Objections to the Gold Butterfly Draft SEIS ROD

Date: January 18, 2022

Sent via email to: appeals-northern-regional-office@usda.gov

Objection Reviewing Officer
USDA Forest Service Northern Region
26 Fort Missoula Road
Missoula, MT 59804

Re: Gold Butterfly Project SEIS Objection

Pursuant to 36 CFR 218 Subparts A and C, this is an objection to the Draft Supplemental Environmental Impact Statement (SEIS) and Draft Record of Decision (ROD) for the Gold Butterfly Project, on the Stevensville Ranger District, Bitterroot National Forest (BNF). The Responsible Official is Forest Supervisor Matt Anderson. This objection is filed on behalf of Michael Hoyt.

The Draft SEIS ROD selects EIS Alternative 2 with three modifications. The Final EIS description of Alterative 2 is immediately below, and the Draft SEIS ROD's changes to that are presented immediately after.

FEIS Alternative 2:

- Regeneration harvest treatments on an estimated 2,081 acres and intermediate harvest treatment on approximately 3,540 acres removing commercial products totaling an estimated volume of 34 million board feet/67,000 hundred cubic feet.
- Non-harvest fuel treatments include prescribed burning as well as piling and burning without commercial harvest on an estimated 1,766 acres of upper, mid- and low-elevation forest.
- Approximately 4,843 acres of commercial harvest, or 86 percent of the total treated, will occur within the Wildland Urban Interface (WUI). An estimated 805 acres noncommercial treatments, or 46 percent, will occur in the WUI.
- Approximately 392 acres of intermediate harvest in dry site old growth is included. These treatments will retain old growth characteristics. In addition, there are 359 acres of regeneration harvest in old growth that remove those acres from being old growth; these treatments are in areas for priority fuel reduction needs for WUI as well as promotion of retaining mature whitebark pine trees with planting of whitebark.
- Thirty-six of the proposed regeneration harvest units will contribute to a total of 14 openings over 40 acres.
- Decommissioning work on approximately 22.3 miles of roads that are no longer needed for future management, and 21.3 miles of Intermittent Stored Service (storage) on roads that are needed for future management of forest resources.
- Decommissioning of non-system (undetermined) roads on 16.5 miles.
- Adding approximately 16.5 miles of non-system (undetermined) roads that already exist on the landscape to the National Forest System Roads (NFSR) network for current and future use for management; this also is the entire amount of roads to be stored.

- Construction of approximately 6.4 miles of permanent road and 17.3 miles of temporary road in order to implement silvicultural prescriptions and to provide for product removal.
- Application of Best Management Practices (BMP) on 32.4 miles of haul road as part of the timber sale to help reduce potential sediment runoff and improve water quality.
- Watershed and other road work not associated with road storage or decommissioning:
- The Burnt Fork and Willow Creek trailheads are proposed to be moved lower in the drainages to address watershed concerns, with the associated 2.4 miles of road being
- converted to the NFS trail system:
    - Willow Creek (364) and Gold Creek (969) Roads will receive BMP improvements, which include rock lined ditches, riprap protected catch basins, and sediment traps; and
    - Road maintenance work includes reconditioning 22.8 miles of road surface.

Draft SEIS ROD modifications to Alternative 2:

1. Convert 14 units, 266 acres with proposed regeneration harvest treatments in old growth, including clearcuts with leave trees (11 acres), seed tree cuts (99 acres), and shelterwood cuts (156 acres), to a commercial intermediate treatment. An intermediate treatment would retain and perpetuate old growth characteristics in ponderosa pine and/or Douglas-fir stands by leaving most of the large green trees and snags while removing mostly co-dominant and intermediate trees that show symptoms of susceptibility to western spruce budworm and/or other insects and diseases. In addition, the intermediate treatments could strategically create canopy openings around dominant ponderosa pine trees to encourage natural regeneration of ponderosa pine.

   This modification applies to the following units containing old growth: 17, 18, 24a, 25a, 25b, 25c, 25d, 28, 30a, 30b, 30c, 30d, 53, 58a

2. Convert two units with a proposed regeneration harvest treatment of clearcut with leave trees (154 acres) in old growth to a non-commercial treatment. Non-commercial treatments would remove target specie(s) within a unit up to a certain diameter limit. Treatments would favor retaining larger trees and whitebark pine maintaining old growth characteristics.

   This modification applies to the following units containing old growth: 13b, 93

   No other units containing old growth under Alternative 2 were proposed for treatment through regeneration harvest. Note, some treatment units other than those discussed above within the project area under Alternative 2 do contain old growth. However, these units were already proposed for treatment with maintenance burn, intermediate or non-commercial harvest methods. Based on the modifications discussed above, all treatment units containing old growth would retain their old growth status under the selected alternative.

3. Convert 37 units with proposed regeneration harvest openings greater than 40 acres to be 40 acres or less.

This modification applies to the following units: 11, 13b, 15a, 17, 18, 19a, 23b, 25a, 25b, 25c, 25d, 25e, 27,30a, 30b, 30c, 30d, 35, 36a, 36b, 48a, 52, 53, 54, 56., 58a, 58b, 62b, 75, 76, 82, 93, 134a, 115a, 177a, 134a.

Table 1Summary of Changes to Units Containing Old Growth

Treatment Unit	OG Acres in Unit	Original Treatment Prescription in Alt 2	Modified Treatment Prescription
17	14	Shelterwood	Commercial Intermediate Treatment
18	2	Shelterwood	Commercial Intermediate Treatment
23a	2	Clearcut with Leave Trees	This unit removed from consideration

Treatment Unit	OG Acres in Unit	Original Treatment Prescription in Alt 2	Modified Treatment Prescription
24a	10	Shelterwood	Commercial Intermediate Treatment
25a	9	Seed Tree	Commercial Intermediate Treatment
25b	8	Seed Tree	Commercial Intermediate Treatment
25c	16	Shelterwood	Commercial Intermediate Treatment
28	5	Clearcut with Leave Tree	The portion of old growth was dropped from treatment
30a	15	Seed Tree	Commercial Intermediate Treatment
30b	16	Clearcut with Leave Tree	Commercial Intermediate Treatment
30c	18	Seed Tree	Commercial Intermediate Treatment
30d	6	Clearcut with Leave Tree	Commercial Intermediate Treatment
53	13	Shelterwood	Commercial Intermediate Treatment
58a	4	Shelterwood	Commercial Intermediate Treatment
13b	46	Clearcut with Leave Tree	Non-commercial Intermediate Treatment with 12" DBH limit
93	65	Clearcut with Leave Tree	Non-commercial Intermediate Treatment with 12" DBH limit

Authorized Activities

Details of Modified Alternative 2 are summarized below. For more detail, refer to the description of alternatives beginning on Page 1 of Chapter 2 in the Gold Butterfly EIS. The

following Table 2 shows the treatment types and acres I am authorizing for the Gold Butterfly project.

Vegetation Treatments

A unit table is included in Appendix E of the draft record of decision (ROD). Vegetation actions include:

- Regeneration harvest treatments on an estimated 908 acres and intermediate harvest treatment on approximately 4376 acres removing commercial products.
- Non-harvest fuel treatments include prescribed burning as well as piling and burning without commercial harvest on an estimated 1,766 acres of upper, mid- and low-elevation forest.
- Approximately 5,116 acres of commercial harvest, or 96 percent of the total treated, will occur within the Wildland Urban Interface (WUI). An estimated 1,126 acres non-commercial treatments, or 54 percent, will occur in the WUI.
- Approximately 285 acres of intermediate harvest in old growth is included. These stands will retain old growth characteristics following treatment.

Road Management Activities

Detailed road actions are included in Appendix F. Road management actions include:

- Decommissioning work on approximately 22.3 miles of roads that are no longer needed for future management, and 21.3 miles of Intermittent Stored Service (storage) on roads that are needed for future management of forest resources.
- Decommissioning of non-system (undetermined) roads on 16.5 miles.
- Adding approximately 16.5 miles of non-system (undetermined) roads that already exist on the landscape to the National Forest System Roads (NFSR) network for current and future use for management; These roads would be placed into intermittent stored service following timber sale activities.
- Construction of approximately 6.4 miles of permanent road and 17.3 miles of temporary road in order to implement silvicultural prescriptions and to provide for product removal.
- Application of Best Management Practices (BMP) on 32.4 miles of haul road as part of the timber sale to help reduce potential sediment runoff and improve water quality.
- Watershed and other road work not associated with road storage or decommissioning:
- The Burnt Fork and Willow Creek trailheads are proposed to be moved lower in the drainages to address watershed concerns, with the associated 2.4 miles of road being converted to the NFS trail system:
    - Willow Creek (364) and Gold Creek (969) Roads will receive BMP improvements, which include rock lined ditches, riprap protected catch basins, and sediment traps; and
    - Road maintenance work includes reconditioning 22.8 miles of road surface.

Table 2 Summary of Vegetation Treatment Acres in the Selected Alternative

Activity	Selected Alternative
TOTAL COMMERCIAL HARVEST	**5,284**
Clearcut with Leave Trees	425
Shelterwood	85
Seed Tree	101
Group Selection	297
Commercial thin	1,281
Sanitation	485
Improvement	2610
TOTAL NON-COMMERCIAL	**7,360**
Plantation Thinning	577
Mechanical Thinning / Fuel Reduction	64
Planting	908
Non-commercial thinning associated with timber harvest units	4,857
Meadow Restoration	84
Whitebark pine Daylighting	870
TOTAL PRESCRIBED FIRE	**5,771**
Prescribed fire associated with commercial harvest	5,282
Maintenance Burn	489

The selected action includes the implementation of design features found in Appendix A. These measures represent all practicable means to avoid or minimize environmental harm while meeting the project purpose and need. Additionally, the Bitterroot National Forest will oversee maintenance responsibilities for the entire gravel section of Willow Creek Road during project implementation. Maintenance responsibilities will be formalized with the Ravalli County Board of Commissioners through a Schedule A Road Maintenance Agreement. The Bitterroot National Forest is also committed to working with the Ravalli County Board of Commissioners to seek solutions for maintenance and repair of the paved portion of Willow Creek Road.

Implementation of the Selected Alternative, as modified, will require a project-specific forest plan amendment to the 1987 Bitterroot Forest Plan to suspend certain Forest Plan standards relating to elk habitat effectiveness and thermal cover and modify management area standards for old growth. Discussion concerning the plan amendment and its effects is found in Appendix B of the Gold Butterfly draft ROD.

1. INTRODUCTION

I previously submitted documents on the Gold Butterfly project, including a December 6, 2017, comment regarding November 30, 2017, open house, July 2018, comment on the DEIS, and August 7, 2021, comments on the DSEIS. I also submitted a July 25, 2019, objection to the FEIS ROD which still has standing.

I incorporate documents (by reference) from others, including a July 11, 2017 letter responding to the Forest Service's proposal from Friends of the Bitterroot (FOB) and Alliance for the Wild Rockies (AWR); a December 8, 2017 letter by Jim Miller on behalf of FOB; a November 29, 2017 letter from AWR regarding the Alternative Workshop; a November 30, 2017 letter from WildEarth Guardians regarding the Alternative Workshop; a July 30, 2018 letter from Friends of the Bitterroot and Alliance for the Wild Rockies commenting on the Draft EIS; a July 17, 2017, letter from WildEarth Guardians and others at the scoping phase; letters from Gail and Stephen Goheen dated July, 2017; a July 30, 2018 letter from Gail and Stephen Goheen commenting on the Draft EIS, a July 30, 2018 letter from WildEarth Guardians and others commenting on the Draft EIS. I fully incorporate those previous documents into this objection.

I also incorporate (by reference) the previous Objections of the Gold Butterfly project filed by Friends of the Bitterroot and Gail and Stephen Goheen and (by reference), previous comments on the Gold Butterfly Supplemental Environmental Impact Statement (SEIS) by Friends of the Bitterroot, Gail Goheen, and Alliance for the Wild Rockies.

Also incorporated (by reference) are Objections and related documents to the Gold Butterfly Draft SEIS ROD by Friends of the Bitterroot, Alliance for the Wild Rockies, WildEarth Guardians, Native Ecosystems Council, Gail and Stephen Goheen, Jeff Lonn, Larry Campbell, and Michele Dieterich.

These objections are submitted on behalf of Michael Hoyt; Gail and Stephen Goheen; Friends of the Bitterroot [Jim Miller, President]; Alliance for the Wild Rockies [Mike Garrity, Director]; WildEarth Guardians [Adam Rissien, ReWilding Advocate]; and Native Ecosystems Council [Sara Johnson, Director].

The following objections address the Gold Butterfly SIES Draft ROD and its proposal for a site-specific Forest Plan amendment to Old Growth (OG) standards on the Gold Butterfly project and a site-specific Forest Plan amendment to suspend the standards for elk habitat effectiveness and thermal cover as detailed in the SEIS Draft ROD p. 13.

The Gold Butterfly project, covers approximately 55,147 acres, includes 5,284 acres of commercial harvest. 266 acres of OG are proposed for commercial intermediate cuts. 154

acres of OG are planned for non-commercial treatment. 37 units, containing a total of 1,099 acres, are recommended for regeneration harvesting to openings 40 acres or less.

The Forest Service proposes amendments to three Forest Plan standards: an amendment to old-growth (OG) standards, suspension of the standard for elk habitat effectiveness (EHE), and suspension of the standard for thermal cover. (Draft SEIS ROD pp. 2-5)

I find the SEIS Draft ROD inadequate and oppose those proposed amendments for the following reasons.

2. PROPOSED FOREST PLAN AMENDMENTS

Old Growth

This issue was discussed in my DEIS comments at pp. 2, 7, and my DSEIS comments at pp. 3-12, 20-23, 26-27. I incorporate those comments into this objection. I also incorporate my previous objections to the FEIS at pp. 2-3, all of which still have standing.

I incorporate those comments/objections into this objection and add the following discussion.

<u>Reducing the Percentage of Old Growth</u>

Among the many supporting documents for the EIS is 3.7 Wildlife (Wild-001). Contained within that document is the following:

> The Forest Plan also provides standards for old growth maintenance in each Management Area within each third order drainage. The Gold Butterfly project proposes treatments in MAs 1, 2 and 3a. For MA 1, old growth stands should be 40 acres or larger, distributed over the management area. Within each 3rd order drainage, 3% of the suitable timberland will be maintained in old growth. This standard is the same for MAs 2, 3a and 3c, except 8% of the suitable timberland will be maintained in old growth. There are no standards for old growth retention within other MAs, such as MA 5 or 8a. The timber stand is the unit of delineation for old growth habitat. In practice, if a stand of old growth habitat is less than 40 acres, it is still managed as old growth. (WILD-001 p. 6)

Of particular interest is the last sentence which states, "In practice, if a stand of old growth habitat is less than 40 acres, it is still managed as old growth."

That contradicts one of the purported reasons the site-specific amendment by adopting Green et al. for determining old-growth standards.

The Final SEIS states:

> Management area direction related to old growth would also be modified per Green et al. (1992 errata 2011). Management Areas 1, 2, and 3a each have a standard related to old growth stand size. The requirement to only designate stands sized 40-acres and larger when maintaining old growth in a third order drainage would be modified for the Gold Butterfly Project. Stand size is not identified in Green et al. as a driving factor in whether a stand should be classified as old growth because even small patch sizes provide important ecological values and increase ecosystem diversity. However, **the required percentage of**

> **old growth to be maintained within each Management Area would not be modified.** (p. 4) (Emphasis added)
>
> MA 1 requires about three percent old growth retention, while MAs 2 and 3 require about eight percent. In MA 3b, the standard is to maintain 50 percent of old growth in fisheries areas and 25 percent in non-fisheries areas. **The weighted average of Forest Plan Management Area standards was intended to maintain about 10 percent old growth habitat in suitable lands within management areas 1, 2, 3a, 3b, and 3c1. These percentage requirements for each Management Area would not be modified.** (p. 7) (Emphasis added)

The Forest Plan requirement only designates stand sizes 40-acres or larger as old-growth; however, it seems the statement included in WILD-001, "In practice, if a stand of old growth habitat is less than 40 acres, it is still managed as old growth." precludes the need to adopt Green et al. so that the BNF can manage old-growth stands less than 40-acres in size as old growth.

Please note the above asserts, "…, the required percentage of old growth to be maintained within each Management Area would not be modified." … "These percentage requirements for each Management Area would not be modified."

Text included in the Draft SEIS ROD Appendix B contradicts that statement.

> The management area standards for management areas 1, 2, and 3a, that require a minimum old growth stand size of 40 acres will be modified as follows:
>
> > Management Area *1/2/3a* (chapter Wildlife and Fish) (2) ~~Old growth stands should be 40 acres and larger, distributed over the management area.~~ About 3 percent of Management Area *1/2/3a* suitable timberland, in each third order drainage will be maintained in old growth. <u>Vegetation management activities</u> should provide 40-acre stands of old growth by coordinating management activities in this area with activities in adjacent management areas and with intermingled riparian and unsuitable management areas (USDA, 1979). (Strikethrough text to be removed, underlined text to be added.) (p.4)

The current old-growth standards for Management Areas 1, 2, and 3a are:

> **Management Area 1 (chapter Wildlife and Fish)** (2) Old growth stands should be 40 acres and larger, distributed over the management area. About 3 percent of Management Area 1 suitable timberland, in each third order drainage will be maintained in old growth. Provide 40-acre stands of old growth by coordinating management activities in this area with activities in adjacent management areas and with intermingled riparian and unsuitable management areas (USDA, 1979).
>
> **Management Area 2 (chapter Wildlife and Fish)** (2) Old growth stands should be 40 acres and larger, distributed over the management area. About 8 percent of the Management Area 2 suitable timberland, in each third order drainage, will be maintained in old growth. Provide 40-acre stands of old growth by coordinating management activities in this area

with activities in adjacent management areas and intermingled riparian and unsuitable areas (USDA, 1979).

Management Area 3a (chapter Wildlife and Fish) (2) Old growth units should be 40 acres and larger, distributed over the management area. About 8 percent of the Management Area 3a suitable timberland in each third order drainage will be maintained in old growth. Provide 40-acre stands of old growth by coordinating management activities in this area with activities in adjacent management areas especially Management Area 3b, riparian areas (USDA, 1979). (Draft SEIS ROD pp. 3-4)

The reduction in the percentage of old growth in management areas 2 and 3a from 8% to 3% is a direct contradiction to the above noted assertion in the Final SEIS that, "…, the required percentage of old growth to be maintained within each Management Area would not be modified."

Given the dearth of old growth on the BNF, it is difficult to believe that reducing the percentage of old growth in 2 and 3a will allow the Forest Service to maintain anywhere near 10 percent old-growth habitat in management areas 1, 2, 3a, 3b, and 3c.

For the Agency to attempt to slip such a reduction into the Draft SEIS ROD, after affirming it would not do so, is deceitful and dishonest.

Remedies: The Agency must not reduce the percentage of old growth in Management Areas 2 and 3a and continue to follow the directives of the Forest Plan (1987).

It appears there was no mapping of old-growth Lodgepole, spruce, or subalpine fir in the project area. Analysis and mapping of those species must be completed and made public before management activities in the project area commence.

<u>Failure to Prove the Proposed Management Actions in Old Growth Do No Harm</u>

Neither the Final SEIS nor Draft SIES ROD offer evidence that the management actions proposed in old growth will "do no harm" or that they are effective.

The Forest Service now wishes to amendment the old-growth standards of the Forest Plan (1987) by adopting the definitions proposed by Green et al. (1992, errata 2011), claiming that those are the best-available science. The Agency admits that it has illegally used Green et al. criteria since it was published.

…, the Bitterroot has been using Green et al. criteria to inventory and monitor old growth since this best science became available. Monitoring informs us whether we are meeting Forest Plan goals and desired conditions. (Draft SEIS, p. ii)

If one of the reasons Green et al. has been in use was to enable monitoring, then a reasonable person could rightly assume that examination of management actions in old growth has taken place multiple times during the ensuing 30-year period since the Forest Service adapted Green et al. Therefore, the results of that monitoring should have been offered as supporting evidence for the management actions in old growth proposed by the Agency. Such supporting evidence has not been presented.

In addition, the Draft SEIS (p. 20) states:

> "A project-specific amendment to support using the old growth definitions in Green et al. for the Gold Butterfly project rather than the existing Plan old growth criteria would not result in negative direct or indirect effects to old growth or to wildlife species associated with mature or over-mature forest structure." (Final SEIS p. 23)

Without supporting evidence that statement does not constitute a "hard look" as required by NEPA. The Final SEIS and Draft SEIS ROD include no documentation which indicates the Agency performed any research or post-project monitoring of similar, past BNF management actions that allow for a comparison of effects on old-growth-dependent species between the Forest Plan (1987) old-growth treatments and the proposed Green et al. amendment old-growth treatments.

Courts have held that a "hard look" includes studying not only research which affirms a specific management action but analyzing research which contradicts that same action.

> "NEPA's 'hard look' obligation requires agencies to consider potential environmental impacts, including all foreseeable direct and indirect impacts, and should involve a discussion of adverse impacts that does not improperly minimize negative side effects." (WildEarth Guardians v. U.S. Bureau of Land Mgmt., 2020 WL 2104760, at 3 (D. Mont. 2020)) (quotations and citations omitted).
>
> NEPA's "hard look" requirement does not permit "a soft touch or brush-off of negative effects." (Native Ecosystems Council v. U.S. Forest Serv., 428 F.3d 1233, 1241 (9th Cir. 2005)).

In the case, Ecology Center inc. v. Austin (2005), the 9th Circuit Court held that "… the Forest Service's decision to treat old growth violates, both NFMA and NEPA, … ." Specifically, the Court said that:

> "While Ecology Center does not offer proof that the proposed treatment causes the harms it fears, the Service does not offer proof that the proposed treatment benefits—or at least does not harm—old-growth dependent species. Ecology Center argues that because the Forest Service has not assessed the effects of old-growth treatment on dependent species, the Service cannot be reasonably certain that treating old-growth is consistent with NFMA's substantive mandate to ensure species diversity and viability. As a result, especially given the scientific uncertainty surrounding the treatment of old-growth stands, the Forest Service's decision to treat additional old-growth stands was arbitrary and capricious.
>
> "The EIS did not address in any meaningful way the various uncertainties surrounding the scientific evidence" upon which the decision to treat the Lolo National Forest old-growth rests. (Seattle Audubon Soc'y v. Espy, 998 F.2d 699, 704 (9th Cir. 1993)). Although the EIS identifies the public's concerns regarding the impact of treatment on dependent species as "key" or "driving" issues, the EIS does not actually explain in any detail the bases of those concerns, much less address them. … The EIS discusses in detail only the Service's own reasons for proposing treatment, and it treats the prediction that treatment will benefit old-growth dependent species as a fact instead of an untested and debated hypothesis. Even if

> the Service considered these issues but concluded that it need not or could not "undertake further scientific study" regarding the impact of treatment on dependent species, it should have "explain[ed] in the EIS why such an undertaking [wa]s not necessary or feasible." Id. For these reasons, we also find that the Service's analysis of the impact of treating old-growth to be inadequate under NEPA."

The current BNF Forest Plan (1987) states:

> The amount and distribution of old growth will be used to ensure sufficient habitat for the maintenance of viable populations of existing native and desirable non-native vertebrate species[1], including two indicator species, the pine marten, and the pileated woodpecker. (FP p. II-19)

The Draft SEIS states:

> This project-specific amendment would not affect the amount of habitat available for species such as pileated woodpeckers or marten that are associated with habitat components that are most common in mature or over-mature forests. (Drafts SEIS p. ii)

Then, the Final SEIS states:

> Pileated woodpeckers and marten are not old growth dependent species. They are associated with mature and over-mature forests that contain habitat components such as large trees, large snags and down woody material that are often found in old growth forests, but also utilize younger forests that contain some of those habitat components. Therefore, forests that do not meet the old growth definitions can and do provide habitat that contributes to the viability of these species at several scales.
>
> Suitable habitat for pileated woodpeckers typically includes dry to moderately moist forests in older seral stages, and usually contains old growth, mature, saw timber, or multi storied structural components. While pileated woodpeckers are often associated with mature forests (Conner 1979, Conner 1980, Shackelford, and Conner 1997), the presence of large trees or snags for nesting is reported to be more important than forest age (Kirk and Naylor 1996, Giese, and Cuthbert 2003). Pileated woodpeckers may be able to do well in younger and more fragmented forests that retain abundant remnant (older) structure (Mellen et al. 1992). (Final SEIS p. 22)

The BNF Forest Plan (1987) assumes the pileated woodpecker has a strong enough relationship with old-growth forest to be used as an indicator species. The Final SEIS claims the Green amendment would not affect the amount of habitat available for the pileated woodpecker but then asserts it doesn't matter anyway because the pileated woodpecker is not an old-growth dependent species. That seems to contradict the BNF Forest Plan (1987).

The research sited by the Agency stipulates:

> Suitable habitat for pileated woodpeckers typically includes dry to moderately moist forests in older seral stages, and usually contains old growth, mature, saw timber, or multi storied structural components. While pileated woodpeckers are often associated with mature

[1] Desirable non-native vertebrate species are not defined in the BNF Forest Plan (1987)

> forests (Conner 1979, Conner 1980, Shackelford, and Conner 1997), the presence of large trees or snags for nesting is reported to be more important than forest age (Kirk and Naylor 1996, Giese and Cuthbert 2003). (Final SEIS p. 22)

What the Forest Service neglects to mention is that, although mature forests which contain large trees and snags seem to be more important than forest age for pileated woodpecker viability, old-growth areas are more likely (when compared to a forest in general) to contain large trees and snags.

Rather than acknowledge the pileated woodpecker is an indicator species for old growth, the Agency asserts the pileated woodpecker is not dependent upon old-growth. This appears to be an attempt to divert attention from the importance of old-growth areas.

Recent studies, including one just published in Science, conclude:

> A slow death is creeping through Earth's forests and other green landscapes. As animals are killed by hunters or forced away by logging, for example, the plants that depend on them to carry their seeds begin to disappear. Over time, trees and other plants may vanish. Climate change is accelerating this process, a new study suggests—and it may ultimately harm not just biodiversity, but the ability of ecosystems to store carbon and provide food and clean water. (Science, January 13, 2022)[2]

The research looked at how crucial seed dispersal is for plant survival.

> "Plants by definition stay put, so they've always relied on animals for seed and pollen transport," said Prof Carlos Peres of the University of East Anglia, who was not involved in the study. "Yet humans have systematically driven wide-ranging large-bodied seed dispersers to extinction in both history and prehistory, and we continue to decimate their populations to this day, particularly in the tropics." (Attachment A, The Guardian, January 13, 2022)

The Forest Service discounts such studies simply because the conclusions are contrary to ones held by the Agency. Ignoring contradictory research is not taking a hard look at scientific evidence.

It is understood that experts have differing hypotheses regarding the effects treating old-growth has on dependent species. Here the Forest Service proposes to continue treating old-growth stands without first taking the time to verify what the on-the-ground effects have actually been in old-growth previously treated using similar management actions. Considering the Agency's responsibilities under NFMA, this is arbitrary and capricious.

It is worth noting the EPA found similar deficiencies to the ones I address. Based on the EIS and the Draft SEIS, the EPA pointed out that between 1987 and 2018 there was no monitoring for indicator species (marten and pileated woodpecker), thus there are no baseline and trend estimates and evidence to sustain those species. In fact, the EPA requested a commitment to

[2] Fricke, E.C. et al. (2022) The effects of defaunation on plants' capacity to track climate change, https://www.science.org/doi/10.1126/science.abk3510

conduct baseline indicator monitoring per the current Forest Plan (1987) prior to initiating the Bold Butterfly Project.

In light of the BNFS stating plans to next tackle amending the Forest Service Plan, the EPA also indicates "this monitoring will be needed Forest-wide before initiating a process to generate the next Forest Plan."

> Without baseline population and trend estimates for the Project area, it is unclear how the Forest is evaluating whether the Forest' s application of Green et aI. since 1992 has resulted in old growth habitat sufficient to sustain populations of the Forest' s indicator species, pileated woodpecker and pine marten. The EPA recommends the Final SEIS more clearly explain how impacts to these two species are being evaluated and discuss the limitations of the analysis. Additionally, we recommend the Final SEIS Record of Decision commit to conduct baseline indicator species population monitoring per the Forest Plan prior to initiating the Gold Butterfly Project. This monitoring will be needed Forest-wide before initiating the process to generate the next Forest Plan. (Attachment B, EPA, Region 8, letter to Matt Anderson dated August 9, 2021)

Gold Butterfly documentation states:

> The Forest does not have population estimates for marten within the Gold Butterfly area, but marten are known to occur within the project area. Inventories conducted by the project wildlife biologist in areas identified as potential marten habitat did result in one observation of a marten in September 2017. (WILD-001 Specialist Report Updated, p. 87.)
>
> The Forest does not have population estimates for pileated woodpeckers within the Gold Butterfly area, but pileated woodpeckers are known to occur. The project's wildlife biologist and wildlife technician saw pileated woodpecker excavations and foraging evidence on a regular basis, and saw or heard pileated woodpeckers fairly frequently while doing wildlife habitat surveys in the analysis area in 2016 and 2017. (WILD-001 Specialist Report Updated, p. 109.)

Other Agency documents indicate that no monitoring of pine marten or pileated woodpeckers has been performed since 2015. (those documents available from the BNF website at https://www.fs.usda.gov/detail/bitterroot/landmanagement/planning/?cid=fseprd490792)

One of those documents discusses changes anticipated by the 2012 Planning Rule. The letter states in part:

> Biennial (every 2-year) monitoring evaluation reports will be used to help determine if and when additional changes are needed (36 CFR 219.12 (d) (2). The first biennial evaluation is expected to be prepared in 2018. This evaluation will indicate whether or not a change to the management plan, management activities, or monitoring program is warranted.

Interestingly, there is no evidence of the anticipated 2018 or 2020 evaluations which would seen to indicate the Forest Service is not following its own mandate.

I agree with the EPA that the Final SEIS should have more clearly explained how impacts to these two species are being evaluated and discuss the limitations of the analysis. I must also

agree the Final SEIS ROD should commit to conducting baseline indicator species population monitoring per the Forest Plan prior to initiating the Gold Butterfly Project.

It should be noted that, although the Final SEIS (Appendix C) included responses to comments related to the Draft SEIS, apparently no answers were made in response to those of the EPA, at least none which were made public. A reasonable person could therefore assume the comments of the EPA were ignored by the Forest Service.

Besides not monitoring the indicator species, pine marten and pileated woodpecker, the Forest Service has not been monitoring old growth for several years. In response to a Draft SEIS comment from Jeff Lonn, the Agency responded:

> Please see Forest Plan monitoring reports posted to the Bitterroot Forest website Bitterroot National Forest - Planning (usda.gov). (Final SEIS, Appendix C p. 42)

The provided link shows no monitoring reports available after 2015 (reports from 2009-2015 only). The most recent old-growth monitoring appears to be 2013 (in the 2010-2013 Monitoring Report). The 2013 report lists old-growth percentages in the Stevensville district (the location of the Gold Butterfly project) as: MA1—11%, MA2—5%, and MA3a—9%.

The 5% in MA2 falls well short of the 8% required by the Forest Plan. In addition, the 2013 report shows old growth decreased in all three MAs between 4 to 10%. The 2013 reports states:

> "Forest Plan old growth standards need to be carefully evaluated for each 3rd order drainage where vegetation management projects are planned."

It seems no monitoring of old growth has been done since 2013. Clearly, public concerns about lack of monitoring are well-founded.

Remedies: The Forest Service must take a "hard look" at not only research which supports its proposed, specific management actions but analyze research which contradicts those same actions.

Furthermore, the Agency must prove the management actions it proposes will do no harm.

EPA recommendations must be followed prior to the implementation of this project's management actions.

The Agency must complete and disclose new monitoring of old growth in the project area.

The project must be redesigned to recruit old growth in MA2 thereby bringing it up to Forest Plan standards.

The public must be ensured that monitoring of all aspects of the project, both during and after, is funded prior to project approval.

Proposed Site-specific Old-growth Amendment Reduces the Amount Old Growth

The Final SEIS declares:

> "The Bitterroot Forest Plan (p. VI-24) defines old growth as: A forest stand with 15 trees per acre greater than 20 inches dbh (6 inches in lodgepole pine) and canopy closure that is 75 percent of site potential. The stand is uneven-age or multistoried. There should be 1.5 snags per acre greater than 6 inches dbh; 0.5 snags per acre greater than 20 inches dbh; and 25 tons per acre of down material greater than 6 inches diameter. Heart rot and broken tops are common, and mosses and lichens are present." (FSEIS p. 2)

A comparison of the Plan definition to that of Green et al. gives the impression the reason the BNF wants to adopt Green et al. (1992, errata 2011) as the standard is because Green et al. allows the removal of more trees per acre than the current Forest Plan.

For example, in the ponderosa pine, Douglas-fir, and western larch forest type, the Forest Plan states that a forest stand with 15 trees per acre greater than 20" DBH may be old growth. Green, et al. (1992, errata 2011) states that 8 trees per acre 21" DBH may be old growth. (Green et al. pp. 23, 24)

The Final SEIS declares: "The withdrawn Record of Decision specified that all treatment units containing old growth would retain their old growth status under the selected alternative. This is the intended management in old growth stands in moving forward with this project." (FSEIS pp. I-2)

Because the FSEIS declares that "… all treatment units containing old growth would retain their old growth status…" after treatment, it is logically possible for a stand to "retain old-growth status" with only 8 (21") trees per acre instead of the 15 (21") trees required by the current Forest Plan.

Another example is, in the lodgepole pine forest type, the Plan proclaims that a forest stand with 15 trees per acre greater than 6" DBH may be old growth. Green, et al. (1992, errata 2011) states that 10 trees per acre 13" DBH (moderately cool to cool, dry to wet environments - Green et al. at 25) or 30 trees per acre 9" DBH (cold, moderately dry environments - Green et al. p. 29) may be old growth.

Because the Final SEIS declares that "… all treatment units containing old growth would retain their old growth status…" after treatment, it is logically possible for a stand to "retain old-growth status" with only 10 (13") trees per acre instead of the 15 (6") trees required by the current Forest Plan.

Not only does Green allow for the removal of more trees per acre in this scenario, but to qualify for old-growth status, lodgepole pine stands must have larger (13" vs. 6") trees or more (30 vs. 15) trees than required under the current plan. Both of those factors will limit the number of acres (of lodgepole pine) available for old-growth status.

The Agency appears to disregard the fact that Green et al. was establishing "minimums," not advocating that old-growth stands should be reduced to that minimum.

> "… old growth is valuable for a whole host of resource reasons such as habitat for certain animal and plants, for aesthetics, for spiritual reasons, for environmental protection, for research purposes, for production of unique resources such as very large trees. Unusual natural communities, etc., the resource values associated with potential old growth stands need to be considered in making allocations."
>
> "At the same time, there may be some stands with trees so large or so old that they are unique. We should always maintain a good representation of these very old unique and outstanding stands, because they are irreplaceable within human life spans. Remember to value the truly unique and outstanding, wherever it may be." (Green, et al. p. 12)

Many scientists have provided management recommendations for old growth. It is now generally accepted that all or nearly all, old, large trees should be retained. (Hessburg, 2015) (Fiedler, 2007) (Wales, 2006) (Rapp, 2003)

Other than Green et al., little meaningful discussion of other research is part the Draft SEIS or Final SEIS. That omission seems to indicate the proposed amendment will be used to cut, rather than preserve, old growth.

For example, the Mud Creek Final EA, Appendix B (p. 22) states: "… while Green et al. (1992, errata 2011) and the Forest Plan provide minimum criteria for identifying old growth, that does not mean all stands will be treated and harvested to the minimum criteria numbers." That wording from the Mud Creek project (which also incorporates the Green et al. site-specific amendment) indicates that some old-growth stands in the Mud Creek project area will be cut to the Green et al. minimum.

DellaSala and Baker, two widely respected Ph. Ds, declare that "… the Forest Service proposes controversial measures that are not scientifically founded. The agency omits the vast majority of the scientific literature that supports large-tree protections in regions where large tree populations remain at greatly reduced numbers …" (DellaSala, 2020)

In reply to my Draft SEIS comments:

> The Draft SEIS states that, "The Forest Plan criteria for old growth is not easily measured and therefore is inappropriate as a monitoring tool; the Bitterroot has no way of knowing how much forest would qualify as old growth using the 1987 Forest Plan criteria. Conversely, the Bitterroot has been using Green et al. criteria to inventory and monitor old growth since this best science became available. Monitoring informs us whether we are meeting Forest Plan goals and desired conditions." (DSEIS at ii). Again, this only emphasizes the FS belief that it can classify areas of the forest as old growth by counting and/or monitoring tree growth (size and age) plus numbers. Monitoring may inform whether the BNF is meeting Forest Plan goals, but those targets are based upon the outdated notion that the percentages of a forest area defined as old growth should be static. How that percentage was determined is arbitrary, unknown, and therefore questionable. Please explain the process by which the Agency (BNF and Region 1) determined that Green et al. continues to be the best available science when more recent research indicates otherwise. Please explain how old growth percentages were established. Justify why those percentages should be followed using recent scientific research. "

> The Draft SEIS states, "… the project-specific amendment improves the method for measuring the amount of old growth in the project area and evaluating project effects, by modifying the criteria used to identify old growth based on better scientific information than was used in 1987 when the Bitterroot Plan was developed." (DSEIS at 5). It is curious the Forest Service understands that scientific information improves (becomes more rigorous) over time when it suits Agency objectives, in this case the BNF claim that Green et al. is better science than was available in 1987. However, the FS does not concede that better science, based upon more recent research, is now available. Recent science indicates that forest which are not managed (i.e., no management actions) appear to be more resilient and sequester more carbon, and that old growth areas are complex ecosystems, not just trees. Please explain why the FS alleges the belief that newer scientific information is better but, in many instances (e.g., cumulative impacts and global warming), acts as if that is not true." (FSEIS, Appendix C – Response to Comments, pp. 24-25)

The Final SEIS responded (in part):

> The 2012 Planning Rule does not require the Forest Service [to] develop additional scientific information to inform planning. Rather it says planning should be based on scientific information that is already available. New studies or the development of new information is not required for planning unless required by other laws or regulation. In the context of the best available scientific information in the planning rule, "available" means that the information currently exists in a form useful for the planning process without further data collection, modification, or validation. (FSEIS, Appendix C – Response to Comments, p. 25)

I believe that response is a purposeful misinterpretation of the 2012 Planning Rule as amended. Claiming "the 2012 Planning Rule does not require the Forest Service [to] develop additional scientific information" does not exempt the Agency from using (or learning from) scientific information and/or research that others have published. Furthermore, even if the interpretation is legally acceptable, it applies only to planning, not to implementation. Other laws and regulations **do require the use of the "best available" science.**

The current BNF Forest Plan (1987) states:

> Long rotations will be prescribed to meet old-growth requirement on suitable timberland in Management Areas 1, 2, 3a, and 3c.
>
> Old-growth stands may be logged and regenerated when other stands have achieved old-growth status. (FP p. II-20)

The Draft SEIS ROD fails to document those long rotations are being implemented in the Gold Butterfly project area or that other old-growth stands exist which therefore allow old-growth management activities (logging) in this project area.

Remedies: The Forest Service must disclose the historic range of variability of old growth on the BNF and update the forest-wide inventory to accurately reflect the amount and distribution of old growth.

The Agency must document the long-rotation periods for logging in the area included in the Gold Butterfly project and prove that enough other old-growth stands exist to allow for the old-growth management actions proposed in this project.

3. FOREST SERVICE SYSTEMATICALLY EXEMPTS PROJECTS FROM FOREST PLAN STANDARDS

This was discussed in FOB/AWR DEIS comments at pp. 25,27-28,53, 74, 80-81, FEIS objections at pp. 8, 15, 34 which still have standing, and SEIS comments at pp. 4, 6-8, 14, 16.

I incorporate those comments/objections into this objection.

The Gold Butterfly project Draft SEIS ROD makes changes to the FEIS ROD and the FSEIS, as described in:

> Gold Butterfly Project-Specific Plan Amendment (Draft SEIS ROD, Appendix B, https://www.fs.usda.gov/nfs/11558/www/nepa/106518_FSPLT3_5743093.pdf

The term "Forest Plan Amendment" is a misleading use of the singular form. In fact, there are three Forest Plan standards that proposed for amendment: EHE, thermal cover, and old growth.

As Table 1 (below) shows, the BNF has a 20-year history of using site-specific amendments to allow it to ignore Forest Plan (1987) standards. We believe the serial use of amendments that cumulatively include a large area is significant runs afoul of NFMA.

Project	Acres	Site-specific Amendments	District	Year
Burned Area Recovery Project	unknown	Snag Retention, EHE in Laird Creek, Thermal Cover in Skalkaho Rye	Darby, Sula, West Fork	2001
Slate/Hughes Watershed Restoration and Travel Management	unknown	EHE	West Fork	2002
Middle East Fork Hazardous Fuels Project	25,800	CWD, Snag Retention, Thermal Cover, Unsuitable Lands	Sula	2006
Hackey Claremont Fuels Reduction	3,131	EHE CWD	Stevensville	2008
Trapper Bunkhouse Land Stewardship Project	23,140	EHE CWD Thermal Cover	Darby	2008
Lower West Fork Project	38,400	EHE CWD Thermal Cover	West Fork	2010
Larry Bass Project	1,200	Thermal Cover CWD	Stevensville	2012
Three Saddle Vegetation Management	6,300	EHE CWD	Stevensville	2013
Darby Lumber Lands Watershed Improvement Travel Management Project	28,758	EHE	Darby	2015
Meadow Vapor	11,090	EHE CWD Thermal Cover	Sula	2017
Darby Lumber Lands Phase 2	27,453	EHE Thermal Cover	Darby	2018
Gold Butterfly	55,147	EHE Thermal Cover OG	Stevensville	2018 2022
Westside Vegetation Treatment	5,700	EHE CWD Visual Quality	Darby	2018
Mud Creek	48,486	EHE CWD Elk Thermal cover and road density OG	West Fork	2021 2022

Table 1 - List of past BNF Projects that Include Site-Specific FP Amendments

The Draft SEIS ROD states:

> "The amendment applies to the Gold Butterfly project activities only. It does not apply to future project activities or other proposed activities elsewhere on the forest. The project area is 55,147 acres, which is approximately 3 percent of the Bitterroot National Forest." (Draft SEIS ROD, Appendix B, p. 2)
>
> "As an amendment that applies to only this project, it is not considered a significant change to the plan for purposes of the NFMA." (Draft SEIS ROD, Appendix B, p. 1)
>
> Effective date (§ 219.17(a)(3): This forest plan amendment will be effective immediately after the decision is signed pursuant to 36 CFR 219.17(a)(3). (Draft SEIS ROD, Appendix B, p. 5)

The beginning date informs the public when the amendments begin but says nothing about when they end. When would the project specific amendments end? If the answer is when the project ends, how is that determined? Such information is necessary and must be publicized.

The Gold Butterfly project is the largest proposed on the BNF in about 20 years making it significant by itself. However, it is only a fraction of the serial "project-specific" amendments to the BNF Forest Plan that have been implemented across the Forest.

Appendix B (p. 3) mentions "repeated project-specific amendments." While the FEIS or FSEIS do not disclose relevant information regarding "repeated project specific amendments," nearly every BNF timber sale contains these same exemptions from the rules. It is reasonable to assume there will be more.

The serial use of project-specific amendments causes a "significant change" to the Forest Plan. Individual project-specific amendments in conjunction with previous and future site-specific amendments, effectively invalidate standards as seen with the EHE example below. Accounting from all from past, current, and foreseeable future project-specific amendments for cumulative effects should be performed and publicized.

Because the Forest Service failed to explain what conditions within the project area supported selection of a site-specific amendment over a forest-wide amendment, the agency's decision to make site-specific amendments was arbitrary and capricious. A site-specific amendment must be based on unusual or unique aspects of the site itself when compared to the forest generally.

The BNF is in process of developing forest-wide Forest Plan amendments for elk hiding effectiveness (EHE), coarse woody debris (CWD), old growth (OG) and snag retention. It would be prudent to wait for results of that analysis before deciding if:

> "… an amendment that applies to only this project, [it] is not considered a significant change to the plan for purposes of the NFMA" (Draft SEIS ROD, Appendix B, p.1).

Remedy: The Forest Service should not proceed with this or any other project until it has completed the forest-wide Forest Plan Amendment Process.

EHE amendment

The SEIS, Appendix D, p. 5, states:

> "Cumulative Impact of Elk Habitat Effectiveness and Habitat Objectives Amendment. There have been 10 project-specific amendments (one more anticipated with reasonably foreseeable projects (Darby Lumber Lands II)) related to EHE since the Forest Plan was approved in 1987."

Unlike the SEIS analysis of cumulative effects from a change in old-growth standards, there is no disclosure of reasonably foreseeable need for future amendments to EHE or thermal cover standards in spite of the acknowledgment that there is "non-compliance with this [EHE] standard in 110 drainages (out of 386 drainages across the forest)." (SEIS, Appendix D, p. 4)

It appears that the BNF has already used project specific EHE amendments on at least 12 projects (see EHE list above), totaling more than 200,000 acres, not counting the 55,000-acre Gold Butterfly project. Addition of the proposed EHE amendment for the Gold-Butterfly project would increase the total to over 250,000 acres. This is significant. For comparison, the BNF's total suitable timberland is 389,820 acres (Forest Plan 1987, p. III-2). The SEIS does not appear to disclose reasonably foreseeable use of EHE amendments but anticipates that the 143,983-acre Bitterroot Front project will require a project-specific old-growth amendment. Addition of a Bitterroot Front acreage EHE project specific amendments would result in a total over 390,000 acres.

The Draft SEIS ROD, Appendix B, p. 2, states:

> "Forest-wide standard for Elk Habitat Effectiveness (Forest Plan pp. II-21, F.1.e.(14)): Manage roads through the Travel Plan process to attain or maintain 50 percent or higher elk habitat effectiveness (Lyon, 1983) in currently roaded third order drainages. Drainages where more than 25 percent of roads are in place are considered roaded. Maintain 60 percent or higher elk habitat effectiveness in drainages where less than 25 percent of the roads have been built."

The meaning of this standard presumes there is some final road building plan and road placement map. Without such, the meaning of "25 percent" seems arbitrary. Twenty five percent of what? No such map or plan is disclosed in the FEIS or SEIS, so it is impossible to determine what the standard actually requires or how far out of compliance the amendment would place the project area.

The Draft SEIS ROD says:

> "The purpose of the plan standards that are being suspended in this plan amendment is to constrain management actions that may preclude achievement of forest-wide and management area goals and objectives for elk and big game habitat. Despite repeated project-specific amendments suspending these standards, the Forest Plan objective of maintaining the current (1987) level of big-game hunting opportunities has been achieved. The number of hunters, as well as the number of elk, continues to increase, and the general hunting season has remained at five weeks." (Draft SEIS ROD, Appendix B, p. 3)

What impacts to big game, other than elk, result from reducing the protection of "big game habitat?" Such information deserves analysis and disclosure.

The Forest Service may possibly show a maintenance of elk populations, but the Forest Plan requires maintenance of habitat and thermal cover.

Montana Fish, Wildlife & Parks emphasizes the importance of habitat over elk population numbers as the correct measure of elk security, even though FWP supported the Stonewall project.

> "At oral argument, Plaintiffs persuasively explained why habitat preservation is different from elk population numbers. Put simply, the Forest Plan seeks to preserve habitat in order to keep elk on public land during hunting season – a consideration not reflected in sheer population." (Alliance for the Wild Rockies, et al. v. Leanne Martin, et al. – Case 9:20-cv-000179-DWM)

How much relevance do elk numbers and hunter numbers have in assessing the "objective of maintaining the current (1987) level of big-game hunting opportunities"? The elk have learned to migrate in a timely way, to nearby large private ranches that are not open to most hunters. When elk habitat effectiveness is reduced on public land the phenomenon of elk migrating to private secure habitat increases, thereby reducing hunting opportunities. The metrics used for assessing big game hunting opportunity are not sufficient, leaving achievement of the objective unknown and essentially unanalyzed. A map of nearby private elk refugia in relation to the project area and out of compliance BNF third order drainages would give us a start on good information to be able to understand the situation.

Remedy: The Forest Service must withdraw this amendment because it does not ensure that elk hiding effectiveness (EHE) is adequate.

<u>Thermal cover amendment</u>

"There have been 7 project-specific amendments related to thermal and hiding cover." (FSEIS, Appendix D, p. 5) The BNF project specific amendments to the Elk Thermal Cover standard have been used already on at least 127,083 acres, not including the large BAR project or proposed 55,147 acres of the Gold Butterfly project. Thermal cover is getting whittled away across a wide area due to serial use of project-specific thermal cover exemptions. It takes a long time, many generations of elk, to grow thermal cover. This is a significant impact to habitat for the elk and for the Plan objectives. There should be a map showing the cumulative use of project specific suspension of thermal cover protections required by the Forest Plan.

In a December 13, 2020, Court Order and Opinion by the U.S. District Court of Montana, the Judge found,

> "While the Forest Service effectively shows a maintenance of elk populations, the Plan requires maintenance of habitat and cover. That tension is only made more apparent when one considers that the Forest Service has actively avoided complying with any metric related to elk habitat or cover." (Alliance for the Wild Rockies, et al. v. Leanne Martin, et al. – Case 9:20-cv-000179-DWM)

Remedy: The Forest Service must ensure that thermal cover is maintained and not diminished by management actions proposed for this project.

Cumulative Effects

In the above-referenced case, the judge found that the Forest Service did not conduct a cumulative-effects analysis which included "past, present, and reasonably foreseeable future actions" that are part of other projects.

> "NEPA always requires that an environmental analysis for a single project consider the cumulative impacts of that project together with 'past, present, and reasonably foreseeable future actions.'" Native Ecosystems Council, 304 F.3d at 895 (citing 40 CFR § 1508.7 (2019)). This applies to reasonably foreseeable forest plan amendments. Id. at 896. "Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. § 1508.7 (2019).

Therefore, the judge ruled:

> …, it was arbitrary and capricious for the Forest Service to not consider the site-specific amendment in the Middleman Project in its cumulative effects analysis. (Alliance for the Wild Rockies, et al. vs. Leanne Martin, et al. – Case 9:20-cv-000179-DWM)

The Gold Butterfly documents fail to disclose a thorough analysis of a forest-wide cumulative effect of past, present, and reasonably foreseeable future projects on the Bitterroot Forest. Two, already proposed future projects cover a substantial portion of the Bitterroot Forest, the Bitterroot Front Project and the Eastside Project. The FEIS, FSEIS, and Draft SEIS ROD include no meaningful cumulative-effects analysis of the management actions included in those projects or other past and current projects. That is a violation of NEPA requirements.

Remedies: The Forest Service must comply with NEPA regulations by completing and disclosing a forest-wide, comprehensive, cumulative analysis of the effects from management actions proposed for this project.

The Forest Service should not proceed with this or any other project until it has completed the forest-wide Forest Plan Amendment Process.

A Gold Butterfly project EIS alternative which does not require project specific amendments should be developed and a more thorough no-action alternative, including maps, should be analyzed and disclosed.

4. THE AGENCY CONSISTENTLY IGNORES FOREST PLAN DIRECTIVES

I have already highlighted how the Forest Service systematically exempts projects from Forest Plan (1987) standards by using site-specific amendments. Although courts have found this

practice to conflict with current regulations, the Forest Service continues to use site-specific amendments.[3]

In addition to ignoring specific Forest Plan (1987) requirements, the Agency has disobeyed one specific Forest Pan Directive since the plan was completed. Friends of the Bitterroot (FOB) brought this to the attention of the Forest Service in their comments to the Gold Butterfly Draft SEIS.

> We would also like to bring the Forest Plan standard concerning beavers to the attention of the BNF as part of the public record. The Bitterroot National Forest plan states (p. II-20), "Beaver **will** be introduced into suitable riparian habitat. (emphasis added)." BNF has a long list of current and proposed projects that do not include management actions to reintroduce beavers. BNF has failed to comply with this standard for 30 years. (FOB/AWR Draft SEIS Comments, p. 21)

FOB included a similar comment and objection to the Mud Creek Project. The comment, Forest Service response, and additional commentary follow.

> **Comment:** It has been suggested that if the FS must do something positive to reduce wildfire (and to justify its existence), it should do everything in its power to restore the beaver to the lands the Agency manages. The beaver, a mere rodent, has repeatedly shown its water-management activities do more to reduce the effects of wildfire than the current assortment of Forest Service standard practices. (Goldfarb, 2020) (FOB et al. pp. 7-8) (See Goldfarb, Attachment C)
>
> **Forest Service Response:** The Forest Service recognizes that beavers benefit the resilience of ecosystems within the plan area. However, because the purpose and need is focused on resilience of and fire risk in upland forested ecosystems, management of beaver populations is outside of the scope of this project. The final environmental assessment includes an alternative not analyzed in detail regarding management of beaver. (Draft DN Appendix B, page 15)
>
> **Commentary:** The BNF Forest Plan includes Forest-wide Management Standard, "Beaver will be introduced into suitable riparian habitat." (FP, chapter II, page 20). The Mud Creek Project violates this requirement.
>
> The Mud Creek Project Decision Notice (DN) states, "We designed the Mud Creek Project to address decreased resilience in forest ecosystems, decreased quality and abundance of important wildlife habitats, and resource concerns related to the existing roads and trails systems." (DN, page 2)

[3] *League of Wilderness Defenders, et. al. v. Connaughton, et al.*, plaintiffs challenged that the Snow Basin project area did not have distinguishing characteristics, and therefore, a site-specific amendment was not justified. No. 3:12-cv-02271-HZ (D. Or. Dec. 9, 2014). The court agreed with the plaintiffs, holding the agency's decision to make site-specific amendments arbitrary and capricious because the Forest Service failed to explain what conditions within the project area supported selection of a site-specific amendment over a forest-wide amendment. Id. at 54-55. The court explained that a site-specific amendment "must be based on unusual or unique aspects of the site itself when compared to the forest generally." Id.

The Purpose and Need statement (DN, page 2) includes:

- "Improve landscape resilience to disturbances (such as insects, diseases, and fire) by modifying forest structure and composition and fuels; and
- "Design and implement a suitable transportation and trail system for long-term land management that is responsive to public interests and reduces adverse environmental effects."

Wildfire and forest roads are the most common disturbances on the BNF landscape which increase runoff. Beaver improve landscape resilience by helping to decrease stream siltation, providing flood control, and reducing stream channel instability.

Despite public comments and the inclusion of beaver reintroduction in the Forest Plan, there is no mention of beaver in any project file wildlife reports.

Suggestions regarding beaver introduction into the project area were immediately dismissed. The FS acts as if the only two tools available to achieve its arbitrary Purpose and Need are chainsaws and fire (prescribed). Ignored are tools that nature provides such as the beaver.

[The Mud Creek Draft DN,] Appendix A – Forest Plan Consistency, includes a chart which discloses the Standard: "Wildlife and Fish No. 10 - Beaver will be introduced into suitable riparian habitat." (Draft DN, Appendix A, page 4)

The column labeled "Applicable to planning/ project development" indicates "Yes," the Standard is applicable.

The column labeled "Specific Design Feature, if needed" the chart indicates "Yes," and asks, "Have we ever done this?"

The column labeled "Activities/Areas where applicable" discloses that Forest Plan consistency requires the Standard to be applied, "Project area wide as required based on management area-specific criteria."

Because the Agency ignored the Forest Plan standard, the Mud Creek DN and FONSI violate the BNF Plan and violate NFMA. NEPA is violated by lack of analysis and full disclosure.

Now returning to the Gold Butterfly project, the Forest Service response to FOB's comments to the Gold Butterfly Draft SEIS was:

The Forest Service recognizes that beavers benefit the resilience of ecosystems within the plan area. However, management of beaver populations is outside the scope of this project.

I find that response to be inadequate. The history or BNF projects over the last several decades has been almost entirely focused on the production of logs for the timber industry. Other objectives of the projects were always incidental to logging and in many, if not most, instances were never completed. One recent example of noncompletion is the recent Westside Collaborative Vegetation Management Project which, although now closed, never completed terrain repairs or BMP repairs to roads.

Given its history, a reasonable person would likely assume the main, and sometimes only, focus of the Forest Service is the production of logs. Even when other objectives are added to project, logging/thinning commences before all else. When the logging/thinning is completed, the Agency moves on to the next project, neglecting to satisfy the previous project's additional objectives.

In addition, the Forest Service designs projects so narrowly that other Forest Plan mandates are not included. For example, in direct contradiction of the Forest Plan (1987), there is no history of the Agency ever including the introduction of Beavers in any project.

Here claiming the "management of beaver populations is outside the scope of this project" is proof that the Forest Service has no interest in following its own mandates.

In my Gold Butterfly Draft SEIs comments I stated the following.

> Recently, the FS hired a group of forestry and legal experts, headed by Martin Nie,[4] to research who had the ultimate responsibility for managing and protecting wildlife—the states or the federal government—on federally managed lands. Using extensive research of U.S legal documents and case law, the group established that federal agencies have the ultimate responsibility for managing and protecting wildlife.[5] Although the Agency attempted to hide the research by Nie et al. from the public, the fact remains that the FS has the ultimate responsibility to not only manage and protect wildlife habitat, but to directly manage and protect the wildlife. (Nie, 2017)
>
> The prevailing pretense that wildlife management on federally managed public land is the purview of the State (Montana) and not federal agencies is not supported by caselaw. The BNF must admit to that responsibility and, when designing this and other projects, act accordingly.

The Forest Service's Response:

> The opinion expressed in this paper was disputed by the Secretary of the Interior in 2018 (PF-SUPP-WILD-004). Any such change in management responsibility for wildlife on federal lands is outside the scope of the project. (Final SEIS, Appendix C, p. 65)

Interestingly, the last paragraph of that memorandum states:

> This Memorandum and any resulting reports or recommendations are not intended to, and do not create any right or benefit, substantive or procedural, enforceable at law or equity by a party against the United States, its departments, agencies, instrumentalities or entities, its officers or employees, or any other person.

If I understand correctly that paragraph means this memo does not change legal precedent in anyway. That being the case, the Forest Service's response means nothing other than they wish to ignore 200 years of case law.

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[4] Professor, Natural Resource Policy; Director, Bolle Center for People & Forests; Undergraduate Program Director, Resource Conservation, University of Montana

[5] Nie, M. et al. (2017) Fish and Wildlife Management on Federal Lands Debunking State Supremacy - https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2980807

It seems clear that the BNF not only continues to bypass Forest Plan (1987) mandates by continually and illegally using site-specific Forest Plan Amendments but that the Agency also ignores at least one other Forest Plan (1987) mandate, "Beaver **will** be introduced into suitable riparian habitat."

To sum up, the Bitterroot National Forest is acting illegally and has been for more than 30 years. It must cease and desist.

Remedies: If the Forest Service believes that certain Forest Plan (1987) mandates are incorrect, it must replace the current plan (1987)—which it should have done twice in the ensuing 35 years—or at the very least, legally amend the plan by the required process.

The Agency should place all projects on hold until such time as the Forest Plan is either revised or properly amended.

5. CLIMATE CHANGE AND CARBON SEQUESTRATION

This issue was discussed in my DEIS comments at pp. 50-52, my FEIS objections at pp. 35-51 which still have standing, and my comments on the DSEIS at pp. 23-25, 30-31. I incorporate those comments/objections into this objection and add the following discussion.

My Draft SEIS comment, pp. 23-23 states:

DSEIS does not consider recent national direction. Issued on August 1, 2016, this directive from Executive Office of the President, Council on Environmental Quality has been reimplemented as national direction. [*See* 86 Fed Reg. 10252 (Feb. 19, 2021).]

The 2016 CEQ guidance acknowledges, "changes in our climate caused by elevated concentrations of greenhouse gases in the atmosphere are reasonably anticipated to endanger the public health and public welfare of current and future generations." It directs federal agencies to consider the extent to which a proposed action such as this project would contribute to climate change. It rejects as inappropriate any notion that this project is of too small a scale for such consideration:

> "Climate change results from the incremental addition of GHG emissions from millions of individual sources, which collectively have a large impact on a global scale. CEQ recognizes that the totality of climate change impacts is not attributable to any single action, but is exacerbated by a series of actions including actions taken pursuant to decisions of the Federal Government. Therefore, a statement that emissions from a proposed Federal action represent only a small fraction of global emissions is essentially a statement about the nature of the climate change challenge, and is not an appropriate basis for deciding whether or to what extent to consider climate change impacts under NEPA. Moreover, these comparisons are also not an appropriate method for characterizing the potential impacts associated with a proposed action and its alternatives and mitigations because this approach does not reveal anything beyond the nature of the climate change challenge

itself: the fact that diverse individual sources of emissions each make a relatively small addition to global atmospheric GHG concentrations that collectively have a large impact."[6]

The FS must quantify GHG emissions. The agency can only use a qualitative method if tools, methodologies, or data inputs are not reasonably available. If that is the case, there needs to be rationale as to why a quantitative analysis is not warranted. However, quantitative tools are readily available, so the FS must comply.[7]

Judging by its actions—the refusal to act as if global warming is not extremely important—the Agency is a huge, bureaucratic, global-warming denier.

Please explain why the FS does not take global warming as seriously as the current situation demands and incorporate the mitigation strategies (as identified by the most recent science) into all project proposals.

Please quantify, using the available tools, the GHG emissions from this project and the cumulative GHG emissions from all past, present, and reasonably foreseeable projects on the BNF.

Forest Service response: Forest carbon losses associated with timber harvests have been small compared to the total amount of carbon stored in the Forest, resulting in a loss of about 0.1 percent of non-soil carbon from 1990 to 2011. This does not account for the continued storage of harvested carbon in wood products or the effect of substitution of the use of wood products instead of concrete or metal which produce more greenhouse gases. The biggest influence on current carbon dynamics on the Bitterroot National Forest is the legacy of forest fire alongside intensive timber harvesting and land clearing for agriculture during the 19th century, followed by a period of forest recovery and more sustainable forest management beginning in the early to mid-20th century, which continues to promote a carbon sink today (Birdsey et al. 2006 in Bitterroot Carbon Assessment). However, stands on the Bitterroot National Forest are now middle to older aged. The rate of carbon uptake and sequestration generally decline as forests age. Accordingly, projections from the RPA assessment indicate a potential age-related decline in forest carbon stocks in the Northern Region (all land ownerships) beginning in the 2020s. On the Bitterroot Forest, the percentage of forest greater than 80 years old was 64.1 percent in 2011.

I find that response unacceptable for the following reasons.

- First, the response ignores the fact that the proposed management actions not only remove carbon currently stored in trees but that the same management actions disturb the soil to such a degree that a substantial amount of soil carbon is also lost. (Achat 2015). In addition, in Oregon the wood products sector was found to be the greatest contributor to CO_2 emissions. (See Appendix A). The probability that Montana's wood products sector is any less of a contributor to CO_2 emissions is miniscule.
- Second, the response sidesteps the fact that the carbon sequestration ability of the forest is reduced, both short- and long-term by the proposed management actions.

[6] Fed Reg. 10252 (Feb. 19, 2021) - https://www.govinfo.gov/content/pkg/FR-2021-02-19/pdf/2021-03355.pdf
[7] Greenhouse Gas (GHG) Accounting Tools - https://ceq.doe.gov/guidance/ghg-accounting-tools.html

(Buotte 2019) (Campbell 2011) (Catanzaro and D'Amato) (Clemmensen 2013) (Depro 2008) Garcia-Gonzalo 2007) (Harris 2016) (He 2021) (Houghton 1017) (Jandl 2006) (Keith 2014) (Law 2020) ((Law and Moomaw 2021) (Law and Waring 2015) (Law 2018) (Loustrau 2011) (Mendelsohn an Sohngen 2019) (Moomaw 2019) (Reinhardt and Holsinger 2010) (Sun 2004) (Treseder 2013) (Wilent 2019) (Wilson 2020) (Zald 2015) (Zhou 2013)

- Third, most rigorous and recent scientific research refutes the insinuation that the continued storage of harvested carbon in wood products is meaningful to any degree. (See Appendix A)
- Fourth, the Agency does not backup its declaration that "concrete or metal which produce more greenhouse gases." (Harmon 2019) (Howard 2021)
- Fifth, blaming the current carbon dynamics on previous practices misses the point, which is that CEQ directives and the current Washington administration require the Agency to take corrective action, now.
- Sixth, the assertion that because BNF forests are "middle and older aged the rate of carbon uptake is declining has been shown by recent rigorous scientific studies to not only be false but that the opposite is true. (Mildrexlar 2014) (Stephenson 2014) (Sugden 2019)

My Draft SEIS comment, pp. 24-25 states:

The Gold Butterfly DSEIS documentation includes no rigorous analysis of climate change. The documentation included with the DEIS and FEIS sidestep the increasingly important issue of global warming. Those omissions are ecologically dangerous and morally abhorrent.

Given the urgency of minimizing additional greenhouse gas emissions and increasing carbon sequestration to protect the earth's climate system, it would be best to protect trees for their carbon stores, co-benefits of habitat for biodiversity, resilience to drought and fire, and microclimate buffering under the expected future climate extremes.

Large, old trees store disproportionately large amounts of carbon, as carbon storage dramatically increases with size. (Mildrexler, 2020) (Stephenson, 2014). Retaining old-growth stands will help mitigate (buffer) global warming and benefit ecosystems through biodiversity and resilience to fire, disease, and drought.

According to a 2021 article, "Keeping trees in the ground where they are already growing is an effective low-tech way to slow climate change." (Law B. E., 2021)

> "Compared with other terrestrial ecosystems, forests store some of the largest quantities of carbon per surface area of land." Much of the carbon stored is within the soils, with a smaller part in the vegetation. Forest management can modify soil organic carbon stocks. For example, conventional harvests like clearcutting or shelterwood cutting cause soils to lose organic carbon which is not the case for soils in unharvested forests. Not only does it lose the carbon stored in the soils, but cutting trees eliminates the trees' potential to continue to sequester carbon. (Achat, 2015)
>
> "Our study showed that, compared with conventional stem-only harvest, removing the stem plus the harvesting residues generally increases nutrient outputs thereby leading to

reduced amounts of total and available nutrients in soils and soil acidification, particularly when foliage is harvested along with the branches. Losses of available nutrients in soils could also be explained by reduced microbial activity and mineralization fluxes, which in turn, may be affected by changes in organic matter quality and environmental conditions (soil compaction, temperature, and moisture). Soil fertility losses were shown to have consequences for the subsequent forest ecosystem: tree growth was reduced by 3–7% in the short or medium term (up to 33 years after harvest) in the most intensive harvests (e.g., when branches are exported with foliage). Combining all the results showed that, overall, whole-tree harvesting has negative impacts on soil properties and trees that may have an impact on the functioning of forest ecosystems." (Achat, 2015)

The project documentation (DEIS, FEIS, DSEIS) provides trivial analysis of the interaction and connection between the proposed management actions and global warming.

Numerous researchers found that, on an annual basis, logging emits significantly more atmospheric carbon than wildfires. (Harris, 2016) (Hicke, 2013) (Howard, 2021) (Smith, 2019) (Wilson, 2020) (Stenzel, 2019) (Law B. E., 2018) (See also Appendix B illustrations)

Forest Service response: Please see answer to previous bulleted item as well as discussion from the Bitterroot Carbon Assessment: "Forested area on the Bitterroot NF will be maintained as forest in the foreseeable future, which will allow for a continuation of carbon uptake and storage over the long term. Across the broader region, land conversion for development on private ownerships is a concern (Wear et al., 2013) and this activity can cause substantial carbon losses (FAOSTAT, 2013; USDA Forest Service, 2016). The Bitterroot NF will continue to have an important role in maintaining stable carbon stocks, regionally and nationally, for decades to come."

That response is unacceptable. The Agency offers no proof that "Forested area on the Bitterroot NF will be maintained as forest in the foreseeable future, which will allow for a continuation of carbon uptake and storage over the long term." Given the rapid heating of the planet and the forecasts for changes to precipitation in the area, that declaration is suspect.

The Bitterroot Carbon Assessment (BCA), section 3.1, reveals that:

… The resulting disturbance maps indicate that fire has been the dominant disturbance type detected on the Bitterroot NF from 1990 to 2011, in terms of the total percentage of forested area disturbed over the period (Fig. 6a). However, according to the satellite imagery, fires affected a relatively small area of the forest during this time. With the exception of 2002, fire affected less than 3 percent of the total forested area of the Bitterroot NF in any single year from 1990 to 2011, and in total about 14 percent (approximately 82,686 ha) of the average forested area during this period (590,804 ha). Lesser disturbance was due to insect activity and in total about 1.3 percent (approximately 7,934 ha) of the average forested area from 1990 to 2011 (82,686 ha) was impacted by insect activity. The total amount of disturbed forest from all factors during this period was 15.7 percent, a total of 93,683 ha disturbed. Although the disturbances varied in intensity, they generally removed less than 75 percent of canopy cover (magnitude) (Fig. 6b). In

> total, only 2.8 percent of the forest had a disturbance that resulted in a canopy loss of greater than 75 percent from 1990 to 2012.

Although the Agency continues to promote logging and thinning as the best method to minimize "disturbance," this Assessment shows the total amount of disturbance between 1990 and 2011 amounted to less than 2.8 percent of the forest (that resulted in canopy loss >75%. (Bitterroot Carbon Assessment, pp. 11-12)

Refuting declarations that logging and thinning increases a forest's ability to sequester carbon, the BCA states:

> …, several decades may be needed to recover the carbon removed depending on the type of the harvest (e.g., clear-cut versus partial cut), as well as the conditions prior the harvest (e.g., forest type and amount of carbon) (Raymond et al., 2015). (Bitterroot Carbon Assessment, p. 14)

Given the increasing rate of global warming, waiting "several decades" to sequester carbon is not acceptable.

The Agency continues to declare that younger forests sequester more carbon than older forests.

> Forests are generally most productive when they are young to middle age, then productivity peaks and declines or stabilizes as the forest canopy closes and as the stand experiences increased respiration and mortality of older trees (Pregitzer & Euskirchen, 2004; He et al., 2012), as indicated by the in NPP-age curves (Fig. 9b), derived in part from FIA data). (Bitterroot Carbon Assessment, p. 14)

> …, the forests of the Bitterroot NF are mostly middle-aged and older. As of 2011, 64.1% of the Forest was greater than 80 years old; 35.9% of the forest was less than 80 years old (Fig. 9a). If the Forest continues on this aging trajectory, more stands will reach a slower growth stage in coming decades (Fig. 9b), potentially causing the rate [of] carbon accumulation to decline and the Forest may eventually transition to a steady state in the future. It is also important to note that once biomass carbon stocks approach maximum levels, ecosystem carbon stocks can continue to increase for many decades as dead organic matter and soil carbon stocks continue to accumulate (Luyssaert et al., 2008). Furthermore, while past and present aging trends can inform future conditions, the applicability may be limited, because potential changes in management activities or disturbances could affect future stand age and forest growth rates (Williams et al., 2012). (Bitterroot Carbon Assessment, pp. 18-19)

The BCA makes the point that: "It is also important to note that once biomass carbon stocks approach maximum levels, ecosystem carbon stocks can continue to increase for many decades as dead organic matter and soil carbon stocks continue to accumulate (Luyssaert et al., 2008)."

The repeated Agency claim that younger forests sequester more carbon than older forests has been contradicted by vast amounts of recent scientific research. (Bitterroot Carbon Assessment, p. 19). In fact, the opposite is now generally accepted by the majority of scientists, at least those not associated with or funded by the timber industry.

However, the Forest Service ignores the salient point that even after biomass carbon stocks (trees and other vegetation) approach maximum levels, carbon sequestration in organic matter and soil continues to increase.

Remedy: The Draft SEIS ROD must be withdrawn and a complete analysis of the project's effect on global warming and carbon sequestration performed.

6. ECONOMICS

The most important economic issue associated with this project is the significant shortfall in funds to do the project (as shown in the Economic Analysis which has not been updated). Besides not covering costs regarding the additional public health and safety issues (discussed in our previous comments and objections), all of which will be very real (relating to dust, road repair, bridge issue, etc.), there will not be nearly enough money to do the restoration work which the Agency asserts is planned within the Project boundaries. What that means is, in the end, most of the Forest Service's ecological goal commitments cannot and will not be achieved. The remediation for bull trout, forest rehab, etc., is doomed to fail. The Project as planned (except for the timber harvesting) is inherently a fallacy.

Remedy: The Draft SEIS ROD must be withdrawn and a complete and truthful economic analysis conducted and made public before this project moves forward.

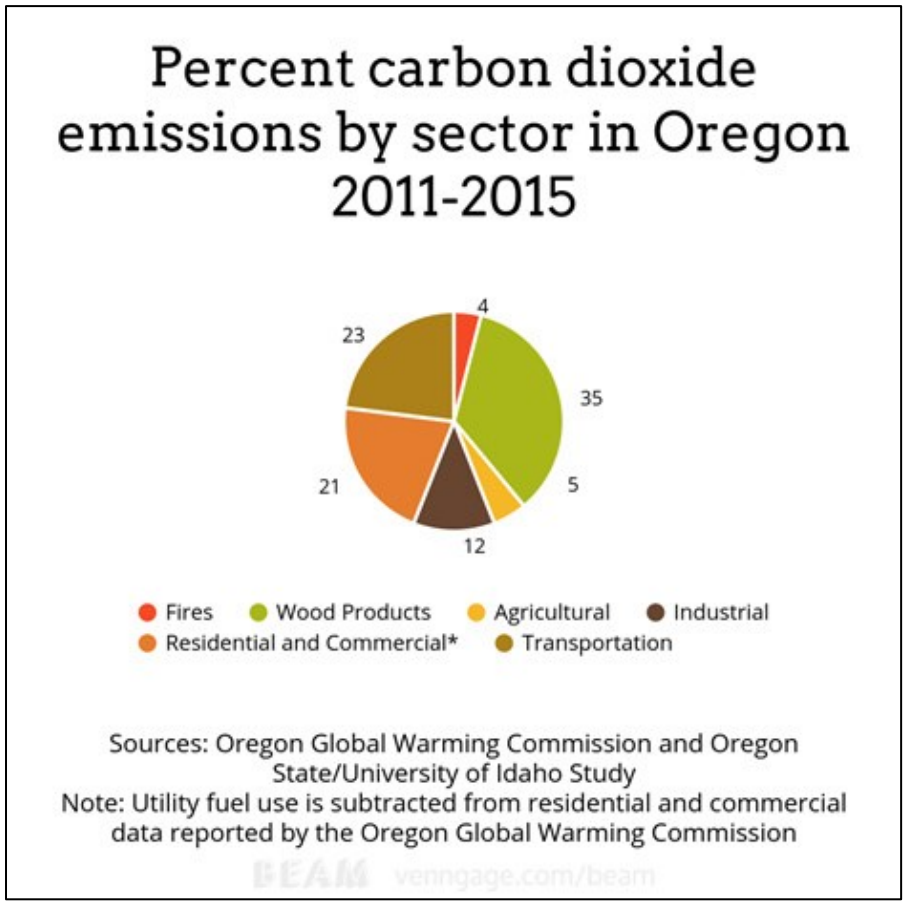
Submitted respectfully,

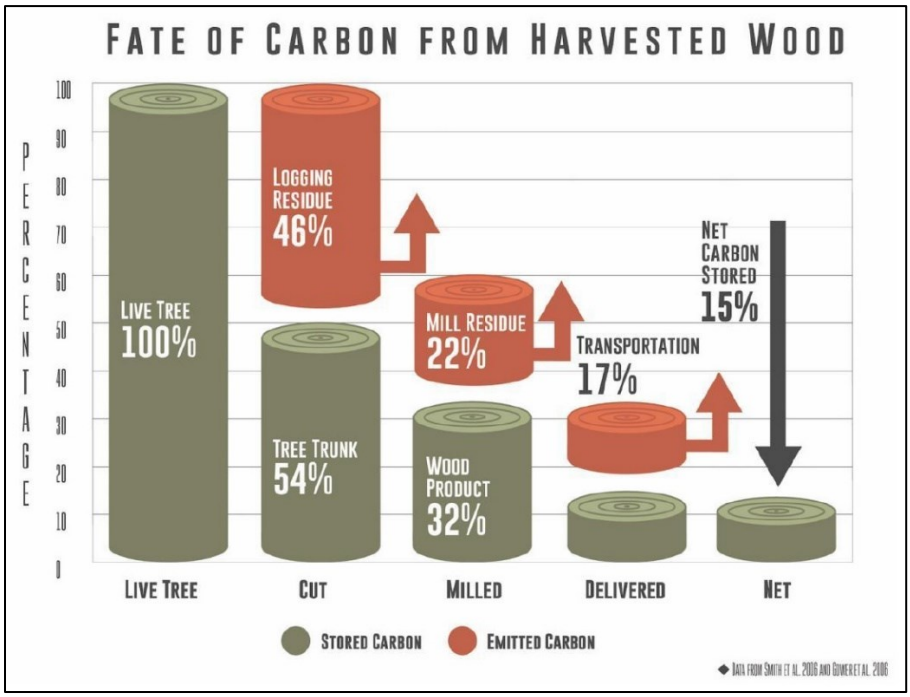
/S/

Michael Hoyt (Lead Objector)
[redacted]

Jim Miller, President
Friends of the Bitterroot
[redacted]

Appendix A


Percent carbon dioxide emissions by sector in Oregon 2011-2015
4
35
5
12
21
23
Fires
Wood Products
Agricultural
Industrial
Residential and Commercial*
Transportation
Sources: Oregon Global Warming Commission and Oregon State/University of Idaho Study
Note: Utility fuel use is subtracted from residential and commercial data reported by the Oregon Global Warming Commission
BEAM
venngage.com/beam


FATE OF CARBON FROM HARVESTED WOOD
PERCENTAGE
100
90
80
70
60
50
40
30
20
10
0
LIVE TREE
100%
LOGGING RESIDUE
46%
TREE TRUNK
54%
MILL RESIDUE
22%
WOOD PRODUCT
32%
TRANSPORTATION
17%
NET CARBON STORED
15%
LIVE TREE
CUT
MILLED
DELIVERED
NET
STORED CARBON
EMITTED CARBON
DATA FROM SMITH ET AL. 2006 AND GOMEZ ET AL. 2006

Appendix B

References Cited in the Objection and Incorporated documents (all references listed below were also cited by Friends of the Bitterroot and delivered by me on January 20, 2022, to Steve Brown on a DVD)

2020 Biological Assessment (BA) - Bitterroot National Forest Grizzly Re-consultation

2021 BiOp Appendix A – Maps

2021 BiOp Appendix B - Forest Plan Direction

2021 BiOp Appendix C - Elk Plan Amendment

2021 BiOp Appendix D - Food Storage Order

2021 BiOp Appendix E - Travel Plan Selected Alternative

2021 BiOp Appendix F - Secure Habitat Analysis

2021 BiOp Appendix G - Secure Habitat Table

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