

White-nose Syndrome Decontamination Protocols and Agreements for BCI Workshops

INTRODUCTION

White Nose Syndrome (WNS) has killed over one million bats in the U.S. since the winter of 2006/2007. First noted near Albany, New York, it has spread at an astonishingly rapid rate. Little is known about its cause or transmission. A fungus is associated with the syndrome and may be a prime cause of death. If WNS continues to spread, it will greatly affect both subterranean and surface ecosystems and may cause species extinctions. There are indications that people might spread WNS when they visit caves. Therefore, we must take every reasonable precaution to minimize the risk of workshop participants spreading WNS at faster than normal rates, and to keep the syndrome from reaching other countries.

The following WNS decontamination procedures, prepared by Bat Conservation International (BCI) on June 4, 2009, follows U.S. Fish and Wildlife Service, Pennsylvania Game Commission (PGC), and U.S. Geological Survey Wildlife Health Service decontamination protocols. Any changes in the procedures based on new research will be distributed and discussed at the workshop.

NO equipment (clothing, helmets, boots, lights, cameras, ropes, packs, etc.) used in a WNS-confirmed bat roost should be used at any other roost or net site. For the workshop, we ask all participants to bring new gear if possible, gear that has been thoroughly decontaminated, and no gear from affected or possibly affected bat roosts. Use minimal equipment at roosts; take only what is absolutely necessary. All gear will be decontaminated under these protocols on the first day of the workshop.

_____ *By initialing here I agree to bring only new gear to a BCI-sponsored event or to follow disinfection procedures upon my arrival in the area prior to using any personal items at the site. I further agree that none of the items I bring to the BCI-sponsored event have been used at a WNS affected site or border area, nor have they been stored or transported with any items that have been used at a WNS affected site or border area.*

Step-by-Step Decontamination Procedures for Roost Visits

We will not enter occupied bat hibernacula or underground maternity roosts during this workshop. Nevertheless, exterior visits to roosts will be subject to the following WNS policies:

Before arriving at a roost

- Wear non-caving clothes/shoes on the way to the site. Carry underground equipment in a clean container. Change into caving clothes and equipment at the site and put clean clothes in the clean container.
- All clothing (including underwear), boots, and equipment that enters a roost should be new or fully cleaned using the protocols below. Do not take equipment into a cave if it cannot be disposed of or thoroughly decontaminated.

After leaving a roost

Step #1:

- Thoroughly scrape or brush off any dirt and mud from clothes, boots, and equipment. Seal the clothes, boots, and equipment in a plastic bag until they can be cleaned and disinfected.
- Before entering a vehicle, remove and bag caving clothes as described above, clean exposed skin (arms, face, neck, hands, etc.) with an antibacterial hand sanitizer that is at least 60% alcohol (e.g., Purell®), and change into clean non-caving clothes. (BCI will provide sanitizer solution.)

Step #2:

- Tubs and brushes will be available from BCI and/or the local host for your use in fully scrubbing and rinsing clothes and equipment. It is important to remove all soil and organic material. Then, either follow the steps below or place caving clothes and equipment into new, clean plastic bags for washing at other laundry facilities upon returning home.
- Clothing – Wash all clothing and any appropriate equipment in a washing machine using the hottest cycle possible for the material. Laboratory testing has found Woolite® fabric wash the most effective surfactant. Rinse thoroughly and then soak for 10 minutes in a sodium hypochlorite bleach (i.e.,

household bleach) solution diluted to 1 part bleach to 9 parts water. Rinse and air dry.

- Submersible equipment – Submerge equipment in a solution of sodium hypochlorite bleach (i.e., household bleach), diluted to 1 part bleach to 9 parts water, or a $\geq 3\%$ quaternary ammonium compound (e.g. Lysol® All-purpose Professional Cleaner or the antibacterial form of Formula 409®) solution for 10 minutes, at a 1:128 ratio (1 ounce to 1 gallon of water). Rinse and air dry.
- Non-submersible equipment – Apply one of the following disinfectants to the outside surface for 10 minutes, rinse, and then air dry: $\geq 3\%$ concentration of quaternary ammonium compounds (e.g. Lysol® All-purpose Professional Cleaner, Lysol® disinfecting wipes, or the antibacterial form of Formula 409®) at a 1:128 ratio (1 ounce to 1 gallon of water), or a sodium hypochlorite bleach (i.e., household bleach) solution diluted to 1 part bleach to 9 parts water.
- Boots – The entire boots, including soles and leather uppers, must be disinfected as described above for non-submersible equipment.
- Vehicles – Every bus, van, and personal vehicle used for workshop trips will be provided with trash bags and disinfectant sprays and hand sanitizers. Each driver is responsible for screening trip participants for WNS policy compliance, and will disinfect the vehicle at the end of the trip.

STEP-BY-STEP PROCEDURES FOR BAT HANDLING/DISINFECTION FOR NETTING AND TRAPPING ACTIVITIES

To minimize the potential transmission of WNS while handling bats (both handler-to-bat and bat-to-bat), cautionary procedures will be implemented. Any equipment that comes in contact with bats has the potential to be a vector for spread of WNS (for example, mist nets, harp traps, bat bags, wing punches, weighing tubes, rulers/calipers, gloves). Workshop leaders will ensure compliance with these policies, but it is up to individual participants to understand and assist with protocols as needed.

Bags and Gloves

Bats will be kept in bags rather than holding cages. To avoid cross-contamination, it is imperative to keep bats separated and holding bags as clean as possible. Non-disposable holding bags will be used only once during a night of field work and will be washed and dried before reuse, following procedures listed below. Disposable bags are preferred. Paper bags are an option for holding bats temporarily, but may not be reused. If bats will be held just long enough to process the animal, a plastic bag could be used. Disposable gloves should be worn over handling gloves and swapped out regularly throughout the night, especially in between handling different bats, specifically after handling cave bats and before handling tree bats.

Hard-Sided Equipment

Use an approved disinfectant solution to sanitize all equipment that comes into contact with a bat's body, including rulers, calipers, weighing containers, etc. Clean these items after each bat. If using reusable containers to weigh bats, disinfect after each bat. Alternatively, bats can be put in a plastic bag, weighed, and measured (forearm). Collect and discard bags after each bat.

Nets

- When possible, use new nets
- If that is not possible, disinfect nets by soaking in an approved disinfectant solution for 10 minutes, rinse and hang them until completely dry (preferably in the sun).

Harp Traps

- For each new site, clean any dirt/debris from wires/lines and bags, and soak in an approved disinfectant solution for 10 minutes rinse and dry completely (preferably in the sun) prior to use.
- Bats should not be allowed to remain in the bag for more than 10 minutes, but traps should be checked more frequently if possible to reduce the time bats are in contact with each other and the bag. With more frequent checks, it may be possible to line the bottom of the catch bag with a sheet of plastic so that the plastic can be removed every hour and swapped with clean plastic or wiped down with bleach and rinsed clean before reinserting it, to minimize cross contamination of bats.

NOTIFICATION OF SIGNS OF WNS

As a reminder, the white fungus is only one of the signs of WNS, and we do not expect to find bats with fungus on them during the summer (once they are active and grooming). However, other abnormal characteristics may be indicative of WNS. Abnormal characteristics observed in summer may include: extremely underweight bats; flaky, dehydrated or wrinkled wing/tail membranes; wing lesions; discolored spots and/ or scarring of flight and tail membranes; multiple small to medium-size holes in wing membranes; torn or necrotic areas at the trailing edge of wing and tail membranes. All WNS signs will be thoroughly documented on data sheets and with photographs as required.

APPROVED PRODUCTS FOR USE IN WNS DISINFECTION

The following are the ONLY products that have been laboratory-tested and verified as effective against the WNS-associated fungus:

- Bleach @ 10% solution (1part bleach: 9 parts water)
- Professional Lysol Antibacterial Cleaner @ 1:128 (recommended concentration for cleaning and sterilizing)
- Professional Lysol Antibacterial Cleaner @ 1:64 (recommended concentration for disinfecting)
- Pomicidal (one ounce of promicidal per gallon of water)

_____ *By initialing here, I agree to use the recommended compounds for all decontamination and disinfecting activities during the BCI event. I further understand the dilution ratios and process for obtaining the proper concentrations so I can properly prepare an effective solution.*

ADDITIONAL TERMS

All users should read and understand this document to properly prepare themselves for the seriousness of the activities required during the handling and roost visiting portions of fieldwork at WNS-sites and border states.

- BCI Liability Waiver (included)
- USF&WS WNS Decontamination Protocols:
- http://www.fws.gov/northeast/pdf/2008%20Summer%20Protocols_15May2008b.pdf
- USF&WS Cave Advisory 26 March 2009: <http://www.fws.gov/northeast/wncaveadvisory.html>
- USF&WS Cave Advisory FAQs: <http://www.fws.gov/northeast/wncaveadvisoryfaq.html>

COMPLETE UNDERSTANDING

I have read and understood this Agreement and acknowledge that it constitutes the complete agreement between BCI and the undersigned concerning entry near and/or into bat roosts and/or bat handling during the current White-nose Syndrome outbreak. I agree to adhere to all the policies, protocols, and requirements identified herein and/or explained to me at the time of my participation in a BCI-sponsored program, and understand that violations to any of these stipulations can result in my dismissal from BCI events, activities, or groups and/or legal prosecution by private, public, state, and/or federal entities. I have initialed all protocols listed above indicating my understanding and complete compliance with the policies outlined, and I agree to conduct all requirements as described.

Date: _____ User Signature: _____

User Printed Name: _____

Date: _____ BCI Representative: _____

Event: _____

Parent/Guardian (if applicable): _____

Parent/Guardian Printed Name: _____