

**Quick Reference for White–Nose Syndrome (WNS)
Containment and Decontamination Procedures for Cave Activity
U.S. Fish and Wildlife Service – June 2009**

The USFWS asks that people please follow all cave closure advisories; i.e. recreational caving should not occur in WNS affected and adjacent states. The main goal for this protocol is to put in place reasonable practices that reduce the transfer of infectious agents, which potentially affect bats, from one cave to another cave. We recommend that you follow these practices any time you plan cave activities outside the WNS affected zone. Inside and adjacent to WNS affected zone, the USFWS recommends that no recreational caving activity occur.

You should not handle bats. If you come across live or dead bats with WNS, click on these links to contact [your state wildlife agency](#), e-mail WhiteNoseBats@fws.gov, or contact [your nearest U.S. Fish and Wildlife Service Ecological Services Field Office](#).

Prior to each caving outing, please check <http://www.fws.gov/northeast/wnscavers.html> for updates to these procedures and for cave closures.

Before caving:

A cave should only be entered with clothing, boots, and equipment that have been fully cleaned using the protocol below. We ask that you not take gear into a cave if that gear cannot be thoroughly decontaminated or disposed of (i.e. if harnesses, ropes or webbing, etc. cannot be decontaminated, we advise that you not enter caves or parts of caves requiring use of this gear).

After EVERY caving trip please abide by the following steps.

Step #1: Upon exiting a cave...

- Thoroughly scrape or brush off any dirt and mud from your clothes, boots, and gear and then place them in a sealed plastic bag or plastic container with lid to be cleaned and disinfected off site.
- Outer clothing should be removed prior to entering a vehicle after/between a site visit. A clean change of clothing is recommended. Surface cleaning of exposed skin (arms, face, neck, hands, etc.) with antibacterial hand sanitizer (i.e. Purell[®]) should occur prior to entering the vehicle's cab.

Step #2:

- **For clothing** – Wash all clothing and any appropriate equipment in washing machine using the hottest cycle possible for material and conventional detergents. Laboratory testing has found Woolite[®] fabric wash to be the best surfactant for clothing. Rinse thoroughly, and then follow by soaking with sodium hypochlorite bleach (i.e. household bleach) solution diluted to 1 part bleach to 9 parts water in a tub or plastic container. Soak for 10 minutes, then rinse and air dry.
- **For submersible gear** (i.e. soft-sided gear.) – Disinfect any equipment that can be submersed in a solution with an appropriate and compatible disinfectant such as sodium hypochlorite bleach (i.e. household bleach) solution diluted to 1 part bleach to 9 parts water in a tub or plastic container or $\geq 3\%$ concentration of quaternary ammonium compounds (i.e. Lysol[®] All-purpose Professional Cleaner or the antibacterial form of Formula 409[®]). Keep submersed for 10 minutes, then rinse and air dry.
- **For non-submersible gear** (i.e. hard-sided gear) – Disinfect any equipment that cannot be submersed by applying an appropriate and compatible disinfectant to the outside surface by using $\geq 3\%$ concentration of quaternary ammonium compounds such as Lysol[®] All-purpose Professional Cleaner, Lysol[®] disinfecting wipes or the antibacterial form of Formula 409[®]; or use sodium hypochlorite bleach (i.e. household bleach) solution diluted to 1 part bleach to 9 parts water. Keep on surface for 10 minutes, then rinse and air dry.
- **For boots** – Boots need to be fully scrubbed and rinsed so that all soil and organic material is removed. The entire rubber and leather boots, including soles and leather uppers, can then be disinfected with an appropriate disinfectant such as $\geq 3\%$ concentration of quaternary ammonium compounds (i.e. Lysol[®] All-purpose Professional Cleaner or the antibacterial form of Formula 409[®]) or sodium hypochlorite bleach (i.e. household bleach) solution diluted to 1 part bleach to 9 parts water. Keep on surface for 10 minutes, then rinse and air dry.
- **For ropes and harnesses** – This equipment should be dedicated to one cave or not used at all. Decontamination of vertical equipment is recommended. However, the performance integrity may be compromised by using these disinfecting agents mentioned above repeatedly. Laboratory testing is ongoing.

Note: This protocol is updated as of 6-2-09. Please visit http://www.fws.gov/northeast/white_nose.html for a more comprehensive containment and decontamination protocol.