



File Code: 1570-1

Date: March 4, 2008

Mr. Mark Donham
Program Director
Heartwood
RR #1, Box 308
Brookport, IL 62910-9613

RE: Appeal of the Decision Notice and Finding of No Significant Impact for the Oriole Restoration Project Environmental Assessment, Tell City Ranger District, Hoosier National Forest, Appeal # 08-09-12-0034 A215

Dear Mr. Donham:

On January 22, 2008, you filed a notice of appeal pursuant to 36 CFR 215.11. This appeal was filed by Heartwood, Protect Our Woods, and Tree of Life Alliance. Other individual Appellants (Mark Donham, Karyn Moskowitz and Linda Cooper) did not comment during the 30-day comment period and thus, did not have standing to appeal. Forest Supervisor Kenneth Day signed the Decision Notice on November 30, 2007, and the legal notice was published in *The Hoosier Times* on December 9, 2007. I have reviewed the Appeal Record and have also considered the recommendation of the Appeal Reviewing Officer (ARO), Chequamegon-Nicolet National Forest Deputy Forest Supervisor Anthony E. Erba regarding the disposition of your appeal. The ARO's review focused on the decision documentation developed by the Responsible Official, Forest Supervisor Kenneth Day, 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

This project proposes to restore hardwood forest ecosystems by moving toward the desired conditions based on ecological classification and Forest Plan direction. The project area includes approximately 9,075 acres of which 47 percent is private lands. All silvicultural treatments will occur on National Forest System lands. The Forest is proposing to conduct approximately 112 acres of stand improvement, an estimated 2,181 acres of timber harvest, and to apply prescribed fire to approximately 3,500 acres. The project would also use herbicides to treat known populations of non-native invasive species and reduce the potential for further spread.

APPEAL REVIEWING OFFICER'S RECOMMENDATION

The ARO found no evidence that the Responsible Official's decision violated law, regulation, or policy. He 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, he found the issues raised in your appeal (i.e., This is a Major Action (Context and Intensity Factors), Federal Advisory Committee Act, Violation of the Purpose and Need, Using the 2000 Regulations and the Interpretive Rule, Management Indicator Species, Climate Change, and others) were addressed, where appropriate, in the decision documentation. Based on this review, the ARO recommended that Forest Supervisor Kenneth Day's Oriole Decision 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 the ARO's rationale as my own, and refer you to his enclosed recommendation letter, dated March 3, 2008, for further details. It is my decision to affirm Forest Supervisor Kenneth Day's Decision Notice and Finding of No Significant Impact for the Oriole Restoration Project on the Hoosier National Forest.

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

Sincerely,

/s/ Forrest L. Starkey (for)
KENT CONNAUGHTON
Appeal Deciding Officer
Regional Forester

Enclosure

cc: Anthony E Erba, Ken Day, Ron Ellis, Judi Perez, Patricia R Rowell



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File Code: 1570-1

Date: March 3, 2008

Route To:

Subject: Appeal of the Decision Notice for the Oriole Restoration Project, Tell City Ranger District, Hoosier National Forest, Appeal #08-09-12-0034 A215 (Heartwood)

To: Regional Forester, Appeal Deciding Officer

This letter constitutes my recommendation for the subject appeal filed by Heartwood, Protect Our Woods and Tree of Life Alliance, on the Decision Notice for the Oriole Restoration Project on the Hoosier National Forest. Forest Supervisor Kenneth Day was the Responsible Official for this decision. His Decision Notice was signed on November 30, 2007. The legal notice was published in the *Hoosier Times* on December 9, 2007.

My review was conducted pursuant to 36 CFR § 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 Hoosier National Forest (HNF). My recommendation is based upon review of the Project Record (PR) including but not limited to, the scoping letter, public comments, Environmental Assessment (EA), and Decision Notice (DN).

Appeal Issues

The Appellants raised 11 major issues in this appeal. Many of the issues also contain sub-issues. These issues are addressed in the order presented in the appeal. All issues were raised during the scoping or 30-day comment period unless otherwise noted.

Issues 1: Major Federal Action -- The Appellants claim, “*The Hoosier’s claim that this project is not a major federal action which does not have a significant impact on the environment is in error. It flies in the face of the rules set up by the federal government for making such a determination. There are 10 criteria that the CEQ set up for an agency to consider in considering whether or not a project has the potential for a significant impact. Those are listed at 40 CFR 1508.27(b). However, paragraph (a) of that same section requires that before those criteria are applied, that the project be put into context. In this case, the Hoosier NF is the only national forest in Indiana. It is one of the smallest national forests, in an area that is a key transition zone between the true mixed mesophytic forests of the Appalachians and the more western influenced forests of western Missouri. It is critical for everything from providing recreation, scenic beauty, and biodiversity in a part of the country that has been severely impacted by human development. The project documents do not do this properly. In this context, this project is a huge project.*” (NOA, p. 2).



Response: The National Environmental Policy Act (NEPA) requires that federal agencies follow certain procedures to examine the environmental impact of their proposed actions. If an agency proposes a "major federal action [that] significantly affect[s] the quality of the human environment," NEPA requires the agency prepare an environmental impact statement (EIS) that, among other things, details "the environmental impact of the proposed action" (42 U.S.C. § 4332(C)). An EIS, however, is not required if the agency first prepares an EA providing "sufficient evidence and analysis" that no EIS is necessary because the proposed action will not significantly affect the quality of the human environment (See 40 CFR § 1508.9). In those circumstances, the agency issues a "Finding of No Significant Impact" (FONSI) rather than preparing an EIS (40 CFR § 1508.13).

The Council on Environmental Quality (CEQ) has promulgated regulations detailing how agencies should fulfill these NEPA obligations. CEQ's regulations require consideration of context (significance of an action) and intensity (severity of impact). Intensity is further subdivided into 10 items that agencies should consider when taking a "hard look" at whether a project will have "significant" environmental impacts. These include:

- beneficial and adverse impacts,
- the degree to which the proposed action affects public health and safety,
- the degree to which the action may adversely affect an endangered or threatened species,
- the degree to which the effects on the quality of the human environment are likely to be highly controversial,
- the degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks,
- the degree to which the action may establish a precedent for future actions,
- whether the action results in cumulatively significant impacts,
- the degree to which the action may adversely affect scientific, cultural, or historical resources,
- whether the action threatens a violation of federal, state, or local law," and
- the unique characteristics of the geographic area such as proximity to park lands or wild/scenic rivers (40 CFR § 1508.27).

If an agency takes a "hard look" and determines that the proposed action has no "significant" environmental impact, an EIS is unnecessary.

The 2006 Hoosier National Forest Land and Resource Management Plan (LRMP), in which this project is tiered (EA, p. 5), describes the role of The Forest within the area of south central Indiana (LRMP, p.2-1). Specifically, the LRMP states that "[t]he Hoosier plays a major role in providing forest ecosystems that enhance biological diversity on a regional scale and high quality recreation opportunities." The Introduction to the EA describes the framework for this project in the context of national, regional and Forest level goals and priorities concerning ecosystem restoration. Particularly, the DN (p. 2) describes that "[m]uch of the Hoosier, and forestland in Indiana, is in need of more diversity in age class and structure." Other contextual information is supplied in the background descriptions for the various resources. Although the Appellants are correct that the Forest is an important public asset, many of the benefits they expound upon (i.e., recreation, scenic beauty, and biodiversity) are also found outside the project area. The Oriole

Project comprises a relatively small portion of the HNF covering just 2.6 percent of the Forest (EA, p.16). This project is not unique, as similar operations have been accomplished on other forested lands within the area. The effects are predictable (DN, p.7).

Chapter 3 of the EA for the Oriole Restoration Project clearly displays the effects of the proposed action and the alternatives on each resource relative to the issues identified. The EA and associated documents provide sufficient evidence and analysis showing that none of the predicted effects would have an impact deemed significant to the quality of the human environment. The FONSI section of the Decision Notice for the Oriole Restoration Project (pp. 7-9) clearly summarizes and refers to the EA when assessing the ten “intensity” items that constitute the “hard look” required by NEPA. Those factors of specific concern to the Appellants are addressed below.

Sub-Issue 1: Beneficial and Adverse Impacts – *“The EA and Decision Notice are full of embellishments about the so-called benefits. Just calling it a “restoration” makes it seem beneficial. To state all of these benefits throughout the project documents and then, in response to the CEQ significance criteria state that there aren’t any significant beneficial effects is a laugh really. But it does raise the question about whether or not, if there are no significant beneficial effects it meets the purported ‘purpose and need’”* (NOA, p. 2).

Response: As stated previously, Chapter 3 of the EA clearly displays the effects of the proposed action and the alternatives on each resource. The EA, Appendix B Mitigation Measures, Management Requirements and Design Criteria, specialist reports, and LRMP guidance provide sufficient evidence and analysis showing that none of the predicted effects would have an impact deemed significant to the quality of the human environment. Likewise these same documents clearly show that the actions proposed would meet the project’s “purpose and need.” Although the Responsible Official clearly identifies the benefits of these actions, they do not rise to the level of significance requiring an EIS as the Appellants claim. It is the “intensity” or degree of effect that is important (40 CFR 1508.27(b)). In other words, it is the magnitude and size of the predicted effect within the context of the decision that is an indicator of significance. Doing additional analysis through an EIS solely for significant beneficial effects would turn NEPA on its head.

Sub-Issue 2: Health and Safety – *“The agency points out the benefits, but doesn’t mention anything about the fact that the agency routinely has to close logging areas because they are unsafe. The particulates from the burning are a huge health hazard, especially to children and to the elderly and asthmatic. In addition, there is a danger from the smoke to nearby traffic if conditions are right. Then there is the issue of whether or not the project takes stored carbon and puts it into the atmosphere, thereby exacerbating the conditions that cause global warming, which is a huge public health and safety issue. There are a number of potentially significant human health and safety issues associated with this project.”* (NOA, p. 2).

Response: The Appellants cite (1) logging areas, (2) particulates from burning and (3) carbon dioxide emissions as factors affecting public health and safety.

(1) Hazards to public health and safety in logging areas were considered and mitigated for the project. Appendix B to the EA lists Mitigation Measures, Management Requirements and Design Criteria, some of which were chosen for public health and safety considerations. The Recreation and Visuals section of Appendix B lists measures to “close or restrict use of trails affected by implementation to protect Forest visitors” and “post signs along the Oriole East multiple-use trail (and in the sale area) to inform trail users of harvesting activities.”

(2) Effects of prescribed burning and other project activities on air resources are discussed in Section 3.1 of the EA, pages 16-21. The EA (pp. 18-19) states, “Particulate matter (PM) emission (approximately 60 percent carbon, organic and graphitic) is a critical health concern and emissions must meet air quality standards.” The quantity of particulate matter generated for the initial burn following timber harvest is displayed in Table A.2 (EA, p. 20). The document in the Project Record, *Report for the Oriole Restoration Project Environment Assessment: Effects to Air* (Electronic File, oriole_restoration/spcist-rprts/2007l_air.doc, p. 3) explains that the data in Table A.2 was generated using a model based on information from research in similar ecosystems (Hubbard et. al 2004, Elliott et. al 2004, Scholl and Waldrop 1999). This data was applied to the Oriole project area through the ArcGIS software platform. Furthermore, the EA states (p. 20) that the analysis completed using this model is conservative because the fuels in the project area are smaller in quantity than those modeled, the model assumes a wildfire while a prescribed fire tends to produce fewer emissions, and the fuel load would be reduced due to slash decay. Given this data and analysis, it is concluded on page 12 of this report that the project is consistent with the Clean Air Act, 326 IAC 4-1-0.5 (Indiana Open Burning Law) and National Ambient Air Quality Standards.

(3) There is research that climate change may affect human health on a global basis. However, the timing, location, and scope of these climate change effects are subject to considerable uncertainty. As described in the EA (EA. pp. iv and p. 2), the Oriole Restoration Project is tiered to the analysis of the LRMP. Climate change is addressed in Response to Comments, Appendix J of the Final EIS (FEIS) to the LRMP on pages 143-144. The Responsible Official states:

“Currently, there is no reliable way of predicting future changes or the effects of climate change. Therefore, an adaptive management approach should be employed in conjunction with a forest management approach that provides for a diversity of species to add to the resiliency of the forest to respond to any changes in conditions (p. 143)...The effects of the Hoosier’s Forest Plan [LRMP] on global climate are beyond the scope of the proposal, analysis, and decision. (p. 144).”

Given the uncertainty about site-specific effects of global climate change, and the effects of project activities on public health via the mechanism of global climate change, impacts

cannot be meaningfully evaluated at the project level. See also my response to Sub-Issue 5 for further discussion of the role of climate change in a site-specific project analysis.

Nonetheless, Chapter 3 of the EA does describe effects of project activities on carbon storage and carbon dioxide (See especially Section 3.1, Air Resources, pp. 16-21). This information was displayed at the discretion of the Responsible Official and contributes to public knowledge of the project's effects.

Summary: Given the mitigation measures identified for protecting public safety during logging operations; the reasoned analysis, supporting data and conclusions regarding the effects of particulate matter generated by prescribed burning on public health; and limitations for considering the effects of global climate change for site-specific projects, I find the Project Record supports the conclusion of no significant impact to public health and safety.

Sub-Issue 3: Unique Characteristics – *“First, it doesn’t appear that the Hoosier has done proper historical and cultural surveys. How are wooden resources going to be protected in areas that are going to be burned? This isn’t stated properly, and it is possible that the Hoosier will burn up resources that are potentially significant without properly considering them. Secondly, the area is not far from state forests, state parks, natural areas, etc. In fact, one of the reasons given for the project is that it is necessary to save the environmentally rare and critically threatened “barrens” areas. If these areas are so threatened and so rare, then they [are] ecologically critical.”* (NOA, p. 3).

“Finally, the Tell City District of the Hoosier is near to the Harrison Crawford state forest where some of the most important hibernacula for the Indiana bat are located, including a Category I and Category II hibernacula. The agency has yet to document how much of an area of forest in the region is used either as fall swarming habitat, maternity habitat, or habitat for males.” (NOA, p. 3).

Response: Chapter 3 of the EA displays the effects of the proposed action and the alternatives on heritage resources, the barrens, and the Indiana bat hibernacula located at Harrison Crawford State Forest. The EA states that Forest personnel have completed surveys for the presence of heritage resources on all treatment areas (EA, p. 21). The Indiana State Historic Preservation Office (SHPO) concurred with the findings [DN, p. 8; Project Record Letter, ARCREF 1]. Appendix B, Mitigation Measures, Management Requirements and Design Criteria, and LRMP standards and guidelines provide evidence and analysis showing that impacts to heritage resources would be minimized. Specifically, mitigation includes:

- Coordinating with the heritage resource specialist to ensure the protection of significant or potentially significant prehistoric and historic sites from all management activities,
- flagging all heritage resource sites requiring protection with a 20-meter buffer, and
- avoiding ground disturbing activities at flagged heritage resource sites (EA, Appendix B, p.117).

LRMP standards require that affected lands be inventoried before any ground disturbing activities occur and that activity cease until an archeologist has made an on-site assessment if heritage resources are discovered during project implementation.

The Appellants cite the proximity of state parks and natural areas to the Oriole Project as a reason to consider an EIS. Clearly, where effects to these resources were plausible, the appropriate analysis was done. For example, the Biological Evaluation for Endangered and Threatened Species (BE ET) appraised the impacts to Wyandotte Cave on the Harrison Crawford State Forest. This cave is eight miles from the project area and contains a gray and Indiana bat hibernaculum. The proposed project is not expected to have any impact on the Indiana bats using Wyandotte Cave (BE ET, p. 22). The analysis indicates that no Indiana bats have been hibernating on Hoosier National Forest lands in Crawford or Perry Counties (Ibid, p. 26).

Analysis also shows that mist net surveys for Indiana bat occurred in Perry and Crawford Counties in 2004. Indiana and gray bat capture sites and known Indiana bat roosts in and around the Oriole Project are also shown on Figure 8 of the BE ET (p. 28). A captured female Indiana bat “was tracked using radio telemetry to a maternity site consisting of a primary tree (dead American elm), secondary maternity tree (dead snag, species unknown), and one alternate roost tree (shagbark hickory). These sites are located approximately two miles away from the action area.” (Ibid, p. 27). It is likely the Indiana bat uses the project area for roosting and foraging during the summer months (Ibid, p. 27). “Because the action area may be of limited quality as maternal roosting habitat, the Oriole Restoration Project, is unlikely to adversely affect roosting ... In fact, the proposed uneven-aged harvest and timber stand improvement in hardwoods within the action area may improve roosting habitat quality.” (Ibid, p. 32).

The analysis also discussed in great detail foraging opportunities. It concluded that timber harvest was an appropriate means to improve the foraging habitat of the Indiana bat on the HNF (Ibid, p. 33). LRMP standards and guidelines and project design criteria will provide protection for these species and their habitat. Specific design criteria include protecting potential roost trees and those trees that display roost tree characteristics during implementation. (EA, Appendix B; BE ET, Appendix A; DN – pp. 8, and Project Record – Hardcopy Documents /USDI FWS Correspondence/FWS 1 Aug. 22, 07). The Fish and Wildlife Service (FWS) concurred with the findings in the BE that the project is not likely to jeopardize the continued existence of Indiana bat. (Ibid; DN, p. 8). The FWS concurs that anticipated effects and the resulting level of incidental take are consistent with those analyzed in the programmatic Biological Opinion for the LRMP, HNF 2006.

The EA, LRMP, and documentation in the Project Record provide analysis and substantiation for the ecological benefits of the proposed restoration activities of 190 acres in the barren communities. The purpose and need describe the woodlands barren communities as in danger of being lost due to encroachment by eastern red cedar and other species, and due to the lack of fire (EA, p. 4). The proposal would reduce stand density, allowing light to reach the forest floor. Prescribed burning would then be used to increase vegetative diversity. These actions are consistent with direction in the LRMP and its accompanying analysis in the

FEIS (LRMP FEIS, pp. 3-83; 3-158). As discussed previously, although the Responsible Official clearly identifies the benefits of this action, those benefits do not rise to the level of significance as the Appellants claim (See Sub-Issue 1).

Based on the EA, DN, LRMP, and Project Record, I find unique characteristics in the project area were considered. I concur with the Responsible Official's conclusion that the project will not have a significant impact on these resources. The Appellants' claims are not substantiated.

Sub-Issue 4: Level of Controversy – *“The record indicates that over 100 comments were received, and almost all if not all were opposed to the project. This is enough to make it controversial. In addition, proposing a federal action on private land is potentially controversial.”* (NOA, p. 3).

Response: The Appellants are referring to over 100 individual comments submitted through the Heartwood website to the Forest Service during the initial project scoping (Project Record –Hardcopy Documents /Scoping/ORSCOP 4, 8, 11, 15-22, 24-103). The Appellants improperly assert that public opposition associated with the Oriole Project triggers the need for an EIS. Implementing regulations for NEPA (40 CFR 1508.27) contain significance criteria that must be addressed in order to determine whether a FONSI may be issued. One of these criteria, 1508.27(b) (4), requires consideration of “[t]he degree to which the effects on the human environment are likely to be highly controversial.” The regulation is clear that the controversy involved here concerns the **degree of the effects on the human environment, not public opposition**.

Numerous courts have held that public opposition to a proposal is not “controversy” as it is referred to in Section 1508.27(b) (4). The Ninth Circuit, for example, has held that scientific controversy regarding the degree of environmental effect may not be manufactured by project opponents, that is, “controversy” is not synonymous with public opposition. Northwest Environmental Defense Ctr. V. BPA, 117 F. 3d 1520, 1526 (1997); Greenpeace Action v. Franklin, 14 F3d 1324, 1333-1335 (9th Cir. 1993), see also North Carolina v. FAA, 957 F.2d 1125, 1133 (4th Cir. 1992). The Appellants' view of controversy as public concern regarding the Oriole Project proposal would effectively place the determination of significance in the hands of project opponents, allowing them to “manufacture” a public controversy requiring preparation of an EIS. Thus, for over 30 years, numerous courts have rejected the view exposed by the Appellants here and made it abundantly clear that public opposition does not equate to NEPA “controversy” requiring the preparation of an EIS. Society Hill Towers Owners' Ass'n v. Rendell, 210 F.3d 168, 183 (3rd Cir. 2000), citing Hanly v. Kleindienst, 471 F.2d 823, 830 (2nd Cir. 1972); Fener v. Hunt, 971 F.Supp. 1025, 1033 (W.D. Va 1997) (noting that in the Fourth Circuit opposition is not controversy).

I concur with the Responsible Official's conclusion that the effects of this project are not highly controversial.

Sub-Issue 5: Unique or Unknown Risks – *“It used unknown risks and uncertainty as the reason not to address the impacts of climate change – both the effects of the climate on the forest and the effects of forest management on the climate – during their forest plan process. Now they say that there aren’t any uncertainties or unknown risks. Well, if they now know about the global warming/climate change impacts described above, why don’t they assess them somewhere? In addition, if part of the proposal involves the FS [Forest Service] acting on private land where there isn’t yet permission that provides considerable uncertainty.”* (NOA, p. 4).

Response: As I discussed previously, the EA (pp. iv and 2) for the Oriole Restoration Project is tiered to the analysis of the LRMP. Climate change is addressed in Response to Comments, Appendix J of the FEIS to the LRMP on pages 143-144. The Responsible Official clearly states a need for an adaptive approach to forest management since there is not a reliable way at the current time of predicting effects of climate change (See Sub-Issue 2). Accordingly, the effects of global climate change on the project, and vice versa, cannot be meaningfully incorporated into the project’s analysis given the lack of available site-specific predictive capability and information.

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 Secretary of Agriculture considered the potential effects of global climate change on the condition of the renewable resources on the forests and rangelands of the United States, and analyzed opportunities to mitigate the buildup of atmospheric carbon dioxide and reduce the risk of global climate change in conjunction with the 1990 Resource Planning Act (RPA) Program. There is no requirement for the agency to consider global climate change in a quantitative analysis in every site-specific decision as the Appellants suggest.

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 regularly since at least 1952 (earlier data are not available). Thus, U.S. forests have been a carbon sink, absorbing more carbon than they release.

Second, 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 cellulose ethanol production, such as agricultural crops, may further offset

carbon emissions from fossil fuels. (Interim Update of the 2000 Renewable Resources Planning Act Assessment, pp. 83-85).

Notwithstanding these facts, Chapter 3 of the EA does describe effects of project activities on carbon storage and carbon dioxide (See especially Section 3.1, Air Resources, pp. 16-21). This information was displayed at the discretion of the Responsible Official and contributes to public knowledge of project effects.

The Appellants also claim that project activities on private lands are highly uncertain and will involve unique or unknown risks. The DN (p. 1) states that approximately 140 acres of private land would be prescribed burned. It also states that landowners have the option to participate. Regardless of participation, the prescribed burns on National Forest lands would be implemented with any needed adjustments being made to burn plans (EA, p. 61). The DN (Ibid) states that “once agreements are established, the Forest will complete all surveys on those lands prior to any ground disturbing activity.” The effects of prescribed burning on resources are analyzed in the EA for both National Forest System and private lands. The effects of prescribed fire are discussed in the EA for air resources (pp. 17-19), heritage resources (p. 22), non-native invasive species (NNIS) (p. 25-26), recreation (p. 32), soil and water (p. 42), vegetation (p. 61) and wildlife (pp. 90-92). Accordingly, information was available to the Responsible Official regarding the effects of burning on private lands. Furthermore, frequent, low-intensity fires are characteristic of the historical conditions in the project area (including the private lands to be burned) as discussed in Section 3.7.a.2 of the EA on pages 54-55. The application of prescribed fire on the private lands has historical precedent (as discussed in Section 3.7.a.2) and is not a unique event in southern Indiana.

The Project Record clearly supports the conclusion that this project does not involve effects on the human environment that are highly uncertain or involve unique or unknown risks.

Sub-Issue 6: Precedent for Future Actions - *This is the first “restoration” project under the revised plan, and to that extent, it is precedent setting, and this should be acknowledged.* (NOA, p. 4).

Response: The DN (p. 7) states, “[T]he selected actions are similar to management activities that have been initiated on forested lands in the area previously, and the anticipated effects are reasonably predictable.” The 2005 Monitoring and Evaluation Report documents activities that have occurred during the past 13 years on the Hoosier including timber harvesting, burning and barrens maintenance (Land and Resource Management Plan Monitoring and Evaluation Report Fiscal Years 2004 and 2005, pp. 38-44). The Oriole Project is located in Management Area 2.8, a general forest area (LRMP, p. 3-28) that allows timber harvesting. The LRMP guidance also calls for the restoration of ecosystems to pre-fire suppression condition (LRMP, p. 3-12). The fact this project is proposed under the new LRMP does not constitute the need for an EIS as claimed by the Appellants.

Sub-Issue 7: Cumulatively Significant Impacts – *“There are a number of projects that are currently either authorized or proposed or done in the recent past in the Tell City District. These include the German Ridge project, the Tell City salvage, [and] Goosetown. This involves many thousands of acres of logging and burning, all within the same general vicinity of the Hoosier. To pretend that there won’t be cumulative impacts is pure fantasy. There will be cumulative impacts from fragmentation, runoff, carbon storage and release, recreation, and other factors.”* (NOA, p. 4).

“In addition, what about the cumulative impacts of all of the burning that is proposed not just in the Hoosier plan, but what the Shawnee and LBL plans, which are directly upwind from the Hoosier? This is the real threat to public health and safety, and yet nowhere is the agency trying to assess this significant impact.” (NOA, p. 4).

Response: The Interdisciplinary Team (IDT) undertook an extensive cumulative effects analysis for this project. Cumulative effects were discussed throughout Chapter 3 of the EA and accompanying specialist reports, including: air (EA, p.21), non-native invasive species (EA, pp. 29-31), recreation (EA, p. 33), soil and water (EA, p. 45), transportation (EA, p. 52), vegetation (EA, p. 64), and wildlife (EA, pp. 92-93). Each resource area appropriately bounded the analysis in time and space in accordance with CEQ guidance (*Considering Cumulative Effects Under the National Environmental Policy Act*, Council on Environmental Quality, January 1997). Where appropriate, timber sales such as German Ridge, Tell City Salvage, and Goosetown were considered in the cumulative effects analysis, contrary to the Appellants’ allegation. For example, the Wildlife analysis looked at all three projects and indicated the likelihood of overlapping effects in Table 14 of the Biological Evaluation for Regional Forester Sensitive Species (BE, RFSS, p. 77). An extensive discussion follows on pages 78 – 88 of the same document. This information was summarized in the EA (p. 92). The HNF also analyzed reasonably foreseeable activities on private lands by land use (Ibid, p. 83). Cumulatively, the action alternatives would provide varying degrees of restored native habitat, which would result in a beneficial effect for wildlife species (Ibid, p. 85). Plant species habitat would also be improved over the long term (Ibid, p. 88). Although some individual species of both plants and animals may be affected, the project will not cause a trend toward federal listing or loss of viability (EA, pp. 83-84).

The Appellants attempt to expand the cumulative effect boundaries to include other National Forest System lands (i.e., LBL – Land Between the Lakes) is not justified. The rationale for each cumulative effect analysis boundary was provided in the Project Record. I find the Responsible Official had adequate information on the cumulative effects of this and other surrounding projects to make an informed decision. I find no violation in law, regulation or policy.

Sub-Issue 8: National Register of Historic Places or Significant Scientific, Cultural, or Historical Resources – *“How can the agency be sure that no historical resources will be destroyed or degraded when they admit that they haven’t comprehensively surveyed the entire area? Again, how are wooden resources going to be protected in areas that are to be burnt?”* (NOA, p. 5).

Response: See my response to Sub-Issue 3.

Sub-Issue 9: Endangered or Threatened Species – *“The Tell City district is in the vicinity of the Wyandotte caves and other caves in the system that are full of endangered Indiana bats. So much of the region is being proposed for logging, burning, and roadwork, and there have been no surveys to document the extent that the forest across the region in proximity to these important hibernacula is being used by Indiana bats.”* (NOA, p. 5).

Response: See my response to Sub-Issue 3.

Sub-Issue 10: Environmental Protection Laws – *“There is no doubt that if the agency had put the project in the proper context, and then given a hard look at the significance criteria, balancing all of the criteria honestly, that the record would indicate that this is a major federal action with a potentially significant impact. A Finding of No Significant Impact in this case is not justified by the record and is a violation of NEPA.”* (NOA, pp. 5).

Response: See my response to Sub-Issues 1 through 9.

Summary: I find the Responsible Official correctly followed the NEPA regulations to determine the proper level of analysis required for the Oriole Project. The Oriole Project EA and DN adequately address context (significance of an action) and intensity (severity of impact). This is not a major federal action as the Appellants claim.

Issue 2: FACA Violation/Purpose and Need – Appellants assert, *“Appellants have raised the issue of the fact that the federal court system found that the Hoosier Ecological Assessment, which the Hoosier has relied on heavily for the assumptions used in the “purpose and need” evaluation of this EA, violated the federal advisory committee act.”* (NOA, p. 6).

Response: The Appellants refer to the ruling in *Heartwood, Inc. et al. v. United States Forest Service*, 431 F. Supp. 2d 28, (D.C. Cir. 2006). However, they have mischaracterized the opinion. Judge Robert’s Order found that because the Hoosier-Shawnee Ecological Assessment was subject to the Federal Advisory Committee Act, the drafts of that assessment were not exempt from disclosure under the Freedom of Information Act. The court made no other finding and did not enjoin use of the final assessment. All direction in the court’s order was followed. All draft material in question has been released to the Appellants. The court ruling did not bar or in any way restrict the use of the final assessment. The assessment was 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 (PR, Q-50a). I found no violation of NEPA or the court ruling as the Appellants claim.

Issue 3: Using the 2000 Regulations and the Interpretive Rule – Appellants state, “*The only requirement which this regulation [Interpretive Rule]...is that the agency use the “best available science.” “...There is no guidance in any of the FS regulations as to how the agency is to make the determination whether or not the best available science is being used. We believe that this whole planning regulatory scheme is flawed and the agency is playing loose and fast with the law in authorizing such a major project.”* (NOA, p. 7).

Response: The 2004 Interpretive Rule states, “Projects implementing land management plans and plan amendments...must be developed considering the best available science in accordance with 219.36 (a) ... and must be consistent with the provisions of the governing plan.” (Appendix B to §219.35). In plain language, the Interpretive Rule states that projects proposed and carried out must be consistent with the LRMP and show consideration of “best available science.”

The Appellants first raise the issue that the Interpretive Rule of September 29, 2004 is “flawed”. The process used for the development and promulgation of the Interpretive Rule is beyond the scope of the Oriole Restoration Project. The “Proposed Action” for the Oriole Restoration Project is described in Section 1.3 of the EA (pp. 3-5), and the “Decision to be Made” is described in Section 1.4 (EA, p. 5). The decision regards site-specific project activities and does not involve the development and promulgation of the Interpretive Rule.

The Appellants further claim there is insufficient guidance as to how to make the determination whether the best available science is being used. On the contrary, Forest Service Handbook (FSH) 1901.12.41 contains this direction. Specific criteria are listed under the format of questions including:

- Is the correct scientific information taken into account?
- Is the scientific information reasonably interpreted and applied and accurately presented?
- Are the uncertainties associated with the relevant scientific information acknowledged and documented?
- Are the relevant management implications noted, evaluated, and documented (including associated risks and uncertainties)?

Likewise, the Chief of the Forest Service, in a letter dated May 2, 2007, established recommendations for documenting consideration of best available science in planning and project level environmental analyses:

- The NEPA document should identify methods used, reference scientific sources relied on, discuss responsible opposing views, and disclose incomplete or unavailable information, scientific uncertainty, and risk.
- The Project Record should reference all scientific information considered: papers, reports, literature reviews, review citations, peer reviews, science consistency reviews, results of ground-based observations, etc. Specialists’ reports should include a discussion substantiating that consideration of the aforementioned material was a consideration of the best available science.

- The Responsible Official should include a statement in the Record of Decision, DN or Decision Memo showing consideration of the best available science as the basis for the decision.

I find no violation in law, regulation or policy related to the Interpretive Rule or the standard of “best available science” as the Appellants claim. In fact, my review of the Oriole Project Record confirms that “best available science” was used in the analysis as is stated on page 5 of the DN (See my response to Issue 7). The Appellants’ allegations are not substantiated.

Issue 4: MIS [Management Indicator Species] – Appellants allege, “*We do not believe that the meager list of MIS constitutes the best available science, and we don’t believe that it complies with NFMA [National Forest Management Act].*” (NOA, p. 7).

- “*In addition, although the Forest Service has had actual monitoring done of birds in south Indiana, but none of that seems to be on the record. Instead of actual in the field monitoring reports, the agency relies on habitat estimates. Unfortunately the habitat estimates aren’t backed up by any hard data, and therefore cannot constitute the best available science.*” (NOA, p. 7).
- “*Part of assessing the impact of a project on MIS is thru monitoring that not only establishes what species are using the area during various times of the year, but also determines the characteristics and number of territories. This information is missing from the EA.*” (NOA, p. 7).

Response: The NFMA implementing regulations used for Plan revision do not prescribe a specific number or types of MIS. Although guidance to consider specific species groups is provided in 36 CFR 219.19(a)(1), there is no requirement that an MIS from each category be included (FEIS Appendix G, I-76 - I-77). The HNF openly disclosed the process by which it selected MIS and indicated why they thought their selections met the needs of the LRMP. (FEIS, pp. 3-84 thru 3-88, and Appendix G, I-76 - I-77, and Appendix C, pp. C-5 – C-7).

The NFMA directs the Forest Service to select and track species that are of special interest or indicative of management trends. Forests select MIS because they are likely to provide information on the effects of management activities. Established breeding bird survey routes and data collected since 1991 was relied on for the selection of bird species as MIS on the HNF (Ibid).

The FEIS and LRMP clearly describe their selection process and evaluation criteria stating that over 31 species were evaluated. The Hoosier selected five species as MIS to cover the range of habitats found on the Forest. The selection of the five species also responded to the issues associated with the LRMP (FEIS, Appendix G, I-76 - I-77). As a result of that process, Acadian flycatcher, American woodcock, Louisiana waterthrush, wood thrush, and yellow-breasted chat were chosen as MIS. Acadian flycatcher, wood thrush, and yellow-breasted chat occur in the project area. There are no occurrences of Louisiana waterthrush or the American woodcock in the project area (EA, p. 80).

The LRMP, Chapter 4, Monitoring, Evaluation and Research (pp. 4-6) outlines the need to monitor population levels of MIS at five year intervals, but does not require monitoring at the site-specific project level. Monitoring of MIS, as well as breeding birds known to occur on the HNF, has been ongoing since 1991 (totaling six years of data) (LRMP Monitoring and Evaluation Report Fiscal Years 2004 and 2005, pp. 38-44). Point counts conducted during this period have documented as many as 82 breeding bird species at one site, with some sites ranging from 42- 53 species. This ongoing monitoring has enabled the HNF to detect population trends of forest birds that are MIS, RFSS, and other selected forest species.

Federally endangered and threatened species, RFSS, State of Indiana endangered species, MIS, Hoosier rare plants, and Breeding Bird Surveys were reviewed to determine which species were likely to occur in the project area (EA, p 69, BE ET, BE RFSS, and Report for the Oriole Restoration Project Environmental Assessment Effects to Wildlife –Electronic Files/Oriole Restoration/specialist_reports/ 2007e_Wildlife).

My review finds that the IDT adequately addressed and analyzed the effects of the project on threatened and endangered species, MIS, RFSS, and aquatic species. I find adequate data, including survey information, to support the analysis in both the LRMP and Oriole Project proposal. The Responsible Official was able to make an informed decision regarding this project. The Appellants' claims are not substantiated.

Issue 5: Climate Change – Appellants assert, *“At the plan level, the agency said that it wasn’t an issue [carbon loss from burning] to be considered in a plan, yet now there is some discussion. But where is the cumulative impact analysis? That should have come in the plan EIS, but it wasn’t.”* (NOA, p. 7).

- *“Besides that, there is science that indicates that there is a loss of carbon storage from a deciduous forest when there is even selective logging, and that the carbon balance does not bounce right back. When you add in the carbon loss from burning, this is significant.”* (NOA, p. 7).
- *“But a bigger omission in the EA is the failure to discuss the impact of the documented climate change on the forest ecology. There is scientific evidence that there [are] effects on the ecology of our region already from climate change, and if trends continue, the impacts will become much more severe. This could impact factors such as maple development, oak reproduction, drought, species range expansion and loss. These impacts need to be considered.”* (NOA, p. 7).

Response: See my response to Issue 1, Sub-Issue 5.

Issue 6: Historic Preservation Act – Appellants state, *“On the Shawnee, they are going through a process of repromulgating an agreement with the SHPO and the Advisory Council on Historic Preservation to address this issue, because the forest had been operating for two*

decades with an agreement that had not been approved by the Advisory Council. The same error is likely present on the Hoosier.” (NOA, p. 8).

Response: This issue was not raised during scoping or the 30-day comment period. The HNF has no programmatic agreement with the Indiana SHPO regarding compliance with the National Historic Preservation Act of 1966, as amended (16 U.S.C. § 470f) and 36 CFR Part 800. Consultation occurs with the SHPO on a case-by-case basis. Developing a programmatic agreement is an optional way for a federal agency to implement Section 106 of the Act. Notwithstanding, the HNF archaeologist did consult with the Indiana State Historic Preservation Officer, who concurred with the findings in the EA (Hard Copy File, Archeology References/ ARCREF 1). The Appellants’ claim is not substantiated.

Issue 7: Burning and Oak Regeneration Science – 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. Therefore, the agency didn’t use the best available science.” [Research by Brose and Van Lear] (NOA, p. 7).

- *“In addition there is no explanation or analysis of whether or not managing to force a higher component of oak -hickory than might be expected in this area of the Hoosier is actually going against the natural successional patterns of the Hoosier, which is in the center of the transitional zone between the true mixed mesophytic and oak forests.”* (NOA, p. 8).
- *“In addition ... preliminary results from plots in Shawnee 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 NF 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. 8).
- *“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, p. 8).

Response: The 2000 Planning Rule and the Interpretative Rule of September 29, 2004 require the use of best available science in making a decision. The Project Record must demonstrate a thorough review of relevant scientific information, consideration of opposing views, and where appropriate, the acknowledgement of incomplete or unavailable information, scientific uncertainty, and risk.

The DN (p. 1) lists restoration of “dry hardwood forest ecosystems that have been degraded by a lack of fire and limited oak-hickory regeneration” as part of the purpose and need for the project. The historical occurrence of fire and its relationship to oak-hickory forests in southern Indiana is documented in the EA (pp. 54-55) and supporting references (Olson 1996, Guyette et al. 2003, Parker and Ruffner 2004). Olson (1996) reviews research describing the fire regime and fire-dependent ecosystems in the central hardwood forests (Midwestern area of the United States). Olson points out that “the vegetation of the Midwest, including all of the organisms comprising its woodland systems, has evolved under a regime of frequent low-intensity fires since the glacial period.” These frequent, low intensity fires were started by lightning, by Native Americans and later by early European settlers. Olson also lists historical documentation of fires occurring in the area that is now the HNF. Guyette et al. (2003) sampled post oak tree rings (*Quercus stellata*) in southern Indiana and found an average fire return interval of 8.4 years. These studies indicate evidence that oak-hickory forests and frequent low intensity fires were present within the HNF before the current era of fire suppression and decreased timber harvest.

The EA states (p. 57) that drier portions of the project area are appropriate for restoration of oak-hickory forest and oak barrens, while mesic portions of the project area containing hardwoods, such as American beech (*Fagus grandifolia*) and sugar maple (*Acer saccharum*), are not. Accordingly, the Project Record clearly shows that areas chosen for restoration of oak-hickory forest have favorable site-specific conditions for restoration. The FEIS to the LRMP describes fire history (pp. 3-165 to 3-166) and plant community types (pp. 3-166 to 3-167). The presence of both mixed mesophytic forest and oak-hickory forest is noted, with mixed mesophytic forest predominating on mesic sites and oak-hickory forest and barrens predominating on drier sites being maintained through prescribed fire. Therefore, the sites chosen for restoration of oak-hickory forests are appropriate for achieving the purpose and need listed on page 2 of the EA.

There is scientific research that indicates prescribed fire can improve oak regeneration. Parker and Ruffner (2004) review research that multiple prescribed burns conducted following a shelterwood harvest was effective in reducing tulip poplar regeneration and increasing advanced oak regeneration.

Not all scientific studies on the relationship between oak regeneration and prescribed fire arrive at the same conclusion. For example, the Appellants cite a study in southwestern Wisconsin by Johnson (1974, p. 3) that “a single, low-intensity spring fire may do more harm than good to (red oak) seedlings.” (The Johnson study (1974) was submitted by the Appellants as an attachment to the appeal, after the decision on the Oriole Restoration Project.) 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 EA (p. 61) states:

“Burning to regenerate oak-hickory forest needs to be an adaptive technique. Evaluation of areas following burning would determine if fire has allowed advanced oak-hickory regeneration to develop. Advanced regeneration has a basal stem diameter large enough to compete with faster growing species. On the

Hoosier, this is greater than 0.5 inches in diameter. Seedlings should also be at least 24 inches tall. These larger seedlings can take multiple burns to develop; up to three burns are considered.”

The Responsible Official recognizes (EA, p. 61) that several burns will be more effective as suggested by Parker and Ruffner (2004), as opposed to the single burn studied by Johnson (1974). The EA (Ibid) also acknowledges there is incomplete knowledge as to what the effects of the prescribed burns will be and thus an “adaptive technique” is needed. The need for an adaptive technique is also discussed in the document *Adaptive Management for Midstory Control* located in the Project Record (Electronic File, oriole_restoration/Adaptive Management for Midstory Control.doc).

While there is scientific evidence that the practice of prescribed burning can enhance oak regeneration, it is nonetheless true that uncertainty exists regarding the outcome depending on site-specific conditions. The statement on page 61 of the EA takes this reality into account. The 2000 Planning Rule allows for the acknowledgement of scientific uncertainty and risk.

The Appellants also raise the concern that the root collar location and diameter of regenerating seedlings was not considered. This was discussed on page 61 of the EA where it is acknowledged that oak seedlings that are likely to compete with faster growing mesic hardwoods should be “at least 24 inches tall” and the diameter should be at least 0.5 inches. Page 14 of the *Report for the Oriole Restoration Project Environmental Assessment: Effects to Vegetation*, data collection on understory vegetation states:

“In the summers of 2005 and 2006, the project area was inventoried utilizing protocols developed in the Hoosier National Forest’s Common Stand Exam Protocols version 1.1. The overstory forest was inventoried utilizing a 10 BAF prism variable radius plot in hardwoods and a 20 BAF prism plot in pine. Understory conditions were tallied at the same time by noting the trees in these plots that were greater than one foot tall. These seedlings were counted in a 1/750th acre plot. All of this data was uploaded into the FsVeg database and stand tables were produced. The information on these tables in conjunction with field visits allowed the existing condition data and treatment proposals to be developed for the vegetation resource.” (Electronic File, oriole_restoration/spcl_rprts /2007b_vegetation.doc, p. 14).

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. Given the adaptive management approach listed on page 61 of the EA, the scientific research used to support the decision for prescribed burning as discussed above, and the data collected as explained on page 14 of the *Effects to Vegetation* report, sufficient data and science was collected and used to meet the best available science standard in the 2000 Planning Rule and the Interpretative Rule. The Appellants’ claims are not supported by my review of the Project Record.

Issue 8: Reliance On Interim Air Quality Policy Ill Advised - Appellants claim, "... [T]he policy [EPA's "INTERIM AIR QUALITY POLICY ON WILDLAND AND PRESCRIBED FIRES," April 23, 1998]... 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." There is mention of increased burning in the Southeast also, and combined, these form the basis of the need for the interim policy at the time. However, it was never intended for unnatural applications of fire in the moist Ohio Valley forests." (NOA, p. 9).

- "A burn where public concern has been expressed triggers the preparation of a smoke management plan. There is no indication that a smoke management plan has been prepared for this burn." (NOA, p. 9).

Response: This is an issue that was not raised during scoping or the public comment period. Laws governing air quality are listed in the specialist report for air quality on page 12. Effects to air quality are addressed in the EA on pages 16-21. Direct and cumulative effects are described. Current airsheds are within EPA attainment standards (FEIS LRMP, p. 3-71). Emissions modeling was completed for prescribed burning for particulate matter, carbon dioxide, methane, and nitrogen oxide. Particulate matter additions due to road construction and logging operations were also addressed. The actions in the selected alternative would not have appreciable effects. (EA, p. 20) 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 this EA or in my review.

Before implementing any prescribed burning, the preparation of a prescribed fire burn plan is required by policy. This burn plan includes measures to minimize and manage smoke (LRMP, p. 3-72).

I find no violation in law, regulation or policy as the Appellants allude.

Issue 9: Cumulative Impacts to Air - Appellants assert, "... [T]here 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 Indiana. That would include burning being done by the Forest Service across the entire region." (NOA, p.10).

Response: Cumulative effects to air quality are addressed in the EA on page 21 and within the specialist report (Electronic File, oriole_restoration/specist-rprts/20071_air.doc). Crawford and Perry Counties were selected for the analysis area since they reflect the U.S. Environmental Protection Agency's designation of attainment airsheds. The current airsheds are within EPA attainment standards (FEIS LRMP, 3-71). Emission modeling was completed for prescribed burning for particulate matter, carbon dioxide, methane, and nitrogen oxide. Smoke generated by other agencies was considered. Annual emissions in tons per year, including smoke from wildfires and prescribe fires generated within the cumulative effects analysis area on private, state, and federal lands, were evaluated. The Oriole Project would not have an appreciable effect on air quality (EA, p. 20). The project is consistent with the Clean Air Act, the Indiana Open

Burning Law (326 IAC 4-1-0.5), and National Ambient Air Quality Standards (Electronic File, oriole_restoration/spcist-rprts/2007l_air.doc, p. 12). Again, the Appellants attempt to expand the cumulative effects analysis area to cover the “entire region” (e.g., southern Indiana) is not justified by the rationale provided in the Project Record. In my review of the Record, I find that cumulative effects to air quality were adequately analyzed and disclosed.

Issue 10: Economic Analysis – Appellants contend, “*Appellants challenge the economic analysis presented in the EA. We don’t believe the timber is properly valued, and there are inaccurate or absent values for “non-cash” benefits of the standing forest prior to management. In order to have a proper economic analysis, one would have to consider, for example, climate change, the current economic turmoil, the falling dollar, as well as the more traditional “non-cash” benefits from the forest, such as recreation, watershed-protection, scenic beauty, habitat - none of which are properly valued by the EA. NEPA and NFMA require an accurate economic analysis, and this analysis does not comply.*” (NOA, p. 10).

Response: The NFMA, Forest Rangeland Renewable Resources Planning Act, and the NEPA do not mandate any particular economic analysis techniques. “For purposes of complying with the NEPA, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations” (40 CFR 1502.23). Forest Service internal policy and guidance manuals provide direction on economic analysis. The Forest Service Manual (FSM) states, “An economic efficiency analysis is not required, but may provide important information to the decision process particularly where the sale is designed primarily to achieve forest stewardship objectives or where effects on non-market costs and benefits are substantial” (FSM 2432.04). Additionally, the Manual states, “The responsible line officer determines the scope, appropriate level, and complexity of economic and social analysis needed” (FSM 1970.6). The Responsible Official clearly has considerable discretion in determining the appropriate level and type of economic analysis required for the project decision.

An economic efficiency analysis compares estimated Forest Service direct expenditures with estimated financial revenues collected from the sale of forest products (EA, p. 93). This analysis includes costs associated with proposed alternatives and estimates of revenues associated with timber production. The discussion in the EA acknowledges that there are goods and services not priced in the market (i.e., qualitative values such as hunting or a walk in the woods), which are not presented in the cash flow analysis. The Record also shows there was considerable consideration of potential effects to the soil and water resources (EA, pp. 33-47). Likewise, the Responsible Official qualitatively considered other values such as recreation (EA, pp. 31-33). In making his decision, the Responsible Official considered the potential for local economic benefit from the harvest and wood processing operations, but noted they were not as important as other factors (DN, pp. 4-6, 10).

To the extent that NEPA requires a type of economic analysis, the Forest Service included one in the EA. I find the Responsible Official did the appropriate level of economic analysis for this project. The Appellants’ claims are not substantiated.

Issue 11: Optimality of Clearcutting Analysis Inadequate – Appellants state, “... [T]he optimality finding in the Decision basically only says that it is optimum, but provides no evidence or explanation as to how or why this is the case. This is not a rational explanation that meets the requirements of the administrative procedures act. The same is true of the “appropriateness” analysis done for the other “even aged” logging.” (NOA, p. 10).

Response: The NFMA requires clearcutting and other forms of even-aged management to:

- 1) meet the objectives of the LRMP,
- 2) have an interdisciplinary review,
- 3) be shaped and blended to address esthetic concerns,
- 4) be within the maximum size limit established for that geographic region, and
- 5) protect other resources such as water and wildlife.

The decision rationale for determining that clearcutting and even-aged management is optimum and appropriate for meeting restoration objectives is summarized in the DN on page 10. The vegetation effects specialist report and the vegetation section in the EA address the need for creating disturbance and openings to achieve LRMP objectives for age class and species diversity. The documents also clearly show that a certified silviculturist visited the sale area and made the determination of the harvest method based on site-specific conditions. The specialist report states:

“During the summers of 2005 and 2006, the project area was inventoried utilizing the Hoosier National Forest’s Common Stand Exam Protocols, version 1.1. The overstory forest was inventoried utilizing a 10 BAF prism variable radius plot in hardwoods and a 20 BAF prism plot in pine. Understory conditions were tallied at the same time by noting the trees in these plots that were greater than one foot tall. These seedlings were counted in a 1/750th acre plot. All of this data was uploaded into the FsVeg database and stand tables were produced. The information on these tables in conjunction with field visits allowed the existing condition data and treatment proposals to be developed for the vegetation resource. (Electronic File, oriole_restoration/spcl_rprts /2007b_vegetation.doc, p. 14).

The IDT addressed the silvicultural treatments throughout the analysis. The visual effects of harvesting and burning were addressed in the EA on pages 31-33. The Vegetation Spreadsheet in the Project Record (Hardcopy Documents/Vegetation /V-1) summarizes proposed treatments for each stand with associated acre limitations. Effects to other resources resulting from even-aged management are addressed throughout the EA. The Responsible Official found the project was consistent with the LRMP (DN, p. 9). In my review of the Record, the needs for clearcutting and even-aged management are reasonable and justified as being both optimal and appropriate for meeting the restoration objectives for the Oriole Project.

Recommendation

My recommendation is based on an extensive review of the Project Record. An IDT used a systematic approach to provide a professional analysis of all relevant impacts of the Oriole Restoration Project and summarized these effects in the EA. The Responsible Official considered these effects in making the decision to implement Alternative E with modifications. Considering each issue raised by the Appellants, I am recommending that the Appeal Deciding Officer affirm Forest Supervisor Kenneth Day's Decision Notice and Finding of No Significant Impact of November 30, 2007.

/s/ Anthony E. Erba
ANTHONY E. ERBA
Appeal Reviewing Officer
Deputy Forest Supervisor

cc: Patricia R Rowell