

John B. Dunning, Jr.

General Information

Education

1986 Ph.D., Ecology and Evolutionary Biology, University of Arizona
1978 B.S., Biological Sciences, Kent State University

Purdue appointments

5/15 – present *Associate Head for Academic Programs*
Department of Forestry and Natural Resources
8/10 – present *Professor of Wildlife Ecology*
Department of Forestry and Natural Resources
7/99- 7/10 *Associate Professor of Wildlife Ecology*
Department of Forestry and Natural Resources.
7/94-6/99 *Assistant Professor of Wildlife Ecology*
Department of Forestry and Natural Resources

Non-Purdue Professional Experience

7/91-6/94 *Research Scientist*, Institute of Ecology, University of Georgia, Athens.
8/87-6/91 *Postdoctoral Research Associate*, Institute of Ecology, University
of Georgia, Athens.
5/86-7/87 *Biological Consultant*, S.W. Carothers & Associates, Tucson, AZ.
9/78-5/86 *Teaching and Research Associate*, Department of Ecology &
Evolutionary Biology, University of Arizona, Tucson.

Academic Awards, Honors, and Fellowships.

Nominated for 2018 “Favorite Faculty” Award by student(s) living in University Residences,
March.
Outstanding Undergraduate Teacher, Department of Forestry and Natural Resources,
2005-2006, 2007-2008, 2008-2009, 2009-2010, 2010-2011.
Richard L. Kohls Outstanding Undergraduate Teacher Award, College of Agriculture, 2010-
2011. Also nominated for Kohls Award in 2005-2006, 2007-2008, 2008-2009, 2009-
2010.
Charles Murphy Outstanding Undergraduate Teaching Award, Purdue University, 2011.
NACTA Teaching Award of Merit, 2011
Inducted into Purdue’s Teaching Academy, September 2011
Inducted into Purdue’s Great Book of Teachers, December 2013

Elected as *Fellow* in the American Ornithologists’ Union, 2007.
President, Indiana Chapter of The Wildlife Society, 2004.
Elective Member, American Ornithologists’ Union, 1990.

Phi Beta Kappa, 1978

Citations in biographical works

Nominated for *Who's Who in America*, 2009

Who's Who in Agriculture Higher Education (AcademicKeys), 2003

Memberships in academic, professional, and scholarly societies

Ecological Society of America

The Wildlife Society

Society for Conservation Biology

American Ornithologists' Union

Association of Field Ornithologists

Cooper Ornithological Society

Wilson Ornithological Society

Indiana Academy of Sciences

Section A. TEACHING

Dr. Dunning teaches courses in conservation, environmental sciences, and ecology that range from introductory large-enrollment lecture courses to specialized seminars. He has taught more courses than any other member of the Department of Forestry and Natural Resources over the last 8 years, and routinely gets outstanding student evaluations. Dr. Dunning also was one of the first adopters of classroom response systems ("clickers") at Purdue, and he has become a leader in the use of this type of education technology in large-enrollment lectures. Dr. Dunning has published 14 papers and one book with strong educational components, and he has presented at national and international meetings on the use of education technology in the classroom. He was selected as the department's Outstanding Undergraduate Teacher in 2006, 2008, 2009 and 2010.

Courses taught

Years	Number	Title	Credits
1994-2017	FNR 10300	Introduction to Environmental Conservation	3
2018	FNR 12500	Environmental Science & Conservation	3
1994-1996	FNR 24000	Wildlife in America	3
1999-2015	FNR 25100	Systematics & Ecology of Birds, Reptiles and Amphibians	3
2016-2018	FNR 25150	Systematics & Ecology of Mammals & Birds	3
1995-1998	FNR 34300	Ornithology	3
1998-2018	FNR 37300	Wildlife Practicum	3
1997-2018	FNR 46000	International Natural Resource Issues	3
1994-2014	FNR 48800	Global Environmental Issues	3
2014-2018	FNR 49800	Tropical Biology Practicum (Costa Rica)	1-2
2001-2017	FNR 54300	Conservation Biology I	3

Dunning

2

2002-2010	FNR 54400	Conservation Biology II	3
2005-2018	FNR 57100	Advanced Ornithology	2
2000-2006	FNR 67900	Department Seminar Series	1

Student enrollments and evaluation scores (thru summer 2017):

	Semesters	Average	Total	Course	Instructor
	Taught	Enrollment	Enrollment	Rating	Rating
			1994-2018		
FNR 10300*	19	402	7653	4.0	4.3
FNR 12500	1	300	300	3.8	4.6
FNR 37300**	10	33	334	4.6	4.9
FNR 48800	19	58	1148	4.3	4.7
FNR 54300	8	22	176	4.6	4.7
FNR 54400	7	17	128	4.5	4.8
FNR 57100	6	20	118	4.8	4.9

*FNR 10300 statistics for period when Dr. Dunning was the sole instructor

**Dr. Dunning's week of summer practicum only

*** student evaluations in tables above and below not updated as of summer 2017

Summer 2017 student evaluation scores

	Enrollment	Course	Instructor
FNR 37300	59	4.3	4.6

Fall 2017 student scores

FNR 10300	300	3.8	4.6
FNR 54300	17	4.9	5.0

One source of bias in student evaluation scores is that instructors in team-taught courses are often given lower student evaluation scores than given in courses with a single instructor. But Dr. Dunning gets very high scores when teaching with colleagues too.

	Semesters	Average	Total	Course	Instructor
	Taught	Enrollment	Enrollment	Rating	Rating
			1994-2017		
FNR 10300*	5	246	1232	3.9	4.3
FNR 25100**	17	68	1150	4.3	4.6
FNR 46000	19	22	420	4.9	5.0
FNR 49800***	3	17	52	5.0	

*FNR 10300 statistics for period when cross-listed with AGRY 29000, NRES 29000 and EAPS 11300

** includes semesters taught as FNR 25150

***Costa Rica spring break study abroad (no student evaluations for separate instructors)

Because he believes international experience is a valuable addition to undergraduate studies, Dr. Dunning also participates in FNR 460, the *summer Study Abroad course* co-taught with the Swedish University of Agricultural Sciences and North Carolina State University. In FNR 460, the students are combined into international teams to study a topic in the natural resources and learn how to interact with people with different backgrounds. The program alternates each year between American and European programs. The University of Maine participated for the first time in 2009. Since 2006 Dr. Dunning has served as the *lead Purdue faculty member* for the course. Course topics have included land-use conflict resolution, climate change in the Arctic, Neotropical issues of the Yucatan, and forest management in the Pacific Northwest. We have taken students to Sweden, Germany, Czech Republic, Austria, Turkey and Mexico; while in the USA we have gone to the Midwest, Colorado, New England, Carolinas and California/Oregon. In 2010 the course was held in the Maritime Provinces of Canada for the first time, while in 2011 we will go to Sweden and Finland to study sustainable agriculture.

Dr. Dunning has participated in summer practicum (FNR 373) since 1998. He leads student exercises on bird identification, bird banding, and surveying. His presence especially helps students learn avian songs and calls.

In 2010, Dr. Dunning initiated peer evaluation of the teaching efforts for three FNR faculty. He expects to continue peer evaluation for these faculty in 2011.

Curriculum development

Dr. Dunning has served on the department's Curriculum Committee since 2000. In this role, he was instrumental in *revisions of the undergraduate curriculum* undertaken by the department in 2006-2007, serving as the liaison to the wildlife faculty in setting curriculum outcomes and redefining courses. The goals of the 2007 revision were described in a peer-edited paper that Dr. Dunning co-authored with his wildlife colleagues in 2010 and published online through a publication of The Wildlife Society. The Wildlife major was also revised in 2016-2017, when he led the wildlife faculty in a full revision of the program. Since becoming *Associate Head for Academic Programs* in 2015, Dr. Dunning has helped other faculty groups within FNR to revise the Forestry and the Fisheries and Aquatic Sciences (now Aquatic Sciences) majors, and also works within the department to define changes in curricula that need to go to the College Curriculum and Student Relations Committee (CSRC). Dr. Dunning served on the CSRC for three years (2012-2015) and was *chair of the College committee* in 2014-2015.

Dr. Dunning contributes to efforts at curriculum development efforts across Purdue including:

- membership of the College of Agriculture "*Critical Thinking Community*" in Fall 2008, which planned assessment techniques for critical thinking across the college. As part of

this group, in Spring 2009, he demonstrated the use of education technology in FNR 103 at the final workshop on critical thinking in undergraduate courses.

- planning for a new *interdisciplinary undergraduate program in environmental science*. With a team of Purdue faculty headed by Dr. John Graveel (NRES), this effort developed a freshman-level series of entry courses for pre-environmental science students.
- development of *assessment rubrics and techniques* for Department and College curricular outcome assessment during 2008-2009.
- participation on the *faculty advisory panel* for the interdisciplinary Natural Resources and Environmental Sciences undergraduate program starting in Spring 2009 and continuing to the present. The panel is revising and strengthening the NRES curriculum to increase the rigor of the program.

Advising, Counseling, and Student Recruiting

a. Undergraduate mentoring

Dr. Dunning served as faculty advisor from 2007-2010 for the Student Chapter of The Wildlife Society, the main professional society in North America for wildlife biologists. Dr. Dunning has advised 21 undergraduates in special problem and independent research courses during 15 semesters. For example, Dr. Dunning advised two students who conducted independent study projects in Honduras during summer 2007, in coordination with Dr. Tamara Benjamin of the Tropical Agricultural Research and Higher Education Center (CATIE). Other independent research projects included internship projects at the Indianapolis, Columbian Park (Lafayette), and Garden City (KS) zoos, and field research in Costa Rica, South Carolina, and Indiana. One student published his independent study project in Indiana's state ornithological journal in 2005, while the research of two other students is currently in press in *The Wilson Journal of Ornithology*.

Since becoming Director of the department's Office of Student Services, part of Dr. Dunning's duties are to advise and mentor FNR students who want to do independent study projects associated with summer internships, and students doing semester-long study abroad programs. In the three semesters since joining the OSS, Dr. Dunning has mentored 7 students doing such projects, including students in Austria, Australia, and New Zealand. He also serves as the primary academic advisor for an increasing number of FNR undergraduates, beginning with 10 students in Spring 2016; now up to 30 students in Fall 2017.

b. Undergraduate research supervision

Dr. Dunning has advised 17 undergraduates in Special Problems and Independent Research courses during 13 semesters. These courses include internship projects at the Indianapolis, Columbian Park, and Garden City (KS) zoos, and field research at field sites in Costa Rica, Honduras, South Carolina, and Indiana. Three students wrote proposals that won awards from the Department of Forestry and Natural Resources (Mech Undergraduate Research Award) and from the Associate Dean of Academic Programs, College of Agriculture. One student published his independent study project in Indiana's state ornithological journal in 2005, while another student's research has been submitted for publication. Dr. Dunning advised two students who conducted independent study projects in Honduras during summer 2007, in coordination with Dr. Tamara Benjamin of CATIE. Two students did zoo- and wildlife-center internships in 2011.

Innovation in Teaching Methods and Techniques

Dr. Dunning was one of the first Purdue faculty to incorporate the use of *audience response technology* in the teaching of large lecture classes. Audience response technology allows students to participate interactively with the lecturer in class. Students use a "clicker" to answer questions posed by the instructor. Responses are tabulated in real time and summarized to the students, using the classroom audio-visual system. Dr. Dunning has used *Classroom Performance System* developed by eInstruction in FNR 103 since 2004. The system allows students to offer opinions on controversial subjects, compare their opinions to other students in the class, and encourages regular attendance. With a team of Purdue faculty in 2007-2008, Dr. Dunning evaluated student attitudes towards this technology using an online survey tool developed by faculty in the College of Education, resulting in two publications published in education technology journals (listed below). Dr. Dunning has also presented the results of this research at two meetings in 2007 and 2008 (see Other Evidence of Teaching Excellence, below). In March 2009, he co-led a "*Best Practices*" teaching workshop at Purdue, illustrating the ways that CPS can be used in large lecture classes.

The summer study abroad course (FNR 460, described above) also represents a major effort at innovation in teaching. Most Study Abroad courses take students from a single program overseas, lead by an instructor from the same program. FNR 460 combines students from 3+ universities into groups stratified by gender, country of origin, and discipline. Students therefore gain experience in working with people from another culture and background. The international makeup of the student groups results in students getting experience in problem-solving and critical thinking, since solutions to issues that would work in the United States may not be applicable in Sweden. His 2009 paper published in *The NACTA Journal* emphasizes the benefits of the collaborative nature of the course.

Recognition received from students

In annual exit interviews with graduating seniors conducted by the Department Head from 2004-2016, Dr. Dunning was at or near the top of the list of faculty members mentioned most frequently by students as being influential to their education here at Purdue.

Special activities which contribute to teaching effectiveness

In spring 2008, Dr. Dunning participated in an informal discussion group within the College of Agriculture on the *role of women in academia*. The purpose of the discussion group was to determine how members of the College could help retain female graduate students in our programs and support professional women within our staff and faculty ranks. Organized by Associate Dean Dale Whitaker, the group developed some practical suggestions for departments and the College, as well as a greater appreciation of the issues faced by women.

Dr. Dunning regularly meets with students outside the classroom. He sponsors a series of field trips to local natural areas such as Horticulture Park and Celery Bog in which students are regular participants. He regularly takes several carloads of Purdue students each fall to see the Sandhill Cranes at Jasper-Pulaski, a species of great interest to international students.

In November 2011, Dr. Dunning hosted Wellington B. Huffaker, Executive Director of the Aldo Leopold Foundation during his campus visit to introduce the premier of Green Fire, the new documentary movie about Aldo Leopold. Mr. Huffaker attended FNR 543 and led a discussion of the philosophy of the land ethic with the conservation biology students.

In March 2013 Dr. Dunning participated in the campus-wide Forum on Student Success. This forum was intended to generate discussion on how to improve the freshman year experience, with an eye towards greater retention and success of Purdue undergraduates. The forum was attended by about 300 faculty and staff.

In February 2014 Dr. Dunning co-led (with Dr. Dennis Buckmaster) a brown-bag discussion on how to motivate students. This was part of the College of Agriculture's Spring Brown-Bag Series on Teaching, organized by the Office of Academic Programs.

Other evidence of teaching excellence

a. Guest lectures.

Dr. Dunning is invited to present lectures in other Purdue courses on a regular basis. For the last 6 years, he has contributed a lecture on use of behavioral ecology in animal conservation to Dr. Joseph Garner's course in Animal Behavior (ANSC 303). He has contributed 2-3 lectures in the FNR 230 World Forestry, including a lecture on climate change based on the 2007 summer Study Abroad course in northern Sweden. In 2006 he lectured twice and participated in a field trip in the department's capstone course. He regularly gives guest lectures at the monthly meeting of the Purdue Zoological Society in the Dept. of Animal Sciences; the most recent of these was in October 2013. In February 2010 he gave a guest lecture in the freshman biology course at Ivy Tech, Lafayette, while in April 2010 he participated in a guest presentation in OLS 386 with wildlife undergraduate Jacklyn Banet. In spring 2013 he led a field exercise for FNR 348 Wildlife Techniques, demonstrating bird banding at the Purdue Wildlife Area.

In February 2014, Dr. Dunning participated in a panel discussion that was organized as part of the department's graduate seminar series. The discussion centered around the process of applying and interviewing for academic jobs.

b. Teaching publications

Dr. Dunning has published 14 papers and one book that have strong educational components. The publications are primarily in the field of conservation biology and include works aimed at conservation biologists, science educators, undergraduates, and the general public.

Two of his newest publications are on the use of education technology as described above. These journals are among the most selective in the field: *Education Technology Research and Development* is the only journal that publishes work solely in the field of education technology, and currently rejects 85-87% of submitted manuscripts (Steven M. Ross, journal lead editor, *personal comm.*). The *Journal of Computing in Higher Education* rejects about 75% of submitted manuscripts and was ranked 9th in academic prestige among 100 technology journals in a 2004 Ph.D. dissertation study (Carol MacKnight, main editor, *personal comm.*).

Dr. Dunning contributed a chapter in *Learning Landscape Ecology* by Sarah Gergel and Monica Turner, the first laboratory text to provide ecology students with computer software used in research at landscape and regional scales. Dr. Dunning's chapter (Dunning, et al. 2002) described a population model that follows the response of a sparrow population to changes in the quality and quantity of habitat in hypothetical or real-world landscapes.

The textbook on conservation biology most used by graduate courses is *Principles of Conservation Biology* by Gary Meffe and Ronald Carroll. Dr. Dunning coauthored a chapter on population dynamics in the first and second editions (Pulliam and Dunning 1994). This textbook was completely re-done with a new focus in 2006, and Dr. Dunning was lead author of a new chapter to cover landscape and regional approaches to the conservation of populations (Dunning et al. 2006). He has been invited to write two new chapters for a revision expected to be completed in 2011.

List of teaching publications (* indicates primary author on multi-author papers).

Refereed journal articles

- 1.* Dunning, J.B., R. Meilan, D. Jacobs, G.B. Blank, T. Easley, and M. Olsson. 2008. Collaborative Study Abroad – combining efforts to improve undergraduate experience. *The NACTA Journal* 53(4):20-24.
2. * MacGeorge, E.L., S.R. Homan, J.B. Dunning, D. Elmore, G.D. Bodie, E. Evans, S. Khichadia, and S.M. Lichti. 2008. The influence of learning characteristics on evaluations of audience response technology. *Journal of Computing in Higher Education* 19:25-46.

3. *MacGeorge, E.L., S.R. Homan, J.B. Dunning, D. Elmore, G.D. Bodie, E. Evans, S. Khichadia, and S.M. Lichti. 2008. Student evaluation of audience response technology in large lecture classes. *Educational Technology Research and Development* 56:125-145.
4. *Swihart, R.K., J.B. Dunning, and P. Waser. 2002. Gray matters in ecology: dynamics of pattern, process, and scientific progress. *Bulletin of the Ecological Society of America*. 83:149-155.
5. Dunning, J.B. 2000. They shoot bison, don't they? Discussing ethics in conservation courses. *The NACTA Journal* (March issue), pages 40-45.
6. Dunning, J.B. 1997. The missing awareness, part II: surveys of student ecological knowledge in the Midwest. *Conservation Biology* 11:6-10. (Impact factor: 3.934, first tier Ecology)
7. *Carroll, N., J.B. Dunning, A. Freeman, C. Hallberg, and J. Morgan. 1997. Reintroduction of the gray wolf to Yellowstone National Park: case study. *The AG Bioethics Forum* 9:1,6.
8. *Koford, R.R., J.B. Dunning, C.A. Ribic, & D. Finch. 1994. Glossary for avian conservation biology. *Wilson Bulletin* 106:121-137. (Impact factor: 0.656, third tier in Ornithology)

Books

9. Elphick, C.S., J.B. Dunning, and D.A. Sibley 2001. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf Publ., New York. [This book is a companion volume to a best selling field guide to North American birds. Dr. Dunning served as co-technical editor of the entire 585-page volume, and author or co-author of 12 chapters. The book has been used as a textbook for non-majors ornithology course such as one taught by Dr. Susan Hengeveld at Indiana University, and since 2006 is a required text for FNR 251. The book can be considered both a teaching and/or extension publication; see comments under EXTENSION, below]

Refereed book chapters

10. * Dunning, J.B., M.J. Groom, and H.R. Pulliam. 2006. Species and landscape approaches to conservation. Pp. 419-466, in: Groom, M. J., G. K. Meffe, and C. R. Carroll. *Principles of Conservation Biology*, Sinauer Associates, Sunderland, MA. Third edition.
11. *Dunning, J.B., D.J. Stewart, and J. Liu. 2002. Individual-based modeling: the Bachman's Sparrow. Pp. 228-245, in: Gergel, S. E., and M. G. Turner (editors). *Learning landscape ecology: a practical guide to concepts and techniques*. Springer-Verlag, NY.

12. *Pulliam, H.R., and J.B. Dunning. 1994. Demographic processes: population dynamics on heterogeneous landscapes. Pages 179-205, in: Meffe, G.K., and C.R. Carroll. *Principles of Conservation Biology*. Sinauer Assoc., Sunderland MA.

Non-refereed articles

13. Dunning, J. B., A. DeWoody, B. Pijanowski, M. Sepulveda, R. K. Swihart, H. Weeks, R. Williams, P. Zollner. 2010. Improving wildlife education: 14 years of change at Purdue University. *The Wildlife Professional*. Online letter at: http://joomla.wildlife.org/index.php?option=com_content&task=view&id=690&Itemid=175.
14. Dunning, J.B. 1999. The need for producing ecologically literate college students. *Conservation Biology* 13:1239-1240. [Published in Letters section]
15. Dunning, J.B. 1996. Population dispersal. *McGraw-Hill Encyclopedia of Science and Technology*. [Invited article.]

c. Teaching presentations

In 2007-08, Dr. Dunning made presentations at two conferences on the use of education technology in large enrollment classes which included an audience demonstration of the CPS “clickers”.

Invited Presentation:

Dunning, J. B. 2013. Going global in natural resource education. Centennial celebration, FNR Dept, West Lafayette IN. September 2013.

Dunning, J. B. 2011. Teaching the controversy: environmental issues in the modern world. Richard Kohls Outstanding Undergraduate Teacher Lecture, College of Agriculture, Purdue University.

Dunning, J. B. 2007. Encouraging students to attend class: use of education technology to make large-enrollment lecture courses more interactive. Invited as part of Advances in Forest and Natural Resource Management Symposium: Sustainability, Integration, Modeling, and Technologies. National Taiwan University, Taipei, Taiwan. September 2007.

Presentations:

Dunning, J.B. 2008. Using education technology to “discuss” controversial topics in large-enrollment classes within the natural resources. Seventh Biennial Conference on University Education in Natural Resources. Corvallis, OR. March 2008.

d. Grants in support of teaching

1. Agency/Title:	Foreign Affairs & International Travel - Canada. <i>Student travel grant.</i> (supporting summer Study Abroad course)
2. Duration of funding:	June - September 2010
3. Amount of award:	\$8,800
4. Role:	Principal investigator
5. Responsibility:	100%

Section B. RESEARCH, SCHOLARSHIP, AND CREATIVE ENDEAVOR

Dr. Dunning is recognized internationally as an outstanding avian ecologist, working in the fields of *landscape ecology* and *conservation biology*. His research centers on the response of wildlife to changes in the habitats they occupy, especially those changes that occur over large spatial scales. Dr. Dunning has taken a landscape approach to studying wildlife ecology in Indiana forests, grasslands, and wetlands, especially restored patches within agricultural landscapes (see Current research interests, below). As an avian ecologist, Dr. Dunning is best known for his compilations of avian body masses, the best estimate of size in birds. These compilations are of use in studies to comparative ecology, allometry, physiology and general biology of birds, and have been cited 612 times.

He has published 48 papers and book chapters, 7 monographs, and 3 books as products of his research efforts. Dr. Dunning has attracted a total of \$823,659 in support of his research program at Purdue.

Research Interests

Understanding how organisms respond to landscape change is particularly important in the agricultural landscapes common to Indiana and the Midwest. In these landscapes natural habitats have been highly fragmented. Native forests, prairies, and wetlands support native wildlife species that have declined in response to overall habitat loss and also to additional negative effects associated with landscape fragmentation. Because diverse native faunas are critical to healthy ecosystems, maintaining such diversity in the face of landscape change is an important conservation concern.

Forest Fragmentation. Dr. Dunning uses the concepts of landscape ecology to investigate how fragmentation affects wildlife on forest lands subjected to timber harvest. He has been involved since inception in the development of the Department's *Hardwood Ecosystem Experiment*, part of its signature area *Sustaining Hardwood Ecosystems*, adopted in 2005. This project is an interdisciplinary research program designed to understand the short-term and long-term impacts of active forest management, especially management techniques designed to regenerate oak-

dominated forests. He hosted and attended meetings during the development of the experiment, and has led efforts to implement the project in the Morgan-Monroe and Yellowwood State Forests. Dr. Dunning provides leadership in this signature area for the planning and commission of current research and seeking funding for future initiatives.

Since 2000, Dr. Dunning has worked with the U.S. Forest Service (USFS) to look at the effects of overall forest management at the Hoosier National Forest in southern Indiana. The Hoosier National Forest is highly fragmented, existing in patches of public lands of varying size and surrounded by private land with varying land uses. Through annual USFS contracts, he has hired Purdue students to conduct basic monitoring studies of breeding birds on the National Forest. A USFS grant funded an analysis of the entire breeding bird monitoring database (1991-2009) to detect population changes in forest birds across the National Forest. The USFS also provided funds for a literature review in which FNR undergraduates compiled literature on species of management interest and reviewed life history, population trends, and current threats. The Forest Service used these reviews in the development of the 2006 Land and Resource Management Plan for the Hoosier National Forest.

Restoration Ecology. Dr. Dunning's second major research initiative uses *restored wetlands and grasslands* as a model system for studying organisms in changing habitats in the agriculture-dominated landscapes of the Midwest. Restoration projects have been initiated in Indiana by the state Department of Natural Resources, private conservation groups such as The Nature Conservancy, and private landowners. Dr. Dunning and his students have looked at the response of migratory waterfowl and shorebirds, breeding amphibians, small mammals, and breeding grassland birds to the characteristics of the restorations, including project size, restoration technique, and landscape placement. Four graduate students completed their research with funding from the state DNR, The Nature Conservancy and other sources. The results should both add to knowledge about landscape influences on Indiana wildlife, as well as provide technical assistance for future restoration projects.

Research Publications (* indicates primary author on multi-author publications. Underlined authors are Purdue graduate students)

a. Refereed Journal Articles

1. Ruhl, P. J., E. Flaherty, and J. B. Dunning, Jr. 2019. Using stable isotopes of plasma, red blood cells, feces, and feathers to assess mature-forest bird diet during the post-fledging period. *Canadian Journal of Zoology*, *in press*.
2. Ruhl, P. J., C. D. Delancey, and J. B. Dunning, Jr. 2018. Roost preference, postfledging habitat use, and breeding phenology of adult female Worm-eating Warblers (*Helmitheros vermivorum*) on the breeding grounds. *Wilson Journal of Ornithology* 130:397-409.

3. Kissick, A. L., J. B. Dunning, E. Fernandez-Juricic, and J. D. Holland. 2018. Mapping different responses of predator and prey functional diversity to fragmentation. *Ecological Applications* 28(7):1853-1866.
4. Kellner, K., P. J. Ruhl, J.B. Dunning, K. W. Barnes, M.R. Saunders, and R.W. Swihart. 2018. Local-scale habitat components driving bird abundance in eastern deciduous forests. *American Midland Naturalist* 180:52-65.
5. Ruhl, P.J., K.F. Kellner, J.M. Pierce, J.K. Riegel, R.K. Swihart, M.R. Saunders, and J.B. Dunning. 2018. Characterization of Worm-eating Warbler (*Helmitheros vermivorum*) breeding habitat at the landscape level and nest scale. *Avian Conservation and Ecology* 13(1):11. URL: <http://www.ace-eco.org/vol13/iss1/art11/>.
6. Homoya, W., J. W. Moore, P. J. Ruhl, and J. B. Dunning. 2017. Do American Golden-Plovers (*Pluvialis dominica*) avoid wind-energy turbines in agricultural fields in Indiana during spring migration? *Wilson Journal of Ornithology* 129:863-871.
7. Napoletano, B. M., B. C. Pijanowski, and J. B. Dunning. 2017. Influences of horizontal and vertical aspects of land cover and their interactions with regional factors on patterns of avian species-richness. *Cogent Environmental Science* 3:1296604. DOI: 10.1080/23311843.2017.1296604
8. Bonanca, R. A., J. B. Dunning, and A. M. da Silva. 2017. The influence of landscape patterns on the bird diversity of four urban parks. *Environmental Quality Management*, (Spring 2017):5-27.
9. Ruhl, P.J., J.M. Pierce, and J.B. Dunning. 2016. An efficient and inexpensive apparatus for collecting fecal samples during banding studies: an underutilized technique. *North American Bird Bander* 41:145-150. (published March 2017)
10. Murray, B.D., J.D. Holland, K.S. Summerville, J.B. Dunning, M.R. Saunders, and M.A. Jenkins. 2017. Functional diversity response to hardwood forest management varies across taxa and spatial scales. *Ecological Applications* 27:1064-1081.
11. Gasc, A., D. Francomano, J.B. Dunning, and B.C. Pijanowski. 2017. Future directions for soundscape ecology: the importance of ornithological contributions. *Auk* 134:215-228.
12. Kellner, K.F., P.J. Ruhl, J.B. Dunning, J.K. Riegel, and R.K. Swihart. 2016. Multi-scale responses of breeding birds to experimental forest management in Indiana, USA. *Forest Ecology and Management* 382:64-75.
13. Doughty, C.E., J. Roman, S. Faurby, A. Wolf, A. Haque, L. Bakker, Y. Malhi, J.B. Dunning,

- J.-C. Svenning. 2016. Global nutrient transport in a world of giants. *Proceedings of the National Academy of Sciences* 113:868-873.
14. Ruhl, P.J., R.N. Chapman, and J.B. Dunning. 2016. Field-testing a standard metabolic rate estimation technique for eastern red-backed salamanders. *Journal of Herpetology* 50:138-144.
 15. Ruhl, P. J., and J. B. Dunning. 2015. Morphometrics of Worm-eating Warblers in south-central Indiana: hatching year and after hatching year comparison. *North American Bird Bander* 43:81-84.
 16. Ruhl, P. J., J. K. Riegel, and J. B. Dunning. 2015. Confirmation of successful chestnut-sided warbler breeding in south-central Indiana. *Proceedings of the Indiana Academy of Science* 124:38-42.
 17. Bortoleto, L. A., C. J. M. Figueira, J. B. Dunning, J. Rodgers, and A. M. da Silva. 2015. Suitability index for restoration in landscapes: an alternate proposal for restoration projects. *Ecological Indicators*, 60:724-735.
 18. Jukema, J., J. B. Dunning, P. Vlas, L. Brierley, and P. Brooks. 2015. Morphological variation in spring migrant American Golden-Plovers (*Pluvialis dominica*). 2016. *Wader Study* 122:128-134.
 19. Shields, J. M., M. A. Jenkins, M. R. Saunders, K. D. Gibson, P. A. Zollner, and J. B. Dunning. 2015. Short-term response of native flora to the removal of non-native shrubs in mixed-hardwood forests. *Forests* 6:1878-1896.
 20. Leonard, O. D., J. W. Moore, J. K. Riegel, A. R. Meier, J. B. Dunning, K. F. Kellner, and R. K. Swihart. 2015. Effect of forest-management practices on winter occupancy of Barred Owls and Eastern Screech-Owls in deciduous forests in the east-central United States. *Journal of Field Ornithology* 86:115-129.
 21. Shields, J. M., M. J. Jenkins, M. R. Saunders, K. D. Gibson, P. A. Zollner, and J. B. Dunning. 2015. Influence of intensity and duration of invasion by Amur honeysuckle (*Lonicera maackii*) on mixed-hardwood forests of Indiana. *Invasive Plant Science and Management* 8:44-56.
 22. Losada-Prado, S., B. Finegan, F. DeClerck, F. Casanoves, and J. Dunning. 2014. Home-range size of Chestnut-backed Antbird (*Myrmeciza exsul*) in fragmented landscapes in southwestern Costa Rica. *Ornitologia Neotropical* 25:1-11.
 23. Urban, N. A., R. K. Swihart, M. C. Malloy, and J. B. Dunning. 2012. Improving selection of

- indicator species when detection is imperfect. *Ecological Indicators*, 15:188-197.
24. * Ehrenberger, K.A., and J. B. Dunning. 2010. The response of selected wildlife to macrotopographic enhancements of a Wetland Reserve Program restoration. *The Proceedings of the Indiana Academy of Sciences* 119:158-169.
 25. * Packett, D.L., and J.B. Dunning. 2009. Stopover habitat selection by migrant landbirds in a fragmented forest-agricultural landscape. *Auk* 126:579-589. (Impact factor: 2.303, first tier in Ornithology)
 26. * Scheiman, D.M., J.B. Dunning, and K. With. 2007. Metapopulation dynamics of bobolinks occupying agricultural grasslands in the Midwestern United States. *American Midland Naturalist* 158:415-423. (Impact factor: 0.722, third tier in Ecology)
 27. * Scheiman, D.M. and J.B. Dunning. 2004. A case of arrested molt in the Bobolink. *North American Bird Bander* 29:105-108. (not ranked)
 28. * Braile, T., and J.B. Dunning. 2003. Use of a restored wetland by migratory shorebirds diminishes with time. *Ecological Restoration* 21:222-223. (impact factor: 1.053, third tier in Ecology)
 29. * Kilgo, J.C., D.L. Gartner, B.R. Chapman, J.B. Dunning, K.E. Franzreb, S.A. Gauthreaux, C.H. Greenberg, D.J. Levey, K.V. Miller, and S.F. Pearson. 2002. A test of an expert-based bird-habitat relationship model in South Carolina. *Wildlife Society Bulletin* 30:783-793. (Impact factor: 0.952, third tier in Ecology)
 30. * Reed, J.M., L.S. Mills, P. Miller, K.S. McKelvey, E.S. Menges, R. Frye, J.B. Dunning, S. Beissinger, and M.-C. Anstett. 2002. Use and emerging issues in population viability analysis. *Conservation Biology* 16:7-21. (Impact factor: 3.934, first tier in Ecology)
 31. * Dunning, J.B., A.A. Beheler, M. Crowder, S. Andrews, and R. Weiss. 2002. A Eurasian Wryneck specimen from southern Indiana. *North American Birds* 56:264-267. (not ranked)
 32. Zhang, P., G. Shao, G. Zhao, D.C. Le Master, G.R. Parker, J.B. Dunning, and Q. Li. 2000. China's forest policy for the 21st century. *Science* 288:2135-2136. (Impact factor: 26.372, first tier among all journals).
 33. * Dunning, J.B., and T.M. Braile. 1999. First state record of Black-headed Grosbeak. *Indiana Audubon Quarterly* 77:146-149. (not ranked)
 34. * Beheler, A.A., and J.B. Dunning. 1998. American Kestrel use of longleaf pine clearcuts at

- the Savannah River Site, South Carolina. *The Chat* 62:173-179. (not ranked)
35. *Dunning, J.B., D.J. Stewart, B.J. Danielson, B.R. Noon, T.L. Root, R.H. Lamberson, and E.E. Stevens. 1995. Spatially explicit population models: current forms and future uses. *Ecological Applications* 5:3-11. [Special Feature article.] (Impact factor: 3.571, first tier in Ecology)
 36. *Pulliam, H.R., and J.B. Dunning. 1995. Spatially explicit population models. *Ecological Applications* 5:2. [Introduction to Special Feature.] (Impact factor: 3.571, first tier in Ecology)
 37. *Liu, J., J.B. Dunning, and H.R. Pulliam. 1995. Potential impacts of a forest management plan on Bachman's Sparrows: linking a spatially explicit model with GIS. *Conservation Biology* 9:62-75. (Impact factor: 3.934, first tier in Ecology)
 38. *Dunning, J.B., R. Borgella, K. Clements, and G.K. Meffe. 1995. Patch isolation, corridor effects, and avian colonization of habitat patches in a managed pine woodland. *Conservation Biology* 9:542-550. (Impact factor: 3.934, first tier in Ecology)
 39. *Pulliam, H.R., J. Liu, J.B. Dunning, T.D. Bishop and D.J. Stewart. 1995. Modeling animal populations on changing landscapes. *Ibis* 137:S120-S126. (Impact factor: 1.219, first tier in Ornithology)
 40. * Dunning, J. B., B. J. Danielson, and H. R. Pulliam. 1992. Ecological processes that affect populations in complex landscapes. *Oikos* 65:169-175. (Impact factor: 3.136, first tier in Ecology)
 41. *Pulliam, H.R., J.B. Dunning, and J. Liu. 1992. Population dynamics in complex landscapes: a case study. *Ecological Applications* 2:165-177. (Impact factor: 3.571, first tier in Ecology)
 42. Mills, G.S., *J.B. Dunning, & J.M. Bates. 1991. The relationship between breeding bird density and vegetation volume. *Wilson Bulletin* 103:468-479. (Impact factor: 0.656, third tier in Ornithology)
 43. *Dunning, J.B. & B.D. Watts. 1991. Habitat occupancy by Bachman's Sparrow before and after Hurricane Hugo. *Auk* 108: 723-725. (Impact factor: 2.303, first tier in Ornithology)
 44. *Dunning, J.B. & W.M. Pulliam. 1991. Winter habitats and behavior of Grasshopper Sparrows near Athens, Georgia. *Oriole* 56:51-53. (not ranked)

45. *Dunning, J.B., and B.D. Watts. 1990. Regional differences in habitat use by Bachman's Sparrows. *Auk* 107:463-472. (Impact factor: 2.303, first tier in Ecology)
46. *Dunning, J.B. & R.K. Bowers. 1990. Lethal temperatures in Ash-throated Flycatcher nests located in metal fence poles. *Journal of Field Ornithology* 61:98-103. (Impact factor: 0.737, second tier in Ornithology)
47. Mills, G.S., *J.B. Dunning, & J.M. Bates. 1989. Effects of urbanization on breeding bird community structure in southwestern desert habitats. *Condor* 91:416-428. (Impact factor: 1.448, first tier in Ornithology)
48. Dunning, J.B. 1988. Yellow-footed Gull kills Eared Grebe. *Colonial Waterbirds* 11:117-118. (not ranked)
49. *Pulliam, H.R. & J.B. Dunning. 1987. The influence of food supply on the local density and diversity of sparrows. *Ecology* 68:1009-1014. (Impact factor: 4.822, first tier in Ecology)
50. *Bowers, R.K. & J.B. Dunning. 1987. Nutting's Flycatcher (*Myiarchus nuttingi*) from Arizona. *American Birds* 41:5-10. (not ranked)
51. Dunning, J.B. 1986. Shrub-steppe birds revisited: implications for community theory. *American Naturalist* 128:82-98. (Impact factor: 4.543, first tier in Ecology)
52. *Dunning, J.B. & R.K. Bowers. 1986. Weights and measurements #1. Southwestern sparrows. *North American Bird Bander* 11:59-60. (not ranked)
53. Dunning, J.B. 1985. Owl weights in the literature: a review. *Journal of Raptor Research* 19:113-121. (Impact factor: 0.419, third tier in Ornithology)
54. *Bowers, R.K. & J.B. Dunning. 1985. Predator avoidance through burrow use by Cassin's and Black-throated Sparrows. *Western Birds* 16:51. (not ranked)
55. *Bowers, R.K. & J.B. Dunning. 1984. Nest parasitism by cowbirds on Buff-breasted Flycatchers, with comments on nest site selection. *Wilson Bulletin* 96:720-721. (Impact factor: 0.656, third tier in Ornithology)
56. *Dunning, J.B. & R.K. Bowers. 1984. Local movements of some Arizona montane birds. *North American Bird Bander* 9(3):7. (not ranked)
57. *Dunning, J.B. & J.H. Brown. 1982. Summer rainfall and winter sparrow densities: a test of the food limitation hypothesis. *Auk* 99:123-129. (Impact factor: 2.303, first tier in

Ornithology)

b. Monographs

58. Dunning, J. B. *Body masses of North American birds*. (Ghadrdan, M., editor). 2018. International Wildlife Rehabilitation Council, Eugene, OR.
59. Bowers, R. K., and J. B. Dunning, Cassin's Sparrow (*Peucaea cassinii*). 2018. In: P. Rodewahl (editor). *The Birds of North America*, No. 471. The Birds of North America, Inc. Online version. Second edition.
60. Dunning, J.B. Bachman's Sparrow (*Peucaea aestivalis*). 2017. In: P. Rodewahl (editor). *The Birds of North America*, No. 38. The Birds of North America, Inc. Online version. Third edition.
61. *Beissinger, S.R., J.R. Walters, D.G. Catanzaro, K.G. Smith, J.B. Dunning, S.M. Haig, B.R. Noon, and B.M. Smith. 2006. Modeling approaches in avian conservation and the role of field biologists. *Ornithological Monographs* 59.
62. Dunning, J.B. 2006. Bachman's Sparrow (*Aimophila aestivalis*). In: A. Poole, P. Stettenheim, and F. Gill (editors). *The Birds of North America*, No. 38. Philadelphia: The Academy of Natural Sciences; and Washington, D.C.: The American Ornithologists' Union. Online version.
63. *Dunning, J.B., R.K. Bowers, S. Suter, C.E. Bock. Cassin's Sparrow (*Aimophila cassinii*). 1999. In: A. Poole, and F. Gill (editors). *The Birds of North America*, No. 471. The Birds of North America, Philadelphia, PA.
64. *Bowers, R.K., and J.B. Dunning. 1997. Buff-collared Nightjar (*Caprimulgus ridgwayi*). In: A. Poole, P. Stettenheim, and F. Gill (editors). *The Birds of North America*, No. 267. Philadelphia: The Academy of Natural Sciences; and Washington, D.C.: The American Ornithologists' Union.
65. Bowers, R.K., and *J.B. Dunning. 1994. Buff-breasted Flycatcher (*Empidonax fulvifrons*). In: Poole A. and F. Gill (editors). *The Birds of North America*, No. 125. Philadelphia: The Academy of Natural Sciences; and Washington, D.C.: The American Ornithologists' Union.
66. Dunning, J.B. 1993. Bachman's Sparrow (*Aimophila aestivalis*). In: A. Poole, P. Stettenheim, and F. Gill (editors). *The Birds of North America*, No. 38. Philadelphia: The Academy of Natural Sciences; and Washington, D.C.: The American Ornithologists' Union.

67. Dunning, J.B. 1984. *Body weights of 686 species of North American birds*. Western Bird Banding Association, Monograph #1. 38 pages.

c. Books

68. Dunning, J. B. 2007. *Handbook of avian body weights*. CRC Press, Orlando, FL. 668 pages. Second edition, completely revised and expanded.

69. Dunning, J. B., and J. C. Kilgo. 2000. *Avian research at the Savannah River Site: a model for integrating basic research and long-term management*. *Studies in Avian Biology*, number 21. 170 pages.

70. Dunning, J.B. 1992. *Handbook of avian body weights*. CRC Press, Orlando, Florida. 370 pages. First edition.

d. Refereed book chapters

71. * Malloy, M.C., and J.B. Dunning. 2012. Breeding bird communities of the Hardwood Ecosystem Experiment. In Swihart, R., M. Saunders, and R. Kalb (eds.). *The Hardwood Ecosystem Experiment: a framework for studying responses to forest management*. USDA Forest Service Gen. Tech. Report NRS-P-108, pp. 126-141.

72. * Dunning, J.B., D.M. Scheiman, and A. Houston. 2011. Demographic and dispersal data from anthropogenic grasslands: what should we measure? Pp. 239-257, in: *Sources, Sinks, and Sustainability*, (Liu, J., Hull, V., Morzillo, A.T., and Wiens, J., eds.) Cambridge Univ. Press, Cambridge, UK. Peer-reviewed symposium volume.

73. Dunning, J.B. 2002. Landscape ecology in highly managed regions: the benefits of collaboration between management and researchers. Pp. 334-346, in: Liu, J., and W. W. Taylor. *Integrating landscape ecology into natural resource management*. Cambridge University Press, Cambridge, UK.

74. *Dunning, J.B., and J.C. Kilgo. 2000. Integrating basic research and long-term management: a case study using avian research at the Savannah River Site. *Studies in Avian Biology* 21:3-7.

75. *Dunning, J.B., B.J. Danielson, B.D. Watts, J. Liu, and D.G. Krentz. 2000. Studying wildlife at local and landscape scales: Bachman's Sparrows at the Savannah River Site. *Studies in Avian Biology* 21:75-80.

76. *Hamel, P., and J.B. Dunning. 2000. An approach to quantifying long-term habitat change on managed forest lands. *Studies in Avian Biology* 21:122-129.

77. *Pilcher, B.K., and J.B. Dunning. 2000. Rising importance of the landscape perspective: an area of collaboration between managers and researchers. *Studies in Avian Biology* 21:130-137.
78. *Freemark, K.E., J.B. Dunning, S. Hejl and J. Probst. 1995. A landscape ecology perspective for research, conservation, and management. Pp. 381-427, *in*: Martin, T.E. and D.M. Finch. *Ecology and management of neotropical migratory birds: a synthesis and review of critical issues*. Oxford University Press, Oxford, UK.
79. *Freemark, K., J.R. Probst, J.B. Dunning and S.J. Hejl. 1993. Adding a landscape ecology perspective to conservation and management planning. Pp. 346-352, *in*: Finch, D. and P. Stangel (eds.). *Status and Management of Neotropical Migrant Birds*. USDA Forest Service Gen. Tech. Report RM-229.
80. Dunning, J.B. 1990. Meeting the assumptions of foraging models: An example using tests of avian patch choice. *In*: Morrison, M.L., C.J. Ralph, J. Verner, & J.R. Jehl (eds.). *Avian foraging: theory, methodology and applications*. Studies in Avian Biology 13: 462-470.
81. Dunning, J.B. 1990. Management of nongame migratory birds in farmland, suburban, and urban habitats. Pp. 153-163. *In*: Proceedings Nongame Migratory Bird Workshop, U.S. Fish & Wildlife Service, Atlanta, Ga.

e. Book Reviews

82. Dunning, J.B. 1997. Book review of: J.D. Rising. The Sparrows of the United States and Canada. *North American Bird Bander* 22:173-176.
83. Dunning, J.B. 1988. Book review: Grand Canyon Birds. (B.T. Brown, S.W. Carothers & R.R. Johnson). *Auk* 105:216-217.

f. Non-refereed journal articles

84. Bumgardner, B., and J.B. Dunning. 2005. Comparison of food habits of Northern Saw-whet and Long-eared Owls. *Indiana Audubon Quarterly* 83:251-255. [senior undergraduate research project for Bumgardner]
85. Dunning, J.B. 2005. Snowy Owl in White County, July – August 2004. *Indiana Audubon Quarterly* 83:105-110.
86. *Bowers, R.K., N. Bowers, and J.B. Dunning. 1996. A closer look: Buff-breasted Flycatcher. *Birding* 28:408-413.

87. Dunning, J.B. 1994. Tropical mass extinctions and the scientific method. *Bulletin of the Ecological Society of America* 75:44-45.

g. Publications in progress

xxx. Ruhl, P.J., K.F. Kellner, J.B. Dunning. Deciphering the postfledging habitat associations of mature forest songbirds in clearcuts. Submitted to *The Auk*.

Invited Research Presentations

Dunning, J.B. 2017. Part of panel discussion on Biodiversity and Food Security as part of the Borlaug Summer Institute on Global Food Security. Purdue campus, June 2017. About 40 students.

Dunning, J.B. 2016. Part of panel discussion on Environmental Sustainability and Food Security as part of the Borlaug Summer Institute on Global Food Security. Purdue campus, June 2016. About 35 students.

Dunning, J.B. 2010. Impacts of climate change on wildlife species in Indiana. Workshop of the Indiana Natural Resources Climate Change Response Team, Purdue University, West Lafayette, IN. November 2010.

Dunning, J.B., D.M. Scheiman, and A. Houston. 2008. Role of anthropogenic grasslands in the population dynamics of grassland birds. Invited as part of special symposium in honor of H. Ronald Pulliam, annual meeting of International Association of Landscape Ecologists, May 2008.

Dunning, J.B. 2008. Preliminary surveys of breeding forest birds in the HEE research cores. Annual meeting of the Hardwood Ecosystem Experiment, West Lafayette IN, March, 2008.

Dunning, J.B. 2007. The natural world as a part of urban living. Spirit and Place Festival, Connor Prairie, Indianapolis, IN. November 2007.

Dunning, J.B., and B. Dolan. 2007. Sustaining Hardwood Ecosystems: an interdisciplinary area of research and extension for Purdue University. Invited as part of Advances in Forest and Natural Resource Management Symposium: Sustainability, Integration, Modeling, and Technologies. National Taiwan University, Taipei, Taiwan. September 2007.

Dunning, J.B. 2007. Impacts of forest management on Neotropical songbirds. Joint meeting of state chapters of Society of American Foresters and The Wildlife Society, Indianapolis, IN. Annual meeting of Hardwood Ecosystem Experiment participants. March 2007.

Dunning, J.B. 2006. Avian flu and migration of North American birds. Spring meeting of the Indiana Audubon Society. March 2006

Dunning, J. B. 1999. Modeling and field research as complementary approaches to fragmentation studies. Fifth World Congress of the International Association for Landscape Ecology, Snowmass CO. [Invited to participate as part of a special symposium on habitat fragmentation]

Dunning, J.B. 1998. Population dynamics in complex landscapes. Akron University, Akron, Ohio. Inaugural Heard Lectureship in Environmental Sciences (a endowed lecture series in the Department of Biology).

Dunning, J.B. 1997. Use of spatially explicit models in avian ecology and conservation. [Invited as part of a special symposium on modeling in avian conservation, Annual meeting of the American Ornithologists' Union, Minneapolis, MN.]

Dunning, J.B. 1996. Recovery and restoration of forests for bird communities: a case study from Savannah River. [Invited as part of special symposium on restoration on contaminated sites, Annual Meeting of the Society for Ecological Restoration, Rutgers University, NJ.]

Research Presentations

Murray, B. D., J. D. Holland, K. S. Summerville, J.B. Dunning, M.R. Saunders, and M.A. Jenkins. 2019. Resilience in forest ecosystems: the roles of disturbance and multi-taxon functional diversity. Ecological Society of America annual meeting, Louisville, August 2019.

Patrick J. Ruhl, Kenneth F. Kellner, Elizabeth A. Flaherty, and John B. Dunning Jr. What is a mature forest bird? Habitat-use of breeding birds in southern Indiana. Wednesdays in the Wild, Celery Bog Nature Center, West Lafayette, IN. February 2018

Patrick J. Ruhl, Kenneth F. Kellner, Elizabeth A. Flaherty, and John B. Dunning Jr. Where Do Forest Birds Go After Nesting? Robert Cooper Audubon Society, Muncie, IN. Monthly meeting. February 2018.

Patrick Ruhl, Kenneth Kellner, Jeffery Riegel, Elizabeth Flaherty, and John Dunning Jr. "Postfledging Habitat Associations of Mature Forest Birds in Southern Indiana." Harding University Biology Department Seminar Series, Searcy, AR. October 2017. 60 participants

Ruhl, P. K. Kellner, J. Dunning, J. Riegel, R. Swihart. 2017. Habitat use and seral associations of Indiana birds. TWS Wildlife Conclave, Camp Tecumseh, Carroll County IN. March 2017. 17 participants

Ruhl, P. K. Kellner, J. Dunning, J. Riegel, R. Swihart. 2017. Habitat use and seral associations of Indiana birds. TWS / SAF joint spring meeting, Nashville IN. March 2017. About 50 participants.

Hennessy LaBonte, Cecilia, John Dunning, Jeff Holland, Keith Summerville, and Patrick Ruhl. The effects of downed coarse woody debris on salamanders, moths, and beetles: a forest ecology study in Southeastern Indiana. Midwest Fish and Wildlife Conference, Indianapolis IN. February 2015.

Hennessy LaBonte, Cecilia, John Dunning, Michael Saunders, Jeff Holland, Keith Summerville, Eva Havariova, Patrick Ruhl. Economic and ecological impacts of woody biomass harvest in deciduous forests of the central hardwoods region. Sun Grant Initiative Annual Meeting, Bloomington MN, March 2015.

Homoya, W., J. B. Dunning, and J. Moore. Wind energy and American Golden-Plovers: implications for a species of special concern in west-central Indiana. Joint meeting of the American Ornithologists' Union and Cooper Ornithological Society, Chicago IL. August 2013.

Dunning, J.B., W. Homoya and J. Moore. Wind energy and American Golden-Plovers: implications for a species of special concern in west-central Indiana. Annual meeting of the Western Bird-banding Association, Sierra Vista AZ. September 2013.

Dr. Dunning has given invited seminars and presentations at the Field Museum of Natural History, Chicago IL; the Illinois Natural History Survey, Champaign IL; The Ohio State University; University of Missouri – Columbia; and Indiana State University, among other locations. He has also presented talks and posters at numerous scientific meetings, averaging two meetings per year since 1984.

Involvement in Graduate Research Program

a. Completed Students

Ruhl, Patrick, Ph.D., Wildlife Ecology. *Research interest:* impacts of forest management on native wildlife, conservation biology, avian ecology. Graduated Spring 2018. Currently Assistant Professor, Harding University, Searcy AR.

Ruhl, Patrick, M.S., Wildlife Ecology. *Research interest:* impacts of forest management on native wildlife, conservation biology. Graduated Fall 2014. Currently a Ph.D. student in the FNR program.

Durr, Parr

Greg Nowak

Andie Pizzo

Coates, Kathleen, Ph.D., Wildlife Ecology. *Research interest:* population dynamics of birds in restored wetlands. *National Science Foundation Graduate research fellowship award winner.* Graduated, Spring 2010. Currently working in Florida as an environmental engineer.

Malloy, Melissa. M.S. Wildlife Ecology. *Research interest:* conservation biology of forest birds. Status: Started Fall 2007. Graduation: Spring 2012. Currently working for APHIS, Wildlife Services at JFK Airport, NYC.

Houston, Alexandra, M.S., Wildlife Ecology, 2008. *Research interest:* use of restored grasslands by breeding birds. (Non-thesis; portion of results accepted as paper to special symposium volume. Ms. Houston is currently working as a consulting biologist in California on conservation issues involving coastal birds).

Packett, Diane, M.S., Wildlife Ecology, 2007. *Research interest:* avian conservation in fragmented landscapes. (thesis published in *The Auk*; extension document published. Ms. Packett is currently working as a consulting biologist on wind energy issues in Indiana).

Scheiman, Daniel, Ph.D., Wildlife Ecology, 2005. *Research interest:* landscape ecology and conservation of grassland birds. (dissertation published in *American Midland Naturalist*, second paper accepted in special symposium volume. Dr. Scheiman is currently Bird Conservation Coordinator, Audubon Arkansas.)

Ehrenberger, Kacie, M.S., Wildlife Ecology, 2003. *Research interest:* Evaluating wildlife response to the Wetland Reserve Program. (thesis submitted to *Proceedings of Indiana Academy of Science*. Ms. Ehrenberger is currently Education Specialist, Rocky Mountain Bird Observatory, CO. Ms. Ehrenberger's presentation was given a *Best Student Paper award* at the 2003 annual meeting of the Indiana Academy of Science meeting).

Days, Toby, M.S., Wildlife Ecology, 2001. *Research interest:* restoration ecology. Non-thesis. (Mr. Days is currently working as an environmental consultant in wetlands restoration).

Wee, Bryan, M.S., Wildlife Ecology, 2001. *Research interest:* environmental education. Non-thesis. Dr. Wee finished a Ph.D. in Environmental Education, Dept. of Education, Purdue University in 2006).

Braile, Thomas, M.S., Wildlife Ecology, 1999. *Research interest:* Migration studies of shorebirds in west-central Indiana. (1 paper published *Ecological Restoration*; recently in the graduate program, University of Alaska; second paper accepted by *Journal of Field Ornithology*. Mr. Braile is now a Collections Specialist, Natural History Museum, University of Alaska).

Mast, Julia, M.S., Wildlife Ecology, 1999. *Research interest:* The importance of temporarily flooded agricultural fields to migrating shorebirds and ducks. (extension publication published; Ms. Mast is employed in private industry, South Bend, as a lab manager).

b. Current Students

Tinklenberg, Jessica, Ph.D., Wildlife Ecology. *Research interest:* Conservation of migratory land birds; conservation biology. Status: started Ph.D. program Fall 2016.

Summary of Graduate Student Advising

	Major Professor		Committee Member	
	Completed	In Progress	Completed	In Progress
M.S. (non-thesis)	3	0	2	0
M.S. (thesis)	4	0	8	5
Ph.D.	1	2	8	5

Research Grants and Awards

Dr. Dunning has attracted a total of \$823,659 in support of his research program at Purdue. These funds have come from a variety of federal, state, and private sources.

a. External Support

Dr. Dunning has attracted \$716,962 in extramural funding since arriving at Purdue. Listed below are grants active or awarded since 1999. Small grants from different sources are combined when in support of graduate student work. Pending grants are listed separately after awards.

Current and past grants (not updated since 2010):

1. Agency/Title: U.S. Forest Service. *2010 Bird Surveys in the Hoosier National Forest.*
2. Duration of funding: May 2010 – April 2011
3. Amount of award: \$21,122
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: U.S. Forest Service. *2009 Bird Surveys in the Hoosier National Forest.*
2. Duration of funding: April 2009 – December 2009
3. Amount of award: \$25,000
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: U.S. Forest Service. *2008 Breeding bird surveys in the Hoosier National Forest.*
2. Duration of funding: May 2008 – December 2008
3. Amount of award: \$15,779.00
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: Natural Resources Conservation Service. *Factors influencing avian reproductive success at restored and natural marshes.* (supporting Kathleen Coates' research.)
2. Duration of funding: April 2008 – April 2009
3. Amount of award: \$9,764.00
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: U.S. Forest Service. *2007 Breeding bird surveys in the Hoosier National Forest.*
2. Duration of funding: May 2007 – December 2007
3. Amount of award: \$10,201
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: National Science Foundation. *Graduate research fellowship.* (supporting Kathleen Coates)
2. Duration of funding: September 2005 - June 2007

3. Amount of award: \$121,500
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: Wisconsin Dept. Natural Resources. *Evaluation of marsh bird demographic response to wetland restoration in Wisconsin.* (supporting Kathleen Coates' research)
2. Duration of funding: May - June 2007
3. Amount of award: \$15,000
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: Indiana Academy of Science, Amos Butler Audubon. *Stopover habitat selection by migrant landbirds in a fragmented forest-agricultural landscape* (supporting Diane Packett's research).
2. Duration of funding: May - October 2007
3. Amount of award: \$2,892
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: U.S. Forest Service. *2006 Breeding bird surveys in the Hoosier National Forest.*
2. Duration of funding: May - December 2006
3. Amount of award: \$24,511
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: Wisconsin Dept. Natural Resources. *Breeding bird communities and Swamp Sparrow population dynamics at restored and natural marshes.* (supporting Kathleen Coates' research)
2. Duration of funding: May - June 2007
3. Amount of award: \$10,000
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: Wilson Ornithological Society; Wisconsin Ornithological Society. *Breeding bird communities and Swamp Sparrow population dynamics at restored and natural marshes.* (supporting Kathleen Coates; two grants)
2. Duration of funding: May 2006 - Sept 2008
3. Amount of award: \$1,000

4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: Amos Butler Audubon Society, Indianapolis, IN. *Stopover habitat selection by Nearctic-Neotropical migrant landbirds in a fragmented forest-agricultural landscape.* (supporting Diane Packett' research)
2. Duration of funding: May 2005 - June 2006
3. Amount of award: \$2,024
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: U.S. Forest Service. *2005 Breeding bird surveys in Hoosier National Forest.*
2. Duration of funding: May 2005 - June 2006
3. Amount of award: \$25,000
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: U.S. Forest Service. *Data analysis of breeding bird surveys.*
2. Duration of funding: May 2005 - June 2006
3. Amount of award: \$9,000
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: Amos Butler Audubon Society, Indiana Audubon Society, Indiana Academy of Science, Sigma Xi. *Effects of field quality on dispersal rates of Bobolinks: a metapopulation approach.* (supporting Dan Scheiman's research, four grants)
2. Duration of funding: 2005-2007
3. Amount of award: \$2,000
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: Indiana Academy of Science, Sigma Xi. *Population dynamics of birds and amphibians over time in large-scale prescribed burns.* (supporting Kathryn Lester's research, two grants)
2. Duration of funding: April 2003 – March 2004
3. Amount of award: \$800

4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: U.S. Forest Service. *Breeding bird and raptor surveys.*
2. Duration of funding: March 2003 - December 2003
3. Amount of award: \$21,441
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: U.S. Forest Service. *Survey of the breeding birds of the Hoosier National Forest.*
2. Duration of funding: March 2001 - December 2004
3. Amount of award: \$79,091
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: The Nature Conservancy. *Conservation value of creating wetlands in prairie restorations.* (supporting Kacie Ehrenberger's research)
2. Duration of funding: March 2001 - December 2003
3. Amount of award: \$15,325
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: The Nature Conservancy. *Population dynamics of grassland birds in restored and unrestored habitats.* (supporting Alexandria Houston's research)
2. Duration of funding: March 2001 - December 2003
3. Amount of award: \$33,036
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: U.S. Forest Service. *Surveys of breeding birds on the Hoosier National Forest - literature surveys.*
2. Duration of funding: January 2001 - December 2001
3. Amount of award: \$19,136
4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: Indiana Dept. Natural Resources. Interpretive naturalist intern. (supporting Bryan Wee)
2. Duration of funding: March 2000 – August 2000
3. Amount of award: \$5,785

4. Role: Principal investigator
5. Responsibility: 100%

1. Agency/Title: U.S. Environmental Protection Agency. *Biodiversity around the Great Lakes.*

2. Duration of funding: March 2000 – August 2000

3. Amount of award: \$50,000

4. Role: Co-principal investigator

5. Responsibility: 4.2%

1. Agency/Title: Woolpert, LLP. *Schroeder wetland monitoring.*

2. Duration of funding: March 2000 – August 2002

3. Amount of award: \$6,350

4. Role: Principal investigator

5. Responsibility: 100%

Total External Support (all awards since arrival at Purdue)

\$695,840

Pending Grants:

1. Agency/Title: National Science Foundation. *Hardwood forest dominance patterns and beta diversity across taxa.* With Jeff Holland (Dept Entomology).

2. Duration of funding: January 2010 – December 2013

3. Amount of award: \$607,471

4. Role: Principal investigator

5. Responsibility: 50%

b. Internal support

Dr. Dunning has attracted \$127,819 in internal funding since arriving at Purdue. Listed below are awards since 1999.

1. Agency/Title: Purdue University. C4E Sustainable Communities Seed Grant Program: *Making resilience functional in a rapidly changing world.*

2. Duration of funding: May 2016 – July 2016

3. Amount of award: \$19,507

4. Role: Co-Principal investigator

5. Responsibility: %

1. Agency/Title: Purdue University. *Sustaining Hardwood Ecosystems: interdisciplinary research on the impacts of modern forest management*. Biennial renewal.
2. Duration of funding: April 2009 – March 2011
3. Amount of award: \$128,843
4. Role: Principal investigator
5. Responsibility: 10%

1. Agency/Title: Agricultural Research Programs, Mission Oriented Grants Program. *The ecological and socioeconomic impacts of forest management on public and private lands in Indiana*.
2. Duration of funding: January 2009 – December 2009
3. Amount of award: \$23,600
4. Role: Principal investigator
5. Responsibility: 17%

1. Agency/Title: Agricultural Research Programs. *Mission Oriented Grants Program: The ecological and socioeconomic impacts of forest management on public and private lands in Indiana*.
2. Duration of funding: January 2008 – December 2008
3. Amount of award: \$8,000
4. Role: Principal investigator
5. Responsibility: 17%

1. Agency/Title: Purdue University. *A framework for field studies of the impacts of timber management on ecological processes and human communities*.
2. Duration of funding: May 2007 – April 2009
3. Amount of award: \$142,948
4. Role: Co-Principal investigator
5. Responsibility: 10%

1. Agency/Title: Purdue Office of Academic Programs. *Ross fellowship for Kathleen Coates*.
2. Duration of funding: September 2004 – May 2005
3. Amount of award: \$15,028
4. Role: Principal investigator

5. Responsibility: 100%

1. Agency/Title: Purdue Office of Academic Programs. *Andrews fellowship for Dawn van Deman.*
2. Duration of funding: August 1996 – May 1997
3. Amount of award: \$18,000
4. Role: Principal investigator
5. Responsibility: 100%

Total Internal Support (all awards since arrival at Purdue) \$127,819

Total Internal and External Support (including teaching grant) \$853,581

ENGAGEMENT: EXTENSION, SERVICE AND UNIVERSITY OUTREACH ACTIVITIES

Although Dr. Dunning has no formal extension appointment, he has participated in many Department extension events since 1995, and co-authored 20 extension publications, including 2 invited articles. He has co-edited one book and a syndicated newspaper column on birds. Dr. Dunning's research was featured in local media about four times annually since 2001, including a 2009 article in *Lafayette* magazine. In October 2013 he was interviewed on the topic of migratory bird use of small woodlots for *Living the Country Life*, a national radio program focusing on rural life. The program runs on 300 radio stations in 37 states.

Recent extension events/workshops participated in

July 2019. Wednesday in Wild session at Pine Creek Gamebird Habitat Area. Field visit to tate managed area to look for migrating shorebirds and other water birds and talk about pros and cons of habitat restoration of grassland and wetlands. 20 participants, 15 female, 5 male.

June-Sept 2019. Banding sessions for engagement at Purdue Wildlife Area. Demonstrated banding and talked about related bird issues to mixed audiences. June 2019 – REEU class of high-school and college students studying natural resources; July 2019 – Indiana Natural Resources Teachers Institute science educators from throughout the state; Sept 2019 – Indiana Master Naturalists. 30 high school youth in June (mixed genders and races); 20 teachers in July (15 female, 5 male), 16 naturalists in September (13 females, 3 males). Assisted by

Jessica Outcalt, Abby-gayle Pxxx, Megan Zagorski, Brandon Quinley, Tabitha Olsen, Helen Nesius.

September 2018. Yellowwood State Forest, Nashville, IN. Co-led (with Jeff Riegel) a field day for the Indiana Audubon Society on the Hardwood Ecosystem Experiment sites. 12 participants all adult.

January 2018. West Lafayette, IN. Presented program on wintering owls for Wednesdays in the Wild program, Tippecanoe County Parks Department. With Mary Cutler. 35 participants.

November 2017. West Lafayette, IN. Participated in panel discussion on birding / outdoor recreation ethics for Wednesdays in the Wild program, Tippecanoe County Parks Department. With Mary Cutler. 10 participants.

September 2017. West Lafayette, IN. Participated in field day with Tippecanoe County Master Naturalist Program. Demonstrated bird banding and talked about birding and birds/habitat relationships. With Mary Cutler, Lenny Farlee. 16 participants.

January 2017. West Lafayette, IN. Invited presentation to the Wednesday in the Wild community group (Tippecanoe County Parks Dept). Raptors in Indiana. 24 participants, 10 M, 10 F, 4 youth (3 M, 1 F).

September 2016. Monticello, IN. Invited presentation to the Junto Adult Discussion Forum. "Indiana Wildlife and Climate Change: Winners and Losers. 15 adult participants, 7 M, 8 F.

May 2016. Indiana Dunes State Park. Invited presentation at Indiana Dunes Birding Festival. "A Plethora of Wormies". 6 participants, 2 M, 4 F, 1 female child.

February 2016. West Lafayette, Tippecanoe County. Presented class on "Raptors in Indiana" for Tippecanoe County Master Naturalist Program. 16 participants, 6 M, 10 F.

May 2015. Martell Forest, Tippecanoe County. Participated in film production for one or two podcasts on effects of forest management on birds. W/ Brian MacGowan.

November 2014. Marshall, IN. Presented talk on "Migratory Birds in Indiana" to 2014 Woodland Owner Conference, Indiana Forestry and Woodland Owners Association. Turkey Run State Park. 50 participants.

August 2014. West Lafayette. Presented workshop on birding basics to summer retreat

participants, Unitarian Universalist Church. 12 participants.

October 2013. West Lafayette. Participation on a panel discussion of environmental ethics for Sycamore Audubon Society. About 36 people in attendance.

March 2013. West Lafayette. Sermon on ecological literacy at the Unitarian Universalist Church. About 80 people in attendance.

February 2013. West Lafayette. Presentation on ornithology to Sunday Morning Forum at the Unitarian Universalist church. 32 people in attendance.

November 2012. Celery Bog. Bird walk with cub scouts from West Lafayette. Ten scouts plus 6 parents.

October 2012. Lilly Nature Center, West Lafayette. Spoke on owls as part of the Weds in the Wild series. Fourteen participants plus three children.

February and March 2012. Monticello Public Library, Sycamore Audubon Society, West Lafayette. Spoke in February on owls to general public as part of library-organized series of events. 11 participants. Also spoke in February and March to local monthly meeting of Sycamore Audubon in West Lafayette.

October 2011. Invasive Species Training and Ecological Impacts. Workshop sponsored by West-Central Indiana Cooperative Weed Management Area. West Lafayette, IN.

June 2011. Tippecanoe County Educators Workshop, Ross Hill County Park. Demonstrated bird banding to 12 local teachers.

October 2010. Indiana Master Naturalist program, Benton County. Contributed evening class sessions on birds and led field trip that culminated program.

November 2009. Forest and Wildlife Field Tour. Field event associated with HEE research at Morgan-Monroe State Forest. Martinsville, IN.

May 2008 and May 2009. Becoming an Outdoor Woman. Workshop sponsored by the Indiana Department of Natural Resources. Ross Camp Park, Tippecanoe County. Invited workshop on *Birding Basics*.

August 2007. Restoring Diverse Communities. Workshop sponsored by Spence Restoration Nursery, The Nature Conservancy, and NRCS. Morocco, IN. Invited lecture on *Habitat preferences of wetland birds*.

Extension Publications

a. Accomplishments

Dr. Dunning is recognized as an expert in avian ecology, particularly through his collaboration with Dr. Christopher Elphick, University of Connecticut, and renowned bird artist David Allen Sibley. Together they produced a companion volume to Sibley's best selling field guide to North American birds published in 2000. *The Sibley Guide to Bird Life and Behavior* (Elphick, et al. 2001) covers aspects of natural history for people who want to go beyond field identification, including breeding, foraging, migration, and related topics. Dr. Dunning wrote 8 of the 80 family accounts and was a co-author of four of the five introductory chapters that provide an introduction to bird biology. A prominent feature of each family chapter was a discussion of conservation issues facing species in that group. *The Sibley Guide to Bird Life and Behavior* was on best seller lists for over six months when first published, peaking at #18 among all titles sold at Amazon.com.

After publication of the book, Dr. Dunning continued his collaboration with Dr. Elphick and Mr. Sibley by producing a weekly newspaper column on birds, 2003-2005, syndicated nationally by the New York Times Syndication Corporation. The column appeared in such papers as *The Denver Post* and *The Charlotte Observer*. Most columns covered interesting facts on bird biology, but many featured avian conservation issues.

b. Extension and outreach publications (* indicates lead author on multi-author publications)

Invited article

1. Kellner, Kenneth F., *Patrick J. Ruhl, John B. Dunning, and Robert K. Swihart. 2017. Managing forests for birds in Indiana. *Indiana Woodland Steward* 25(3): 7-8.
- 2., * Packett, D.L., and J.B. Dunning. 2009. Small woodlots: rest stops on the migration highway. *Ohio Woodland Journal* 16(4):17-19.

Book

Elphick, C. S., J. B. Dunning, and D. A. Sibley. 2001. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf Publ., New York. [This book brings a wide range of ornithological knowledge to the general public who are interested in birds. It therefore has both learning and engagement components, and is listed in this document as both a teaching publication (above) and here as an extension publication. Dr. Dunning views his publishing collaborations with Elphick and Sibley as a natural extension of his teaching efforts, bringing knowledge of birds to a wider educational audience. The chapters which Dr. Dunning authored or co-authored are listed below for the first time in this document.]

Book chapters

3. *Sibley, D. A., C. S. Elphick, and J. B. Dunning. 2001. Introduction. Pp. 8-12, *in*: Elphick, C. S., J. B. Dunning, and D. A. Sibley. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf, NY.
4. Cech, R. *J. B. Dunning, C. S. Elphick, and M. Rubega. 2001. Flight, form, and function. Pp. 15-38, *in*: Elphick, C. S., J. B. Dunning, and D. A. Sibley. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf, NY.
- 5 Cech, R., *J. B. Dunning, and C. S. Elphick. 2001. Behavior. Pp. 51-79, *in*: Elphick, C. S., J. B. Dunning, and D. A. Sibley. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf, NY.
6. Cech, R., D. A. Sibley, J. B. Dunning, and *C. S. Elphick. 2001. Habitats and distribution. Pp. 80-106, *in*: Elphick, C. S., J. B. Dunning, and D. A. Sibley. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf, NY.
7. Dunning, J.B. 2001. New World sparrows, family Emberizidae. Pp. 516-535, *in*: Elphick, C. S., J. B. Dunning, and D. A. Sibley. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf, NY.
8. Dunning, J.B. 2001. Olive Warbler, family Peucedramidae. Pp. 490-491, *in*: Elphick, C. S., J. B. Dunning, and D. A. Sibley. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf, NY.
9. *Garrett, K. L., and J. B. Dunning. 2001. Wood-warblers, family Parulidae. Pp. 492-509, *in*: Elphick, C. S., J. B. Dunning, and D. A. Sibley. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf, NY.
10. *Garrett, K. L., and J. B. Dunning. 2001. Parrots and allies, family Psittacidae. Pp. 326-331, *in*: Elphick, C. S., J. B. Dunning, and D. A. Sibley. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf, NY. [T]
11. Dunning, J.B. 2001. Bananaquit, family Coerebidae. Pp. 510-511, *in*: Elphick, C. S., J. B. Dunning, & D. A. Sibley. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf, NY.
12. Dunning, J.B. 2001. Accentors, family Prunellidae. Pp. 478, *in*: Elphick, C. S., J. B. Dunning, & D. A. Sibley. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf, NY.
13. Dunning, J.B. 2001. Old World flycatchers, family Muscicapidae. Pp. 457, *in*: Elphick, C.

S., J. B. Dunning, and D. A. Sibley. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf, NY.

14. Dunning, J.B. 2001. Hoopoe, family Upupidae. Pp. 369, *in*: Elphick, C. S., J. B. Dunning, and D. A. Sibley. *The Sibley Guide to Bird Life and Behavior*. A. A. Knopf, NY.

Cooperative Extension Service Publications

15. *Meier, A. R., A. Pizzo, M. Malloy, J. K. Riegel, and J. B. Dunning. 2015. Breeding birds and forest management in the Hardwood Ecosystem Experiment and the Central Hardwoods Region. Purdue University Cooperative Extension Publication FNR-500-W.
16. *Shively, G., O. Doering, N. Diffenbaugh, L. Bowling, C. Krupke, B. Pijanowski, J. Holland, J. B. Dunning, 2008. Forecasting the likely impacts of climate change on Indiana agriculture. Purdue Agricultural economics report.
17. * Packett, D. L., and J. B. Dunning. 2008. Small woodlots: important rest stops for migratory songbirds. Purdue University Cooperative Extension Service Publication FNR-401-W.
18. *Mast, J. K., and J. B. Dunning. 2000. Indiana farmland provides rest and forage for Arctic travelers. Purdue University Cooperative Extension Service Publication.
19. *Dunning, J.B., and T.M. Braile. 1998. Checklist of the birds of Benton County, Indiana Purdue University Cooperative Extension Service Publication FNR-162.
20. *Roberts, S.D., J.B. Dunning, and B.K. Miller. 1995. Management of biological diversity in the Central Hardwood Region. Purdue University Cooperative Extension Service Publication FNR-147.

Publications in preparation

XX.

University Service Activities since last promotion

a. Department

Associate Head duties

Attended CoA meeting on undergraduate enrollment in Plant Sciences majors, May 2015.
Met with delegation from China Agricultural University, Beijing, for discussion on curriculum, October 2015

Committees

Computer Committee, 1995-2002. Chair 1996-2000.
Visiting Scientist and Seminar Speaker Committee. 1998 - 2006. Chair: 2000 - 2006.
Curriculum Committee, 2000-present.
Primary Promotions Committee, 2005-present.
Budget and Steering Committee, 2015-present.
Awards Committee, 2011-2012
Wildlife Management & Conservation Search Committee, 2012.
Department Head Search Committee, 2015-2016.
Natural Resources Instruction and Collection Curator Search Committee, 2016.
HEE Project Coordinator Search Committee, 2016
Quantitative Forest Ecologist Search Committee, 2018

Vertebrate Ecology Search Committee, 2011. Chair.
Hardwood Ecosystem Experiment Coordinator Search Committee, 2009.
Restoration Ecology Research Faculty Position Search Committee, 2008. Chair.
Human Dimensions Search Committee, 2007.
Forestry Extension Faculty Search Committee, 2007.
Quantitative Wildlife Ecologist Search Committee, 2006.

Other activities

Peer teaching evaluation for three FNR faculty – 2010, 2011
Participation in workshop on cultural awareness led by Dr. Frances Kendall, Purdue University, February 2012.

b. College Committees

NRES Academic Advisor Search Committee, 2017.
College of Agriculture (CoA) Evaluation Committee for Associate Dean of Academic Programs Dr. Marcos Fernandez, 2017
CoA Committee to Articulate Scholarship and Excellence in Teaching and Learning, 2016.

CoA Curriculum and Student Relations Committee, 2012-2015, chair 2014-2015.

CoA 2010 Committee to Articulate Scholarship and Excellence of Teaching for Learning, which produced a guide to promotion and tenure on these issues.

CoA Strategic Plan – International Programs Working Group, 2008-2009

NRES Faculty Advisory Committee, fall 2008 – present

CoA Library Committee, 1995-2009

CoA Discussion on Women in Academia (Athena Unbound Discussion), spring 2008
Faculty Advisory Committee, Natural Resources and Environmental Science (NRES)

Program, fall 2008 - present
CoA Critical Thinking Community, fall 2008

c. University Committees

Purdue University Ad-hoc Task Force on Celery Bog, 2008-2009.
University Library Committee, 2000-2003. Chair 2002-2003. Spoke at opening of Humanities, Social Science and Education Library renovation in April 2003, representing the faculty as Chair of the committee.

Purdue Animal Care and Use Committee, 2003 - 2006.
Cary Quadrangle Hall Faculty Fellow, 2000-2002.

Office Held in State, National or International societies

President, Indiana Chapter of The Wildlife Society, 2004. Included a three-year term on Executive Board as President-Elect (2003), President (2004), Past-President (2005).

Community Service Activities

Board member, Sycamore Audubon Society, West Lafayette, 1994-present.
Field trip leader, Sycamore Audubon Society, West Lafayette, 1994-present.
Presentations to local Audubon Societies or other community groups in West Lafayette, Wabash, Indianapolis, Greencastle, Muncie, Fort Wayne, and Montgomery County.

Other evidence of National Recognition

a. Service to national professional societies

member, *Editorial Board of Conservation Biology*, the lead journal in the field, 1998-2012.
member of the Conservation Committee of the American Ornithologists' Union from 1995-2002.
contributed to a "white paper" on population viability analysis for the Society of Conservation Biology, published in *Conservation Biology* in 2002 (lead author: Dr. J. Michael Reed, Tufts University).

b. Activity in state societies and agency committees

Participated in information meeting on American Golden-Plover and land-use policy, NRCS – Indiana, Indianapolis, November 2013.

Presented information on ecological impacts of woody biomass to summer/fall meeting

of the *Natural Resources Study Committee* of the Indiana state legislature. Meeting held at Purdue, August 2012.

Hosted the spring 2004 meeting of the Indiana Chapter of The Wildlife Society and chaired a plenary session on habitat restoration and conservation in the state. Dr. Dunning presented a talk in the plenary session of the 2007 meeting (held jointly with the state chapter of the Society of American Foresters), on the Hardwood Ecosystem Experiment. His students and he attend the state meetings regular and present research. Dr. Dunning served on the chapter's Executive Committee in 2003-2005, which included his year as President.

Served (2003 – present, *chair* 2007 - present) on the *Technical Committee* on Nongame Species for the Indiana State Department of Natural Resources. The Technical Committee reviews the state's list of endangered and threatened species. He also serves on the Technical Advisory Committee overseeing the state Breeding Bird Atlas, coordinated through the Indiana Department of Natural Resources.

Served on the *Indiana Rare Bird Committee* for the Indiana Audubon Society, from 2002-2005, and again 2006-2008. The Indiana RBC maintains the official list of birds recorded within the state and reviews documentation on rare sightings.

Member of the Indiana Academy of Sciences, 2001 - present. Invited to take part in a *special symposium* at the 2003 annual meeting of the Academy, focusing on the restoration efforts of The Nature Conservancy at Kankakee Sands in northwest Indiana.