



OFFICE OF ACADEMIC AFFAIRS

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April 29, 2008

Dr. Thomas Nupp
Arkansas Tech University
Russellville, AR 72801

Dear Dr. Nupp:

Congratulations! Academic Affairs is pleased to announce that your application for the Faculty Professional Development Grant has been recommended by the Professional Development Committee. Based on this recommendation, Academic Affairs has approved the \$1174.00 for your proposal. Requisitions regarding the grant will be processed through your departmental budget and should be expended by June 30, 2008.

We wish you success with this endeavor.

Respectfully,

A handwritten signature in cursive script that reads "Jack R. Hamm".

Jack R. Hamm
Vice President for Academic Affairs

JRH:sr

cc: Cohoon
Gagen
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B. ABSTRACT (see attached)

I am applying for Professional Development Grant funding in order to attend and present research findings at the 2008 Annual Meeting of the American Society of Mammalogists in Brookings, South Dakota. My abstract of my presentation entitled, "*Estimating densities from small mammal survey data: an example using distance sampling methodology at Ft. Chaffee Military Training Center, Arkansas,*" has been accepted for the program and will be presented during the one of the technical sessions (yet to be announced). I will also be attending to serve my role as a member of the Education and Graduate Student Committee that organizes and promotes the "meal with a scientist" program.

C. PURPOSE / OBJECTIVES

I will be presenting research results from a project I completed last summer at Ft. Chaffee Maneuver Training Center, Arkansas. My research included a survey of the small mammal community and an estimation of small mammal abundances in a variety of habitats across the Training Center. My presentation will focus on the application of a novel method for estimating small mammal densities based on distance sampling protocol from livetrapping data using Program DISTANCE. This presentation should be of interest to a variety of ecologists interested in the rapid assessment of biodiversity.

D. SIGNIFICANCE / NEED

As mentioned in the preceding paragraph the methodology on which I will be presenting is novel and should be of interest to mammalogists. I believe it is important for my personal development and sanity to remain connected to my colleagues in the scientific community and to represent Arkansas Tech University at this national meeting.

E. PROCESS FOR ATTAINMENT OF OBJECTIVES / GOALS

The Annual Meeting of the American Society of Mammalogists (ASM) is an national meeting bringing together agency professionals, academics, and museum persons interested in various aspects of the study of mammals. It usually includes 300+ professionals joining together at a University for 4-5 days of scientific discussion. The meeting starts off committee meetings and sign-ups for various activities. The next day kicks off with a plenary session including presentations by students and professionals who have been awarded ASM honors. The following days include usually three concurrent technical sessions covering the various aspects of the study of mammals. The last day includes a capstone presentation by a prestigious Mammalogist. The meeting never fails to be enlightening on the variety of new and intriguing ways to study mammals.

F. DISSEMINATION OF RESULTS

I will share my research findings with the professionals at the meeting. I will then share my experiences with the rest of the Biology Faculty at our departmental meetings. I will share the information I learned to my Mammalogy class in the fall.

G. REPEATED REQUESTS

None.

H. BUDGET

Travel Budget:

Registration.....	\$186.00
Housing.....	\$140.00
Meals...(6 days @ \$32.....	\$193.00
Parking.....	\$ 5.00
Airfare.....	\$475.00
Car Rental.....	\$175.00
Total.....	\$1174.00

J. APPLICATION VITA (see attached)

CURRICULUM VITAE

THOMAS E. NUPP

School of Physical and Life Sciences
205 McEver Hall, Arkansas Tech University
Russellville, AR 72801

Phone: (479) 968-0313
Fax: (479) 964-0837
e-mail: tnupp@atu.edu

Education

- 1997 Ph.D. Wildlife Science, Purdue University
Thesis: "*Community structure of granivorous forest rodents in fragmented landscapes.*"
- 1992 M.S. Wildlife Science, Auburn University
Thesis: "*Nest box use and population densities of gray squirrels in southern Alabama.*"
- 1987 B.S. Biology (Ecology option), minor in Wildlife Science, The Pennsylvania State University
Senior Thesis: "*Patterns of cavity use in small woodlots.*"

Employment History and Teaching Experience

- 2002-Present **Associate Professor**, Fisheries and Wildlife Program, Biology Department, Arkansas Tech University
Courses Taught:
Spring 2007 FW 6002 - Research Methods I (1 section)
FW 4034/5034 - Geographic Information Systems in Natural Resources (1 section)
FW 3163 - Biodiversity and Conservation Biology (1 section)
Fall 2007 FW 4013 - Wildlife Techniques (1 section)
FW/BIOL 3154 - Mammalogy (1 section)
FW 1001 - Orientation to Fisheries and Wildlife Biology (1 section)
- 1997-2002 **Assistant Professor**, Fisheries and Wildlife Program, Arkansas Tech University
- 1992-96 **Graduate Instructor**, Purdue University
FNR 342 - Mammalogy
FNR 547 - Vertebrate Population Dynamics
- 1991 **Instructor and Teaching Assistant**, Auburn University
WL 528 - Wildlife Biology, Instructor
BY 101 & BY 105 - Introductory Biology

Scholarly and Professional Activities

Publications (2001-2007)

- NUPP, T. E. 2007. Small mammal survey at Fort Chaffee Military Training Center, Arkansas (May - July 2007). Final Report to FTN Associates and Military Department of Arkansas.
- NUPP, T. E. 2006. Examination of Interior Least Tern Nesting Colonies on the Arkansas River, Arkansas, Summer 2006. Final Report to U.S. Fish and Wildlife Service and U.S. Army Corps of Engineers.
- SHOWEN, L. L., AND T. E. NUPP. 2006. Effects of oak woodland ecosystem restoration on small mammals in the Bayou Ranger District, Ozark National Forest. Final report to the U.S. Forest Service.
- MEDUNA, L. R., AND T. E. NUPP. 2005. Population status, breeding biology, and habitat selection of the Interior Least Tern on the Red River, Arkansas. Final Report to Arkansas Game and Fish Commission.
- SWIHART, R.K., T.H. GEHRING, M. KOLOZSVARY, AND T.E. NUPP. 2003. Responses of 'resistant' vertebrates to habitat loss and fragmentation: the importance of niche breadth and range boundaries. *Diversity and Distributions* 9:1-18.
- NUPP, T.E., AND R.K. SWIHART. 2001. Assessing competition between forest rodents in a fragmented landscape: Incorporating habitat selection at multiple spatial scales. *Mammalian Biology* 66:345-356.
- NUPP, T.E., AND N.R. HOLLER. 2001. Gray squirrel population responses to nest boxes in two forest types in southern Alabama. *Proceedings of the Southeastern Association of Fish and Wildlife Agencies.*

Presentations (2001-2007)

- REYNOLDS, B. J. AND T. E. NUPP. 2007. Seasonal Movements and Roost Characteristics of Red Bats (*Lasiurus borealis*) in Arkansas. Oral Presentation at the Annual Meeting of the Arkansas Academy of Sciences, Russellville, AR.
- SHOWEN, L. AND T. E. NUPP. 2006. Habitat Characteristics of Oak Woodland Ecosystem Restoration Associated with Increased Small Mammal Abundance in the Bayou Ranger District, Arkansas. Oral Presentation at the Annual Meeting of the American Society of Mammalogists, Amherst, MA.
- KNOLL, E. L., AND T. E. NUPP. 2005. Comparison of historical and current nesting habitat for Interior Least Terns on the Arkansas River, Arkansas. Oral Presentation, American Ornithological Union Annual Mtg., San Bernadino, CA.
- KNOLL, E. L., AND T. E. NUPP. 2005. Comparison of historical and current nesting habitat for Interior Least Terns on the Arkansas River, Arkansas. Poster Presentation, Arkansas Academy of Sciences Annual Meeting, Little Rock, AR.
- LANDON, C. D., AND T. E. NUPP. 2005. Morphometric analysis of eastern woodrats inhabiting upland and bottomland habitats in the interior highlands of Arkansas: implications for subspecific designation and microgeographical adaptation. Poster Presentation, American Society of Mammalogists. 85th Annual Mtg. Springfield, MO.
- MEDUNA, L. R., AND T. E. NUPP. 2005. Population status, breeding biology, and habitat selection of the Interior Least Tern on the Red River, Arkansas. Poster Presentation, Arkansas Academy of Sciences Meeting, Little Rock, AR.
- SHOWEN, L. L., AND T. E. NUPP. 2005. Effects of oak woodland ecosystem restoration on small mammals in Arkansas. Poster Presentation, American Society of Mammalogists. 85th Annual Mtg. Springfield, MO.
- NUPP, T. E. 2003. Fisheries and wildlife degree program and Arkansas Tech University. Fall 2003 Meeting of the Ouachita chapter of the Society of American Foresters.
- RIFÁ, A. AND T.E. NUPP. 2002. Changes in small mammal communities in forests affected by oak decline in the Ozark National Forest. Tech. Paper No. 208, American Society of Mammalogists. 82nd Annual Mtg. Lake Charles, LA.
- RIFÁ, A. AND T.E. NUPP. 2002. Increase in downed wood in forest stands affected by oak decline and its effects on small mammal communities. Upland Oak Ecology in the Interior Highlands, A Symposium, Fayetteville, AR.
- URBANIC, J. E. AND T. E. NUPP. 2002. Population status of Interior Least Terns on the Arkansas River, Arkansas. Arkansas Academy of Sciences. Abstract: poster presentation.
- URBANIC, J. E. AND T. E. NUPP. 2002. Nest success and colony dynamics of Interior Least Terns on the Arkansas River, Arkansas. 83rd Annual Meeting of the Wilson Society. Abstract: poster presentation.
- URBANIC, J. E. AND T. E. NUPP. 2002. Nest success and reproductive ecology of the Interior population of Least Terns nesting on the Arkansas River, Arkansas. 3rd Annual Research Symposium, Arkansas Game and Fish Commission, Little Rock, AR.
- NUPP, T. E. 2001. Changes in forest small mammal populations associated with small patch size in west-central Indiana. Invited seminar presentation at University of Memphis, 13 September 2001.

Grant Administration (2001-2007)

- FTN Associates: Small mammal survey at Fort Chaffee Military Training Center, Arkansas, 2007. \$25,000 May 15, 2007 – Nov. 1, 2007.
- US Fish and Wildlife Service (USFWS): Least Tern Nest and Fledgling Monitoring on the Arkansas River, Arkansas \$23,835 May 1, 2007-Dec. 30, 2007.
- US Fish and Wildlife Service: Current and Past Status of Nesting Habitat for Interior Least Terns (*Sterna antillarum*) on the Arkansas River in Arkansas. \$35,000 Sept. 1, 2003--Sept. 30, 2005.
- Arkansas Tech University Faculty Research Grant: Morphometric analysis of eastern woodrats inhabiting upland and bottomland habitats in the Interior Highlands of Arkansas: Implications for subspecific designation and microgeographical adaptation. \$2,800 Sept. 30, 2004--June 30, 2005.
- Arkansas Tech University Faculty Research Grant: Seasonal Movements and Roost Characteristics of Red Bats (*Lasiurus borealis*) in Arkansas. \$3,500 Sept. 30, 2006--June 30, 2007.
- Arkansas Game and Fish Commission (AGFC): Status and Reproductive Ecology of the Interior Population of the Least Tern (*Sterna antillarum*) Nesting on the Arkansas River in Arkansas. \$39,926 July 1, 2000--June 30, 2002
- AGFC: Status and Reproductive Ecology of the Interior Population of the Least Tern (*Sterna antillarum*) Nesting on the Red River in Southwest Arkansas. \$50,000 July 1 2002--June 30, 2004.
- AGFC: Cataloging deer incisors for cementum annuli analysis. \$2,865 Oct.2002 -- May 1, 2003.
- AGFC: Digitizing food plots on the White Rock WMA. \$1,217 May 1--June 30, 2003.
- US Forest Service: Oak Decline and Small Mammals: \$19,479 June 1, 2001--Sept. 30, 2002

Arkansas Department of Higher Education (ADHE) grant for development of a Geographical Information Systems (GIS) classroom -5: \$7,911 July1, 2001--June 30, 2002

Memberships & Service to Professional Organizations

American Society of Mammalogists, Education and Graduate Student Committee

The Wildlife Society

Arkansas Chapter of the Wildlife Society, Secretary/Treasurer 2008-2010

Research Experience

- 2001-Present **Graduate Research Projects**, Arkansas Tech University
1. Population status and reproductive ecology of Interior Least Terns (*Sterna antillarum*) nesting on the Arkansas River in Arkansas. Completed M.S. Thesis, John R. Urbanic
 2. Oak decline in the Ozark National Forest and its effects on small mammal communities. Uncompleted M.S. Thesis, Amparo Rifá.
 3. Status and Reproductive Ecology of the Interior Population of the Least Tern (*Sterna antillarum*) Nesting on the Red River in Southwest Arkansas. Completed M.S. Thesis, Luke Meduna.
 4. Current and Past Status of Nesting Habitat for Interior Least Terns (*Sterna antillarum*) on the Arkansas River in Arkansas. Completed M.S. Thesis, Erin Knoll.
 5. Effects of Oak Woodland Restoration on Small Mammal Populations in the Ozark National Forest. Completed M.S. Thesis, Laurinda Showen.
 6. Comparison of Least Tern (*Sterna antillarum*) nesting on natural sandbars and rooftops in Arkansas. M.S. Thesis in progress, John Watterson.

- 2001-Present **Undergraduate Research Projects**, Arkansas Tech University
1. Using GIS in the Raspberry Mt. Project-USFS, Jason Kindall.
 2. *Analysis of deer harvest data for District 7 of the Arkansas Game and Fish Commission, Daryl Jones
 3. Analysis of statewide deer harvest data by physiographic region, Eric Strother.
 4. Large-scale transect sampling for small mammals in the Ozark National Forest, Bryan Hammond.
 5. Morphometric analysis of eastern woodrats inhabiting upland and bottomland habitats in the Interior Highlands of Arkansas: Implications for subspecific designation and microgeographical adaptation, Chelsea Landon**
 6. Effectiveness of Barred Owl (*Strix varia*) decoy as a predator response stimuli on gray squirrel (*Sciurus carolinensis*) trap behavior and capture success of Tomahawk™ single door livetraps, Matt Connior
 7. Seasonal Movements and Roost Characteristics of Red Bats (*Lasiurus borealis*) in Arkansas, Bentley Reynolds***
 8. Using GIS and GPS to explore the roosting habits of Eastern Red Bats in a suburban environment, Jillian Hubbard
- * Presented as a poster at the 2001 Annual Meeting of the Arkansas Academy of Sciences.
** Presented as a poster at 2005 Annual Meeting of the American Society of Mammalogists.
***Presented as an oral presentation at the 2007 Arkansas Academy of Sciences.

Service and Advising

University

University Excellence Awards in Teaching, Scholarly and Creative Activities, and Service Committee (2008)

Department of Parks, Recreation, and Hospitality Administration peer review committee (2007)

University self-study, Engagement and Service subcommittee (2007)

Library, Instructional Materials and Equipment Committee (2000-2001)

Admission, Academic Standards, and Student Honors Committee (2001-2002)

Curriculum Committee (2002-2004), Chair in 2004

Advisor, Fisheries and Wildlife Club (1998-present)

Departmental

Biology department peer review committee (2003-2004), Chair in 2004

Biology faculty search committee (1998, 1999, 2000, 2001, 2002)

Fisheries and Wildlife Masters Program development committee (1999, 2000)

Advisor and test maker for West-Central Division Envirothon Competition (1999-2001)

Contact Person and Reviewer of Scholarship Applicants for the Jim Ed McGee, Hanging Branch, and Yell County Wildlife Federation Scholarships

Estimating densities from small mammal survey data: an example using distance sampling methodology at Ft. Chaffee Military Training Center, Arkansas.

Thomas E. Nupp, Arkansas Tech University, 1701 N. Boulder Avenue, Russellville, AR 72801

Biotic inventories of large heterogeneous landscapes such as the 26,400 ha Fort Chaffee Military Training Center (hereafter FCMTTC) remain a challenging task for biologists and managers. Identification and assessment of small mammal community composition and relative abundance is a key part of larger assessments of biotic health and productivity of terrestrial communities. Traditional surveys have focused on presence/absence data to infer status of biotic communities without estimating abundance at all, or through use of indices of abundance such as captures/100 trap nights. I will present a methodology for collecting both presence/absence and density estimates of small mammals in various habitats at the FCMTTC using a distance sampling methodology. I used two perpendicular transects containing 19 Sherman and Tomahawk livetraps to sample small mammals at 60 different locations at FCMTTC. These sampling locations were distributed across the entirety of the FCMTTC excluding active training and impact zones and represented 12 vegetation communities. Livetrapping over the period of 1-28 June 2007 resulted in 306 total captures of 260 individuals. Fifteen species of small- and medium-sized mammals were captured in 3,382 total trap nights. Species richness did not differ among vegetation categories ($F_{11,48} = 1.41$, $P = 0.20$), but capture rates measured in captures/100 trap nights differed among vegetation categories largely due to extraordinary numbers of captures in one redcedar woodland habitat type (Captures/100TN = 33.33; $F_{11,48} = 2.05$, $P = 0.04$). I will compare and contrast density estimates derived from Program DISTANCE to capture rates estimates to determine the practicality of density estimation using distance methods on survey data.

PROPOSED BUDGET
PROFESSIONAL DEVELOPMENT GRANT
(include budget categories as appropriate)

1.	Graduate assistant stipend	\$ _____
	Fringe benefits @ .27% (27/100 percent) of graduate assistant stipend	_____
2.	Non-work study stipend	_____
	Fringe benefits @ .27% (27/100 percent) of non-work study stipend	_____
3.	*Supplies (please list items to be purchased and estimated price per item including taxes and shipping, if appropriate):	
	Item No. 1 (e.g., software)	Estimated Price _____
	Item No. 2 (e.g., copying costs)	Estimated Price _____
	Item No. 3	Estimated Price _____
	(additional lines as needed)	
	Total estimated supplies	_____
4.	Travel (please list travel expenditures by date and estimated costs):	
	Travel No. 1	Estimated Price <u>1174.00</u>
	Travel No. 2	Estimated Price _____
	Travel No. 3	Estimated Price _____
	(additional lines as needed)	
	Total estimated travel	<u>1174.00</u>
5.	*Capital Outlay (please list items to be purchased and estimated price per item including taxes and shipping, if appropriate):	
	Item No. 1	Estimated Price _____
	Item No. 2	Estimated Price _____
	Item No. 3	Estimated Price _____
	(additional lines as needed)	
	Total estimated capital outlay	_____
	TOTAL PROPOSED BUDGET	\$ <u>1174.00</u>

*Items purchased under \$2,500 (including taxes and shipping) are considered supply items. Capital Outlay items are those which cost \$2,500 (per item) or more (including taxes and shipping). Please contact the Purchasing Office for questionable items.