly.com/philly/news/nation_world/20131209_Aasian_earthworm_invaders_wreak_ecological_havoc.html

The Philadelphia Inquirer 7/8/13. A Hidden, Reptilian Jewel in Delco. Article and Interview with M. Schaefer. http://articles.philly.com/2013-07-09/news/40446031_1_native-turtles-red-eared-sliders-ridley-park

The Philadelphia Inquirer. 12/17/10. Schuylkill Center for Environmental Education will be permanently preserved. Article and Interview with S. Bauers. http://articles.philly.com/2010-12-17/news/25293452_1_natural-lands-trust-conservation-easement-green-space

Newsweek/WHYY 12/17/10. Schuylkill Center preserves treasured open space. Article by Megan Pinto. http://www.newsworks.org/index.php?option=com_flexicontent&view=items&id=9489:the-schuylkill-center-for-environmental-education-reaches-preservation-milestone&Itemid=1

Bower, A. 2009. Biodiversity in Pennsylvania. Workshop Presentation. Philadelphia Envirothon Competition. Schuylkill Center for Environmental Education. Philadelphia, PA. April 15

Bower, A and R. Schubert. 2009. Solutions to Human Threats to Wissahickon Wildlife. Friends of the Wissahickon and Fairmount Park Commission Lecture Series. Philadelphia University, PA. Mar 4.

Bower, AH., AK Bryant*, CP Czarnecki*, JW Mason* Feb. 20, 2008. Management tools for invasive earthworms in urban parks. Friends of the Wissahickon Conservation Committee. Philadelphia, PA.

Bower, A. 2007. The impact of invasive earthworms in parks: what can you do? Friends of Pennypack Park Annual Meeting. Philadelphia, PA June 18.

Bower, A., Invasive Species in Pennsylvania. 2007 Envirothon Competition, Schuylkill Center for Environmental Education, Philadelphia, PA April 28

New York Times. 3/15/07. In the Garden: a Dark Side to a Good Friend in the Soil. Interview with Ann Ravers. <http://query.nytimes.com/gst/abstract.html?res=9A0DEFD61131F936A25750C0A9619C8B63>

Bower, A. 2007. What is Stormwater? Industrial Design, Landscape Architecture and Environmental and Conservation Biology Team Charette, Philadelphia University, Philadelphia, PA. Jan 23.

Bower, A. 2007. Endangered Species of Pennsylvania. 2007 Envirothon Competition, Schuylkill Center for Environmental Education, Philadelphia, PA. Jan 16

Bower, A and D. Burton. 2007. What to do about Invasive Earthworms? Bowman's Hill Wildflower Preserve Winter Lecture Series, PA. Feb 4.

Bockarie, A. 2005. Careers in environmental sciences and research opportunities. Saul High School, Philadelphia, PA. May 19

Bockarie, A. 2005. Field Research Demonstration: Field experience on amphibian research for fifth grade class at Green Woods Charter School, Philadelphia, PA. April 21

Bockarie, A. 2004. Ecological Field Research Demonstrations. Temple Amber Landscape Architecture class. April 3, 10, 17, 24

Bockarie, A. 2003. ART: What Assisted Reproductive Technologies Are Being Used in the United States for Infertile Couples. Molecular Genetics Course. Philadelphia University. Philadelphia, PA. Jan. 28.

Bockarie, A. 2003. Radio Canada Agricultural Program Speaker. Invasive Earthworms. Alberta, Canada. Aug. 1

Interview with the Associated Press. July, 24, 2003. Foreign Worms are Spreading Posing a Threat to Tree Health. Article on research study published in 30 newspapers globally.

Bockarie, A. and L. Tritton. 2002. Invasive Species Facts, Identification and Control in the Fairmount Park System. Invited Workshop at the NLREEP Preserve-Your-Park Community Training. Philadelphia, PA. April 16.

Bockarie, A. 2000. Impact and Ecosystem Diversity in Response to Fire in the Wissahickon Park. Invited Field Tour for Temple University Graduate Course in Landscape Architecture. Philadelphia, PA. Sept 26.

Bockarie, A. 2000. Careers in Wildlife: What do ornithologists and entomologists do? Growing Your Future Environmental Career Day. Pennsylvania Horticultural Society Oct 4th.

Trip leader, Carnivorous Plants of the Pine Barrens, Oswego River, NJ July 30, 2000

Membership in Professional Organizations

Professional Associations

Ecological Society of America

Mid-Atlantic Exotic Plant Pest Council

National Science Teacher Association

Philadelphia Higher Education Network for Neighborhood Development

Society for Ecological Restoration International

Society for Conservation Biology

Environmental Organizations

Audubon

Defenders of Wildlife

Friends of the Wissahickon

Hawk Mountain Sanctuary

Lakota Wolf Reserve

Militia Hill Hawk Watch

National Wildlife Foundation

The Nature Conservancy

Pennsylvania Horticultural Society

Philadelphia Parks Alliance

Schuykill Center for Environmental Education