

## CURRICULUM VITAE 2018



### Name

J. Edward Gates

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### Research Interests

Wildlife and conservation ecology; human-wildlife-habitat relationships, focusing on 1) habitat fragmentation and alteration, connectivity (corridors), edge effects, and boundary dynamics; 2) habitat suitability for vertebrate species; 3) species inventories and monitoring for natural resource management; and 4) natural resources and the human enterprise

### Education

- 1976 Ph.D., Michigan State University, East Lansing, Michigan  
Fisheries and Wildlife (Wildlife Ecology)  
*An Ecological Analysis of Forest Edge Suitability for Avian Populations*
- 1972 M.A., Bowling Green State University, Bowling Green, Ohio  
Biology (Plant Ecology)  
*Influence of Edaphic and Physiographic Factors on Vegetational Distribution in the Waldo E. Steidtmann Wildlife Sanctuary, Wood County, Ohio*
- 1969 B.S., Old Dominion College, Norfolk, Virginia  
Biology

### Awards and Honorary Memberships

- 2009 UMCES President's Award for Excellence in Application of Science. Presented during the 2009 UMCES Faculty Convocation, Appalachian Laboratory, Frostburg, Maryland. 30 April.

- 2000 An honorarium, Seminar, Garden Club of Cumberland, LaVale Public Library, LaVale, Maryland. 8 May.
- 1999 An honorarium, CBL Seminar Series, Chesapeake Biological Laboratory, Solomons, Maryland. 23 April.
- An honorarium, Seminar, Talbot Chapter of the Maryland Ornithological Society, Easton, Maryland. 15 April.
- An honorarium, Intercollege Graduate Degree Program in Ecology Seminar, Pennsylvania State University, State College, Pennsylvania. 1 April.
- 1994 An honorarium, The University of Minnesota Press, Minneapolis, Minnesota. Review of the book, "Eastern Deciduous Forests," by Richard H. Yahner. September.
- 1992 An honorarium, Alumni Seminar Series, Department of Biological Sciences, Old Dominion University, Norfolk, Virginia. 30 January.
- 1988 An honorarium, The Humane Society of the United States, Washington, D.C. 16 August.
- Paper by Raesly and Gates (American Midland Naturalist 118(1):15–31) recognized as best journal article in 1988 by Publication Awards Committee of the SE Section of the Wildlife Society.
- 1986 An honorarium, McGill University, Montreal, Canada. 27 October.
- 1985 An honorarium, Department of Biology/Earth Week Seminar Series, Potomac State College of West Virginia University, Keyser, West Virginia. 17 April.
- 1984 An honorarium, Department of Fisheries and Wildlife/Ecology Center Seminar, Utah State University, Logan, Utah. 11 October.
- 1979 Richard Brewer Research Award for 1979, Michigan Audubon Society.
- 1974 The Honor Society of Phi Kappa Phi
- Beta Beta Beta National Biological Society
- Sigma Xi Grant-in-Aid of Research

### **Professional Employment**

- 2018– Professor Emeritus, Appalachian Laboratory, University of Maryland Center for Environmental Science

- 2010–2017 Professor, Appalachian Laboratory, University of Maryland Center for Environmental Science, and  
Adjunct Professor, Department of Biology, Frostburg State University, Frostburg, Maryland
- 1982–2010 Associate Professor, Appalachian Laboratory, University of Maryland Center for Environmental Science, and  
Adjunct Associate Professor, Department of Biology, Frostburg State University, Frostburg, Maryland
- 1976–1982 Assistant Professor, Appalachian Environmental Laboratory, Center for Environmental and Estuarine Studies, University of Maryland, and  
Adjunct Assistant Professor, Department of Biology, Frostburg State University, Frostburg, Maryland

### Teaching and Graduate Training

- 1979– Regular Member, Marine, Estuarine, and Environmental Sciences (MEES) Graduate Faculty
- 1983–1997 Regular Member, University of Maryland System Graduate Faculty
- 1997– Regular Member, University System of Maryland (USM) Inter-Institutional Graduate Faculty
- 1990– Regular Member, University of Maryland Center for Environmental Science  
present (UMCES) Graduate Faculty (reappointment every 5 years by UMCES President/Vice President for Education)

### Courses Taught

- *Wildlife Techniques* (3 cr.). Fall 1977.
- *Wildlife Habitat Management and Analysis* (3 cr.) (Renamed *Wildlife Habitat Ecology and Analysis* in 1995). Taught annually in fall 1978–1983, and since then in odd-numbered years. The course covers topics in habitat selection, territoriality and habitat suitability, optimal foraging and habitat quality, edge effects and habitat suitability, habitat fragmentation, reserve design, corridors and landscape linkages, and landscape ecology. Class enrollment has averaged 10 graduate students, with a high of 23.
- *Wildlife Habitat Ecology and Analysis* (2–3 cr.). Commencing with fall 1999, this course has been offered for 2 credits (without laboratory) via the Interactive Video Network (IVN) to campuses within the University System of Maryland. The FSU course also included field laboratory experience.
- *Wildlife Habitat Ecology and Analysis* (3 cr.). Beginning with fall 2003, the course became strictly a 3-hour, 3-credit course offered via IVN and at AL. It was last taught in 2005.
- *Seminar in Fisheries and Wildlife Management* (1 cr.). The Seminar in Fisheries and Wildlife Management has had as many as 24+ graduate students. It was rotated among the faculty. I taught it twice.
- *Independent Study in Wildlife* (2–3 cr.). Spring 1992.
- *Important Issues in Ecology and Environmental Science* (1 cr.). Spring 2000.
- *Topics in Wildlife and Conservation Ecology* (1 cr.). This course is available via the Interactive Video Network to campuses within the University System of Maryland. It has

been offered in even-numbered years.

- Fall 2000 topic: “*Application of Radio telemetry, Global Positioning System, and Geographic Information System Technologies to Studies of Animal Ecology*”
- Spring 2003 topic: “*The Pre- and Historic Relationships between Humans and Wildlife and their Environments in North America.*”
- Spring 2005 topic: “*Issues of Sustainability and Wildlife Conservation.*”
- Spring 2007 topic: “*Issues of Sustainability and Wildlife Conservation.*”
- *Special Problems in Estuarine Science* (3 cr.) Fall 1995; (2 cr.) Spring 2006.

I have also been guest lecturer in several biology courses at AL, Frostburg State University, and Allegany College of Maryland, including *Island Biogeography and Reserve Design, Dendrology, Aquatic Ecology, Forestry, and Conservation Biology of Appalachian Fauna*; and at

La Universidad Autónoma del Estado de Hidalgo (UAEH), Centro de Investigaciones Biológicas, Km. 4.5 carr. Pachuca-Tulancingo s/n, Col. Carboneras, Mineral de la Reforma, Hidalgo, C.P. 42184, México. Invited by Dr. Iriana Zuria. A series of 1.5-hr lectures were given on *Fragmentation, Edge Effects, and the Biodiversity Crisis*, 22–24 September 2014.

### ***Graduate Students***

Since 1980, 40 Graduate Students have received advanced degrees under my direction, 37 M.S. and 3 Ph.D. degrees. Most have received Graduate Research Assistantships from my grants. All are currently pursuing natural resource careers in state and federal agencies, academia, or NGOs. By my estimates, I have served on >150 Graduate Student Committees at the M.S. and Ph.D. levels.

### ***Currently Supervised***

### ***Degrees Completed***

- 2014 Pylant, Cortney L. M.S. Thesis title: Geographic origin and population genetics of Lasiurine bats killed at wind energy facilities in the Central Appalachian Mountains. Applied Ecology and Conservation Biology, Frostburg State University. Co-advisor with David Nelson, Stephen Keller, and Matthew Fitzpatrick.
- 2011 Sjollem, Angela. M.S. Thesis title: Bat activity in the vicinity of proposed wind power projects along the Mid-Atlantic Coast. Wildlife/Fisheries, Frostburg State University.
- 2010 Garabedian, James E. M.S. Habitat associations of wintering birds using the restored grasslands of the Manassas National Battlefield Park, Virginia. Applied Ecology and Conservation Biology, Frostburg State University. Co-advisor with Frank Ammer.
- 2009 Haskew, Aimee. M.S. Thesis title: Efficacy of sampling method and implementation strategy on detecting species richness and activity levels of bats in western Maryland. Applied Ecology and Conservation Biology, Frostburg State University.

- Lutmerding, Jo Anna. M.S. Temporal and spatial patterns of nocturnal bird migration in the Appalachian Mountains of western Maryland. Applied Ecology and Conservation Biology, Frostburg State University.
- 2008 Lott, Keith D. M.S. Thesis title: Daily and seasonal patterns of bat activity along Central Appalachian ridges. Applied Ecology and Conservation Biology, Frostburg State University.
- 2007 Fiscus, Dan. Ph.D. Dissertation title: Environmental science for long-term solution of excess nitrogen loading to surface waters and related chronic and systemic human-environment problems. Marine, Estuarine, and Environmental Sciences (MEES), Environmental Science AOS, University of Maryland College Park.
- 2005 Schmeling, Barbara K. M.S. Thesis title: The effects of burning on marsh birds, Blackwater National Wildlife Refuge, Maryland. Applied Ecology and Conservation Biology, Frostburg State University.
- Kalasz, Kevin S. M.S. Thesis title: Bird community response to local and landscape scale variables at Monocacy National Battlefield in Frederick, Maryland. Applied Ecology and Conservation Biology, Frostburg State University.
- 2004 Kerns, Jessica J. M.S. Thesis title: Avian response to landscape rehabilitation at Rocky Gap Lodge and Golf Resort, Allegany County, Maryland. Applied Ecology and Conservation Biology, Frostburg State University.
- 2003 Eineichner, Blayne E. M.S. Thesis title: Nest box occupancy and breeding success of secondary cavity-nesting birds: effects of nest box design and placement in a golf-course landscape. Applied Ecology and Conservation Biology, Frostburg State University.
- Zuria, Iriana. Ph.D. Dissertation title: Birds and field margins in an agricultural landscape of Guanajuato, Mexico. Marine, Estuarine, and Environmental Sciences (MEES), Ecology AOS, University of Maryland College Park.
- 2002 Peters, Scott E. M.S. Thesis title: An evaluation of track-plate surveys for detecting fishers (*Martes pennanti*) in northwestern Pennsylvania. Wildlife/Fisheries Biology, Frostburg State University.
- 1997 Garrett, Richard J. M.S. Thesis title: Effect of edge and canopy cover on breeding birds along road corridors in western Maryland. Applied Ecology and Conservation Biology, Frostburg State University.
- 1995 McLeod, Roderick F. M.S. Thesis title: The effects of timber harvest and prescribed burning on the distribution and abundance of reptiles and amphibians at Remington Farms, Maryland. Wildlife Management, Frostburg State University.

- Fregonara, James M. M.S. Thesis title: Landscape composition and structure in the vicinity of Barn Owl (*Tyto alba pratincola* Bonaparte) nest sites in Maryland. Wildlife Management, Frostburg State University.
- Evans, Daniel R. M.S. Thesis title: The role of vegetation and avian density in selection of Brown-headed Cowbird breeding areas. Wildlife Management, Frostburg State University.
- Farr, Patricia M. M.S. Thesis title: Effects of interstate highway construction on a breeding bird assemblage. Wildlife Management, Frostburg State University.
- 1994 Smith, Scott A. M.S. Thesis title: Home range and habitat use of ring-necked pheasants (*Phasianus colchicus* L.) in north-central Maryland. Wildlife Management, Frostburg State University.
- Stewart, Nancy J. M.S. Thesis title: Nest success, productivity, and mortality of ring-necked pheasants (*Phasianus colchicus* L.) in north-central Maryland. Wildlife Management, Frostburg State University.
- 1993 Gates, William R. M.S. Thesis title: Mammalian use of over-sized stream culverts under Interstate 97, Anne Arundel County, Maryland. Wildlife Management, Frostburg State University.
- McKearnan, Joan E. Ph.D. Dissertation title: Distribution of breeding birds and artificial nest predation in riparian zones of the central Appalachians. Marine, Estuarine, and Environmental Sciences (MEES), Environmental Science AOS, University of Maryland College Park.
- 1992 Karwowski, Kenneth. M.S. Thesis title: Breeding biology of Common Terns nesting on human-made and natural islands in the St. Lawrence River, New York. Wildlife Management, Frostburg State University.
- Kawula, Robert J. M.S. Thesis title: Effects of interstate highway construction and vehicular use on white-tailed deer and medium-sized mammals. Wildlife Management, Frostburg State University.
- 1991 Durner, George M. M.S. Thesis title: Home range and habitat use of black rat snakes on Remington Farms, Maryland. Wildlife Management, Frostburg State University.
- 1988 Hibbard, Catherine J. M.S. Thesis title: Relationship of salamander and small mammal diversity and abundance to log microhabitat characteristics. Wildlife Management, Frostburg State University.
- 1985 Hill, Steven R. M.S. Thesis title: Fledging success of the eastern phoebe in relation to nest-site microhabitat. Wildlife Management, Frostburg State University.13.

- Bendel, Peter R. M.S. Thesis title: Home range, activity, and microhabitat partitioning of the southern flying squirrel (*Glaucomys volans*). Wildlife Management, Frostburg State University.
- 1984 Giffen, Neil R. M.S. Thesis title: Bird population patterns across a riparian zone-eastern hemlock-northern hardwood transition. Wildlife Management, Frostburg State University.
- 1983 Lang, Brian K. M.S. Thesis title: Winter bed-site selection by white-tailed deer in a hemlock-northern hardwood forest. Wildlife Management, Frostburg State University.
- McDowell-Griffith, Lizabeth. M.S. Thesis title: Feeding habits of cave-dwelling bats in the central Appalachians. Wildlife Management, Frostburg State University.
- Davis-Chase, Janis. M.S. Thesis title: Habitat characteristics, population size, and home range of the bog turtle, *Clemmys muhlenbergii*, in Maryland. Wildlife Management, Frostburg State University.
- Gilmore, Robert M. M.S. Thesis title: Patterns of habitat use by the southern flying squirrel in a hemlock-northern hardwood ecotone. Wildlife Management, Frostburg State University.
- 1982 Christianson, Carl J. M.S. Thesis title: Habitat partitioning by small mammals occupying stripmines in western Maryland. Wildlife Management, Frostburg State University.
- Raesly, Richard L. M.S. Thesis title: Winter habitat selection by cave-dwelling bats: a multivariate analysis. Wildlife Management, Frostburg State University.
- 1981 Morgan, Kevin A. M.S. Thesis title: Wildlife use of strip vegetation at Remington Farms, Maryland. Wildlife Management, Frostburg State University.
- 1980 Ladino, Anthony G. M.S. Thesis title: Animal activity patterns in transmission-line corridor and adjacent habitats. Wildlife Management, Frostburg State University.
- Chasko, Gregory G. M.S. Thesis title: The suitability of grassland and shrubland habitats within a transmission-line corridor for avian populations. Wildlife Management, Frostburg State University.
- Thompson, Edward L. M.S. Thesis title: Breeding site ecology of Ambystomatid salamanders in Maryland. Wildlife Management, Frostburg State University.
- Eaton, Robert H. M.S. Thesis title: Habitat use by white-tailed deer at two transmission line corridor sites managed with different techniques. Wildlife Management, Frostburg State University

*Current Member of Graduate Committee*

Kelly Jo Pearce	Ph.D.	Ecology	MEES
Shannon Pederson	Ph.D.	Ecology	MEES
Juliet Nagel	Ph.D.	Ecology	MEES
Caitlin J. Campbell	M.S.	Applied Ecology and Conservation Biology	FSU

**Appointments, Committee Memberships, and Service***Federal, State, and Local Government*

- Member, Board of Directors, Savage River Watershed Association (SRWA, <http://savageriverwatershed.org/about/WhoWeAre.htm>).
- Member, Maryland Public Service Commission Technical Advisory Group (TAG) on Avian and Bat Issues Associated with Wind-Powered Electricity. 8 March 2005–6 June 2006.
- *Wildlife Professional* Representative, Green Ridge State Forest Advisory Committee, Maryland Department of Natural Resources. 1991–present.
- Mountain Maryland Energy Advisory Committee (MMEAC), appointed to an 18-month term by the Board of Garrett County Commissioners on 19 November 2013.

*University System of Maryland (USM)*

- Chair, USM Wildlife Science Education Committee. 1999–2004.

*University of Maryland Center for Environmental Science (UMCES)*

I have been a member or chaired many UMCES committees, including—

- Comprehensive Review Committee for seven tenured faculty members up for Comprehensive Review in 2016. Committee Chair: Dr. J. Edward Gates; Committee Members: Drs. Walter Boynton, Allen Place, and Larry Sanford. Appointed by President Donald Boesch, effective 24 October 2016.
- Member of the UMCES Environmental Sustainability Council, Ray Cho, Director of Facilities Administration (CA - Chair), Mike Allen, Asst. Director for Research (MD Sea Grant), Eric Schott, Research Assistant Professor (IMET), Barb Jenkins, Senior Research Administrator (AL), Kristen Harper, Program Management Specialist (AL), Ed Gates, Professor (AL), Stephanie Siemek, Graduate Student (AL), Stacy Maffei, Assoc. Director, Admin. & Facilities (CBL), Lora Harris, Associate Professor (CBL), Gray Redding, General Assistant (CBL), Jeff Miley, Asst. Director of Facilities (HPL), Judy O'neil, Research Associate Professor (HPL), and Melanie Jackson, Graduate Research Assistant (HPL), Larry Sanford, Professor (HPL). 2016–present.
- Chair, Emeritus Faculty Review Committee of Dr. Raymond P. Morgan, II, Appalachian



- Laboratory, with Committee Members: Drs. Tom Fisher and John Hoogland. 2015
- Member of Self-Study Working Group 2: Leadership, Governance, Administration, and Integrity (MSCHE Standards 4, 5, 6). 2014–2015.
  - Chair, Emeritus Faculty Review Committee of Dr. Robert H. Gardner, Appalachian Laboratory, with Committee Members: Drs. Michael Kemp and Walter Boynton. 2014
  - Member of Emeritus Faculty Review Committee of Dr. Victor S. Kennedy, Horn Point Laboratory with Dr. Court Stevenson, Chair, and Dr. Edward Houde, committee member. 2014
  - Member, UMCES Promotion and Tenure Appeals Panel. Appointed by Dr. Donald F. Boesch, President, University of Maryland Center for Environmental Science, effective 15 March 2013.
  - Comprehensive Review Committee for four tenured faculty members up for Comprehensive Review in 2012. Committee Chair: Dr. Edward Houde; Committee Members: Drs. J. Edward Gates and Larry Sanford. Appointed by President Donald Boesch, effective 4 January 2012. Reviews were submitted to the respective Laboratory Directors on 16 March.
  - Interim Associate Director of the Chesapeake Watershed Cooperative Ecosystem Studies Unit (CESU). Appointed by President Donald Boesch, effective 8 June 2012.
  - Chair, UMCES Institutional Animal Care and Use Committee (IACUC), appointed by President Donald F. Boesch, effective 1 January 2004–2011.
  - Member of UMCES Institutional Animal Care and Use Committee (IACUC) 1997–2003.
  - CEES Graduate Education Committee.
  - Student Vertebrate Animal Research Committee (SVARC) 1996–2000.
  - Member of Search Committee for President of the Center for Environmental and Estuarine Studies (CEES). 1989–1990.
  - Member of UMCEES (UMCES) Faculty Senate, 1984–1987, 1994–1997 (Secretary for 2 years), 2008–2011.

### ***UMCES Appalachian Laboratory (AL)***

I have directly supervised several AL technicians and research assistants over my career, including the following Faculty Research Assistants:

- Hugh P. McIsaac (1985–1989)
- Joshua B. Johnson (2003–2008)
- Stephanie D. Dickey (2006–2008)
- Aimee Haskew (2008–2010)
- James Sparks (2008–2010)
- Juliet Nagel (2010–2015)
- Elizabeth Stevenson (2016–2018)
- Benjamin Neece (2018–present).

I also supervised a Postdoctoral Fellow, Joshua B. Johnson, from 2010–2011.

Since 1977, I have been a member or chair of an range of committees at AL. A few are listed below:

- Promotion Review Committee, Katia Engelhardt, Chair, Robin Pullman, and J. Edward Gates. Letter of charge for Cassie Doty, Faculty Research Assistant, Promotion Level 2 to 3, dated 17 January 2017.
- Acting Director, Appalachian Laboratory; served during times when our Director, Eric Davidson, was away from the laboratory, 2016.
- Member of Terrestrial Ecologist Search Committee, with Dr. Matthew Fitzpatrick, Chair; Dr. Andrew Elmore; Dr. Xin Zhang; Dr. Jeremy Testa (CBL); and Ms. Kavya Pradhan (student representative). Appointed by Eric Davidson, effective 27 April 2016.
- Hosted two Visiting Professors, Drs. Iriana Leticia Zuria Jordan and Ignacio Esteban Castellanos Sturemark, Centro de Investigaciones Biológicas, Universidad Autónoma del Estado de Hidalgo, Pachuca, Hidalgo, México, at the Appalachian Laboratory, April, May, and June 2012.
- AL Seminar Coordinator, Fall 2010, Spring 2014, and Fall 2017.
- AL Seminar Coordinator, Fall 1999–Spring 2005. I coordinated 7 speakers in fall 1999, 9 speakers in spring 2001, 7 speakers in fall 2001, 11 speakers in spring 2002, 9 speakers in fall 2002, 12 speakers in spring 2003, 11 speakers in fall 2003, 7 speakers in fall 2004, and 11 speakers in spring 2005 during our regular seminar series. I also set up two special seminars, one on 10 April and another on 16 August 2001.
- Member of AL Director Review Committee for Dr. Robert Gardner, chaired by Dr. Andrew Elmore, 2011.
- Member, AL Faculty Retreat Committee, and Co-presenter in Session 3, “Graduate Education: Quality and Quantity,” 1999.
- Member, AL Alumni Reunion Committee, 1999–2001.
- Member, AL Graduate Education Committee, 2001–2003.
- Member, AL Grounds Committee, 1998–present.
- Member of 17 Search Committees, 7 as *Chair*, for faculty positions at the Appalachian Laboratory, Center for Environmental and Estuarine Studies, University of Maryland System, Frostburg, Maryland, 1977, 1979, 1982, 1983, 1984, 1985, 1986, 1987, 1988, 1993–1994, 1996–1997, 2002, 2005, 2008, 2016.
- Member and Chair of numerous UMCEES Promotion and Tenure Committees, as well as outside reviewer for faculty members at Pennsylvania State University (1995) and University of Georgia (2000).
- Member of Search Committee for Director of the Appalachian Environmental Laboratory, Center for Environmental and Estuarine Studies, University of Maryland System, Frostburg, Maryland, 1995–1996.
- Chair, Ad Hoc Committee for Strategic Faculty Development at the Appalachian Environmental Laboratory. Report entitled, “Faculty Recruitment and Development Strategy for the Appalachian Environmental Laboratory: A Landscape and Restoration Ecology Research Initiative,” submitted to Dr. Donald F. Boesch, President, UMCEES, 1991.
- Member of Task Force for the establishment of a Maryland Cooperative Fishery and Wildlife Research Unit at UMCEES-AEL, 1987–1989.
- Member of Search Committee for faculty position in plant ecology in the Department of Biology, Frostburg State University, Frostburg, Maryland, 1989.

- Chair, Computer Committee, Appalachian Environmental Laboratory. 1979–1996.  
Member, AEL Computer Committee, 1996–2003.

### *Frostburg State University (FSU)*

- Member, FSU Institutional Animal Care and Use Committee (IACUC). Appointed by Dr. Catherine R. Gira, President, Frostburg State University, on 13 December 2001–present.

### *Professional Societies*

I have served my professional societies in various capacities, including—

- Guest Editor, *Northeastern Naturalist*, for the following manuscript, “Day-Roosts of *Myotis leibii* in the Appalachian Ridge and Valley of West Virginia,” by Joseph S. Johnson, James D. Kiser, Kristen S. Watrous, and Trevor S. Peterson, University of Kentucky, Lexington. 17 February 2010–25 January 2011.
- Co-host of Workshop on “Roads and Wildlife in Maryland: Assessing and Mitigating Impacts,” with Bill Branch from SHA Office of Environmental Design and Rich Seigel from Towson University. This workshop was held at the Maryland Department of Transportation Headquarters, Hanover, Maryland, on 16 March 2010 from 0900–1530; and covered the impacts of roads and road construction on wildlife and the efficacy of different mitigation techniques.
- The Wildlife Society Representative on American Wind and Wildlife Institute (AWWI) Scientific Advisory Committee, 2009
- Co-host of Symposium on “Economic Growth and It’s Effect on Wildlife: A Collaborative Symposium Among TWS Working Groups,” for The Wildlife Society 15<sup>th</sup> Annual Conference, Miami, Florida, 8–12 November 2008. This symposium was held on 11 November from 0800–1210. I moderated the second half of the symposium, as well as the panel discussion that followed the paper presentations.
- Organizer (with Brian Czech) of Symposium on “Peak Oil, Economic Growth, and Wildlife Conservation,” for *The Wildlife Society 13<sup>th</sup> Annual Conference*, Anchorage, Alaska, 23–27 September 2006. This symposium was held on 26 September from 0800–1210. Besides presenting the introductory paper, I moderated the first half of the symposium, and participated in the panel discussion that followed the paper presentations
- Associate Editor, *Wildlife Society Bulletin*. Appointed to a 3-year term, 15 March 2001–15 March 2004. I recommended reviewers to the Editor-in-Chief; corresponded with reviewers, authors, and the Editor-in-Chief and his assistant; reviewed all manuscripts; and either rejected or recommended acceptance of each manuscript. Of 47 manuscripts reviewed, I recommended 16 (34%) for publication
- Treasurer, *Working Group for the Steady State Economy, The Wildlife Society*. Elected to a 2-year term on 9 November 2006. The duties of the Treasurer include maintaining the WGs checking account and issuing checks
- Secretary, *Working Group for the Steady State Economy, The Wildlife Society*. Elected to a 2-year term on 9 November 2004. The duties of the Secretary include recording

and issuing the minutes of all meetings, and maintaining the Working Group's files and records

- Co-chair of Local Committee hosting an annual meeting (*American Society of Mammalogists*, 9–13 June 1990)
- Chair Public Statements and Resolutions Committee, *Maryland-Delaware Chapter of The Wildlife Society* 1990–1993
- Session Chair at annual meetings (*American Ornithologists' Union*, 8–10 August 1989)
- Board Member at Large of the *Maryland-Delaware Chapter of The Wildlife Society* 1987–1989
- Advisor to the *Frostburg State University Student Chapter of The Wildlife Society* 1983–1995
- AEL Representative to the National Association of University Fish and Wildlife Program Administrators Meeting (1982–1986)
- Guest Editor, *Northeastern Naturalist*. Day-Roosts of *Myotis leibii* in the Appalachian Ridge and Valley of West Virginia by Joseph S. Johnson, James D. Kiser, Kristen S. Watrous, and Trevor S. Peterson (2010).
- Reviewer of proposals (*NSF, Maryland DNR, National Geographic Society, Florida Fish and Game*) and numerous manuscripts for the following professional journals and university presses—

*Acta Oecologica*, 2017

*American Midland Naturalist*, 1986, 1989

*American Naturalist*, 1986

*Auk*, 1982, 1984, 1997, 2000

*Condor*, 1993

*Conservation Biology*, 1993, 1998

*Ecology*, 1997, 1999

*Ecological Applications*, 1998

*Forest Ecology and Management*, 1997

*Great Basin Naturalist*, 1997

*Herpetological Review*, 1986, 1993

Hudson River Foundation's 2017 grant review

*Jack-Pine Warbler*, 1979

Johns Hopkins University Press, 1984

*Journal of Avian Biology*, 1995

*Journal of Field Ornithology*, 1986, 1991, 1993

*Journal of Mammalogy*, 1989, 1992

*Journal of the Elisha Mitchell Scientific Society*, 1996, 2000

*Journal of Wildlife Management*, 1987, 1988, 1989, 1990, 1995, 1996

*Landscape Ecology*, 1996, 1998, 1999

Maryland Partners in Flight (PIF), Management Committee, "Land Management Guidelines for the Preservation of Birds in Maryland," 1997

National Geographic Society, 1986

National Science Foundation, Population Biology and Physiological Ecology Program, 1981, 1982, and Ecosystem Studies Program, 1986, 1987

*Natural Areas Journal*, 1995

*Northeastern Naturalist*, 1997, 2010–2011.  
*Oecologia*, 2017  
*Transactions of the Northeast Section, The Wildlife Society*, 1990  
U.S. Forest Service, Northern Research Station, General Technical Report, 2009  
University of Minnesota Press, 1994  
West Virginia University Press, 2015  
*Wildlife Society Bulletin*, 1984, 1985, 1990, 1991, 1998, 2016  
*Wilson Bulletin*, 1991, 1992, 1993, 2000

### *Current Professional Affiliations*

- The Wildlife Society (TWS)
- Maryland Ornithological Society (MOS)
- Northeast Bat Working Group (NEBWG)
- North American Society for Bat Research (NASBR)

### *Community Organizations*

I have given numerous talks to different local community organizations, including Allegany County Bird Club, 1990, 1994, 2004; and the Garden Club of Cumberland, 1995, 2000, 2004, 2008, 2017.

### **Publications**

#### *In preparation*

**Gates, J. E.** Breeding birds of managed forest landscapes: effects of physiography, forest stands, and forest-isolating corridors. PLOS ONE.

**Gates, J. E.,** J. J. Nagel, J. B. Johnson, and A. Haskew. A multi-year analysis of bat emergence and swarming at three abandoned railway tunnels. *Journal of Mammalogy*.

**Gates, J. E.,** B. E. Eineichner, and K. R. McKaye. Restoration of a golf-course landscape for cavity-nesting birds. *Journal of Field Ornithology*.

#### *Submitted*

#### *In Press*

2018 Kocher, J., L. Lindesmith, K. Debbink, A. Beall, M. Mallory, B. Yount, R. Graham, J. Huynh, **J. E. Gates**, E. F. Donaldson, and R. Baric. Bat caliciviruses and human norovirus are antigenically similar and have overlapping histo-blood group antigen binding profiles. *mBio*.

Johnson, J. B., and **J. E. Gates**. Bats of the Boston Harbor Islands. *Northeastern Naturalist*.

***Published***

- 2017 Nagel, J., and **J. E. Gates**. Bat community composition and monitoring for white-nose syndrome at First State National Historical Park, Delaware and Pennsylvania. Natural Resource Report NPS/FRST/NRR—2017/1482. National Park Service, Fort Collins, Colorado.
- Sparks, J. L., Jr., and **J. E. Gates**. Seasonal and regional animal use of drainage structures to cross under roadways. *Human-Wildlife Interactions* 11(2):182–191.
- 2016 Pylant, C. L., D. M. Nelson, M. C. Fitzpatrick, **J. E. Gates**, and S. R. Keller. Geographic origins and population genetics of bats killed at wind-energy facilities. *Ecological Applications* 26(5):1381–1395.
- Nagel, J., and **J. E. Gates**. Abandoned railroad tunnels serving as hibernacula: a refuge for bats in a White-nose Syndrome world. *Bat Research News* 57(4):82. (abstract only).
- 2015 Nagel, J., and **J. E. Gates**. 2015. Bat species composition at four national parks in southwestern Pennsylvania, pre- and post-White-nose Syndrome. *Bat Research News* 56(4):115 (abstract only).
- 2014 **Gates, J. E.**, D. L. Trauger, and B. Czech, editors. Peak oil, economic growth, and wildlife conservation. Springer, New York, New York, USA.
- Gates, J. E.** Chapter 1: Peaking of world oil production. Pages 3–27 in **J. E. Gates**, D. L. Trauger, and B. Czech, editors. Peak oil, economic growth, and wildlife conservation. Springer, New York, New York, USA.
- Gates, J. E.**, and D. L. Trauger. Chapter 13: Future trends in wildlife conservation and management programs. Pages 281–298 in **J. E. Gates**, D. L. Trauger, and B. Czech, editors. Peak oil, economic growth, and wildlife conservation. Springer, New York, New York, USA.
- Gates, J. E.**, D. L. Trauger, and B. Czech. Chapter 15: Envisioning an alternative future. Pages 317–339 in **J. E. Gates**, D. L. Trauger, and B. Czech, editors. Peak oil, economic growth, and wildlife conservation. Springer, New York, New York, USA.
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*(Note: I maintain a policy of only co-authoring with my students on papers to which I have made a major contribution in study design, data analysis, and writing.)*

### **Seminars, Invited Papers, and Papers/Posters Presented at Meetings**

Over my career, I have attended 100s of professional meetings; the following are those at which my students or colleagues and I were presenters of papers—

2018 Stevenson, E. R., D. J. Feller, **J. E. Gates**. Hibernacula counts reveal major declines in Maryland cave bats. North American Joint Bat Working Group Meeting & 28th Annual Colloquium on the Conservation of Mammals in the Southeastern U.S., Roanoke, Virginia. 27–29 March.

2017 Stevenson, E. R., D. J. Feller, **J. E. Gates**, D. L. Limpert, and J. Nagel. Maryland state update. Northeast Bat Working Group (NEBWG), Amherst, Massachusetts. 11–13 January.

Stevenson, E. R., **J. E. Gates**, and D. J. Feller. Declines in Maryland bat captures following white-nose syndrome emergence: preliminary results. Northeast Bat Working Group (NEBWG), Amherst, Massachusetts. 11–13 January.

2016 Nagel, J. J., and **J. E. Gates**. Abandoned railroad tunnels serving as hibernacula: a refuge for bats in a White-nose Syndrome world. 46th Annual Symposium on Bat Research, North American Society for Bat Research (NASBR), San Antonio, Texas. 12–15 October.

Stevenson, E. R., **J. E. Gates**, and D. J. Feller. Bat population monitoring and northern long-eared bat roost sites in western Maryland. Maryland-Delaware Chapter of The Wildlife Society, Fall 2016 Meeting, Robinson Nature Center, Columbia, Maryland. 22 September.

**Gates, J. E.** Bats, rails-to-trails, & railway tunnels: search for policy or resource management answers to a resource conflict. 2016 CESU Network National Meeting, National Conservation Training Center, Shepherdstown, West Virginia. 14–16 June.

**Gates, J. E.** Where have all the bats gone, long time passing. Garden Club of Cumberland, Cumberland, Maryland. 13 June.

Pylant, C. L., D. M. Nelson, M. C. Fitzpatrick, **J. E. Gates**, and S. R. Keller. Geographic origins and population genetics of bats killed at wind-energy facilities. International Bat Research Symposium, Schoodic Institute, Winter Harbor, Maine. 26–27 April.

Feller, D., J. Nagel, and **J. E. Gates**. General Session: Member State Updates—Maryland. Northeast Bat Working Group (NEBWG) meeting, Lord Baltimore Hotel, Baltimore, Maryland. 11–13 January

2015 Nagel, J., and **J. E. Gates**. Bat species composition at four national parks in southwestern Pennsylvania, pre- and post-White-nose Syndrome. 45th Annual Symposium on Bat Research, North American Society for Bat Research (NASBR), Monterey, California. 28–31 October.

**Gates, J. E.** Conservation Ecology of Bats in Maryland. Invited Seminar. UMCES, Chesapeake Biological Laboratory, Solomons, Maryland. 26 August.

2014 Nelson, D. M., C. L. Pylant, M. C. Fitzpatrick, **J. E. Gates**, and S. R. Keller. Geographic origin and population size and structure of bats experiencing mortality at wind energy facilities in the central Appalachians. National Wind Coordinating Collaborative: Wind Wildlife Research Meeting X, Broomfield, Colorado. 2–5 December.

Nagel, J., **J. E. Gates**, and D. Feller. Changes in bat populations in a WNS positive region: four years of acoustic data from western Maryland. 44th Annual Symposium on Bat Research, North American Society for Bat Research (NASBR), Albany, New York. 22–24 October.

2011 Sparks, J. L., Jr., and **J. E. Gates**. Use of drainage structures by wildlife. Project Meeting, Maryland State Highway Administration, Baltimore, Maryland. 15 July.

2010 Sparks, J. L., Jr., and **J. E. Gates**. 2010. Preliminary results of an investigation into the use of road drainage structures by wildlife in Maryland. Workshop on Roads and Wildlife in Maryland: Assessing and Mitigating Impacts. Co-hosted by SHA Office of Environmental Design, Towson University, and University of Maryland Center for Environmental Science. Maryland Department of Transportation Headquarters, Hanover, Maryland. 16 March.

**Gates, J. E.**, and J. L. Sparks, Jr. 2010. Wildlife use of existing road drainage structures in Maryland. Workshop on Roads and Wildlife in Maryland: Assessing and Mitigating Impacts. Co-hosted by SHA Office of Environmental Design, Towson University, and University of Maryland Center for Environmental Science. Maryland Department of Transportation Headquarters, Hanover, Maryland. 16 March.

Garabedian, J., F. K. Ammer, and **J. E. Gates**. Habitat associations of over-wintering birds in restored grasslands in the Manassas National Battlefield Park, Virginia. 87<sup>th</sup> Annual Meeting of the Eastern Bird Banding Association, Rocky Gap Resort, Rocky Gap State Park, Flintstone, Maryland. 9–11 April.

Donaldson, E. F., **J. E. Gates**, A. Haskew, J. Huyhn, M. Frieman, and R. S. Baric. Exploring the intersection of viral cross species transmission and bat ecology. Sixth Annual National Regional Centers of Excellence Conference, Las Vegas, Nevada. 11–15 April.

Dickey, S. D., **J. E. Gates**, B. F. Dickey, and K. Ferebee. 2010. The effect of cell towers on birds and bats at Rock Creek Park, Washington, D.C. National Park Service, National Capital Region's fifth biennial conference, "Spotlight on National Park Resources in the National Capital Region," 2010 Biennial Conference, Frederick Community College, Frederick, Maryland. 20 April.

Sjollema, A. L., and **J. E. Gates**. Bat activity and patterns in the vicinity of proposed wind facilities along the mid-Atlantic Coast. 66th Annual Northeast Fish and Wildlife



Conference, Marriott Boston Newton, Newton, Massachusetts. 25–27 April.

Garabedian, J. E., F. Ammer, and **J. E. Gates**. Habitat associations of over-wintering birds in restored hayfields in the Manassas National Battlefield Park, Virginia. Ninety-first Annual Meeting of the Wilson Ornithological Society, Hobart and William Smith Colleges, Geneva, New York. 20–23 May.

Donaldson, E. F., **J. E. Gates**, A. Haskew, J Huyhn, and M. B. Frieman. The bat virome: understanding the role of viral trafficking between different bat species. The American Society for Virology 29<sup>th</sup> Annual Meeting, Montana State University, Bozeman, Montana. 17–21 July.

Donaldson, E. F., **J. E. Gates**, and M. B. Frieman. Initial characterization of the viromes of six North American bat species. SERCEB (Southeast Regional Center of Excellence for Emerging Infections and Biodefense) Annual Meeting, The Carolina Inn, Chapel Hill, North Carolina. 4–6 October.

Johnson, J. B., J. E. Gates, A. Haskew, J. Saville, and S. Bell. Bat communities at abandoned railroad tunnels in Chesapeake and Ohio Canal National Historical Park. 63rd Annual SEAFWA (The Southeastern Association of Fish and Wildlife Agencies) Conference, Beau Rivage Resort and Casino, Biloxi, Mississippi. 17–20 October.

Sjollema, A. L., **J. E. Gates**, and J. Sherwell. Bat activity in the vicinity of proposed wind facilities along the Mid-Atlantic Coast. National Wind Coordinating Collaborative: Wind Wildlife Research Meeting VIII, Lakewood, Colorado. 19–21 October.

Nagel, J., **J. E. Gates**, and D. Feller. Comparing two methods of acoustic surveying for bats: point counts and moving routes. 40<sup>th</sup> North American Symposium on Bat Research, Denver, Colorado. 27–30 October.

Saville, J., and **J. E. Gates**. Monitoring of microclimate within three abandoned railway tunnels used by bats in western Maryland. 40<sup>th</sup> North American Symposium on Bat Research, Denver, Colorado. 27–30 October.

Sjollema, A. L., **J. E. Gates**, and J. Sherwell. Bat activity in the vicinity of proposed wind power plants along the Mid-Atlantic Coast. 40<sup>th</sup> North American Symposium on Bat Research, Denver, Colorado. 27–30 October.

Johnson, J. B., and **J. E. Gates**. Bat inventory of four Eastern Rivers and Mountains National Park Service units. Natural Resource Condition Assessment meeting, Allegheny Portage Railroad National Historic Site, Cresson, Pennsylvania. 18–19 November.

2009 Garabedian, J., F. K. Ammer, and **J. E. Gates**. Habitat preferences of over-wintering birds using restored grasslands in the Manassas National Battlefield Park. Spring

Meeting of the Maryland-Delaware Chapter of The Wildlife Society, Woodmont Lodge at the Woodmont Natural Resource Management Area, Maryland Department of Natural Resources, c/o Fort Frederick State Park, Hancock, Maryland. 24 April.

Donaldson, E. F., A. Haskew, M. Frieman, and **J. E. Gates**. Metagenomic analysis of the virome of eastern North American bats. Bats and Emerging Viral Diseases Workshop, National Institute of Allergy and Infectious Diseases, National Institutes of Health, Legacy Hotel and Meeting Centre, Rockville, Maryland. 10–11 September.

Garabedian, J., F. K. Ammer, and **J. E. Gates**. Habitat preferences of over-wintering birds using restored grasslands in the Mannassas National Battlefield Park. Fall Meeting of the Maryland-Delaware Chapter of The Wildlife Society, U.S. Fish and Wildlife Service, National Wildlife Visitors Center, Laurel, Maryland. 30 October.

Sjollema, A. L., and **J. E. Gates**. 2009. Bat activity and patterns in the vicinity of proposed wind facilities along the Mid-Atlantic coast. 39<sup>th</sup> North American Symposium on Bat Research, Portland, Oregon. 4–7 November.

- 2008 Johnson, J. B., **J. E. Gates**, and W. M. Ford. Distribution and activity of bats at local and landscape scales within a rural-urban gradient. 1st joint meeting of the Northeastern Bat Working Group (NEBWG) and Southeastern Bat Diversity Network (SBDN) and 18th Annual Colloquium on the Conservation of Mammals in the Southeastern United States, Blacksburg, Virginia. 20–22 February.

Johnson, J. B., and **J. E. Gates**. Bat communities at abandoned railroad tunnels in Chesapeake and Ohio Canal National Historical Park. National Park Service conference, “Spotlight on National Park Resources.” U.S. Department of the Interior, Main Auditorium, Washington, D.C. 26 March.

**Gates, J. E.** Life under a windplant. Introduction, DVD showing, and discussion. The Garden Club of Cumberland, Center Street Methodist Church, Monthly Meeting, Cumberland, Maryland. 14 April.

Johnson, J. B., and **J. E. Gates**. Nightly and seasonal bat activity on Assateague Island National Seashore, Maryland, and implications for wind energy development. AWEA Offshore Wind Power Workshop, Wilmington, Delaware. 9–10 September.

Haskew, A., and **J. E. Gates**. When conservation conflicts with recreation: a case study of *Myotis leibii* in western Maryland. 38<sup>th</sup> North American Symposium on Bat Research, Scranton, Pennsylvania. 22–25 October.

Dickey, S. D., **J. E. Gates**, and B. F. Dickey. The effect of cell towers on birds and bats at Rock Creek Park, Washington, D.C. The Wildlife Society 15<sup>th</sup> Annual Conference, Miami, Florida, 8–12 November. Poster presentation, 12 November.

Trauger, D. L., and **J. E. Gates**. Peak oil: implications for sustainable natural resources management. Sustainable Operations Summit, “Walking the Talk: Reducing our

- Environmental Footprint.” U.S.D.A. Forest Service, Forest Products Laboratory, Madison, Wisconsin. 17–21 November.
- 2007 **Gates, J. E.** The relationship between economic growth and wildlife conservation. Maryland-Delaware Chapter of The Wildlife Society, Spring Meeting, Greenbrier State Park, Boonsboro, Maryland. 13 April.
- 2006 Lott, K., and **J. E. Gates.** Daily and seasonal patterns of bat activity along Central Appalachian ridges. Northeast Bat Working Group, 2006 Annual Meeting, East Stroudsburg University, East Stroudsburg, Pennsylvania. 10–12 January.
- Gates, J. E.** The fundamental conflict between economic growth and wildlife conservation. Department of Biology and Society for Conservation Biology Student Chapter, Frostburg State University, Frostburg, Maryland. 8 March.
- Gates, J. E.,** and M. Christian. Peaking of world oil extraction. The Wildlife Society 13<sup>th</sup> Annual Conference, Anchorage, Alaska, 23–27 September. Paper presented during Symposium on “Peak Oil, Economic Growth, and Wildlife Conservation,” 26 September.
- Trauger, D. L., and **J. E. Gates.** Implications of peak oil for wildlife conservation and management. The Wildlife Society 13<sup>th</sup> Annual Conference, Anchorage, Alaska, 23–27 September. Paper presented during Symposium on “Peak Oil, Economic Growth, and Wildlife Conservation,” 26 September.
- Leachman, J. A., and **J. E. Gates.** A study of nocturnal bird migration in the Appalachian Mountains of western Maryland. 4th North American Ornithological Conference, Wings without Borders, Veracruz, Mexico, 3–7 October.
- Haskew, A. N., and **J. E. Gates.** Pre-closure surveys of 52 abandoned coal mines in western Maryland. 36th Annual North American Symposium on Bat Research, Hilton Wilmington Riverside, Wilmington, North Carolina. 18–21 October.
- Lott, K., and **J. E. Gates.** Daily and seasonal patterns of bat activity along Central Appalachian ridges. 36th Annual North American Symposium on Bat Research, Hilton Wilmington Riverside, Wilmington, North Carolina. 18–21 October.
- Lott, K., and **J. E. Gates.** Daily and seasonal patterns of bat activity along Central Appalachian ridges. National Wind Coordinating Collaborative, Wildlife Workgroup Research Meeting VI, Radisson Hotel - San Antonio Downtown Market Square, San Antonio, Texas. 14–16 November.
- 2005 Zuria, I., **J. E. Gates,** and I. Castellanos. Species richness and abundance of birds in field margins of central Mexico: Local and landscape-scale effects. Ecological Society of America, 90th Annual Meeting, Montréal, Canada. 7–12 August.
- Johnson, J. B., and **J. E. Gates.** Bats of Washington, D.C. Northeast Bat Working Group Meeting, Berkeley Springs Inn, Berkeley Springs, West Virginia. 4–6 January.
- Gates, J. E.,** and J. B. Johnson. Bat inventories of the National Capital Region National Parks. People, Places, and Parks: Preservation for Future Generations, The George

- Wright Society Biennial Conference on Parks, Protected Areas, and Cultural Sites, Loews Philadelphia Hotel, Philadelphia, Pennsylvania, 14–18 March.
- Gates, J. E.**, N. K. Dawe, J. D. Erickson, J. Farley, V. Geist, H. Hands, P. Magee, and D. L. Trauger. A critique of TWS position statement on economic growth. The Wildlife Society 12<sup>th</sup> Annual Conference, Madison, Wisconsin, 25–29 September.
- 2004 Carpenter, C. P., T. L. Serfass, W. M. Tzilkowski, **J. E. Gates**, and S. E. Peters. Habitat characteristics at spraint sites used by river otters along Tionesta Creek in northwestern Pennsylvania. IX<sup>th</sup> International Otter Colloquium—*Otters: Ambassadors for Aquatic Conservation*, Frostburg State University, Frostburg, Maryland. 4–10 June.
- Gates, J. E.** The Effects of wind turbines on birds and bats. The Garden Club of Cumberland, Center Street Methodist Church, Monthly Meeting, Cumberland, Maryland. 11 October.
- Gates, J. E.** Birds, bats, and wind turbines. The Allegany County Bird Club, *The Allegany County Chapter of the Maryland Ornithological Society*, Monthly Meeting, Frostburg Public Library, Frostburg, Maryland. 12 October.
- 2003 Ingram, D. K., **J. E. Gates**, and S. Walters. Breeding birds and land use/land cover relationships along Chesapeake and Ohio Canal National Historical Park, USA. *Protecting Our Diverse Heritage: The Role of Parks, Protected Areas, and Cultural Sites*. The George Wright Society Biennial Conference, San Diego, California, USA. 14–18 August.
- 2001 **Gates, J. E.**, S. Walters, and D. K. Ingram. Breeding bird response to landscape patterns along the C & O Canal National Historical Park, USA. Ecological Society of America, 86<sup>th</sup> Annual Meeting, Madison, Wisconsin. 5–10 August.
- Zuria, I., and **J. E. Gates**. Birds and hedgerows at two spatial scales in an agricultural landscape of Guanajuato, Mexico. Ecological Society of America, 86<sup>th</sup> Annual Meeting, Madison, Wisconsin. 5–10 August.
- 1999 **Gates, J. E.**, and D. K. Ingram. Breeding bird-habitat relationships along the C & O Canal National Historical Park. 117<sup>th</sup> Stated Meeting of the American Ornithologists' Union, Cornell University, Ithaca, New York. 10–14 August.
- Gates, J. E.** Effects of physiography and local differences in land use/land cover on breeding birds of the C & O Canal National Historical Park. CBL Seminar Series. Chesapeake Biological Laboratory, Solomons, Maryland. 23 April.
- Gates, J. E.** Bird Populations of the C & O Canal: treasure trove on the towpath. Seminar. Talbot Chapter of the Maryland Ornithological Society, Easton, Maryland. 15 April.
- Gates, J. E.** Cowbird movements and habitat use in the central Appalachians. Seminar. Inter-College Graduate Degree Program in Ecology, Pennsylvania State University, State

- College, Pennsylvania. 1 April.
- 1998 **Gates, J. E.** Cowbird movements and habitat use on an anthropogenic forest landscape in the central Appalachians. Partners-in-Flight, West Virginia Working Group, Spring Meeting, Elkins, West Virginia.
- 1997 **Gates, J. E.** Effects of open corridors in forested landscapes: do the negatives outweigh the positives? Session 37: Symposium. *Corridors: are they effective in conserving biodiversity*. 4<sup>th</sup> Annual Conference, The Wildlife Society, Snowmass, Colorado.
- Gates, J. E.** Open corridors in forested landscapes: local and landscape-level effects on wildlife. Frostburg State University Bio-lunch Presentation, 9 October.
- 1996 **Gates, J. E.**, and D. R. Evans. Cowbird spatial ecology on an anthropogenic forest landscape. Ecological Society of American 1996 Annual Combined Meeting: *Ecologists/Biologists as Problem Solvers*, Providence, Rhode Island.
- Evans, D. R., and **J. E. Gates**. The role of habitat and bird abundance in selection of brown-headed cowbird breeding areas. Ecological Society of American 1996 Annual Combined Meeting: *Ecologists/Biologists as Problem Solvers*, Providence, Rhode Island.
- Gates, J. E.** Spatial ecology of the brown-headed cowbird. Wildlife and Fisheries Seminar Series, West Virginia University, Morgantown, West Virginia.
- Gates, J. E.** Ecology of brown-headed cowbirds in western Maryland. Annual Maryland Partners in Flight Meeting, National Wildlife Visitor Center, Laurel, Maryland.
- Gates, J. E.** Habitat fragmentation and cowbird ecology. Western Maryland Group of the Sierra Club/FSU Chapter of the Wildlife Society Invited Seminar, Frostburg State University, Frostburg, Maryland.
- 1995 **Gates, J. E.** The role of cowbird parasitism in Maryland landscapes. CBRM (Chesapeake Bay Research and Monitoring Division) Noon Seminar Series, Department of Natural Resources, Annapolis, Maryland. 15 February.
- Evans, D. R., and **J. E. Gates**. Spatial distribution of female Brown-headed Cowbirds in relation to an anthropogenic forest landscape. 51st Annual Northeast Fish and Wildlife Conference, Ocean City, Maryland. Poster. 9–12 April.
- Fregonara, J., and **J. E. Gates**. Landscape composition and structure in the vicinity of barn owl nest sites in Maryland. 51st Annual Northeast Fish and Wildlife Conference, Ocean City, Maryland. 9–12 April.
- McLeod, R. F., and **J. E. Gates**. The effects of timber harvest and prescribed burning on the distribution and abundance of herpetofauna. 51st Annual Northeast Fish and Wildlife Conference, Ocean City, Maryland. 9–12 April.

- Gates, J. E.**, and D. R. Evans. Cowbird spatial ecology on anthropogenic forest landscapes. Joint Meeting of the Wilson Ornithological Society and The Virginia Society of Ornithology, Williamsburg, Virginia. 4–7 May.
- Gates, J. E.**, and D. R. Evans. Cowbird spatial ecology and anthropogenic forest landscapes. Maryland Ornithological Society 1995 Conference, Mount Saint Mary's College, Emmitsburg, Maryland. 23–25 June.
- Gates, J. E.** Breeding bird species assemblages and forest patch size. 80th Annual Ecological Society of America Meeting: *The Transdisciplinary Nature of Ecology*, Snowbird, Utah. 30 July–3 August.
- 1993 **Gates, J. E.** Neotropical migratory birds, cowbirds, and altered forest landscapes. Maryland Ornithological Society Conference, Frostburg State University, Frostburg, Maryland. 5 June.
- Gates, J. E.** Neotropical migratory birds, cowbirds, and managed forest landscapes. 7th Annual Meeting, Society for Conservation Biology, Arizona State University, Tempe, Arizona. 9–13 June.
- Gates, J. E.** Neotropical migratory birds, cowbirds, and human-dominated forest landscapes. The University of Maryland System, Center for Environmental and Estuarine Studies, Graduate Student Colloquium, Frostburg State University, Frostburg, Maryland. 25 September.
- Gates, J. E.** Brown-headed cowbirds and human-dominated landscapes. North American Research, Workshop on the Ecology and Management of Cowbirds, Austin, Texas. 4–5 November.
- 1992 **Gates, J. E.** 1992. Birds, vegetation zonation, and edge effects in a small Appalachian watershed. Alumni Seminar Series, Department of Biological Sciences, Old Dominion University, Norfolk, Virginia. 30 January.
- Gates, J. E.** Patterns of breeding bird assemblages on altered forest landscapes in the Central Appalachians. First Joint Meeting, Seventy-third Annual Meeting of the Wilson Ornithological Society and Thirty-eighth Meeting of the Florida Ornithological Society, Hilton Inn Gateway, Kissimmee, Florida. 9–12 April.
- 1991 Durner, G. M., and **J. E. Gates**. Home range and habitat use of black rat snakes on Remington Farms, MD. 1991 Joint Annual Meeting, The 34th Annual Meeting of The Society for the Study of Amphibians and Reptiles (SSAR) and The 39th Annual Meeting of The Herpetologists' League, University Park, Pennsylvania. 6–11 August.
- Gates, J. E.** Point count modifications and breeding bird abundances in central Appalachian forests. Workshop on Monitoring Bird Population Trends by Point Counts,

- U.S. Fish and Wildlife Service and U.S. Forest Service, Beltsville, Maryland. 6–7 November.
- 1989 Stewart, N. J., S. A. Smith, and **J. E. Gates**. 1989. Seasonal movements, habitat use, mortality and productivity of Maryland Ring-necked Pheasants. Maryland Ornithological Society Annual Conference 1989, Frostburg State University, Frostburg, Maryland. June 2–4.
- McKearnan, J. E., D. F. Brinker, and **J. E. Gates**. 1989. Status of colonial waterbirds in Maryland 1975–1988. Maryland Ornithological Society Annual Conference 1989, Frostburg State University, Frostburg, Maryland. June 2–4.
- Brinker, D. F., P. A. Terletzky, J. E. McKearnan, and **J. E. Gates**. 1989. Status of American Oystercatchers in Worcester County, Maryland 1985–1988. Maryland Ornithological Society Annual Conference 1989, Frostburg State University, Frostburg, Maryland. June 2–4.
- Gates, J. E.**, and N. R. Giffen. 1989. Avian and vegetation structure at an Appalachian stream. 107th Stated Meeting of the American Ornithologists' Union, The University of Pittsburgh, Pittsburgh, Pennsylvania. August 8–10.
- Brinker, D. F., R. V. Jesien, and **J. E. Gates**. 1989. Strikers in the night - when would you forage? 1989 Annual Meeting Colonial Waterbird Society, Key Largo, Florida. 26–29 October.
- 1988 **Gates, J. E.** 1988. Highways: The search for solutions. Deer management in an urbanizing region: Problems and alternatives to traditional management. The National Conference Center, East Windsor, New Jersey. April 13.
- Gates, J. E.** 1988. Avian nest distribution and fledging success near forest edges. Department of Biology Seminar. University of Malawi, Chancellor College, Zomba, Malawi. May 26.
- Gates, J. E.** 1988. Avian nest distribution and fledging success near forest edges. Department of Biological Sciences Seminar, University of Zimbabwe, Harare, Zimbabwe. May 31.
- 1986 **Gates, J. E.** 1986. Participation of environmental organizations and other interest groups in scientific research. Panel discussion. Association of National Park Rangers, Regional Rendezvous, Cacapon Lodge, Cacapon State Park, Berkeley Springs, West Virginia. March 12–14.
- McKearnan, J. E., D. F. Brinker, and **J. E. Gates**. 1986. Status of colonial waterbirds in Maryland 1977–1986. Annual Meeting of the Colonial Waterbird Group, Charleston, South Carolina. October 23–26.

- 1985 **Gates, J. E.** 1985. Status of cave-dwelling bats and hellbenders in western Maryland. 16th Annual Earth Week. Potomac State College of West Virginia University, Keyser, West Virginia. April 15–19.
- Bendel, P. R., and **J. E. Gates.** 1985. Habitat partitioning by the southern flying squirrel (*Glaucomys volans*). 65th Annual Meeting of the American Society of Mammalogists, University of Maine at Orono. June 16–20.
- 1984 Feldhamer, G. A., **J. E. Gates,** and D. M. Harman. 1984. Effects of a highway and fencing on the movement of white-tailed deer. 63rd Annual Meeting of the Transportation Research Board, Sheraton Washington Hotel/Shoreham Hotel, Washington, D.C. January 16–20.
- McDowell-Griffith, L., and **J. E. Gates.** 1984. Feeding habits of cave-dwelling bats in the central Appalachians. 41st Northeast Fish and Wildlife Conference, Ocean City, Maryland. May 13–16.
- Gilmore, R. M., and **J. E. Gates.** 1984. Habitat use by the southern flying squirrel in adjacent hemlock-northern hardwood forest types. 41st Northeast Fish and Wildlife Conference, Ocean City, Maryland. May 13–16.
- Raesly, R. L., and **J. E. Gates.** 1984. Hibernacula selection by cave-dwelling bats: A test of the models. 41st Northeast Fish and Wildlife Conference, Ocean City, Maryland. May 13–16.
- Giffen, N. R., and **J. E. Gates.** 1984. Bird population patterns across a riparian zone-hemlock-northern hardwood transition. 41st Northeast Fish and Wildlife Conference, Ocean City, Maryland. May 13–16.
- Gates, J. E.** 1984. Habitat ecology of the southern flying squirrel at a hemlock-northern hardwood ecotone. Department of Fisheries and Wildlife/Ecology Center Seminar, Utah State University, Logan. October 11.
- 1983 Lang, B. K., and **J. E. Gates.** 1983. Winter bed-site selection by white-tailed deer in a hemlock-northern hardwood forest. 63rd Annual Meeting of the American Society of Mammalogists, Florida State Museum, University of Florida, Gainesville. June 19–23.
- 1982 Dixon, K. R., G. A. Feldhamer, **J. E. Gates,** and D. M. Harman. 1982. Activity of white-tailed deer along an interstate highway. Third Symposium on Environmental Concerns in Rights-of-Way Management, The Hyatt Islandia Hotel, San Diego, California. February 15–18.
- 1981 Griffith, L. A., R. L. Raesly, **J. E. Gates,** and G. A. Feldhamer. 1981. Status of cave-dwelling bats in western Maryland. 61st Annual Meeting of the American Society of Mammalogists, Miami University, Oxford, Ohio. June 7–11.



- Morgan, K. A., and **J. E. Gates**. 1981. Eastern cottontail rabbit utilization of strip vegetation at Remington Farms, Maryland. 61st Annual Meeting of the American Society of Mammalogists, Miami University, Oxford, Ohio. June 7–11.
- Raesly, R. L., J. H. Howard, **J. E. Gates**, and G. A. Feldhamer. 1981. Protein composition of the paracymbal glands of the big brown bat, *Eptesicus fuscus*. 61st Annual Meeting of the American Society of Mammalogists, Miami University, Oxford, Ohio. June 7–11.
- Gates, J. E.**, C. H. Hocutt, and J. R. Stauffer, Jr. 1981. Methods of assessing the status of hellbender populations in different stream habitats. 61st Annual Meeting of the American Society of Ichthyologists and Herpetologists, Oregon State University, Corvallis, Oregon. June 21–26.
- Jacobs, D., K. R. Dixon, **J. E. Gates**, and D. L. Deangelis. 1981. Activity volumes of breeding birds in forest habitats. Annual Meeting of the Ecological Society of America with AIBS, Indiana University, Bloomington, Indiana. August 16–20.
- Chase, J. D., K. R. Dixon, and **J. E. Gates**. 1981. Habitat characteristics and home range of the bog turtle in Maryland. Annual Meeting of the Ecological Society of America with AIBS, Indiana University, Bloomington, Indiana. August 16–20.
- Gates, J. E.**, C. H. Hocutt, and J. R. Stauffer, Jr. 1981. A review of the status of the hellbender (*Cryptobranchus alleganiensis*) in Maryland. A Symposium on Threatened and Endangered Plants and Animals of Maryland, Towson State University, Towson, Maryland. September 3–4.
- Feldhamer, G. A., **J. E. Gates**, D. S. Lee, and J. A. Chapman. 1981. Rare, threatened, endangered, and extirpated mammals of Maryland. A Symposium on Threatened and Endangered Plants and Animals of Maryland, Towson State University, Towson, Maryland. September 3–4.
- 1980 Williams, R. D., **J. E. Gates**, and C. H. Hocutt. 1980. An evaluation of sampling techniques for hellbender (Amphibia, Cryptobranchidae) populations. 41st Annual Meeting of the Association of Southeastern Biologists, University of South Florida, Tampa, Florida. April 26–28.
- Gates, J. E.** 1980. Management of right-of-way corridors for wildlife. Third Annual Northeast Nongame Working Group Meeting. Howard Johnson's Motor Lodge, Laurel, Maryland. September 23–25.
- Dixon, K. R., and **J. E. Gates**. 1980. The application of avian activity isopleths to territory mapping census techniques (Poster Session). Bird Census Symposium, Asilomar, California. October 26–31.

- 1979 **Gates, J. E.**, and D. M. Harman. 1979. Habitat characteristics of a western Maryland white-tailed deer (*Odocoileus virginianus*) winter concentration area. 40th Annual Meeting of the Association of Southeastern Biologists, The University of Tennessee, Chattanooga, Tennessee. April 25–27.
- Ladino, A. G., and **J. E. Gates**. 1979. Mammal utilization of transmission-line corridor and adjacent habitats. 40th Annual Meeting of the Association of Southeastern Biologists, The University of Tennessee, Chattanooga, Tennessee. April 25–27.
- Thompson, E. L., and **J. E. Gates**. 1979. Distribution and breeding site characteristics of the Jefferson salamander (*Ambystoma jeffersonianum*) in Maryland. 40th Annual Meeting of the Association of Southeastern Biologists, The University of Tennessee, Chattanooga, Tennessee. April 25–27.
- Chasko, G. G., and **J. E. Gates**. 1979. Avian nesting success along transmission-line corridors in western Maryland. 40th Annual Meeting of the Association of Southeastern Biologists, The University of Tennessee, Chattanooga, Tennessee. April 25–27.
- Chasko, G. G., and **J. E. Gates**. 1979. Avian breeding success in relation to grassland and shrubland habitats within a 138 kV transmission-line corridor. Second Symposium on Environmental Concerns in Rights-of-Way Management, The University of Michigan, Ann Arbor, Michigan. October 16–18.
- Ladino, A. G., and J. E. Gates. 1979. Response of animals to transmission-line corridor management practices. Second Symposium on Environmental Concerns in Rights-of-Way Management, The University of Michigan, Ann Arbor, Michigan. October 16–18.
- Lawson, B. A., and **J. E. Gates**. 1979. Habitat-niche discrimination of passerines along a transmission-line corridor. Second Symposium on Environmental Concerns in Rights-of-Way Management, The University of Michigan, Ann Arbor, Michigan. October 16–18.
- Eaton, R. H., and **J. E. Gates**. 1979. Transmission-line rights-of-way management and white-tailed deer habitat: A review. Second Symposium on Environmental Concerns in Rights-of-Way Management, The University of Michigan, Ann Arbor, Michigan. October 16–18.
- Gates, J. E.**, and K. R. Dixon. 1979. Right-of-way utilization by forest and corridor breeding bird populations. Second Symposium on Environmental Concerns in Rights-of-Way Management, The University of Michigan, Ann Arbor, Michigan. October 16–18.
- 1978 **Gates, J. E.** 1978. Relationship between avian nest height and plant height. 96th Stated Meeting of the American Ornithologists' Union, The University of Wisconsin, Madison, Wisconsin. August 14–18.

- Gates, J. E.,** and J. A. Mosher. 1978. Habitat edge width based on avian nest dispersion. 96th Stated Meeting of The American Ornithologists' Union, The University of Wisconsin, Madison, Wisconsin. August 14–18.
- 1976 **Gates, J. E.** 1976. On the relation between fledging success and forest-field edges. 94th Stated Meeting of the American Onithologists' Union, Haverford College, Haverford, Pennsylvania. August 9–13.
- Gates, J. E.** 1976. "Edges" - Ecological "traps" for passerines and suggestions for management. 38th Midwest Fish and Wildlife Conference, Dearborn, Michigan. December 5–8.

### Research Contracts and Grants

- 2017–2020 Using novel biomarkers to assess geographic scale and demographic impacts on three species of tree-roosting bats killed at wind turbines. U.S. Department of Interior, Fish and Wildlife Service, Wildlife and Sport Fish Restoration Program, Competitive State Wildlife Grant Program. Funds requested: 242,407; Cost share: \$164,928. 1 June 2017-31 May 2020. (Co-Principal Investigator, 4.17% of time; with Paul F. Gugger and David M. Nelson).
- 2017–2018 Maryland Bat Surveys: Task 1. Stationary Point Acoustic Surveys and Mist Netting of Bats on Conservation Lands; and Task 2. Mobile Acoustic Transect Surveys of Bat Activity in Late Spring/Early Summer 2018. Maryland Department of Natural Resources, Natural Heritage Program. \$68,118. 1 July 2017–30 June 2018. (Principal Investigator).
- 2017–2018 Reassessment of Indiana Bat Activity at Former Maternity Roosts in Carroll County, Maryland. Maryland Department of Natural Resources, Natural Heritage Program. \$6,965. 1 July 2017–30 June 2018. (Principal Investigator).
- 2017–2018 Monitoring Maryland Bats (Continued): Task I. Cave Bat Swarming and Emergence and Day Roosts of RTE Bats in Western Maryland, 2016–2017; Task II. Day Roosts of RTE Bats (*Myotis sodalis*, *M. septentrionalis*, and *M. leibii*) in Western Maryland; and Task III. Acoustic Monitoring of Bat Activity in Late Spring/Early Summer 2017 in Maryland. Maryland Department of Natural Resources, Natural Heritage Program. \$52,755. 1 July 2017–30 June 2018. (Principal Investigator, 2.88% of time).
- 2016–2019 Population Genomics and Isotopic Analysis of Bats Killed by Wind Turbines in the Central Appalachians: Continuation to Enhance Sampling. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$40,000. 1 July 2016–30 June 2019. (Principal Investigator, with P. Gugger, D. Nelson, and M. Fitzpatrick). *Wind XVI*.

- 2016–2017 Monitoring Maryland Bats: Task I. Cave Bat Swarming and Emergence and Day Roosts of RTE Bats in Western Maryland, 2016–2017; Task II. Day Roosts of RTE Bats (*Myotis sodalis*, *M. septentrionalis*, and *M. leibii*) in Western Maryland; and Task III. Acoustic Monitoring of Bat Activity in Late Spring/Early Summer 2017 in Maryland. Maryland Department of Natural Resources, Natural Heritage Program. \$65,814. 1 September 2016–30 June 2017. (Principal Investigator, 2.88% of time).
- 2016 Cave Bat Emergence and Day Roosts of Northern Long-eared Bats (*Myotis septentrionalis*) in Western Maryland. Maryland Department of Natural Resources, Natural Heritage Program. \$50,000. 1 January 2016–31 December 2016. (Principal Investigator, 4.17% of time).
- 2016 Acoustic Monitoring of Bat Activity in Late Spring/Early Summer 2016 in Maryland. Maryland Department of Natural Resources, Natural Heritage Program. \$15,000. 1 January 2016–30 September 2016. (Principal Investigator, 2.08% of time).
- 2015–2020 Bat Community Composition and Monitoring for White-Nose Syndrome at First State National Monument, Delaware and Pennsylvania. U.S. Department of Interior, National Park Service Northeast Region. \$29,990. 1 July 2015–30 September 2020. (Principal Investigator).
- 2015–2018 Assessment of White-Nose Syndrome, Geographic Origin, and Genetic Diversity of Bats at Five National Park Units in Western Pennsylvania. U.S. Department of Interior, National Park Service, Western Pennsylvania National Parks (WEPA: ALPO/ FLNI/ FONE/ FRHI/ JOFL). \$149,693. 1 July 2015–30 June 2018. (Principal Investigator, 8.33% of time; with David M. Nelson).
- 2015–2016 Population Genomics of Bats Killed by Wind Turbines in the Central Appalachians. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$40,000. 1 September 2015–31 December 2016. (Principal Investigator, with P. Gugger, D. Nelson, and M. Fitzpatrick). *Wind XV*.
- 2015–2016 Acoustic Monitoring of Bat Activity in Late Spring/Early Summer 2015 in Maryland. Maryland Department of Natural Resources, Natural Heritage Program. \$48,000. 1 January 2015–31 March 2016. (Principal Investigator).
- 2014–2018 Inventory of Bat Community Composition and Monitoring for White-Nose Syndrome at Five National Park Units in Western Pennsylvania. U.S. Department of Interior, National Park Service, Western Pennsylvania National Parks (WEPA: ALPO/ FLNI/ FONE/ FRHI/ JOFL). \$95,817. 16 September 2014–30 June 2018. (Principal Investigator, 8.33% of time).
- 2014–2016 Bat Swarming and Emergence Surveys and Monitoring for White-Nose

- Syndrome at Three Abandoned Railway Tunnels, Chesapeake and Ohio Canal National Historical Park. U.S. Department of Interior, National Park Service, Chesapeake and Ohio Canal National Historical Park. \$95,000. 1 July 2014–30 September 2016. (Principal Investigator, 8.33% of time).
- 2014–2016 Assessing Potential Migration Pathways and Changes in Effective Population Size of Hoary Bat Populations in the Central Appalachians. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$40,000. 1 October 2014–30 June 2016. (Principal Investigator, with D. Nelson, S. Keller, and M. Fitzpatrick). *Wind XIV*.
- 2014–2015 Sampling to Support an Isotopic and Genetic Assessment of Red Bats in Maryland. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$25,000. 1 April 2014–31 December 2015. (Principal Investigator, with D. Nelson, S. Keller, and M. Fitzpatrick). *Wind XIII*.
- 2013–2015 How Representative Are Wind-Turbine Killed Red Bats of the Broader Population in Maryland? An Isotopic and Genetic Assessment. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$40,000. 1 July 2013–30 June 2015. (Principal Investigator, with D. Nelson, S. Keller, and M. Fitzpatrick). *Wind XII*.
- 2013–2014 Bat Swarming Survey and Monitoring for White-Nose Syndrome at Stickpile Tunnel, Chesapeake and Ohio Canal National Historical Park: Late Summer/Early Fall 2013. U.S. Department of Interior, National Park Service, Chesapeake and Ohio Canal National Historical Park. \$1,200. 16 September 2013–30 December 2014. (Principal Investigator).
- 2013–2014 Acoustic Monitoring of Bat Activity in Late Spring/Early Summer 2014 in Maryland. Maryland Department of Natural Resources, Natural Heritage Program. \$49,954. 1 July 2013–31 December 2014. (Principal Investigator).
- 2012–2013 Bat Swarming Surveys and Monitoring for White-Nose Syndrome at Indigo Tunnel, Chesapeake and Ohio Canal National Historical Park: Late Summer/Early Fall 2012. U.S. Department of Interior, National Park Service, Chesapeake and Ohio Canal National Historical Park. \$4,000. 22 August 2012–30 September 2013. (Principal Investigator).
- 2012–2013 Bat Surveys in Western Maryland in 2013: I. Monitoring Bat Emergence at Indigo Tunnel in Late Winter/Early Spring; and II. Acoustic Monitoring of Bat Activity in Late Spring/Early Summer. Maryland Department of Natural Resources, Natural Heritage Program. \$48,000. 1 July 2012–31 December 2013. (Principal Investigator).
- 2012–2013 Continuing Isotopic and Genetic Assessment of the Impacts of Wind-Turbine Mortality on Bat Populations in the Central Appalachians. Maryland Department

- of Natural Resources, Power Plant Research Program (PPRP). \$40,000. 1 February 2012–31 December 2013. (Principal Investigator, with D. Nelson, S. Keller, and M. Fitzpatrick). *Wind XI*.
- 2011–2013 A preliminary isotopic and genetic investigation of the impacts of wind-turbine mortality on bat populations in the Central Appalachians. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$40,000. 1 June 2011–30 June 2013. (Principal Investigator, with David Nelson and Stephen Keller). *Wind X*.
- 2011–2012 Acoustic Surveys to Assess the Impacts of WNS on Distribution of Bats in Western Maryland: Spring/Summer 2012. Maryland Department of Natural Resources, Wildlife and Heritage Service. \$19,577. 1 September 2011–31 December 2012. (Principal Investigator).
- 2010–2012 Development of Acoustic Survey Methodology to Assess the Impacts of WNS on Summer Distribution of Bats in Western Maryland. Maryland Department of Natural Resources, Wildlife and Heritage Service. \$34,794. 1 January 2010–30 June 2012. (Principal Investigator).
- 2010–2012 Acoustic monitoring of bat activity and migration on islands off the Atlantic Coast. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$19,315. 1 September 2010–31 December 2012. (Principal Investigator). *Wind IX*.
- 2009–2012 Radio telemetry survey of small-footed and Indiana bats at Stickpile and Kessler Tunnels. U.S. Department of Interior, National Park Service, Chesapeake and Ohio Canal National Historical Park. \$49,940. 1 July 2009–30 June 2012. (Principle Investigator)
- 2009–2012 Metagenomic Analysis of the Virome of Eastern North American Bats. U.S. Department of Health and Human Services, National Institutes of Health, National Institute of Allergy and Infectious Diseases (NIAID). \$1,462,023 (\$150,500 JEG portion). 12 September 2009–31 August 2012. (Principle Investigator, 8.33% of time; with Eric Donaldson and Matt Frieman).
- 2009–2011 Surveys to achieve sampling for metagenomic analysis of the virome of eastern North American bats. U.S. Department of Health and Human Services, National Institutes of Health, National Institute of Allergy and Infectious Diseases (NIAID). \$150,500. 1 June 2009–31 August 2011. (Principle Investigator, 8.33% of time).
- 2009–2011 Bat activity and migration in the vicinity of proposed offshore wind power plants. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$40,000. 1 August 2009–31 December 2011. (Principal

Investigator). *Wind VIII*.

- 2009–2011 An investigation into the use of road drainage structures by wildlife in Maryland: Phase II (Years 2 & 3). Maryland State Highway Administration. \$161,799. 1 July 2009–31 December 2011. (Principle Investigator, 1.67% of time).
- 2009–2011 Bat inventories of six National Park Service units In the northeast region of the United States. U.S. Department of Interior, National Park Service, Northeast Region. \$90,000. 1 May 2009–30 June 2011. (Principle Investigator).
- 2008–2009 Bat swarming surveys and monitoring for White Nose Syndrome at Indigo Tunnel, C & O Canal National Historical Park: Fall 2008. U.S. Department of Interior, National Park Service, Chesapeake and Ohio Canal National Historical Park. \$30,000. 5 September 2008–31 December 2009. (Principle Investigator).
- 2008 Bat Emergence Surveys at Stickpile and Kessler Tunnels, Chesapeake and Ohio Canal National Historical Park, Spring 2008. Morgan County (West Virginia) Commission. \$29,755. 1 March 2008–31 December 2008. (Principal Investigator).
- 2008–2009 Bat activity and migration in the vicinity of proposed wind power plants: focusing on the Atlantic Coastal Plain and offshore. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$70,000. 1 June 2008–31 December 2009. (Principal Investigator, 3.83% of time). *Wind VII*.
- 2008–2009 An investigation into the use of road drainage structures by wildlife in Maryland. Maryland State Highway Administration. \$150,000. 1 July 2008–31 December 2009. (Principle Investigator, 8.33% of time).
- 2007–2010 Biological inventories of newly acquired lands of Richmond National Battlefield Park (RICH). U.S. Department of Interior, National Park Service, Northeast Region. \$80,829. 1 September 2007–30 June 2010. (Principle Investigator, 4.17% of time).
- 2007–2008 Information needs for monitoring birds and bats near proposed wind resource areas. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$23,081. 1 July 2006–31 December 2008. (Principal Investigator, 1.92% of time). *Wind VI. Supplement*.
- 2007–2008 Bat emergence surveys at Stickpile and Kessler tunnels, Chesapeake and Ohio Canal National Historical Park. Maryland Department of Transportation, State Highway Administration. \$25,000. 6 April 2007–5 March 2008. (Principle Investigator, 1.92% of time).
- 2007 Bat emergence and swarming surveys at Indigo Tunnel in the Chesapeake and Ohio Canal National Historical Park. Maryland Department of Natural

- Resources, Engineering and Construction, Land and Water Conservation. \$36,661. 15 January–31 December 2007. (Principle Investigator, 2.88% of time).
- 2006–2010 The Effect of Cell Towers on Birds and Bats at Rock Creek Park, Washington, D.C. U.S. Department of Interior, National Park Service, Rock Creek Park. \$220,117. 1 March 2006–30 September 2010. (Principal Investigator, 8.33% of time).
- 2006–2008 Bat Use of Abandoned Mines in Western Maryland. Maryland Department of the Environment, Water Management Administration, Mining Program, Bureau of Mines. \$16,836. 1 January 2006–30 June 2008. (Principal Investigator).
- 2006–2008 Bat Emergence and Swarming Surveys at Indigo Tunnel in the Chesapeake and Ohio Canal National Historical Park. U.S. Department of Interior, National Park Service, Chesapeake and Ohio Canal National Historical Park. \$29,798. 1 August 2006–31 December 2008. (Principal Investigator, 2.88% of time).
- 2006–2008 A Continuation of Acoustic Monitoring and Radar Studies of Migratory Birds and Bats in the Vicinity of Wind Power Projects in Western Maryland. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$40,000. 1 July 2006–31 December 2008. (Principal Investigator, 3.8% of time). *Wind VI*.
- 2006–2007 Daily and Seasonal Patterns of Bat Activity along Central Appalachian Ridges: Implications for Wind Energy Generation. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$16,000. 15 May 2006–30 June 2007. (Principal Investigator). *Wind V. Supplement*
- 2005–2008 Habitat Preferences of Birds Wintering in Restored Grasslands of the Mid-Atlantic Region. U.S. Department of Interior, National Park Service, Manassas National Battlefield Park. \$18,281. 22 July 2005–31 December 2008. (Principal Investigator, with my doctoral student, Ms. Shannon Borges).
- 2005–2008 Bat Community Composition of National Park Units in Coastal Maryland and Virginia. U.S. Department of Interior, National Park Service, Northeast Coastal and Barrier. 1 July 2005–30 June 2007. \$121,237. (Principal Investigator, 8.33% of time).
- 2005–2007 Rare Bat Surveys in Western Maryland. Maryland Department of Natural Resources, Natural Heritage Program. \$45,000. 15 October 2005–31 December 2007. (Principal Investigator).
- 2005–2007 Acoustic Monitoring and Radar Studies of Migratory Birds and Bats in the Vicinity of Wind Power Projects in Western Maryland. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$45,000. 1



- September 2005–31 December 2007. (Principal Investigator, 5.8% of time).  
*Wind V.*
- 2005–2006 Bat Swarming Surveys at Abandoned Mine Portals at New River Gorge National River, West Virginia. U.S. Department of Interior, National Park Service, Eastern Rivers and Mountains. 1 July 2005–30 June 2006. \$20,021. (Principle Investigator, 1.9% of time).
- 2005–2006 Wildlife risk and fatality assessments at wind energy sites in western Maryland: nocturnal migratory birds and bats. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$35,005. 1 January 2005–30 June 2006. (Principal Investigator, 4.17% of time). *Wind IV.*
- 2005 Bat Emergence Surveys at Crabtree, John Friend, and Greises Caves in Western Maryland: 2005. Maryland Department of Natural Resources, Natural Heritage Program. \$2,000. 4 April–31 December 2005. (Principal Investigator).
- 2004–2006 Inventory of Bat Community Composition at Four National Park Units in Pennsylvania. U.S. Department of Interior, National Park Service, Eastern Rivers and Mountains. 1 August 2004–31 December 2006. \$80,000. (Principal Investigator).
- 2004–2005 Bat Mortality at the Mountaineer Wind Energy Center (MWEC) during Fall Migration 2004. Bat Conservation International (BCI). \$45,788. 15 July 2004–31 January 2005. (Principal Investigator, with Ms. Kerns).
- 2004–2005 Bat Inventory of Carderock Division, Naval Surface Warfare Center, West Bethesda, Maryland. U.S. Department of the Navy/Geo-Marine, Inc. (subcontract). 1 December 2004–31 December 2005. \$5,098. (Principle Investigator).
- 2004–2005 The effects of prescribed fire on secretive marsh birds. The Nature Conservancy, Maryland/DC Chapter, Bethesda. \$2,400. 31 May 2004–30 June 2005. (Principle Investigator, with Barbara Schmeling).
- 2004 Bat emergence surveys at Crabtree, John Friend, and Greises caves in western Maryland. Maryland Department of Natural Resources, Natural Heritage Program. \$2,000. 1 April–31 December 2004. (Principal Investigator).
- 2004 Bat Swarming Surveys at Crabtree, John Friend, and Greises Caves in Western Maryland. Maryland Department of Natural Resources, Natural Heritage Program. \$2,000. 1 October–31 December 2004. (Principal Investigator).
- 2003–2005 Bat Inventories of the National Capital Region National Parks. U.S. Department of Interior, National Park Service, National Capital Region. 1 January 2003–31 December 2005. \$110,994. (Principal Investigator).

- 2003–2005 Continuation of Wildlife Risk and Fatality Assessments at Wind Energy Sites in Western Maryland. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$35,002. 13 October 2003–30 June 2005. (Principal Investigator, 4.17% of time). *Wind III*.
- 2003–2004 Bat Inventory of National Capital Parks–Central. U.S. Department of Interior, National Park Service, National Capital Parks–Central. 1 January 2003–31 December 2004. \$8,379. (Principal Investigator).
- 2003–2004 Wildlife Risk and Fatality Assessments at Proposed or Representative Wind Energy Sites in Western Maryland. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$35,003. 16 June 2003–31 December 2004. (Principal Investigator, 4.17% of time). *Wind II*.
- 2002–2004 Avian Risk and Fatality Assessments at Big Savage and Backbone Mountain Wind Energy Sites, Western Maryland. Maryland Department of Natural Resources, Power Plant Research Program (PPRP). \$33,420. 16 December 2002–15 December 2004. (Principal Investigator, 8.33% of time). *Wind I*.
- 2002 Water Quality Parameters and Annotated Bibliography for the Hellbender. Maryland Bureau of Mines. \$5,235. 2 January 2002–31 December 2002. (Principal Investigator, with Dr. Morgan).
- 2002–2003 Birds of Dyke Marsh Wildlife Preserve, Virginia: a ten-year analysis. U.S. Department of Interior, National Park Service, George Washington Memorial Parkway. 1 July 2002–30 June 2003. \$9,832. (Principal Investigator, 2.5% of time).
- 2001–2003 Analysis of the 1995, 1998, and 2001 Bird Count Data from the Chesapeake & Ohio Canal National Historical Park. U.S. Department of the Interior, National Park Service, Chesapeake and Ohio Canal National Historical Park. \$10,000. 7 August 2001–30 June 2003. (Principal Investigator, 5% of time).
- 1999–2002 Habitat Improvement, Fish and Bird Population Enhancement on a Golf Course in Western Maryland. Maryland Industrial Partnerships (MIPS) Matching Grant. \$105,000 per year. 21 April 1999–20 April 2002. (Principle Investigator, with Dr. McKaye, 10% of time).
- 1999–2000 Using the Environment as an Integrating Context for Learning and Enrichment Training Program in Science for Teachers of Rural and Troubled Youth. The Maryland Higher Education Commission, Title II Dwight D. Eisenhower Professional Development Program. \$68,000. (Principle Investigator, with Drs. McKaye and Hoogland; and Ms. Wiklund).
- 1999–2000 Birds, Hedgerows, and Natural Vegetation Remnants in Guanajuato, Mexico.

- Chicago Zoological Society. \$4,700. (Co-Principle Investigator, with Ms. Zuria).
- 1999–2000 Future Development of University System of Maryland Wildlife Science Education to Meet the Needs of the 21<sup>st</sup> Century. University System of Maryland, Faculty Development Fund. \$2,000. (Principle Investigator, with Drs. Serfass, Bounds, and Lowell).
- 1999–2000 Analysis of the 1995 and 1998 Bird Count Data from the Chesapeake & Ohio Canal National Historical Park. U.S. Department of the Interior, National Park Service, Chesapeake & Ohio Canal National Historical Park. \$9,946. (Principle Investigator).
- 1998 Analysis of the 1995 Bird Count Data from the Chesapeake & Ohio Canal National Historical Park. U.S. Department of the Interior, National Park Service, Chesapeake & Ohio Canal National Historical Park. \$9,774. (Principle Investigator).
- 1993–1996 Powerline corridors: their role as forest interior access routes for brown-headed cowbirds, a brood parasite of Neotropical migrants. Maryland Department of Natural Resources. \$140,140. (Principle Investigator, 20%).
- 1991–1993 The Maryland Forest Management Inventory: bird species assemblages in relation to forest composition, structure, and management. Maryland Department of Natural Resources. \$56,103. (Principle Investigator, 15%)
- 1991–1993 The relative abundance of herpetofauna among habitat types at Remington Farms, Maryland. Remington Arms Co., Inc. \$22,690. (Principle Investigator, 1.5%)
- 1990–1992 The changing landscape pattern and its effect upon the common barn-owl (*Tyto alba*) in Maryland. Maryland Department of Natural Resources. \$53,103. (Principle Investigator, 5%)
- 1988 Food habits of snapping turtles (*Chelydra serpentina*) in eastern Maryland. Maryland Department of Natural Resources. \$3,000. (Principle Investigator).
- 1987–1989 Movements and habitat use of ring-necked pheasant hens in north-central Maryland. Maryland Department of Natural Resources. \$58,000. (Principle Investigator)
- 1987–1989 Ecology of the black rat snake on Remington Farms. Remington Arms Company, Inc. \$16,400. (Principle Investigator).
- 1987–1988 Effects of electromagnetic pulse radiation (EMP) on pigeon navigation and orientation. Department of the Navy. \$88,148. (Principle Investigator).

- 1986–1987 Effects of electromagnetic pulse radiation (EMP) on avian navigation: under overcast conditions. Department of the Navy. \$25,000. (Principle Investigator).
- 1985 Effects of electromagnetic pulse radiation (EMP) on avian navigation: a preliminary investigation. Department of the Navy. \$9,994. (Principle Investigator).
- 1985–1991 Mammal behavior and movement at oversized stream culverts along I-97, Anne Arundel County, Maryland. Maryland Department of Transportation, State Highway Administration. \$211,985. (Principle Investigator, 8.33%)
- 1984–1989 Maryland waterbird study. Maryland Department of Natural Resources. \$295,674. (Principle Investigator).
- 1982–1983 Distribution and population sizes of Indiana bats (*Myotis sodalis*)/cave-dwelling bats in Maryland caves: hibernaculum selection. Maryland Department of Natural Resources. \$14,228. (Principle Investigator).
- 1982–1983 The distribution and status of the hellbender (*Cryptobranchus alleganiensis*) in Maryland. Maryland Department of Natural Resources. \$11,346. (Principle Investigator).
- 1980–1983 Effects of highways and fencing on the movements of white-tailed deer. Department of Transportation, Federal Highway Administration. \$242,000. (Co- Principle Investigator, with Drs. Feldhamer and Harman).
- 1979–1981 The distribution and status of the hellbender (*Cryptobranchus alleganiensis*) in Maryland. Maryland Department of Natural Resources. \$62,231. (Principle Investigator).
- 1979–1981 Distribution and population sizes of Indiana bats (*Myotis sodalis*)/cave-dwelling bats in Maryland caves. Maryland Department of Natural Resources. \$65,760. (Principle Investigator).
- 1979–1980 Response of wildlife to different habitat edge, hedgerow, and cover-strip vegetation at Remington Farms, Maryland. Remington Arms Company, Inc. \$11,600. (Principle Investigator).
- 1979 Development of methodology for documenting the distribution and status of: I. The hellbender (*Cryptobranchus alleganiensis*); and II. Indiana (*Myotis sodalis*)/cave-dwelling bats. Maryland Department of Natural Resources. \$21,063. (Principle Investigator).
- 1977–1980 The effect of transmission-line corridor edge and successional stage on avian habitat suitability. Maryland Department of Natural Resources. \$67,025. (Principle Investigator).

1977–1979 Distribution of Jefferson salamander, *Ambystoma jeffersonianum* (Green), in Maryland. Maryland Department of Natural Resources. \$23,930. (Principle Investigator).