

Laboratory and Field Testing of Treatments for White Nose Syndrome: Immediate Funding Need for the Northeast Region

- funded 2011; study in early stages

Project Leader:

DeeAnn M. Reeder, Associate Professor of Biology, Bucknell University, Lewisburg, PA 17837, dreeder@bucknell.edu Tel: 570-577-1208

Mahmoud Ghannoum, Professor and Director, Center for Medical Mycology, Department of Dermatology, Case Western Reserve University; Mahmoud.Ghannoum@case.edu

Other Principal Investigators:

Hazel A. Barton, Ashland Endowed Professor of Integrative Science, Department of Biological Sciences, Northern Kentucky University; bartonh@nku.edu

Al Hicks, Wildlife Biologist, New York Department of Conservation; achicks@gw.dec.state.ny.us

Alison Robbins, Clinical Assistant Professor, Center for Conservation Medicine, Tufts Cummings School of Veterinary Medicine; alison.robbs@tufts.edu

Elizabeth L. Buckles, Assistant Professor, Department of Biomedical Sciences, Cornell University; elb36@cornell.edu

Greg Turner, Wildlife Biologist, Pennsylvania Game Commission; gturner@state.pa.us

Cal Butchkoski, Wildlife Biologist, Pennsylvania Game Commission; cbutchkosk@state.pa.us

Technical Coordinator:

Alison L. Whitlock, Wildlife Research Specialist, U.S. Fish and Wildlife Service
Email: alison_whitlock@fws.gov

Problem Addressed

Bats in the Northeastern North America are dying in large numbers due to 'White-nose Syndrome'.

Need: to determine how to mitigate the effects of WNS.

Objective: to develop and test potential treatments for WNS and, if possible, to optimize field treatment protocols.



Methods/ treatments to try:

Collaborative research team is in the process of determining what agents will be tested (based upon ability to kill *Geomyces destructans* - the putative causative agent – and upon safety profiles)

Current Candidates include:

Terbinafine-based treatments (this drug is the safest of the commonly used antifungal pharmaceuticals)

- **Slow-release terbinafine subcutaneous implants**
- **Single use long acting terbinafine cream**
- **Terbinafine/citral spray**

Volatile Organic Compounds

Captive Experiments (field experiments to be determined)



- Will be conducted in highly controlled environmental chambers - The Bucknell Bat Caves
- Affected animals will be captured in the field, treated, and hibernated for 4.5 mo.
- Survivorship and overall health will be assessed.

Status/Utility

The development of successful treatment regimes will allow for the design of mitigation strategies for bats affected by WNS

This includes :

- Treatment of bats in free-ranging conditions
- Treatment of bats in support of ‘captive assurance populations’ – should they be initiated.