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**APPEAL OF DECISION NOTICES & FINDINGS OF NO SIGNIFICANT IMPACT –  
CAVE AND ABANDONED MINE MANAGEMENT FOR WHITE-NOSE SYNDROME**

Pursuant to 36 C.F.R. Part 215, the Center for Biological Diversity (“Center”) Biodiversity Conservation Alliance, Colorado Bat Society, Great Old Broads for Wilderness, and the Wyoming Outdoor Council hereby appeal the Decision Notices (“DN”) and Findings of No Significant Impact (“FONSI”) for Cave and Abandoned Mine Management for White-Nose Syndrome for each of the ten U.S. Forest Service Region 2 management units.

**INTRODUCTION**

White-nose syndrome (“WNS”) is a disease caused by a fungus newly introduced to North America that has killed nearly seven million bats in the U.S. and Canada since 2007. The U.S. Fish and Wildlife Service has called this tragedy our nation’s worst wildlife crisis ever.<sup>1</sup> While most WNS transmission occurs from bat to bat, humans, including recreational cavers, have the potential to spread spores of *Geomyces destructans* (“Gd”) on clothing and gear across great distances. Gd is the deadly fungus that leads to WNS. In 2010, following the appearance of Gd on a cave bat in western Oklahoma, a jump of 900 miles westward from the next closest location at the time, the Forest Service recognized the disaster that WNS had become. Region 2 issued an emergency closure to recreational and other cave activities of all caves and abandoned mines in all ten of its management units. Since the initial emergency closure order, WNS has spread across hundreds of additional miles, affecting dozens of additional caves, and killing millions of additional bats. The Region 2 emergency closure decision has been renewed annually and is currently in effect through July 31, 2013.

On November 9, 2012, Region 2 announced scoping for, and in April 2013 published, its “Environmental Assessment for Cave and Abandoned Mine Management for White-Nose Syndrome” (“EA”). The ten resulting Findings of No Significant Impact (“FONSI”) and ten Decision Notices (“DN”) to implement EA Alternative 2, roll back current protections and open numerous Region 2 caves and abandoned mines, including bat winter hibernacula and summer

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<sup>1</sup> FWS (U.S. Fish and Wildlife Service). 2011. The bat white-nose syndrome mystery: Something is killing our bats. Hadley, MA.

maternity roost sites, to recreational and other cave activities. While the decisions close some caves during some seasons, spores introduced while those caves are open would remain present after seasonal closure and could still infect bats when they return months later. And while decontamination procedures are required on some but not all Region 2 management units, proper decontamination is highly challenging under field conditions and there is no mechanism to assure compliance, potentially rendering this measure ineffective to address a problem where one mistake can mean disaster. Finally, while the decisions would trigger additional cave closures in ranger districts once Gd or WNS are discovered within 250 miles of that district, there is no reason to believe that recreational cavers would not travel beyond 250 miles, to other districts or Forests, and unknowingly infect otherwise uninfected caves.

For these and additional reasons described below, these DNs and FONSI are arbitrary and capricious and not rationally related to the facts presented. Further, several significance factors make clear that Region 2 improperly prepared an EA where an Environmental Impact Statement (“EIS”) was required. We urge each of the responsible officials to rescind their DN and FONSI immediately and thereby restore the policy of Region-wide cave and abandoned mine closures.

### **RESPONSIBLE OFFICIALS**

The responsible officials for the appealed DNs are as follows:

Arapaho and Roosevelt National Forests; Pawnee National Grassland

Supervisor Glen P. Casamassa

Bighorn National Forest

Supervisor William T. Bass

Black Hills National Forest

Acting Supervisor Dennis Jaeger

Grand Mesa, Uncompahgre, Gunnison National Forests

Supervisor Scott G. Armentrout

Medicine Bow and Routt National Forests; Thunder Basin National Grassland

Supervisor Phil Cruz

Pike and San Isabel National Forests; Cimarron and Comanche National Grasslands

Supervisor Jerri Marr

Rio Grande National Forest

Supervisor Dan Dallas

San Juan National Forest

Supervisor Mark W. Stiles

Shoshone National Forest

Supervisor Joseph G. Alexander

White River National Forest:

Supervisor Scott Fitzwilliams

### **APPELLANT INTEREST AND RIGHT TO APPEAL**

The Center for Biological Diversity is a non-profit corporation with more than 40,000 members. The Center is headquartered in Tucson, Arizona and has field offices throughout the United States, including Arizona, New Mexico, California, Nevada, Oregon, Washington, Alaska, Minnesota, Vermont, Florida, and Washington, D.C., and has just opened a new office in

the Northern Rockies. The Center works to ensure the long-term health and viability of animal and plant species across the United States and elsewhere, and to protect the habitats these species need to survive. For years, the Center has worked to protect bat species throughout the United States, and has urged federal agencies to take swift action in response to WNS. In addition to the appeal at issue here, the Center has petitioned federal land management agencies (including the Forest Service) for cave closures on public lands and other measures to protect bats, petitioned to list, pursuant to the Endangered Species Act, two bat species decimated by WNS, and collaborated on a status review of a third bat species – the little brown bat – which has been devastated by the disease. The Center has also advocated for increased federal funding for WNS research and management, urged state fish and wildlife agencies to take proactive measures in response to the WNS threat, and pursued administrative appeals of state and federal projects that would further imperil bats now threatened by WNS.

Center members and activists have long studied and sought protection for native species, like bats, and continue to do so, because they derive conservation, scientific, recreational and aesthetic benefits from the existence of the full complement of native biological diversity. Forest Service violations of law and policy as a result of this proposed roll back of protections may cause significant adverse impacts to the environment and contribute to the degradation of habitats and populations of species whose viability the Forest Service is obligated to ensure. Direct, indirect and cumulative impacts of this policy change will harm the interests of the Center, its members and activists in the conservation of nature and the recovery of imperiled wildlife.

Biodiversity Conservation Alliance is a non-profit organization dedicated to protecting wildlife and wild places throughout Wyoming and surrounding states. Our mission focuses on uncharismatic, but important, wildlife and plant species often overlooked by the public and government agencies. Our mostly Wyoming and Colorado membership hovers around 300 in number. Established in 1988, we have submitted hundreds of detailed comments on federal projects ranging from land and wildlife management to oil and gas resource management plans. Alliance members volunteer for on-the-ground projects on a regular basis.

The mission of the Colorado Bat Society is to foster public appreciation of bats and to support the conservation of bat populations in Colorado. It is a federally tax-exempt, nonprofit corporation founded in 1990.

Great Old Broads for Wilderness is a national organization based in Durango, Colorado that inspires and engages the activism of elders to preserve and protect wilderness and wild lands. Broads gives voice to the millions of older Americans who want to protect their public lands as Wilderness for this and future generations. Through our 4,500 members, we bring experience, commitment, and humor to the movement to protect the last wild places on Earth. White-nose syndrome has had a devastating impact on bat populations in the eastern United States during the past five years. As bats are a critical part of western ecosystems, we believe in the importance of taking precautions that may be helpful in preventing the spread of white-nose syndrome in western Forests until more thorough research and prevention measures are in place.

The Wyoming Outdoor Council is Wyoming's oldest, independent, statewide conservation organization. Headquartered in Lander, the Council has field offices throughout the state. It has worked to protect Wyoming's public lands, wildlife, and environmental quality for nearly half a century. The Wyoming Outdoor Council's 1,500 members live in, use, and enjoy

the communities and landscapes affected by the challenged U.S. Forest Service actions. They take pride in Wyoming's wildlife and its full complement of native species. The Council recognizes the significant threat that white-nose syndrome poses to Wyoming's bats and the tremendous economic and ecological value of these critically important species. The Council has submitted comments to both the Bureau of Land Management and to the U.S. Forest Service urging strong measures to protect our bats from the threat of white-nose syndrome.

The Decision Notice for the Arapaho and Roosevelt National Forests and Pawnee National Grassland was signed on March 27, 2013. The DN for the Bighorn National Forest was signed on March 26, 2013. The DN for the Black Hills National Forest was signed on March 26, 2013. The DN for the Grand Mesa, Uncompahgre, Gunnison National Forests was signed on March 26, 2013. The DN for the Medicine Bow and Routt National Forests and Thunder Basin National Grassland was signed on March 27, 2013. The DN for the Pike and San Isabel National Forests and Cimarron and Comanche National Grasslands was signed on March 27, 2013. The DN for the Rio Grande National Forest was signed on March 25, 2013. The DN for the San Juan National Forest was signed on March 27, 2013. The DN for the Shoshone National Forest was signed on March 26, 2013. The DN for the White River National Forest was signed on March 28, 2013. Therefore, these appeals are timely per 36 C.F.R. § 215.15. On December 17, 2012, the Center, and on December 19, 2012, the Wyoming Outdoor Council provided the Forest Service with timely and substantive scoping comments on the proposed EA and therefore may appeal these decisions at this time. *Id.* § 215.13.

### **MOTION FOR STAY**

An automatic stay of implementation is in effect per 36 C.F.R. § 215.9. Appellants move to stay implementation of all actions authorized by the Decision Notice. A stay of actions subject to this motion is needed to prevent irretrievable commitment of environmental resources, harm to appellants' interests, and expenditure of public funds in violation of federal law. A stay will maintain the status quo.

### **RELIEF SOUGHT**

1. Withdraw all ten Decision Notices and Findings of No Significant Impact.
2. Maintain the current emergency closure orders until WNS is no longer a significant and imminent threat.
3. Respond to the issues described in the statement of reasons below.
4. In the event the Forest Service moves forward with its proposed lifting of the emergency closure orders, first prepare an environmental impact statement to fully consider and disclose the significant effects that are likely to result from implementation of any policy change.

### **THE NATIONAL ENVIRONMENTAL POLICY ACT**

**NEPA requires an EIS when actions significantly affect environmental quality.**

Section 101 of the National Environmental Policy Act (“NEPA”) “declares a broad national commitment to protecting and promoting environmental quality.” *Robertson v. Methow Valley Citizens*, 490 U.S. 332, 348 (1989). “To ensure that this commitment is infused into the ongoing programs and actions of the Federal Government, the act also establishes some important ‘action-forcing’ procedures.” *Robertson*, 490 U.S. at 348, citing 115 Cong.Rec. 40416 (remarks of Sen. Jackson). Section 102 of the act directs that, to the fullest extent possible, all agencies of the Federal Government must prepare an Environmental Impact Statement (EIS) whenever they propose “major federal actions significantly affecting the quality of the human environment.” 42 U.S.C. 4332(C); *Grand Canyon Trust v. FAA*, 290 F.3d 339, 340 (D.C. Cir. 2002); *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1185 (9th Cir. 2008). “The statutory phrase ‘actions significantly affecting the quality of the environment,’ is intentionally broad, reflecting the Act’s attempt to promote an across-the-board adjustment in federal agency decision making so as to make the quality of the environment a concern of every federal agency.” *Foundation for N. Am. Wild Sheep v. U.S. Dept. of Ag.*, 681 F.2d 1172, 1177 (9th Cir. 1982); *see also LaFlamme v. FERC*, 852 F.2d 389, 398 (9th Cir. 1988).

Regulations define significance in terms of an action’s context and intensity. *See* 40 C.F.R. § 1508.27. The significance of an action must be analyzed in context. *Id.* An agency’s own belief that a project will have positive impacts on balance does not mean that an EIS is not required. “A significant effect may exist even if the Federal agency believes that on balance the effect will be beneficial.” *Id.*

In order to determine whether an EIS must be prepared, an agency may first prepare an Environmental Assessment (EA). 40 C.F.R. § 1501.3. An EA must “[b]riefly provide sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact.” 40 C.F.R. 1508.9(a). If the agency determines on the basis of the EA not to prepare an EIS, the agency must prepare a Finding of No Significant Impact (FONSI) to set forth the reasons why the action will not have a significant impact on the environment. 40 C.F.R. §1501.4(e), §1508.13.

There is a relatively low threshold for preparation of an EIS. *Save the Yaak Committee v. Block*, 840 F.2d 714, 717 (9th Cir. 1988). A plaintiff does not need to demonstrate that the proposed project will in fact have a significant impact on the environment. *Greenpeace Action v. Franklin*, 14 F.3d 1324, 1332 (9th Cir. 1992); *Sierra Club v. USFS*, 843 F.2d 1190, 1193 (9th Cir. 1988). Instead, the standard is whether substantial questions have been raised as to whether the project may cause a significant effect on some environmental factor. *Id.* If substantial questions are raised whether the proposed project may have a significant effect upon the environment, an EIS must be prepared. *Id.*; *Idaho Sporting Congress v. Thomas*, 137 F.3d 1146, 1150 (9th Cir. 1998). “If any ‘significant’ environmental impacts might result from the proposed agency action then an EIS must be prepared *before* agency action is taken.” *Grand Canyon Trust*, 290 F.3d at 340; citing *Sierra Club v. Peterson*, 230 U.S. App. D.C. 352, 717 F.2d 1409, 1415 (D.C. Cir. 1983). An EIS is also required “when there is a reasonable possibility that [currently lacking] information can be obtained in connection with the preparatory process.” *National Parks & Conservation Ass’n v. Babbitt*, 241 F.3d 722, 737 (9th Cir. 2001).

If the agency decides not to prepare an EIS, the agency must supply a “convincing statement of reasons” to explain why the action will not have a significant impact on the environment. *Blue Mountains Biodiversity Proj. v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir.

1998).; *see also* 40 C.F.R. §§ 1501.4(e) & 1508.13. “The statement of reasons is crucial to determining whether the agency took a ‘hard look’ at the potential environmental impact of a project.” *Blue Mountains*, 161 F.3d at 1212. A court is to defer to the agency’s decision not to prepare an EIS only when that decision is “fully informed and well considered.” *Jones v. Gordon*, 792 F.2d 821, 828 (9th Cir. 1986).

In reviewing the failure of an agency to prepare an EIS upon completion of the less intensive and less informative EA, the agency decision is governed by the arbitrary and capricious standard. *Grand Canyon Trust v. FAA*, 290 F.3d at 340; *Greenpeace Action*, 14 F.3d at 1331. Under this standard, the court must ensure that the agency took a hard look at the environmental consequences of proceeding with the proposed project, by carefully reviewing the record and determining whether it made a reasoned decision based on an evaluation of the relevant factors. *Greenpeace Action*, 14 F.3d at 1332; *Marsh v. ONRC*, 490 U.S. 360, 373-374 (1989). Courts have warned that “general statements about ‘possible effects’ and ‘some risk’ do not constitute a ‘hard look’ absent a justification regarding why more definitive information could not be provided.” *Blue Mountains*, 161 F. 3d at 1213. The spirit of NEPA “would die aborning if the facile, ex parte decision that the project was minor or did not significantly affect the environment were too well shielded from impartial review.” *Foundation for N.Am. Wild Sheep v. U.S. Dept. of Ag.*, 681 F.2d 1172, 1182-83 (9th Cir. 1982). Finally, courts owe no deference to agencies’ own interpretations of NEPA or Council on Environment Quality NEPA regulations. *Grand Canyon Trust v. FAA*, 290 F.3d at 342.

**NEPA requires high quality information and analysis to inform the decision maker and the public.**

NEPA’s disclosure goals, generally, are two-fold: (1) to insure that the agency has carefully and fully contemplated the environmental effects of its action, and (2) “to insure that the public has sufficient information to challenge the agency.” *Robertson*, 490 U.S. at 349; *Ctr. for Biological Diversity*, 538 F.3d at 1185. By focusing the agency’s attention on the environmental consequences of its proposed actions, NEPA “ensures that important effects will not be overlooked or underestimated only to be discovered after resources have been committed or the die otherwise cast.” *Robertson*, 490 U.S. at 349.

“NEPA requires that the agency provide the data on which it bases its environmental analysis,” *N. Plains Res. Council v. Surface Transp. Bd.*, 668 F.3d 1067, 1083 (9th Cir. 2011); *see also Lands Council*, 537 F.3d at 994 (holding that an agency must support its conclusions with studies that the agency deems reliable). The information presented in an EA must be of “high quality” and include “accurate scientific analysis.” 40 C.F.R. § 1500.1(b); *Idaho Sporting Congress*, 137 F.3d at 1151. To avoid speculation on the part of the public or decision makers, such analyses must occur and be divulged before the proposed action is approved, not afterward. *N. Plains*, 668 F.3d at 1083; *LaFlamme*, 852 F.2d at 400.

A court reviewing whether an agency has provided sufficient high quality information and analysis to reach its conclusions would, as above, determine whether an agency’s actions were “arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with law.” 5 U.S.C. 706(2)(A); *N. Plains Res. Council*, 668 F.3d at 1074. Under this standard, a court must ensure that the agency properly determined the correct scope of environmental analysis necessary to comply with the regulations, and took a “hard look” at the environmental consequences of proceeding with the policy change, by carefully reviewing the record and

determining it made a reasoned decision based on an evaluation of the relevant factors. *Or. Natural Res. Council v. Bureau of Land Mgmt.*, 470 F.3d 818, 820 (9th Cir. 2006) (quoting *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 993 (9th Cir. 2004)). While an agency is granted deference, “the agency must, at a minimum, support its conclusions with studies that the agency deems reliable. The agency must ‘explain the conclusions it has drawn from its chosen methodology, and the reasons it considered the underlying evidence to be reliable.’” *N. Plains*, 668 F.3d at 1075 (citing *Lands Council*, 537 F.3d at 994.)

Finally, “NEPA is primarily a procedural statute.” *Save the Yaak Committee v. Block*, 840 F.2d at 717. “Therefore, agency action taken without the observance of the procedure required by law will be set aside.” *Id.*; see also 5 U.S.C. § 706(2)(D); *LaFlamme*, 852 F.2d at 399 (“[an agency’s] failure to follow required NEPA procedures violates the law and provides a sufficient basis for reversing their decision.”).

## STATEMENT OF REASONS

**As a threshold matter, the ten FONSI and the DNs they support are all arbitrary and capricious, and not in accordance with law, as significant effects on the human environment were never analyzed in proper context; the analysis of significance was improperly segmented.**

In preparing an environmental analysis under NEPA, agencies must consider the proper scope of the proposed action. The NEPA regulations require that connected, cumulative, and similar actions be evaluated together in a single EIS. 40 C.F.R. § 1508.25. Similarly, when considering the significance of a proposed action, agencies must address the impacts in the proper context. 1508.27(a). Significance varies with the setting of the proposed action. *Id.*

Here, the Forest Service, as it should have, considered the proposed action at the regional level in its environmental analysis, but then improperly segmented the significance determination into multiple FONSI at the unit-specific level, in violation of NEPA. The closure order at issue addresses WNS at the regional level, affects all caves Region-wide, and applies to the entire Region. These closure orders were signed by the Regional Forester. An EA was prepared to evaluate the impacts of a Region-wide policy change on cave closures. The EA’s purpose and need and all action alternatives were evaluated on a Region-wide basis. Conclusions in the EA are drawn on a Region-wide basis. The record for this decision is available for viewing at the Region 2 office.

The EA does not describe environmental or other effects in terms related specifically to any of the ten separate management units in Region 2. Effects to bats from implementing the various alternatives are not broken out by management unit, or by Forest, or by Grassland. Inter-disciplinary team members that developed the EA did not include representatives from most of the ten management units. Instead, the regional wildlife ecologist, the regional environmental coordinator, and the regional economist all provided support for development of the EA.

Everything about this NEPA process and the decision it was evaluating had a Region-wide context. When it came time to consider the significance of the proposed action, however, the Region chose not to make that finding itself, but rather to segment the analysis of effects into ten separate management units, officials of each of which then found no significant impacts at the management unit level. The Forest Service’s decision to segment its significance

determination plainly violates NEPA. *See e.g.*, 40 C.F.R. § 1508.27(b)(7) (“Significance cannot be avoided . . . by breaking it down into small component parts”).

The potential impacts of the proposed action, when viewed in the proper context, at the Region-wide level, were never analyzed for significance. Viewed in the proper context, as required by 40 C.F.R. § 1508.27(a), of the Region as a whole, the Forest Service has not made a significance determination. As a result, there has never been a proper evaluation as to whether preparation of an EIS is required at the Region-wide level. Whether it was the intention of the Region to avoid proper analysis or not, an agency cannot break its decision into smaller units to avoid a significance determination. Yet that is the possible outcome of the process here. Because the need for an EIS at the Region-wide level has not been made, the ten FONSIIs from each of the management units are without legal effect and cannot support their respective decision notices. All FONSIIs were analyzed using an improper context and scope. For these reasons, each of the ten FONSIIs must now be withdrawn and the Region must decide, at the Regional level, whether significant effects on the human environment warrant the preparation of an EIS.

**An EIS is required because the adverse effects of the decision were ignored in favor of the beneficial effects.**

The purpose and need for the action in question is clear and straightforward. “The purpose and need for the proposed action is to reduce the potential for human introduction, spread, and impacts of Gd and WNS by providing management options for caves and AMLs on national forests and grasslands in Colorado, South Dakota, Wyoming, and Kansas.” EA at 1. There is no suggestion that the purpose or need for this action includes recreational access to Region 2 caves.

The analysis of alternatives is similarly clear. Alternative 3 “would be the most favorable for reducing the risk of humans introducing Gd and potentially WNS into the Rocky Mountain region.” EA at 11. In contrast, the selected alternative, Alternative 2, would merely “reduce the risk of human-introduced Gd and reduce disturbance to hibernating bats compared to Alternative 1.” *Id.* Alternative 1 allows unrestricted cave access. Therefore, the adverse effects of implementing Alternative 2 are clearly greater than those of Alternative 3. Surprisingly, the alternative that unambiguously best supports the purpose and need of the project was not selected. There can only be one reason and that reason is made clear in the EA. Decision makers favored the beneficial effects of providing recreational cave access over the stated purpose and need for the action.

Not selecting the best alternative to fulfill a project’s purpose and need is itself arbitrary and capricious and alone is grounds for rescinding the ten DNs. That point is discussed further below. But more to the point here, this ignoring of adverse impacts in favor of beneficial impacts is a trigger requiring the preparation of an EIS. An agency cannot use the beneficial impacts of a project to downplay its adverse impacts and thereby argue that an EIS is not required. *Catron County Bd. of Comm'rs v. U.S. Fish & Wildlife Serv.*, 75 F.3d 1429, 1437 (10th Cir. 1996); *Friends of Fiery Gizzard v. Farmers Home Admin.*, 61 F.3d 501, 505 (6th Cir. 1995). Or, as here, an agency cannot let the benefit of recreational caving and its purported economic impacts on local communities keep it from analyzing in an EIS the adverse effects that would result from an accidental release of Gd into a Region 2 cave. An EIS assessing these adverse impacts is therefore required.

**An EIS is required because the decisions result in adverse effects to many unique characteristics of Region 2.**

Region 2 comprises 17 National Forests and seven National Grasslands spread across Colorado, Wyoming, South Dakota, Nebraska, and Kansas. The Region 2 area is extremely diverse in topography, geology, ecosystems, and plant and animal species. Region 2 encompasses more than 22 million acres of public land. The decisions challenged here affect bats on nearly all 22 million of those acres, and on far more land, outside Region 2 boundaries but still affected by decisions made within Region 2 management units. The many areas adjacent to Region 2 lands include numerous iconic national park lands, acre after acre of prime farmland, countless wetlands, hundreds of miles of wild and scenic rivers and a myriad of ecologically critical areas. Region lands include hundreds of known caves, tens of thousands of abandoned mines, and perhaps many additional caves yet to be identified.

Given the scope of geography encompassed and its many unique characteristics, and given the fact that once WNS infects a cave, there is no known possibility for cave decontamination, the decisions flowing from this EA are highly significant. Many areas that have been struck by WNS for several years have lost more than 90 percent of their native bat population. Once spread to an area, there is no known barrier to stop contamination. If such were to happen across Region 2, the impacts on numerous unique geographic areas and characteristics would be devastating. The wide geographic scope, combined with the resources at stake, require an EIS to be performed to alert decision makers to the full effects of the proposed action.

**An EIS is required because the environmental impacts are highly uncertain, involve unique and unknown risks, and are highly controversial.**

Any assertion that the bats of Region 2 are, for now, safe from WNS is, at best, uncertain and controversial. Land managers in 19 states and four Canadian provinces have hoped and claimed that bats in their management units were safe from WNS and been wrong. In fact, if there is any certainty to the WNS issue at all, it is that WNS will continue to spread west and that human transmission of Gd can only make matters worse.

For example, seasonal-only closures of caves as a means of reducing risk of anthropogenic spread of Gd is not only controversial and uncertain, but is, in fact, not supported by what is currently known about the persistence of Gd in environments when and where bats are absent. Gd spores are known to stay viable in caves where bats have died out and been absent for a year.<sup>2</sup> Year-round closures, rather than seasonal closures, are necessary to reduce the risk of human transmission of Gd into uninfected caves and mines. Several commenters on the scoping of this project made this point, including Colorado Parks and Wildlife, Wyoming Game and Fish, and the Wyoming Chapter of The Wildlife Society.

Similarly, targeted closures as a means of reducing risk of human transmission of Gd are highly uncertain and controversial. Knowledge of the distribution of bats on the landscape, and their use of subterranean sites for hibernacula, swarming, and summer roosting, is very incomplete in Region 2. Some bat sites are located at high elevations or in remote wilderness areas, and are extremely difficult to access, especially during the winter when hibernating bats

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<sup>2</sup> Lorch et al. 2012. Distribution and environmental persistence of the causative agent of white-nose syndrome, *Geomyces destructans*, in bat hibernacula of the eastern United States. *Appl. Environ. Microbiol.* 79 (4): 1293-301.

would be present. Biologists have not yet been able to identify all caves that may be important to bats. Targeted closure of caves only addresses caves that scientists have managed to access; it does not address caves that biologists have not surveyed, either because they do not know about the sites, or because the caves are logistically or technically difficult to visit. Meanwhile, members of the caving community know about and have visited caves that biologists and other agency personnel do not. Likewise, decontamination requirements, relied on by all but one of the DNs have never been field tested and their compliance cannot be verified.

The science of Gd and WNS is fraught with uncertainty. The efficacy of management actions employed to stop the spread of WNS is also highly uncertain and controversial. Risks to bats and risks to the broader ecosystem and local economies from the widespread loss of bats entail unknown risks of the highest degree. The analysis of these issues in the EA barely scratched the surface of these questions. As the proposed action is controversial and potentially catastrophic to bats and other important resources, an EIS is required to determine the level of risk posed by the proposed action versus other alternatives.

**An EIS is required because the decisions are likely to result in cumulatively significant impacts**

NEPA requires the Forest Service to consider whether a proposed action is related to other actions with individually insignificant but cumulatively significant impacts. 40 C.F.R. § 1508.27(b)(7). “Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.” *Id.* As explained above, when properly considered at the Region-wide level, as required by NEPA, there is no question that the proposed action is likely to result in significant impacts on the environment, thereby requiring an EIS. *Id.*

**The DNs are arbitrary and capricious and not rationally related to the facts presented because reducing protections for bats does not meet the purpose and need of the environmental analysis.**

The stated purpose and need is to “reduce the potential for human introduction, spread, and impacts of Gd and WNS by providing management options for caves and AMLs on national forests and grasslands in Colorado, South Dakota, Wyoming, and Kansas.” EA at 1. However, the proposed action actually increases the potential for human introduction and spread of Gd, compared to the current full cave closure policy, which has been in place since 2010. The EA actually states this in its comparison of alternatives. According to the analysis, the proposed action “[m]ay adversely impact individuals” of Townsend’s big-eared bat, fringed myotis, and spotted bat. EA at 10. Full closure, however, which is the policy now in place, has “no impact” on these species. The EA states with regard to full cave closure: “This alternative would be the most favorable for reducing the risk of humans introducing Gd and potentially WNS into the Rocky Mountain region.”

Bat species that have been dying by the millions in the eastern United States, and whose ranges extend into the West, benefit most from full closure, rather than the proposed action. These species, which have been drastically affected by WNS in the East but also occur in the West, are the little brown myotis, big brown bat, northern long-eared bat, and tri-colored bat. The EA states that Tier 1 of the proposed action would reduce risk of Gd introduction and spread by humans when compared to a policy of unrestricted access to caves. However, the status quo is *not* unrestricted access, but full cave closure. This is because an emergency cave closure has

been in place since 2010. In the case of fast-moving WNS, the “status quo” must be considered to be the prevailing cave management policy (full closure) rather than the policy of no restriction. At the time the full cave closure policy superseded the no restriction policy, the number of WNS affected states was much lower and the disease had not moved nearly as far west. So the proposed action actually does *not* reduce the risk of Gd and WNS spread by humans compared to current cave policy, but rather, raises the risk.

In addition, the EA does not at all address the impacts of the alternatives on other hibernating bat species in Region 2 that may also be susceptible to WNS. It is likely that a change from the prevailing full cave closure to the proposed action will have a detrimental effect on other bat species, as the Forest Service has determined it will for bat species named in the EA. These potentially susceptible species include all Myotid bats, such as the California myotis (*Myotis californicus*), western small-footed bat (*Myotis ciliolabrum*), western long-eared bat (*Myotis evotis*), long-legged myotis (*Myotis volans*), and Yuma myotis (*Myotis yumanensis*). In the eastern United States and Canada, the Myotid species are among the most hard-hit by WNS. Bat biologists are concerned that their taxonomic counterparts in the West will be similarly vulnerable to the effects of WNS. Some biologists are also concerned about the Townsend’s big-eared bat (*Corynorhinus townsendii*), the most colonial roosting and hibernating bat species in the West.<sup>3</sup> In the East, a subspecies, *C. t. virginianus*, or Virginia big-eared bat, has not yet demonstrated susceptibility to WNS. However, in the absence of more information on the modes of transmission, infection and how the disease itself causes illness and death in bats, there is no evidence that Townsend’s big-eared bat in the West will have an innate resistance to WNS.

The alternative selected by each DN does not meet the purpose and need of the project, its selection is arbitrary and capricious, and the ten DNs must be withdrawn.

**The EA, DNs, and FONSI are arbitrary and capricious and not rationally related to the facts presented because the 250-mile trigger for increased protections under Tier 2 is arbitrary and ineffective.**

The trigger for Tier 2 is the confirmed appearance of Gd or WNS within 250 miles of a ranger district. This distance is demonstrably meaningless in terms of reducing the risk of Gd or WNS introduction into an area. The significance or effectiveness of this buffer distance is not explained or justified in the EA, and does not meet the purpose and need, which is to reduce the potential for human introduction of Gd or WNS.

Since Region 2’s emergency cave closure order was first enacted, scientific research on WNS has bolstered evidence that humans are capable of transporting Gd long distances. Human transport was probably the vector for the introduction of Gd into North America from Europe, a distance of at least 3,500 miles, most of it over open ocean.<sup>4</sup> Bats do not migrate across the Atlantic, another indicator that the fungus arrived on this continent with human assistance. The index site for WNS in North America is a cave frequented by “wild cavers,” and adjacent to a popular commercial cave visited by 200,000 tourists each year.<sup>5</sup> Because of the evidence for a European origin for WNS, and several long-distance jumps of Gd or WNS in the United States beyond migratory distances of bats, a number of respected biologists and scientific institutions

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<sup>3</sup> Pers. comm., K. Navo, Colorado Parks and Wildlife, April 29, 2013.

<sup>4</sup> Warnecke et al. 2012. Inoculation of bats with European *Geomyces destructans* supports the novel pathogen hypothesis for the origin of white-nose syndrome. PNAS [www.pnas.org/cgi/doi/10.1073/pnas.1200374109](http://www.pnas.org/cgi/doi/10.1073/pnas.1200374109).

<sup>5</sup> <http://howecaverns.com/news-and-events/press-kit/howe-caverns-fact-sheet>

studying WNS have stressed the potential for humans to move Gd much farther than the 250 mile trigger distance proposed in the EA. These scientific authorities have publicly stated the need for broad-based cave closure as the best way to reduce the risk of anthropogenic movement of the pathologic fungus.<sup>6</sup>

There is no evidence that cave visitors will not travel farther, perhaps significantly farther, than 250 miles between WNS-contaminated sites and as-yet uninfected sites in Region 2. In fact, the 250-mile trigger may encourage cavers to travel greater distances to access caves in the Region that are being re-opened. This may inadvertently hasten the movement of Gd to locations where it might otherwise take years, based on the migratory range of bats.

Several commenters, including the Center, raised specific concerns about the arbitrariness or lack of protection for bats provided by trigger points of only a couple hundred miles.<sup>7</sup> This distance is within the known range of movement of hibernating bats in the eastern United States, and western bats may also move at least these distances, if not more.<sup>8</sup> If ranger districts in Region 2 wait until WNS or Gd is within 250 miles to reduce potential for human introduction of Gd, by closing all caves year-round, the action may be moot. The bats themselves at that point will likely be able to move the fungus into any given ranger district.

Since this distance was not properly analyzed in the EA, that document must be reworked and include proper analysis. Meanwhile, the FONSI and DNs based on this analysis must be withdrawn.

**The DNs, and FONSI are arbitrary and capricious and not rationally related to the facts presented because while the WNS crisis has worsened and contamination has moved closer to Region 2, the decisions made would weaken protections.**

The EA does not discuss the recent westward spread of WNS nor analyze the implications of the intensification of the bat crisis in the last three years. This oversight is not merely arbitrary, it is inexcusable. In early 2012, WNS was officially confirmed in Missouri. In addition to the discovery of Gd in western Oklahoma in 2010, approximately fewer than 200 miles from the Colorado border, Gd was confirmed in eastern Iowa in 2012. Rather than weakening protections as the disease moves closer, the Forest Service should be, if anything, strengthening its policies to reduce the risk of anthropogenic introduction of Gd or WNS. For example, the Forest Service could have proposed increased educational outreach to the public

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<sup>6</sup> American Institute of Biological Sciences, *BioScience* 62: 783, doi:10.1525/bio.2012.62.9.1; Hayes, M. 2012. The *Geomyces* fungi: Ecology and distribution. *BioScience* 62: 819–823; Main, D.M. 2012. Devastating bat fungus invades from Europe. *NY Times* April 10, 2012 Green Blog, <http://green.blogs.nytimes.com/2012/04/10/devastating-bat-fungus-invades-from-europe/>; Sleeman, J. 2011. Universal precautions for the management of bat white-nose syndrome (WNS). *Wildlife Health Bulletin* 2011-5. USGS National Wildlife Health Center, Madison, WI.

<sup>7</sup> E.g., in comments from the Wyoming Outdoor Council, staff wildlife biologist Sophie Osborn wrote: “We are wary of linking closures to thresholds or trigger points that are insufficiently conservative, given the potentially devastating impact this disease could have on western bat populations. Waiting for the disease to get within 100-200 miles before enacting cave closures could place bats at unnecessary risk.” Comments of Wyoming Outdoor Council on EA, Dec. 19, 2012.

<sup>8</sup> E.g. Gray bats have been documented traveling distances of over 300 miles between summer and winter sites. Tuttle 1991. How North America's bats survive the winter. *Bats Magazine* Vol. 9, no. 3. <http://www.batcon.org/index.php/media-and-info/bats-archives.html?task=viewArticle&magArticleID=503&tmpl=component&print=1&page=> . The record distance migration of an Indiana bat is 357 miles. <http://www.fws.gov/midwest/endangered/mammals/inba/calendar/>

and to cavers while maintaining a full cave closure. Instead, the proposed action significantly diminishes protections in comparison to the prevailing cave policy. As such, the FONSI and DNs must be withdrawn.

**The EA, DNs, and FONSI are arbitrary and capricious and not rationally related to the facts presented because WNS can only be prevented if important bat sites, like maternity and swarming sites, as well as hibernacula, are closed year-round.**

Gd can persist in an environmentally resistant form for extended periods, probably at least as long as a year and perhaps much longer.<sup>9</sup> There is no scientific indication that winter-only or other types of seasonal cave closures are preventive of human introduction of Gd into a bat roost or hibernaculum. In fact, based on current scientific understanding, it is plausible that cave visitors could deposit Gd in a cave or abandoned mine at a time that bats are absent, yet upon their return to the site, bats would be exposed to Gd. Once exposed to Gd, bats may subsequently develop WNS, and spread the disease to other bats and other sites.

Thus, the decisions regarding seasonal closures of caves are not rationally related to the current science and are arbitrary in relation to the purpose and need of the project, which is to reduce the risk of human transmission of Gd or WNS. Further, the EA fails to analyze and compare the effects of seasonal closures and year-round closures, other than to note that full closure is “most favorable for reducing the risk of humans introducing Gd and potentially WNS.” Based on what is presently known about the environmental persistence of Gd, it is likely that, in fact, seasonal closures for hibernacula (Tier 2) are no better at preventing or reducing risk of anthropogenic spread of Gd than unlimited, unrestricted access to caves.

A variety of commenters on the EA supported year-round closures of important bat sites, including the Colorado Parks and Wildlife Department, the Game and Fish Department, and the Wyoming Chapter of The Wildlife Society. Representative of the views of these commenters is this statement by Colorado Parks and Wildlife:

It is unknown how long a spore of Gd can survive in the cave environment, the ability of the fungus to infect an active, non-hibernating bat, or whether a bat can carry the fungus between the winter and summer roosts. Because of these uncertainties, CPW recommends that any site with important bat use during any time of year be closed to unrestricted human access during all seasons.<sup>10</sup>

It was arbitrary to ignore this kind of comment and to fail to analyze this aspect of the problem. Numerous other commenters, including the Center, the Wyoming Outdoor Council, Wyoming Chapter of the Wildlife Society, and Boulder County Parks and Open Space program supported the sensible policy of continuing the current full closure of all caves and abandoned mines, year-round, on all Region 2 lands.

The incongruence of the Forest Service’s decisions with the recommendations of state fish and wildlife agencies further reflects their arbitrary and capricious nature. The states play a significant role in the management of wildlife species, including bats. The Colorado WNS

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<sup>9</sup> Lorch et al. 2012.

<sup>10</sup> Comments of Tina Jackson, Species Conservation Coordinator, Colorado Parks and Wildlife, on EA, Dec. 17, 2012.

Response Plan<sup>11</sup> and Wyoming Strategic Plan for WNS<sup>12</sup> both address the need to coordinate WNS response with other entities and institutions, including federal agencies. The EA does not address nor analyze the strategies, recommendations, and activities of other land and wildlife agencies in the Region, as they may affect cave management policy and risk of Gd/WNS spread on national forests and grasslands. In their comment letters, Colorado Parks and Wildlife and Wyoming Game and Fish offered to help the Forest Service identify priority sites for year-round closure. It was arbitrary not even to analyze this information. In its strategic plan for WNS, the state of Wyoming creates a 250-mile buffer around the *entire* state for “Stage 2” response and action. Region 2 of the Forest Service does not analyze this information. The decisions by each administrative unit in Region 2 do not match the recommendations and policies of the Colorado and Wyoming state wildlife agencies and they ignore the science of WNS. None of the administrative units in the Region chose mandatory year-round closure for all hibernacula, maternity roosts, and swarming sites under Tier 1. For these reasons, the EA, FONSI and DNs are arbitrary and capricious and not rationally related to the facts at hand and must be withdrawn.

**The EA, DNs, and FONSI are arbitrary and capricious and not rationally related to the facts presented because decontamination procedures are not required for all caves and mines.**

The San Juan National Forest DN does not include mandatory decontamination for all caves and mines. All other units chose mandatory decontamination within Tier 1. The EA states that “[t]he option of decontamination for all caves and mines offers the least risk that Gd would be introduced by humans...” EA at 17. Further, the EA says that “[r]equiring decontamination procedures only in known hibernacula does not prevent Gd and WNS from being transported from caves that do not require decontamination.” *Id.*

As described above, because of the persistence of Gd fungal material, it may be deposited in sites that are not used by bats in winter (i.e., maternity roosts and swarming sites), and yet still pose a threat of WNS transmission to them. The EA does not explain why it would make the most protective decontamination policy for caves and mines, in other words, decontamination at all sites, an optional measure. Leaving the choice to individual management units leaves an arbitrary pattern of implementation within the Region. Neither the EA nor the DNs give any justification for not employing decontamination procedures on all units.

Further, while decontamination procedures have been proven relatively effective in the lab (although not 100 percent effective), they are labor and time-intensive to implement, especially under field conditions. The challenge of carrying out decontamination properly increases the likelihood that some cave visitors will take “shortcuts” and reduce their efficacy at eliminating fungal material. Effectiveness of decontamination procedures has not been scientifically tested under real-world situations, and with “normal” cave users. The EA, FONSI, and DNs do not address efficacy of decontamination under field situations, especially with casual or recreational cave visitors who may not have any training or experience with the procedures.

Finally, there is no guarantee of compliance with these procedures, nor any other proposed measure, such as the prohibition on caving gear used in states or provinces with

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<sup>11</sup> Colorado Parks and Wildlife. 2012. White-nose syndrome response plan. 15pp.

<sup>12</sup> Abel, B. and Grenier, M. 2011. A strategic plan for white-nose syndrome in Wyoming. Wyoming Game and Fish Department. 27pp.

confirmed or suspected WNS. The EA does not evaluate the likelihood of greater caver compliance with seasonal restrictions, targeted closures, decontamination protocols, and gear restrictions, as opposed to full, year-round cave closures. The EA suggests that some members of the public, including some cavers, believe that only law-abiding cavers are staying out of caves under the present full closure policy. However, the proposed action would still require compliance with various restrictions that could be difficult and complicated to follow, such as knowing which caves are closed and whether the closures are seasonal; keeping abreast of which states and provinces are currently reporting Gd and WNS; and implementing challenging, time-consuming decontamination procedures. The analysis does not demonstrate how having both “law-abiding” cavers and irresponsible, law-breaking cavers using caves is a net benefit for caves and bats, and helps the FS meet its purpose and need of reducing the risk of human introduction of Gd or WNS. It is conceivable that deregulating cave access to a large extent (with some restrictions such as seasonal closures) will simply increase the overall number of cave visitors using the resource and traveling from cave to cave, and not lead to any increased protection for bats or reduced risk of Gd introduction and spread.

Finally, please note that 99 percent compliance with decontamination procedures may prove 100 percent ineffective at protecting bats. A single individual unaware, incompetent, or uncaring could be enough to infect a cave, and thereby, possibly an entire region with this deadly disease. The EA, FONSI, and DN all fail to address this reality. These failures make these documents arbitrary and not rationally related to the facts at hand. The EA must analyze these facts and the FONSI and DN must be withdrawn until the EA does.

**The EA, DN, and FONSI are arbitrary and capricious and not rationally related to the facts presented because WNS may not be limited to bats that hibernate in caves and mines, but management at those sites may nonetheless put non-cave/mine hibernators at greater risk for exposure to Gd or WNS.**

Based on current understanding of WNS, any bat species that hibernates may be at risk of WNS.<sup>13</sup> Thirteen of the native bat species in Colorado hibernate, and thus all of them may be at risk of WNS, even though not all of them have been documented hibernating in caves or mines. Some may swarm at caves in fall, but hibernate in cracks or crevices where they are difficult if not impossible to locate and identify.<sup>14</sup> In the eastern United States, bat species that are thought to be more typically crevice-hibernators (e.g., eastern small-footed bat) are still being drastically affected by WNS. Human introduction of Gd into a cave or mine in the Region could still have serious implications for bat species not typically found hibernating or roosting in these larger subterranean sites, because of their potential of exposure to Gd or WNS when they participate in fall swarming activities at caves, and possibly are intermingling with other bat species that do utilize cave environments for greater periods of their life cycle. The EA, FONSI, and DN all fail to address the possible impacts to all hibernating bat species in the Region. That failure makes them arbitrary and not rationally related to the facts at hand. The EA must analyze these facts and the FONSI and DN must be withdrawn until the EA does.

**The EA, DN, and FONSI are arbitrary and capricious and not rationally related to the facts presented because a permit system, rather than an optional, unenforced**

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<sup>13</sup> CPW, 2012; Blehert et al. 2009. Bat white-nose syndrome: an emerging fungal pathogen? Science 323: 227.

<sup>14</sup> Navo, pers. comm.

**online registration system, would provide greater protection for bats and greater oversight of cave visitation and use.**

The EA does not include an alternative that would implement a permit system for cave entry. Numerous commenters on the EA advised and supported a permitting system for cave recreational use, including the Western Bat Working Group, Colorado Parks and Wildlife, and Bat Conservation International. For example, Bat Conservation International advised, “A permitting system that allows access to sensitive or high priority sites may benefit the USFS...Such regulation would limit disturbance to hibernating bats, regulate the timing and number of individuals accessing sites, require decontamination and the reporting of critical information back to the USFS.”<sup>15</sup>

The EA provides no analysis of the value of an online registration system in terms of meeting the purpose and need to reduce risk of human introduction of Gd or WNS. It does not describe how the system will be developed and structured so as to provide specific information about targeted cave closures, while not revealing the names and locations of these caves. The EA does not describe how the public will know about such a registration system, and how it will find it online. For these reasons, the EA, FONSI and DNs are arbitrary and capricious and must be withdrawn.

**The EA, DNs, and FONSI are arbitrary and capricious and not rationally related to the facts presented because full closure would still allow opportunities to engage caving and research organizations to help monitor and protect caves.**

Pre-WNS study of bats in caves is an important conservation measure. Region 2 was already implementing a policy that did just this, in its MOUs with the National Speleological Society and Cave Research Foundation. Cooperation with NSS and CRF demonstrates that cavers can still be part of a cooperative effort to protect bats, study cave environments, and report on cave conditions to agency staff, under a general full closure policy.

The EA did not analyze this fact or the fact that other caving organizations could be similarly engaged while a full cave closure policy remained in effect. The good will and assistance of cavers could be gained and maintained through other actions not contemplated and analyzed in the EA. Through permitting and cooperative agreements, caving organizations and individuals could be held accountable for the risks cave visitation poses to bats in the face of possible Gd and WNS spread. For these reasons the EA, and the FONSI and DNs that rely on it, are arbitrary and capricious and must be withdrawn.

**The EA, DNs, and FONSI are arbitrary and capricious and not rationally related to the facts presented because the EA and FONSI ignore known impacts, like those to agriculture.**

The impacts of the DNs on other aspects of the human environment, such as the agriculture and timber industries, are not addressed in the EA. Bats consume thousands of tons of insects each year in the United States. These insects include damaging and expensive farm crop pests as well as insects that are harmful to valuable timber supplies. A 2010 research paper

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<sup>15</sup> Comment letter from Bat Conservation International on the EA, Dec. 5, 2012.

published in *Science*,<sup>16</sup> reported on the economic importance of bats to agriculture; in Colorado alone, the pest-control value of bats to farmers was \$436 million annually. This constitutes some 22 percent of the total market value of crops sold in Colorado.

The EA raises the issue of the loss of economic output due to cavers not staying in campgrounds, visiting restaurants, and buying gear, but does not mention the economic value of protecting bats, which on the basis of losses to the agriculture sector alone, could be substantial. To evaluate economic impacts that range in the thousands of dollars at best, while ignoring impacts that could threaten millions of dollars of economic activity is arbitrary and capricious.

In addition to the economic losses to agriculture and the timber industry that may be incurred following the introduction of WNS in the Region, another possible impact stemming from the loss of bats could be greater pesticide use by farmers and timber growers, attempting to make up for the loss of bats' free and non-toxic pest-control services. The FS needs to compare economic losses and environmental harms to people from the diminishment of bat populations, which could be substantial and widespread, with what may be fairly localized reductions in tourism receipts due to cave closures. Until this has happened, the EA's analysis is arbitrary and cannot stand. The FONSI and DNs based on the EA must be withdrawn.

**The EA, DNs, and FONSI are arbitrary and capricious and not rationally related to the facts presented because the EA, DNs and FONSI fail to recognize the geographic significance of certain areas of the Region and their differential susceptibility to WNS.**

The White River National Forest in northern Colorado is a known area of high cave density and numerous important bat roosts and hibernacula. The Black Hills National Forest in South Dakota and Wyoming has, according to the EA, the highest number of known hibernacula of any Forest or Grassland in the Region. EA at 16. The EA, DNs, and FONSI make no attempt to address the high biological significance of these particular areas with regard to bat populations in the Region as a whole, or with regard to the recreational pressures that these areas in particular may experience with regard to cave activities.

A recent study<sup>17</sup> predicts areas in the country most susceptible to future spread of WNS, based on density of caves, accessibility to humans, and cave temperatures. Areas of high susceptibility in the West include southwestern South Dakota (Black Hills National Forest), north-central Wyoming (Bighorn National Forest), central Colorado (including Pike/San Isabel National Forest), and western Colorado (including White River, Grand Mesa/Uncompahgre/Gunnison, and San Juan National Forests). Five of the 37 most susceptible counties in the country are in Region 2. The following counties in Region 2 are considered in the top 10 percent among western counties susceptible to WNS spread: Garfield County, Colorado, with 168 caves, Comanche County, Kansas, with 94 caves, Custer County, South Dakota with 94 caves, El Paso County, Colorado with 86 caves, and Gunnison County, Colorado with 83 caves. The proximity of central and western Colorado to areas of higher human density in the Denver/Front Range area is a major factor in the higher susceptibility of these areas. The EA, DNs and FONSI fail to recognize the geographic significance of certain areas of the Region and

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<sup>16</sup> Boyles, J.G. et al. 2010. Economic importance of bats in agriculture. *Science* 332: 41-42.

<sup>17</sup> Ihlo, C.M. 2013. Predicting the spread of white-nose syndrome in bats: a strategy for prioritizing resources. Master's thesis in Environmental Management, Nicholas School of the Environment, Duke University. <http://dukespace.lib.duke.edu/dspace/handle/10161/6799>

their differential susceptibility to WNS spread, based on density of caves, accessibility to humans, environmental suitability for bats (e.g., temperature), or known bat usage. The decisions by the Region and individual administrative units fail to take this information into account and use it to assess the impacts to the Region, including bat populations, as a whole. The absence of analysis of impacts to individual management units, and the ways in which impacts at the unit level may have further ramifications at the regional level, is arbitrary and capricious.

## CONCLUSION

We ask that the Decision Notices be withdrawn, the closure order be reaffirmed and renewed, and an EIS be prepared to study and to disclose potentially significant impacts that may occur as a result of implementing this Region-wide roll back of cave closure policy. Please contact me if you have any questions about this appeal. Also, please notify me of your decision and supply me with all further documentation of the project.

Sincerely,



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