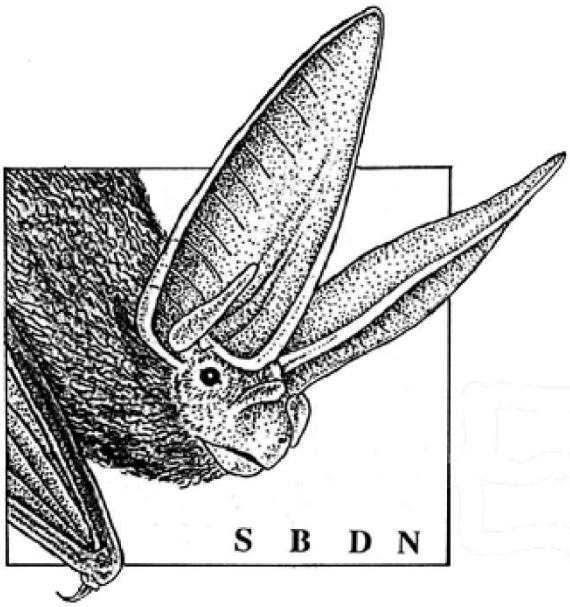

Guidelines for Hosting a SBDN Sponsored Bat Blitz

Prepared by the Bat Blitz Committee of the Southeastern Bat Diversity Network

Last Updated April 24, 2022

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Bats are of increasing concern for land managers and conservationists, especially with the threat of White-Nose Syndrome (WNS). Often, little is known of local bat communities, thus limiting ability of managers to consider habitat needs of bats in land management planning. Because the study of bats is a highly specialized field and many agencies/organizations either do not have bat experts on staff or have limited access to such expertise, obtaining information on local bat communities can be problematic. To address this problem, the Southeastern Bat Diversity Network (SBDN), working with other organizations and agencies, developed an event called a "Bat Blitz". A Bat Blitz is a coordinated, intensive and short-duration effort that covers extensive areas, using expertise of regional bat ecologists, to document the bat community for a short period of time (2-3 sampling days) in a certain location. These events generally involve a substantial, voluntary contribution of time and materials from bat experts. Amount of effort exerted and data collected during a Bat Blitz can be greater than what a single biologist could accomplish in an entire season.

Hosting a Bat Blitz is a very labor-intensive, time-consuming effort. Additionally, it is critical to ensure a successful event so time and effort of the largely volunteer workforce is effectively used. To assist organizations considering hosting a Bat Blitz, SBDN has developed this guidance document. While a Bat Blitz can theoretically be hosted by anyone, involvement of SBDN as a sponsor can greatly enhance participation and notoriety of the event. To help ensure that these Blitzes maintain a level of quality control and continuity, SBDN prepared the following information packet to supplement our advisory role by providing: (1) guidelines, (2) requirements and (3) a timeline to assist planning relative to what will be expected from you, if you choose to host a SBDN sponsored Bat Blitz. Please read this document completely before further pursuing hosting a Bat Blitz. Additional useful information, such as suggested datasheets, safety considerations, etc. is also included in this document.

Should you host a Bat Blitz?

The first item that must be addressed is if a Bat Blitz is warranted and if YOU will be able to successfully host such an event. The proposed host organization should ask itself the following questions:

- Why Are You Having This Event?
  Do you have a significant area (e.g., Forest Service district) that needs a basic bat survey? Is it feasible to use volunteer biologists to survey the area (e.g., are individual survey sites accessible and relatively easy to find via maps)? How will this event improve your efforts to conserve and manage bats?

- Will You Be Able To Spend The Time Needed?
  Before taking on hosting duties, carefully consider your ability to commit to the time it will take to successfully complete this project. Recognize that it does involve a significant amount of time and resources and be sure you fully understand these before taking on the

task. Host responsibilities will occur throughout a 24-month period and duties will be especially intense during June, July and August the year of the event.

- Can You Provide Funds?
  Will you be able to raise funds necessary to host a Blitz? Budget analyses of Bat Blitzes indicate that a minimum of $25,000 to $35,000 is needed to provide the basics (primarily lodging and food) for a 4-5 day event averaging 100 participants. Other costs you need to consider include travel for securing lodging and food, scouting locations for sampling (net sites), communication costs, travel to and from net sites during the Blitz, a memento (for example, a tee shirt) for volunteers, permit application fees, and so on. Realize that there are always hidden costs so your budget will need to be buffered to cover those.

- How Will Logistics Be Handled?
  There are many factors to consider here. These include the following:
    - Will you be able to provide housing for all participants at one site?
    - Can food be delivered easily to the site or stored and prepared on site?
    - What permits are needed and can you acquire permits for all participants?
    - Can you provide equipment for team leaders coming from or into WNS states?
    - Who is available to help with specific duties and how many people are needed to plan and prepare for the event?

Hosting A Bat Blitz with SBDN Sponsorship

SBDN REQUIRES that a Bat Blitz proposal be developed by the host agency and subsequently accepted by the SBDN Board of Directors, upon recommendation from the Bat Blitz committee. This proposal should be submitted to the SBDN Bat Blitz Committee at least one year (preferably two years) prior to the Bat Blitz. This proposal must include:

1) A justification of the need for the survey effort in the proposed location (see Appendix II for list of questions to consider);
2) Evidence of adequate facilities for lodging, eating, food preparation, etc. at the proposed location, including estimated travel times to sampling sites;
3) A list of proposed/confirmed sponsors/partners for funding the event;
4) A sampling protocol (general sampling methods; see sections 9-12);
5) A justification of the time period for the event. The event is expected to be during late July to early August to encourage student and professional participation. If you would like the Bat Blitz to be held at an alternative time, provide strong justification. The "preferred" schedule for Blitzes is Monday-Wednesday (3 trapping nights).
6) A plan for WNS decontamination and providing "clean" equipment at the blitz.
7) You must have a local Bat Blitz committee of at least two people with one chairperson to oversee the event. At least one person on the host Bat Blitz committee must have prior participation in a Bat Blitz and at least one person must be a member of SBDN. One or more members must have an extensive knowledge of the local area to be surveyed. One or more members must have extensive field experience working with bats. These requirements could be met by a single person.

8) You must include a letter documenting administrative support from your agency or institution. Your administrators need to recognize the contribution of time and resources, so gaining their support is critical. Discuss with key administrators the expectations and fully describe details required to successfully complete a Bat Blitz. We recommend that you include these duties in your official work plan for the year.

Once the SBDN Bat Blitz Committee has accepted your proposal, we will expect you, as host, to communicate quarterly with the Bat Blitz Committee of SBDN (via an SBDN assigned liaison person that becomes part of your Blitz committee) to document your progress and assist you with any questions you may have. Regularly scheduled conference calls will facilitate this communication. A timeline has been provided to help outline key milestones (Appendix 1). You will also need to prepare a Memorandum of Understanding (MOU) or Participating Agreement (PA) between SBDN and the host organization that will outline responsibilities and expectations of both organizations. Examples are available.

Important Aspects To Consider When Hosting A Bat Blitz

The SBDN has been heavily involved with development of Bat Blitzes. In an effort to assist the potential host organization, we have compiled the following guidelines and recommendations based on 10 years of experience with these events. We strongly encourage potential Bat Blitz hosts to carefully consider each aspect of a Bat Blitz, as outlined below. Any requirements are clearly indicated (e.g., "must").

The Bat Blitz Experience

Because participants are donating their time, the Bat Blitz must be an enjoyable experience for participants as much as a beneficial endeavor for the host. An enjoyable atmosphere at your event will encourage participants to take part in future Blitzes. Good attendance at your event is predicated on positive experiences of participants at previous Bat Blitzes. This positive atmosphere must be present in your event to help ensure success at future events. During these events, participants have the opportunity to foster personal and professional contacts and friendships. The atmosphere should be that of a field station type environment with ample opportunity for interaction among participants.

SBDN's Role as a Sponsor

As a sponsor, SBDN will provide assistance through registration support and national advertising via list serves and contact with past participants and members of SBDN mailing list. Additionally, SBDN will provide use of the SBDN website to advertise the event and use of the SBDN treasury as the event's bank account. The SBDN encourages hosts to use SBDN as a depository for all funds associated with a Bat Blitz. This is because SBDN is a tax-exempt, non-profit corporation and does not require any overhead charges. Therefore, ALL monies collected for a particular Bat Blitz will be spent on the event. Additionally, SBDN is very flexible and requires minimal paperwork resulting in timely payments. The SBDN Treasurer will issue checks as needed during the preparation phase and as needed during and following the Bat Blitz for use of facilities, food costs, etc. A summary of all funds received and expenditures made (with receipts) is required for SBDN records and will be made available to the host organization.

As noted above, the SBDN website can serve as a space for announcement of the Bat Blitz including contact and location information details and to facilitate registration, if needed. The registration application should include spaces for information needed for field team design and site assignments (see provided examples – Appendix IV). The website and associated registration forms, etc. will be customized for each Bat Blitz by the hosting committee. As part of the announcement, participants should be given a list of items to bring. Although experienced volunteers, especially team leaders (see below), will have all required equipment, many new participants have little or no bat experience and are unaware of personal items they should bring with them. Blitz lodging facilities may have unique requirements and information on these personal needs should be listed.

If requested, registration monies and information will be collected by SBDN and made available to the host committee. A registration fee is not required, but in some cases may be necessary. Past registration fees have ranged from $30-$100 but are normally $25 for students and $50 for professionals. In some past Bat Blitzes, a registration fee was collected and monies used to cover up-front costs (because agency/sponsor funds were not yet available.) If adequate funds are available after the blitz, registration fees should be refunded if the participant's agency did not cover cost. When feasible, priority for registration refunds should be given to student and other participants that pay out-of-pocket (e.g., fees not covered by participant's employer). A memento provided to participants (e.g., a group photo, t-shirt) is recommended.

If excess funds are produced from an event after all obligations have been met, the host along with all sponsors will determine use of those funds. Possible uses include refunding participant registration fees, refunding sponsors, donating to future Bat Blitzes, replace equipment of team leaders damaged beyond normal wear and tear, or donating to local institutions to continue future bat work. However, if a host receives money from a past Bat Blitz and excess money is again generated, an amount equal to that received must be donated to future Bat Blitzes.

Food

Blitz hosts must provide timely, nutritious, balanced meals, snacks, and beverages for all participants for the duration of the event via on-site preparation or catering. Due to timing of netting, it is most likely that you will need to provide a brunch in the late morning and a meal approximately 2 hours before leaving for netting. Meal schedules are generally breakfast (10 am), lunch (4 pm), dinner (2 am). Providing the lunch meal on time is critical to ensure teams reach the field in a timely manner. Snacks should always be available at other times. Food/meal acquisition will constitute a major expense and will require significant and thoughtful planning. Prior to food purchase and meal planning, it is critical to poll participants for information on vegetarian and special dietary needs (this can be done via the registration form). It is critical to provide ample, high-quality food and drink for <u>all</u> participants. Drinking water is essential and must be available at all times. When possible, ice should be made available to participants to keep drinks, food, and biological samples (where appropriate) cool while in the field. Water and coffee can be provided in large containers and hosts should require participants to bring their own water bottles and coffee cups to reduce waste.

If meals are to be prepared in a group kitchen facility, health department permits or some health department certification may be required. The host must check with the facilities manager early in the planning process about these matters. Care should be taken to properly store and handle food, especially given that food spoils quickly in the hot summer months. Proper storage

of food and providing cold beverages will require facilities that have adequate, reliable refrigeration.

Prepare menus at least three months in advance of the Blitz and prepare a shopping list. Your Blitz timeline should include a schedule for shopping and transporting food and food service items to the site.

Food service facilities need to be inspected by members of the host committee well in advance of the arrival of participants. Speak with facilities managers in detail about all matters concerning preparing and storing food and cleaning the food service facilities. Inspect for adequate numbers and sizes of food preparation items such as bowls, kitchen scissors, and paring knives. Find out if there are enough pans, pots, baking sheets and other items to prepare food for the expected number of participants and support staff. Look for serving items such as platters, serving bowls, plates, soup and cereal bowls, glasses, coffee cups or mugs, flatware and serving utensils and assess your needs for supplementing or supplying these items. Inquire about dish towels and dish cloths; some facilities supply these and others do not. Inform kitchen staff that disposable items should not be used and we can provide supplies if necessary. Reusable plastic plates, bowls and silverware are available and can be provided to the blitz host by SBDN if needed. Cups and any other items not available on site must be provided by the host or host can require participants to bring their own.

Most facilities supply brooms, mops and buckets, but you may have to provide cleaning supplies such as disinfectant sprays, dishwashing soap, etc. You should also supply napkins, paper towels, and miscellaneous items such as hand soap if not provided by the facility as part of your contract.

Accommodations

Facilities should be available for occupancy on Sunday (for early arrivals and education night activities) with participants departing by early afternoon on Thursday. Facilities should accommodate the entire group of participants at one location and provide a certain degree of comfort. Centralized lodging allows the hosts/leaders to efficiently coordinate survey activities, promotes a sense of community among the group, facilitates information sharing, and encourages development of relationships among participants.

Adequate rest is essential for participants. Sleep-deprived workers will not perform as well as those that have adequate rest and safety becomes an issue with sleep deprivation (e.g., driving late at night when sleep deprivation could be hazardous). Because it is difficult to sleep in tents in the hot humid conditions in the southeast, camping is not recommended, although it can be offered as an option. Hotel accommodations are also an option but are generally more expensive than group facilities at parks and similar recreation areas. The “odd” hours this type of group keeps may not fit well with standard hotel schedules and practices or at sites to be shared with other groups, and the highly visible locations of hotels increase equipment security concerns.

An ideal base for a Blitz is a center that has a combination of cabins, a meeting room, and a central kitchen. Facilities of this type are often found in state or other public parks; however, there are other sources for such facilities. These include field or biological stations associated with universities and non-governmental organizations (e.g., National Audubon), and retreat centers that may be administered by recreation and outdoor groups such as scout camps or other summer camps. Care should be taken to ensure that bathroom facilities are adequate for the numbers of participants and that both hot and cold water is available in bathing facilities. Bat Blitzes take place in the summer, often at the height of vacation season. In most areas, these

types of facilities may be in high demand in the summer, so it is imperative to book facilities as early as 18 months prior to the event.

Education & Media

For the past several years, Bat Blitzes provided a public education event before the Blitz begins. Participants are encouraged to arrive early to help with or attend the event prior to registration and the welcome social. The public is invited to presentations about their local bat populations, and to participate in outreach activities often including examples of mist-netting and Anabat techniques, and sometimes even viewing live bats. The event is family-friendly with hands-on activities offered. Vendors and local educators are encouraged to attend, and local media should be invited to cover the education event. Previously held events have been very successful in engaging and educating the local community about bats and bat conservation.

It is also important to disseminate information about bats and the function of the Bat Blitz to the public via the media. This can be done in a number of ways including a 'media day' during the event. If your organization/department has a 'Public/Media Relations' outlet, it is best to work with them directly. Early on, the local committee needs to designate a spokesperson for all media communications. The spokesperson needs to be familiar with bats. They must be able to answer the variety of questions that will be asked. These questions are best answered by someone with extensive knowledge about bats. You may want to preplan what message you are trying to get across for your area. It is good to designate one or two team leaders who are comfortable with the media to host them at their net site. Make sure these team leaders are aware of the message you are trying to get out.

Consultation with the media personnel should begin early in the planning process so they have time to get the event on their calendar. Media attention is critical before, during, and after the Blitz. Do not overlook a sponsor's/partner's media people. Additionally, the host should make all reasonable attempts to secure a complete file of media-related articles, etc. arising from the Bat Blitz to be deposited in the SBDN archive located at Auburn University.

Safety

Taking reasonable measures to help ensure the safety of Blitz participants must be constantly considered while planning the Blitz. Therefore, as a host, it is imperative that you ensure safety for participants. The host agency, per the MOU, informs participants of possible risks. The most effective way to meet this need will be to have a safety briefing during the general introduction meeting on the first afternoon of the event. During this time, possible hazards, emergency contact information, etc. can be disseminated to the group. The host agency may consider providing job safety analyses (JSAs) to participants (see Appendix VIII). The local Blitz committee should also consider possible safety issues when finalizing sampling sites. This may include sites with very difficult terrain, possibly hazards from ongoing forestry activities, conflicts with other local users, etc.

Human and Wildlife Disease Prevention

Severe Acute Respiratory Coronavirus 2 (SARS CoV-2) and Rabies

The safety of Blitz participants AND wildlife is of paramount importance for any Bat Blitz implementation plan. On-going research suggests that wildlife species are highly variable in their susceptibility of infection with human strains of SARS CoV-2, and blitz safety plan(s) should incorporate the most recent guidance from Centers of Disease Control (CDC) for both

public gatherings and working with wildlife. During the initial safety briefing (required for all Blitz participants) Blitz organizers shall disclose required standards for use of personal protective equipment among other safety issues related to human and wildlife disease.

- Vaccination requirements
    - SARS CoV-2: Require all attendees be up to date for SARS Cov-2 (COVID-19) vaccination per CDC guidelines. Develop a system to validate vaccination protection status during early registration and disclose on the registration page that support staff and food service workers that do not fall under SBDN's purview may have varying vaccination standards. This ensures that Blitz attendees can adequately assess their risk of infection risk appropriately, prior to early registration.
    - Rabies: All handlers of wildlife must be fully vaccinated with the rabies pre-exposure prophylaxis series and have a current (within 2 years) rabies antibody titer check prior to arriving at Blitz headquarters. A serology report must determine that wildlife handlers meet World Health Organization rabies virus neutralizing antibodies standard of ≥ 0.5 International Units per milliliter (0.5 IU/ML) or complete neutralization at a serum dilution in the 1:5 serum dilution Rapid Fluorescent Foci Inhibition Test (RFFIT). Disclose the need for rabies testing in Blitz advertisements and outreach documents to ensure that wildlife handlers have adequate time for serum testing.
- COVID-19 Testing: Encourage or mandate all attendees to obtain a negative COVID-19 rapid antigen test within 48 hours of traveling to the Bat blitz. All blitz attendees should photograph the results of their antigen test and provide photographic evidence at in-person registration on the first day of the bat blitz. Blitz organizers should consider having a stock of rapid antigen test on-hand for on-site testing or for participants who had difficulty accessing test kits.
- COVID symptoms prior to home departure or during the blitz: Blitz members who are experiencing COVID-19 symptoms should not attend the Blitz. As a Blitz organizer, consult the SBDN treasurer on the best means for refunding a Blitz participant who has cancelled prior to departure. If a Blitz attendee develops symptoms of COVID-19, perform testing with on-hand rapid antigen tests. Blitz participants with COVID-19 symptoms or positive antigen tests occurring subsequent to the start of the Blitz should isolate following CDC guidelines. If a Blitz member tests positive for COVID-19 or is exhibiting suspect symptoms, discretely disclose this information for contract tracing to limit further viral spread.
- Masks and other Personal Protective Equipment (PPE): Masks are encouraged at all indoor events when not eating and drinking, and during carpooling to netting sites. Team leaders should discretely discuss safety preferences and risk tolerances with each team member privately and discuss the PPE requirements and expectations for PPE at the net site. During bat handling at net sites, all participants within six feet of bats shall wear an N-95 respirator or equivalent that is NOT equipped with an exhalation valve—this is to prevent potential spillback of the human SARS Cov-2 virus to bats. N-95 masks will be provided for netting activities.

- Gloves: All wildlife and materials that contact wildlife should be handled with disposable gloves. Gloves should be changed, discarded, or sanitized with alcohol between handling of separate animals.
- Hand Sanitizer: Hand sanitizing stations will be provided and available in high traffic areas. At net sites, isopropyl alcohol (70% or higher in concentration) will be available for frequent hand sanitation and other equipment and materials that may come into contact with humans or wildlife. Hands should be sanitized prior to and after mask adjustment, and between handling of different animals.
- Outdoor Dining Opportunities: To the extent practicable, offer outdoor tables/picnic shelters that afford the possibility of outdoor dining for those that are uncomfortable with removing their masks in indoor spaces.
- Distancing: Monitor and encourage the best guidance on social distancing and encourage where practicable.

Behavior and Conduct

As a host, you must take reasonable steps to ensure that behavior and conduct of participants is appropriate so that participants are able to work in an environment that is free from any and all forms of harassment. Harassment can consist of verbal, physical or visual contact which is unwelcome, repeated, and is based on sex, race, color, religion, national origin, age, disability, or sexual orientation. It may include, but is not limited to, any of the following: derogatory racial comments, sexual jokes, slurs concerning national origin, threats or acts of physical harm, and unwanted physical contact. Adherence with this requirement will most likely include volunteers signing an agreement that indicates they understand and will abide by this policy. It would also be advisable to include a reminder of acceptable behavior with the safety briefing.

Developing site maps

It is critical to provide team leaders with accurate maps and site report packets that will allow them to quickly find sampling sites to which they are assigned. Inaccurate or imprecise maps will delay net setup and reduce trapping efficiency.

Site maps and team leader site packets should include:

- a unique site name or number;
- the location at a reasonable scale, and names or numbers of roads;
- written directions to the site including names of roads, direction of turn (provide both relative turn information such as right or left and true direction such as north or south), and distance (in miles) between turns;
- coordinates (Decimal Degrees or UTM) of the site so team leaders can enter it in a GPS to aid in navigation, especially for off-road sampling sites;
- aerial and ground photographs;
- an estimate of the amount of travel time required is helpful for participants not familiar with local roads and conditions;
- an estimate of number and length of mist nets, height of high net systems (if applicable)
- dimensions of harp traps (if applicable) and any additional equipment (e.g., waders or hip boots);
- accessibility concerns (high-clearance vehicles, rough terrain, mud);

- parking considerations;
- any potential safety concerns;
- nearest hospital or emergency facility, including directions and travel times;
- a point-of-contact at Blitz headquarters if problems arise; and
- cell phone service availability at the site.

It is also critical to include a list of alternate sampling sites within the area (less than 2 miles if possible) of the focal site. Site forms and maps should be provided in duplicate to allow for sheets that become damaged or lost during netting.

Site Selection, Assignment & Local Guides

Selection of sampling sites should begin at least one year before the Blitz. Blitz organizers need to work closely with local land managers to pick sites that are appropriate for trapping bats and that meet any specific needs of the managers for information about bats in that area. If Blitz organizers are not very familiar with the study area, they should provide a general description of the types of sites that are generally productive for trapping and ask the area managers to develop an initial list of sites.

Blitz organizers or other experienced bat biologists need to visit all possible sampling sites to assess suitability for trapping. Only sites where bats are likely to be caught should be selected. As noted above, Blitz organizers need to note equipment needs, safety issues/concerns, and other pertinent site information with site maps.

Once you have a list of appropriate sites, go over it with the land managers and prioritize sites based on the possibility that bats can be captured there, information needs of the land managers, distance from the headquarters, and how well they represent ecology of the area. Travel times from headquarters greater than 1 hour should be discouraged. It is ideal to do site surveys in July and August of the year preceding the Blitz so that the hosts can see what conditions may be expected at the time of the Blitz to ensure availability for trapping (e.g., water sites have not dried up or become too deep/wide). All sites should be re-checked one to two weeks before the Blitz to confirm they are still available for trapping. Occasionally, sites are severely altered without the hosts' knowledge. Alternate or back-up sites that are close by should always be provided with the primary site maps and description. On rare occasion, teams are unable to net primary locations due to unforeseen factors (e.g. campers, heavy rains, etc.)

Hosts can expect to have 8-15 teams for the Blitz. Matching a team leader (see below) and their equipment (or the equipment you provide) with appropriate trapping sites is very important and should be done prior to the Bat Blitz. Care should be taken to match each netting site with a team in an efficient and appropriate manner. There are several different factors to consider. When possible, match teams with sites based on site needs and available equipment of the team. Registration applications will allow team leaders to note number and types of nets they have, and height of any high net systems. After site selection is complete, prepare a list of sites and equipment needed to trap them and begin matching team leaders with those sites as soon as possible.

The Host should ensure that team leaders are provided an array of sites of varying quality to avoid cherry-picking of the sites of the highest quality. Assignment of sites often occurs at team leader safety meetings, prior to dinner assembly and the formation of team member sign-ups. Some team leaders may wish to scout sites prior to the evening assembly efforts should afford team leaders ample time to familiarize themselves with sampling sites. The Host should

also set a time, generally 0200-0230 hours, when all teams must arrive back at Blitz headquarters for check-in. Team leaders that cannot get back in time are required to contact (a point-of-contact should be indicated in their site packet) Blitz headquarters to ensure the team remains safe.

Local guides should be provided when possible. Local guides should familiarize themselves with their sites before the Blitz begins. They can be of great assistance to team leaders driving and carrying equipment to sites and relaying information to Blitz headquarters. Local guides should be assigned specific sites and team leaders in advance of the Blitz. Upon their arrival at the Blitz, you should be prepared to hand team leaders site maps for all the sites they are expected to trap during the entire event. Many team leaders prefer to scout all assigned sites the first day so they are prepared for netting. If the team leader doesn't believe that they can trap a particular site, direct them to an alternate site that would be appropriate for them. Efforts should be made to limit amount of equipment borrowing necessary for teams to efficiently net an assigned site. Care should also be taken to ensure that an assigned team has appropriate transportation to get to and from the site. Road and weather conditions may require 4-wheel drive vehicles in some locations. Lastly, the distance teams must travel to and from sites should be balanced so that it is evenly distributed across teams over multiple days. Most sites should be within a one-hour drive of headquarters. No one team should be asked to drive to the furthest locations on all nights!

Participant sign-up is typically carried out by listing each team leader (and site) on a whiteboard or on easels at Blitz headquarters. Spaces are left below each team leader's name for participants to sign up. The Host should instruct team leaders to indicate their departure time from Blitz headquarters, cell phone number, and transportation details to the sampling Participants should indicate the following three things on the sign-up board: (a) Do they have current rabies vaccinations; (b) are they experienced at handling bats; and (c) are they willing and able to drive. It may be necessary to ask some participants to switch teams if it appears that there is an imbalance between sites or lack of drivers if needed. Most importantly, there should be at least one additional experienced bat handler per site to assist the team leader. Team leaders should try to meet with any participants they are unfamiliar with before netting to assess and discuss their skill level and any potential problems that might arise (health issues, allergies, etc.).

Traveling to and from sites, on unfamiliar roads, with a caravan of vehicles, and under sleep-deprived conditions offers significant challenges to Blitz teams. Travel to the sites should be coordinated as early as possible, after team leader assignments have been made and participants have signed up. Travel arrangements may vary based upon site, weather, and parking conditions. Special consideration should be given to those team leaders who may need off-road vehicles to access their sites. Generally, each Blitz site will require 2 to 3 vehicles. If local guides are accompanying a Blitz team, the local guide should be the lead vehicle, but discussions about navigating to the site should take place with all drivers before leaving to minimize the chance of anyone getting lost. It should also be discussed before leaving what the local guide's role is: (a) will the local guide only be taking the team to the site, or will they stay the duration of the sampling event; or (b) will the local guide escort the team back to Blitz headquarters?

Blitz coordinators are responsible for picking a time when teams are expected to be back from netting, and team leaders will plan their return travel accordingly.

Field Team Design

Experienced team leaders are fundamental to a successful Bat Blitz. Care must be taken to ensure the following:

- Proper balance of expert/non-expert members of the team;
- At least 2 experienced and vaccinated persons on each team in addition to the team leader;
- Each team must have a minimum of 4 members, especially if other teams have numerous members;
- Adequate equipment for team/sites—this means making sure that team leaders and their equipment (or borrowed equipment) are matched to site requirements (see above);
- All volunteers, especially team leaders, should expect normal wear and tear on equipment;
- As with standard mist netting protocol, individuals with little or no handling experience should be supervised by experienced team leaders;
- If possible, team leaders should be given one night off from being a team leader so they may accompany other team leaders if so desired.

We suggest that team leaders be invited, by letter, to volunteer at your Bat Blitz. Team leaders may be solicited from previous Bat Blitzes or from information provided on the registration form. Ensure that you have enough team leaders invited to cover the sites. Be aware that some team leaders may have prearranged team members. While this is certainly acceptable, mixing team members should be encouraged to facilitate communication and interaction among attendees. After the Bat Blitz, hosts should send a thank you letter to both the team leaders and/or their supervisors. As team leaders are the core of these events, a thank you letter will ensure that they get proper recognition and will encourage continued participation in the future. Thank-you gifts are also welcomed by these valuable volunteers!

Permits

As host, you are responsible for acquiring (and paying the fee of) permits required by any state/federal/private entity to capture and/or handle bats within the study area. Federal permits can be difficult to obtain quickly and Blitz hosts should apply for these permits at least one year in advance. Permits should be written to include all rabies-vaccinated Blitz participants (the only participants allowed to handle bats) for the duration of the event. A letter on official host letterhead and copy of the permit should be made available for each field vehicle. Area law enforcement should be notified and an example of the documents sent to them. It is also advisable to send law enforcement a "general vicinity" map indicating all locations of activity. Individuals seeking to take samples will have to have their own Institutional Animal Care and Use Committee (IACUC) approval and this approval will need to be provided to the Blitz organizers and SBDN.

Sampling Protocol and Data Collection

We suggest that Blitz hosts prepare for three sampling nights so as not to unduly encumber time of the volunteers while making the event worthwhile. Nets should be open from dusk until 2 am (min. of 3-4 hours), though hosts are expected to make recommendations on net shutdown times based on weather conditions, individual schedules, etc. We encourage use of bat detectors

to record calls, whether at mist net sites or at independent locations. Results of acoustic sampling should be included in reports to SBDN.

Long term utility of data collected from Bat Blitzes requires that a standardized set of data be recorded for each capture. Therefore, we require use of a datasheet developed for Blitzes by SBDN (see Appendix V). Banding is optional, and we do not encourage this practice in areas where further study is not expected. Data sheets may contain additional information beyond that required by SBDN if needed (e.g., DNA samples, voucher calls, hair samples). Copies of data sheets are to be deposited with SBDN for archival storage. All data should be entered into the SBDN database and submitted to SBDN.

White-Nose Syndrome (WNS)

The possible spread of WNS through mist netting and harp trapping at blitzes must be considered by each host. A WNS plan (Appendix VII) should be prepared by each host and approved by the SBDN Blitz Committee well in advance of each blitz. Rules for transporting equipment between states should be established based on current state and federal protocols, with the collaboration of the state wildlife agency. The Blitz headquarters should have a designated decontamination area that affords the safe handling and disposal of decontamination products. A well planned and executed decontamination procedure should prevent potential spread of WNS due to blitz related activities. Following current decontamination protocols is essential to protecting the future of Bat Blitzes in the eastern US.

Recommendations for Safe Bat Handling and Euthanasia

Recognizing the importance of minimizing impact to species and distress to individuals, we provide the following recommendations for animal welfare during bat blitz activities. These guidelines should only be considered our current expert opinion and are not meant to supersede the specific requirements of relevant agencies (state, federal) or decision of the local host.

It is our opinion that animal welfare is best addressed through minimizing risk through proper training. All team leaders should have extensive and ongoing experience in any activity that they conduct. Each team leader accepts responsibility for the action of their team members and must be appropriately vetted by the SBDN bat blitz committee.

Any person handling bats must have had the rabies pre-exposure vaccination and an acceptable titer check (or booster) within the last 2 years (see Human and Wildlife Disease Prevention section). Individual team leaders should evaluate an individual's experience removing bats from nets and/or handling bats and inform team members what they are permitted to do during a night. Individual team members without experience in a technique should be directly overseen by the team leader while being taught. Additionally, the use of proper protective equipment (e.g., gloves when handling bats and N-95 masks when within 6 feet of bats) can help minimize risk to bats and people.

Even when all precautions are taken, there is risk to individual animals that may result in injury. When these accidents occur, it may be necessary to minimize distress of the animal through euthanasia. Any form of euthanasia approved by the blitz host should take into account the experience of team leaders, the distress of the animal, and be able to be applied quickly and discreetly (to minimize distress to animal and participants). The method decided on should be considered acceptable by the American Veterinary Medical Association (AVAMA) and the American Society of Mammologists (ASM).

Currently for bats in the Southeastern US, chemical inhalants and cervical dislocation are considered the best euthanasia methods for use in the field. The purchase, storage, and use of chemical inhalant is difficult and may minimize its applicability at Bat Blitzes. If this method is to be used at a Bat Blitz, team leaders should be formally trained and equipment should be distributed and demonstrated at the Team Leaders Meeting. While this method is the preferred method by AVAMA, cervical dislocation is an acceptable method when other more preferred methods (such as chemical inhalants) are not available. Therefore, if hosts are not able to use other methods, we recommend use of cervical dislocation should a bat be injured in such a way that it cannot fly. This method is considered one of the quickest methods for euthanizing small mammals (Kunz and Parsons 2009, AVAMA 2013, ASM Animal Care and Use Committee 2011). Any team leader not familiar with cervical dislocation should be taught the method in the team leader meeting conducted at the beginning of the blitz.

Regardless of what method is to be used at a Bat Blitz, the topic of euthanasia must be specifically address and discussed at the Team Leaders Meeting. Blitz hosts should also designate an individual at the blitz to collect any dead bats and associated capture information. These specimens should be deposited at a Natural History Museum or in a teaching collection chosen by the local blitz committee.

Voucher Specimens and Invasive Sampling

On occasion, a host, or, more likely, a limited number of Blitz participants, may consider collection of voucher specimens or sampling that involves removal of parts or substances from a live animal (e.g., tissue punch, blood). A 'voucher specimen' is any specimen that serves as a basis of study and is retained as a reference in a collection. 'Specimen' generally means the whole animal (although in some cases a voucher may be a part thereof) and refers to a cadaver, not a living organism. Collection of voucher specimens is a legitimate and important part of scientific research. However, voucher collection is a practice of concern and must be considered carefully because it involves sacrifice of an organism. Sampling methods that involve taking tissue must also be carefully considered because they cause additional stress to the animal and, if done improperly, could result in injury or death.

It is responsibility of the host to make decisions about collection of voucher specimens or tissue samples, and ensure that any collection complies with Blitz permits. The host should request a written justification from anyone wishing to take vouchers or conduct invasive sampling and is responsible for taking reasonable steps to ensure that the requester can competently collect voucher specimens and other samples properly. The host must consider conservation impact as part of the justification for collection of voucher specimens. The host must ensure that proper forms of euthanasia are employed when vouchers are taken. If the decision is made to take a voucher or vouchers, or to conduct invasive sampling, the host must ensure that specimen(s), or part(s) thereof, is (are) donated to a museum or other institution that can properly house and curate the specimen or other materials, and make them available for further study. The collector must make arrangements with the institution prior to the taking of vouchers and other materials and must provide such documentation to the Host. Prior to approving the take of animals or invasive sampling techniques, the host must contact appropriate managers to inquire about animal ethics policies and must take reasonable steps to ensure that all Blitz participants are aware of these policies and adhere to them. It is also recommended that the Host seek input from the SBDN Bat Blitz Committee when considering allowing the taking of

voucher specimens. Finally, it should be clear to participants that vouchers will not be allowed to be taken without prior approval.

APPENDIX I: Sample Timeline for Hosting a Bat Blitz

Note: Preparation for this timeline starts 2.5 years prior to event. This is often not possible and so the timeline will need to be condensed to reflect the timeline of the event you are hosting.

February at the annual SBDN meeting (2.5 years prior)

Call for proposals by SBDN Bat Blitz Committee.

Spring (2.5 years Prior)

- ☐ Perform preliminary assessment of target site for potential Bat Blitz.
- ☐ Review proposal requirements due in October.
- ☐ Begin formation of Local Blitz Host Committee.

Summer (2 years Prior)

- ☐ Obtain internal approval for Blitz.
- ☐ Consider potential facility options.
- ☐ Begin to prepare proposal.
- ☐ Finalize Local Blitz Host Committee.
- ☐ Begin to approach potential sponsors/partners.
- ☐ Contact SBDN Blitz Committee with questions.

August (T – 24 months)

- ☐ Prepare first draft of proposal.
- ☐ Begin internal review process.

October (late) at the annual NASBR (T – 22 months)

- ☐ Deadline for submission of proposals.
- ☐ SBDN Blitz Committee Liaison assigned as your contact person.

October – February (T – 22-18 months)

- ☐ SBDN Blitz Committee will review all submitted proposals.
- ☐ You will be contacted if there are any questions.

February (mid to late) at the annual SBDN Meeting (T – 18 months)

- ☐ SBDN Board or Directors selects preferred proposal.
- ☐ Blitz Committee Liaison informs Host Committee.

February - April (T – 17 months)

- ☐ **First conference call** between Local Hosts and the SBDN Blitz Committee Liaison. Discussion topics include.
  - ☐ Identification of Local Host Committee Chair and $\geq$ 2 local members.
  - ☐ List of potential sponsors.
  - ☐ Preliminary budget.
  - ☐ Preliminary Blitz schedule (number of nights to net, when participants arrive and depart).
  - ☐ Goals for the Blitz.

- ☐ Volunteer (Participant) recruitment strategies (including potential registration fee, mementos, invitations to team leaders).
- ☐ Lodging arrangements.

☐ Memorandum of Understanding is signed by host and Blitz Committee Chair.

☐ Assignment of duties to host committee members.

☐ Send "feeler" letters to potential sponsors.

☐ Review site selection needs/characteristics with local managers of Blitz site(s).

☐ Determine number of sites necessary to fulfill goals of land managers and Blitz hosts. Include several additional, alternative sites.

☐ Schedule initial site visits.

☐ Prepare draft of WNS plan.

June - August (T – 13 months)

☐ **Second conference call** between Local Host Committee and SBDN Blitz Committee Liaison. Discussion topics include:

- ☐ Preliminary site selection (scheduled meeting or discussion of sites previously field reviewed).
- ☐ Confirmation of lodging.
- ☐ Confirmation of major sponsors.
- ☐ Identify needs for supplies, including those for:
  - ☐ Food
  - ☐ Mist nets
  - ☐ Netting Equipment (poles, ropes) that will be provided to team leaders
  - ☐ Team leader equipment packs (tool boxes & other supplies, including decon)
  - ☐ Mementos
- ☐ Marketing to media, particularly magazines and others need to have an initial contact at this stage so they can put on their calendars – a heads up if you will).
- ☐ Bat Blitz Education Event schedule, volunteers, etc.
- ☐ Add appropriate items to budget.

July – August (T – 12 months)

☐ Local Hosts and land managers meet at Blitz Headquarters for final selection and prioritization of netting sites.

☐ Schedule a tour of lodging facilities.

☐ Begin work on required permits (State and Federal) and any necessary Animal Care protocols.

Sept - Nov (T – 10 months)

☐ **Third conference call** between Local Hosts and SDBN Blitz Committee Liaison. Discussion topics include:

- ☐ Financial status (monies collected from/committed by sponsors).
- ☐ Assessment of selected net sites.
- ☐ Permitting status.

- ☐ Development of registration form, determination of registration fees etc.
- ☐ Presentation/invitation at NASBR if someone from Local Committee or Blitz Committee attends (a poster paper or short presentation, flyers at meeting, etc).

February (T – 6 months)

- ☐ **Fourth conference call** between Local Hosts and SDBN Blitz Committee Liaison. Discussion topics include:
  - ☐ Begin to plan meal options.
  - ☐ Survey invited and other potential team leaders at SBDN meeting to identify those who plan to attend.
  - ☐ Ask for volunteers for Local Guides.
  - ☐ Develop draft press release (to be sent out in July).
  - ☐ Seek out media contacts in the area of the Blitz for 'inside' features on the Blitz.
  - ☐ Prepare maps for each net site, including directions and details of site (like equipment requirements, people needs, etc.).
  - ☐ Permits and animal care protocols (optional) completed.

March (T – 5 months)

- ☐ Send invitation letters to team leaders.

April (T – 4 months)

- ☐ Submit final registration form to SBDN Blitz Committee for posting on SBDN webpage.
- ☐ Directions, etc. should be available when the meeting announcement is posted.
- ☐ Announce Blitz (including directions to Blitz) and open registration via SBDN website/listserv (if needed).
- ☐ Develop menus for meals and shopping lists.
- ☐ Tour lodging facilities to assess status and determine what supplies are needed for Blitz.

May (T – 3 Months)

- ☐ **Fifth conference call** between Local Hosts and SDBN Blitz Committee Liaison. Discussion topics include:
  - ☐ Finalize meal plan (catered or prepared on site).
  - ☐ Financial status.
  - ☐ Early registrant information.
  - ☐ Food plans.
  - ☐ Shopping needs.
  - ☐ Media plans.
- ☐ Send out reminder regarding registration (via SBDN listserv).
- ☐ Submit press release to major magazine media and other non-news outlets. News media (e.g., TV, Papers) should be contacted closer to the event time.

Mid June (T - 2 months)

- ☐ Send out final reminder regarding registration (via SBDN listserv).

- ☐ Provide summary of to-date registrant information to SDBN Blitz Committee Liaison.
- ☐ Finalize maps and map packages for team leaders.

Early July (T - 1 month)

- ☐ Close registration. (July 1)
- ☐ Assign team leaders and crews to sites based upon equipment and experience.
- ☐ Submit initial press release to major new related media in the area of your event, as well as to national/regional outlets like CNN.
- ☐ Purchase dry goods for food preparation and supplies for Blitz (additional cookware, trash bags, etc.).
- ☐ E-mail registrants with information on Blitz (directions, supplies needed, WNS protocol, etc.).

One Week Prior to Blitz

- ☐ **Final conference call** between Local Hosts and SDBN Blitz Committee Liaison. Discussion topics include:
  - ☐ Last minute issues.
  - ☐ Food preparation.
  - ☐ Data kits/toolboxes.
  - ☐ Team leader/site assignments/LocalGuides.
- ☐ Purchase all food within 1-2 days of the Blitz.

One Month Post Bat Blitz

- ☐ Balance budget and disperse unused funds as outlined in proposal. Have complete accounting package available with receipts.
- ☐ Submit to the SBDN
  - ☐ Copies of required datasheets.
  - ☐ Brief report summarizing captures by species and by site type.
  - ☐ A summary of participant information (numbers, state and institution representation). Also, submit copies of all press reports collected for the Blitz to the SBDN.
  - ☐ Submit completed SBDN database to SBDN.
- ☐ Send recipients a survey via e-mail to assess their satisfaction with the event.
- ☐ Send a thank you letter to the Immediate Supervisor of Team Leaders.

APPENDIX II: List of Questions that the Bat Blitz Committee will use to evaluate each proposal.
Please incorporate your answers into your proposal.

1. **Have bat surveys/studies been conducted in the area?**

2. **If yes, please provide a concise summary of the work done to date (include nature of work, e.g., year conducted; time frame -such as, two days or two seasons; location surveyed; size of area surveyed or portion of lands surveyed in comparison to area requested for bat blitz consideration).**

3. **Is the area in private or public ownership?**

4. **Who has management authority over the lands in the proposed survey area?**

5. **If lands are in private ownership, are there plans to incorporate the area into a public park, forest or national monument?**

6. **Does the area contain geological, floral and faunal natural characteristics that are of a fragile or unique nature?**

7. **Has the area been recently impacted severely by anthropogenic or natural forces?**

8. **Are natural resources in the area threatened in anyway, or is the area itself under consideration for management practices that could negatively affect the natural resources?**

9. **Is it likely that state or federal protected or species of concern occur on the lands to be surveyed?**

10. **What are your goals for a bat blitz in your area?**

11. **How will a bat blitz help with conservation and management in the proposed area?**

12. **What risks of WNS exposure/spread are presented by this blitz and can the hosts mitigate for these risks?**

13. **What opportunities exist for volunteers have fun (e.g. swimming, kayaking, horseback riding, etc…) in the area when we're not netting?**

APPENDIX III: Sample Blitz Schedule

Sunday (Blitz, Day #1)
AM - Blitz team arrives at Blitz Headquarters early for setup.
PM – Begin participant registration (advise participants when to arrive before blitz).

- Blitz Education Event scheduled for Sunday afternoon/evening
- 1st meal – regular dinner meal scheduled for evening (only for participants – not for general public attending education event)

Monday (Blitz, Day #2)
AM – Continue participant registration (advise participants to arrive BEFORE mandatory meeting).

- 9 am BREAKFAST
- 10 am MANDATORY Blitz Participant Meeting (ALL participants & team leaders)
    - Welcome Participants
    - Introduce Host Team
    - Review facility (invite any facility operators to talk)
    - Review Schedule for the week (including meal times & netting times)
    - Introduce Team Leaders
    - Describe method for signing up for sites (introduce whiteboard and how to sign up). Putting an (H) beside name indicates you are vaccinated to handle bats. Everyone is encouraged to go out with a different team leader every night. Limit # of participants per team to ensure all team leaders have adequate help.
    - Review WNS decon protocol and instructions for participants
    - Discuss appropriate handling techniques/who can handle bats
    - Discuss voluntary daytime activites and how to sign up
    - Safety Message / JHA Review
    - Discuss Social events after completion of netting each night (eg. cornhole, etc)
    - Take group photo.
- 1 pm MANDATORY Team Leader Meeting (Team Leaders & Local Guides must attend)
    - Introduce Team Leaders and Local Guides
    - Review Team Leader & Local Guide Packets
    - Go through tool boxes, supplies and equipment. Ensure everyone knows protocols and how to use new equipment
    - Review potential species (specimens are great!). Some team leaders may not be familiar with all species in area.
    - Go over protocols for handling bats. NO PICTURES HANDLING BATS WITHOUT GLOVES. Discuss potential issues with new bat handlers.
    - Field any questions from team leaders.
- 4 pm LUNCH
    - Final Announcements before teams head out.
- 5 pm Team Leaders, Local Guides and Teams leave for Netting Night #1
- 2 am DINNER
    - Team Leaders must check in to Blitz HQ by 2am (report by radio/cell when they are on the way).

Tuesday (Blitz Day #3)

- 10 am BREAKFAST
  - Announcements for the day.
  - Instructions for voluntary day time activities
- AM/PM – Voluntary activities, committee meetings, DECON, sleeping, etc.
- 4 pm LUNCH
  - Final Announcements before teams head out.
- 5 pm Team Leaders, Local Guides and Teams leave for Netting Night #2
- 2 am DINNER
  - Team Leaders must check in to Blitz HQ by 2am (report by radio/cell when they are on the way).

Wednesday (Blitz Day #4)

- 10 am BREAKFAST
  - Announcements for the day.
  - Instructions for voluntary day time activities
- AM/PM – Voluntary activities, committee meetings, DECON, sleeping, etc.
- 4 pm LUNCH
  - Final Announcements before teams head out.
- 5 pm Team Leaders, Local Guides and Teams leave for Netting Night #2
- 2 am DINNER
  - Team Leaders must check in to Blitz HQ by 2am (report by radio/cell when they are on the way).

Thursday (Blitz Day #5)

- 10 am BREAKFAST
  - Final Announcements and Instructions
- 11 am Awards!!!
- 12 pm Depart and Return Home

APPENDIX IV: SAMPLE REGISTRATION FORM

REGISTRATION FORM
Southeastern Bat Diversity Network's 9th Annual Bat Blitz
Fort Mountain State Park, GA: July 25-29th, 2010

DUE JUNE 1, 2010
PLEASE COMPLETE ENTIRE FORM AND RETURN WITH CHECK

(to: SBDN 9th Annual Bat Blitz Host, c/o Chatahoochee NF, Conasauga Ranger District Chattahoochee National Forest , Attn: Diana Mullen, 3941 Highway 76, Chatsworth, GA 30705, phone 706-695-6736; FAX 706-695-1872; dlmullen@fs.fed.us)

Please contact Nikki Castleberry at nikki.castleberry@gadnr.org or 770-761-3042 for general blitz questions.

NAME: _____

AFFILIATION: _____

ADDRESS: _____

_____

PHONE #(S): _____ **E-MAIL:**_____

Date of Birth _____ **My adult t-shirt size is:**_____
Emergency Contact (Name/relationship/number): _____
_____

APPLICATION INFORMATION: (check one on each line)

____ I am a student ($25 registration fee, includes meals and lodging) or

___I am NOT a student ($50 registration fee, includes meals and lodging)

Additional shirts ($12.00 each): ___XS ___S ___M ___L ___XL ___XXL
Additional T-shirt # _____X $12.00 = _____
+ _____ Registration Fee
TOTAL AMOUNT INCLUDED =_____

Make check or money order payable to: Southeastern Bat Diversity Network (SBDN).
_____ I am being funded by my agency/institution for registration and mileage
or _____ I am NOT being funded by my agency/institution for registration and /or mileage (circle one or both)

***If your expenses will not otherwise be reimbursed, and if funds are available*, SBDN will reimburse mileage and registration at the event.**
____ I have current rabies inoculations* or _____ I do NOT have current shots*

- ***You will NOT be able to handle bats if you have not had your pre-exposure rabies series or, if it has been more than 2 years since your vaccination and your titer is lower than 1:5. Please do not check the above if you cannot prove a current rabies titer (within 24 months). By signing below you are verifying all the above information is true.***
- **Date of last titer check: _____**

_____ _____
Signature **Date**

Name:_____

___Arrive Sunday (July 25th after 2pm) or ____ Arrive Monday (July 26th before 1 pm)

Cabins will be offered to registrants on a first-come first-served basis!

____ I prefer to camp at the Pioneer Campground (bring your own tent/equipment)

___ I prefer to stay in a cabin (sharing a room)

____ I will stay elsewhere at my expense

____ I request a cabin with special accessibility (wheelchair) options (one cabin available)

Please notify us if you have any dietary restrictions_____

If possible, prefer to stay in a cabin with the following people _____
_____

Have you attended a Blitz in previous years? If so, when? _____

Will you be driving a vehicle in the field (list Make & Model of vehicle, is it 4X4?) or do you prefer to ride with a team leader or in a Forest Service vehicle? _____
Note: All vehicles should be washed and surfaces exposed to netting/caving equipment disinfected prior to arrival if they have been used in bat/caving work in WNS positive states.

Will you request permission to collect voucher specimens? YES _____ NO_____

Biopsy samples (wing punches)? YES _____ NO_____

Any other samples requested? Please explain (all sampling supplies must be provided).
_____
_____
_____

THIS SECTION FOR TEAM LEADERS ONLY

I am bringing the following type of survey equipment (Note: No previously used nets will be used at the blitz. Nets will be provided to team leaders for use at the blitz.)

Single high net sets. How many? _____ units.

Double high net set. How many? _____ units.

Other high net systems (higher than double). How many? _____ units.

Float tubes for sampling deep ponds. How many? _____ units.

Anything else? Bat detectors? _____

Appendix IV: Sample Registration Form Continued

Southeastern Bat Diversity Network's 9th Annual Bat Blitz
FORT MOUNTAIN STATE PARK, GA
GENERAL INFORMATION

Housing/Camping:

Lodging will be provided at Fort Mountain State Park in Chatsworth (Murray County) Georgia. Situated at the southwestern end of the Blue Ridge Mountains in the Chattahoochee National Forest close to the Cohutta Wilderness area, this park offers a variety of outdoor activities. The park has some of the most beautiful trails in northern Georgia where northern hardwood forests dominate the landscape but communities from cove hardwood forests to xeric ridetops can be found. The park plays host to a mysterious rock wall made from non-native rock that runs for over 800 feet whose origin is still being debated.

For more information and pictures of the facilities, visit their website at http://www.gastateparks.org/net/go/parks.aspx?LocationID=42&s=124118.0.0.5. . A maximum 80 participants will be accepted for participation in the event. The first sixty individuals registered will be housed in cabins at Fort Mountain State Park, with four-six individuals per cabin. Cabins have two or three bedrooms and one to two bathrooms, a full kitchen, and central living room. Remaining participants are welcome to camp at the Pioneer camping area adjacent to the cabins. The Pioneer camping area is a primitive camping area but a full bath-house will be available **during the day** at the regular campground near the Blitz Headquarters.

Blitz Headquarters:
The Bat Blitz headquarters will be located at the group shelter a short drive or walk from the cabins. This is where all meetings and meals will occur, extracurricular activity sign up sheets will be posted, trapping results can be found, etc. WNS decontamination stations will also be available at the Blitz headquarters.

Meals:
Meals will be served at the group shelter. Three meals a day will be served Monday – Wednesday with an additional dinner meal on Sunday night and breakfast on Thursday morning. Vegetarian options will be available at each meal but if you have any additional special dietary needs you should plan to bring your own food. All cabins have a full kitchen including refrigerators, oven, stove, pots and pans, plates, and utensils. **Make sure to bring a water bottle and coffee mug since no disposable water bottles or coffee cups will be provided**.

Transportation:
Directions to Fort Mountain State Park may be found on their website (above). Chattanooga, TN and Atlanta, GA are the closest airports. Atlanta is approximately 2 ½ hours away and Chattanooga is approximately 1 ½ hours away. Once at the facility, we will carpool to minimize the number of field-going vehicles. Some personal vehicles will be needed to transport teams to netting sites.

Other Activities:
Recreational opportunities are abundant in the area. These include swimming at the park beach, horseback riding at the stables, extensive mountain biking and hiking, and fishing at the park. There are additional recreational opportunities off the park such as hiking, fishing, waterfalls, and mountain biking. Amicalola Falls State Park is nearby and historical sites include Chickamauga Battlefield and Chief Vann House. Chattanooga is approximately a 1.5-hour drive and attractions include the aquarium, Rock City, Raccoon Caverns and other activities in the city. Atlanta is also within two hours of the park and many attractions are available there as well. Other state-owned lands nearby are Coosawattee and Rich Mountain WMAs. Federally owned lands include Chattahoochee National Forest, Rich Mountain Wilderness Area and Cohutta Wilderness

Several field trips will be offered during the blitz. A trip to New Echota Indian Mounds is scheduled. We will likely also have a tubing trip, guided mountain bike ride and hike during the blitz. Full trip descriptions and information will be provided to the registered participants before the blitz.

Communications:
Cell phone reception is spotty around the park and may be spotty at trap sites. Emergency contact numbers will be provided before the start of the Blitz, as will a communications plan. Wireless internet is available at the park office.

Things to Bring to the 9th Annual SBDN Bat Blitz:

No equipment that has been used netting and/or caving in a WNS positive state should be brought to the Blitz! Use good judgment please and disinfect if you think you should!

Essential Items

Headlamp or flashlights – critical for fieldwork and navigating through the woods at night
Extra batteries for headlamps or flashlights
Water bottle (no disposable water bottles will be offered to take to the field)
Coffee Cup or Thermos (no disposable coffee cups will be available on site)
Long sleeved shirt/sweatshirt/jacket for cool nights
Rain jacket
Toiletries
Boots/sturdy protective footwear
Prescription medications

Suggested Items
Hard hat or caving helmet – The Chattahoochee NF policy requires they be worn in the field but helmets will be available if you don't have one.
Knee boots, hip boots or waders
Gloves for handling bats, if your rabies titer is current
Collapsible camp chair
Insect repellent
Mosquito net

Allergy meds (poison ivy/oak, insects)
Sunscreen
Cooler
Shower shoes (e.g., flip-flops)
Batteries/battery charger
Digital camera
Day pack
Hand sanitizer
Electric fan & earplugs for day sleeping
Bathing suit & towel
Mountain bike
Fishing equipment
Book or other reading material for down time

APPENDIX V: REQUIRED DATA SHEETS

Site Name/No. _____/_____ Team Leader(s)_____/_____ Date_____

Location if different than assigned_____County_____

Time Up_____ Time Down _____ Lat/Long: N_____ W_____ Observers:_____

#	Time	Species	Age	Sex / Repr.	Mass (g)	FA (mm)	Net / Height	Samples Taken: Circle Appropriate (See Key Below)	Wing Damage Score	Band Description	Freq. #	Comments
1				/			/	T E OS AS B O				
2				/			/	T E OS AS B O				
3				/			/	T E OS AS B O				
4				/			/	T E OS AS B O				
5				/			/	T E OS AS B O				
6				/			/	T E OS AS B O				
7				/			/	T E OS AS B O				
8				/			/	T E OS AS B O				
9				/			/	T E OS AS B O				
10				/			/	T E OS AS B O				
11				/			/	T E OS AS B O				
12				/			/	T E OS AS B O				
13				/			/	T E OS AS B O				
14				/			/	T E OS AS B O				
15				/			/	T E OS AS B O				
16				/			/	T E OS AS B O				
17				/			/	T E OS AS B O				
18				/			/	T E OS AS B O				
19				/			/	T E OS AS B O				
20				/			/	T E OS AS B O				

Samples Taken Key to Codes

T**	Tissue	AS	Anal Swab
E	Ectoparasite	B	Blood
OS	Oral Swab	O*	Other

* For other please describe in comments section

** For tissue samples please note if taken for a specific researcher in the comments section.

Wing Condition Key

0	fewer than 5 small scar spots, membranes intact	3	holes ≥5mm, necrotic tissue, membrane loss
1	<50% pigment loss	P	physical impact damage
2	> 50% scarring/splotching, holes <5mm		

Mist Netting Data Form: SOUTHEASTERN BAT DIVERSITY NETWORK'S BAT BLITZ Page ___ of ____

Site Description (Dominant Vegetation Type):_____

Net Site Diagram:

Moon Phase		%	
	Rise	Set	
Moon			
Sun			

Time	Temp (F)	Sky	Wind
Nets Up			
Nets Down			

Sky Codes	
0	Clear
1	Few clouds
2	Partly cloudy
3	Cloudy or overcast
4	Fog or smoke
5	Drizzle or light rain
6	Thunder Storm

Beaufort Wind Code	
0	Calm (0 mph)
1	Very light wind: Leaves in motion, small branches sway w/ wind (1-3 mph)
2	Light: Pole size trees sway, wind felt on face, loose paper moves, wind flutters small flag (4-7 mph)
3	Gentle breeze: Pole size trees in open sway noticeably, large branches toss, tops of trees in dense stands sway, wind extends small flag (8-12 mph)
4	Moderate breeze: Pole size trees in open sway violently; whole trees in dense stands sway noticeably, dust raised on road (13-18 mph)

Comments:_____

APPENDIX VI: SUGGESTIONS FOR ORGANIZING THE EVENT

Blueprint the event by creating a file box with folders for various actions and subjects as indicated below.

Folder Label: Contacts

Names and contact information for the following:

a. your local team
b. SBDN Blitz committee contacts
c. sponsors and funding partners
d. food and beverage team, caterers and sources for food
e. mapping and net site selection team
f. lodging contacts
g. land managers for sites that need to be surveyed
h. bat blitz survey team leaders/local guides
i. WNS
j. guest/volunteer list with contact information
k. media contacts/education event contact

Folder Label: Budget Worksheets

a. lodging charges
b. food (meals and snacks), beverage and ice
c. equipment rental
d. material and supply purchases (vials, clipboards, paper, etc)
e. logo design
f. tee shirts or bonus gift to volunteers
g. miscellaneous: (Note: give yourself some padding in the budget, be prepared to accommodate additional expenses.)

Folder Label: Timeline

To guide your planning prepare detailed tasks, and make assignments for individuals to complete them, for the following time periods:

a. 12 months before
b. 9 months
c. 6 months
d. 3 months
e. 2 months
f. four weeks
g. three weeks
h. two weeks
i. one week
j. day of event
k. during the event
l. after the event

Folder Label: Correspondence

a. announcement for the event
b. invitation for team leaders
c. invitation for volunteers
d. templates for letters to donors/sponsors
e. letter of introduction and description of the event for non-biologists
f. media invitation
g. education night invitation/announcement
h. press releases
i. all other correspondence related to the event

Folder Label: Contracts and Agreements

a. document from your agency/institution approving your involvement
b. agreements to work on lands signed by appropriate land managers
c. contracts with caterers or cooks
d. contracts for rental equipment
e. contract with the lodging facility
f. contracts with vendors

Folder Label: Safety and Behavioral Expectations

a. information about safety
b. forms for volunteers to sign regarding safety issues
c. forms for volunteers to sign regarding professional behavior expectations

Folder Label: Permits and other requirements

a. state collecting or scientific study permits
b. federal permits
c. health permits for group cooking

Folder Label: Equipment and material needs/ survey

a. number of nets and equipment needed for each survey stations
b. WNS Decon requirements
c. transportation requirements
d. vials and collecting supplies for hair and tissue sampling
e. clipboards
f. data sheet templates

Folder Label: Equipment and material needs/food and beverage

a. paper products (napkins, paper towels)
b. food service items: serving bowls, plates, ladles, etc.
c. food service items: preparation items (pots, pans, etc.)
d. food service items: dinnerware and flatware
e. coffee maker
f. toaster
g. food warmers
h. coolers
i. ice

Folder Label: Menus and snacks
(prepare by day, include three meals, a day snack and snacks for netting)

Folder Label: Maps, Site Descriptions and Directions

a. map and directions to lodging
b. maps, directions to net sites
c. descriptions of net sites
d. descriptions of needs for specific sites (e.g., four-wheel drive, stacked nets)

Folder Label: Registration Forms

a. template for registration forms
b. completed registration forms

Folder Label: Special Projects

a. requests for sampling projects additional to mist-netting

Folder Label: Financial statements and receipts

APPENDIX VII: EXAMPLE WNS PROTOCOLS

2018 Southeastern Bat Diversity Network Bat Blitz Mist-netting Decontamination Guidance
Sewanee, Tennessee
July 23-27, 2018

This year's blitz will be held in a confirmed White-nose Syndrome (WNS)/ *Pseudogymnoascus destructans* (Pd) positive zone. As responsible scientists we must do our very best to ensure we do not become the unwilling vectors of white-nose syndrome and that we maintain the highest integrity at our field sites. Participants in the SBDN Bat Blitz will comply with the national WNS protocol: https://www.whitenosesyndrome.org/topics/decontamination. In addition to that protocol, the following directions and guidance are stipulated. Summer decontamination procedures are known to limit the spread and exposure through equipment, and this document is designed to serve as clarification and guidance on the best practices for use during the bat blitz.

Required Decontamination Activities and Disclosure

- No gear previously used in a cave is allowed at the blitz.
- All gear and vehicles arriving at the blitz must be decontaminated prior to arrival. This includes: tubs (inside and out) that could have come into contact with Pd; poles; nets; scales; and ropes, etc. While the Blitz is in a WNS-positive zone, we seek to minimize the potential of introducing or moving other potential Pd strains.
- All gear, nets, poles, ropes, etc. leaving the blitz must be decontaminated. We will have decontamination areas (hot water baths and burners) at the blitz headquarters. Field clothing may be isolated, properly bagged, and decontaminated appropriately upon returning home, or it can be bagged on the field site prior to placement in a vehicle and subsequently discarded.
- All gear and materials used at this blitz--even subsequent to decontamination of gear--will be considered as equipment that has been used at a WNS-positive/Contaminated WNS Management Area site and SHALL NOT be used at an At-Risk WNS Management Area. Contaminated gear should only be used within an Endemic WNS Management Area or an Intermediate WNS Management Areas upon the direction of the responsible state/federal land management agency.
- All non-porous sampling gear (poles, stakes, bat processing materials) shall be decontaminated at the field site subsequent to use.
- All porous gear such as nets and rope (excluding personal clothing, see note) shall be decontaminated each night upon return to blitz headquarters. Mesh bags will be provided to team leaders and the porous gear shall be bagged in plastic at the field site and transported in plastic bags to blitz headquarters.

Decontamination Principles to Follow

Team leaders are solely responsible for overall operation of their net sites and implementation of field decontamination procedures. Some variation of field decontamination may exist between site leaders. When designing site control and field decontamination procedures, team leaders should always consider:

1. The safety of themselves and site personnel. Exposure to hazardous chemicals is a serious issue. Therefore, decontamination chemicals and methods of use should always take into account the safety of site personnel. Choose chemicals and/or techniques that minimize the risk of chemical exposure. Follow all product labeling and methods for use.
2. The safety and exposure of bats to hazardous chemicals or field procedures that put bats at risk for injury. Materials that come into contact with bats should be free of chemicals.
3. The safe disposal and environmental fate of decontamination chemicals.
4. The security and longevity of field equipment and materials.

For Team Leaders—Decontamination Materials Provided by Blitz Organizers

1. **Latex and/or Nitrile Gloves**
    a. If latex or powdered gloves are used, notify field personnel who may have contact sensitivities.
2. **Ziploc bags for phones and electronics.**

3. **Paper bat bags**
    a. For holding bats, team leaders may use paper bags or properly decontaminated and chemical-free cloth bags. Paper bags will be available for use.
4. **70% Isopropyl Alcohol solution in spray bottles**
    a. Use for decontaminating work up equipment (rulers, scales, etc), nets poles, chairs, tables, and other non-porous items.
    b. Can be used in conjunction with paper towels to form a 'wipe'
5. **Hot Water Decontamination At Blitz Headquarters**
    a. Use for any soft gear that comes into contact with bats, to ensure bats are not exposed to hazardous chemicals.
    b. Use 55◦C/131◦F Water for 20 minutes.
6. **Clotheslines for drying porous gear.**

Suggested Field Practices for Site Control, Pd Isolation, and Field Decontamination

Setting up a Field Site and Preliminary Information

- Team leaders and participants should arrive at the site field-ready, with a change of clothes or an outer layer that can be shed prior to re-entering the field vehicle. Typically, a changing area at the field site is designated where changes of clothes are kept secure and dry in bags, including a change of shoes. Place spare plastic bags near your clean clothes so dirty clothes can be isolated and bagged once removed. Once clean clothes and shoes are put on, re-entry into potentially contaminated areas should be avoided. Therefore, all cleaned equipment should be loaded and the site "broken-down" prior to everyone changing into clean clothes.
- Prior to working in the field, consider disposable water bottles or expect that non-disposable bottles, along with coolers, will be decontaminated prior to re-entry into the field vehicle. Bring all drinks and supplies needed during sampling with you. Avoid accessing the field vehicle during sampling to minimize risk of contaminating the vehicle. Anything brought into the field needs to be decontaminated before entering the vehicle.
- Designate plastic bags for trash and leave out extra bags for bagging of any gear ropes, nets, etc) that may need to be transported to the blitz headquarters for decontamination. (The blitz designates black bags for trash and white bags for decontamination)
- Ensure that chairs brought to the blitz are properly decontaminated prior to and subsequent to use. Non-porous chairs are advised for spraying down or wiping with isopropyl alcohol. Plastic folding chairs are durable, easy to decontaminate.
- Consider setting up a tarp as a drying and area to stage clean items such as poles and shoes that move from decontamination procedures to clean vehicles after site break-down. Ensuring a clean space where hard, decontaminated items may dry eliminates dirt and debris on equipment and ensures adequate disinfection of Pd spores.
- Consider using mesh bags to hold individual mist nets. This makes post-sampling decon easier—nets can dry in the bags without having to stretch them out. A good source is here at about $1 each: http://www.papermart.com/net-shower-bag-with-loops/id=14330#14330
- Avoid processing any bats on the truck tailgate or near the vehicle. Use a non-porous table for field equipment and processing, as it can be easily sprayed or wiped. Park the vehicle an adequate distance from nets and bat processing areas to ensure the field vehicle remains clean.
- If possible, designate a "clean" person—who does not come into contact with bats—to enter data and retrieve any needed "clean" items from hard-sided tubs during netting. Keeping the processing table as clean as possible is the best method to avoid contaminating gear and/or data sheets.
- Do not use Lysol or Clorox wipes on your skin or hands—always use skin-safe products such as baby wipes. Do not apply Lysol or Clorox products to gloves or other items that may come into contact with bats.
- Consider placing your smart phone or other electronic equipment in clear plastic bags when not in use or text and read through the plastic bag. If accessing these items during mist netting and processing, ensure that hands are clean to avoid contaminating the electronic device.

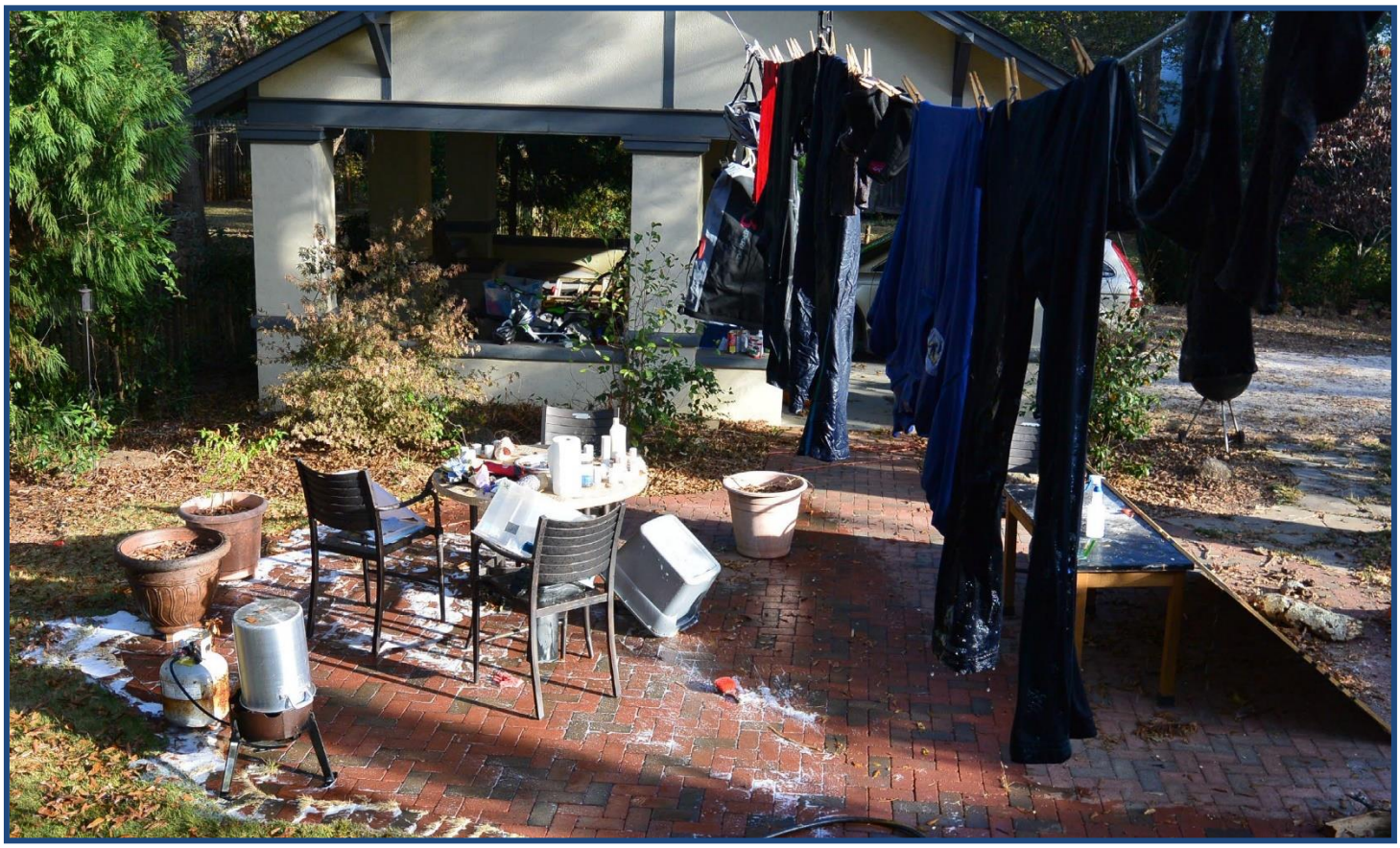
- Consider using a clothesline to hang bagged bats to keep the processing table free of occupied bat bags and guano during processing.
- Properly-sized latex or nitrile gloves should be used when retrieving bats from the net and changed between bats. Note that team leaders or other handlers may deviate from this during situations where bats may be at risk of injury, such as multiple captures or during extreme entanglement. The bat's well-being should always be given priority.
- A new, clean bag shall be used for each captured bat. No re-use of non-decontaminated bags. If a team leaders opts to use cloth bat bags, they shall be decontaminated in hot water at nights-end, at the blitz headquarters.

Site Break-down and Field Decontamination

- Systematically deconstruct net hardware and move toward centralized field decontamination area.
- Collect and centralize soft items such as ropes, bat bags, and clothesline and place in mesh laundry bags for isolated transport to hot water decontamination at blitz headquarters. Place mesh bags in plastic garbage bags and move to "clean" area for staging and transport.
- Place mist nets in individual mesh bags and place bags in mesh laundry bag for isolated transport to hot water decontamination center at blitz headquarters. Place in clean garbage bags and move to "clean" area for staging and transport.
- Spray or wipe all non-porous items (rings, poles, table, chairs) with isopropyl alcohol and place on tarp to dry.
- Load tubs with cleaned, non-porous processing gear. Wipe down outside of tubs and move to clean area for staging and transport
- As items are cleaned, designate "clean" people to load clean items into clean vehicle. Clean people who load the vehicle should change their clothes and begin loading clean items, as directed. Clean people should not come into contact with dirty areas or dirty equipment. Dirty clothes should be bagged for isolation, then moved to clean staging areas for loading and transport.
- As all items are loaded and site is in final stages, the tarp should be loaded, the garbage bagged, and the final field crew changes clothes.

National White-Nose Syndrome Decontamination Protocol

Updated October 2020



White-Nose Syndrome Disease Management Working Group

Recommended Citation:
White-nose Syndrome Disease Management Working Group. 2020. National White-Nose Syndrome Decontamination Protocol – October 2020. www.WhiteNoseSyndrome.org

National White-Nose Syndrome Decontamination Protocol –October 2020

I. INTRODUCTION

The fungus *Pseudogymnoascus destructans* (*Pd*) is the cause of white-nose syndrome (WNS), a disease that has resulted in unprecedented mortality of hibernating bats in North America. The best available science indicates that *Pd* arrived in North America from a foreign source. Since the first documented evidence of WNS in New York in 2006, WNS has spread rapidly in North America and continues to threaten hibernating populations of bats across the continent. The fungus grows well on bat skin but can also grow and persist for years in cold and damp environments such as those favored by hibernating bats. Once *Pd* is detected at a site, either on bats or in the environment, that location is considered to be contaminated indefinitely due to the potential for long-term persistence of the fungus. Additionally, visitors to contaminated sites may inadvertently transport the fungus to new locations on clothing or gear, i.e. fomites. Because of the devastating effects of WNS in North America, and the ability of *Pd* spores to survive for months or years in the environment, guidance has been developed to minimize the risk of human-assisted transmission that could contribute to its spread. All persons and materials that come into contact with bats or their environments for any reason (*e.g.*, research, recreation, etc.) are asked to take actions to reduce the risk of inadvertent transport of *Pd* to bats or habitats.

These protocols have been tested specifically to reduce risks of people moving viable *Pd* on themselves and equipment but may also reduce risks of transporting other potentially harmful "biological hitchhikers" to and from bats. The applications identified herein have been selected for their efficacy against *Pd* specifically. Efficacy against other microbes is circumstantial.

II. PURPOSE:

The purpose of this document is to provide scientifically supported procedures known to effectively clean and treat (herein referred to as decontaminate) clothing, footwear, tools and/or gear (herein collectively referred to as equipment) that may have been exposed to *Pd*. When activities involve contact with bats, their environments, and/or associated materials the following decontamination procedures for equipment will reduce the risk of human-assisted transmission of the fungus to other bats and/or habitats.

For the protection of bats and their habitats, and the safety of all persons:

1) comply with all current cave and mine closures, advisories, and regulations on federal, state, tribal, and private lands;

2) follow relevant procedures found in this document;

3) avoid transporting any equipment that has come in contact with bats or their environments into or out of the United States of America

4) bats should **only** be handled by people who are properly trained, vaccinated, and, where necessary, authorized in writing to do so by the appropriate government agency

This document was developed as national guidance by a working group of the multi-agency National WNS Response Team. Local, state, federal, and other management agencies may have additional requirements or clarifications for equipment used on lands under their jurisdictions[1] or for work involving public trust resources.

Always follow all state and/or federal permit conditions. Contact the pertinent agency office(s) for additional information. http://www.whitenosesyndrome.org/partners

III. PRODUCT USE:

Ensuring the safety of individuals using any of the applications and/or products identified in this document must be the first priority. Safety data sheets (SDS) for chemicals and user's manuals for equipment developed by product manufacturers provide critical information on the physical properties, reactivity, potential health hazards, storage, disposal, and appropriate first aid procedures for handling, application, and disposing of each product in a safe manner. Familiarization with the SDS for chemical products, and manufacturer's product care and use standards, will help to ensure appropriate use of these materials and safeguard human and animal health. Read product labels in advance of intended use.

It is a violation of federal law to use, store, or dispose of a product regulated by the Federal Insecticide, Fungicide, and Rodenticide Act in any manner not prescribed on the approved product label and associated SDS. Products, including their contaminated rinse water, must be managed and disposed of in accordance with local environmental requirements and the product label to avoid contamination of groundwater, drinking water, or other bodies of water. **Follow all local, state and federal laws. Requirements for product disposal may vary by state.** Note: Large volumes of disinfectant wastewaters (especially those containing quaternary ammonium) should not be disposed in septic systems because of the potential for toxicity to the microbes in the septic system.

Furthermore, gear and equipment may be damaged by certain applications if the treatment is not recommended for use with that product. Adhering to the cleaning and maintenance information from those manufacturers is paramount to avoid affecting the integrity and efficacy of your equipment.

IV. TRIP PLANNING/ORGANIZATION:

1) **First and foremost, local state/federal regulatory or land management agencies may have specific requirements, exemptions or addendums pertaining to movement of equipment, decontamination requirements, work permissions, etc. for locations under their jurisdictions. It is your responsibility to know and adhere to these local requirements.**

2) Identify the appropriate WNS Management Area (Figure 1) in which the equipment has been used and will be used in the future. Users of new or site-dedicated equipment (that has been and will be used in only one site) may skip to #3.

3) Use Figure 2 to determine recommended movement and decontamination procedures in the identified Management Area for A. Subterranean/High-risk Terrestrial Equipment or B. Lower-risk Terrestrial Equipment. **"Subterranean/High-risk Terrestrial equipment" includes any equipment that has been in a cave/mine environment at any time of year or had potential direct exposure to the fungus during seasonally higher abundance. "Lower-risk Terrestrial equipment" includes any equipment that has not been in a cave/mine environment and has not been used in situations or at times of the year when the fungus is likely to be abundant.**

4) Regardless of the equipment designation, equipment should only be reused at similarly classified or progressively more contaminated locations[2], and should only be moved between states when that transfer is explicitly permitted by the local agency to do so. *Note*: *Given uncertainties in the distribution of Pd in some areas and the potential risks associated with combining different isolates of Pd, the risk associated with moving subterranean and terrestrial equipment should be evaluated*

even within the similarly classified or progressively more contaminated locations of the same management area. ***Before moving any equipment anywhere, consider the risk of the individual situation.***

5) Choose equipment that can be most effectively decontaminated in accordance with manufacturer's equipment care instructions [*e.g.*, rubber or synthetic rather than leather boots], otherwise commit use of equipment to a specific location (herein referred to as "dedicated equipment")**.** Brand new equipment can be used at any location, as long as it has not been stored or come in contact with contaminated equipment.

6) Prepare a safe and efficient strategy (*i.e.*, outline how and where all equipment and waste materials will be contained, stored, treated and/or discarded) that allows daily decontamination of equipment; including, where applicable, between individual sites visited on the same day, **unless** otherwise instructed by local state/federal or land management agency instructions. Even among sites of unknown *Pd* status there are different degrees of risk associated with the number of bats, environmental conditions, proximity to other sites, etc. Contaminated sites or those with a high index of suspicion for contamination should be visited **only AFTER** those sites of unknown *Pd*/WNS status[2] have been visited, to further reduce the risk of inadvertent transmission.

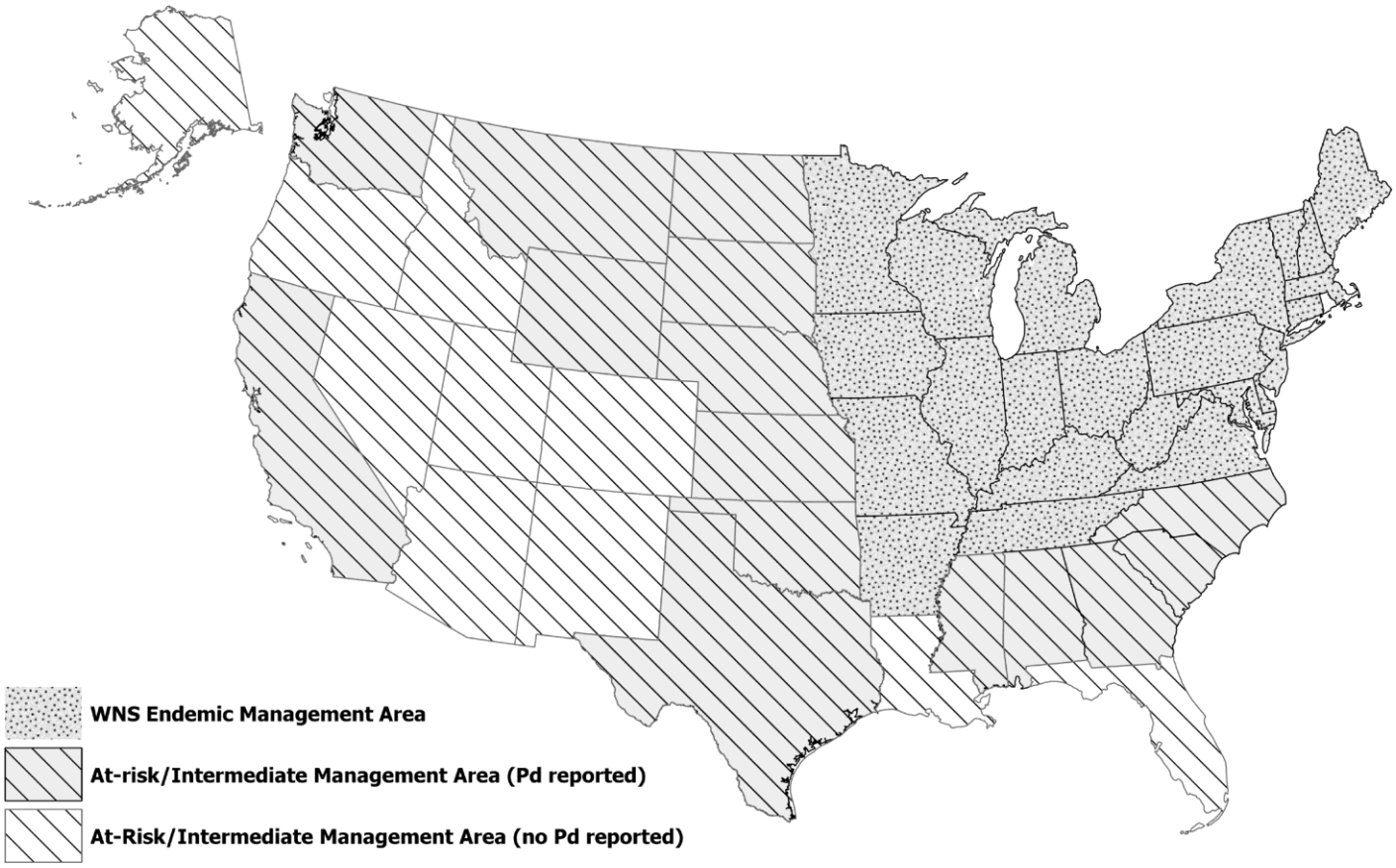


Figure 1. WNS Management Areas for decontamination. Endemic: Endemic states are those where *Pd* is determined or assumed present in most hibernacula. This area comprises states where WNS has been widespread for multiple years. At-risk/Intermediate: Intermediate states are those where *Pd* is detected or assumed present in some but not all hibernacula in the state. States adjacent to states with confirmed WNS are also included in the Intermediate category. At-risk states are those that have at least one state between them and the nearest confirmed case of WNS. Shaded areas are where Pd has been reported as of May 2020.

"Site" is loosely defined in this document as the location of a discrete bat roost (cave, barn, talus slope, etc.) or as a specific field location for mist netting or other trapping. Since conditions vary considerably, delineating sites will be at the discretion of the appropriate local regulatory or land management agency.

<u>All equipment must be decontaminated prior to any approved movement or transfer between locations.</u>

The following symbols indicate that equipment transfer/movement is:

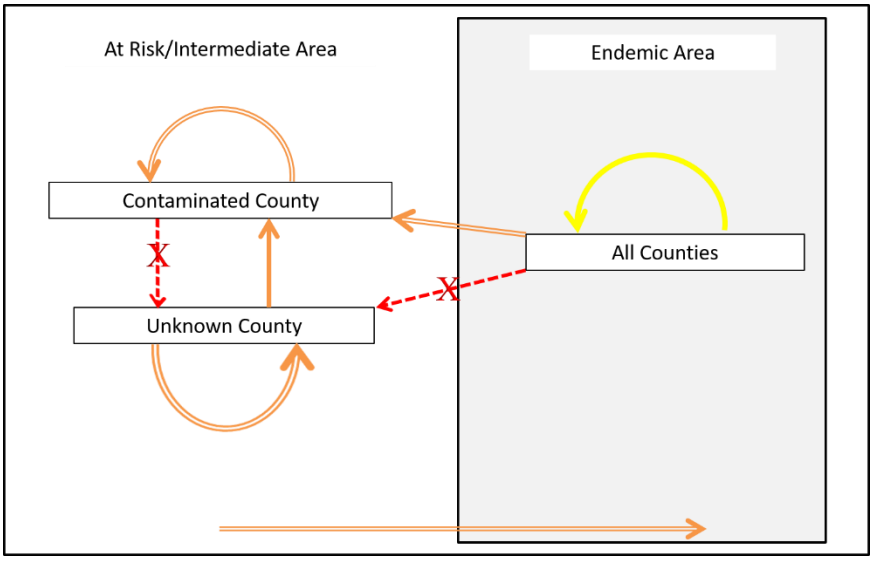
High risk – Do not transfer or use equipment from contaminated counties or states

Moderate risk – Equipment should not be transferred for use between management areas without authorization to do so in specified situations by the local land management agency.

Low risk – Equipment, once decontaminated, may be transferred or used in specified situation.

A. Strategies for movement of Subterranean/ High-risk Terrestrial Equipment evaluated at the <u>county</u> scale

"Subterranean/High-risk Terrestrial equipment" includes any equipment that is used in a cave/mine environment as well as other underground bat roosts, and certain other situations of potential exposure to seasonally abundant *Pd* fungus regardless of location.



B. Strategies for movement of Lower-risk Terrestrial Equipment evaluated at the <u>state</u> scale

"Lower-risk Terrestrial equipment" includes any equipment that has not previously been exposed to a cave/mine or other environments with potential exposure to seasonally abundant *Pd* fungus.

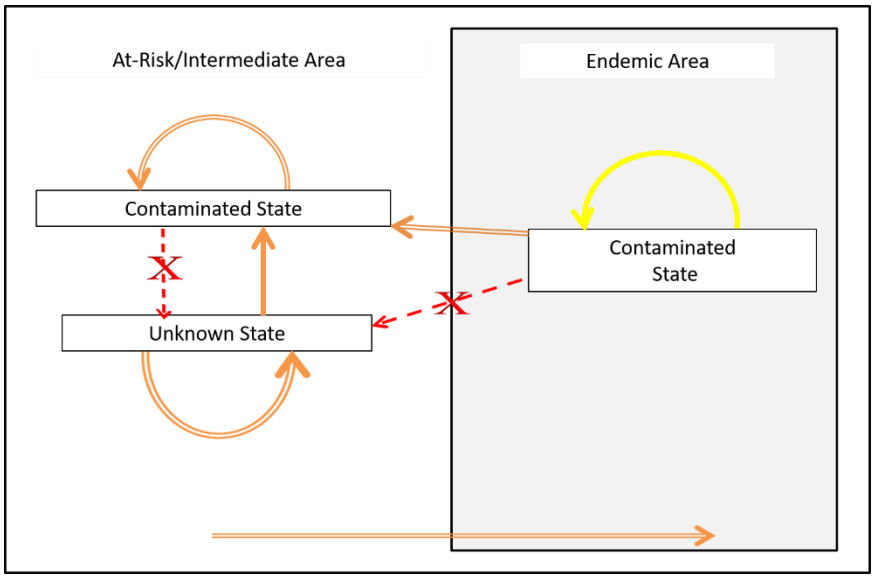


Figure 2. Movement recommendations for decontaminated (A) Subterranean/High-risk Terrestrial equipment and (B) Lower-risk Terrestrial equipment.

V. PROCEDURES FOR DECONTAMINATION:

1) On site:

a. Before leaving a site, thoroughly inspect all gear, bags, etc. for "stowaway" bats.

b. Thoroughly remove sediment and dirt from equipment upon exiting the site.

c. Contain and seal all potentially contaminated equipment in bags/containers for treatment away from the location. Decontaminate the outside surfaces of hard, non-porous containers and bags prior to moving them to a secondary location (*e.g.*, vehicles, labs, or storage). Store all exposed equipment separately from decontaminated and unexposed equipment.

d. Wash hands, forearms, and exposed skin with soap; change into clean clothing and footwear prior to entering a vehicle. Contain potentially contaminated equipment as per c) above.

2) Off site:

a. REMOVE all dirt and debris from all items prior to cleaning and treating.

b. CLEAN submersible and non-submersible equipment according to manufacturer's recommendations. Conventional cleansers like Woolite® detergent or Dawn® dish soap aid in the removal of sediments and debris and increase the effectiveness of subsequent treatment[3&4]. *CLEAN* the inside of field vehicles, especially floor mats and seats used by people who have been inside the bat roosts and cargo areas holding equipment that has been inside the roost. If the vehicle has become dirty or muddy from approaching or being inside a roost, wash the wheels and undercarriage before using it at additional sites. It is especially important to insure vehicles are clean prior to moving between WNS Management Areas or scenarios categorized as "High Risk" in Figure 2.

c. TREAT submersible and/or non-submersible equipment as legally allowable according to the instructions provided on the product label using an application and/or product found in Table 1. The use of any product or application should also consider all pertinent equipment manufacturer's recommendations for cleaning and/or decontamination. For equipment that cannot safely be treated using an application in Table 1, dedicate to individual sites as determined appropriate in Section IV and clean according to the equipment manufacturer's instructions.

i. Submersible Equipment (*i.e.*, equipment that can safely withstand submersion in hot water or other specified product for the recommended amount of time without compromising the integrity of the item):

Recognition that not all products found in Table 1 are suitable for submerging equipment is a fundamental part of choosing the most appropriate application and/or product. The safety and integrity of equipment, therefore risk of personal injury or irreversible equipment damage, requires the user to carefully consider each application and/or product. Always remember to wear personal protective gear suitable for the application and/or product selected in Table 1.

The preferred treatment for equipment deemed suitable for submersion is hot water that maintains a temperature of at least 55ºC (131ºF) for a minimum of 5 continuous minutes. **All equipment surfaces must remain in direct contact (*i.e.*, avoid all trapped air) with the ≥55ºC (131ºF) water for the entire 5 minute treatment**

period. Many commercial and home washing machines with sanitize (or allergen) cycles may be capable of submerging gear in the recommended hot water application for the required time, but each machine should be tested to ensure it reaches and sustains the needed temperatures throughout the process. Remember, if heat may affect the safety and/or integrity of the otherwise submersible piece of equipment, consider equipment dedication or the remaining products listed in Table 1.

ii. Non-submersible Equipment (*i.e.*, equipment that may be damaged by liquid submersion):

Treat all non-submersible equipment using the most appropriate application or product in Table 1 that complies with the equipment manufacturer's recommendations and product label instructions. The listed applications or products may not be appropriate or safe for non-submersible equipment. Dedication of equipment should always be considered the preferred application in these circumstances.

d) RINSE equipment thoroughly, as appropriate, in clean water. This step is particularly important if the items may contact humans, bats, or sensitive environments. Allow all equipment to completely dry prior to the next use.

e) DECONTAMINATE the equipment bins, sinks, countertops and other laboratory, office, or home areas with the most appropriate applications or products in Table 1.

Table 1. Applications and products with demonstrated efficacy against *Pd* [3, 4, 5, 6, & 7]. Remember to consult equipment labels, registered product labels, and the appropriate SDS for regulations on safe and acceptable use.

	Tested Applications & Products [3, 4, 5, 6, & 7]	Federal Reg No.:	Laboratory Results
Preferred Applications	Equipment Dedication	N/A	Clean according to manufacturer standards and dedicated to a site.
	Submersion in Hot Water[4, 6, & 7]	N/A	Effectiveness demonstrated when submerged for 5 continuous minutes in water ≥55ºC (131ºF).
Other Products	Ethanol (60% or greater)[4, 6, & 7]	CAS - 64-17-5	Effectiveness demonstrated upon exposure in solution for at least 1 minute.
	Isopropanol (60% or greater)[4, 6, & 7]	CAS - 67-63-0	
	Isopropyl Alcohol Wipes (70%)[4, 6, & 7]	CAS - 67-63-0	Effectiveness demonstrated immediately following contact and associated drying time.
	Hydrogen Peroxide Wipes (3%)[4, 6, & 7]	CAS - 7722-84-1	
	Accel®[4, 5, 6, & 7]	EPA - 74559-4	Effectiveness demonstrated when used in accordance with product label.
	Clorox® Bleach[3, 4, 5, 6, & 7]	EPA - 5813-100	
	Clorox® Clean-Up Cleaner + Bleach[4, 5, 6, & 7]	EPA - 5813-21	
	Clorox® Disinfecting Wipes[4, 5, 6, & 7]	EPA - 5813-79	
	Clorox Healthcare Hydrogen Peroxide Disinfectant Cleaner [4, 5, 6, & 7]	EPA - 67619-24	
	Formula 409® Antibacterial Kitchen All-Purpose Cleaner[3,4,5,6, & 7]	EPA - 5813-73	
	Hibiclens®[4, 5, 6, & 7]	NDA - 017768	
	Lysol All Purpose Cleaner Lemon Breeze[4, 5, 6, & 7]	EPA – 777- 66	
	Lysol Disinfecting Wipes[4, 5, 6, & 7]	EPA - 777- 114	
	Lysol® IC Quaternary Disinfectant Cleaner [3, 4, 5, 6, & 7]	EPA - 47371-129	
	Rescue Hydrogen Peroxide Personal Wipes[4, 5, 6, & 7]	EPA – 74559-4	
	Sani Cloth Germicidal Disposable Wipes[4, 5, 6, & 7]	EPA - 9480-4	
	Up and Up Disinfecting Wipes[4, 5, 6, & 7]	EPA – 6836-336-56952	
	Virkon S	EPA - 39967-137	

Other effective treatments with similar water based applications or chemical formulas (e.g., a minimum of 0.3% quaternary ammonium compound) may exist but remain untested at this time. Find more information on the USEPA or

FDA registered product labels by accessing the individual hyperlink or searching USEPA or FDA Registration Numbers at: http://iaspub.epa.gov/apex/pesticides/f?p=PPLS:1 or http://www.accessdata.fda.gov/scripts/cder/drugsatfda/index.cfm.

Products with USEPA registration numbers mitigate persistence of living organisms on surfaces and are regulated by the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA, 7 USC 136, et seq.). FIFRA provides for federal regulation of pesticide distribution, sale, and use. Within FIFRA, pesticides are defined as any substance or mixture of substances intended for preventing, destroying, repelling, or mitigating any pest. FIFRA further defines pests as any insect, rodent, nematode, fungus, weed, or any other form of terrestrial or aquatic plant or animal life or virus, bacteria, or other micro-organism (except viruses, bacteria, or other micro-organisms on or in living man or other living animals) which the Administrator declares to be a pest under section 25(c)(1). Find more information on FIFRA at: http://www.epa.gov/oecaagct/lfra.html.

VI. EQUIPMENT AND ACTIVITY SPECIFIC RECOMMENDATIONS:

It is the responsibility of the users of this protocol to read and follow the product label and SDS. The product label is the law!

1) **Clothing & Footwear:**

IMPORTANT: All clothing (*i.e.*, inner and outer layers) and footwear should be decontaminated after every site visit using the most appropriate Application/Product in Table 1 or otherwise cleaned and dedicated for use at individual sites or areas as determined appropriate in Section IV.

Use of a disposable suit (*e.g.*, Tyvek® or ProShield®) or site-dedicated, reusable suit (*i.e.*, coveralls) is an appropriate strategy to minimize sediment/soil accumulation on clothing during a cave/mine or bat research activity. All clothing layers should still be decontaminated or otherwise cleaned and dedicated after every use.

Contain all used equipment in plastic bags upon final exit from a site, separating disposable materials from reusable equipment. Seal and store plastic bags in plastic containers until trash can be properly discarded, and/or exposed reusable equipment can be properly decontaminated off site.

While significantly more comprehensive than the National WNS Decontamination Protocol, Centers for Disease Control provide more information about proper use of protective equipment here: https://www.cdc.gov/hai/prevent/ppe.html ("The resources on this [CDC] page are intended to promote patient safety and increase the safety of the healthcare work environment through improved use of personal protective equipment (PPE) by healthcare personnel.")

Cave/Mine and other Subterranean Equipment:

Dedicate, as necessary, or decontaminate all cave/mine equipment (*e.g.*, backpacks, helmets, harness, lights, ropes, etc.) using the most appropriate guidance in Section V. Most types of equipment, including but not limited to, technical and safety equipment, have not undergone manufacturers' consented testing for safety and integrity after decontamination. Therefore, carefully review and adhere to the manufacturer's care and use standards to maintain equipment functionality and safety protective features. If the application/product options in Table 1 are not approved by the manufacturer's care and use standards for the respective type of equipment, clean and inspect equipment according to manufacturer's specification and dedicate to similarly classified caves/mines/bat roosts and only reuse in progressively more contaminated caves/mines/bat roosts as determined appropriate in Section IV.

3) **Scientific Equipment:**

Only properly trained, vaccinated, and, where necessary, authorized personnel should handle bats!

Consider the use of disposable scientific equipment and materials that can be refreshed between contact with individual bats, especially in the Intermediate and At-Risk management areas. All disposable scientific equipment (*e.g.*, work surfaces, containers/envelopes, exam gloves, etc.) should only be used to process one bat, then discarded after use. Similarly, reusable equipment (e.g., cotton holding bags, gear bags, gloves, wing punches, banding pliers, rulers, and other field instruments) should only be used to process one bat prior to initiating procedures for decontamination. Any bag used to hold bats must be breathable and safe for the animals.

Use the guidance in Section V to determine the relevant procedure for decontamination of all work surface area(s) and equipment (*e.g.*, light boxes, banding pliers, holding bags, rulers, calipers, scale, scissors, wing biopsy punches, weighing containers).

Autoclaving non-submersible equipment is an acceptable sterilization measure, if feasible and permissible for the equipment, although this method has not been tested directly for *Pd*.

NOTE: In situations where disposable items (*i.e.*, nitrile or latex gloves) are in limited supply or unavailable, disinfecting them between bats may be allowable. Appropriate products must be selected to insure they are being used in accordance with label specifications, as would be done with any reusable equipment. As with any items that will come in contact with bats, disinfected gloves must be dry and free of residue that may be harmful to the bats before another animal is handled.

4) **Mist-Nets & Harp Traps:**

Dedicate, as necessary, or decontaminate all netting and harp trapping equipment (*e.g.*, netting, tie ropes, poles, stakes, trap bags, lines, trap frame and feet) using the most appropriate guidance in Section V for the particular equipment. This is only necessary after each night of use when the net and/or trap equipment come in contact with one or more bats OR enter a cave/mine/bat roost. Disposable harp trap bags or liners can be also be used to reduce transmission risks and should be discarded at the end of each night if any bats have come in contact with the bag.

5) **Acoustic Monitor, Camera, and Related Electronic Equipment:**

For electronic equipment and accessories used within bat roosts, dedicate, as necessary, or decontaminate all acoustic monitoring, camera, and related electronic equipment (*e.g.*, detector, camera, tablets, cell phones, laptops, carrying case, lenses, microphone(s), mounting devices, cables) using the most appropriate guidance in Section V for the particular equipment. The material composition of this equipment requires careful review and adherence to the manufacturer's care and use standards to maintain their functionality and protective features. If application/product options in Table 1 are not approved by the manufacturer's care and use standards for the respective type of equipment, clean equipment accordingly and dedicate to similarly classified caves/mines/bat roosts or only reuse in progressively more contaminated caves/mines/bat roost as determined appropriate in Section IV. Electronic devices used as lower-risk terrestrial equipment, and not used in bat handling work, pose a negligible risk of transmission (*i.e.*, driving transects or fixed point detector surveys not associated with a cave/mine/bat roost entrance).

Equipment used in a cave/mine/bat roost may be placed in a sealed plastic casing, plastic bag, or plastic wrap to reduce the potential for contact/exposure with contaminated environments. The outer surfaces of plastic protective covers should be cleaned after leaving the cave, mine, or roost and prior to removing the equipment. Plastic wraps should then be discarded (if disposable) or further treated (if reusable) using the most appropriate guidance in Section V.

These recommendations are the product of the multi-agency WNS Decontamination Team, a sub-group of the Disease Management Working Group established by the National WNS Plan (A National Plan for Assisting States, Federal Agencies, and Tribes in Managing White-Nose Syndrome in Bats, finalized May 2011). On 15 March 2012 the initial national decontamination protocol was approved and adopted by the WNS Executive Committee, a body consisting of representatives from Federal, State, and Tribal agencies which oversees the implementation of the National WNS Plan. The protocol is updated as necessary to include the most current information and guidance available.

1 To find published addenda and/or supplemental information, visit http://www.whitenosesyndrome.org/topics/decontamination.

2 Visit http://www.whitenosesyndrome.org/resources/map for the most updated information on the status of county and state. County and state level determination is made after a laboratory examination and subsequent classification of bats according to the current WNS case definitions. Definitions for the classification can be found at https://s3.us-west-2.amazonaws.com/prod-is-cms-assets/wns/prod/de91e7d0-9c0e-11e9-ad22-19882a049409-WNS-Case-Definitions_v5162019_FINAL-clean- logo.pdf Contaminated determination includes both confirmed and suspect WNS classifications.

3 Information from : V. Shelley, S. Kaiser, E. Shelley, T. Williams, M. Kramer, K. Haman, K. Keel, and H.A. Barton – Evaluation of strategies for the decontamination of equipment for *Geomyces destructans*, the causative agent of White-Nose Syndrome (WNS) Journal of Cave and Karst Studies, v. 75, no. 1, p. 1–10. DOI: 10.4311/2011LSC0249

4 Information from: J.A. Glaeser and C. Kunze – Further Evaluation of Decontamination Products to Minimize Human-based Transmission of *Pseudogymnoascus destructans.* In prep. These products were tested by the Northern Research Station, under USDA Forest Service Cooperative Agreement 13-IA-11242310-036 (U.S. National Park Service and U.S. Forest Service) & 16IA11242316017 (U.S. Fish and Wildlife Service and U.S. Forest Service)

5 The use of trade, firm, or corporation names in this protocol is for the information and convenience of the reader. Such use does not constitute an official endorsement or approval by state and/or federal agencies of any product or service to the exclusion of others identified in the protocol that may also be suitable for the specified use. 6 Product guidelines should be consulted for compatibility of use with one another before using any decontamination product. Also, detergents and quaternary ammonium compounds (*i.e.*, Lysol® IC Quaternary Disinfectant Cleaner) should not be mixed directly with bleach as this will inactivate the bleach and in some cases produce a toxic chlorine gas. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.

7 Final determination of suitability for any decontaminant is the sole responsibility of the user. All users should read and follow all labeled instructions for the products/applications and/or understand associated risks prior to their use. Treatments and the corresponding procedures may cause irreversible harm, injury, or death to humans, bats, equipment or the environment when used improperly. Always use personal protective equipment in well-ventilated spaces to reduce exposure to these products or applications.

APPENDIX VIII: Examples of Job Safety Analyses

They deal specifically with mist-netting, field work, and driving.

FS-6700-7 (2/98)

U.S. Department of Agriculture	1. WORK PROJECT/ACTIVITY	2. LOCATION	3. UNIT
Forest Service	**Bat Blitz (bat netting)**	Chattahoochee NF	Conasauga
JOB HAZARD ANALYSIS (JHA)	**4. NAME OF ANALYST**	**5. JOB TITLE**	6. DATE PREPARED
References-FSH 6709.11 and -12 (Instructions on Reverse)	Ruth Stokes	Wildlife Biologist	7/19/10

7. TASKS/PROCEDURES	8. HAZARDS	9. ABATEMENT ACTIONS Engineering Controls * Substitution * Administrative Controls * PPE
Driving to the jobsite	Vehicle condition	Perform pre-trip inspection on vehicle. Check fuel level and tire pressure.
	Dusty, wet, rocky, winding, or narrow roads	Wear seatbelts. Drive confidently and defensively at all times. Go slow around corners, occasionally clearing the windshield. Stay clear of gullies and trenches, drive slowly over rocks. Yield right-of-way to oncoming vehicles---find a safe place to pull over. Drive to avoid accident situations created by the mistakes of others.
	Turning around on narrow roads	Safely turn out with as much room as possible. Know what is ahead and behind the . vehicle. Use a backer if available.
	Getting lost	Familiarize yourself with where you're going; use a navigator to look at maps and directions. Flag intersections with ribbon if desired for easier navigation in the dark.
	Animals on road	Scan the road at all times. Drive slowly, watch for animals nearby.
	Stormy weather	Inquire about conditions before leaving Blitz headquarters. Be aware of oncoming storms.
	When angry or irritated	Attitude adjustment; change the subject or work out the problem before driving the vehicle. Let someone else drive.
	Sick or medicated	Let others on the team know you do not feel well. Let someone else drive.
	Driving late at night or early in the morning	Keep yourself awake by talking to another person, switching drivers, drinking caffeine, listening to the radio, keeping the air cool. Convoy back to headquarters at the end of the evening.
Working at night	Fatigue	Keep yourself alert by drinking caffeine, talking to another person, or other activity. Rest whenever possible.
	Tripping or falling	Carry a flashlight or headlamp and extra batteries with you at all times and scan surroundings for hazards. Familiarize yourself with the work area during daylight prior to working in the area at night. Flag a best route to help avoid known obstacles and hazards.
	Animal encounters	Make noise to avoid startling wildlife such as deer, bear, boar, etc.

Walking and working in the field	Slips, trips, falls	Wear supportive appropriate footwear. Maintain minimum 10 feet walking space between crewmembers. Always watch your footing. Slow down and use extra caution around logs, rocks, and holes. Extremely steep slopes (>50%) can be hazardous under wet or dry conditions; consider an alternate route.
	Animal encounters	*Black Bear/Wild Boar:* Make noise to avoid encounter. If you do encounter a bear or boar, put a lot of room between you and the animal. Do not look a bear in the eye, don't turn your back on a bear. If charged by a bear, grab stick or rock and make yourself look as big as possible, don't run. Throwing something or shouting may deter an attack. Avoid getting between a sow and cub/piglet. *Insect bites/stings*: Wear long sleeved shirts. Wear insect repellant. Avoid wearing heavy fragrances. Carry first-aid and sting relief kits. Make sure all crew members are informed about others who are allergic and what to do if they need assistance. Carry necessary emergency medication. Visually check each other for ticks while in the field. Check yourself carefully at home at day's end. If a tick is imbedded in you: Gently pull the tick out with tweezers or fingernails using a quick tug and wash the infected area and monitor for a red rash.
	Adverse weather	*Snakes:* Use caution while walking during warm weather, looking for snakes before you place your hands or feet. When rolling logs, use your boot rather than your hands.
	Encountering humans, particularly at night	Don't work under extremely adverse weather conditions. Suspend surveys and seek shelter during lightning storms or when a storm is approaching. Do not work in areas with abundant snags during high winds. When forest visitors are in the site vicinity observe their behavior carefully. If threatening or suspicious behavior is observed, leave the area and contact a LEO, noting time, place, vehicle and person descriptions. Be prepared for an emergency escape route—park your vehicle so it is easy to leave. Lock all doors and keep windows rolled up while vehicle is parked. Notify other team members/Blitz headquarters of any behavior of concern and your intended action.

Handling animals	Bites and scratches Rabies	Wear gloves when handling animals to avoid getting bit or scratched. Do not handle bats unless you have a pre-exposure rabies vaccination. If you accidentally get bitten by a bat, seek medical attention w/in 24 hours and receive a series of rabies vaccinations. .	
10. LINE OFFICER SIGNATURE		**11. TITLE**	**12. DATE**

JHA Instructions (References-FSH 6709.11 and .12)

The JHA shall identify the location of the work project or activity, the name of employee(s) writing the JHA, the date(s) of development,and the name of the appropriate line officer approving it. The supervisor acknowledges that employees have read and understand the contents, have received the required training, and are qualified to perform the work project or activity.

Blocks 1, 2, 3, 4, 5, and 6: Self-explanatory.

Block 7: Identify all tasks and procedures associated with the work project or activity that have potential to cause injury or illness to personnel and damage to property or material. Include emergency evacuation procedures (EEP).

Block 8: Identify all known or suspect hazards associated with each respective task/procedure listed in block 7. For example:

a. Research past accidents/incidents

b. Research the Health and Safety Code, FSH 6709.11 or other appropriate literature.

c. Discuss the work project/activity with participants

d. Observe the work project/activity

e. A combination of the above

Block 9: Identify appropriate actions to reduce or eliminate the hazards identified in block 8. Abatement measures listed below are in the order of the preferred abatement method:

a. Engineering Controls (the most desireable method of abatement).
For example, ergonomically designed tools, equipment, and
furniture.

b. Substitution. For example, switching to high flash point, non-toxic solvents.

Work Leader

c. Administrative Controls. For example, limiting exposure by reducting the work schedule; establishing appropriate procedures and practices.

d. PPE (least desirable method of abatement). For example, using hearing protection when working with or close to portable machines
(chain saws, rock drills portable water pumps)

e. A combination of the above.

Block 10: The JHA must be reviewed and approved by a line officer. Attach a
copy of the JHA as justification for purchase orders when procuring
PPE.

Blocks 11 and 12: Self-explanatory.

Emergency Evacuation Instructions (Reference FSH 6709.11)

Work supervisors and crew members are responsible for developing and discussing field emergency evacuation procedures (EEP) and alternatives in the event a person(s) becomes seriously ill or injured at the worksite.

Be prepared to provide the following information:

a. Nature of the accident or injury (avoid using victim's name).
b. Type of assistance needed, if any (ground, air, or water evacuation)
c. Location of accident or injury, best access route into the worksite (road name/number), identifiable ground/air landmarks.
d. Radio frequency(s).
e. Contact person.
f. Local hazards to ground vehicles or aviation.
g. Weather conditions (wind speed & direction, visibility, temp).
h. Topography.
i. Number of person(s) to be transported
j. Estimated weight of passengers for air/water evacuation.

The items listed above serve only as guidelines for the development of emergency evacuation procedures.

JHA and Emergency Evacuation Procedures Acknowledgement

We, the undersigned work leader and crew members, acknowledge participation in the development of this JHA (as applicable) and accompanying emergency evacuation procedures. We have thoroughly discussed and understand the provisions of each of these documents:

SIGNATURE	**DATE**	**SIGNATURE**	**DATE**