



United States
Department of
Agriculture

Forest
Service

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File Code: 1570-1

Date: May 9, 2008

Mr. Mark Donham
Program Director
Heartwood
RR #1, Box 308
Brookport, IL 62910

RE: Appeal of the Decision Memo for the Fork Ridge Restoration Project, Brownstown Ranger District, Hoosier National Forest, Appeal # 08-09-12-0048 A215

Dear Mr. Donham:

On March 26, 2008, you filed a notice of appeal pursuant to 36 CFR 215.11, on behalf of yourself and Heartwood. Acting District Ranger Ross Taylor signed the Decision Memo on February 13, 2008, and the legal notice was published in *The Bloomington Herald-Times* on February 17, 2008. I have reviewed the Appeal Record and have also considered the recommendation of the Appeal Reviewing Officer (ARO), District Ranger Melanie Fullman, Ottawa National Forest, regarding the disposition of your appeal. The ARO's review focused on the decision documentation developed by the Responsible Official, Acting District Ranger Ross Taylor, and the issues in your appeal. The ARO's recommendation is enclosed. This letter constitutes my decision on the appeal and on the specific relief requested.

FOREST ACTION BEING APPEALED

The Fork Ridge Restoration Project proposes to apply prescribed fire on approximately 820 acres. The project is specifically intended to maintain and restore the condition of chestnut oak and dry-oak forest communities, restore an approximately 25-acre siltstone barrens complex, use fire to stimulate the native herbaceous vegetation, help maintain openings in the project area for wildlife species using this habitat, help maintain the integrity and usefulness of a small wildlife pond, and reduce the risk of intense wildfire.

APPEAL REVIEWING OFFICER'S RECOMMENDATION

The ARO found no evidence that the Responsible Official's decision violated law, regulation, or policy. She found the decision responded to comments raised during the analysis process and public comment period and adequately assessed the environmental effects of the selected action. In addition, she found the issues raised in your appeal, i.e., (project doesn't fit category, violates NHPA, plan is bogus over FACA violation, burning won't necessarily increase oaks, the DM fails to consider the individual cumulative adverse impacts of the proposal, and carbon effects)



were addressed, where appropriate, in the decision documentation. Based on this review, the ARO recommended that Acting District Ranger Ross Taylor's Fork Ridge Restoration Decision Memo be affirmed.

DECISION

After careful review of the Project Record and the appeal, I concur with the ARO's analysis and findings regarding your appeal issues. To avoid repetition, I adopt her rationale as my own, and refer you to the enclosed ARO's recommendation letter, dated May 6, 2008, for further details. It is my decision to affirm Acting District Ranger Ross Taylor's Decision Memo for the Fork Ridge Restoration Project on the Hoosier National Forest.

This decision may be implemented on, but not before, the 15th business day following the date of this letter (36 CFR 215.9(b)). Pursuant to 36 CFR 215.18(c), this decision constitutes the final administrative determination of the Department of Agriculture.

Sincerely,

/s/ Kenneth G. Day
KENNETH G. DAY
Appeal Deciding Officer
Forest Supervisor

Enclosure

cc: Melanie B Fullman, Patricia R Rowell, Ross H. Taylor, Cynthia Sandeno



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File Code: 1570-1

Date: May 6, 2008

Route To:

Subject: Appeal of the Decision Memo for the Fork Ridge Restoration Project, Brownstown Ranger District, Hoosier National Forest, Appeal #08-09-12-0048 A215

To: Appeal Deciding Officer

This letter constitutes my recommendation for the subject appeal filed by Mark Donham, for himself and for Heartwood, on the Fork Ridge Restoration Project, Brownstown Ranger District of the Hoosier National Forest (HNF). Acting District Ranger Ross Taylor signed this Decision Memo on February 13, 2008. A legal notice of the decision was published on February 21, 2008 in *The Herald-Times*. A 30-day comment period for the project was initiated on December 23, 2007.

My review was conducted pursuant to 36 C.F.R. § 215, "Notice, Comment, and Appeal Procedures for National Forest System Projects and Activities." To ensure the analysis and decision are in compliance with applicable laws, regulations, policies and orders, I have reviewed and considered each of the points raised by the Appellants and the decision documentation submitted by the HNF. My recommendation is based upon review of the Project Record (PR) including, but not limited to, the scoping letter, public comments, and the Decision Memo (DM).

On April 2, 2008, Mark Donham was contacted to discuss informal resolution of his appeal. No resolution was reached.

APPEAL ISSUES:

The Appellants raised six main issues in their appeal. All issues were raised during the comment period unless otherwise noted. All appeal issues are addressed in the context of the following questions and may not appear in the same order as mentioned in the appeal.

- 1) Is the proposed action within a category listed in Section 31.12 or 31.2 of the NEPA Handbook that is excluded from further analysis and documentation in an EIS or EA? Is it an appropriate use of the category? Is this category subject to notice, comment, and appeal?
- 2) Did the Record show the Forest properly analyzed extraordinary circumstances related to the proposed action?
- 3) Does the Record demonstrate compliance with law, regulation, and policy?



1) Is the Proposed Action categorically excluded from further documentation in an EA or EIS? Is it an appropriate use of the category? Is this category subject to notice, comment, and appeal?

- The Appellants state, “*The categorical exclusion cited for this project is “exclusion 31.2(6) (FSH 1909.15) that includes ‘Timber stand and/or wildlife habitat improvement activities which do not include the use of herbicides or do not require more than one mile of low standard road construction.’ No where in the public record does it state which wildlife or timber stand will be improved.”* (NOA, p. 2).

The Council on Environmental Quality (CEQ) National Environmental Policy Act (NEPA) regulations at 40 C.F.R. § 1507.3 provide that agencies may, after notice and comment, adopt categories of actions (known as categorical exclusions) that typically do not have a significant effect on the human environment and therefore do not require preparation of an EA or an EIS (40 C.F.R. §§ 1500.4(p), 1501.4(a) (2), 1508.4). A categorical exclusion (CE) is not an exemption from the NEPA, but rather a method of complying with the NEPA. Categorical exclusions are an administrative tool to promote efficiency by reducing excessive paperwork for those categories of actions that, based upon extensive practice and experience, have been determined not to have (individually or cumulatively) significant environmental effects. Forest Service categorical exclusions are set forth in Forest Service Handbook (FSH) 1909.15, Chapter 30. This project involves Category #6. FSH 1909.15, Chapter 30, Section 31.2, states:

Routine, proposed actions within any of the following categories may be excluded from documentation in an EIS or EA...

6. Timber stand and/or wildlife habitat improvement activities which do not include the use of herbicides or do not require more than one mile of low standard road construction.

The proposed action plainly fits within Category 6 as the project intends to “maintain and restore the condition of chestnut oak and dry-oak forest communities; restore an approximately 25-acre siltstone barrens complex, an important habitat for wildlife; use fire to stimulate the native herbaceous vegetation, which is fire dependent but has been in decline because of the dense shade cast by the maple and beech understory; help maintain openings in the project area for wildlife species using this habitat; help maintain the integrity and usefulness of a small wildlife pond, and reduce the risk of intense wildfire.” (DM, p. 1; PR, M-7, p. 1; PR, D-2, pp. 3-4). Clearly, this project will improve a timber stand and improve wildlife habitat. A review of the PR reveals no element of the project that falls outside of Category 6. I find that the HNF properly used this categorical exclusion for this project.

Since this project involves actions associated with prescribed burning, it was subject to notice, comment and appeal pursuant to Judge Singleton’s ruling in *Earth Institute v. Ruthenbeck*, 376 F. Supp. 2d 994 (E.D. Cal. 2005). Accordingly, the HNF initiated a 30-day comment period for the project on December 23, 2007, the day in which a legal notice was published in the HNF newspaper of record. (PR, J-4). In addition to the official 30 day comment period, the HNF also

included this project on the Schedule of Proposed Actions (SOPA) from July 2005 to March 2008. (PR, F-1 through F-11). I find that the HNF properly subjected this project to notice, comment, and appeal.

2) Did the Record show the Forest properly analyzed extraordinary circumstances related to the proposed action?

- The Appellants state, *“The project involved 4 miles of new fire lines, including a mile of dozer lines. Is the Forest Service saying that they can build innumerable miles of dozer fire lines and there would never be even a slim chance that there would be a significant impact? This is absurd. Clearly that category was not intended to exclude such a project from NEPA. Yet, the decision documents don’t state what kind of landscape these dozer lines will go thru...If construction of a mile of low standard road construction is potentially significant, then what about construction of a mile of bulldozer created fire lines? The Decision Memo gives no information about how wide the fire line is going to compared to a road, but if a dozer is being used, it is going to as wide as the dozer blade is, and it’s going to clear everything in its path, just as if it was a road.”* (NOA, p. 2).
- *“If they go through sensitive stream habitat, or wetland habitat, or habitat for rare or endangered plants or animals, that could be a significant effect. Also, whenever you disturb ground in the middle of the forest, you open it up to invasion by either aggressive, invasive native species or invasive exotic species. None of this is addressed in the Decision Memo – just a conclusory statement that there won’t be any impacts.”* (NOA, p. 2).
- *“Furthermore, there are extraordinary circumstances present which are potentially significant... These extraordinary circumstances include impacts on endangered species such as the Indiana bat, now suffering from white nosed syndrome, and on resources potentially eligible for the national register of historic places.”* (NOA, pp. 2-3).

Response: NEPA regulations require agencies to develop procedures “to provide for extraordinary circumstances in which a normally excluded action may have a significant environmental effect.” (40 C.F.R. § 1508.4). Resource conditions that should be considered in determining whether extraordinary circumstances related to the proposed action warrant further analysis and documentation are listed in FSH 1909.15, section 30.3(2). The presence of a listed resource condition, which does not rise to the level of a “significant environmental effect,” does not preclude the use of a categorical exclusion. FSH 1909.15, section 30.3(2) provides further clarification on when an extraordinary circumstance precludes the use of a categorical exclusion. This FSH provision was recently amended¹ to reflect Supreme Court jurisprudence (*Public Citizen v. U.S. Dept. of Transportation*):

The mere presence of one or more of these resource conditions does not preclude the use of a categorical exclusion. It is (1) the existence of a cause-effect

¹ 71 Fed. Reg. 75481, 75482, 75495 (Dec. 15, 2006)

relationship² between a proposed action and the potential effect on these resource conditions and (2) if such relationship exists, it is the degree of the potential effect of a proposed action on these resource conditions that determines whether extraordinary circumstances exist.

As described below, the HNF examined the resource conditions set forth in FSH 1909.15, 30.3(2) and documented the rationale for why none of the resources were present in the project area or would not be significantly affected by the proposed action. My review indicates the Responsible Official considered all the specific resource conditions contained in FSH 1909.15, Section 30.3. (DM, pp. 3-7). The Record demonstrates the Forest thoroughly analyzed the potential effects of extraordinary circumstances. I find the documentation supports the determination that no extraordinary circumstances, related to the proposed action, exist as follows:

1. Federally Listed Threatened or Endangered Species or Designated Critical Habitat, Species Proposed for Federal Listing or Proposed Critical Habitat, or Forest Service Sensitive Species: There are no known occurrences of any Federal listed species in the project area and no critical habitat has been designated on the HNF for any listed species. (DM, p. 4). There are no known occurrences of the fanshell or rough pigtoe mussel in the project area and no habitat exists in the project area for the rough pigtoe mussel. (DM, p. 4; PR, M-3, pp. 8-10). Therefore, there will be no effect. (PR, M-3, p. 10). There are no known gray bat hibernaculum and no known caves in the action area nor any maternity roosts. (PR, M-3, pp. 11-12). The HNF found that since there are no perennial streams or wetlands in the project area, this project will not likely adversely affect the gray bat, which forages over water. (DM, p. 4; PR, M-3, p. 12). This project will not adversely affect the gray bat. (PR, M-3, p. 13). There is no known designated critical habitat for Indiana bat on the Hoosier and the closest known hibernaculum is 21 miles away, so this project will not adversely affect hibernaculum. (DM, p. 4; PR, M-3, p. 13, 17). Furthermore, the Responsible Official noted that roost trees should not be felled but alternative roost trees will still be available. (DM, p. 4; PR, M-3, p. 21). For the Regional Foresters sensitive species that do not have habitat in the project area, there will be no impact from this project. The project may have impacts on species that do occur or have habitat in the project area (i.e., timber rattlesnake (*Crotalus horridus*)), but the proposed actions are not likely to cause a trend toward Federal listing or loss of viability. (PR, M-7, p. 8). The biological evaluation determined that project activities would have a “beneficial impact” to several species (i.e., West Virginia white butterfly, RFSS plant species, ruffed grouse, American woodcock, and bobcat). (DM, p. 4; PR, M-7, pp. 10-14).
2. Floodplains, Wetlands, or Municipal Watersheds: This project is not located in or near floodplains. (DM, p. 5). The project will not affect wetlands or municipal watersheds. (Ibid.). To further ensure that municipal watershed-related impacts are minimized, the HNF will employ Best Management Practices (IDNR 1998) into this project. (Ibid.).

² A cause-effect relationship speaks to the existence of a linkage between the proposed action and listed resource condition over time and within the geographic area. 71 Fed. Reg. 75490.

3. All other categories of extraordinary circumstances Congressionally designated areas, inventoried roadless areas, research natural areas, archaeological sites or historic properties or areas were not present in the project area. (DM, pp. 6-7).

My review clearly indicates the Responsible Official considered all the specific resource conditions contained in FSH 1909.15, Section 30.3. (DM, pp. 3-7). The Record demonstrates that the Forest thoroughly analyzed the potential effects of extraordinary circumstances. I find the documentation supports the determination that no extraordinary circumstances related to the proposed action exists.

Appellants also assert that fire lines and dozer lines are similar to road building and thus potentially significant. However, fire lines and dozer lines are not considered the same as road building. "The fire lines are narrow and linear in shape and usually retain the forest canopy." (PR, M-3, p. 20). This project will require approximately 4 miles of new line construction, including 1 mile of dozer line and 2.4 miles of hand-line. (DM, p. 1). The hand built lines will make use of leaf blowers, light rakes, and other hand tools. (PR, A-1, p. 6; DM, p. 2). While the dozer lines will average between 8-10 feet in width, over 70% of the fire lines needed will be done by hand, with only a small portion being done by a small to medium sized dozer. (PR, M-3, p. 20; PR, N-3). In fact, the Forest Silviculturist noted the necessity of the dozer fire lines:

This [area] is a dry oak community and the fires will be hotter and move faster. The steep slopes will add to the intensity of the fire. This fire will not be accessible by engines and there will be some areas which will not be accessible or drivable with all terrain vehicles. Because of the inaccessibility of the area and the hotter fuel type, wider fire breaks will need to be considered. (PR, E-1, p. 2).

The HNF noted that dozer lines are needed to provide adequate protection to firefighters and to assist in the control and containment of the prescribed fire. (PR, G-3). The HNF has chosen to use, for the majority of the fire lines, the method that will have the least amount of impact, but due to the inaccessibility of the area and the hotter fuel types, dozer lines are also needed.

Additionally, plans are in place to ensure only minimal effects occur. (PR, E-6, E-7). Exposed fire lines will be stabilized with an annual grain and native legume seed mix, and where possible, they will follow land contours. (DM, p. 2). Additionally, water bars will be put in to close the fire lines to allow the land to revert back to forest habitat. The fire lines and dozer lines will be obliterated or brushed in to prevent illegal trail use. (PR, M-3, p. 20; PR, D-10; PR, I-7; DM, p. 2). Large trees will not be felled. (PR, N-3, p. 2). I find that the minimal amount of dozer fire lines needed are not considered roads, as Appellants assert, and find that because they will be re-vegetated, effects will be minimal and have been adequately considered by the Responsible Official.

Appellants also assert that sensitive stream habitat or wetland habitat could create a significant effect. Again, the HNF has not identified any sensitive stream habitat or wetland habitat that the fire lines will go through. (DM, pp. 5-6). "The proposed dozer lines do not cross significant ephemeral drainages, or more regular flowing water, and is in a landscape position that offers over 500 feet of buffer to the nearest perennial stream." (PR, N-3, p. 2).

Appellants also argue that invasive species has not been properly addressed. It is clear that the HNF adequately analyzed potential impacts from nonnative invasive species (NNIS). (PR, L-1, p. 6; PR, M-3, pp. 2-3; PR, M-7, p. 5; PR, I-3, I-4, I-5). In fact, the HNF has implemented the following design criteria to prevent or reduce the spread of NNIS:

- When appropriate and feasible, the Hoosier would use hand and mechanical techniques for control of existing NNIS plant populations and any new infestations resulting from the proposed project activities.
- Require cleaning all equipment used in construction of dozer-created fire lines before entering the project area...the contract administrator would inspect equipment on-site and may require further cleaning as needed. The Hoosier would require equal specifications for work conducted by Forest personnel or partners. (PR, D-11; PR, L-1, p. 6).

Furthermore, the HNF noted that prescribed burning can cause a decrease in most NNIS and that monitoring of prescribed burning on the HNF has not resulted in an increase of any NNIS. (PR, L-1, p. 6; PR, M-3, pp. 2-3; PR, M-7, p. 5; PR, I-5).

The white nose syndrome issue was not previously raised during the official comment period or scoping period, thus denying the Responsible Official an opportunity to provide input on it. Nevertheless, on January 30, 2008, the Wildlife Biologist noted that “white nose syndrome” has affected hibernacula in New York and Vermont. (PR, N-2). The Wildlife Biologist commented that the HNF has previously implemented sufficient safeguards regarding the protection of hibernacula and cooperative mechanisms are in place between the Service and partners to provide additional measures to protect Indiana bat if needed. (Ibid.). Furthermore, the Biological Evaluation noted that this project will not adversely affect hibernacula of the Indiana bat nor will the project adversely affect swarming behavior as there are no caves or known hibernacula in the project area and very little potential for them due to geologic formations. (PR, M-3, p. 18). This project is unlikely to adversely impact roosting habitat as there is little habitat suitable for roosting in the project area. Additionally, this project is likely to result in an improved maternal roosting habitat and improved foraging habitat. (PR, M-3, pp. 20-21).

Having considered the aforementioned, I find there are no extraordinary circumstances and no significance in the building of the fire lines, in controlling NNIS, or white nose syndrome.

3) Does the Record demonstrate compliance with law, regulation, and policy?

Issue 1: Effectiveness of Mitigation - Appellants states, “*The DM lists a laundry list of mitigation. But mitigation comes about through the NEPA process, not outside of it. The agency has to have some evidence that the mitigation is actually going to work, and must demonstrate the commitment and capability to carry it out.*” (NOA, p. 2).

Response: The appellants did not raise this issue during scoping or during the official comment

period. There is not a “laundry list” of mitigation measures in the DM, as Appellant suggest. The HNF lists ten mitigation measures that deal with prescribed burning and NNIS. Nevertheless, there is a monitoring report on the Maumee Prescribed Fire done in 2007. This report included, among other things, information on the effectiveness of prescribed burning on controlling NNIS. (PR, O-79). The report found that prescribed burning reduced the abundance of Japanese honeysuckle, multiflora rose, Chinese lespedeza, and tall fescue. (PR, M-3, pp. 2-3). Additionally, hand-pulling methods for controlling NNIS showed positive results in previous years. (Land and Resource Management Plan, Monitoring and Evaluation Report for Fiscal Year 2004 and 2005, pp. 33-34; Land and Resource Management Plan, Monitoring and Evaluation Report for Fiscal Year 2001, pp. 20-21, 24-25; Land and Resource Management Plan, Monitoring and Evaluation Report for Fiscal Year 2000, p. 25). The HNF’s monitoring reports provide additional data regarding past burns and smoke impacts. Fifteen prescribed burns were done in 2004 and 2005 and post burn monitoring was done to determine if objectives were met and all burns were in compliance for smoke management. (Land and Resource Management Plan, Monitoring and Evaluation Report for Fiscal Year 2004 and 2005, p. 82). Similar information is found for the seven burns done in 2001, “All burns were monitored for smoke management and were in compliance with no negative comments or calls received.” (Land and Resource Management Plan, Monitoring and Evaluation Report for Fiscal Year 2001, pp. 54; Land and Resource Management Plan, Monitoring and Evaluation Report for Fiscal Year 2000, pp. 50-51). “A decade of monitoring and experience in implementing prescribed burn project decisions indicates that there are no irreparable soil effects from properly implemented prescribed burns.” (Forest Plan, FEIS, App. J, p. 180). Therefore, I find adequate information to support the effectiveness of the mitigation measures listed for burning and NNIS.

Issue 2: Violates NHPA – Appellant states, “*The DM says that the SHPO was consulted for this project, but it isn’t clear what approval of the SHPO was based on. The Hoosier is saying that there aren’t any historical or cultural resources, but that finding could be false because it appears that no efforts were made to find “other interested parties” to consult with pursuant to Sec. 106 requirements.*” (NOA, p. 3).

Response: The project area was site-specifically reviewed by the Forest Heritage Resource Specialist. (PR, N-8). She noted that the entire project area has been surveyed for historic and prehistoric resources in accordance with NHPA and that she had recently done a cursory and complete coverage survey. (PR, N-8; DM, p. 7). She also consulted historic and modern aerial photographs, 19th century county maps, and county histories. The surveys verified that no historic or prehistoric resources were identified in the project area that required protection. (PR, N-8; DM, p. 7). Additionally, the Deputy State Historic Preservation Officer at Indiana Department of Natural Resource did not object to the HNF’s findings that there were no historic properties in the project area, complying with Section 106 of the NHPA. (PR, N-9; DM, p. 7). The record also shows that the HNF has consulted with other interested parties in further accordance with Section 106 of the NHPA. (PR, O-34; PR, O-71). The HNF completed site specific consultation with the State of Indiana as required by law and violated no regulation, law, or policy.

Issue 3: Plan is bogus over FACA violation – Appellant asserts, “*As we have repeatedly brought before the Hoosier and Shawnee National Forests, The ROD for the Hoosier forest plan indicates that the Hoosier-Shawnee Ecological Assessment was relied upon repeatedly by the Hoosier in developing some of the most controversial aspects of the LRMP... We continue to allege that the use of this document as it exists today is illegal... Violating FACA to keep the public out of important aspects of forest planning violates NEPA and NFMA’s requirements that the public be fully informed and involved in agency decisionmaking.*” (NOA, pp. 4-5).

Response: The appellants further challenge use of the Hoosier-Shawnee Ecological Assessment; however, they did not raise this issue during scoping or official comment period. This issue was reviewed by the Chief of the Forest Service in response to the Appellants’ appeal of the HNF Forest Plan. Attachment 1 of the Appeal Decision discussed the Issues Reviewed in the affirmation of the decision. Specifically, the document noted that the “Appellant has mischaracterized the District Court Opinion (*Heartwood, Inc. et al. v. United States Forest Service*, 431 F. Supp. 2d 28 (D.C. Cir. 2006)) which found that because the Hoosier-Shawnee Ecological Assessment was subject to the Federal Advisory Committee Act, drafts of that assessment were not exempt from disclosure under the Freedom of Information Act. The court made no other finding and did not consider the science contained in that assessment.” All draft material in question was released to the appellants. The assessment was also peer reviewed by the scientific community and published in 2004 as General Technical Report NC-244 by the North Central Research Station in St. Paul, Minnesota. I find no violation of NEPA, NFMA, or FACA, as the Appellants claim.

Issue 4: Burning won’t necessarily increase oaks – Appellants contend, “[T]here is no conclusive evidence that burning consistently increases oak regeneration... There is no indication that such data [root collar location and diameter] was collected in this burn. Therefore, any predictions about the outcome are not scientifically based” [Research by Brose and Van Lear]. (NOA, pp. 5-7).

- “Yet, the record indicates that the agency, worrying about the fact that this information was not collected, padded the record outside of any public comment process with information to make it superficially appear that the agency is addressing the issue. This too is absurd. As stated above, it is a violation of basic administrative law to sneak in information to the record to address an issue raised in an administrative appeal that the agency withdraws in order not to have to address the issues.” (NOA, p. 6).
- “the record contains a paper with results from a study going on in Ohio which did not result in increased oak regeneration after burning. A paper by Fralish, Franklin et al in the record indicates that the proposed actions will impact the structure of the forest but not the composition.” (NOA, p. 6).
- “In addition... preliminary results from plots in Hoosier burns in pine plantations, which have been supplied to the appellant, show that the results are not easily predictable and often do not result in increased oak regeneration. For example, monitoring documents

provided by the Shawnee indicate that while scarlet oak seedlings did seem to increase after one burn, others, such as the ecologically crucial white oaks, were significantly decreased. Also decreased were the important shagbark hickories, critical to the endangered Indiana bat.” (NOA, p. 6).

- *“Another study showed that even red oak seedlings can be severely damaged in the understory by a burn that gets too hot. As the study, “SURVIVAL AND GROWTH OF NORTHERN RED OAK SEEDLINGS FOLLOWING A PRESCRIBED BURN,” (1975) by Paul S. Johnson, Forest Service Silviculturist, concluded, “a single, low-intensity spring fire may do more harm than good to (red oak) seedlings about the size of the 1-yr-old red Oaks observed, especially where competition after the burn is severe.” USDA For. Serv. RESEARCH NOTE NC-177.” (NOA, pp. 6-7).*

Response: Restoration of “the condition of chestnut oak and dry-oak forest communities” is part of the purpose and need for the project. (DM, p. 1). I have found the HNF has clearly provided a scientific justification for generating a stronger oak-hickory component through a review of relevant scientific information. Oak and hickory species were dominant on the HNF, but due to fire suppression and minimal vegetative management, the character drastically changed toward a late successional beech-maple forest type. (Forest Plan, FEIS, p. 3-47 through 3-49). The HNF has noted that fire treatment has been a major force in shaping landscape patterns for many years (citing Parker and Ruffner 2004, Thompson 2004, Sutherland and Hutchinson 2000). (PR, L-1, p. 4).

The HNF has ample documentation to support its position that the use of fire can have a beneficial effect on oak forests (PR, O-50):

- Periodic understory fires were an important ecological factor in the historical development and maintenance of oak forests (Abrams 2006, (PR, O-2); Brose et al. 2006 (PR, O-16)).
- Fire is likely the most important disturbance factor that has shaped upland oak forests (Van Lear 2004), and reintroducing fire is essential to maintain oaks’ overstory presence and their associated biological benefits (Moser et al. 2006 (PR, O-57)).
- Research has shown that historically, fire is one of the processes that allowed abundant presence of oaks and similar species (Moser et al. 2006, Abrams 2005, Spetitch 2004, Van Lear 2004, Fralish 2004, Abrams 2003, Van Lear and Harlow 2000, Yaussy 2000 (PR, O-109)).
- Repeated prescribed fire can be used to reach a variety of management goals in oak-dominated forests because oak is better at surviving surface fires than other species; burning can help reduce understory competition and shade; and burning can decrease populations of acorn-infesting insects (Abrams 2006, Van Lear 2004, Brose 2004, Johnson et al. 2002 (PR, O-46), Spetitch 2004, Van Lear and Harlow 2000).

- In Ohio, prescribed fire was shown to promote oak regeneration while maintaining or increasing the diversity of native understory species (Hutchinson and Sutherland 2000 (PR, O-41)).
- And, in Pennsylvania, periodic fire reduced overstory and understory stand density and promoted successful regeneration of relatively shade intolerant oak species (Signell et al. 2005). Some researches have recommended that for resource managers who wish to use fire as a management tool in oak forests, they must act sooner than later (Abrams 2006).
- Personnel from Ball State University (LeBlanc and Salvagin 1995) conducted a study to reconstruct stand development history for chestnut oak woodlands on Fork Ridge. This study provides site-specific evidence of the importance of fire in maintaining an oak-dominated forest canopy. (PR, L-1, p. 4). This study noted that “oak-dominated ecosystems like those on Fork Ridge require fire to be self-sustaining” and that “this conclusion is consistent with other studies of eastern oak forests (e.g., Abrams 1992, Abrams and Nowacki 1992, DeSelm et al. 1973, VanLear and Watts 1993)” (PR, O-50).
- Monitoring data collected in the Maumee Prescribed Burn Project Area indicated that burning did result in beech and maple mortality. All sites, including dry and mesic sites, exhibited beech maple mortality (Rigg 2007). (PR, M-3, p. 2; PR, O-79). Monitoring data showed substantial death or reduction of sugar maple and beech and good re-sprouting for oak chestnut oak and northern red oak. (PR, O-79).

Appellants challenge monitoring results from the HNF and Shawnee. However, this issue was not previously raised either during scoping or during the official comment period on this project. In addition, the Appellants have not provided the cited monitoring documents. Nevertheless, annual monitoring reports from a number of project sites on the HNF indicate successful regeneration of oaks following management practices and indicate a threat to oak longevity if stands are not burned to remove competing pine regeneration. Past monitoring reports showed:

- “In 1997, we monitored regeneration of hardwood seedlings on all stands where an overstory removal was accomplished in the 1992 Eastside Pine sale. The four stands showed oak regeneration ranging from 500 to 1,500 oak seedlings per acre” (Land and Resource Management Plan, Monitoring and Evaluation Report for Fiscal Year 1997, pp. 21-22).
- The 1996 report stated, “Although we continue to have success at regenerating and enhancing the oak component by prescribed fire, we are concerned that unless we remove some or all of the overstory pine we will quickly lose the oak regeneration. We need to treat the overstory pine trees where we have prescribed burned” (Land and Resource Management Plan, Monitoring and Evaluation Report for Fiscal Year 1996, p. 14).

There are many references citing the historical condition and management practices to recruit and retain oak in project stands. I agree that without intervention and silvicultural treatments, such as harvesting and prescribed fire, the stands would, in time, include only a slight representation, if any, of oak and hickory species. However, I conclude that the HNF used

scientific justification to develop the rationale for managing the forests for a stronger component of oak-hickory.

The Appellants cite a study in southwestern Wisconsin by Johnson (1974, p. 3) that notes “a single, low-intensity spring fire may do more harm than good to (red oak) seedlings.” However, the Johnson study also indicates that “the limited scope of this study precludes extending the results to all uses of fire in oak management.” The Johnson study goes on to cite an example of a wildfire in southern Indiana that killed only 22 percent of four-year-old red oak seedlings.

The Appellants also raise the concern that the root collar location and diameter of regenerating seedlings was not considered. However, as previously mentioned, the HNF has ample scientific evidence to support the use of fire to enhance oak regeneration. The Appellants allege that the record contains a paper from an on going Ohio study that did not result in increased oak regeneration. However, again, they fail to provide information to allow an adequate review of the issue. I could not find the paper referenced by Appellants in the record. The one I found, “Fire and Understory Vegetation: A Large-scale Study in Ohio and a Search for General Response Patterns in Central Hardwood Forests” (Hutchinson and Sutherland 2000) notes that “prescribed fire may be used to promote oak and pine regeneration while maintaining or increasing the diversity of nature understory species.” (PR, O-41, p. 64). Additionally, after a thorough review of the record, I find only one paper by James S. Fralish, “The Keystone Role of Oak and Hickory in the Central Hardwood Forest.” (PR, O-33). This paper mentions that use of fire, followed by partial harvesting, will reestablish oak and hickory seedlings. (PR, O-33, p. 84).

The Appellants allege that the HNF padded the record outside of any public comment process; however, they provide no substantive information to verify the veracity of their statements. Appellants also allege that the HNF “snuck in” information to address an appeal issue on a decision that was previously withdrawn. However, the Fork Ridge project has not previously been through the appeal process, nor was a decision on it ever previously withdrawn. I find that HNF has not done anything improperly and that the Appellants assertions are not substantiated.

The HNF has clearly applied the best available science in the development of this project. The Appellants appear to demand an exhaustive accumulation of all possible scientific information before a decision is made. The Appellants’ claims are not supported by my review of the Project Record.

Issue 5: The DM fails to consider the individual cumulative adverse impacts of the Proposal - Appellant claims, “[The DM] *relies on an out of date interim EPA policy [EPA’s “INTERIM AIR QUALITY POLICY ON WILDLAND AND PRESCRIBED FIRES,” April 23, 1998], that was promulgated without public involvement, was intended to facilitate true risk reduction activities in the true high risk fire zones in the west, and was promulgated before the PM 2.5 standards were adopted by EPA...[it] was never intended to authorize the significant increase in burning in the Ohio Valley forests.*” (NOA, p. 7).

- *“Notwithstanding the fact that the policy has been an “interim” policy for nearly a decade - promulgated without public involvement to the best of appellant’s knowledge - and is way out of date and not relevant to the current environment, it states that “The largest increases are expected mainly on Federal lands in western States in ecosystems where fires would naturally occur every few years (35 years or less) if not suppressed.” (NOA, p. 7).*
- *“A burn where public concern has been expressed trigger the preparation of a smoke management plan. There is no indication that a smoke management plan has been prepared for this burn.” (NOA, p. 8).*

Response: This issue was not raised during scoping or the public comment period. In my review of the Project Record, I find no mention of an EPA policy that the Appellants reference. Regardless, the issue of an outdated EPA policy is outside the scope of the HNF to address, and is not evaluated in my review.

Before implementing any prescribed burning, the preparation of a prescribed fire burn plan is required. This burn plan would include measures to minimize and manage smoke. (Forest Plan, FEIS, p. 3-72). Furthermore, the burn plan would set parameters for when ignition could occur. (PR, I-10). “Prescribed fire would only be conducted when temperatures, relative humidity, wind speed, and smoke dispersion are within these appropriate parameters...During fire operations, on-site weather observations are taken at least every hour by burn personnel to ensure that conditions are appropriate for prescribed burning operations.” (PR, I-10). I find no violation in law, regulation or policy, as the Appellants allude.

- Appellant asserts, *“...there is going to be a cumulative impact to the air quality from all of the burning that is contemplated within the air stream passing over southern Illinois. That would include burning being done by the Forest Service across the entire region.” (NOA, p. 9).*

Response: By definition, categorical exclusions have been determined to not individually or cumulatively have significant effects on the human environment (40 C.F.R. § 1508.4). Since the project fits within a categorical exclusion, the project does not necessitate a cumulative effects analysis. Nevertheless, the HNF conducted an air resources analysis. The analysis consisted of using a model called VSmoke-GIS to analyze potential impact of particulate matter emissions. (PR, L-1, p. 3; PR, N-7). The model evaluates probable air quality impact from a single prescribed burn. (Ibid.). The air quality analysis showed that:

...the air quality at downwind distances less than 0.39 miles from the edge of the fire may have a 1-hour particulate matter concentrations predicted to be code red or worse, while distances less than 1.24 miles are predicted to be code orange or worse. At distances less than 328 feet from the edge of the fire the one-hour carbon monoxide concentrations are predicted to be code red or worse, and distances less than 328 feet from the fire are predicted to be code orange or worse. (Ibid.; PR, N-3; PR, N-4).

“The Environmental Protection Agency has developed a color coding system called the Air Quality Index (AQI) to help the public understand what concentrations of air pollution may impact their health... When the AQI value is color code orange... the general public is not likely to be affected... Everyone may begin to experience health effects when AQI values are color coded as red. People who are sensitive to air pollutants may experience more serious health effects when concentrations reach code red levels” (Rigg 2008, Jackson *et al.* 2007). (PR, N-4; PR, N-5). To mitigate these effects, burning will only be conducted when temperatures, relative humidity, wind speed, and smoke dispersion are within appropriate parameters. (Ibid.). Additionally, the HNF will:

- Restrict the ignition of burns when ventilation levels are forecasted to be poor.
- Notify the public by signing the burn area during the operation and publicly announce the prescribed burn.
- Notify cooperating agencies.
- Ensure greater success and control by requiring the burn prescription with, among other variables, a relative humidity equal to or greater than 25% and mid-flame wind speeds of less than or equal to 8 miles per hour. (Ibid., p. 4).

The Appellants attempt to expand the cumulative effects analysis area to cover the “entire region” is not justified by the rationale provided in the Project Record. The project is consistent with the Clean Air Act and the Indiana Open Burning Law (326 IAC 4-1 (PR, O-43)). In my review of the Record, I find that cumulative effects to air quality were adequately analyzed and disclosed.

Issue 6: Carbon Effects – Appellant claims, *Neither the Hoosier plan, the plan EIS nor does the DM for the project, consider the effects of the carbon that is currently stored in that area of the Hoosier NF but will be released through the cutting and burning of the forest in the forked ridge area.*” (NOA, p. 8).

- *“But without even addressing the issue, prescribed burning takes stored carbon in the forest and puts it directly into the air with no controls whatsoever... Burning of these materials puts the stored carbon directly into the air. This is contributing to the increasing CO2 levels in the atmosphere. This has been brought up repeatedly by the appellants, but the Forest Service refuses to consider it... These are questions that need to be considered, yet the Forest Service fails to consider it, either at the plan or project level. This is a violation of NFMA and NEPA.”* (NOA, p. 8).

Response: The Global Climate Change Prevention Act (GCCPA) amended the Resources Planning Act (RPA) to require the Secretary of Agriculture to consider the potential effects of global climate change on the condition of the renewable resources on the forests and rangelands of the United States, and to analyze opportunities to mitigate the buildup of atmospheric carbon

dioxide and reduce the risk of global climate change. However, the statute does not require the Secretary to consider global climate change in a quantitative, monetary analysis in every site-specific decision as the Appellants desire, but instead gives the Secretary the discretion to consider this issue as appropriate. The agency analyzed the global climate change issue in the 1990 RPA Program. There is no legal requirement in the GCCPA to analyze global climate change in this site-specific project.

Updates to the 2000 RPA Assessment have identified that forests contribute to global carbon cycles in at least two ways (Interim Update of the 2000 Renewable Resources Planning Act Assessment, pp. 83-85). First, carbon is retained in forests and in forest products as part of the larger cycle of carbon through the land, water, and atmosphere. Growth of forests in the United States has exceeded removals at least since 1952 (earlier data are not available). Thus, U.S. forests have been a carbon sink, absorbing more carbon than they release. (Forest Plan, FEIS, Appendix J, pp. 143-144). Secondary, emissions of carbon to the atmosphere are reduced to the extent that wood products production and use causes less fossil fuel carbon emissions than production and use of substitute products. Production and use of wood products in place of alternate products can reduce carbon emissions and their associated contribution to global warming. In the future, biomass grown for cellulosic ethanol production, such as crops, may further offset carbon emissions from fossil fuels. (Interim Update of the 2000 Renewable Resources Planning Act Assessment, pp. 83-85).

EPA designates areas that exceed standards for non-attainment areas. For each such area, states are required to develop a detailed plan that lays out how attainment would be achieved. Except for Jackson County and Dubois County, the Hoosier is in an attainment area for these pollutants. This means that the level of these pollutants in the air over the Forest is below the ambient air quality standards set by EPA. Jackson County is a non-attainment area for the eight-hour ozone standard as of April 15, 2004: On certain days in the summer ozone levels measured in Brownstown, Indiana, exceed those set by EPA. By the spring of 2007, Indiana must submit ozone attainment plans to EPA and must reach attainment by 2009. (Forest Plan, FEIS, 3-72).

When considering the use of prescribed burning to restore the role of fire in the ecosystem and reduce fuels, the effects of smoke from wildfire and prescribed burning must be considered. Fires emit large amounts of particulate matter (particulate matter size classes: PM 10 and PM 2.5 (microns)) and carbon monoxide as well as nitrous oxides (NOx) and organic compounds. Smoke created from burning is generally temporary. It dissipates and is not considered a significant factor in local air quality. (Forest Plan, FEIS, p. 3-72). The Hoosier implements most prescribed burning in the spring and fall when smoke would dissipate quickly. Burning during spring and fall would not affect the attainment status for pollutants, as the non-attainment days normally occur during the summer or periods of stagnant air. (Forest Plan FEIS, 3-72). To minimize air quality impacts, all prescribed burns would have an approved burn plan prepared. (PR, M-2, p. 2). This plan would include measures to minimize and manage smoke. Burning would follow State regulations for open burning. (Forest Plan, FEIS, 3-72). See also **Response to Issue 5.**

I find the Responsible Official violated no law, regulation or policy in the development of the FEIS, the FSEIS, or the Forest Plan as it relates to global climate change and carbon.

RECOMMENDATION:

After reviewing the Project Record for the Fork Ridge Restoration Project, and considering the issues raised by the Appellants, I recommend Acting District Ranger Ross Taylor's Decision Memo of February 13, 2008 be affirmed.

/s/ Melanie B. Fullman
MELANIE B. FULLMAN
Appeal Reviewing Officer
District Ranger

cc: Shannon L Swaziek
Patricia R Rowell