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File Code: 1950
Date: August 5, 2021

Steve Keltner
[redacted]

Re: Robert's Gap Project - Objection No. 21-08-10-12-218

Dear Mr. Keltner:

This letter is in response to the three eligible objections submitted to the Robert's Gap Project located on the Big Piney Ranger District of the Ozark-St. Francis National Forests. I have read these objections, reviewed supporting documentation and analysis in the project record including the Draft Decision Notice and the Environmental Assessment (EA), reviewed comments submitted during the public comment and scoping period, and considered any clarifications on these objections provided during the objection resolution meeting held on July 27, 2021, which was attended by the three objectors. In addition, an interdisciplinary team was assigned to review the same. My written response is based upon my review of the above along with the findings of the review team. This review was conducted in accordance with 36 CFR 218 Subparts A and B. The objection issues have been summarized and consolidated, as applicable, and listed below along with my responses.

OBJECTION ISSUE REVIEW

Topic: Water Quality

Issue 1: *40 plus miles of roads and massive thinning and poisoning and burning in these headwaters will alter river sediment levels and water quality of these rivers. (Morgan)*
Issue 2: *We are concerned about the cumulative impacts of these practices and their impacts not only within the project area but downstream on the water quality of the Buffalo National River. (Watkins)*
Issue 3: *This is a 60-square mile project of nearly 40K acres of the headwaters of three of the most important rivers in the state, including the Buffalo national river, visited by 1.6 million people annually. (Morgan)*

Response

Analysis: While active management activities can contribute to environmental impacts, a number of protective measures, best management practices (BMPs), design criteria, and monitoring efforts are required by the Ozark-St. Francis National Forests Revised Land and Resource Management Plan, as Amended (2020) (Forest Plan) (EA Chap II. D-G).

Changes in land use and other disturbances can be modeled with respect to estimated increases in sediment. The Water Resource Analysis for Cumulative Effects (WRACE) model estimates current conditions and the effects of various management alternatives. Past actions have demonstrated that approved activities will be spread out over many years. All treatments are not implemented in the same time or place. Therefore, impacts from the different activities are not expected to compound the effects of the activities individually.

However, the WRACE model assumes that all activities occur simultaneously. This represents a worst-case scenario. Even under this scenario, the WRACE model indicates that the modest increases in sediment still pose a low risk of impacts to downstream sedimentation. Additionally, studies and experience demonstrate that increases in sedimentation due to forest practices diminish rapidly and return to pre-treatment levels within three years (Van Lear et al., 1985). The potential cumulative effects of management activities are disclosed in Chapter III, Cumulative Effects.

In addition, proposed actions include maintaining, closing, and decommissioning roads (EA Chap II, Page 16) which will improve environmental conditions and offset new road construction.

As far as effects on headwaters, sediment movement is lowest in the headwaters. The ability to transport sediment is generally highest in mid-reaches where moderate slopes compound with continuous, moderate discharges to move the most sediment.
With implementation of the prescribed BMPs at all positions on the landscape, the analysis can confidently predict minimum impacts to downstream systems

Conclusion: The Environmental Analysis, along with the threatened and endangered species report and WRACE modeling in the project record, adequately considers the effects to water quality from sedimentation that may result from the proposed activities. Effects of herbicides on water quality will be covered in the herbicide issue topic. The effects of increased sedimentation to bats and their food sources will be covered in the bat issue topic.

Topic: Herbicides

> ***Issue 4:*** *Herbicide usage should be eliminated altogether from this project. (Watkins) These chemicals are dangerous and should be phased out completely. (Keltner)*

Response

Analysis: Herbicide use is addressed in both the "Vegetation Analysis" and "Human Health & Safety Effects" of the EA. The human health and safety report clearly summarizes all the herbicides used in this EA and reference where more specific details can be found in the Forest Service's Human Health and Ecological Risk Assessment (EA, page III-20). Documents also emphasize target spraying and avoiding the use of aerial applications.

The proposed action is limited to federally approved herbicides applied according to label directions. Minimum effective doses will be used throughout the project area. In addition,

Alternative 3, as selected, will reduce herbicide use by 58% when compared to the Proposed Action.
Relying solely on manual and mechanical treatments would reduce success in establishing oak and shortleaf regeneration due to increased competition with species, such as red maple, that sprout prolifically when cut. Manual and mechanical treatments can create an appropriate light environment to favor oak regeneration, but this effect would be shorter-lived than herbicide treatments because many midstory trees would sprout back quickly and out-compete the existing oak regeneration in the stand. This would create a need for repeated, costly treatments, and could limit the number of acres that are treated effectively (EA Chapter III-18).

As Agency policy, Forest Service personnel receive certifications as applicators to implement herbicide treatment on the Forest. In addition, a Pesticide Use Proposal is required per project to identify locations, usage rates, target species, and site-specific mitigations. Forest Service personnel will oversee contract administration of herbicide applications to ensure label requirements are being met. While it is true that herbicides may pose a hazard, the risk of exposure is very low when applied appropriately, and even much lower when treating in forested areas where treatments are species targeted and existing vegetation, organic matter, and sunlight help breakdown herbicide residue, reducing concerns of runoff.

None of the proposed herbicides are persistent in the environment or in the human body. The herbicides proposed do not bio-accumulate in animal tissues, so there is no risk to humans by eating animals that have come into contact with the vegetation on which herbicides were applied (EA Chapter III, Page 28)
Because karst sites provide rapid transport of groundwater with minimal filtration, design criteria for herbicides call for buffers around karst features. This includes the stipulation that the handling and mixing of concentrated active chemicals will occur outside of karst sites.
Effects of herbicides on aquatic biota are also analyzed in the threatened and endangered species report for the Robert's Gap Project. The analysis concludes that the BMPs and spill plan should minimize any effects on aquatic biota. Glyphosate and Triclopyr are specifically discussed along with the other herbicides.

Regarding the use of Glyphosate in particular, the USDA's position on Glyphosate, dated August 13, 2018, states the following:

> The EPA registration review of glyphosate was initiated in 2009 (Regulations.gov Docket ID EPA-HQ-OPP-2009-0361). EPA released its assessment of the carcinogenic potential of glyphosate in a September 2016 Issue Paper, which concluded that glyphosate is "not likely to be carcinogenic to humans." EPA convened an FIFRA Scientific Advisory Panel (SAP) to evaluate the carcinogenic potential of glyphosate on December 13-16, 2016. USDA provided public comment at the SAP strongly agreeing with EPA's conclusions and expressing support for EPA's underlying weight-of-evidence analysis. EPA subsequently released the draft human health and ecological risk assessments for glyphosate on February 28, 2018 including an updated cancer risk assessment for public comment. The agency again concluded that glyphosate is not likely to be carcinogenic to humans. In addition, the agency found no other meaningful risks to human health when glyphosate is used according to label instructions.

Several years of monitoring data on the Ozark-St. Francis National Forests have found that there are sometimes very small detections of herbicides when monitoring the streams that run through or adjacent to treated areas. However, those detections are always well below any EPA levels of concern.

Conclusion: The Environmental Analysis, along with the threatened and endangered species report, human health and safety report, the Forest Service Risk Assessment, and Forest Service Policy, adequately addresses the effects that may result from the use of herbicides. The effects of herbicide use to bats and their food sources will be covered in the bat issue topic.

> ***Issue 5:*** *On April 29, 2021 the 9th Circuit Court of Appeals ruled that the EPA must take steps that will likely force Triclopyr/chlorpyrifos off the market due to safety concerns. (Watkins)*

Response

Analysis: Triclopyr, the herbicide we are proposing to use, is not referenced in the 9th circuit court's decision. The decision affects chlorpyrifos (an insecticide used on crops), and reports are not saying a complete ban quite yet, but some modifications to the accepted tolerance in foods. Even so, the Robert's Gap Project is not proposing to use chlorpyrifos in any of the alternatives. Also, triclopyr and chlorpyrifos are not in the same family of chemicals. (see https://cen.acs org/environment/pesticides/Times-chlorpyrifos-food-US/99/web/2021/04 and https://cdn.ca9.uscourts.gov/datastore/opinions/2021/04/29/19-71979 pdf)

Conclusion: Not applicable to the Robert's Gap Project.

Topic: Forest Vegetation Management

> ***Issue 6:*** *I want to object to the projects effectively limiting the development of old growth conditions. (Keltner)*

> ***Issue 7:*** *Please find ways to restrict the logging and preserve this exceptional forest. (Keltner)*

Response

Analysis: The presence of old growth was addressed in the Environmental Analysis (EA, page III-14-15). While this EA has more stands over age 70 than recent projects, the EA further cites definition of old growth as described in the Forest Plan and Region 8 Old Growth Report with several additional characteristics such as having multilayer structure, lack of recent management disturbance, and exhibiting old growth conditions (1997). Parker (1989) suggests that old-growth structure in the central hardwood region overall should develop by the time the canopy reaches 150 – 200 years.

Region 8 guidance for old growth suggests that for a stand to be considered as existing old growth, no obvious evidence of past human disturbance which conflicts with the old-growth characteristics of the area should be present. The definition allows for management activities to have taken place, including limited tree cutting, midstory treatments, and prescribed fire, as long as they don't interfere with overall old-growth characteristics.

There are characteristics of this project area that would appear undisturbed. However, the area is considered to be second growth forest with remnants of cut stumps and old logging roads still present.

The project area was analyzed to determine that 35 percent of the Forest Service land within this project area is "potential old growth" and falls into land classes that are "unsuitable for timber production". The timber harvest, in the selected Alternative 3, is all located outside of this existing 35 percent and only accounts for 25 percent of the project area (EA, page II-19).

The EA addresses the need for logging to reduce overstocked stands and improve forest health (EA, page I-4) Such treatments are needed to sustain the species composition and improve the structure of the forest for future generations to appreciate, in what could very well one day also be considered old growth forest. Trees selected for removal in thinning treatments would primarily be those that were damaged, diseased, suppressed and poorly formed (EA, page II-3). The regeneration method included within this project for hardwood stands is the shelterwood with reserves method, not the clearcut method. Healthy trees will be retained in this treatment that exhibit potential old growth characteristics and will provide essential habitat for bats and other species that utilize open forest habitats.

The species underneath these hardwood systems are also shifting away from shade intermediate oak forest to more shade tolerant species like red maple, black gum, and eastern hophornbeam (EA, page III-14). The EA cites research conducted by The Nature Conservancy across the Ozark-St. Francis National Forests that documents this shift in species composition (Zollner and Fowler, 2010).

Managing this area ensures the sustainability of the oak-hickory forest by reducing overstocked canopies that overly shade the forest floor. This increases sunlight back into a system composed of shade-intermediate species dependent on that increased level of light. Disturbance is not necessarily negative. Many native forest ecosystems have historically been dependent on disturbances of all forms, including different levels of canopy, ground layer, and soil disturbance, as well as intervals of fire occurrence.

"Natural" processes are not static. Forested landscapes are renewed through natural processes including fire, insect, disease, windstorms, etc., sometimes with significant and far-reaching impacts. The Forest Service seeks to replicate the beneficial aspects of these natural phenomena through active management while reducing the scope and scale of the detrimental impacts. This information is disclosed in the EA Chapter I. B.

Conclusion: The Environmental Analysis and project record adequately considers the effects of active management on forest health and structure.

Topic: Bats

> ***Issue 8:*** *We previously commented on the threats to bats posed by the cumulative impacts the various proposed practices, such as timber harvesting, prescribed burning and herbicide usage will have on bat food sources, especially the highly sensitive macroinvertebrates that sustain their diet. (Watkins)*

Issue 9: *Herbicides and burning are a two pronged attack on these highly sensitive species. (Watkins)*

Response

Analysis: In the context of the objection comments, the primary stated concern is that sediment and herbicides would reduce macroinvertebrates in streams, which would reduce bat foraging opportunities. On this issue, the project record discloses the potential effects to streams and aquatic species, including macroinvertebrates, which provides the foundation for determining the potential effects to bats foraging on aquatic insects. The effects of the project to the aquatic ecosystem are disclosed in the "Fisheries Report, " which addresses the effects of silvicultural use of herbicides. The report cites a study by Alan Clingenpeel from the Ouachita National Forest that found that in water quality samples that tested positive for herbicide presence, levels were below the threshold of toxicity for fish.

The "Water Quality" analysis in the project record has a detailed assessment of the risk to streams from increased sedimentation and herbicide. The Water Quality analysis includes references on sediment risks from silvicultural, prescribed fire, road activities and herbicide application. The Water Quality section includes a literature review of the potential contamination of streams and discusses past monitoring on the Forests that found that, although low levels of herbicide contamination of streams were found in some cases, the levels found were below the level of concern established by the EPA and were more typically not present in measurable levels. The report concludes that, "implementation of the activities associated with the proposed action and alternatives 2 and 3 would result in some… effects to water quantity and quality; these effects have been shown from past research to be minimal and last less than three years (Van Lear et al., 1985). The most likely effects from the proposed action and alternatives 2 and 3, beyond current conditions, are a short-term increase in sediment resulting mainly from road activities and minimal increases in water production."

The Wildlife threatened and endangered species report includes prior bat effects analysis by reference from the analyses conducted for the Fuels Management Project. The Fuels Management Project Biological Evaluation (BE) states that sedimentation in streams does have the potential to effect gray bat foraging, but determines that the effects of the project are not likely to adversely affect the species due to the limited sediment effects after applying BMPs including required stream buffers. The Fuels Management Project BE also cites a review of prescribed fire effects: "During best management practice reviews on the Forest from 2006 – 2011, we looked at 29 prescribed burned areas On all of the burned areas, we observed an adequate duff layer and surface root mat, substantial re-vegetation of the areas after the burns, and no erosion was observed within the burned areas. The districts did a good job of using existing roads, trails, and streams as fire lines where it was possible".

As a result of this analysis, it is reasonable to conclude that the effects to macroinvertebrates from the proposed action will be limited in scope. At most, the sediment or herbicide effects of the Robert's Gap Project could affect macroinvertebrates within a short stream reach of the project area as any limited contamination would attenuate substantially downstream. Because sediment effects or herbicide effects are expected to be limited duration and limited scale, the aquatic ecosystem would be expected to rebound quickly from any limited effects.

Gray bats have been found to forage on average home ranges of 60 to 360 square kilometers focusing on large rivers, ponds, and streams (Moore et al., 2017). The scale of the potential

effects of the Robert's Gap Project on aquatic invertebrates would be on a much smaller scale than Gray bat foraging occurs and, as a result, overall effects on foraging ability of gray bats would be negligible. Indiana bats in eastern Missouri were found to forage mostly on hillsides and ridges (LaVall, 1977), so minimal potential effects to macroinvertebrates would not be expected to substantially affect this species' foraging habits.
As discussed in the Forest Plan, there are some direct risks to forest dwelling bats from forest activities, but prescribed fire and thinning of trees is expected to be largely beneficial to the foraging habitat, particularly for Indiana bat.
Regarding competition between species, these species have coexisted in forested habitats and utilize different foraging strategies to reduce inter-species competition. Gray bats forage over broad areas, typically over water (Moore et al., 2017). Indiana bats in upland forested areas typically forage along edge habitats and in and above the canopy in dense forested stands. Northern long-eared bats forage under the canopy along streams and trails in stands with dense mid-story or throughout the mid-story of stands with more open mid-story areas created by mid-story thinning or repeat prescribed fire. The partitioning of habitats reduces competition among these species. Because the forest management would benefit Indiana bat foraging and would not substantially affect Gray bat foraging, increase in foraging competition would not be expected.

Human disturbance to bat roost trees and caves is identified as a potential threat. The 2020 Biological Assessment states "noise from equipment used in tree cutting or the heat and smoke generated from prescribed fire could cause bats to flush, increasing the risk of predation and changing their roosting behavior." Gardner et. al 1991 and US Fish and Wildlife Service 2002, as cited in the Programmatic Biological Opinion on Implementation of the Revised Land and Resource Management Plan for the Ozark-St. Francis National Forests (FWS Log #: 04ER1000-2020-F-0869), documented continual use of areas by Indiana bat during timber harvest activities and constant noise from an interstate and airport. Indiana bats did abandon a primary roost tree during operation of a dozer immediately adjacent to the roost. This Programmatic Biological Opinion points out that Forest standards that buffers roost trees/caves and temporal restrictions should reduce these effects.

The project has been designed to create habitat diversity across the landscape that would create opportunities for bat roosting and foraging. Although some short-term impacts to habitat are expected, the overall results of the project would be beneficial. Most of the project area would remain dense forest, but some area with reduced midstory, thinned canopy, or regenerated stands would create habitat diversity. With the practices in place to retain snags, the proposal should be at very least neutral but more likely beneficial for bat foraging and roosting habitat in the project area.

Conclusion: The analysis and associated documents in the project record, including the Fuels Management Project BE (2016) and the Forest Plan, adequately address the effect of project activities on the Threatened and Endangered bat species and their food supply found on the Forests.

> ***Issue 10:*** *The established forest biotic community with its deadwood snags as well as standing dead or old growth trees like Shagbark Hickory that bats require for roosts is essential for bat livelihood. (Watkins)*

Response

Analysis: The project record includes the Fuels Management Project BE (2016), the Supplemental Biological Assessment for the Ozark-St. Francis National Forests Revised Land and Resource Management Plan, as Amended (2020) and the associated Biological Opinion, which discusses benefits and impacts of silviculture and fire on bat roosting habitat. The switching of roost trees multiple times during a season by forested bats have been observed by several researchers which was recognized in the Fuels Management Project BE. The Biological Opinion, identified above, discusses the theory of fission-fusion behavior. This behavior is when bats have a main unit (roost area), but individuals or subgroups may exit the main group to roost in other trees for a time. However, they would return to the main unit, which may also move to other trees Forest Plan Forest-Wide Standards (FW), such as FW 70 and FW 33, are designed to accommodate these behaviors. FW 70 directs retention of shagbark, and specifically requires the retention of the largest shagbarks FW33 requires six snags per acre across all forested acres and nine snags per acre in the Indiana bat conservation zones. Thinning around dominant shagbark would improve the ability of the tree to survive and grow as well as increasing solar radiation to the bark that would improve the tree's value as roosting habitat for bats. Project activities would be expected to reduce the total number of potential roosts but would result in more high-quality roosts suitable for species such as Indiana bats.
The Fuels Management Project BE states, "Any activity that removes trees will remove potential roost sites for bats" and recognizes that white nose syndrome may exacerbate the negative effects due to the removal of roost trees However, reducing clutter and providing varying degrees of sunlight through the canopy for warm spots and cool spots may benefit not only female maternity roosts but also males that may seek cooler sites (Perry, Brandebura, Risch, 2016). In addition, species such as white oak and shagbark hickory are considered preferred leave trees for timber, as well as wildlife. Snags are retained where logistically possible."

Conclusion: The Environmental Analysis and project record adequately consider the retention of potential roosting habitat. The project would adhere to the Forest Plan Forest-Wide standards, including new standards set by the Forest Plan amendment for Bat Conservation, finalized in March 2021, therefore minimizing impacts of treatment activities.

Topic: Wilderness Characteristics

Issue 11: *The fragmentation of the Ozark forests emphasizes the value of leaving these wilderness and near-wilderness areas intact. (Watkins)*

Issue 12: *Much of the Roberts Gap project area was classified as RARE II in previous USFS studies. (Keltner)*

Issue 13: *The massive intervention in this area is effectively a decision in principle to limit wilderness expansion or National Park expansion (Keltner)*

Response

Analysis: Effects to the current designated wilderness are disclosed in the analysis and project record, specifically the recreation report and the scenic report. As far as future wilderness areas, according to the following excerpt from the Final Environmental Impact Statement (FEIS) for the current Forest Plan:
"There were approximately 73,000 acres left from RARE II not designated as wilderness. These areas were allocated to other management areas in the 1986 plan. These lands were also identified in a set of inventoried roadless area maps contained in the Forest Service Roadless Area Conservation, FEIS, Volume 2, dated November 2000. Forest Service Interim Direction 1920-2001-1 dated December 14, 2001, stated lands remaining from the RARE II inventory would be re-evaluated for roadless area characteristics during the forest plan revision process. The Forests reevaluated these lands as well as any other lands to determine if they meet roadless area inventory criteria. The re-inventory shows that there are no areas on the Forests that meet these criteria."
It is important to note the amount of private land and roads already present in the project area and how that affects whether it would be considered for future wilderness designation. Proposed actions, including vegetation management, prescribed fire, and recreation activities occur in appropriately designated Management Areas. Management Areas are outlined in the Forest Plan and are defined as areas having desired conditions, suitable uses, management objectives, and design criteria in common (Forest Plan p.2-31).
Many species are dependent on forest connectivity, but many are also dependent on fragmentation and/or the associated edge effect between the two. Fragmentation may be an effect resulting from needed efforts to balance the age class distribution within the project area. Unlike converting lands to agriculture or housing developments, this effect is not permanent.

Conclusion: The project area does not currently contain lands identified as Recommended Wilderness in the Forest Plan and is not required to be managed for wilderness characteristics. Any consideration of wilderness expansion or National Park expansion are outside the scope of this project.

Topic: Level of Analysis

> ***Issue 14:*** *We recommend that this project be delayed until an Environmental Impact Statement can be prepared. (Watkins)*

Response

Analysis: An environmental assessment along with the supporting documentation was prepared for the Robert's Gap Project. According to Council for Environmental Quality, National Environmental Policy Act regulations at 40 CFR parts 1500 to 1508:

- An environmental assessment means a concise public document prepared by a Federal agency to aid an agency's compliance with the National Environmental Policy Act and support its determination of whether to prepare an environmental impact statement or a finding of no significant impact (40 CFR 1508.1(h)).

- A finding of no significant impact means a document by a Federal agency briefly presenting the reasons why an action will not have a significant effect on the human environment and for which an environmental impact statement therefore will not be prepared (40 CFR 1508.13).
- An agency shall prepare a finding of no significant impact if the agency determines, based on the environmental assessment, not to prepare an environmental impact statement because the proposed action will not have significant effects (40 CFR 1501.6(a)).
- Additionally, further direction on whether to prepare an environmental impact statement can be found at 40 CFR 1501.4.

After considering the effects of the actions analyzed, in terms of context and intensity, the responsible official determined that these actions will not have a significant effect on the quality of the human environment. For this reason, an environmental impact statement was not prepared, and a finding of no significant impact was prepared. The finding of no significant impact determination can be found on page 13 of the draft decision notice.

Conclusion: Clear direction exists in 40 CFR parts 1500 to 1508 that if the responsible official determines that the actions analyzed for the Robert's Gap Project will not have significant effects on the quality of the human environment, then it is not appropriate to prepare an environmental impact statement.

SUMMARY OF RESOLUTION

I have reviewed your objections and find that the Robert's Gap Project environmental analysis and project record includes thorough analysis based on recent scientific data that adequately considers the objection topics and issues. I further find that the purpose and need for the project is consistent with direction contained in the Revised Land and Resource Management Plan for the Ozark-St. Francis National Forests.

That said, by copy of this letter, I am providing the following instructions to the Responsible Official, District Ranger Tim Jones:

1. During the objection resolution meeting, a request was made to include water quality monitoring in the project area. I am instructing that inclusion of water quality monitoring be incorporated into the final decision for the project.

2. An Indiana bat maternity colony was recently discovered in the project area. The potential for Indiana bat maternity trees was considered and protective measures for maternity colonies were included in the recent Forest Plan Amendment for Bat Conservation dated March 2021. I am instructing that these protective measures and a discussion of this finding be included in the final decision for the project.

In accordance with 36 CFR 218.12, the Final Decision Notice may not be signed until the Reviewing Officer has responded in writing to all pending objections and until all instructions identified by the Reviewing Officer in the objection response have been addressed by the Responsible Official.

Once the instructions I've identified in items 1 and 2 above have been addressed, District Ranger Jones may make his decision and implement the project immediately following the decision.

Pursuant to 36 CFR 218.11(b)(2), no further administrative review of the proposed decision or this written response is available.

If you have any questions about the objection process or this project, please contact our Forest Administrative Review Coordinator, Janine Book at janine.book@usda gov

Thank you for your interest in your National Forests.

Sincerely,

LORI WOOD
Forest Supervisor

Enclosure – References Cited

cc: Robert Bergstrom, Timothy Jones, Michael Mulford, Amy Burt, Janine Book