

## PERSONNEL DOCUMENT

**John B. Dunning, Jr.**

**Associate Professor – Department of Forestry and Natural Resources**

### A. GENERAL INFORMATION

#### 1. Purdue appointments

7/99- present      *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

#### 2. 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.*

#### 3. Academic Awards, Honors, and Fellowships.

Outstanding Undergraduate Teacher, Department of Forestry and Natural Resources, 2007-2008.  
Nominated for Richard L. Kohls Outstanding Undergraduate Teacher Award, College of Agriculture, 2007-2008  
Elected as Fellow in the American Ornithologists' Union, 2007.  
Outstanding Undergraduate Teacher, Department of Forestry and Natural Resources, 2005-2006.  
Nominated for Richard L. Kohls Outstanding Undergraduate Teacher Award, College of Agriculture, 2005-2006.  
President, Indiana Chapter of The Wildlife Society, 2004.  
Elective Member, American Ornithologists' Union, 1990.  
Phi Beta Kappa, 1978  
National Science Foundation Pre-Doctoral Fellowship, 1978-1981.

#### 4. Citations in biographical works

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

#### 5. Memberships in academic, professional, and scholarly societies

Ecological Society of America  
The Wildlife Society

Association of Field Ornithologists  
Cooper Ornithological Society

Dunning

Society for Conservation Biology  
 Society for Ecological Restoration  
 American Ornithologists' Union

Wilson Ornithological Society  
 Western Bird Banding Association

## B. EXCELLENCE IN TEACHING

### 1. Courses taught in the last three years

Years	Number	Title	Level	Credits
2005-2007	FNR 103	Introduction to Environmental Conservation	BS	3
2005-2007	FNR 488	Global Environmental Issues	BS	3
2005-2007	FNR 251	Systematics & Ecology of Birds, Reptiles and Amphibians	BS	3
2005, 2007	FNR 543	Conservation Biology I	BS/MS	3
2006	FNR 544	Conservation Biology II	BS/MS	3
2005, 2007	FNR 571	Advanced Ornithology	BS/MS	2

The following table provides information on these courses during Dr. Dunning's 13-year tenure in the department, the number of times each course was taught, average enrollments for the past 3 years, and total number of students taught across all years. FNR 251 is a team-taught course for which Dr. Dunning was responsible for 50% of the teaching and administration. Total student numbers for FNR 251 include FNR 343 that preceded it. Dr. Dunning also participates in FNR 330 (summer practicum) and FNR 460 / SA 228 (International Natural Resources) in the summer as described in the next section.

### Student enrollments and ratings:

	Semesters Taught	Average Enrollment 2004-2007	Total Enrollment 1994-2007	Course Rating	Instructor Rating
FNR 103	13	424	4923	4.3 (N=10)	4.0 (N=10)
FNR 240	2		361		
FNR 251*	12	44	668	4.6 (10)	4.3 (10)
FNR 373	9	28	56	4.6 (3)	4.9 (3)
FNR 488	14	59	862	4.5 (10)	4.3 (10)
FNR 543	6	23	107	4.9 (3)	4.6 (3)
FNR 544	6	20	118	4.7 (4)	4.4 (4)
FNR 571	4	11	43	4.6 (2)	4.8 (2)
FNR 679	12	57	665	3.7 (5)	4.1 (5)

\*evaluations for most recent summer session / semester are only ones available.

His courses have been well received by students, judging from written evaluations, verbal comments, and enrollments. FNR 103 enrollment increased from about 250 students in the semester prior to Dr. Dunning's arrival to an average of 415 in the last 4 years. FNR 488 increased from an enrollment of 17 to 58, the maximum seating in the classroom. As many as 6 non-FNR students per semester took FNR 488 for Honors credit when this option was allowed. One student's honors research on ecological justice was selected for presentation at the *Honors Colloquium*, Spring 1997.

Because he believes international experience is a valuable addition to undergraduate studies, Dr. Dunning also participates in the *summer study abroad course* with Sveriges Lantbruksuniversitet (Swedish University of Agricultural Sciences, SLU), the main agricultural university in Sweden. In this course, Purdue students take classes with students from SLU, studying a topic related to natural resource management and learning how to interact with people from another society. The program alternates each year between American and Swedish programs. North Carolina State University joined as a partner in the program in 2002. In most years since 1997, Dr. Dunning has accompanied the students on the four-week course, when the topics covered land-use conflict resolution (Sweden), water and soil impacts of human activity (Sweden, Germany, Austria and the Czech Republic), wetlands (Sweden), park management for recreation, wilderness, and wildlife (Colorado), neotropical land management (Yucatan, Mexico), and intensive land management (North and South Carolina). In 2006 Dr. Dunning became the lead Purdue faculty member in administration of the course. In 2007, the course went to northernmost Sweden to study climate change in the Arctic. Nine Purdue students (out of 32 total enrollment) participated. Future courses will focus on forestry issues in the Pacific Northwest (2008, California, Oregon), and land-use issues in South America (2009, Chile).

Dr. Dunning has participated in summer camp since 1998. He leads student exercises on bird identification, bird banding, and survey. His presence allows an increase in the portion of camp devoted to avian studies, and especially helps students learn avian songs and calls.

## **2. Contributions in Course and Curriculum Development**

### **a. Course development.**

Dr. Dunning continually revises his undergraduate courses with the intent of providing students with 1) global, national and local perspectives on environmental and conservation issues, and 2) an appreciation of current debate in both science and public policy relating to the courses he teaches. For instance, FNR 488 was altered to include *small-group discussions* held on ten Fridays to discuss specific global issues. The student body in FNR 488 is diverse (in general, half of the students enrolled in FNR 488 are from outside the College of Agriculture), and this diversity helps generate vigorous discussions. Beginning in 2004, Dr. Dunning also required that each student submit *written country essays* on how selected countries are affected by seven different environmental issues. Each student researches a different country worldwide.

Dr. Dunning developed a pair of graduate seminar classes in conservation biology. The first course (FNR 543 - *Conservation Biology I*) is an introductory presentation of the various facets to the field, focusing on a graduate-level textbook in the field. The second course (FNR 544 - *Conservation Biology II*) concentrates on a specific topic within the field, going into greater depth than is possible in the introductory seminar. Since 1996 the topics covered in FNR 544 include: the conservation and study of biological diversity, restoration ecology, use of non-wild populations in conservation, and landscape ecology. In Fall 2002 FNR 544 was one of the *first courses nationwide* to use a new laboratory textbook for landscape ecology, allowing students to have a more practical "hands-on" experience with computer models, analyses and other tools used in landscape ecology. Dr. Dunning contributed a chapter to the textbook (see next section). The teaching of both introductory and advanced conservation biology seminars allows a greater diversity of classes for the graduate students.

From 2000 - 2006, Dr. Dunning served as the faculty coordinator for the *department seminar series*. In this role, he administered FNR 679, the course associated with the seminar series. During his time with the course, the seminar series evolved from a biweekly schedule to a full complement of seminars on most weeks of the semester. He also implemented a policy allowing graduate students to take advantage of seminars elsewhere throughout the University as supplements to the talks in the department.

## **b. Curriculum development**

Dr. Dunning has served on the Curriculum Committee since 2000. In this role, he played an instrumental role in the *revision 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.

Together with the other wildlife and fisheries faculty, Dr. Dunning was heavily involved in the development of the sophomore sequences of lecture and laboratory classes on *vertebrate natural history* (FNR 241, 242, 251, 252) that were adopted as part of the revision of the undergraduate curricula in 1996. Dr. Dunning regularly contributed lesson plans, lab exercises, and other materials from FNR 343 Ornithology for incorporation into FNR 251 and 252. He has taught the avian portion of FNR 251 since Spring 1998. He was also co-principal investigator on the USDA Challenge Grant that helped fund the changes in the undergraduate curriculum. Together with Mr. Rod Williams and Dr. Gene Rhodes, Dr. Dunning helped develop the laboratory manual used in FNR 252, and periodically reviews the taxonomy and systematics of the bird section to keep the information up-to-date.

Dr. Dunning contributed to efforts at Purdue to initiate a new *interdisciplinary undergraduate program in environmental science*. Along with Dr. Harmon Weeks, Dr. Dunning represented the department in the development of a freshman curriculum for the new program, and has worked

with a team of Purdue faculty headed by Dr. John Graveel (NRES) to propose a freshman-level entry course. These efforts are ongoing.

### **3. Advising, Counseling, and Student Recruiting**

#### **a. Undergraduate counseling**

Dr. Dunning considers counseling students on their career plans to be one of the most important impacts faculty can have on students during their academic career. He holds regular office hours and makes himself available to students at other times. Working with Dr. W. L. Mills and staff in the Office of Student Services of the Department of Forestry and Natural Resources, Dr. Dunning has talked to many prospective students about careers in wildlife ecology and Purdue University. Dr. Dunning speaks with an estimated 15-20 students per semester. He attended a December, 2007, seminar on identifying troubled students and how to respond to them.

#### **b. Undergraduate research supervision**

Dr. Dunning has advised 15 undergraduates in Special Problems and Independent Research courses during 12 semesters. These courses include internship projects at the Indianapolis and Garden City (KS) zoos, and field research at field sites in 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 the state's ornithological journal in 2005. Dr. Dunning advised two students who conducted independent study projects in Honduras during summer 2007, in coordination with Tamara Benjamin of CATIE.

### **4. Experimentation 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 when this technology became available in Spring 2004. Audience response technology is a system of hardware and software that allows students to participate interactively with the lecturer in class and see their responses tabulated immediately. Students use a "respond pad" (also called a clicker) to answer questions posed by the instructor. A receiver mounted in the classroom tabulates the responses and summarizes them in real time, using the classroom audio-visual system. Dr. Dunning has used *Classroom Performance System* developed by eInstruction in FNR 103 for the past 4 years. The interactive system allows students to offer their opinions on controversial subjects, compare their opinions to other students in the class, and encourages regular attendance. With a team of Purdue faculty over the last two years, Dr. Dunning has evaluated student attitudes towards this type of

technology using an online survey tool developed by faculty in the College of Education. Two publications from this research are in press in education journals, while a third is in preparation.

### **5. Recognition received from students**

Dr. Dunning was selected the department's Outstanding Undergraduate Teacher in 2006, by a vote of the department's undergraduates.

### **6. Special activities which contribute to teaching effectiveness**

Dr. Dunning meets with students outside the classroom on a regular basis. He sponsors a series of informal field trips to local natural areas such as Horticulture Park, Celery Bog and the Pine Creek Gamebird Habitat Area in Benton County, in which students are regular participants. The Pine Creek Habitat Area is owned by the Indiana Department of Natural Resources. In late 1995, the IDNR and Ducks Unlimited built dams to restore 150 acres of wetlands on the 700-acre property. The field trips there are an effort to monitor avian response to the wetland development, and to the maturation of the surrounding upland habitats. Students gain additional field experience with bird identification through these trips. Undergraduate participants were hired during the summers of 1997 (two students), and 1998 (three students) under a grant funded by the Indiana Department of Natural Resources to study the bird populations at Pine Creek. In 2005, Dr. Dunning began posting notices for the field trips in electronic newsletters that are distributed to international students at Purdue, to make these walks available to a wider variety of students. He regularly takes several carloads of Purdue students to see the cranes at Jasper-Pulaski in November, a trip that is of great interest to international students.

As part of his effort to involve students in the research process, Dr. Dunning has published peer-reviewed papers with students who were not under his direct graduate supervision. These include 1) former undergraduates, 2) undergraduates doing special projects, and 3) graduate students collaborating on a project with Dr. Dunning outside their thesis or dissertation research. These students include:

Richard K. Bowers (undergraduate, University of Arizona)  
Bryan Watts (graduate student, University of Georgia)  
Jianguo Liu (graduate student, University of Georgia)  
William Pulliam (graduate student, University of Georgia)  
Amanda Beheler (graduate student, Purdue University)  
Thomas Braile (graduate student, Purdue University)  
Brad Bumgardner (undergraduate student, Purdue University)

### **9. 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 3 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 1-2 lectures in the revised FNR 230 World Forestry, and has agreed to add an additional lecture on climate change, based on the 2007 summer Study Abroad course. In 2006 he lectured twice and participated in a field trip in the department's capstone course.

### **b. Teaching publications**

Dr. Dunning has published 13 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.

Most of Dr. Dunning's first papers on teaching provided either resources for undergraduates interested in conservation issues, or resources and issues for science educators that teach conservation and environmental science courses. Koford, et al. (1994) provided undergraduates with a glossary of terms used in avian conservation biology that Dr. Dunning uses in his Conservation Biology courses (see list below for full citations). Two contributions in the journal *Conservation Biology* (Dunning 1997, 1999) argue that the lack of ecological literacy among American undergraduates should be a concern for conservation biologists, and that conservation courses should include emphasis on improving ecological literacy among a wide variety of students (not just majors within the field). Cole, et al. (1997) and Dunning (2000) provide wildlife case studies to stimulate the consideration of ethics in conservation courses.

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 (described in Liu, et al. 1995).

The textbook that is most used in graduate courses on conservation biology is *Principles of Conservation Biology* by Gary Meffe and Ronald Carroll, first published in 1994. 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).

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

### **Refereed journal articles**

1. \* 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.
2. \*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.
3. \*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.
4. Dunning, J.B. 2000. They shoot bison, don't they? Discussing ethics in conservation courses. *The NACTA Journal* (March issue), pages 40-45.
5. Dunning, J.B. 1997. The missing awareness, part II: surveys of student ecological knowledge in the Midwest. *Conservation Biology* 11:6-10.
6. \*Cole, 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.
7. \*Koford, R.R., J.B. Dunning, C.A. Ribic, & D. Finch. 1994. Glossary for avian conservation biology. *Wilson Bulletin* 106:121-137.

## **Books**

8. 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 listed below. The book has been used as a textbook for non-majors ornithology course such as one taught by Dr. Susan Hengevald at Indiana University, and is currently one of the required texts for FNR 251. The book can be considered both a teaching and/or extension publication; see comments under EXCELLENCE IN EXTENSION, below]

## **Refereed book chapters**

9. \* 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.

10. \*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.
11. 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**

12. Dunning, J. B. 1999. The need for producing ecologically literate college students. *Conservation Biology* 13:1239-1240. [Published in Letters section]
13. Dunning, J.B. 1996. Population dispersal. *McGraw-Hill Encyclopedia of Science and Technology*. [Invited article.]

## **B. EXCELLENCE IN RESEARCH, SCHOLARSHIP, AND CREATIVE ENDEAVOR**

Dr. Dunning is recognized internationally and nationally 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. Virtually all organisms inhabit habitat patches that are part of a complex mosaic of patches (i.e., "landscapes") across which organisms move, disperse, and settle. It is now recognized in ecology that landscapes are dynamic, with the distribution and quality of suitable habitat for any particular organism changing in time and space. Determining how organisms respond to such changes is one of the foundations of the interdisciplinary field of landscape ecology. Dr. Dunning has taken a landscape approach to studying wildlife ecology in Indiana forests, grasslands, and wetlands, especially restored patches within agricultural landscapes (see section 11. Current research interests, below). He has published 47 papers and book chapters, 7 monographs, and 2 books as products of his research efforts.

### **1. Research publications (\* indicates lead author on multi-author publications)**

#### **Refereed Journal Articles**

1. \* 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.

2. \*Scheiman, D. M. and J. B. Dunning. 2004. A case of arrested molt in the Bobolink. *North American Bird Bander* 29:105-108.
3. \*Braile, T., and J. B. Dunning. 2003. Use of a restored wetland by migratory shorebirds diminishes with time. *Ecological Restoration* 21:222-223.
4. \* 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.
5. \*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.
6. \*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.
7. 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 21<sup>st</sup> century. *Science* 288:2135-2136.
8. \*Dunning, J.B., and T. M. Braile. 1999. First state record of Black-headed Grosbeak. *Indiana Audubon Quarterly* 77:146-149.
9. \*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.
10. \*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.]
11. \*Pulliam, H.R., and J.B. Dunning. 1995. Spatially explicit population models. *Ecological Applications* 5:2. [Introduction to Special Feature.]
12. \*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.
13. \*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.

14. \*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.
15. \* Dunning, J. B., B. J. Danielson, and H. R. Pulliam. 1992. Ecological processes that affect populations in complex landscapes. *Oikos* 65:169-175.
16. \*Pulliam, H.R., J.B. Dunning, and J. Liu. 1992. Population dynamics in complex landscapes: a case study. *Ecological Applications* 2:165-177.
17. Mills, G.S., \*J.B. Dunning, & J.M. Bates. 1991. The relationship between breeding bird density and vegetation volume. *Wilson Bulletin* 103:468-479.
18. \*Dunning, J.B. & B.D. Watts. 1991. Habitat occupancy by Bachman's Sparrow before and after Hurricane Hugo. *Auk* 108: 723-725.
19. \*Dunning, J.B. & W.M. Pulliam. 1991. Winter habitats and behavior of Grasshopper Sparrows near Athens, Georgia. *Oriole* 56:51-53.
20. \*Dunning, J.B., and B.D. Watts. 1990. Regional differences in habitat use by Bachman's Sparrows. *Auk* 107:463-472.
21. \*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.
22. 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.
23. Dunning, J.B. 1988. Yellow-footed Gull kills Eared Grebe. *Colonial Waterbirds* 11:117-118.
24. \*Pulliam, H.R. & J.B. Dunning. 1987. The influence of food supply on the local density and diversity of sparrows. *Ecology* 68:1009-1014.
25. \*Bowers, R.K. & J.B. Dunning. 1987. Nutting's Flycatcher (*Myiarchus nuttingi*) from Arizona. *American Birds* 41:5-10.
26. Dunning, J.B. 1986. Shrub-steppe birds revisited: implications for community theory. *American Naturalist* 128:82-98.
27. \*Dunning, J.B. & R.K. Bowers. 1986. Weights and measurements #1. Southwestern sparrows. *North American Bird Bander* 11:59-60.

28. Dunning, J.B. 1985. Owl weights in the literature: a review. *Journal of Raptor Research* 19:113-121.
29. \*Bowers, R.K. & J.B. Dunning. 1985. Predator avoidance through burrow use by Cassin's and Black-throated Sparrows. *Western Birds* 16:51.
30. \*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.
31. \*Dunning, J.B. & R.K. Bowers. 1984. Local movements of some Arizona montane birds. *North American Bird Bander* 9(3):7.
32. \*Dunning, J.B. & J.H. Brown. 1982. Summer rainfall and winter sparrow densities: a test of the food limitation hypothesis. *Auk* 99:123-129.

### Monographs

33. \*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.
34. 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.
35. \*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.
36. \*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.
37. 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.

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

### **Books**

40. Dunning, J. B. 2007. *Handbook of avian body weights*. CRC Press, Orlando, FL. 668 pages. Second edition, completely revised and expanded. Publication date: November 2007.
41. 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. [This volume of papers resulted from a workshop held in November 1996 and funded by the USDA Forest Service. The workshop gathered scientists from across the southeastern United States who have worked on the interface between basic research and management. The theme for the workshop was developing better interaction between the needs of land managers and basic scientists. *Studies in Avian Biology* is a peer-reviewed monograph series published by one of the premier ornithological societies in North America. Dr. Dunning was the co-editor of the entire publication, and co-author of the four chapters listed below.]
42. Dunning, J.B. 1992. *Handbook of avian body weights*. CRC Press, Orlando, Florida. 370 pages. First edition.

### **Refereed book chapters**

43. 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.
44. \*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.
45. \*Dunning, J. B., B. J. Danielson, B. D. Watts, J. Liu, and D. G. Kremetz. 2000. Studying wildlife at local and landscape scales: Bachman's Sparrows at the Savannah River Site. *Studies in Avian Biology* 21:75-80.
46. \*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.

47. \*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.
48. \*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.
49. \*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.
50. 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.
51. 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.*

## 5. Book Reviews

52. 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.
53. Dunning, J.B. 1988. Book review: Grand Canyon Birds. (B.T. Brown, S.W. Carothers & R.R. Johnson). *Auk* 105:216-217.

## 6. Non-refereed journal articles

54. 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]
55. Dunning, J. B. 2005. Snowy Owl in White County, July – August 2004. *Indiana Audubon Quarterly* 83:105-110.

56. \*Bowers, R.K., N. Bowers, and J.B. Dunning. 1996. A closer look: Buff-breasted Flycatcher. *Birding* 28:408-413.

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

## **7. Publications in progress**

Braile, T. M., and \*J. B. Dunning. Spring migration of American Golden-Plover through west-central Indiana. Submitted to *American Midland Naturalist*.

## **8. Invited Presentations**

Dunning, J. B., D. M. Scheiman, A. Houston. 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., 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. November 2007.

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. November 2007.

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

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

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.]

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. He has also presented talks and posters at numerous scientific meetings, averaging two meetings per year since 1984, including:

Ecological Society of America Annual Meetings 2001, 2002, 2006.  
U.S. Landscape Ecology Annual Symposia 1998, 1999.  
American Ornithologists' Union Annual Meetings, 1998, 1999, 2002-3, 2006, 2007.  
Cooper Ornithological Society Annual Meetings, 1998, 2002, 2006.  
Wilson Ornithological Society Annual Meeting, 1998, 2006.  
Society for Ecological Restoration Annual Meeting, 2002.  
Department of Forestry and Natural Resources Annual Symposium, 1996 - present.  
Indiana Chapter of The Wildlife Society, Annual Spring Meeting, 1998 – present.  
Indiana Academy of Science, Annual meeting, 2003, 2004.

## **9. Involvement in Graduate Research Program**

### **a. Completed Students**

Packett, Diane, M.S., Wildlife Ecology, 2007. Research interest: avian conservation in fragmented landscapes.

Scheiman, Daniel, Ph.D., Wildlife Ecology, 2005. *Research interest:* landscape ecology and conservation of grassland birds. (1 paper in press in *American Midland Naturalist*, 1 paper invited to special symposium; 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. (Unpublished; currently Aquatic Resources Education Specialist, Indiana Department of Natural Resources).

Days, Toby, M.S., Wildlife Ecology, 2001. *Research interest:* restoration ecology. Non-thesis. (Environmental consultant).

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

Braile, Thomas, M.S., Wildlife Ecology, 1999. *Research interest:* Migration studies of shorebirds in west-central Indiana. (1 paper published *Ecological Restoration*, second paper submitted; recently in graduate program, University of Alaska).

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

#### **b. Current Students**

Houston, Alexandra, M.S., Wildlife Ecology, *Research interest:* use of restored grasslands by breeding birds. *Status:* Finished coursework and field studies. Anticipated graduation: Summer 2008.

Lester, Kathryn, M.S., Wildlife Ecology. *Research interest:* response of wildlife to prescribed burns in mature deciduous forest. *Status:* Finished coursework and field studies. Anticipated graduation: Fall 2008.

Coates, Kathleen, Ph.D., Wildlife Ecology. *Research interest:* population dynamics of birds in restored wetlands. *Status:* Finished second field season, passed preliminary exams in Fall 2007. Received funding for final field season from NCRS, summer 2008.

Malloy, Melissa. M.S. Wildlife Ecology. *Research interest:* conservation biology of forest birds.  
*Status:* Started Fall 2007.

#### Summary of Graduate Student Advising

Major Professor		Committee Member	
<u>Completed</u>	<u>In Process</u>	<u>Completed</u>	<u>In Process</u>

M.S. (non-thesis)	2	0	-	1
M.S. (thesis)	3	6	6	4
Ph.D.	1	1	7	2

## 10. Research Grants

### a. External Support

Grants active or awarded since Dr. Dunning joined Purdue in 1994. Small grants in support of graduate student work are combined.

#### Research grants and awards: current grants:

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%

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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%

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

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1. Agency/Title: Indiana Academy of Science, Amos Butler Audubon. *Stopover habitat selection by migrant landbirds in a fragmented forest-agricultural landscape.*  
 2. Duration of funding: May – October 2007  
 3. Amount of award: \$2,892  
 4. Role: Principal investigator

5. Responsibility: 100%

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Research grants and awards: past grants

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%

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

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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 - June 2007  
3. Amount of award: \$1,000  
4. Role: Principal investigator  
5. Responsibility: 100%

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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)  
2. Duration of funding: May 2005 - June 2006  
3. Amount of award: \$2,024  
4. Role: Principal investigator  
5. Responsibility: 100%

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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%

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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%

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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, four grants)  
2. Duration of funding: CHECK DATES  
3. Amount of award: \$2,000  
4. Role: Principal investigator  
5. Responsibility: 100%

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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, two grants)  
2. Duration of funding: April 2003 – March 2004  
3. Amount of award: \$800  
4. Role: Principal investigator  
5. Responsibility: 100%

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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%

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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%

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

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

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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%

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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%

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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%

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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%

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1. Agency/Title: Indiana Dept. Natural Resources. *Avian habitat use at Pine Creek Gamebird Habitat Area.*  
2. Duration of funding: March 1998 – April 1999  
3. Amount of award: \$4,941  
4. Role: Principal investigator  
5. Responsibility: 100%

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1. Agency/Title: Indiana Dept. Natural Resources. *Breeding status of upland birds at Pine Creek Gamebird Habitat Area.*  
2. Duration of funding: March 1998 – December 1999  
3. Amount of award: \$4,325  
4. Role: Principal investigator  
5. Responsibility: 100%

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1. Agency/Title: U.S. Dept. Agriculture. *A blueprint for educating tomorrow's leaders in natural resources.*  
2. Duration of funding: March 1998 – December 1999  
3. Amount of award: \$80,000  
4. Role: Co-principal investigator  
5. Responsibility: 5%

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1. Agency/Title: Indiana Dept. Natural Resources. *Surveys of the birds of Pine Creek Gamebird Habitat Area.*  
2. Duration of funding: March 1997 – December 1998  
3. Amount of award: \$4,729  
4. Role: Principal investigator  
5. Responsibility: 100%

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1. Agency/Title: Indiana Dept. Natural Resources. *Nearctic-Neotropical migrant breeding density and productivity within Shades and Turkey Run State parks.* (supporting Peter Fauth, graduate student in Dept. Bio. Sciences, Purdue, graduate student)  
2. Duration of funding: March 1997 – December 1999  
3. Amount of award: \$6,000  
4. Role: Co-principal investigator  
5. Responsibility: 50%

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1. Agency/Title: U.S. Forest Service. *A workshop on long-term population trends of bird populations on the Savannah River Site.*  
2. Duration of funding: March 1995 – February 1998

3. Amount of award: \$18,853  
4. Role: Principal investigator  
5. Responsibility: 100%

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1. Agency/Title: U.S. Forest Service. *Linking habitat change to population change: Tools for predicting population responses to land management.*  
2. Duration of funding: March 1993 – December 1995  
3. Amount of award: \$48,000  
4. Role: Co-principal investigator  
5. Responsibility: 72%

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1. Agency/Title: U.S. Environmental Protection Agency. *Comparative risk assessment of climate change and other anthropogenic stressors.*  
2. Duration of funding: March 1992 – February 1995  
3. Amount of award: \$585,000  
4. Role: Co-principal investigator  
5. Responsibility: 28%

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**Total External Support \$645,297**

**b. Internal support**

Research grants and awards: internal support

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%

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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%

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1. Agency/Title: Purdue Research Foundation. *Summer research grant.*  
2. Duration of funding: May 1999 – August 1999  
3. Amount of award: \$5,000

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

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1. Agency/Title: Purdue Research Foundation. *Monitoring and wetland delineation: Meigs Farm restoration project.*  
2. Duration of funding: March 1998 – December 2002  
3. Amount of award: \$2,000  
4. Role: Principal investigator  
5. Responsibility: 100%

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1. Agency/Title: Purdue Research Foundation. *Research fellowship for Dawn van Deman.*  
2. Duration of funding: September 1999 – August 2000  
3. Amount of award: \$12,626  
4. Role: Principal investigator  
5. Responsibility: 100%

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1. Agency/Title: Purdue Research Foundation. *Research fellowship for Dawn van Deman.*  
2. Duration of funding: September 1998 – August 1999  
3. Amount of award: \$11,666  
4. Role: Principal investigator  
5. Responsibility: 100%

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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%

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1. Agency/Title: Purdue Office of Academic Programs. *Graduate teaching assistantship in support of FNR 488.*  
2. Duration of funding: August 1996 – December 1996  
3. Amount of award: \$6,210  
4. Role: Principal investigator  
5. Responsibility: 100%

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1. Agency/Title: Purdue Office of Academic Programs. *Andrews fellowship for Amanda Beheler.*  
2. Duration of funding: August 1995 – May 1996

3. Amount of award:	\$18,000
4. Role:	Principal investigator
5. Responsibility:	100%

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**Total Internal Support                      \$89,890**

**Total Internal and External Support                      \$735,187**

### 11. Current 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. Since diverse native faunas are highly valued by the people of Indiana, maintaining such diversity in the face of landscape change is an important conservation concern. Thus, focusing on the effects of habitat fragmentation on wildlife allows Dr. Dunning to combine his interests in landscape ecology and conservation biology

Dr. Dunning uses the concepts of landscape ecology to investigate how *fragmentation* affects wildlife on forest lands devoted to timber management. Since 2000, Dr. Dunning has worked with the U.S. Forest Service 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 Forest Service grants, he has hired Purdue undergraduates to conduct basic monitoring studies of breeding birds on the National Forest (a project initiated by Dr. Frank Thompson, University Missouri – Columbia in 1991). The Forest Service also provided funds for a literature review project in which undergraduates in the Department of Forestry and Natural Resources compiled recent literature on species of management interest for details on life history, population trends, and current threats. The Forest Service uses these species assessments in evaluating their general management plans, including the development of the 2006 Land and Resource Management Plan for the Hoosier National Forest.

Current Forest Service grants are funding an analysis of the entire breeding bird monitoring database (1991-2006) to detect population changes in forest birds across the Hoosier National Forest. The Hoosier NF is fragmented into parcels of various sizes, each surrounded by private and public lands of different land uses. Accordingly, Dr. Dunning and his students hope to use the monitoring database to explore the effects of large-scale landscape variation on forest birds.

Dr. Dunning 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. He hosted and attended meetings during the development of the experiment, which is now being implemented in the Morgan-Monroe State Forest. In 2006, he worked with Dr. Benjamin Dolan to implement the first field season of baseline studies, including guidelines for selection of study sites, training of field workers, and visits in the field to monitor progress and advise the workers. Dr. Dunning is helping to lead this signature area in the planning and commission of current research, and seeking funding for future initiatives.

Dr. Dunning's second major research initiative uses *restored wetlands and grasslands* as a model system for studying organism response to changing habitat distributions 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. These projects vary from small (<10 ac) mitigation efforts to landscape-scale restorations (such as The Nature Conservancy's 7200 ac Kankakee Sands Macro-site in northwest Indiana). Dr. Dunning and his students have looked at the response of migratory waterfowl and shorebirds, breeding amphibians, resident snakes and small mammals, and breeding grassland birds to the characteristics of the restorations, including project size, restoration technique, and landscape placement. Three graduate students have completed their research with funding from the state DNR, The Nature Conservancy and other sources; while the research of another graduate student is finished and the student is preparing to defend her degree. The results should both add to knowledge about landscape influences on Indiana wildlife, as well as provide technical assistance for future restoration projects.

## **12. Evidence of interdisciplinary activity.**

### **a. Purdue connections.**

Dr. Dunning has established strong ties to ecology faculty throughout Purdue, primarily through his interests in conservation biology. He has interacted with Drs. Kerry Rabenold, Peter Waser, Jeffery Lucas, and Richard Howard of the Department of Biological Sciences, and Drs. Cliff Sadof and Jeffrey Holland of the Department of Entomology. Dr. Dunning and his students have attended seminar classes in the Department of Biological Sciences, and graduate students from the Departments of Biological Science, Agronomy, Horticulture, Entomology, Education, and Sociology & Anthropology have enrolled in his graduate seminars (FNR 543 & 544 Conservation Biology I & II). Dr. Dunning served on eight graduate committees in the Department of Biological Sciences. In 2002, Dr. Dunning published a paper on the state of the field of ecology with Dr. Waser (Biological Sciences) and Dr. Robert Swihart (FNR).

Dr. Dunning interacted with ecologists in other Purdue departments in the development of PICES, the *interdisciplinary center for ecological sustainability* at Purdue. Ecologists from Forestry and Natural Resources, Biological Sciences, Entomology, Botany and Plant Pathology and other departments developed this center to integrate ecological discovery, learning and engagement across disciplinary boundaries and to design approaches to meet human resource needs while preserving ecological integrity of natural systems and resources. Dr. Dunning worked as part of the team who developed the proposal for this center and defining hire initiatives and other aspects critical to the establishment of PICES.

Dr. Dunning is also participating in the faculty group developing new approaches to attract and retain Native American students at Purdue. Called *The Tecumseh Project*, the group has created a seminar series, bringing prominent Native American speakers to campus to talk about Native American initiatives at other universities and groups. Currently aimed at graduate education, Dr. Dunning met regularly in 2005-2006 with the steering committee and with Native American graduate students enrolled in the Education and other Purdue departments. In 2006-2007, he contacted individuals throughout the Midwest to advertise the assistantships available through a Sloan Foundation grant.

#### **b. Interdisciplinary connections with other institutions**

Dr. Dunning has retained his ties to faculty at other institutions with whom he has collaborated on grants and papers, including Dr. David Kremenetz (University of Arkansas), and Drs. David Stewart and H. Ronald Pulliam (Institute of Ecology, University of Georgia). Regionally, Dr. Dunning has established ties through similar research interests with the Illinois Natural History Survey (Drs. Jeffrey Brawn, James Herkert), The Ohio State University (Dr. Thomas Grubb), Akron University (Dr. Peter Niewiarowski), Indiana State University (Dr. Steven Lima), and Michigan State University (Dr. Jianguo Liu). Nationally, Dr. Dunning has been included in proposals for interdisciplinary workshops and symposia by Dr. Jeffrey Walters (Virginia Polytechnic State University), Dr. Steven Beissinger (University of California, Berkeley), Dr. Paul Ringold (U.S. Environmental Protection Agency, Corvallis OR), and Dr. Larry Crowder (Duke University), and Dr. Richard Watson, University of New Mexico (now retired).

In addition to the interactions with the faculty mentioned above, Dr. Dunning is part of various team projects, dealing with conservation biology and landscape ecology. Dr. Dunning contributed to professional society white papers developed for the Society of Conservation Biology (Reed et al. 2002) and for the American Ornithologists' Union (Beissinger et al. 2006, see list of publications). One such team project was a workshop on population modeling of real-world landscapes resulting in publication in 1995 of a Special Feature in *Ecological Applications*. Other current team efforts include:

#### **Conservation of biodiversity (co-author in last 3 years)**

Martha Groom, University of Washington

Ronald Pulliam, University of Georgia  
Steven Beissinger, University of California  
Jeffrey Walters, Virginia Tech University  
Donald Catanzaro, University of Arkansas  
Kimberly Smith, University of Arkansas  
Susan Haig, Texas A&M University  
Barry Noon, Colorado State University  
Bradley Smith, University of Florida

**Avian Ecology (co-author or research collaborator)**

David Krementz, University of Arkansas  
John Kilgo, Savannah River Ecology Laboratory  
David Gartner, U.S. Forest Service  
Brian Chapman, Sam Houston State University  
Kathleen Franzreb, U.S. Forest Service  
Sidney Gauthreaux, Clemson University  
Douglas Levey, University of Florida  
Karl Miller, University of Georgia  
Stephen Andrews, U.S. Surface Naval Supply Center, Crane IN.  
Ronald Weiss, Chipperwoods Bird Observatory, Indianapolis  
Christopher Elphick, University of Connecticut  
David Sibley, Chanticleer Press, NY

Dr. Dunning organized a workshop on long-term population trends of birds of the Savannah River Site, SC. The workshop discussed how land managers and researchers can interact to provide managers with quick answers to the applied questions they have, and still give researchers the long-term support for basic research that they require. This workshop was funded through the Department of Energy and U.S. Forest Service. Proceedings from the workshop were published in *Studies in Avian Biology*, a peer-reviewed monograph series in 2000. Dr. Dunning was the co-editor of the volume.

**Participants in the workshop and proceedings:**

John Kilgo, Savannah River Ecology Laboratory  
David White, Clemson University  
Karen Gaines, Savannah River Ecology Laboratory  
Robert Kennamer, Savannah River Ecology Laboratory  
Larry Bryan, Savannah River Ecology Laboratory  
Bryan Watts, William and Mary College  
Brent Danielson, Iowa State University  
Jianguo Liu, Michigan State University  
Michael Meyers, University of Georgia  
Paul Hamel, U.S. Forest Service

Sidney Gauthreaux, Clemson University  
Karl Miller, University of Georgia  
Brian Chapman, Sam Houston State University  
Keith Bildstein, Hawk Mountain Sanctuary  
Arch McCallum, College of Charleston  
John Blake, U.S. Forest Service  
Elizabeth LeMaster, U.S. Forest Service  
I. Lehr Brisban, Savannah River Ecology Laboratory  
Christopher Moorman, North Carolina State University  
Eugene P. Odum, University of Georgia  
Brian Pilcher, Western Montana College  
Kay Franzreb, Clemson University  
Joanna Burger, Rutgers University  
William Post, Charleston Museum  
John Meyers, U.S. Geological Survey (Biol. Resources Division)  
Christopher Rogers, Wichita State University

### **13. Evidence of National and International Recognition**

Dr. Dunning has established a steady record of publication, grantsmanship, and collaboration with other scientists, suggesting that he has established himself as a solid scientist in his field. At the August 2007 meeting of the American Ornithologists' Union, he was elected a Fellow of the AOU, which is the most prestigious professional society for North American ornithologists. He has published refereed journal articles on avian community and population ecology, breeding physiology, and behavioral ecology. Most notably, he has written four species accounts for *The Birds of North America*, a monograph series (published 1992-2002) that is now considered the definitive work on each species. Authors in this series are widely recognized as the leading authorities on the species for which they have written accounts. Dr. Dunning recently revised his first account in this series (Dunning 1992) for an expanded, online version of the monograph series (Dunning 2006).

Dr. Dunning's publications are widely cited by other scholars. According to *Science Citation Index Expanded* (accessed August 2007), Dr. Dunning's refereed journal articles were cited 1252 times. Several of Dr. Dunning's publications have been especially well received. His 1995 Special Feature article in *Ecological Applications* has been cited 186 times, while his concept paper in *Oikos* on ecological processes active at the landscape scale has been cited 359 times. His first article on population modeling of Bachman's Sparrow (in 1992 *Ecological Applications*) has been cited 186 times, while his later paper in *Conservation Biology* (Liu et al. 1995) on the same topic has been cited 55 times. His field study on a related topic (Dunning et al. 1995 *Conservation Biology*) has been cited 72 times, and was acknowledged in a review paper on corridor effects as a particularly well designed study relative to similar works. A more

recent society “white paper” on emerging issues in avian conservation (Reed et al. 2002 *Conservation Biology*) has been cited 59 times.

The compiled citations in *Science Citation Index Expanded* do not include books and book chapters. Thus, the numbers given above do not include citations of Dr. Dunning’s two works on avian body masses, which have been among his most influential. His 1984 monograph on avian body masses was cited over 135 times by 2003, while his CRC handbook on the same subject was cited 378 times from 1993-2003.

Dr. Dunning’s research is published in reputable journals with a global readership. The journals in which he has published are highly selective, with rejection rates of >60% for *Ecological Applications*, *Wildlife Society Bulletin* and *Wilson Bulletin*; 69% for *Conservation Biology* and *Auk*, and 76% for *Ecology*. His cited landscape ecology papers are published in some of the top journals in the field of ecology:

<u>Journal</u>	<u>Impact Factor</u>	<u>Ranking (114 ecological journals)</u>
<i>Ecology</i>	4.782	7
<i>Conservation Biology</i>	3.762	13
<i>Ecological Applications</i>	3.470	14
<i>Oikos</i>	3.381	18

In addition, Dr. Dunning publishes in the top ornithological journals. His avian research is published in *Auk* (impact factor: 2.056, ranking #2 among 19 ornithological journals), *Condor* (impact factor: 1.604, ranking #3) and *Ibis* (impact factor: 1.595, ranking #4). His recent *Ornithological Monograph* is in the most prestigious monograph series in avian biology. In addition Dr. Dunning has published 4 monographs in *The Birds of North America* series, which is acknowledged to be the authoritative source for information on North American birds.

Dr. Dunning is an international authority on avian body masses, based on the publication of two data compilations on the topic. The compilations are heavily cited in the scientific literature, and also widely used by groups such as bird banders and wildlife rehabilitators, who use body mass as a measure of general health of their birds. His major compilation (the *CRC Handbook of Avian Body Masses*, 1992) contained data on 6300+ of the 10,000 species of birds. He has finished a revision of this handbook, with data for over 8300 species, is to be published in November 2007.

Dr. Dunning is a leader in the interdisciplinary fields of landscape ecology and conservation biology, especially with regard to the ecology of North American birds. His basic research investigates how avian populations are affected by changes in the distribution and quality of habitat patches across large spatial scales. In particular, he is concerned with the impact of changing human land-use across large regions on wildlife populations. He has worked as part of an interdisciplinary team of ecologists, population modelers and landscape scientists to forge an

integrated program of field studies, landscape analyses and population modeling, all of which are used to analyze how populations respond to landscape change. This integrated program was highlighted in a set of articles published as a Special Feature in the January 1995 issue of *Ecological Applications*. Dr. Dunning contributed to a review of how models are used in avian conservation (Beissinger et al. 2006).

Additional indications of his reputation as a scientist in wildlife ecology include:

Joined the Editorial Board for *Conservation Biology*, the most respected journal in his field, in 1998, continuing to the present. Served as Adjunct Editor, 1997.

Served as Technical Editor for guide to North American bird biology and behavior, published by Chanticleer Press (A. A. Knopf). Wrote 12 chapters or family accounts for the field guide. (see ENGAGEMENT, below).

Wrote a syndicated column on birds, 2003-2005, distributed nationally through the New York Times Syndication Corporation (see ENGAGEMENT, below).

Editor of a column on significant banding results in *North American Bird Bander*, 1987 – 2006.

Member of Bachman's Sparrow Recovery Team for the State of Virginia, 1993-1996.

Chaired four technical paper sessions at annual meetings of national ornithological societies.

Invited participant in a special symposium on Habitat Fragmentation at the Fifth World Congress of the International Association for Landscape Ecology, Snowmass CO, September 1999.

Invited participant in a special symposium on Ecological Modeling and Conservation, at the Annual Meeting of the American Ornithologists' Union, University of Minnesota, August 1997.

Invited participant in a special symposium on Restoration on Contaminated Sites, at the Annual Meeting of the Society for Ecological Restoration, Rutgers University, June 1996.

Served as reviewer for research proposals for:

National Science Foundation, National Park Service, United States-Israel Binational Science Foundation, U.S. Fish and Wildlife Service, Florida Game and Fresh Water Fish Commission

Served as reviewer of journal articles for:

*American Naturalist, American Birds, American Naturalist, Animal Behavior Auk, Behavioral Ecology, Biological Conservation, BioScience, Biotropica, Canadian Journal of Forest Research, Canadian Journal of Zoology, Condor, Conservation Biology, Conservation Ecology, Ecology, Ecology Letters, Ecological Applications, Ecological Modelling, Ecosystems, Environmental Management, Journal of Field Ornithology, Journal of Wildlife Disease, Landscape Ecology, North American Bird Bander, Oikos, Ornis Scandinavica, Science, Southern Journal of Applied Forestry, Southwestern Naturalist, Studies in Avian Biology, The Birds of North America, Theoretical Population Biology, Wilson Bulletin*

Served as reviewer of books, textbook chapters, and proposals for:

W.C. Brown Publishers, Van Nostrand - Reinhold Publishers, Island Press, J. Wiley & Sons Publishers, Yale University Press

### **C. ENGAGEMENT: EXTENSION, SERVICE AND UNIVERSITY OUTREACH ACTIVITIES**

Although Dr. Dunning has no formal extension appointment, he has participated in six Department extension events since 1995, and co-authored three extension publications. He also has co-edited one book and a syndicated newspaper column on birds. He routinely responds to inquiries regarding wildlife. Dr. Dunning's research was featured in local media about four times annually from 2001 - 2007.

#### **3. Conferences, workshops participated in during past 5 years**

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*.

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

### **5. Extension Publications**

#### **a. Accomplishments.**

Dr. Dunning is recognized as an expert in avian ecology, partially from his collaboration with Dr. Christopher S. Elphick, University of Connecticut, and renowned bird artist David Allen Sibley. Together they produced *The Sibley Guide to Bird Life and Behavior*, 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, Dunning, and Sibley 2001) covers aspects of natural history for people who want to go beyond field identification, including breeding, foraging, migration, and related topics for each avian family. A set of five introductory chapters provides a compact introduction to ornithology. Dr. Dunning wrote 8 of the 80 family accounts and was a co-author of four of the introductory chapters. 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.

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

#### **b. Extension publications** (\* indicate lead author on multi-author publications)

##### **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. In essence, 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**

1. \*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.
2. 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.

3. 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.
4. 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.
5. 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.
6. 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.
7. \*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.
8. \*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]
9. 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.
10. 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.
11. 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.
12. 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**

13. \*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.

14. \*Mast, J. K., and J. B. Dunning. 2000. Indiana farmland provides rest and forage for Arctic travelers. Purdue University Cooperative Extension Service Publication.
15. \*Dunning, J.B., and T.M. Braile. 1998. Checklist of the birds of Benton County, Indiana Purdue University Cooperative Extension Service Publication FNR-162.
16. \*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.

## **8. University Service Activities**

### **a. Department Committees**

Computer Committee, 1995-present. Chair 1996-2000.  
 Visiting Scientist and Seminar Speaker Committee. 1998 - 2006. Chair: 2000 - 2006.  
 Curriculum Committee, 2000-present.  
 Primary Promotions Committee, 2005-present  
 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  
 GIS-Remote Sensing Search Committee, 1996.  
 Vertebrate Zoologist Search Committee, 1995.

### **b. College Committees**

College of Agriculture Library Committee, 1995-present.  
 CoA Strategic Plan – International Programs Working Group  
 CoA Discussion Group on Women in Academia (Athena Unbound Discussion)

### **c. University Committees**

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.

## **9. 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).

## **12. Community Service Activities**

Dr. Dunning serves on the board of the local Audubon society in West Lafayette (1994-present), advising the society on conservation issues. He also organizes the society's field trips. Since 1998 he has presented talks on his research, avian ecology, or conservation issues to the Sycamore Audubon Society (West Lafayette, four times), Tippecanoe Audubon Society (Wabash, IN, twice), the Wabash Area Lifetime Learning Association (WALLA, Lafayette, three times), Amos Butler Audubon Society (Indianapolis, twice), Greencastle (IN) Bird Group (once), Robert Cooper Audubon Society (Muncie, IN, once), and for the Montgomery County Soil & Water Conservation District (once). He also spoke at a birding event at Fort Wayne in 2004, and to the 2006 spring meeting of the Indiana Audubon Society, Turkey Run State Park, IN.

## **14. Other evidence of national recognition.**

### **a. Service to national professional societies**

serving on *Editorial Board* of *Conservation Biology*, the lead journal in the field, since 1998.

member of the Conservation Committee of the American Ornithologists' Union from 1995-2002. Dr. Dunning participated in a committee-sponsored symposium on the use of modeling in avian conservation at the 1997 annual meeting of the AOU, which was published in 2006 in the series *Ornithological Monographs* (lead author: Dr. Steven Beissinger, Univ. California-Berkeley).

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. Committee membership in regional, national, and international Societies**

Technical Advisory Committee, Nat. Audubon Society, Indiana Important Bird Areas. Research Working Group, Partners in Flight. 1994-2001. [Interagency group studying conservation of Neotropical migrant birds].

Undergraduate Membership Committee, Wilson Ornithological Society. 1986.

### **c. Activity in state societies and agency committees**

Dr. Dunning and his students regularly present results of their research at the annual spring meeting of the state chapter of The Wildlife Society. He *hosted the spring 2004 meeting of the 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.

Dr. Dunning has served (2003 – 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. He became chair of the Technical Committee in 2007.

Dr. Dunning has served on the Indiana Rare Bird Committee for the Indiana Audubon Society, with one term from 2002 – 2005, and a second term from 2006-2008. The Indiana RBC maintains the official list of birds recorded within the state and reviews documentation on rare sightings.

Dr. Dunning has been a member of the Indiana Academy of Sciences since 2001. He was 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.