

Western Bat Working Group
AML – WNS subcommittees Joint Conference Call notes
Tuesday, February 23, 2010
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Attendants: Chris Ross, Kirk Navo, Linda Angerer, Greg Visconty, Ella Rowan, Sandra Brewer, Angie McIntyre, Diane Probasco, Pat Ormsbee, Katie Miller, Eric Britzke, Greg Falxa, Jason Williams, Jason Corbett, Derek Hall, Toni Piaggio, Pat Brown

Concerns from the AML subcommittee – summarized by Jason Williams

Decontamination comments to the USFWS

- Bats are the primary source of spread of this disease, regardless of changes in human activities
- There have been no studies about cross contamination for non-bat handlers that go underground
- Decontamination methods are hard to implement in the field, are harmful to gear, and take time to dry – this would shut down the AML program by stopping underground surveys
- There are lots of other people that are going underground that are not regulated (geologists, recreationists), so implementing these decontamination protocols are not going to be effective in controlling the spread of WNS
- If the decontamination protocol was known to be effective, the AML group would use it. But currently, there is not scientific evidence. Suggested methods need to be tested in the lab and in the field

Additional comments, not associated with the decontamination comments to USFWS

- Pat Brown does not feel that WNS is likely to be found in the southwestern US because of the arid conditions
- The AML group wants the focus to be on education and research.
- AML group agrees that there should be separate gear for the Eastern and Western US, but if the equipment is not used back East, then the decontamination protocol is overkill.
- Jason Corbett commented that we have very little information on baseline data for western winter bat activities. We don't want to assume that we won't/don't have WNS because most of the SW US is arid (does not have the same, moist/humid conditions found in eastern sites).
- There is a limited amount of time for AML groups to conduct surveys and make a decision on closure.
- Kirk Navo stated that he has no problems implementing some kind of decontamination protocol and that the sooner we start implementing them the better. He believes it's important to start decon protocols now because it's going to take time for it to become "routine" for us bat biologists to

implement, so starting now with at least the decon practices that are doable is a wise decision. We can continue to discuss and refine techniques and methods for decon, but need to start changing our mindset now, instead of waiting until it's here and at critical status. He recommends decontamination between project areas, instead of mine to mine.

- Jason Corbett asked about how we can handle equipment that cannot be decontaminated (gas meters), because we don't want to compromise the integrity of the PPE; there haven't been any studies for this.
- Greg Visconty stated that given the timeliness and additional costs of decontamination and its effectiveness, we are not getting a lot of bang for our buck for doing mine to mine decontamination
- Pat Brown is also concerned about the contractors installing bat gates as they enter portals during installation.

Response to AML concerns from WNS subcommittee – summarized by Pat Ormsbee

- We all have an area of concern (really big) and an area of influence where we can actually effect change (smaller); for the purposes of this call, let's try to stay focused on our area of influence with this issue – where we can actually effect change which is our AML group and recommendations for WBWG.
- There is a national objective to prevent the spread of WNS through the state/federal National Plan. There is also a national objective to close AML sites. These two objectives are not mutually exclusive.
- On bat-bat transmission: there is a closer interaction between bats in the East, whereas bats in the West are more dispersed with smaller winter groups. However, no scientist working on WNS is willing to exclude humans as a source of transmission– *G. destructans* spores have been found in cave sediment, pretty hard for humans to avoid sediment contact in caves and mines. There is a current, working hypothesis that WNS likely came to the US from Europe via humans. Additionally, NY researchers feel they might have spread WNS that first year.
- It is extremely difficult to test WNS and decontamination of gear and clothing in the lab; it's too hard to say that it isn't present when it may be.
- Upon consultation, WNS scientists do not think that decontamination is premature for the West. Hazel Barton said, 'if this came from Europe via a caver and if Decon had been in place, we probably wouldn't be where we are today with WNS.'
- We currently do not know at what temperature the WNS spores are viable; they actively grow up to 68 degrees F, but may remain viable at higher temperatures.
- There is no resistance to decontamination measures by the caving community back East; they use the quaternary, woolite, and 70% alcohol (see FWS protocol).
- The objective of the decontamination protocol is to reduce the likelihood of transmission; we will never attain 100% decontamination of equipment and that is not its goal, it is to reduce the likelihood of passing *Geomyces destructans* to new sites or bats – with the decon we have a chance to do this, without it, there is no chance

- All recommended decontamination measures of quat, bleach, alcohol, etc have been tested in the lab and are 100% effective at killing the spores.
- We should do everything that we can in the areas where WNS has not been documented to prevent it – it simply isn't worth the risk to assume *G. destructans* is absent from The West. Additionally, this protocol could help prevent spread of other invasives – many folks feel we should have been doing these protocols for a long time now regardless of WNS.
- No one wants to prevent AML closures, but it is not unreasonable to use decontamination for closures
- Toni Piaggio stated that we have the responsibility to be doing all that we can do. We don't have the luxury to wait several years for scientific publication; it takes too long.
- Toni Piaggio stated that WNS has shown us that we can be a better steward to bats by how we handle gear and how we clean our gear.
- Eric Britzke stated that decontamination has been recommended for years regardless of WNS, but hasn't been the standard operating procedure and that we need to start doing something.
- Eric Britzke stated that back East, we have repeatedly underestimated WNS; the rate of spread is so fast. We can't know that it won't manifest itself in the West.
- Ella Rowan stated that fungal species are especially tricky. The disease may jump outside our expectations. Species adapt and evolve; fungi have the potential to acclimate beyond our current understanding
- Ella Rowan stated that the general public may not be as serious a threat to spreading WNS since most of them likely only visit local sites. Professionals that travel great distances geographically for work in these sites may be the greatest threat to rapid and long-distance spread.
- Ella Rowan stated that humans may be the greatest threat for interspecies transmission due to moving through these caves/mines where species often segregate by species. Sharing equipment between captures may be the primary threat.
- Katie Miller stated that miners at active mines are unlikely to spread WNS since very little mineral exploration occurs by entering AML sites. There are small companies and large companies, but we have the ability to reach all claimants.
- There is a lot of uncertainty about spores, decontamination, etc, but we need to shore up these areas where it has not manifested itself.
- Use chytrid as an example and you can see that although it has been around for 45 years, it is still killing species after species.
- There is a national push for decontamination, it is a first line of defense – no one is exempt from having to do this.
- The AML program is a different situation in the East, but they, too, deal with AMLs at a smaller scale.

Discussion on solutions

- Pat Ormsbee asked if it was feasible and acceptable for AML, to emphasize that no gear from the East is used in the West, that we don't go underground unless we have to, and that we should decontaminate between some logical areas or at very least at the end of each day.
- Jason Williams asked what kind of interface we can get established to provide feedback to USFWS, USFS and the National Plan so that cavers and the underground mine community can provide information.
- Pat Ormsbee responded that we can do regular calls between the AML and WNS subcommittees. The WNS subcommittee is strongly connected to the development of these plans and can provide feedback to the National Plan and other documents. An AML representative can pursue joining the WNS state/federal group By contacting Jeremy Coleman – needs to be a State or Federal employee.
- Ella Rowan stated that NWHC did experiments to test the effectiveness of killing the fungus. It is important to note that in general there is an infectious load for such pathogens to cause disease in animals. It may take 1 gram or 100 grams to induce infection. The more you reduce the infectious load (quantity of spores/fungus) on humans, the more effective your prevention methods are due to decreasing the likelihood that an infectious dose would be achieved. Exact infection loading testing hasn't been done for *G. destructans*, but the principle in regards to decon still applies.
- Jason Williams stated that it still is not effective is only 1% of the people that go underground are using them.
- Ella Rowan, Pat Ormsbee and Toni Piaggio stated that we have the ability to address that 1% and it is our responsibility to do so and that 1% is making it their business to get to near 100% of these sites, and that is the important number to keep in mind – the number of potential opportunities for contamination.
- Pat Brown stated that we (WNS and AML subcommittees) are both trying to stop people from going underground and that that is our common ground on this issue.

Group consensus

- Pat Ormsbee asked if the group was in agreement that some measure of decontamination is practical and if we could move forward. No one disagreed that some decontamination is practical.
- The group agreed that we could build on 1) no gear from the East is used in the West, 2) that we don't go underground unless we have to, and 3) that we should decontaminate between practical, logical/biological areas. When asked, no one was opposed to further developing these steps, nor had a better option.
- It was also agreed that a WNS-AML subcommittee would address more specific language and the what/if scenario (if you cannot decontaminate after each mine, then do X). Describing “logical/biological” areas is critical and must be concise so folks in the field are clear what the recommendation is. How are we defining “east” and “west”?
- This subcommittee will identify what is practical. Most agree that decontamination between projects is practical (vs. mine to mine).

- The decontamination of some equipment may be problematic, but that should not derail the process or decontamination of other objects.
- Kirk Navo, Jason Williams, Jason Corbett, Angie McIntyre, Diane Probasco and Darek Hall have volunteered to be on the AML-WNS subcommittee to determine this language.
- Once this subcommittee addresses the decontamination language, they will bring it back to the larger group to review.
- If anyone has immediate comments for this subgroup, please send them to Jason Williams immediately.
- The group was asked for further input or suggestions and none were offered.