Monongahela National Forest

Review of New Information for White-Nose Syndrome and Forest Bat Populations

Summary of Findings

An interdisciplinary (ID) team of Monongahela National Forest (MNF) specialists and planning staff has considered the best scientific information available with regard to White-nose Syndrome (WNS) and bat populations. It is our determination that the spread of the WNS from New York, Vermont, Massachusetts and Connecticut in 2007/2008 to New Jersey, Pennsylvania, West Virginia, Virginia, and New Hampshire could present a different picture with regard to the environmental effects disclosed in the Environmental Impact Statement (EIS) for the 2006 Forest Plan or any site-specific environmental documentation. However, because WNS has only recently been discovered in West Virginia, and information about WNS and its effects on bat populations in West Virginia and the MNF is only beginning to emerge, there is not enough information available at this time to supplement, revise, or correct the EIS for the 2006 MNF Land and Resource Management Plan (Forest Plan) or project-specific environmental documents.

This analysis also documents our determination that the discovery of WNS in West Virginia does not at this time present enough information to determine if there has been a serious change in conditions with regard to development of the 2006 Forest Plan. The ID team examined the Forest Plan and found that, based on the available information, there is no need to revise, amend, or correct the 2006 Forest Plan to address the threat of WNS at this time. For now, the direction and information contained in the 2006 Forest Plan remain adequate to aid in the recovery of the Indiana bat (*Myotis sodalis*) and Virginia big-eared bat (*Corynorhinus townsendii virginianus*), and to conserve other forest bat species in the planning area. However, we recognize that the situation with WNS and bat populations on the Forest could change dramatically in a relatively short time frame. Therefore the MNF is committed to:

- Keeping abreast of the latest information about WNS—including causes, vectors, and potential treatments—and its impacts on bat populations in the state and our planning area,
- Continuing to apply Forest Plan direction for the protection and monitoring of bat populations, and to implement projects that maintain or enhance bat habitat, and
- Remaining open to possible adjustments in the Forest Plan that may help reduce potential impacts to bat populations from WNS, as more information about the disease becomes available.

Introduction

The intent of this review is to provide a reasoned analysis of recent information on White-nose Syndrome and its relevance to ongoing and pending projects implementing the MNF Forest Plan. This documentation provides the decision maker a basis for determining whether to correct, supplement, or revise the environmental analysis supporting the MNF Land and Resource Management Plan, or projects implementing the Plan. New information on the spread of WNS

to New Jersey, Pennsylvania, West Virginia, Virginia, and New Hampshire in 2009 (http://www.fws.gov/northeast/wnsmaps.html) prompted this review.

Background

Biologists and researchers from around the country are working to identify and understand a fungus found on hibernating bats that appears to be associated with the death of thousands of hibernating bats in the northeast (http://www.fws.gov/northeast/white_nose.html). The cause of the bat deaths, as well as the origin and transmission of the fungus, is still unknown at this time. Bats with WNS may exhibit a white fungus that is found around the muzzles, ears, or wings of affected individuals. Besides the white fungus around the nose of bats, other symptoms are displayed. In other areas where WNS has become established, bats have been found moving near the entrance to the caves and often coming out of the caves and flying around in the middle of the day. Bats displaying this abnormal behavior have reduced fat reserves. Many bats are non-responsive and many have been found dead both inside and outside of the caves. During the summer, people are reporting dead and dying little brown bats at their summer roosts in attics, barns and other outbuildings. A higher than usual number of pups have been reported falling and dying. While doing surveys in forested areas, biologists have caught bats with abnormal wing tissues, including white spots, holes and tears. Biologists do not know whether these summer bat symptoms are directly related to WNS. It is also unclear whether the white fungus can be easily seen in the summer.

According to information shared at a science strategy meeting in June 2008 (meeting notes available at http://www.batcon.org/pdfs/whitenose/WNSMtgRptFinal2.pdf), the fungus was first documented in photographs taken on February 16, 2006 in Howe Cave, New York; however, this was not reported until 2008. It was subsequently documented in nearby Schoharie Cavern in January 2007, and later that winter in three other caves in New York. By March 2008, the fungus was observed in hibernacula in New York, Vermont, Massachusetts, and Connecticut (meeting notes available at: http://www.batcon.org/pdfs/whitenose/WNSMtgRptFinal2.pdf). As of March 2009, WNS was confirmed in New Jersey, Pennsylvania, West Virginia, Virginia and New Hampshire.

White-nose syndrome was believed to be associated with the deaths of approximately 8,000 to 11,000 bats during the 2006/2007 winter. Scientists estimate as many as 500,000 bats deaths may now be associated with WNS since it was first noted in 2006. Bat population declines have exceeded 75 percent at specific caves in New York where studies have been ongoing since 2006 (Blehert et al. 2008a; 2008b).

Wildlife managers are concerned about the outbreak because some bats congregate by the thousands in caves and mines to hibernate during winter months. This behavior increases the potential that WNS will spread among hibernating bats. In addition, hibernating bats disperse in spring and migrate, sometimes hundreds of miles away, to spend the summer in smaller colonies.

Most bats affected to date are little brown bats, but WNS has also been found on endangered Indiana bats, raising concerns about the impacts on a species already at risk. Other affected bat species include the tri-colored bat (or eastern pipistrelle), northern long-eared bat, and eastern

small-footed bat. White-nose syndrome is confirmed in caves in West Virginia where the endangered Virginia big-eared bat hibernates although to date no individuals of this species have been documented as infected.

Biologists, researchers and laboratories are working to identify the pathogen, or other causal agent, to determine the cause of bat deaths. Blehert et al. (2009) found the WNS fungus to be genetically similar to *Geomyces* species that grow in cold temperatures and are known to colonize the skin of animals in cold climates. Biologists hope to soon discover whether the fungus itself plays any role in the recent increase in bat mortality in certain caves, or is merely a symptom.

The U. S. Fish and Wildlife Service is developing a geographic database to track the location of affected sites, and collect information on each site, such as the number of bats affected. This information will be critical in tracking the extent and spread of WNS and in coordinating research efforts.

Because it is not known how WNS spreads, some state agencies have asked cavers to avoid entering caves and mines until more information is available. The U. S. Fish and Wildlife Service is providing recommended procedures to cavers to prevent the spread of WNS (available at: http://www.fws.gov/northeast/whitenosemessage.html). The Service also issued a cave advisory on March 26, 2009, asking those who use cave hibernacula in WNS-affected states to take extra precautions and to curtail activities in those caves to help prevent the spread of WNS. The Southeastern Cave Conservancy, Inc., Northeastern Cave Conservancy, and National Speleological Society have taken the precautionary measure of closing some of their owned or managed caves. The MNF has implemented a year-round Forest Supervisor closure order on certain caves to protect endangered and other bat species from the spread of WNS and is considering a closure order on all caves occurring on the Forest.

The focus of current efforts among conservation agencies and organizations is on determining the cause of bat mortality. Until the cause is known, it is not possible to determine how the ailment is spread and evaluate possible treatments. In June 2008, nearly 100 scientists gathered in Albany, New York to exchange information about WNS and discuss hypotheses, data needs, and future actions (available at: http://www.batcon.org/pdfs/whitenose/WNSMtgRptFinal2.pdf). To answer the question why are bats starving, scientists are focusing on whether bats have stored enough fat reserves in the fall prior to hibernation or whether something is disturbing the bats during hibernation, causing an increase in their metabolism with a corresponding decrease in stored fat. Other scientists are examining the food supply for bats to determine if contaminants or some related agent has impacted the bat's food supply. To date, WNS has not been linked other environmental factors, such as forest management practices.

West Virginia Information

During 2008/2009 winter bat surveys by the State Division of Natural Resources (WVDNR), WNS was discovered in four hibernacula in Pendleton County, West Virginia. These caves are scattered across the county and not concentrated in one area. No signs of WNS were seen in caves surveyed in Grant, Tucker, Hardy, and Randolph Counties. In addition, cave soil samples

were collected this winter in Monroe, Mercer, Pocahontas, and Greenbrier Counties, and no WNS was detected in those caves during collection. Not all caves were surveyed. Thus, the survey sample size was smaller than normal.

From the four caves where WNS was found, most of the affected bats were little brown bats or tri-colored bats (eastern pipistrelles). Only one Indiana bat with WNS was encountered, and no Virginia big-eared or eastern small-footed bats were found with WNS, even where WNS was present. Because Virginia big-eared bats typically hibernate in the drier portions of caves, they may be less affected by WNS (or it may take longer to affect them) than other species (pers. comm., Craig Stihler, WVDNR biologist, 03/13/09).

The WVDNR did not survey Hellhole Cave (designated critical habitat for Indiana bats) this year because of concerns of accidentally introducing WNS into the most important bat cave in the state. However, they have been visiting the entrance to the cave and they have seen no sign of bats flying out of the cave, nor have they found any dead bats near the cave. Schoolhouse Cave, about a mile away, was surveyed this winter but did not show signs of WNS (pers. comm., Craig Stihler, WVDNR biologist, 03/13/09).

There are thousands of caves in West Virginia and many of them are concentrated in the counties named above. Only 26 of these caves are known hibernacula for Indiana bat, though other caves are known to shelter other species. Additionally, West Virginia is one of the leading coal-producing states in the country, which means that there are active and abandoned mines scattered throughout the state. Thus, the potential for WNS to spread in West Virginia could be considered relatively high, based on the amount of known and potential hibernacula.

Although important hibernacula for imperiled bats have been physically closed (gated and/or fenced) to public entry for some time now, the majority of caves in West Virginia and the MNF remain open to the public. However, state wildlife officials have asked that people visiting caves decontaminate their shoes and clothing after every visit. Officials have also asked to be contacted if visitors find any bats acting abnormally or displaying a white fungus on their face or bodies. It is unknown at this time whether the state will be closing additional caves or initiating studies to learn more about WNS.

Monongahela National Forest Information

Of the four hibernacula caves in Pendleton County where WNS has been detected, one is located on National Forest System (NFS) lands—Cave Mountain Cave. This cave is the only place that WNS has been found on the MNF so far. As of March 2009, it is also only one of two places where WNS has been found on NFS lands. When WVDNR staff visited the cave in February this year, they found that 40 of the 318 little brown bats (*Myotis lucifugus*) observed showed signs of WNS. Six of 143 tri-colored bats (eastern pipistrelles) observed showed definite signs of WNS, though conditions were so wet that it was difficult to detect the fungus. There were no bats clustering near the entrance (pers. comm., Craig Stihler, WVDNR biologist, 02/04/09).

There are over 200 known caves on the Monongahela National Forest, but only some of those are used as bat hibernacula. For example, there are 11 known caves that serve as Indiana bat

hibernacula within the Forest proclamation boundary, but only three of those have openings on Forest lands. The only hibernaculum that has been designated Critical Habitat for Indiana bats is Hellhole Cave, which lies within the Forest proclamation boundary in Pendleton County but is privately owned. The cave is the largest hibernation site in the mid-Atlantic region for Indiana bats, and it hosts about 9,000 individuals, many more than any other cave in the region.

For the Virginia big-eared bat, Hellhole Cave is one of the largest hibernation sites in the world. There are estimated to be about 9,000 individuals in the cave, against a total world population of about 20,000. Thus, Hellhole Cave contains about 45 percent of the world's total population. In addition, the cave is one of the world's three or four largest hibernation sites for little brown bats, containing over 100,000 individual bats. The cave is also home to at least four other bat species.

There are only two hibernacula on the Forest that have been designated Critical Habitat for Virginia big-eared bat—Cave Mountain Cave in Pendleton County and Cave Hollow/Arbogast Cave in Tucker County. The 2006 Forest Plan direction calls for these caves to be both gated and posted to prohibit public entry during the hibernation season. In 2008, the Forest closed these caves year-round with a closure order in response to the potential threat from WNS. As noted above, WNS has recently been found in Cave Mountain Cave.

Some bat species may use mines as hibernacula. There are no currently active mines on the Forest. All known abandoned mines on the Forest have been closed to public entry, either through physical barriers or posted closure orders.

The Forest has a cooperative agreement with West Virginia to help monitor populations of many species, including bat species such as Indiana and Virginia big-eared bat. The WVDNR does hibernacula bat counts on an annual basis, including important hibernacula on the Forest. Population trends for both Indiana and Virginia big-eared bats have generally been upward over the last 15-25 years. It is through WVDNR hibernacula surveys that WNS was first detected on the Forest, and it will be through these surveys and other means that changes to WNS status or impacts will be monitored in the future.

The Forest also conducts bat surveys during the summer field season as part of Forest Plan monitoring efforts to collect data on T&E species, Regional Forester's Sensitive Species (RFSS), and other species. This information has been used to track populations and help assess viability. Additional monitoring is done as part of project clearance surveys to determine presence/absence of species that may require project-level mitigation or Forest-level management considerations.

Species Evaluated in this Analysis

Detailed life history requirements, general biology, distribution, habitat information, causes for decline, environmental baseline, and specific guidance for the Indiana bat and Virginia big-eared bat may be found in the documents: the Monongahela National Forest Land and Resource Management Plan (USDA 2006a)**;** Biological Assessment for Threatened and Endangered Species (USDA 2006b, Appendix H); and the Programmatic Biological Opinion (BO) for the Monongahela National Forest 2006 Forest Plan Revision (USDI 2006). These documents can be found at: http://www.fs.fed.us/r9/mnf/plan_revision/Information/information.htm.

Indiana Bat

The Indiana bat is a migratory species ranging throughout much of the eastern half of the U.S. The Indiana bat was listed as endangered by the U.S. Fish and Wildlife Service pursuant to the Endangered Species Act on March 11, 1967. Listing was warranted based primarily on large-scale habitat loss and degradation, especially at winter hibernation sites, and significant population declines. From the time that the species was listed, the range-wide population of the Indiana bat has declined from approximately 883,300 Indiana bats for 1960/1970 to the lowest count 362,194 in 1995 and most recently 513,390 in 2007 (USDI 2008).

Indiana bats typically hibernate in karst caves between October and April; the precise dates vary depending upon local weather conditions. Since 2001, there has been an 8 percent increase in the number of hibernating Indiana bats tallied statewide (USDI 2008). It was recently estimated that in 2007 West Virginia supported a hibernating population of 14,600 Indiana bats (WVDNR 2007).

In most years, 26 West Virginia caves provide adequate Indiana bat winter hibernacula. Eleven hibernacula are within the MNF Proclamation Boundary, but only three (Big Springs Cave, Cave Hollow/Arbogast Cave, and Two-Lick Run Cave) have all or most of their entrances on MNF land. Hellhole Cave, a privately owned cave in Pendleton County, is the only West Virginia cave currently designated as Critical Habitat for the Indiana bat (Priority II) (USDI 1997); it lies within the MNF proclamation boundary, but on private land about one mile from national forest land.

The Monongahela Forest Plan has specific management direction for the protection, maintenance or enhancement of Indiana bat hibernacula, key areas (150-acre forested units that surround hibernacula), maternity areas, and primary range (areas where foraging, roosting, and swarming occur within 5 miles of hibernacula) (Forest Plan, pp. II-24 through II-26).

Virginia Big-eared Bat (VBEB)

The VBEB was listed as endangered under provisions of the Endangered Species Act on December 31, 1979. A Recovery Plan, developed by the U.S. Fish and Wildlife Service, was signed May 8, 1984. The VBEB is a geographically isolated and sporadically distributed cave-obligate species.

West Virginia has the largest populations of VBEB, primarily in Pendleton County (Barbour and Davis 1969, Stihler and Wallace 2006). West Virginia's Cave Mountain Cave, Hellhole Cave, Hoffman School Cave, Sinnit Cave, and Cave Hollow/Arbogast Cave are designated as Critical Habitat for this species based on the precise physical structure, temperature, and humidity conditions required for its continued survival, as well as the significant number of VBEB that occur there. Cave Mountain and Cave Hollow/Arbogast are on the MNF.

These bats return to hibernacula in September, and continue feeding during warm evenings. Throughout their range, VBEB hibernate in caves and mines, which provide cold to near freezing temperatures (36.5º to 49.1° F). In Kentucky and West Virginia, VBEB occasionally hibernate

in clusters of several hundred to more than a thousand, occupying the same spot within the cave year after year. Ages and sexes of bats hibernating in small clusters appear to be random, but large clusters usually consists of nearly equal numbers of both sexes. Winter clusters stabilize body temperatures against external changes.

Female VBEB form maternity roosts in limestone caves and sandstone rock shelters (Adam et al. 1994, Lacki et al. 1994), and may use rock shelters as summer feeding roosts (Lacki et al. 1993). Maternity roosts utilize warm caves, with temperatures ranging from 59° to 64° F (Clark 1991). Male VBEB form bachelor colonies that also are dependent on caves and rock shelters in the summer, although they inhabit different areas of the roost site than females. Vegetative and other surface habitat characteristics do not seem to play a role in roost site selection by bats (Wethington et al. 1997).

Most foraging activity occurs on evenings with a relative humidity of 64 to 97 percent, perhaps as a mechanism to avoid substantial water loss. In addition, foraging activity is negatively correlated with wind speed and moon phase, which may be a factor in predator avoidance or a result of availability of insect prey (Adam et al. 1994). A WVDNR study found that bats foraged in wooded areas and open habitats (Stihler 1995). Grazed areas used by the bats consisted of old fields with considerable vegetative structure composed largely of thistles, scattered trees, and riparian vegetation along a small creek. The greatest distance traveled was approximately 6 miles from the cave.

The Monongahela Forest Plan has specific management direction for the protection, maintenance or enhancement of VBEB hibernacula, maternity colony, and bachelor colony habitat (Forest Plan, p. II-23).

Eastern Small-footed Bat

Eastern small-footed bats occur from Maine, Quebec, and Ontario southwestward through the Appalachian region to Arkansas and eastern Oklahoma. These bats may hibernate close to summer roosting and maternity habitat (Whitaker and Hamilton 1998). Very little is known about their summer ecology. During this time, these bats are sometimes found in unusual roost sites such as under rocks on exposed ridges, in cracks in rock faces and outcrops, and in bridge expansion joints, abandoned mines, buildings, and behind loose bark (Erdle and Hobson 2001).

Eastern small-footed bats forage over land and bodies of water (Wilson and Ruff 1999). Their diet includes flies and mosquitoes, true bugs, beetles, bees, wasps, ants and other insects (Harvey et al. 1999). They forage in and along wooded areas at and below canopy height, over streams and ponds, and along cliffs and ledges (Erdle and Hobson 2001).

Little is known about the reproductive ecology. Available data suggests that females form small maternity colonies and proximity to water may be a factor in selecting nursery sites (Erdle and Hobson 2001).

As a Regional Forester's Sensitive Species (RFSS), the eastern small-footed bat is covered by Forest Plan management direction for RFSS and general wildlife species (pp. II-29 through II-

31). In addition, this bat indirectly benefits from Forest Plan management direction for Indiana and Virginia big-eared bats, as do the other non-listed or non-RFSS bats on the Forest.

Other Bats

Other bats known to occur on the Forest include tri-colored (eastern pipistrelle), little brown, big brown, red, hoary, silver-haired, evening, and northern long-eared bats.

Monongahela Forest Plan Guidance for Bat Conservation and Habitat Management

Because WNS was not known prior to the winter of 2007, it was not considered during development of the 2006 Forest Plan. However, the importance of providing and maintaining habitat components utilized by a diversity of forest bat species was recognized as an integral part of managing the processes and functions of forest ecosystems.

Forest-wide management direction was included in the 2006 Forest Plan to conserve habitats for bats, with special emphasis on the federally endangered Indiana bat and VBEB. Those sections of the Forest Plan referring specifically to the Indiana bat and VBEB are found on pages II-22 through II-26 of the Forest Plan. Additional management direction for RFSS and general wildlife species is found on pages II-29 through II-31 of the Forest Plan.

Although the Forest does not typically conduct management activities within bat hibernacula, it is important to note that the Forest Plan includes standards and guidelines designed to reduce or prevent impacts to hibernacula and the areas surrounding them. For instance, timber harvest, road and trail construction, facility construction, mineral exploration and development, and use of explosives are restricted within 200 feet of an Indiana bat or VBEB hibernaculum. Additional restrictions apply to "key areas", which are 150-acre vegetation stands near hibernacula.

As noted above, the Forest coordinates with WVDNR to obtain annual bat population data from hibernacula. In addition, the Forest conducts bat mist-netting surveys during the field season on an annual basis. The Forest uses these data to track population trends, identify important habitat elements (roost and maternity sites), clear project areas, and to help answer monitoring questions in the Forest Plan Monitoring and Evaluation chapter related to T&E, RFSS, and general wildlife species and their habitats.

For example, in the summer of 2004 a maternity colony of an estimated 25 Indiana bats was confirmed through the capture and tracking of a lactating female Indiana bat. This colony was located adjacent to the Forest in Tucker County and within two miles of a known Indiana bat hibernaculum. That same summer, three male Indiana bats were captured on another site on the Forest in Pendleton County. These bats were tracked to a roost tree and subsequent emergence counts on that tree revealed 23 bats.

Analysis

From the 2008-2009 winter survey information we have received, impacts to bats from WNS in West Virginia and the MNF appear to be minimal. As described above, only one Indiana bat has

been seen with WNS, and no VBEB or eastern small-footed bats have been observed with the fungus. Documented mortality in all species is currently very low. Nevertheless, we recognize that the potential for future impacts to most bat species within the State and Forest should be considered high, based on population reductions that have already occurred in New York and other states, and the apparent ease with which WNS is transmitted. The fact that bats hibernate in close quarters at high densities only increases the likelihood of contacting and spreading the disease.

There may not be much more that we can do as a Forest at this time to prevent further spread and mortality from WNS. However, we do believe that we have a sound foundation in place for protecting bats in general, and for contributing to the recovery of imperiled bat species:

- We have Forest Plan standards and guidelines to protect hibernacula and surrounding key areas, as outlined above and found on pages II-23 through II-26 of the Plan. This direction is designed to have beneficial effects on hibernacula and surrounding habitat.

- We have Forest Plan goals and objectives to maintain, restore, or enhance habitat conditions for imperiled bat species. We have already begun to implement habitat enhancement projects on the Forest, and we have more projects planned for the future. Although these projects may not directly or indirectly affect bats with WNS, they would provide improved foraging, roosting, and maternity/bachelor colony habitat for healthy bats.

- We have physically and/or administratively closed important hibernacula to public access, as well as all known abandoned mines on the Forest. We are currently considering the need for additional closures. These closures should help reduce, but not eliminate, the likelihood of additional WNS establishment and spread.

- We have summer and winter monitoring efforts in place, in cooperation with WVDNR and USFWS, to help track bat populations on the Forest, and the status of WNS. These efforts should contribute to the overall knowledge base for WNS and impacts to bats across the Forest and West Virginia.

- We continue to coordinate with USFWS, WVDNR, and other agencies to keep current with new information about WNS, including locations, impacts, research, and mitigation or treatment strategies. Over time, this coordination and information exchange may provide opportunities for effectively addressing WNS-related impacts and issues.

To summarize, there is nothing we are doing as a Forest that is directly affecting WNS or bats with WNS. As for indirect effects, we have management direction, planning, and closures in place that should have beneficial effects on bats and protection or enhancement of bat habitat.

From a cumulative effects standpoint, it is essential to emphasize that WNS has not been linked in any way to general forest management practices. As far as we know at this juncture, WNS is limited to the interior of hibernacula caves or mines. Virtually all of our management activities occur outside of these areas, with no direct, indirect, or cumulative effects on hibernacula.

We realize that WNS has the potential to adversely affect bat populations and ultimately bat species viability, which could have additional ecological impacts. However, at this point in time, those types of impacts have yet to be seen in West Virginia or the MNF. Survey information from 2008-2009 showed minimal mortality. If future survey information indicates dramatic increases in WNS spread and bat mortality, we will re-evaluate what impacts the changed conditions may have on our Forest Plan, as well as the species viability assessments that were done for the Forest Plan EIS. We will also coordinate with USFWS and WVDNR to review and/or adjust any applicable agreements we have with them for bat management. These efforts may not be meaningful or effective, though, until we learn more about what causes WNS, how it spreads, and what we can do to reduce, limit, or prevent its effects on bats.

Determination

A careful examination of the best available science (referenced herein) shows the Forest Service considered impacts to forest bats in preparing the Environmental Impact Statement for the 2006 Forest Plan. However, diseases were not considered a major threat at that time, and WNS was unknown. Until such time as causal factors and effective treatments are identified, the Forest Service will continue to protect the known hibernacula and fall swarming sites and manage summer habitats to provide high quality habitat that will help all bat species find adequate food, cover, roost sites, water, and other needs to survive and successfully reproduce.

It is our determination that the discovery of WNS does not require correction, supplementation, or revision of the Environmental Impact Statement prepared for the 2006 Forest Plan or the environmental analysis of any ongoing project for the following reasons:

- This Environmental Impact Statement for the 2006 Forest Plan was prepared in 2006 and was based upon the best available scientific information.

- The discovery of the WNS has not yet presented new information of environmental effects that would alter the analysis of effects as set forth in the Environmental Impact Statement for the 2006 Forest Plan.

- The environmental analysis of ongoing site-specific decisions as well as cumulative effects disclosure in the programmatic Environmental Impact Statement for the 2006 Forest Plan were taken into the account in making this determination.

- We have considered the range-wide status of Indiana bats and other affected species, as well as the population information for the planning area in reaching this determination. We have contacted biologists with the U.S. Fish and Wildlife Service and West Virginia Division of Natural Resources and sought their input.

It is our determination that the discovery of WNS in West Virginia is potentially significant new information; however, because the discovery is so recent there is not enough information available to know whether the Forest Plan needs to be revised, amended, or corrected at this time. There is also not enough information to do a revision, amendment, or correction. The rationale for this determination is as follows:

- The WNS has only recently been found in West Virginia and the MNF. It is known to exist in only four caves, one of which is on NFS lands. Suspected mortality from WNS is currently at a very low level, too low to have any effect on overall population trends, a Forest-wide viability assessment, the current "take" situation relative to Indiana bats and the USFWS, or management practices and direction provided in the Forest Plan.

- WNS has not been linked in any way to general forest management practices or direction.

- There is no consensus yet from experts as to what causes WNS, how it spreads, or how to prevent it. Until this information is available, it is premature to amend the Forest Plan, based on a lack of information.

Supporting this determination and rationale are the following factors that we considered:

- Many known IB/VBEB/SFB hibernacula are already protected from human disturbance, reducing the potential for humans to spread WNS into hibernacula on the MNF.

- As a precautionary measure, the U. S. Fish and Wildlife Service has implemented decontamination procedures for summer mist netting and cave/mine visitation (http://www.fws.gov/northeast/whitenosemessage.html). These are continually being reviewed and updated as necessary.

- Prior to conducting bat surveys, we review our bat survey protocols with the U. S. Fish and Wildlife Service to ensure the protocols incorporate current methodologies.

- We have consulted with the Forest Service's R8 and R9 Regional Office Threatened and Endangered Species Biologists on the range-wide implications of WNS and they support our findings.

- An Incidental Take Statement (ITS) issued July 7, 2006 to the MNF by the USFWS (USDI 2006) allows for taking of Indiana bats under ESA that is incidental to and not intended as part of agency actions. The ITS take allowances are based on the Forest not exceeding annual cumulative acreages of activities that could affect bats or their habitats, including 6,000 acres of timber harvest, 3,000 acres of prescribed fire, 78 acres of mineral development, and 74 acres of road construction. In Fiscal Year 2007, the Forest reported 905 acres of harvest, 124 acres of prescribed fire, 0 acres of mineral development, and 13 acres of road construction. In Fiscal Year 2008, the Forest reported 424 acres of harvest, 342 acres of prescribed fire, 0 acres of mineral development, and 2 acres of road construction. Thus, since the ITS went into effect, Forest activities have been well below (1,810, or less than 10 percent, of the allowed 18,304 ITS acres) the take allowances related to Indiana bats. These numbers, while not directly representing bat populations, indicate that the MNF is not currently approaching a threshold of concern for harming Indiana bats or their habitats with effects from management activities.

- The viability of plant and animal communities on the MNF was of paramount importance during the development of the 2006 Forest Plan. The best available scientific information was used in the development of the 2006 Forest Plan direction that ensures the protection of

bats and their habitat. Recovery and/or conservation of the Indiana bat, VBEB, and eastern small-footed bat were key considerations. The direction pertaining to the Indiana bat and VBEB in the 2006 Forest Plan has been reviewed and found to be in line with recovery plan objectives. This direction also promotes the conservation of non-listed forest bat species, in the light of the WNS information currently available to the ID team.

- Monitoring data show that Indiana bat and VBEB populations are stable or increasing on the MNF.

We conclude based upon the information presented in the Forest Plan, Environmental Impact Statement, Record of Decision, planning record, and recent bat monitoring, that a correction, supplement, or revision to the environmental documentation for the 2006 Forest Plan or an amendment, revision, or correction of the 2006 Forest Plan is not necessary at this time.

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/s/ DANIEL R. ARLING_____ ____04/08/09___
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