

Pennsylvania Game Commission

Bat Handling/Disinfection Protocol for Summer Bat Field Studies

Developed March 2009

These guidelines are for researchers and contractors who will be conducting summer bat studies in Pennsylvania that involve catching and handling bats. White Nose Syndrome (WNS) continues to spread aggressively among bat populations in northeastern states. To minimize the potential transmission of WNS while handling bats (both handler-to bat and bat to bat), cautionary procedures must 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).

At this time WNS has been confirmed or is suspected in Connecticut, Massachusetts, New York, Vermont, New Hampshire, New Jersey, West Virginia, Virginia, and Pennsylvania. These bats will disperse over a larger geographic area during spring and summer. **At this time, any equipment used in another state is potentially-contaminated and must be decontaminated prior to use in Pennsylvania.**

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) <http://www.reckittprofessional.com/index.jsp>

Professional Lysol Antibacterial Cleaner @ 1:64 (recommended concentration for disinfecting)

Promicidal (one ounce of promicidal per gallon of water)

Disinfection Protocol – Moving Equipment Between Sites

Moving from Unaffected County to Another Unaffected County

Strict decontamination protocols are required when moving between unaffected counties. These protocols are required as part of an attempt to slow unknown early contamination in an area,

All attempts should be made to use new gear in unaffected counties. Previously-used equipment that cannot be sanitized as described will not be transported to an unaffected county.

Prior to use, all hardware and soft sided equipment (traps, nets, handling gloves, and bat retention or measurement equipment) shall be

1. washed/rinsed free of coarse debris
2. sanitized by submerging in an approved disinfectant at an approved concentration for at least 10 minutes
3. rinsed at least two times
4. air-dried prior to use in a new county.

Field clothing and boots must be cleaned when moving to a new county. Field clothing and footwear used will be washed/scrubbed in hot soapy water.

Any non-porous equipment that was used in an affected state or site cannot be used unless it has been decontaminated as described above prior to being transported into an unaffected county. Nets, catch bags, holding bags, bat handling gloves, and other porous bat handling gear may not be used in unaffected counties after being used in an affected county.

Moving Within an Unaffected County

Strict decontamination protocols are required even between sites within unaffected counties. These protocols are required as part of an attempt to slow unknown early contamination in an area, All used equipment must be sanitized between sites, just as when moving from unaffected county to unaffected county.

Unaffected Hibernacula - see “Hibernacula” section

Leather/cloth footwear used at affected hibernacula and bat handling gloves worn in affected counties cannot be adequately sanitized and therefore **cannot** be worn at sites in unaffected counties. We suggest using rubber boots/gloves or disposable gloves when working around all hibernacula.

NO UNSANITIZED EQUIPMENT OR CLOTHING MAY BE TAKEN INTO UNAFFECTED HIBERNACULA OR USED AROUND ENTRANCES OF UNAFFECTED HIBERNACULA.

Moving Within Affected Counties and Between Affected Counties

Within affected areas, all soft-sided equipment including nets, cloth bags, gloves and footwear must be washed in hot soapy water and surfaces cleaned with an approved disinfectant between sites, rinsed and air-dried. Before leaving an affected county to enter an unaffected county, all hard-surfaced equipment must be sanitized as mentioned above in *Moving from Unaffected County to Another Unaffected County*

Reminder: Nets, catch bags, holding bags, bat handling gloves and other porous gear may not be used in an unaffected county after being used in an affected county.

Hibernacula

Optimally, all caving gear will be sanitized prior to leaving hibernacula. If this is not possible, strict storage of used/dirty gear must be maintained within transport vehicles to avoid cross contamination of clean gear and contaminated gear. Upon exiting the hibernacula, gear will be removed before entering vehicle and double bagged before placing in vehicle for later decontamination at field headquarters. Under no circumstances will decontamination be conducted at new hibernacula prior to surveys.

Caving suits and packs must be thoroughly washed in hot soapy water until free of soil then sanitized by soaking in an approved disinfectant for a minimum of **60** minutes, rinsed at least twice and air-dried. Many items such as cameras cannot be decontaminated and should not be taken into unaffected hibernacula.

Hibernacula in Unaffected Counties

Prior to use, all equipment (traps, nets, bags, helmets, lights etc.) must be sanitized for each site by washing off all soil and then soaking in an approved disinfectant solution for a minimum of 10 minutes and rinsed twice.

Field clothing must be cleaned of soil, sanitized and washed in hot soapy water. Rubber boots may be used repeatedly if cleaned of soil and sanitized by soaking in an approved disinfectant for a minimum of 10 minutes and rinsed.

Reminder: Nets, catch bags, holding bags, bat handling gloves, leather and cloth footwear and other porous gear may not be used in unaffected hibernacula after being used in an affected county. Caving suits and packs used in affected counties are not permitted. Disposable coveralls, disposable equipment, and hard shell boxes are recommended.

Hibernacula in Affected Counties

All porous equipment including nets, cloth/catch bags, gloves and footwear must be washed in hot soapy water and surfaces cleaned with an approved disinfectant between sites, rinsed and air-dried. Before leaving an affected county to enter an unaffected county, all equipment must be sanitized as mentioned above in: *Moving from Unaffected County to Another Unaffected County*

Optimally, contaminated gear will be sanitized prior to leaving hibernacula. If this is not possible, strict storage of contaminated gear must be maintained within transport vehicles to avoid cross contamination between clean gear and contaminated gear. Upon leaving a site, contaminated gear, coveralls, boots will be removed before entering vehicle and double bagged before placing in vehicle for later decontamination at field headquarters.

Caving suits and packs must be thoroughly washed in hot soapy water until free of soil then sanitized by soaking in an approved disinfectant solution for a minimum of **60** minutes, rinsed at least twice and air-dried.

General Bat Handling and Decontamination Guidelines

Bags and Gloves

Bats should be kept in bags rather than holding cages. To avoid cross-contamination of samples, it is imperative to keep bats separated and holding bags as clean as possible. Non-disposable holding bags should be used only once during a night of field work and should 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.

After each night of netting (or prior to next night of use), non-disposable bags and gloves should be disinfected as follows:

1. While still at worksite, remove heavy soil deposits from surface.
2. Soak in an approved disinfectant solution with detergent as a surfactant for 10 minutes.
3. Rinse two times
4. Dry completely

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). Discard and collect bags after each bat.

If collecting wing biopsies for any approved research studies on endangered bats, use a new (unused) punch for each bat. For other bats, punches may be reused, but be sure to completely sterilize them by dipping in full strength approved disinfectant, rinse and flame dry (and allowing them to cool) between bats. Be sure to disinfect the cutting board between bats, as described above.

Nets

- When possible, use new nets
- Or, if 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 sized holes in wing membranes; torn or necrotic areas at the trailing edge of wing and tail membranes. If you should capture a bat that exhibits signs of WNS or abnormal characteristics, inform the PA Game Commission personnel via the email addresses listed below, and:

- Photograph all suspicious bats
- Record a wing score for each bat using the Wing Damage Index, found on the Northeastern USFWS page: http://www.fws.gov/northeast/white_nose2.html#research
- Report suspicious bats (and send photos) within 24 hr to: cbutchkosk@state.pa.us; grturner@state.pa.us; liswilliam@state.pa.us.
- Additional reporting can be done via the PA Game Commission's Website (<http://www.pgc.state.pa.us/>) by clicking on "Report a sick bat."