

Curriculum Vita of Robert K. Swihart

Address

Purdue University
 Department of Forestry and Natural Resources
 715 West State Street
 West Lafayette, IN 47907-2061

Contact Information

Office: (765) 494-3590
 Fax: (765) 494-9461
 Home: (765) 497-0605
 Email: rswihart@purdue.edu

Education

1985	Ph.D.	University of Kansas (GPA: 4.0/4.0) "Statistical analysis of mammalian movements, with emphasis on the treatment of autocorrelated observations"
1984	M.Ph.	University of Kansas
1981	M.S.	University of Minnesota (GPA: 4.0/4.0) "Use of farmland habitat patches by the eastern cottontail (<i>Sylvilagus floridanus</i>)"
1979	B.S.	Purdue University (GPA: 4.0/4.0)

Academic Appointments

4/05-present	Head, Department of Forestry and Natural Resources, Purdue University
7/04-4/05	Interim Head, Department of Forestry and Natural Resources, Purdue University
2/05-4/05	Codirector, Initiative for a Discovery Park Center for the Environment
1998-present	Professor, Purdue University
1994-1998	Associate Professor, Purdue University
1991-94	Assistant Professor, Purdue University
1989-91	Associate Scientist, Connecticut Agricultural Experiment Station
1986-89	Assistant Scientist, Connecticut Agricultural Experiment Station
1986	Postdoctoral Fellow, National Institutes of Health
1985	Project Assistant, Kansas State Historical Society

Honors and Awards

2003-08	Purdue University Faculty Scholar
2003	Academic Keys' Who's Who in Agriculture Higher Education
2003	Indiana Chapter of The Wildlife Society, Best Paper Award
2003	Board of Directors, White Buffalo, Incorporated
2000	Outstanding Teacher Award, Dept. Forestry and Natural Resources, Purdue University
1999	Visiting Scholar, NSF Research Experiences for Undergraduates, Eastern Illinois Univ.
1999	Earhart Hall Faculty Fellow of the Year
1996	Marquis' Who's Who in Engineering and Science, 3rd edition
1995	Wiley Hall Faculty Fellow of the Year
1993	Outstanding Teacher Award, Dept. Forestry and Natural Resources, Purdue University
1987-92	Research Associate, University of Kansas Museum of Natural History
1986	NIH Postdoctoral National Research Service Award
1986	American Society of Mammalogists Graduate Student Paper Award
1985	Tomanek Outstanding Paper Award, Kansas Academy of Science
1985	Honors, doctoral dissertation
1984	Summer Fellow, University of Kansas
1981-85	Honors Fellow, University of Kansas
1981	Phi Eta Sigma Scholastic Honorary Fraternity
1980	Gamma Sigma Delta Agricultural Honorary Fraternity
1979-80	Bush Fellow, University of Minnesota
1979	Phi Kappa Phi Scholastic Honorary Fraternity
1978	CERES Agricultural Honorary Fraternity

Professional Affiliations

American Society of Mammalogists
American Society of Naturalists
Indiana Academy of Science
National Animal Damage Control Association
Society of American Foresters

Sigma Xi
Society for Conservation Biology
The Ecological Society of America
The Wildlife Society
Indiana Hardwood Lumbermen's Association

Administration

Jul 2004-present Head, Department of Forestry and Natural Resources

The Head reports to the Dean of the College of Agriculture and is responsible for leadership and oversight of 30 faculty, 37 administrative and professional staff, 11 clerical staff, 255 undergraduate students, and 85 graduate students. Additional responsibilities include garnering financial and physical resources to support departmental programs, managing a \$10.5 million budget, and serving as an advocate and departmental representative within Purdue and with clientele outside of Purdue. Current efforts are focused on comprehensive curriculum review, establishment of endowed professorships, acquisition and transition of properties (Muscatatuck, Hort Farm, Bass Lake), reconstruction and expansion of the aquaculture research and education center, formation of a hardwood scanning center, and expansion of scholarships for students.

Feb-June 2005 Codirector, Initiative for a Discovery Park Center for the Environment

The codirectors (2) were responsible for assembling and leading a team for purposes of submitting a proposal in response to a \$10 million dollar competition for establishment of new centers in Purdue's Discovery Park.

2000-2005 Project manager, Upper Wabash Ecosystem Project (UWEP)

Responsible for directing a \$5.35 million research initiative focusing on the upper Wabash River basin, with oversight responsibilities for 8 faculty in 3 departments at Purdue University, 12 graduate students, 3 postdoctoral associates, 4 technicians, and nearly 40 undergraduate workers. Participants characterized natural resources and human attitudes on land use and natural resources. Sampling and analysis were coordinated with partners in a regional consortium project including University of Missouri and University of Tennessee to assist owners of nonindustrial private forest and other wildlands in initiating management practices that satisfy personal goals, are acceptable to society and are consistent with sustainable resource management. Computer-based decision support systems are being developed at multiple spatial scales as information aids for landowners and other stakeholders. Project completion is slated for fall 2005.

2001-2002 Manager, National Science Foundation Biocomplexity Project

Principal Investigator on NSF-funded grant to integrate modeling efforts among ecologists, mathematicians, statisticians, economists, and social scientists, thereby providing a framework for model-based planning aimed at conserving biodiversity. Twenty investigators from the United States and Europe were involved in the collaboration, which resulted in a book (Swihart, R. K. and J. E. Moore. 2004. Conserving biodiversity in agricultural landscapes: model-based planning tools. Purdue University Press, 336 pages) and multiple collaborative ventures.

Professional Development and Activities

- Technical Representative for Purdue University, Great Lakes-Northern Forest Cooperative Ecosystem Studies Unit
- Member, Indiana Forest Stewardship Committee

- Member, Internal Advisory Council, Discovery Park Center for the Environment
- Member, Indiana Department of Agriculture Hardwoods Task Force
- Member, Executive Committee of the National Cooperators' Coalition, USGS Biological Survey
- Member and Secretary, Board of Trustees, van Eck Forest Foundation for Purdue University
- Charter Member, Purdue Interdisciplinary Center for Ecological Sustainability
- Workshop on multicultural diversity in the workplace, October 2002, Indianapolis, Indiana
- North Central Area 23 Retreat for administrative leaders of fish and wildlife programs, May 2004, Kemp Station, Wisconsin
- Natural Resources Leadership Development Institute, Fall 2004, Turkey Run and Spring Mill State Parks, Indiana
- Workshop on gender diversity in the workplace, February 2005, Brookston, Indiana

Research

For brevity, an overview of my research output during my time at Purdue is provided below (**Table 1**). Additional summary statistics that may be pertinent as indices of productivity:

- Published >115 refereed articles;
- Cited > 1,800 times in ISI Web of Science;
- Delivered >100 oral or poster presentations, including >40 invited presentations;
- Secured \$4,200,00 in funding (from a total of \$8,598,000 with other investigators);
- Completed 4 M.S. students, 6 Ph.D. students, and 4 postdoctoral research associates;
- Served on advisory committees for an additional 30 graduate students;
- Currently serve as major advisor for 4 Ph.D. students and 1 postdoctoral associate.

Table 1. Data on funding, publication, and presentation record for the periods corresponding to time in rank as assistant (1991-1994), associate (1994-1998), and full professor (1998-present).

	Assistant 1991-1994	Associate 1994-1998	Full 1998-present
Funding			
Total	\$259,771	\$661,195	\$7,362,581
Swihart's Portion	\$254,971	\$508,695	\$3,386,786
Publications Per Year	3.67	4.50	5.33
Refereed Journal Articles	3.33	3.50	4.67
Books, Chapters, Refereed Proceedings	0.33	1.00	0.67
Presentations Per Year	3.00	5.50	9.75

My research uses mathematical, experimental, and comparative approaches to address the importance of spatial structure for behavioral and ecological processes affecting the conservation and management of vertebrates. A goal of my work is to develop quantitative tools for informing policy makers and stakeholders of the consequences of land-use change for biodiversity and species conservation. I seek to balance theoretical advances with applications to human-dominated systems. The inherently interdisciplinary nature of my research has led to the development of strong collaborative ties with mathematicians, statisticians, specialists in remote sensing, botanists, parasitologists, endocrinologists, chemists, hydrologists, economists, demographers, and social scientists. In the past 10 years, over one third of my publications have involved interdisciplinary collaborations.

Peer-reviewed Publications

1. Swihart, R. K., and R. H. Yahner. 1982. Habitat features influencing use of farmstead shelterbelts by the eastern cottontail (*Sylvilagus floridanus*). *American Midland Naturalist* 107: 411-414.
2. Swihart, R. K., and R. H. Yahner. 1982. Eastern cottontail use of fragmented farmland habitat. *Acta Theriologica* 27: 257-273.
3. Swihart, R. K. 1982. Scansorial behavior in woodchucks. *Canadian Field-Naturalist* 96: 215-216.
4. Swihart, R. K., and R. H. Yahner. 1983. Browse preferences of jackrabbits and cottontails for species used in shelterbelt plantings. *Journal of Forestry* 81: 92-94.
5. Swihart, R. K., and R. H. Yahner. 1983. Browse use by eastern cottontails in a southeastern Minnesota farmstead shelterbelt. *Journal of the Minnesota Academy of Science* 48: 13-15.
6. Slade, N. A., and R. K. Swihart. 1983. Home range indices for the hispid cotton rat (*Sigmodon hispidus*) in northeastern Kansas. *Journal of Mammalogy* 64: 580-590.
7. Swihart, R. K., and R. H. Yahner. 1984. Winter use of insular habitat patches by the eastern cottontail. *Acta Theriologica* 29: 45-56.
8. Swihart, R. K., and N. A. Slade. 1984. Road crossing by *Sigmodon hispidus* and *Microtus ochrogaster*. *Journal of Mammalogy* 65: 357-360.
9. Swihart, R. K. 1984. Body size, breeding season length, and life history tactics of lagomorphs. *Oikos* 43: 282-290.
10. Swihart, R. K., and N. A. Slade. 1985. Seasonal use of brush piles by the hispid cotton rat (*Sigmodon hispidus*). *Journal of Mammalogy* 66: 577-580.
11. Swihart, R. K., and N. A. Slade. 1985. Testing for independence of observations in animal movements. *Ecology* 66: 1176-1184.
12. Swihart, R. K., and N. A. Slade. 1985. Influence of sampling interval on estimates of home range size. *Journal of Wildlife Management* 49: 1019-1025.
13. Swihart, R. K., and N. A. Slade. 1986. The importance of statistical power when testing for independence in animal movements. *Ecology* 67: 255-258.
14. Swihart, R. K. 1986. Home range-body mass allometry in rabbits and hares (Leporidae). *Acta Theriologica* 31: 139-148.
15. Swihart, R. K., and S. G. Johnson. 1986. Foraging decisions of American robins: somatic and reproductive tradeoffs. *Behavioral Ecology and Sociobiology* 19: 275-282.
16. Swihart, R. K., and N. A. Slade. 1987. Testing for independence of movements as shown by live trapping. *American Midland Naturalist* 117: 204-207.
17. Danielson, B. J., and R. K. Swihart. 1987. Home range dynamics and activity patterns of *Microtus ochrogaster* and *Synaptomys cooperi* in syntopy. *Journal of Mammalogy* 68: 160-165.
18. Swihart, R. K., and M. R. Conover. 1988. Strategies for reducing wildlife damage in orchards. *Connecticut Agricultural Experiment Station Bulletin* 855: 1-14.
19. Swihart, R. K., N. A. Slade, and B. J. Bergstrom. 1988. Relating body size to the rate of home-range use in mammals. *Ecology* 69: 393-399.
20. Swihart, R. K. 1989. Understanding behavior and ecology to reduce woodchuck damage. *Frontiers of Plant Science* 41(2): 5-6.
21. Swihart, R. K., and N. A. Slade. 1989. Differences in home-range size between sexes of *Microtus ochrogaster*. *Journal of Mammalogy* 70: 816-820.
22. Johnson, S. G., and R. K. Swihart. 1989. The influence of predation risk on central place foraging variables in the American robin, *Turdus migratorius*. *Transactions of the Kansas Academy of Science* 92: 155-158.
23. Swihart, R. K., and N. A. Slade. 1990. Long-term dynamics of an early successional small mammal community. *American Midland Naturalist* 123: 372-382.
24. Swihart, R. K., and M. R. Conover. 1990. Reducing deer damage to yews and apple trees: testing Big Game Repellent[®], Ro-pel[®], and soap as repellents. *Wildlife Society Bulletin* 18: 156-162.
25. Swihart, R. K. 1990. Quebracho, thiram, and methiocarb reduce consumption of apple twigs by meadow voles. *Wildlife Society Bulletin* 18: 162-166.
26. Swihart, R. K. 1990. Common components of orchard ground cover selected as food by captive woodchucks. *Journal of Wildlife Management* 54: 412-417.

27. Spencer, S. R., G. N. Cameron, and R. K. Swihart. 1990. Operationally defining home range: temporal dependence exhibited by hispid cotton rats. *Ecology* 71: 1817-1822.
28. Swihart, R. K. 1991. Modifying scent-marking behavior to reduce woodchuck damage to fruit trees. *Ecological Applications* 1: 98-103.
29. Swihart, R. K., and M. R. Conover. 1991. Responses of woodchucks to potential garden crop repellents. *Journal of Wildlife Management* 55: 177-181.
30. Mattina, M. J. I., J. J. Pignatello, and R. K. Swihart. 1991. Identification of the volatile components of bobcat (*Lynx rufus*) urine. *Journal of Chemical Ecology* 17: 451-462.
31. Swihart, R. K., J. J. Pignatello, and M. J. I. Mattina. 1991. Aversive responses of white-tailed deer, *Odocoileus virginianus*, to predator urines. *Journal of Chemical Ecology* 17: 767-777.
32. Swihart, R. K., and P. M. Picone. 1991. Arboreal foraging and palatability of tree leaves to woodchucks. *American Midland Naturalist* 125: 372-374.
33. Magnarelli, L., and R. K. Swihart. 1991. Spotted-fever group rickettsiae or *Borrelia burgdorferi* in *Ixodes cookei* (Ixodidae) in Connecticut. *Journal of Clinical Microbiology* 29: 1520-1522.
34. Swihart, R. K., and P. M. Picone. 1991. Effects of woodchuck activity on woody plants near burrows. *Journal of Mammalogy* 72: 607-611.
35. Swihart, R. K. 1991. Influence of *Marmota monax* on vegetation in hayfields. *Journal of Mammalogy* 72: 791-795.
36. DeNicola, A. J., R. K. Swihart, and S. Beissinger. 1991. Testing secondary metabolites of plants as deer repellents. *Transactions of the Northeast Section of The Wildlife Society* 48: 120-125.
37. Swihart, R. K. 1992. Home-range attributes and spatial structure of woodchuck populations. *Journal of Mammalogy* 73: 604-618.
38. Swihart, R. K. 1992. Ecological considerations and the management of wildlife damage. *Proceedings of the Eastern Wildlife Damage Control Conference* 5: 15-23.
39. Swihart, R. K., and P. M. Picone. 1994. Damage to apple trees associated with woodchuck burrows in orchards. *Journal of Wildlife Management* 58: 357-360.
40. Bryant, J. P., R. K. Swihart, P. B. Reichardt, and L. Newton. 1994. Biogeography of woody plant chemical defense against hare browsing in North America: Alaska and eastern North America. *Oikos* 70: 385-395.
41. Swihart, R. K., J. P. Bryant, and L. Newton. 1994. Latitudinal patterns in consumption of woody plants by snowshoe hares in the eastern United States. *Oikos* 70: 427-434.
42. Miller, B. K., B. C. Moser, K. D. Johnson, and R. K. Swihart. 1994. Designs for windbreaks and vegetative filterstrips that increase wildlife habitat and provide income. *Environmentally Sound Agriculture Conference* 2: 567-574.
43. Swihart, R. K., and P. M. Picone. 1995. Use of woodchuck burrows by small mammals in agricultural habitats. *American Midland Naturalist* 133: 360-363.
44. Sheperd, B. F., and R. K. Swihart. 1995. Spatial dynamics of fox squirrels (*Sciurus niger*) in fragmented landscapes. *Canadian Journal of Zoology* 73: 298-2105.
45. Swihart, R. K., and A. J. DeNicola. 1995. Modeling the impacts of contraception on populations of white-tailed deer. Pages 151-163 in *Urban deer - a manageable resource?* (J. McAninch, ed.). North Central Section, The Wildlife Society.
46. Swihart, R. K., P. M. Picone, A. J. DeNicola, and L. Cornicelli. 1995. Ecology of urban and suburban white-tailed deer. Pages 35-44 in *Urban deer - a manageable resource?* (J. McAninch, ed.). North Central Section, The Wildlife Society.
47. Bertrand, M., A. J. DeNicola, S. R. Beissinger, and R. K. Swihart. 1996. Effects of parturition on home ranges and social affiliations of female white-tailed deer. *Journal of Wildlife Management*: 60: 899-909.
48. Nupp, T. E., and R. K. Swihart. 1996. Effect of forest patch area on population attributes of white-footed mice (*Peromyscus leucopus*) in fragmented landscapes. *Canadian Journal of Zoology* 74: 467-472.
49. DeNicola, A. J., R. K. Swihart, and D. J. Kesler. 1996. The effect of remotely delivered gonadotropin formulations on reproductive function of white-tailed deer. *Drug Development and Industrial Pharmacy* 22: 847-850.

50. DeNicola, A. J., D. J. Kesler, and R. K. Swihart. 1996. Ballistics of a biobullet delivery system. *Wildlife Society Bulletin* 24: 301-305.
51. Swihart, R. K., and N. A. Slade. 1997. On testing for independence of animal movements. *Journal of Agricultural, Biological, and Environmental Statistics* 2: 1-16.
52. DeNicola, A. J., D. J. Kesler, and R. K. Swihart. 1997. Dose determination and efficacy of remotely delivered norgestomet implants on contraception of white-tailed deer. *Zoo Biology* 16: 31-37.
53. DeNicola, A. J., D. J. Kesler, and R. K. Swihart. 1997. Remotely delivered prostaglandin F_{2α} implants terminate pregnancy in white-tailed deer. *Wildlife Society Bulletin* 25: 527-531.
54. DeNicola, A. J., and R. K. Swihart. 1997. Capture-induced stress in white-tailed deer. *Wildlife Society Bulletin* 25: 500-503.
55. Swihart, R. K., and A. J. DeNicola. 1997. Public involvement, science, management, and the overabundance of deer: Can we avoid a hostage crisis? *Wildlife Society Bulletin* 25: 382-387.
56. Swihart, R. K., M. J. I. Mattina, and J. P. Pignatello. 1997. Repellency of predator urine to woodchucks and meadow voles. Pages 271-284 in *Repellents in wildlife management*. (J. R. Mason, ed.). Colorado State University Press.
57. Swihart, R. K., and P. M. Picone. 1998. Selection of mature growth stages of coniferous browse in temperate forests by white-tailed deer (*Odocoileus virginianus*). *American Midland Naturalist* 139: 269-274.
58. Page, L. K., R. K. Swihart, and K. R. Kazacos. 1998. Raccoon latrine structure and its potential role in parasite transmission to small vertebrates. *American Midland Naturalist* 140: 180-185.
59. Nupp, T. E., and R. K. Swihart. 1998. Influence of forest fragmentation on population attributes of white-footed mice and eastern chipmunks. *Journal of Mammalogy* 79: 1234-1243.
60. Swihart, R. K., H. P. Weeks, Jr., A. L. Easter-Pilcher, and A. J. DeNicola. 1998. Nutritional condition and fertility of white-tailed deer (*Odocoileus virginianus*) from areas with contrasting histories of hunting. *Canadian Journal of Zoology* 76: 1932-1941.
61. Swihart, R. K., and T. E. Nupp. 1998. Modeling population responses of North American tree squirrels to agriculturally induced forest fragmentation. Pages 1-19 in *Ecology and evolutionary biology of tree squirrels* (M. A. Steele, D. A. Zegers, and J. F. Merritt, eds.). *Virginia Museum of Natural History Special Publication Number 6*.
62. Page, L. K., R. K. Swihart, and K. R. Kazacos. 1999. Implications of raccoon latrines in the epizootiology of baylisascariasis. *Journal of Wildlife Diseases* 35: 474-480.
63. Kolozsvary, M. B., and R. K. Swihart. 1999. Habitat fragmentation and the distribution of amphibians: patch and landscape correlates in farmland. *Canadian Journal of Zoology* 77: 1288-1299.
64. Nupp, T. E., and R. K. Swihart. 2000. Landscape-level correlates of small mammal assemblages in forest fragments of farmland. *Journal of Mammalogy* 81: 512-526.
65. Ivan, J. S., and R. K. Swihart. 2000. Selection of mast by granivorous rodents of the central hardwood forest region. *Journal of Mammalogy* 81: 549-562.
66. Gehring, T. M., and R. K. Swihart. 2000. Field immobilization and use of radio collars for long-tailed weasels. *Wildlife Society Bulletin* 28: 579-585.
67. Page, L. K., R. K. Swihart, and K. R. Kazacos. 2001. Changes in transmission of *Baylisascaris procyonis* to intermediate hosts as a function of spatial scale. *Oikos* 93: 213-220.
68. Swihart, R. K., and J. P. Bryant. 2001. Winter herbivory by mammals: the importance of biogeography and ontogeny of woody plants. *Journal of Mammalogy* 82: 1-21.
69. Page, L. K., R. K. Swihart, and K. R. Kazacos. 2001. Foraging among feces: food availability affects parasitism of *Peromyscus leucopus* by *Baylisascaris procyonis*. *Journal of Mammalogy* 82: 993-1002.
70. Page, L. K., R. K. Swihart, and K. R. Kazacos. 2001. The roles of seed preference and foraging by granivores at raccoon latrines in transmission dynamics of raccoon roundworm (*Baylisascaris procyonis*). *Canadian Journal of Zoology* 79: 616-622.
71. Swihart, R. K., Z. Feng, N. A. Slade, D. Mason, and T. M. Gehring. 2001. Effects of habitat destruction and resource supplementation in a predator-prey metapopulation model. *Journal of Theoretical Biology* 210: 287-303.

72. Nupp, T. E., and R. K. Swihart. 2001. Assessing competition between forest rodents in a fragmented landscape of midwestern USA. *Mammalian Biology* 66: 345-356.
73. Swihart, R. K., J. B. Dunning, Jr., and P. M. Waser. 2002. Gray matters in ecology: dynamics of pattern, process, and scientific progress. *Bulletin of the Ecological Society of America* 83: 149-155.
74. Gehring, T. M., and R. K. Swihart. 2003. Body size, niche breadth, and ecologically scaled responses to habitat fragmentation: mammalian predators in an agricultural landscape. *Biological Conservation* 109: 283-295.
75. Swihart, R. K., T. M. Gehring, M. B. Kolozsvary, and T. E. Nupp. 2003. Responses of "resistant" vertebrates to habitat loss and fragmentation: the importance of niche breadth and range boundaries. *Diversity and Distributions* 9: 1-18.
76. Knapp, S. M., R. E. Russell, and R. K. Swihart. 2003. Setting priorities for conservation: the influence of uncertainty on species rankings of Indiana mammals. *Biological Conservation* 111: 223-234.
77. Goheen, J. R., R. K. Swihart, T. M. Gehring, and M. S. Miller. 2003. Forces structuring tree squirrel communities in landscapes fragmented by agriculture: species differences in perceptions of forest connectivity and carrying capacity. *Oikos* 102: 95-103.
78. Goheen, J. R., R. K. Swihart, and J. Robins. 2003. Anatomy of a range expansion: latitudinal changes in foraging behavior and cranial morphology of North American red squirrels. *Oikos* 102: 33-44.
79. Swihart, R. K., T. C. Atwood, J. R. Goheen, D. M. Scheiman, K. E. Munroe, and T. M. Gehring. 2003. Predicting patch occupancy of North American mammals: Is patchiness in the eye of the beholder? *Journal of Biogeography* 30: 1259-1279.
80. DeWoody, Y., R. K. Swihart, B. A. Craig, and J. R. Goheen. 2003. Diversity and stability in communities structured by asymmetric resource allocation. *American Naturalist* 162: 514-527.
81. Russell, R. E., R. K. Swihart, and Z. Feng. 2003. Population consequences of movement decisions in a patchy landscape. *Oikos* 103: 242-252.
82. Goheen, J. R., and R. K. Swihart. 2003. Food hoarding behavior of gray squirrels and North American red squirrels in the central hardwoods: implications for forest regeneration. *Canadian Journal of Zoology* 81: 1636-1639.
83. Gu, W., and R. K. Swihart. 2003. Are patch occupancy data sufficient for inferring metapopulation dynamics using spatially explicit patch occupancy models? *Acta Zoologica Sinica* 49:787-794.
84. Gu, W., and R. K. Swihart. 2004. Absent or undetected? Effects of sampling errors on wildlife-habitat models. *Biological Conservation* 116:195-203.
85. Swihart, R. K., and J. E. Moore (editors). 2004. *Conserving biodiversity in agricultural landscapes: model-based planning tools*. Purdue University Press, West Lafayette, Indiana.
86. Swihart, R. K., and N. A. Slade. 2004. Modeling interactions of private ownership and biological diversity: an architecture for landscapes with sharp edges. Pages 3-21 in *Conserving biodiversity in agricultural landscapes: model-based planning tools* (R. K. Swihart and J. E. Moore, editors). Purdue University Press, West Lafayette, Indiana.
87. Swihart, R. K., and J. Verboom. 2004. Assessing biodiversity consequences of land-use decisions: a role for ecologically scaled landscape indices. Pages 81-101 in *Conserving biodiversity in agricultural landscapes: model-based planning tools* (R. K. Swihart and J. E. Moore, editors). Purdue University Press, West Lafayette, Indiana.
88. Miller, B. K., K. Schaaf, R. K. Swihart, and C. L. Arnold, Jr. 2004. Historical and human dimensions of nature-based planning: is time on our side? Pages 215-239 in *Conserving biodiversity in agricultural landscapes: model-based planning tools* (R. K. Swihart and J. E. Moore, editors). Purdue University Press, West Lafayette, Indiana.
89. Miller, M. S., and R. K. Swihart. 2004. Ecologically scaled recognition of patches within a GIS environment. Pages 103-120 in *Conserving biodiversity in agricultural landscapes: model-*

- based planning tools* (R. K. Swihart and J. E. Moore, editors). Purdue University Press, West Lafayette, Indiana.
90. Gehring, T. M., and R. K. Swihart. 2004. Home range and movements of long-tailed weasels in a landscape dominated by agriculture. *Journal of Mammalogy* 85:77-86.
 91. Feng, Z., R. Swihart, Y. Yi, and H. Zhu. 2004. Coexistence in a metapopulation model with explicit local dynamics. *Mathematical Biosciences and Engineering* 1:131-145.
 92. Moore, J. E., D. M. Scheiman, and R. K. Swihart. 2004. A field examination of double-observer and removal modeling for estimating bird abundance. *The Auk* 121:865-876.
 93. Goheen, J. R., and R. K. Swihart. 2005. Resource selection and predation of North American red squirrels in deciduous forest fragments. *Journal of Mammalogy* 86:22-28.
 94. DeWoody, Y., Z. Feng, and R. K. Swihart. 2005. Merging spatial and temporal structure within a metapopulation model. *American Naturalist* 166:142-155.
 95. Feng, Z., L. Rong, and R. K. Swihart. 2005. Dynamics of an age-structured metapopulation model. *Natural Resource Modeling* 18:415-440.
 96. Moore, J. E., and R. K. Swihart. 2005. Modeling site occupancy by forest rodents: incorporating detectability and spatial autocorrelation with hierarchically structured data. *Journal of Wildlife Management* 69:933-949. [Special feature on the value and utility of presence-absence data to wildlife monitoring and research]
 97. Moore, J. E., and R. K. Swihart. 2006. Nut selection by captive blue jays: importance of availability and implications for seed dispersal. *Condor* 108:377-388.
 98. Beever, E. A., R. K. Swihart, and B. T. Bestelmeyer. 2006. Linking the concept of scale to studies of biological diversity: evolving approaches and tools. *Diversity and Distributions* 12:229-235. [Introductory article to Special feature on linking the concept of scale to studies of biological diversity]
 99. Swihart, R. K., J. J. Lusk, J. E. Duchamp, C. M. Rizkalla, and J. E. Moore. 2006. The roles of landscape context, niche breadth, and range boundaries in predicting species responses to habitat alteration. *Diversity and Distributions*. 12:277-287. [Special feature on linking the concept of scale to studies of biological diversity]
 100. Xu, D., Z. Feng, L. Allen, and R. K. Swihart. 2006. A spatially structured metapopulation model with patch dynamics. *Journal of Theoretical Biology* 239:469-481.
 101. Duchamp, J. E., M. Yates, R-M Muzika, and R. K. Swihart. 2006. Estimating probabilities of detection for bat echolocation calls: an application of the double-observer method. *Wildlife Society Bulletin* 34:408-412.
 102. Rizkalla, C. E., and R. K. Swihart. 2006. Community structure and differential responses of aquatic turtles to agriculturally induced habitat fragmentation. *Landscape Ecology* 21:1361-1375.
 103. Li, Y., Z. Feng, R. K. Swihart, J. P. Bryant, and N. Huntly. 2006. Modeling the impact of plant toxicity on plant-herbivore dynamics. *Journal of Dynamics and Differential Equations* 18:1021-1042.
 104. Kurtz, W. B., J. M. Fly, and R. K. Swihart. 2006. Impacts of landscape fragmentation in the Central Hardwood Region of the United States. *Proceedings of the International Union of Forest Research Organizations* 3.08 Symposium on Small-scale Forestry and Rural Development: The Intersection of Ecosystems, Economics, and Society. Pp. 212-225. June 18-23. Galway, Ireland.
 105. Moore, J. E., and R. K. Swihart. 2007. Tree squirrels and hardwoods: the importance of fragmentation-tolerant species as seed dispersers in disturbed landscapes. *Oecologia* 151:663-674.
 106. Duchamp, J. E., E. B. Arnett, M. A. Larson, and R. K. Swihart. 2007. Ecological considerations for landscape-level management of bats. In M. J. Lacki, J. P. Hayes, and A. Kurta (editors), *Conservation and management of bats in forests*. Johns Hopkins University Press. Pp. 237-261.

107. Swihart, R. K., J. R. Goheen, S. A. Schnellker, and C. E. Rizkalla. 2007. Testing the generality of patch and landscape-level predictors of tree squirrel occurrence at a regional scale. *Journal of Mammalogy* 88:564-572.
108. Russell, R. E., R. K. Swihart, and B. A. Craig. 2007. The effects of matrix structure on movement decisions of meadow voles. *Journal of Mammalogy* 88:573-579.
109. Kirilenko, A., B. Chivoiu, J. Crick, A. Ross-Davis, K. Schaaf, G. Shao, V. Singhania, and R. K. Swihart. 2007. An internet-based decision support tool for non-industrial private forest landowners. *Environmental Modeling and Software* 22:1498-1508.
110. Moore, J. E., and R. K. Swihart. 2007. Toward ecologically explicit null models of nestedness. *Oecologia* 152:763-777.
111. Lusk, J. J., R. K. Swihart, and J. R. Goheen. 2007. Correlates of interspecific synchrony and interannual variation in seed production by deciduous trees. *Forest Ecology and Management* 242:656-670.
112. Moore, J. E., A. B. McEuen, R. K. Swihart, T. A. Contreras, and M. A. Steele. 2007. Determinants of seed-removal distance by scatter-hoarding rodents in deciduous forests. *Ecology* 88:2529-2540.
113. Rizkalla, C. R., and R. K. Swihart. 2007. Explaining movement decisions of forest rodents in fragmented landscapes. *Biological Conservation* 140:339-348.
114. Moore, J. E., and R. K. Swihart. 2008. Factors affecting the relationship between seed removal and seed mortality. *Canadian Journal of Zoology*, In press.
115. Rathfon, R. O., N. I. Lichti, and R. K. Swihart. 2008. Disking and mid- and understory removal following an above-average acorn crop in three mature oak forests in southern Indiana. *Proceedings of the Central Hardwood Forest Conference* (D. F. Jacobs and C. H. Michler, editors) 16:59-69. U.S. Forest Service General Technical Report NRS-P-24, Newtown Square, PA, 595 pp. [CD-ROM].
116. Martin, B., G. Shao, R.K. Swihart, G.R. Parker, and L. Tang. 2008. Implications of shared edge length between land cover types for landscape quality: A case study in Midwestern U.S.A. *Landscape Ecology* 23:391-402.
117. Duchamp, J. E., and R. K. Swihart. Shifts in bat community structure related to evolved traits and features of human-altered landscapes. *Landscape Ecology*. Accepted.

Submitted Manuscripts

1. Bryant, J. P., Z. Feng, R. K. Swihart, J. Villalba, F. Provenza, and L. Dziba. Toxin-mediated functional responses in browsing systems. *American Naturalist*.
2. Bryant, J. P., T. Clausen, S. Landhäusser, S. Carrière, D. R. K. Swihart, et al. Fire is a template for a birch-hare selection mosaic. *American Naturalist*.
3. Duchamp, J. E., and R. K. Swihart. Modeling bat species occurrence among fragmented landscapes using spatially hierarchical Bayesian models. *Ecological Applications*.
4. Duchamp, J. E., and R. K. Swihart. Bat roost tree selection across fragmented forests with differential availability. *Journal of Wildlife Management*.

Non-refereed Publications (8)

1. Swihart, R. K. 1998. Forest wildlife in farmland: responses to fragmentation. *Woodland Steward Newsletter*.
2. Swihart, R. K. (editor). 1998. *Journal of Vertebrate Population Dynamics*. Volume 1. 72pp.
3. Swihart, R. K. 1998. Forest wildlife in farmland: responses to fragmentation. *Woodland Steward Newsletter*.
4. Swihart, R. K., and T. M. Gehring. 1999. A primer of vertebrate population dynamics, 1st edition. Purdue University Printing Services, 257pp.
5. Swihart, R. K. (editor). 1999. *Journal of Vertebrate Population Dynamics*. Volume 2. 81pp.
6. Swihart, R. K. (editor). 2000. *Journal of Vertebrate Population Dynamics*. Volume 3. 61pp.

7. Swihart, R. K. (editor). 2001. *Journal of Vertebrate Population Dynamics*. Volume 4. 75pp.
8. Swihart, R. K., and M. S. Miller. 2001. A primer of vertebrate population dynamics, 2nd edition. Purdue University Printing Services, 264pp.

Grants and Awards (Only grants ≥\$50,000 are shown)

- 2007-10 National Science Foundation, “Effects of landscape structure on animal-mediated acorn dispersal and seedling recruitment in the Central Hardwoods”, \$473,000 (PI)
- 2006-10 Indiana Division of Forestry, “Hardwood ecosystem experiment”, \$714,000 (PI)
- 2004-06 U.S. Environmental Protection Agency, “Ecological impacts of remediation at the Grand Calumet River: a preliminary assessment of reproductive success in Great Blue Herons”, \$96,959 (co-PI with Sepulveda)
- 2003-06 James S. McDonnell Foundation 21st Century Initiative, “An integrated, hierarchical framework for modeling biocomplexity”, \$449,508 (co-PI with Z. Feng, Y. DeWoody)
- 2003-06 U.S. Department of Education Graduate Assistance in Areas of National Needs Program, “Fellowship program in multidisciplinary ecology”, \$625,254 (PI)
- 2002-06 Indiana Department of Natural Resources, “Assessment of crop depredation habitat use by wild turkey, white-tailed deer, and raccoon in the upper Wabash River basin”, \$269,470 (co-PI with Rhodes, MacGowan)
- 2002-05 Indiana Chapter, National Wild Turkey Federation, “Assessment of crop depredation and habitat use by wild turkey, deer, and raccoon in the upper Wabash River basin”, \$66,000 (co-PI with Rhodes, MacGowan)
- 2003-05 National Wild Turkey Federation, “Assessment of crop depredation and habitat use by wild turkey, deer, and raccoon in the upper Wabash River basin”, \$95,200 (co-PI with Rhodes, MacGowan)
- 2001-02 NSF Biocomplexity Program, “Predicting the dynamics of human-dominated landscapes: metapopulation models for ecosystems with sharp edges”, \$50,006 (PI)
- 2000-04 USDA IFAFS, “Sustaining natural resources on private lands in the Central Hardwood Region”, \$4,140,215 (Consortium with University of Missouri and University of Tennessee; PI for Purdue, amount to Purdue = \$1,244,740)
- 2000-03 John S. Wright Fund, Purdue University, “Effects of land-use decisions on natural resources in the Upper Wabash”, \$1,206,220 (PI)
- 1997-00 USDA Higher Education Challenge Grant Program, “A blueprint for educating tomorrow’s leaders in natural resources”, \$80,000 (co-PI with O. E. Rhodes, Jr., S. K. Abell, W. H. Hoover)
- 1996-98 USDA NRICGP, “Transmission ecology of *Baylisascaris procyonis* in vertebrate communities”, \$157,104 (PI)
- 1995-99 Sporting Goods Properties, “Testing adjuvants and the effects of long-term contraception on an enclosed white-tailed deer herd”, \$248,888 (PI)
- 1995-97 Martin Foundation, “Impact of white-tailed deer on forest ecosystems: a landscape perspective”, \$50,000 (co-PI with G. R. Parker, A. Easter-Pilcher, and H. P. Weeks, Jr.)
- 1994-96 McIntire-Stennis Cooperative Forestry Research Funds, CSRS, “Interactions of deer, vegetation, and landscapes surrounding forest preserves”, \$50,000 (co-PI with G. R. Parker, H. P. Weeks, Jr., J. T. O’Leary, P. Coppin)
- 1993-96 USDA NRICGP, “Effects of forest fragmentation on mammals in agricultural landscape”, \$120,000 (PI)
- 1993-96 Northern Indiana Public Service Company, “Testing chemical contraceptives on an enclosed deer herd”, \$51,491 (PI)
- 1992-94 Remington Arms Company, “Chemical contraception of female white-tailed deer”, \$70,175 (PI)

Teaching

I have served, or am serving, as major or co-advisor for 6 M.S. and 12 Ph.D. students, and for 6 postdoctoral research associates (**Table 2**). In addition, I have been on advisory committees for >30 other graduate students.

Table 2. Graduate students and postdoctoral research associates for whom I have served as advisor.

Student	Degree	Professional Status	Research Focus
<i>Natasha Urban</i>	<i>M.S.</i>	<i>Current student</i>	<i>Wildlife responses to forest management</i>
Julie Crick	M.S.	Transferred within dept. Forest Care Program Coordinator, National Forest Association	Human dimensions
Jacob Goheen	M.S.	Ph.D., Univ. New Mexico Assistant Professor, Univ. British Columbia	Mammalian community ecology
Mary Beth Kolozsvary	M.S.	PhD, Univ. Maine Biodiversity Specialist New York State Museum and Biodiversity Research Institute	Amphibian conservation biology
Brennen Sheperd	M.S.	GIS Specialist, U.S. D.O.E.	Landscape ecology
Melody Hartman (co-advisor)	M.S.	Former Waterfowl biologist, Indiana DNR	Wetlands ecology
<i>Byju Govindan</i>	<i>Ph.D.</i>	<i>Current student</i>	<i>Metapopulation ecology</i>
<i>Nathan Lichti</i>	<i>Ph.D.</i>	<i>Current student</i>	<i>Fragmentation ecology</i>
<i>Carol Rizkalla</i>	<i>Ph.D.</i>	<i>Current student</i>	<i>Landscape ecology</i>
Joe Duchamp	Ph.D.	Instructor, Indiana University-PA	Chiropteran spatial ecology
Jeff Moore	Ph.D.	Postdoc, Duke University Marine Laboratory	Fragmentation ecology
Robin Russell	Ph.D.	Research Associate, USFS	Behavioral ecology/modeling
Mike Miller	Ph.D.	Withdrew/Private Consultant	Landscape ecology/geostatistics
Shannon Knapp (co-advisor)	Ph.D.	Transferred to Statistics, Current Ph.D. student	Quantitative genetics
Kristen Page	Ph.D.	Associate Professor, Wheaton College	Ecology of wildlife diseases
Tom Nupp	Ph.D.	Associate Professor, Arkansas Tech University	Wildlife ecology and management

Tony DeNicola	Ph.D.	President, White Buffalo, Inc.	Ecosystem management
Tom Gehring	Ph.D., Postdoc	Associate Professor, Central Michigan University	Wildlife ecology, conservation biology of carnivores
Ben Dolan	Postdoc	Visiting Assistant Professor Sewanee School of the South	Forest ecology
Yssa DeWoody	Postdoc	Instructor, Mathematics Purdue University	Mathematical ecology
Andrei Kirilenko	Postdoc	Associate Professor Univ. North Dakota	Land-use and climate change modeling
Jeff Lusk	Postdoc	Upland Game Program Director, Nebraska Game & Parks Commission	Species-environment modeling
Weidong Gu	Postdoc	Vector Ecologist, Illinois Natural History Survey	Metapopulation ecology/epidemiology

I have taught wildlife ecology, vertebrate population dynamics, mammalogy, quantitative methods for ecologists, and seminar courses in conservation biology, advanced topics in mammalian ecology, and an intensive, week-long course in the upper peninsula of Michigan on techniques associated with studying wildlife as part of a natural resources practicum (**Table 3**). I also have advised 16 undergraduate students on independent and honors research.

Table 3. Summary of student evaluations for courses taught by me*. Responses are averages for 2 questions asked of students evaluating courses at Purdue University: 1) Overall, I would rate this course as ____; and 2) Overall, I would rate this instructor as _____. Possible scores range from 1 (very poor) to 5 (excellent). Numbers in parentheses are the number of students enrolled during the period under consideration.

Courses Taught*	Average of Responses		
	1991-1994	1994-1998	1998-2006
FNR 340 (Wildlife Ecology)	3.9 (256)	3.8 (310)	--
FNR 342/241 (Mammalogy/Vertebrate Ecology)	4.3 (120)	4.0 [‡] (224)	4.4 [‡] (510)
FNR 547 (Vertebrate Population Dynamics)	3.7 (132)	4.1 (120)	3.8 (121)
FNR 598M (Advanced Topics in Mammalogy)	--	--	4.7 (14)
FNR 647 (Quantitative Methods)	--	--	4.5 (41)
AVERAGE OVER ALL COURSES	4.0	4.0	4.3

*Evaluations for FNR 330 are done collectively rather than by individual faculty and thus are not reported.

[‡]Team taught starting in 1998.

Professional, University, and Community Service

Service to Professional Societies

Editorial Board for *BMC Ecology* (2005-present)

Guest Editor, *Diversity and Distributions* Special Feature on Scale and Biodiversity (2005-06)

Member, Indiana Department of Natural Resources Technical Advisory Committee – Mammals (1998-present)

Member, Education and Graduate Students Committee, American Society of Mammalogists (1992-present)

Member, Student Honoraria Committee, American Society of Mammalogists (1992-2004)

Organizer, Breakfast with a Scientist Program, American Society of Mammalogists (2002-2004)

Member, Student Mentoring Program, American Society of Mammalogists (1997-present)

Associate editor, *Wildlife Society Bulletin* (1990-93), edit and determine acceptability of 30-40 mss/year

Member, Research Award Committee, Berryman Institute of Wildlife Damage Management (1994-2000)

Member, Public Education Committee, American Society of Mammalogists (1992-95)

Moderator, Technical Paper Sessions, American Society of Mammalogists Annual Meeting (4 years)

Moderator, Wildlife Management and Science Session, 9th Central Hardwood Forest Conference (1993)

Member, Plenary Session Subcommittee, Midwest Fish and Wildlife Conference (1993-94)

Speaker, Field Workshop on Agro-forestry, Society of American Foresters (1993)

Chair, Technical Session on Mammalian Ecology, Midwest Fish and Wildlife Conference (1994)

Reviewer for 28 Journals, 4 Proceedings, 10 Funding Agencies, 3 Publishers:

<i>Acta Theriologica</i>	<i>Journal of Chemical Ecology</i>	National Fish and Wildlife Foundation
<i>American Midland Naturalist</i>	<i>Journal of Mammalogy</i>	National Geographic Society
<i>Animal Behaviour</i>	<i>Journal of Applied Ecology</i>	National Science Foundation
<i>Biodiversity and Conservation</i>	<i>Journal of Wildlife Management</i>	Prentice-Hall (Wildlife Ecology and Management)
<i>Canadian Journal of Forest Research</i>	<i>Northern Journal of Applied Forestry</i>	Proceedings, Annual Conference SE Association of Fish and Wildlife Agencies
<i>Canadian Journal of Zoology</i>	<i>Oikos</i>	Proceedings, Fifth International Theriological Congress
<i>Conservation Biology</i>	<i>Polish Ecological Studies</i>	Proceedings, Ninth Central Hardwood Forest Conference Management Congress
<i>Ecology</i>	<i>Southwestern Naturalist</i>	Symposium Proceedings, Repellents in Wildlife Management
<i>Ecological Applications</i>	<i>Western North American Naturalist</i>	U.S. Department of Agriculture
<i>Environmental Conservation</i>	<i>Wildlife Society Bulletin</i>	USDA NRI Ecosystems Program
<i>Prairie Naturalist</i>	Israel Science Foundation	U.S. Fish and Wildlife Service
<i>Journal of Applied Ecology</i>	Manomet Center for Conservation Sciences	Vancouver Island Marmot Recovery Program
<i>Diversity and Distributions</i>	Ann Arbor Press (Integrated Assessment of Ecosystem Health)	U.S. Civilian Research and Development Foundation for the Independent States of the Former Soviet Union
<i>Natural Resource Modeling</i>	<i>Science</i>	CRC Press
<i>Human-Wildlife Conflicts</i>	<i>BMC Ecology</i>	<i>Ecography</i>

Service to Purdue University

University and College

Senior Chair, College of Agriculture United Way Campaign (2006)
Junior Chair, College of Agriculture United Way Campaign (2005)
Agricultural Research Award Selection Committee (2005-2006)
Graduate Curriculum Committee, Area Representative (2002-2004)
Graduate Council in Agriculture (2002-2004)
Purdue Animal Care and Use Committee (1999-2002)
Faculty Project Manager, Upper Wabash Ecosystem Project (2000-present)
Area Promotions Committee (1999-2002, 2004-present)
Dean's Roadmapping Committee, School of Agriculture (2001)
Interdisciplinary Roadmapping Committee, School of Agriculture (co-chair; 2001)
Library Committee, School of Agriculture (1991-1992)
Grantsmanship Committee, School of Agriculture (1994-1995)
Ad hoc Steering Committee for Interdisciplinary Research, FNR (1999-2000)
Faculty liaison to University Committee for the Education of Teaching Assistants (1994-95, 1997)
Junior Chair, College of Agriculture, United Way Campaign (2005)
Senior Chair, College of Agriculture, United Way Campaign (2006)

Department of Forestry and Natural Resources

Budget and Steering Committee (1992-present, chair 2004-present)
Primary Promotions Committee (1998-present, chair 2004-present)
Graduate Committee (1992-2004; chair 1999-2004)
Computer Committee (1992-93)
Equipment Committee (1993-2001; chair 1996-99)
Ad hoc Animal Care Facility Committee (1991-94)
Website Committee (2000-2001)
Wildlife Ecologist Search Committee (1992-94)
Wetlands Ecologist Search Committee (chair; 1994-95)
Fisheries Biologist Search Committee (1997)
Human Dimensions Search Committee (2000-01)
Natural Resource Planner Search Committee (2003)
Visiting Scientist Committee (1994-98)
Distinguished Alumni Committee (1995)
Committee on Procedures for Faculty Evaluation (1995)
Administrator of Office of Student Services Search Committee (1995)
Spring Awards Banquet Committee (1996)
Speaker Committee for FNR 679 (1997-98)

Service to Community

Professors in the Classroom (1992-1996)
Elderhostel Educational Series (1993, 1995)
C.A.R.E.T. Conference (1996)
Camp Tecumseh Earthship Journey nature and discovery class (1993)
Earth Day presentation – Seeger High School (1996)
Conservation lectures – numerous high schools and junior high schools
Guest speaker, Sycamore Audubon Society
Guest speaker, Northern Indiana Citizens Helping Ecosystems Survive

