

School IPM Extension Grant

2008

Jennifer L. Snyder & Dawn H. Gouge

I. Project Title: Bat IPM: Addressing Stakeholder Needs

II. Project Leader: Dr. Dawn H. Gouge
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III. Project Team Members:

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Craig Levy, Vector-Borne and Zoonotic Disease Program Director, Arizona Department of Health Services
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Ronnie Sidner, Mammalogist, Bat Biologist, University of Arizona
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Paul Rasmussen, Arizona Department of Environmental Quality
Carl A. Olson, Associate Curator, Department Entomology, University of Arizona
Jennifer L. Snyder, Research Specialist, University of Arizona Maricopa Agricultural Center

IV. Location: Maricopa, Santa Cruz, and Cochise Counties (in-person); state-wide (electronic communications)

V. Critical Issue/Situation to be Addressed:

State health lab data confirms an annual increase in the number of bats submitted for testing and, following from that, an increase in the number of bats testing positive for the rabies virus; 2007 produced an all-time high of rabies-positive bats (115 cases). As the leading mammal submitted for rabies-testing, bats are also among the most commonly encountered wild vertebrates in schools. Preventable or inappropriate staff/student interactions with wildlife on school grounds poses significant health concerns, and in some cases negatively impacts urban-wildlife relationships and local conservation efforts. Recently, two Arizona schools discovered bats inside classrooms – likely having migrated into the rooms from roosting sites in the structure’s eaves. In one such instance, all recovered bats were euthanized and tested for rabies; a single positive was all that was needed to require preventative rabies vaccinations, which were subsequently administered to several students who were in the classroom. Based on personal communications with school staff throughout the state during the fall of 2007 and with state agency personnel, it was concluded that this scenario occurs more often than reported and therefore more often than realized. Whether Arizona’s expanding urban-wildlife interface is escalating opportunities for human-bat encounters, or whether the rabies virus is experiencing a natural incline among this group of mammals, the effect on schools is the same: they are asking for help in the form of IPM information and practical guidance to safely and effectively address this health issue.

The Arizona Game and Fish Department (AZGFD) is actively involved in bat conservation education throughout the state; however, their target school audience is children. The Arizona Department of Health Services (ADHS) conducts outreach to schools to reduce rabies exposure incidents through education of a “don’t touch/call for an

adult” approach. To their credit, this information most often reaches nurses and school administrative staff. Though certainly worthwhile, these outreach and educational efforts do not specifically address facilities and maintenance personnel – the very staff who are key in any school district’s pest management. Additionally, the combined focus of the AZGFD/ADHS outreach addresses bat ecology, laws, remediation, and rabies prevention within schools, and thus rarely reaches members of the pest management industry – a significant contingent of those practicing pest management in school environments. Therefore, the best case scenario with existing resources is this: outreach information is effectively disseminated among school staff and students, including in-house pest managers, but fails to provide in-person demonstrations and workshops critical to understanding bat IPM, and furthermore existing outreach methods bypass contracted pest professionals.

During the Children’s Environmental Health Coalition workshop held in Phoenix, November 2007, UA Urban IPM staff coordinated with the AZGFD to present hands-on bat ecology, prevention, and inspection information to a group of school IPM stakeholders. Attendees included school staff from three counties, more than eight pest management companies serving schools/child care facilities, county and state department of health employees, and pest managers from various municipal sources. More than half the written evaluations from this workshop indicate that bat sightings on school grounds are perceived as a concern by school district staff and/or administration, and 85% indicated they – as pest managers – would benefit from additional IPM follow-up information on bats (specifically, inspection techniques and remediation). As a result of the feedback received from stakeholders, both at this meeting and in our inquiries, we submitted a proposal for a State Heritage Grant to comprehensively address this need; these potential leveraged funds from AZGFD will augment the objectives outlined in this proposal.

This proposal seeks to address bat IPM in schools using the existing infrastructure of the Arizona Children’s Environmental Health Coalition and statewide network of contacts, of which Dr. Gouge is the director. This school IPM program represents one of four key topics identified at the 2006 Arizona Pest Management Center Summit, and the efforts outlined here are in keeping with the APMC priorities. While bats may be a new pest for this program, they are by no means the only vertebrate we address in schools; our program also addresses IPM for rodents, birds, and feral animals. The standard principals characterizing urban IPM (prevention, exclusion, sanitation, etc.) remain the same with bats as with other vertebrates and invertebrates. Additionally, we intend to continue close ties with the ADHS and AZGFD to ensure accuracy of our materials and information, and remain consistent with state protocols in furtherance of bat conservation (state AZGFD guidelines for bat conservation are based on the North American Strategic Plan for Bat Conservation). Objectives of this proposal include, but are not limited to, the activities outlined in section VII.

VI. Inputs/Budget

To implement the proposed objectives, the following inputs are requested:

Operational dollars to cover workshop travel and workshop costs	\$2,500.00
<u>{ travel reimbursement requested for Gouge, Snyder, and two collaborators as</u>	

presenters}.....	\$ 1,900.00	
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3.9% of classified staff salary (ERE included)		\$6,000.00
{Base salary for classified staff plus ERE (0.464).....	\$ 65,089.44}	
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Total Amount Requested		\$8,500

VII. Outputs

1. Two 1-day workshops bearing Continuing Education Credits, which will present both written and oral information on bat ecology, rabies exposure prevention, laws and regulations, and comprehensive IPM methods for prevention and remediation of existing roosts. Workshops will also include a hands-on mock-inspection of an urban structure to demonstrate principles and techniques. Workshop locations will include the Phoenix metro area and an appropriate location in Cochise County; both counties have experienced bat-related incidents on school grounds.
2. At least one bi-monthly publication of the “Pest Press” newsletter dedicated to bat IPM, with specific content determined by workshop evaluations and personal stakeholder communications. This publication is circulated state-wide electronically, and is nationally syndicated in three states outside of Arizona.
3. One half-day training in Nogales (Santa Cruz County), for border schools north and south of the border.

VIII. Expected Outcomes & Impacts:

Short-term results from the proposed budget spending include:

1. Increased knowledge among school facilities and maintenance personnel in effectively and lawfully dealing with bats and their associated zoonotic pathogens (rabies virus).
2. Increased outreach to members of the pest management industry, department of health county workers, and various interested municipal pest managers on bat IPM and rabies exposure prevention.

Medium-term results from the proposed budget spending include:

1. Improved IPM measures implemented in Arizona’s school districts for the prevention of student or staff encounters with bats and rabies exposure.
2. Greater consistency among statewide members of the pest management industry in dealing with bats effectively and sustainability, not only in schools but also other urban environments.

Long-term/output results from the proposed budget spending include:

1. Fewer high-risk incidents in schools between bats and students as a result of increased awareness of bat biology and IPM measures to discourage and prevent them from becoming pests.
2. Increased awareness of bats (ecology, conservation) by students, staff, and pest management professionals.

IX. Plan for Evaluation:

We will evaluate desired outcomes for grant funding through:

- o Evaluation forms measuring applicability and benefit, which will be completed by workshop participants.
- o Correspondences with AZGFD bat biologists and ADHS experts regarding school/bat incidents.