

Karen V. (née Ash) Root

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EDUCATION

- 1996 Ph.D. in Conservation Biology and Population Ecology, Florida Institute of Technology, Melbourne, FL.
1989 M.S. in Behavioral Ecology, University of Michigan, Ann Arbor, MI.
1987 B.S. in Biology (Animal Behavior emphasis), University of Minnesota, Twin Cities, MN.

RESEARCH

- 2008-Present DEPARTMENT OF BIOLOGICAL SCIENCES GRADUATE COORDINATOR
2007-Present ASSOCIATE PROFESSOR
2002-2007 ASSISTANT PROFESSOR, , DEPT. OF BIOLOGICAL SCIENCES, BOWLING GREEN STATE UNIVERSITY, BOWLING GREEN, OH.
Research, teaching and service in conservation biology, landscape ecology and population biology.

Grants:

PI Florida Fish and Wildlife Conservation Commission: Risk Assessment for Eight Species (12/08-02/09)
\$2,300

This project will specifically address the risks of eight native Florida species utilizing demographic, population and spatial data to better understand of the critical factors limiting these species and influencing its viability.

PI Florida Fish and Wildlife Conservation Commission Grant: Habitat Suitability Assessment for the Crested Caracara (8/05-8/07;
\$25,000)

This project, in collaboration with Dr. Joan Morrison (Trinity College), will characterize the currently occupied habitat for Audubon's Crested Caracara and develop a predictive model that will be applicable across its range in Florida.

PI U. S. Fish & Wildlife Service Grant: Risk Assessment for Audubon's Crested Caracara, Caracara cheriway, in Florida (05/05-09/07;
\$89,000)

This project will specifically address several critical research needs identified in the recovery plan for the caracara: demographic data for this species will be collated and analyzed, a PVA will be developed, research needs will be identified, and we will develop a better understanding of the critical factors limiting this species and influencing its viability.

PI Ohio Department of Natural Resources Grant: Identifying Critical Ecological Requirements Of Rare Turtle Species (Co-PI: Hillary Harms) (05/05-07/06;
\$24,460)

The objective of the proposed project is to determine the ecological requirements of a rare turtle species using a review of the literature, field sampling, and population

modeling to determine variables most critical to long-term turtle viability.

PI Ohio Department of Natural Resources Grant: Consequences of a Management Strategy for the Endangered Karner Blue Butterfly, Lycaeides melissa samuelis (Co-PI: Bradley Pickens) (05/05-07/06; \$19,067) (05/06-07/07; \$7,242)

In this study, behavioral observations of female Karners will focus on where egg laying occurs and examine the direct impact of current management on Karner Blue populations, as well as, examine the potential impacts of mutualistic ants on Karner populations.

PI Ohio Department of Natural Resources Grant: Predicting the Occurrence of Rare Amphibian Species in Ohio (Co-PI: Gregory Lipps) (5/04-06/05; \$23,000)

Survey the range of the green salamander (*Aneides aeneus*), develop methodology for predicting its occurrence, verify the model with field surveys and make recommendations for the conservation and management of this species.

PI Florida Fish and Wildlife Conservation Commission Grant: Risk Assessment for a Focal Set of Rare and Imperiled Wildlife in Florida (01/04-09/07; \$35,000; 05/06-09/07; \$5,600)

Develop spatially explicit risk assessment models for 54 species of conservation concern and make recommendations for ensuring long-term viability of these species in Florida as part of a state-wide conservation planning effort. 2nd phase includes 7 additional species' risk assessments.

1996-2002

RESEARCH ASSOCIATE, APPLIED BIOMATHEMATICS

Research in conservation biology, risk assessment and population biology.

P.I. Environmental Science web course (10/00-6/02)

Editor, author and designer for Internet-based, early undergraduate, environmental science laboratory course that includes Java applets and Web pages.

Population viability analysis and extinction risk assessment for:

- *Florida Panther in South Florida
- *Hardhead in Sierra Nevada Rivers, California
- *Desert Tortoise in Mojave Desert, California
- *Shortnose Sturgeon in Connecticut River
- *Three Redhorse Suckers in Muskingum River, OH
- *Red-cockaded Woodpecker in Louisiana
- *Blueback Herring, Threadfin Shad, Black Crappie, Striped and Hybrid Bass in SC and GA

Multispecies assessment for South Florida (11/00-6/02)

Spatially-explicit analyses for recovery of Federally listed species for the Multispecies Ecosystem Recovery Implementation Team (MERIT) of U. S. Fish and Wildlife Service.

Grants:

P.I. for NSF SBIR Phase II Grant: Multispecies Ecological Valuation and Landscape Management (4/00-4/02; \$400,000;)

Development of new methods and software for multispecies conservation incorporating risk of extinction and the habitat needs for suites of species. Includes several case studies.

P.I. for Dept. of Education SBIR Phase I Grant: An Interdisciplinary Method of Teaching Ecology in High School Science and Mathematics Classes (9/99-3/00; \$50,000;)

Wrote short course on Conservation Biology for high school students, that utilizes the Internet and custom software.

P.I. for NSF SBIR Phase I Grant: Multispecies Ecological Valuation and Landscape Management (1/99-7/99; \$100,000;)

Development of new methods and software for multispecies conservation incorporating risk of extinction and the habitat needs for suites of species. Utilized California GAP Analysis Project data for feasibility testing.

1993-1996

DISSERTATION RESEARCH

Population Viability Analysis for the Florida Scrub-Jay (Aphelocoma coerulescens coerulescens) in Brevard County, Florida.

Constructed single, stage-based, patch, and spatially-explicit *population models* using long-term demographic data, recent field surveys, and G.I.S. coverages for the four populations of Florida scrub-jays in Brevard County and under four proposed scrub habitat reserve designs.

(Florida Institute of Technology, Melbourne; advisor: Dr. Hilary Swain)

1994-1995

GRADUATE RESEARCH ASSISTANT

Designed G.I.S. maps of scrub habitats, of habitat quality, and of potential for restoration by fire and a habitat quality index for the Scrub Habitat Conservation and Development Plan of Brevard County, FL for the Florida scrub-jay.

(Florida Institute of Technology, Melbourne; advisor: Dr. Hilary Swain)

1990 - 1993

RESEARCH ASSOCIATE IN INTERNAL MEDICINE/G.I.

Supervised a research assistant, designed experiments, and prepared presentations and publications for cellular and molecular research on ion transport using fluorescent markers in endocytic vesicles.

(University of Michigan Medical Center, Ann Arbor; Dr. Rebecca Van Dyke)

1989 - 1990

RESEARCH ASSISTANT IN INTERNAL MEDICINE/G.I.

Conducted cellular and molecular research on ion transport using fluorescent markers in endocytic vesicles and *wrote progress reports* for NIH Grant.

(University of Michigan Medical Center, Ann Arbor; Dr. Rebecca Van Dyke)

1987

UNDERGRADUATE HONORS THESIS

Observational study on development of a social hierarchy of timber wolves in Minnesota Zoological Gardens.

(University of Minnesota, St. Paul; advisor: Dr. Anne Pusey)

TEACHING

Course	Level	Years	Type of Course	Location
Undergraduate				
Conservation Biology (BIOL 410)	400	7	Lecture	Bowling Green State University, Bowling Green, OH
Landscape Ecology (BIOL 416)	400	5	Lecture	Bowling Green State University, Bowling Green, OH
Concepts in Biology I (BIOL 204)	200	1	Lecture	Bowling Green State University, Bowling Green, OH
Concepts in Biology I-- Honors (BIOL 204H)	200	1	Lecture & Recitation	Bowling Green State University, Bowling Green, OH
Evolution	400	1	Lecture	Florida Institute of Technology, Melbourne, FL
Introductory Biology (majors)	200	1	Lecture & Laboratory	Florida Institute of Technology, Melbourne, FL
	200	3	Laboratory	Florida Institute of Technology, Melbourne, FL
	200	2	Laboratory	University of Michigan, Ann Arbor, MI
Introductory Biology (non-majors)	100	1	Laboratory/Recitation	University of Michigan, Ann Arbor, MI
Graduate				
Conservation Biology (BIOL 542)	500	7	Lecture	Bowling Green State University, Bowling Green, OH
Landscape Ecology (BIOL 524)	500	5	Lecture	Bowling Green State University Bowling Green, OH
Seminars in Biology (BIOL 780 and 783)	700	7	Seminar	Bowling Green State University Bowling Green, OH

Other Teaching		
Topic	Type	Location
Short course on ecological modeling	Workshop	Army Corps of Engineers, Vicksburg, MS.
Tools for Population Viability Analysis	Workshop	Annual Meeting for Society for Conservation Biology, Missoula, MT
Tools for Population Viability Analysis	Workshop	Annual Meeting for Society for Conservation Biology, College Park, MD
Tools for ecological and human health risk analyses	Workshop (2-day)	Applied Biomathematics, Setauket, NY

CURRICULUM DEVELOPMENT

NEW UNDERGRADUATE COURSES

Biology 410: **Conservation Biology in Practice** (3 credits) offered each Spring semester.

The use of the basic ecological principles as a basis for conservation of biological diversity. Focus on the underlying ecological concepts, current techniques utilized in the field, problem-solving approaches, and the issues encountered when trying to conserve natural systems in a human-dominated landscape. Course includes hands-on exercises, class discussions, critical writing and argument and lectures.

Biology 416: **Landscape Ecology** (3 credits) offered each Fall Semester.

Overview of the interaction between spatial pattern and ecological processes, especially the causes and consequences of spatial heterogeneity across a range of scales. Focus on the underlying ecological concepts, current techniques utilized in the field, and problem-solving approaches. Course includes hands-on exercises, class discussions, critical writing and argument and lectures.

NEW GRADUATE COURSES/SEMINARS

Biology 542: **Conservation Biology in Practice** (3 credits) offered each Spring semester.

Taught with Biology 410 as described above.

Biology 524: **Landscape Ecology** (3 credits) offered each Fall Semester.

Taught with Biology 416 as described above.

Biology 780: **Priorities in Conservation Biology** (1 credit)

Graduate seminar on priority research questions in Conservation Biology in a student-led discussion format.

Biology 780: **Population Viability Analysis** (2 credits)

Graduate seminar on the basics of Population Viability Analysis using hands-on exercises, discussions of the primary literature and lectures

Biology 780: **Behavior and Conservation** (2 credits)

Graduate seminar on the application of behavioral ecology methods to conservation biology, based on primary literature, in a student-led discussion format.

Biology 780: Reserve Design (2 credits)

Graduate seminar on the reserve design and planning based on primary literature, including hands-on exercises, class projects and discussions.

Biology 780: Conservation Modeling (1 credit)

Graduate seminar on the techniques used in conservation biology especially Population Viability Analysis, Patch Modeling, Landscape Analysis and Habitat Suitability Analysis. Students discuss the primary literature and work with real-data sets to complete several analyses.

Biology 780: Applied Population Ecology (2 credits)

Graduate seminar on the techniques used in demographic modeling and Population Viability Analysis. Students discuss the primary literature and work with real-data sets to complete several analyses.

ADVISING AND STUDENT COMMITTEES

Undergraduate Students (Ecology & Conservation Biology Specialization)

Current (27)

Cody Adams	Freshman	2008-2009
Meagan Aliff	Senior	2007-2009
David Bonner	Senior	2008-2009
Tyler Brown	Freshman	2008-2009
Katheryn Campbell	Sophomore	2008-2009
Juston Carpenter	Junior	2008-2009
Troy Chamberlain	Junior	2008-2009
Lisa Curtis	Freshman	2008-2009
Jeremy Didion	Senior	2008-2009
Ivy Fischer	Junior	2008-2009
Mia Hall	Senior	2007-2009
Kenneth Hickerson	Freshman	2009-2009
David Houser	Sophomore	2008-2009
Daniel Lubin	Sophomore	2008-2009
Adam Meeker	Junior	2007-2009
Brandon Perry	Freshman	2008-2009
Kristyn Pitchford	Junior	2008-2009
Jeffrey Porter	Junior	2009-2009
Nicole Rosenthal	Sophomore	2009-2009
Miriam Saas	Senior	2007-2009
Rebecca Safron	Senior	2007-2009
Cassandra Tyson	Freshman	2007-2009
Ellen Wakeley	Senior	2007-2009
Stacy Wilcox	Senior	2008-2009
Lauren Zielke	Junior	2007-2009

Jennifer Chaffin	2007-2008*
Mary Esbenshade	2007-2008*

Students in **bold** are those that I have directly advised
 *successful completion of the degree program

Graduate Students

Current (11)

Kathleen Baczynski	Ph.D. (BGSU)	Advisor	2009-present
Jessica Sewald	Ph.D. (BGSU)	Advisor	2008-present
Steven Wilson	M.S. (BGSU)	Advisor	2008-present
Lauren Yarrish	M.S. (BGSU)	Advisor	2008-present
Amanda Kuntz	Ph.D. (BGSU)	Advisor	2009-present
Timothy Schetter	Ph.D. (BGSU)	Advisor	2006-present
Jeremy Ross	Ph.D. (BGSU)	Committee Member	2004-present
Brian Zimmerman	M.S. (BGSU)	Committee Member	2006-present
Meg Woller	Ph.D. (BGSU)	Committee Member	2006-present
Adam Meade	M.S. (BGSU)	Committee Member	2009-present
Michael Plenzler	Ph.D. (BGSU)	Committee Member	2009-present
Ryan Walsh	Ph.D. (BGSU)	Committee Member	2009-present

Past (25)

Amanda Kuntz	M.S. (BGSU)	Advisor	2007-2009*
Rachel Kappler	M.S. (BGSU)	Advisor	2007-2009*
Hillary Harms	Ph.D. (BGSU)	Advisor	2004-2008*
Melanie Coulter	M.S. (BGSU)	Advisor	2006-2008*
Jami Barnes	Ph.D. (BGSU)	Advisor	2003-2007*
Christine Johnston	M. S. (BGSU)	Co-advisor	2005-2007*
Brad Pickens	M.S. (BGSU)	Advisor	2004-2006*
Marcus Ricci	M.S. (BGSU)	Co-advisor	2003-2006*
Gregory Lipps	M.S. (BGSU)	Advisor	2003-2005*
Marina Martinez-Ortiz	M.S. (BGSU)	Advisor	2002-2004*
Timothy Herman	M.S. (BGSU)	Committee Member	2006-2009
Rosa I. Strem	M.S. (BGSU)	Committee Member	2007-2008*
Andrey Zamyatin	Ph.D. (BGSU, Photochem Sciences)	Graduate College Representative	2004-2008
Huidong Liu	M.S. (BGSU, Geology)	Committee Member	2007-2008*
Michael Plenzler	M.S. (BGSU)	Committee Member	2007-2008*
Paula Furey	Ph.D. (BGSU)	Committee Member	2004-2008*
Nathan Donelson	Ph.D. (BGSU)	Committee Member	2005-2007*
Dhan Shahi	M.S. (BGSU)	Committee Member	2005-2006*
Jacob LaCroix	Ph.D. (U of Toledo)	Committee Member	2003-2006*
Scott Hevner	Ph.D. (BGSU)	Committee Member	2004-2006

Jessie Knapp	M.S. (BGSU)	Committee Member	2004-2005*
Marybeth Bauer	Ph.D. (BGSU, Philosophy Dept.)	Committee Member	2003-2004*
Hillary Harms	M.S. (BGSU)	Committee Member	2003-2004*
Nathan Fries	M.S. (BGSU)	Committee Member	2002-2003*
Christine Warner	M.S. (BGSU)	Committee Member	2002-2003*

Students in **bold** are those that I have directly advised
 BGSU = Bowling Green State University
 *successful completion of the degree program

PROFESSIONAL ACTIVITIES AND SERVICES

Professional Societies and Service

Oak Openings Region Conservation Plan Steering Committee; co-chair: Science Working Group	2008-present
Green Ribbon Advisory Board (Ohio)	2005-present
Chair, Committee on North American Meetings, Society for Conservation Biology	2004-2005
Conference Committee of the Society for Conservation Biology	2002-2005
Board of Governors, NA Society for Conservation Biology	2002-2004
Editorial Board, Journal of Conservation GIS	2001-2004
Reviewer, Ecology Letters journal	2006-present
Reviewer, Journal of the Torrey Botanical Society	2004-present
Reviewer, Conservation Biology journal	2004-present
Reviewer, Plant Science	2003-present
Reviewer, Environmental Conservation journal	2003-present
Reviewer, Biological Conservation journal	2002-present
Reviewer, Ecological Applications journal	1999-present
Member, Society for Conservation Biology	1995-present
Assistant to the Secretary for Society for Conservation Biology (1993-1995)	
Member, Ecological Society of America	1995-present
Member of American Institute of Biological Sciences	1995-present
Member of Natural Areas Association	1995-present
Member of The Wildlife Society	1999-present
Member of Sigma Xi	2006-present

University Service

University Faculty Senate, Senator	2009-2012
Advisor, Ecology & Conservation Biology Specialization	2007-2009
Dean of Arts & Sciences Search Committee	2008-2009
Arts & Sciences Council	2006-2009
Arts & Sciences Technology Committee	2005-present
University Academic Honesty Committee	2006-2007

Information Technology Committee	2003-2004
Faculty Search Committee for faculty position in ENVS and Geology	2003
School of Earth, Environment & Society Advisory Board	2006-present
Environmental Studies (ENVS) Program Advisory Board	2002-2008

Departmental Service

Graduate Coordinator	2008-present
Graduate Committee; Chair	2005-2008; 2008-present
Executive Committee	2006-2007; 2004-2005
Faculty Search Committee for faculty position in Web-based Educator	2004
Faculty Search Committee for faculty position in Biology Education	2004
Computer Facilities Coordinator	2004-present
Faculty Advisor to Biology Graduate Student Association	2003-present
Curriculum Committee	2003-2004, 2007-2009
Blackboard Coordinator for Biological Sciences	2003-present
Biological Sciences Webmaster	2002-present

Professional Development

Blackboard Basics for Online Faculty Course	Fall 2008
Participation in CIRTL Forum on Graduate Education "Aligning the Preparation of Graduate Students for STEM Early Faculty Careers"	2008
Participation in BGSU Learning Community "Active Learning in Natural Sciences and Mathematics"	2007-2008
Participation in BGSU Learning Community "Teaching Scientifically: Bringing Interactive Engagement Strategies to the Biology Classroom"	2005-2006
Participation in NSF-sponsored Learning Community "Active Learning in the Biology Classroom" with University of Michigan, Ann Arbor, MI	2004-2005

PUBLICATIONS

Books:

- Root, K. V. (ed.) 2005. *Environmental Science Interactive*. Web School of Science, Setauket, NY.
(Note: peer-reviewed.)
- Root, K. V. 2002. *RAMAS Multispecies Assessment: Estimating Multispecies Conservation Values across the Landscape*. Applied Biomathematics, Setauket, NY.
- Root, K. V. (ed.). 2002. *Environmental Science on the Web: Interactive Online Laboratories for Environmental Science*. Applied Biomathematics, Setauket, NY.
- Shultz, S.M.; A.E. Dunham; K.V. Root; S.L. Soucy; S.D. Carroll, L.R. Ginzburg. 1999. *Conservation Biology with RAMAS[®] EcoLab*. Sinauer Associates, Sunderland, MA.

Peer-reviewed publications:

- Lipps, G. and K. V. Root. In prep. Finding the small, slimy and secretive: Using a landscape ecology approach for rare amphibians. *Landscape Ecology*.
- Martinez, M. and K. V. Root. In review. Assessing habitat requirements for a rare and vulnerable amphibian, Blanchard's Cricket Frog, in Ohio. *Herpetological Conservation and Biology*.
- Barnes, J., G. Lipps, J. Morrison, K. Root. In revision. Predicting habitat distribution for the Crested Caracara (*Caracara cheriway*) using a spatial modeling approach. *Journal of Wildlife Management*.
- Pickens, B. and K. V. Root. 2009. Butterfly behavior as a tool for assessing a managed landscape: A case study of the Karner Blue Butterfly. *Landscape Ecology* 24:243-251.
- Pickens, B. and K. V. Root. 2008. Oviposition strategy and behavior of the Karner Blue Butterfly, *Lycaeides melissa samuelis*. *Journal of the Lepidopterists' Society* 62(3).
- Pickens, B. and K. V. Root. 2008. Identifying factors affecting nutrition for the endangered Karner Blue Butterfly, *Lycaeides melissa samuelis*. *Natural Areas Journal* 28:210-217.
- Kautz, R., R. Kawula, T. Hootor, J. Comiskey, D. Jansen, D. Jennings, J. Kasbohm, D. Land, F. Mazzotti, R. McBride, L. Richardson, and K. Root. 2006. How Much Is Enough? Landscape-scale Conservation for the Florida Panther. *Biological Conservation* 130:118-133.
- Root, K. V. 2004. Using models to guide recovery efforts for the Florida Panther. Pages 491-504 in H. R. Akçakaya, M. Burgman, O. Kindvall, C. C. Wood, P. Sjogren-Gulve, J. Hatfield, and M. McCarthy (eds.), *Species Conservation and Management: Case Studies*, Oxford University Press, New York, NY.
- Regan, H. M.; H. R. Akçakaya, S. Ferson, K. V. Root, L. R. Ginzburg; R. Pastorok. 2003. Treatments of uncertainty and variability in ecological risk assessment of populations, ecosystems and landscapes. *Human and Ecological Risk Assessment* 9(4):889-906.
- Root, K. V. 2003. Prioritizing conservation of biodiversity using a multispecies approach. *Gap Analysis Bulletin* 11:18-23. (http://www.gap.uidaho.edu/Bulletins/11/Prioritizing_conservation.htm)
- Root, K. V.; H. R. Akçakaya; L.R. Ginzburg. 2003. A Multispecies Approach to Ecological Valuation and Conservation. *Conservation Biology* 17:196-206.
- Root, K. V. 2002. Evaluating risks for threatened aquatic species: The shortnose sturgeon in the Connecticut River. In W. Van Winkle, P.J. Anders, D. H. Secor, and D.A. Dixon(eds.), *Biology, Management and Protection of North American Sturgeon*, American Fisheries Society.
- Root, K. V. 2001. Classification of species. In Pastorok, R.A., S.M. Bartell, S. Ferson, and L.R. Ginzburg. (eds.). *Ecological modeling in risk assessment: Chemical effects on populations, ecosystems, and landscapes*. Lewis Publishers, Boca Raton, FL.
- Root, K. V. 1998. Evaluating the effects of habitat quality, connectivity and catastrophes on a threatened species. *Ecological Applications* 8(3):854-865.
- Van Dyke, R. W.; K. V. Root; R. A. Hsi. 1996. cAMP and Protein Kinase A stimulate acidification of rat liver endosomes in the absence of chloride. *Biochemical and Biophysical Research Communications* 222:312-316.
- Swain, H. S.; P. Schmalzer; D. Breininger; K. Root; S. Boyle; S. Bergen; S. MacCaffree. 1995. Appendix B: Biological consultant's report. Pages b1-b300 in Brevard County Office of Natural Resources. *Scrub Conservation and Development Plan*. Melbourne, FL.
- Root, K. V.; J. F. Engelhardt; M. P. Post; J. W. Wilson; R. W. Van Dyke. 1995. CFTR does not alter acidification of L-Cell endosomes. *Biochemical and Biophysical Research Communications* 205:396-401.

- Anbari, M.; K. V. Root; R. W. Van Dyke. 1994. Role of Na, K-ATPase in regulating acidification of rat liver endocytic vesicles. *Hepatology* 19:1034-1043.
- Van Dyke, R. W.; K. V. Root. 1993. Ethynyl estradiol decreases acidification of rat liver endocytic vesicles. *Hepatology* 18:604-613.
- Van Dyke, R. W.; K. V. Root; J. H. Schreiber; J. M. Wilson. 1992. Role of CFTR in lysosome acidification. *Biochemical and Biophysical Communications* 184:300-305.

Invited reviews:

- Root, K. V. 2009. A Primer of Conservation Biology. Fourth Edition. By Richard B. Primack. Sunderland (Massachusetts). *Quarterly Review of Biology*

Technical reports:

- Root, K. V. February 2009. *Risk Assessment for Eight Species*. Final report to Florida Fish and Wildlife Conservation Commission Grant # 10250132. **Note: Peer-reviewed.**
- Pickens, B. and K. V. Root. 2007. *An assessment of ant abundance in oak savanna, the evaluation of two butterfly reintroduction techniques, and recommendations for the Karner Blue Butterfly in Ohio*. Final report to Ohio Division of Wildlife for State Wildlife Grant.
- Root, K. V. and Barnes, J. R. 2007. *Risk assessment for Audubon's Crested Caracara, Caracara cheriway, in Florida*. Final Report to U. S. Fish & Wildlife Service (Agreement # 401815G027).
- Morrison, J.M., Root, K. V., Barnes, J. R., and Lipps, G., 2006. *Habitat suitability and demographic population viability models for Florida's Crested Caracaras*. Final Report to Florida Fish and Wildlife Conservation Commission (Contract #01213). **Note: Peer-reviewed**
- Root, K. V. and Barnes, J. June 2006. *Risk Assessment for a Focal Set of Rare and Imperiled Wildlife in Florida*. Final report to Florida Fish and Wildlife Conservation Commission Grant #03111. **Note: Peer-reviewed.**
- Harms, H. and Root, K. V. June 2006. *Identifying Critical Ecological Requirements Of Rare Turtle Species*. Final report to Ohio Division of Wildlife for State Wildlife Grant.
- Pickens, B. and Root, K. V. June 2006. *Consequences of a Management Strategy for the Endangered Karner Blue Butterfly, Lycaeides melissa samuelis*. Final report to Ohio Division of Wildlife for State Wildlife Grant.
- Lipps, G. and Root, K. V. June 2005. *Predicting the occurrence of rare amphibian species in Ohio*. Final report to Ohio Division of Wildlife for State Wildlife Grant.
- Root, K. V. March 2002. *Multispecies ecological valuation and landscape management*. Final report for National Science Foundation SBIR Phase II Grant #9983279.
- Root, K. V. February 2000. *An interdisciplinary method of teaching ecology in high school science and mathematics classes*. Final report for Department of Education Phase I Grant # ED-99-PO-4648.
- Root, K. V. July 1999. *Multispecies ecological valuation and landscape management*. Final report prepared for National Science Foundation SBIR Phase I Grant #98-60415.
- Dunham, A.E.; K. V. Root; H. R. Akçakaya. April 1999. *Correspondence between IUCN and USFWS classifications of threatened species*. Prepared for Southern California Edison and Electric Power Research Institute.
- Root, K. V. January 1999. *RAMAS[®] Ecological Risk Model for Desert Tortoise: Phase II Report*. Prepared for Southern California Edison and Electric Power Research Institute.

- Root, K. V.; H. R. Akçakaya; S. Ferson; L. Ginzburg. December 1998. *Using RAMAS® Methods to Solve Ecological Problems Facing Utilities*. TR-111387. Prepared for Electric Power Research Institute.
- Root, K. V. June 1998. *Ecological Risk Analysis as a Management Tool for Native Fish Species in the Sierra Nevada Range of California*. Prepared for Southern California Edison and Electric Power Research Institute.
- Root, K. V.; H. R. Akçakaya. April 1998. *RAMAS® Ecological Risk Model for Desert Tortoise*. Prepared for Southern California Edison.
- Oines, G; K. V. Root; L. Ginzburg; S. Ferson. June 1997. *Assessment of Population-Level Threat from Entrainment at Russell Dam on Thurmond Reservoir Fishes*. Prepared for US Army Corps of Engineers.
- Root, K. V.; H. R. Akçakaya. March 1997. *RAMAS® Ecological Risk Model for Assessing Temperature Effects on Redhorse Sucker Species in the Muskingum River*. Prepared for American Electric Power Service Corporation.
- Root, K. V; H. R. Akçakaya. February 1997. *Ecological Risk Analysis for the Shortnose Sturgeon Populations in the Connecticut River*. Prepared for Northeast Utilities.

Graduate Student Theses:

- Kappler, Rachel. 2009. M.S. Thesis. *Peromyscus* population dynamics and seed predation of *Lupinus perennis* in and near oak savannas of Northwest Ohio.
- Kuntz, Amanda. 2009. M.S. Thesis. Assessing the effects of White-tailed Deer (*Odocoileus virginianus*) on the oak savanna
- Coulter, Melanie. 2008. A multi-scale characterization of Lark Sparrow habitat and the management implications. M.S. Thesis.
- Harms, Hillary. 2008. Conservation of the Spotted Turtle (*Clemmys guttata*): Identifying critical demographic and environmental constraints affecting viability. Ph.D. Dissertation.
- Barnes, Jami. 2007. An integrative approach to conservation of the Crested Caracara (*Caracara cheriway*) in Florida: Linking population and habitat modeling for prioritization. Ph.D. Dissertation.
- Johnston, Christine. 2007. Ecological and behavioral impacts of snag density on cavity-nesting birds in the oak savanna. M.S. Thesis.
- Pickens, Brad. 2006. The consequences of a management strategy for the endangered Karner blue butterfly. M.S. Thesis.
- Ricci, Marcus. 2006. Using conservation GIS to build a predictive model for oak savanna ecosystems in Northwest Ohio. M.S. Thesis.
- Lipps, Gregory. 2005. A framework for predicting the occurrence of rare amphibians: A case study with the green salamander. M.S. Thesis.
- Martinez-Ortiz, Marina. 2004. Predicting habitat suitability and occurrence for Blanchard's cricket frogs (*Acris crepitans blanchardi*) in Northwest Ohio. M.S. Thesis.

PRESENTATIONS

August 2009

- ECOLOGICAL SOCIETY OF AMERICA ANNUAL MEETING, ALBUQUERQUE, NM
 Kappler, R. and K. V. Root. *Factors affecting white-footed mice (Peromyscus leucopus) seed predation upon wild blue lupine (Lupinus perennis) in Northwest Ohio*
 Kuntz, A. and K. V. Root. *Assessing movement of white-tailed deer*

- (Odocoileus virginianus) and potential impacts in Oak Openings Metropark*
- July 2009 Schetter, T, T. Walters, and K. V. Root. *Patterns of plant diversity in remnant Oak Openings prairies: Implications for restoration within a mixed disturbance landscape*
 2009 MIDWEST OAK SAVANNA AND WOODLAND CONFERENCE, TOLEDO, OH
 Kappler, R. and K. V. Root. *Peromyscus Population Dynamics And Seed Predation Of Lupinus perennis In And Around Oak Savannas*
 Kuntz, A. and K. V. Root. *Deer me! : Assessing the Effects of White-tailed Deer (Odocoileus virginianus) On the Black Oak / Lupine Barren*
 Schetter, T, T. Walters, and K. V. Root. *Landscape Context Influences Native And Nonnative Plant Species Richness In Remnant Oak Openings Prairies*
- November 2008 ANNUAL BIOLOGICAL SCIENCES DEPARTMENTAL RESEARCH RETREAT, BOWLING GREEN, OH
 Kappler, R. and K. V. Root. *Local & Landscape Effects of White-footed Mice Seed Predation upon Wild Lupine.*
 Kuntz, A. and K. V. Root. *Deer me! : Assessing the effects of white-tailed deer on the black oak/ lupine barren.*
 Safron, R., H. M. Harms, and K. V. Root. *Population Ecology of Spotted Turtles, Clemmys guttata, in NW Ohio.*
- November 2008 THE WILDLIFE SOCIETY ANNUAL MEETING, MIAMI, FL
 Kappler, R. and K. V. Root. *Local & Landscape Effects of White-footed Mice Seed Predation upon Wild Lupine.*
 Kuntz, A. and K. V. Root. *Deer me! : Assessing the effects of white-tailed deer on the black oak/ lupine barren.*
- October 2008
 (Invited Talks) 2008 IOWA CONSERVATION SYMPOSIUM, AMES, IA.
 (KEYNOTE SPEAKER) Root, K. V. *A Multispecies Approach for Large-Scale Management and Conservation in a Heterogeneous Landscape.*
- DEPARTMENT OF NATURAL RESOURCE ECOLOGY AND MANAGEMENT, IOWA STATE, AMES, IA.
 Root, K. V. *Conserving rare and vulnerable species across many scales in the Oak Openings Region.*
- October 2007 NATURAL AREAS ASSOCIATION ANNUAL MEETING, CLEVELAND, OH.
 Coulter, M. and K. V. Root. *Determining Lark Sparrow breeding habitat requirements and success to inform sand barren restoration.*
 Harms, H. and K. V. Root. *Assessing viability and identifying critical environmental variables and genetic structure of a rare freshwater turtle.*
 Root, K. V. *Large-scale conservation planning using spatially-explicit multispecies models in Florida.*
 Schetter, T., J. F. Jaeger, S. R. Abella, and K. V. Root. *An assessment of the conservation status of Ohio's Oak Openings Region using remotely sensed data.*
- September 2007 JOINT CONFERENCE OF THE RAPTOR RESEARCH FOUNDATION AND THE HAWK

- MIGRATION ASSOCIATION OF NORTH AMERICA, ALLENTOWN, PA.
Barnes, J., G. Lipps, K. Root, and J. Morrison. *Predicting habitat distribution for the Crested Caracara (Caracara cheriway) using a spatial modeling approach.*
- April 2007
(Invited Talk) DEPARTMENT OF ENVIRONMENTAL SCIENCES, UNIVERSITY OF TOLEDO, OH.
Root, K. V. *Conserving Rare and Vulnerable Species across Many Scales.*
- March 2007 MIDWEST ECOLOGY AND EVOLUTION CONFERENCE ANNUAL MEETING, KENT STATE UNIVERSITY, OH.
Barnes, J., G. Lipps, J. Morrison, and K. V. Root. *Predicting habitat: Modeling suitable habitat for the Crested Caracara in Florida.*
Coulter, M. and K. V. Root. *Investigating Effects of Plant Invasions on Habitat Selection: A Proposal.*
Harms, H. and K. V. Root. *Assessing Viability and Identifying Critical Ecological Variables of Rare Freshwater Turtles.*
- January 2007 OAK OPENINGS RESEARCH FORUM, TOLEDO METROPARKS, TOLEDO, OH
Harms, H. and K. V. Root. *Assessing Viability and Identifying Critical Ecological Variables and Genetic Structures of Rare Freshwater Turtles.*
Johnston, C. J., K. V. Root & P. A. Moore. *Disturbance-related Resources: The Impacts of Snags on the Fitness of Cavity-nesting Birds.*
- November 2006 ANNUAL BIOLOGICAL SCIENCES DEPARTMENTAL RESEARCH RETREAT, BOWLING GREEN, OH
Barnes, J. and K. V. Root. *Linking Population Viability and Spatial Analyses for the Conservation of the Crested Caracara (Caracara cheriway) in Florida.*
Harms, H. and K. V. Root and J. Miner. *Determining the Critical Ecological Variables for Rare Freshwater Turtles.*
Johnston, C., P. Moore, and K. V. Root. *Effects of disturbance on the fitness of cavity nesting birds in oak savannas.*
Root, K. V. *A Multispecies Risk Assessment for Rare and Imperiled Species in Florida.*
- June 2006 SOCIETY FOR CONSERVATION BIOLOGY ANNUAL MEETING, SAN JOSE, CA.
Barnes, J. and K. V. Root. *A Multispecies Risk Assessment For Rare and Imperiled Species in Florida.*
Barnes, J. and K. V. Root. *Linking population viability analysis and habitat suitability for the conservation of Audubon's Crested Caracara (Caracara cheriway) in Florida. ****Student Award Finalist*****
Harms, C., D. Pavuk, and K. V. Root. *A Multifactorial Characterization of Pond Turtle Habitat.*
Johnston, C., P. Moore, and K. V. Root. *Effects of disturbance on the fitness of cavity nesting birds in oak savannas.*
Pickens, B. and K. V. Root. *Using abundance and behavior as tools for assessing a management strategy for an endangered butterfly.*
Ricci, M., H. Michaels, and K. V. Root. *Using conservation GIS to detect oak savannas and oak barrens in northwest Ohio.*

- March 2006 MIDWESTERN ECOLOGY AND EVOLUTION CONFERENCE, ST. LOUIS, MO
 Pickens, B. and K. V. Root. *Community Interactions of the Karner Blue Butterfly.*
 Ricci, M., H. J. Michaels, and K. V. Root. *Using Conservation GIS to Detect Oak Savannas and Oak Barrens in Northwest Ohio.*
- March 2006 OHIO REPTILE AND RESEARCH CONSERVATION CONFERENCE, OHIO
 BIOLOGICAL SOCIETY AND OH DEPARTMENT OF NATURAL RESOURCES,
 COLUMBUS, OH
 Harms, C., D. and K. V. Root. *Determining the Critical Ecological Variables of Rare Freshwater Turtles.*
- January 2006 OAK OPENINGS RESEARCH FORUM, TOLEDO METROPARKS, TOLEDO, OH
 Pickens, B. and K. V. Root. *The Karner Blue Butterfly: "Where do we go from here?"*
 Ricci, M., H. Michaels, and K. V. Root. *Detecting Oak Savannas using Ecological Indicators.*
- November 2005 ANNUAL BIOLOGICAL SCIENCES DEPARTMENTAL RESEARCH RETREAT,
 BOWLING GREEN, OH
 Harms, H. and D. Pavuk, K. V. Root and J. Miner. *Habitat selection by painted turtles, Chrysemys picta, in a fragmented landscape.*
 Pickens, B. and K. V. Root. *The Effects of Management and Vegetation on Habitat Quality for the Karner Blue Butterfly, Lycaeides melissa samuelis*
 Ricci, Marcus, H. Michaels, and K. V. Root. *Detecting Oak Savannas using Ecological Indicators: A Decision Support System for Northwest Ohio Oak Openings.*
- November 2005 FOURTH ANNUAL BGSU RESEARCH CONFERENCE, BGSU, BOWLING GREEN,
 OH
 Pickens, B. and K. V. Root. *The Effects of Management and Vegetation on Habitat Quality for the Karner Blue Butterfly, Lycaeides melissa samuelis.*
 Ricci, Marcus, H. Michaels, and K. V. Root. *Priotizing oak savanna conservation using ecological indicators.*
- October 2005 U. S. FISH AND WILDLIFE SERVICE, CARACARA HABITAT STRATEGY MEETING,
 (Invited Talk) VERO BEACH, FL
 Root, K. V. *Conserving rare species: Lessons we have learned from the Florida Panther.*
- October 2005 DEPARTMENT OF BIOLOGY, COLLEGE OF WOOSTER, WOOSTER, OH
 (Invited Talk) Root, K. V. *Risk assessment for the Audubon's Crested Caracara.*
- September 2005 NATURAL AREAS ASSOCIATION ANNUAL MEETING, LINCOLN, NB.
 Ricci, M., H. Michaels, and K. V. Root. *Detecting oak savannas using ecological indicators. ****Best Student Presentation Award*****

- September 2005 THE WILDLIFE SOCIETY ANNUAL MEETING, MADISON, WI
Lipps, G. and K. V. Root. *Finding the small, slimy, and secretive: A framework for predicting the occurrence of rare amphibians.*
- August 2005 ECOLOGICAL SOCIETY OF AMERICA ANNUAL MEETING, MONTREAL, QUEBEC, CA
Barnes, J. and K. V. Root. *Using risk assessment for prioritizing research and conservation for a set of rare and imperiled species in Florida.*
- July 2005 SOCIETY FOR AMPHIBIANS AND REPTILES ANNUAL MEETING, TAMPA, FL
Lipps, G. and K. V. Root. *A framework for predicting the occurrence of rare amphibians: Case study of the green salamander.*
- November 2004 ANNUAL BIOLOGICAL SCIENCES DEPARTMENTAL RESEARCH RETREAT, BGSU, BOWLING GREEN, OH
Barnes, J. and K. V. Root. *Risk assessment for a set of rare and imperiled species in Florida.*
Harms, H. and D. Pavuk, K. V. Root and J. Miner. *Habitat selection by painted turtles, *Chrysemys picta*, in a fragmented landscape.*
Lipps, G. and K. V. Root. *Small, slimy and secretive: predicting the occurrence of rare amphibians.*
Pickens, B. and K. V. Root. *Consequences of differing management strategies for the endangered Karner Blue Butterfly, *Lycaeides melissa samuelis*: A Proposal.*
Ricci, Marcus, H. Michaels, and K. V. Root. *Prioritizing oak savanna conservation using ecological indicators.*
- November 2004 THIRD ANNUAL BGSU RESEARCH CONFERENCE, BGSU, BOWLING GREEN, OH
Barnes, J. and K. V. Root. *Risk assessment for a set of rare and imperiled species in Florida.*
Harms, H. and D. Pavuk, K. V. Root and J. Miner. *Habitat selection by painted turtles, *Chrysemys picta*, in a fragmented landscape.*
Lipps, G. and K. V. Root. *Small, slimy and secretive: predicting the occurrence of rare amphibians.*
- August 2004 SOCIETY FOR CONSERVATION BIOLOGY ANNUAL MEETING, NEW YORK, NY.
Martinez, M and K. V. Root. *Predicting Habitat Suitability and Occurrence for Cricket Frogs (*Acris crepitans blanchardi*) in Northwest Ohio.*
- March 2004 MIDWEST ECOLOGY AND EVOLUTION CONFERENCE ANNUAL MEETING, UNIVERSITY OF NOTRE DAME, IN.
Barnes, J. R. and K. V. Root. *Cryptic burrowers: A preliminary study on the ecology of the American Badger in Northwest Ohio.*
Martinez, M. and K. V. Root. *Predicting habitat suitability and occurrence for the cricket frog, (*Acris crepitans blanchardi*), in Northwest Ohio.*
- January 2004 ANNUAL BIOLOGICAL SCIENCES DEPARTMENTAL RESEARCH RETREAT, BGSU, BOWLING GREEN, OH

- Barnes, J. and K.V. Root. *Population Dynamics and Ecology of the American Badger, Taxidea taxus: A Proposal.*
- Lipps, G. and K. V. Root. *Small, Slimy, and Secretive: Predicting the Occurrence of Rare Amphibians.*
- Martinez, M. and K.V. Root. *Predicting Habitat Suitability and Occurrence for Cricket Frogs (Acris crepitans blanchardi) in Northwest Ohio.*
- November 2003 SECOND ANNUAL BGSU RESEARCH CONFERENCE, BGSU, BOWLING GREEN, OH
 Martinez, M. and K.V. Root. *Predicting Habitat Suitability and Occurrence for Cricket Frogs (Acris crepitans blanchardi) in Northwest Ohio.*
- August 2003 ECOLOGICAL SOCIETY OF AMERICA ANNUAL MEETING, SAVANNAH, GA.
 Root, K. V. *A multispecies approach to ecological assessment and conservation in Florida.*
- June 2003 SOCIETY FOR CONSERVATION BIOLOGY ANNUAL MEETING, DULUTH, MN.
 Root, K. V. *Assessing the viability and potential effects of management options for the Florida Panther.*
- November 2002 ANNUAL BIOLOGICAL SCIENCES DEPARTMENTAL RESEARCH RETREAT, BGSU, BOWLING GREEN, OH
 Root, K. V. *Evaluating the viability and potential recovery options for the Florida Panther.*
- August 2001 ECOLOGICAL SOCIETY OF AMERICA ANNUAL MEETING, MADISON, WI.
 Root, K. V. *Evaluating the viability and potential recovery options for the Florida Panther.*
- July 2001 SOCIETY FOR CONSERVATION BIOLOGY ANNUAL MEETING, HILO, HA.
 Root, K. V. *A multispecies approach to endangered species conservation and management in South Florida.*
- September 2000 THE WILDLIFE SOCIETY ANNUAL MEETING, NASHVILLE, TN.
 Root, K. V. *Habitat-based Viability Analysis using RAMAS GIS*
- August 2000
 (Invited Talk) AMERICAN FISHERIES SOCIETY ANNUAL MEETING, ST. LOUIS, MO.
 Root, K. V. *Ecological risk analysis for the Shortnose Sturgeon populations in the Connecticut River*
- June 2000 SOCIETY FOR CONSERVATION BIOLOGY ANNUAL MEETING, MISSOULA, MT.
 Root, K. V.; L. Ginzburg; H. R. Akcakaya; and S. Ferson. *Proactive prioritization through risk classification of abundant species*
- April 2000 ECOLOGICAL SOCIETY OF AMERICA MEETING, ORLANDO, FL.
 Root, K. V. *A multispecies approach to ecological assessment and*

conservation

- August 1999 ECOLOGICAL SOCIETY OF AMERICA ANNUAL MEETING, SPOKANE, WA.
Root, K.V. *Evaluating the effects of fragmentation and raven predation on a desert tortoise metapopulation*
- June 1999 SOCIETY FOR CONSERVATION BIOLOGY ANNUAL MEETING, COLLEGE PARK, MD.
Root, K. V. *A multispecies approach to ecological valuation and landscape management*
- June 1998
(Invited Talk) MEETING OF THE ELECTRIC POWER RESEARCH INSTITUTE ADVISORY COMMITTEE, DENVER, CO.
Root, K. V. . *Ecological risk analysis for the shortnose sturgeon.*
- June 1997
(Invited Talk) SHORTNOSE STURGEON WORKSHOP HOSTED BY NORTHEAST UTILITIES AND NATIONAL MARINE FISHERIES SERVICE, MILFORD, CT.
Root, K. V. . *Ecological risk analysis for the shortnose sturgeon.*
- August 1996 ECOLOGICAL SOCIETY OF AMERICA/SOCIETY FOR CONSERVATION BIOLOGY ANNUAL MEETING, PROVIDENCE, RI.
Root, K.V.; H.M. Swain. *How can stage-based models be used to evaluate the effects of habitat quality, epidemics and dispersal for the Florida scrub-jay under proposed reserve designs?*
- July 1995 ECOLOGICAL SOCIETY OF AMERICA ANNUAL MEETING, SNOWBIRD, UT.
Root, K.V.; D. R. Breininger; R. Bowman; H.M. Swain. *What can population viability analysis (PVA) tell us about the probable success of a spatially explicit reserve design: The Florida Scrub Jay in Brevard County as a case study*
- June 1995 SOCIETY FOR CONSERVATION BIOLOGY ANNUAL MEETING, FORT COLLINS, CO.
Root, K; D. Breininger; R. Bowman; H. Swain. *Prognosis for a population: Assessing a reserve design for the Florida Scrub Jay in Brevard County, Florida*
- May 1995
(Best Student Paper Award) FLORIDA ACADEMY OF SCIENCES ANNUAL MEETING, TAMPA, FL.
Root, K. *What are the population consequences for the Florida Scrub Jays in proposed reserve designs in Brevard County, Florida*
- April 1995 FLORIDA ECOLOGICAL AND EVOLUTIONARY SYMPOSIUM, LAKE PLACID, FL.
Root, K. *What are the implications of the proposed reserve designs for scrub jay viability in Brevard County, Florida*