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February 22, 2022
Sierra Club, Colorado Chapter
1536 Wynkoop Street, 4B-1
Denver, Colorado, 80202

Scott Fitzwilliams,
Supervisor, White River National Forest
c/o Shelley Grail Braudis
PO Box 309

Re: Comments on USDA Forest Service Draft Environmental Assessment (DEA) for Redstone to McClure Pass section of Carbondale to Crested Butte (CCB) Trail
(Trail Project #56913)

Dear Supervisor Fitzwilliams,

Sierra Club's mission is "to explore, enjoy, and protect the wild places of the earth; to practice and promote the responsible use of the earth's ecosystems and resources; and to educate and enlist humanity to protect and restore the quality of the natural and human environments." Although we are comprised of a diverse population, the tie that binds us is our commitment to conserving those places, processes, and organisms that will sustain our natural heritage with all its biological diversity. Accordingly, Colorado Sierra Club supports *Alternative 1 – the No Action Alternative. Under the No Action alternative, Pitkin County would not be issued a special use authorization (SUA) and would not construct the Redstone to McClure Pass Trail on the WRNF. The No Action alternative represents a continuation of existing conditions and current management actions.*

Connecting people with nature and promoting healthy lifestyles are laudable objectives; however, trail-induced fragmentation of remaining intact landscapes diminishes environmental sustainability, reduces ecosystem resilience, and negatively impacts the quality of all life. Best available science documents that recreational trails that fragment natural areas reduce the potential of the landscape to support native wildlife and alter critical environmental processes including hydrologic, soil, and vegetation processes thereby reducing ecosystem resiliency and the ability to sustain functions in the face of a Colorado's rapidly warming climate.

Large, unfragmented landscapes have become increasingly rare in the rapidly developing West. Intact, unfragmented landscapes are essential to provide wildlife with sufficient refugia, resources and unimpeded environmental functions sufficient to sustain the environmental services that maintain healthy and resilient ecosystems.

We support trail development that maintains large, intact landscapes and which does not contribute to additional habitat fragmentation. The development of the Redstone to McClure Pass segment of the CCB trail will increase habitat fragmentation and loss and drive declines of local wildlife populations. Although wildlife losses from this one section of trail may be small, the cumulative impact from the loss of wildlife that will occur from the development of several other trail sections are large and will negatively impact wildlife populations throughout the Crystal River valley. To prevent further

fragmentation and habitat and wildlife loss, the recreational trail should only be developed within the existing highway corridor.

"The hope of the future lies not in curbing the influence of human occupancy—it is already too late for that— but in creating a better understanding of the extent of that influence and a new ethic for its governance." - Aldo Leopold -

OVERVIEW OF COMMENTS SUBMITTED BY COLORADO SIERRA CLUB.
NEPA and CEQ Regulations applicable to the Proposed Trail Project require that the potential direct, indirect, and cumulative impacts from connected actions and reasonably foreseeable future actions be considered in a single NEPA process. The Forest Service DEA acknowledges that the construction of the entire Carbondale to Crested Butte Trail is a reasonably foreseeable action whose cumulative effects must be considered in evaluating the potential impacts of the Redstone to McClure Pass Trail project.

USFS' Proposed Action, the Redstone to McClure Pass trail development, will impact wildlife populations throughout the Crystal River valley due to cumulative and connected impacts. Wildlife is impacted both by trails and by human presence on those trails. Human presence often impacts wildlife directly causing a movement away from human disturbance and flight response which raises stress levels and displaces wildlife from essential resources. Trails impact wildlife indirectly by compressing habitat available to wildlife (a form of habitat loss) thereby diminishing essential resources and consequently reducing the landscapes carrying capacity (abundance of individuals and species) that can be supported in that habitat.

Many wildlife populations are structured as metapopulations (a population of populations) with the viability of the metapopulation dependent on both connectivity to enable immigration and emigration and the viability of the individual subpopulations. Many native species' populations in the Crystal River valley, including elk and bighorn, are structured as metapopulations. The decline or loss of one sub-population of elk or bighorn in the Redstone to McClure Pass trail development area due to habitat fragmentation and compression will impact the entire metapopulation. Similarly, the decline or loss of subpopulations of elk in other proposed trail sections will individually and cumulatively negatively impact the metapopulation. Cumulative loss of elk or bighorn subpopulations will ultimately result in a downward population spiral and diminished viability for the whole metapopulation.

Avian abundance and community composition are negatively impacted by both recreational trail-induced fragmentation and by associated human disturbance. Many North American bird species are in dramatic decline due to the cumulative impacts of habitat conversion, climate warming, habitat fragmentation, and human disturbance. Breeding bird surveys at the Old Wagon Road proposed trail development site documented the presence of 45 species of breeding birds; 18 of these 45 species are of conservation concern and vulnerable to extinction. Preventing further fragmentation of habitat from recreational trails is essential to help prevent local avian extinctions.

The Project sponsor, Pitkin County, has acknowledged, in its own Final Trail Plan documents, as well as in the ERO Resources-prepared Appendix B to that Plan, the potential for significant cumulative impacts to Water resources, including wetland, riparian and instream impacts. Impacts to river resources also have the potential to negatively affect Crystal River Wild and Scenic eligibility, in violation of the Forest Plan's clear directive to protect and perpetuate eligible river segments in their current condition.

Because the DEA fails to take a hard and compete look at the direct, indirect and cumulative impacts of both the Proposed Project and the full CCB on several key environmental resources in the Crystal River Valley, it cannot serve as the basis for the Forest service to issue a FONSI. Based on the evidence of potential direct, indirect and cumulative impacts that has been presented to the Forest Service, by the Trail sponsor – Pitkin County's own consultant, as well as other independent experts, NEPA and CEQ and court decisions interpreting those laws and regulations require that the Forest Service thoroughly evaluate those potential impacts in a single NEPA process, through the preparation of a draft Environmental Impact Statement.

I. INTRODUCTION.

A. **SCIENCE AND THE ENVIRONMENTAL POLICY ACT.**

The stated goals of the proposed trail development include both a connected trail throughout the Crystal River valley and increased human recreational use of that trail in the valley.

> ***The Draft Environmental Assessment (DEA) states (p. 24) that completion of the proposed trail is, "anticipated to benefit recreational access and opportunities throughout the Crystal River Valley. The proposed CCB trail would provide nonmotorized recreation and access opportunities for a variety of recreationists, including cyclists, runners, walkers, and equestrians, as well as localized connections between subdivisions, Redstone, Carbondale, and other trails and recreation destinations within the valley".***

Ecosystem function (e.g. carbon sequestration, food production, water cleansing etc.) is dependent on connected ecosystem processes such as energy flow, nutrient cycles, water flow and storage, soil formation and erosion, and migration and pollination.

Decades of peer-reviewed science informs that recreational trails and associated human disturbance fragment habitat, disconnecting processes and results in loss of habitat and essential resources to sensitive wildlife species (Gaines et al 2003). Consequences include diminished ecosystem function, wildlife population declines and local loss of species.

In a systematic review of the scientific literature, researchers analyzed 274 articles on the effects of non-consumptive recreation on animals across all geographic areas, taxonomic groups, and recreation activities. The evidence was clear with over 93% of reviewed articles documenting at least one effect of recreation on animals, the majority of which (59%) were classified as negative effects, followed by unclear (25.9%) and positive (14.7%) effects. (Larson et al. 2016).

Recreation is a leading factor in endangerment of plant and animal species on United States federal lands and is listed as a threat to 188 at risk bird species globally. Effects of recreation on animals include behavioral responses such as increased flight and vigilance; changes in spatial or temporal habitat use; declines in abundance, occupancy, or density; physiological stress; reduced reproductive success; and altered species richness and community composition (Larson et al 2016).
Many wildlife species' populations, including bighorn sheep and elk populations, are structured as metapopulations (Singer et al 1999). Metapopulation survivability is dependent on connectivity to enable emigration and immigration of the sub-populations that comprise the metapopulations and on the viability of each sub-populations. Thus, when a sub-population is lost, the viability of the entire metapopulation diminishes if connectivity to enable restoration of that sub-population is severed (Hanski 2003, Baguette et al 2017)).

Science is unambiguous. If the Redstone-McClure Pass trail is developed in the proposed location, local wildlife populations will be negatively impacted. Consequences will likely include population decline and potential local loss of species. Further, because species such as elk, mule deer, wolves and mountain lions, and some bird species are structured as metapopulations (local populations linked by occasional dispersal), the negative impacts of fragmentation and disturbance on one sub-population will impact the viability of connected sub-population, and ultimately the entire metapopulation.

The National Environmental Policy Act (NEPA) recognizes that small, incremental impacts may build up to cumulatively result in significant negative impacts. Cumulative effects can be defined as the combined effect on a species, or its habitat caused by the activity or program at hand, as well as other reasonably foreseeable events that are likely to have similar effects on the species or habitat (Weaver et al. 1987).

> **Although the USFS states that "The proposed trail would be about 7 miles long, with about 5 miles located on National Forest System (NFS) lands" (p 5)", in reality this project section is connected to much more extensive project encompassing 18 miles of trail from Carbondale to Redstone and an additional 56 miles to Crested Butte.**

Loss of wildlife and ecosystem function will occur from trail development of this section and from each of the other sections in the development project. Although taken individually, the loss of one sub-population of elk or bighorn sheep from one trail development section may not send the valley's metapopulation of elk or bighorn into extirpation, the cumulative impact from the loss or decline of several sub-populations – particularly for those species whose sub-populations are connected through dispersal to into a metapopulation – may send that metapopulation into a downward spiral from which there is diminished likelihood for recovery.

B. THE FOREST SERVICE DEA FAILS TO COMPLY WITH THE LAW GOVERNING THE NEPA ANALYSIS FOR THE REDSTONE TO McCLURE PASS TRAIL.

The proposed project was scoped under the 1978 Council on Environmental Quality (CEQ) Regulations governing application of the National Environmental Policy Act (NEPA). Therefore, the Trail Project DEA must follow this rule, even though a new rule has since been published.[1]

The 1978 rule requires consideration of the following types of actions:

1. Connected actions, which means that they are closely related and therefore should be discussed in the same impact statement. Actions are connected if they:

(i) Automatically trigger other actions which may require environmental impact statements.

(ii) Cannot or will not proceed unless other actions are taken previously or simultaneously.

(iii) Are interdependent parts of a larger action and depend on the larger action for their justification.

2. Cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement.

[1] The current administration has announced its intent to rewrite the newer rule, "to generally restore regulatory provisions that were in effect for decades before being modified in 2020". See 86 Fed Reg 55757, October 7, 2021.

3. Similar actions, which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography. An agency may wish to analyze these actions in the same impact statement. It should do so when the best way to assess adequately the combined impacts of similar actions or reasonable alternatives to such actions is to treat them in a single impact statement. 40 CFR 1508.25(a).

"Cumulative impact" is defined as follows:

"Cumulative impact" is the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time. 40 CFR 1508.7.

As the Trail Project DEA acknowledges at p. 17, the regional CCB – Crystal River trail does meet the definition of a reasonably foreseeable action according to the Forest Service's NEPA procedures rules:

"Reasonably foreseeable future actions are those federal or nonfederal activities not yet undertaken for which there are existing decisions, funding, or identified proposals."

In addition, and importantly, the CCB Trail is also a connected action with the Redstone to McClure Pass Trail because the latter is clearly part of the CCB proposal. (See Trail Plan, pp. 148-171). Thus, the Redstone to McClure Pass Trail is an interdependent part of the larger CCB proposal, and it depends on the larger proposal for its justification.

It is clear from relevant case law that cumulative impacts, including those of connected actions, must be analyzed and disclosed in an EIS. See the scoping comment letter of Katherine Hudson, dated January 17, 2020. We hereby incorporate this comment letter by reference. (See also *Fritiofson v. Alexander*, 772 F.2d 1225 (5th Cir. 1985)).

The Forest Service DEA clearly acknowledges that the Pitkin County-approved Carbondale to Crested Butte Trail is a reasonably foreseeable future action: a non-Federal activity for which there are identified proposals and existing decisions. (Trail Project DEA, pp. 5 and 17). Given that, in evaluating the potential impacts of the Proposed Action (the segmented Redstone to McClure Trail Project), NEPA directs that the Forest Service must consider the incremental impacts of the proposed action with the added impacts of reasonably foreseeable future actions, all of which may be individually minor but collectively have the potential to be significant. (See 36 CFR §§220.3 and 220.7; 40 CFR §1508.7).

The Forest Service is clearly directed by the CEQ regulations and its own NEPA regulations, in considering the potential impacts of the action proposed by the County, to evaluate:

> **(6)** The degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration.
>
> **(7) Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.** Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment. **Significance cannot be avoided by terming an action temporary or by breaking it down into small component parts.**

See 40 CFR §1508.27(b)(6 and 7), cited to in 36 CFR §220.7(b)(3)(iii) (emphasis added).

Federal Court decisions have reiterated this key NEPA principle. Where "several actions have a cumulative ... environmental effect, this consequence must be considered in an EIS." (*Neighbors of Cuddy Mountain v. U.S. Forest Service*, 137 F.3d 1372, 1378 (9th Cir. 1998), citing *City of Tenakee Springs v. Clough,* 915 F.2d 1308, 1312 (9th Cir. 1990); *see also* 40 C.F.R. § 1508.25(a) (stating that the "scope" of an EIS includes consideration of "connected actions")). The purpose of this requirement is to prevent agencies from dividing one project into multiple individual actions "each of which individually has an insignificant environmental impact, but which collectively have a substantial impact." *Thomas v. Peterson,* 753 F.2d 754, 758 (9th Cir.1985).

In addition, the Supreme Court has held that under NEPA, an agency not only has a duty to consider cumulative impacts, but also a separate duty to consider those impacts in a single NEPA process:

> proposals for ... related actions that will have cumulative or synergistic environmental impact upon a region concurrently pending before an agency must be considered together. Only through comprehensive consideration of pending proposals can the agency evaluate the different courses of action.
> *Kleppe v. Sierra Club,* 427 U.S. 390, 410, 96 S.Ct. 2718, 2730, 49 L.Ed.2d 576 (1976).

See also *Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 893-94 (9th Cir. 2002), which found that federal courts have concluded "[a] single NEPA review document is required for distinct projects when there is a single proposal governing the projects or when the projects are connected, cumulative, or similar actions under the regulations implementing NEPA."

Federal courts have found that this is particularly true for the analysis of the potential impacts associated with trails. Federal courts require the Forest Service to analyze the cumulative effects of a trail segment where the trail will connect to other trails. *Sierra Club v. United States Forest Serv.*, 857 F. Supp. 2d 1167, 1181 (D. Utah 2012) (citing *N. Cascade Conservation Council v. U.S. Forest Serv.*, 98 F. Supp. 2d 1193, 1199 (W.D. Wash. 1999) and *Wash. Trails Ass'n v. U.S. Forest Service*, 935 F. Supp. 1117, 1123 (W.D. Wash. 1996)). This is because the "proper reference point for a cumulative impacts inquiry is the entire trail system." *N. Cascade Conservation Council*, 98 F. Supp. 2d at 1198. Indeed, the "environmental significance of [a trail] cannot be accurately assessed unless the potential for increased use resulting from the cumulative impact of the projected network of trails . . . is carefully considered." *Wash. Trails Ass'n*, 935 F. Supp. at 1123.

In light of this governing law, analyzing just the Redstone-McClure segment now and analyzing other segments only when they are specifically proposed for implementation, as the Forest Service appears to intend (Trail Project DEA, p. 5), would be segmenting the analysis of a large project to avoid a finding of significance, which is expressly prohibited by the CEQ Rule. 40 CFR 1508.27(b)(7). The Forest Service's intentions to segment the NEPA-required analysis of the entire CCB trail seems clear from the opening language of the DEA: "From the perspective of the Forest Service, any decision on the Proposed Action does not, and should not, preclude full and appropriate analysis of other sections of the CCB Trail under NEPA . . . . If those segments are proposed for implementation, the Forest Service will, as appropriate, conduct the necessary NEPA analysis to analyze and disclose the environmental effects of those actions." (Ibid.)

Given these unambiguous NEPA requirements and the Forest Service's acknowledgement, in its January 2022 Trail DEA, that the CCB is a reasonably foreseeable future action that has the potential to result in cumulative impacts that its Trail Project DEA is intended to address, NEPA requires that the Forest Service give careful consideration of the evidence currently in the record of the potential for

significant wildlife, river/ water resource, and other environmental impacts that would result from the build-out of the entire Pitkin County approved trail project. That evidence, which was provided to the Forest Service in a number of project scoping comment letters, including from the Crystal River Caucus and from Katherine Hudson (both incorporated herein), make it clear that there is the potential for significant impacts. Yet that evidence is not discussed in the Forest Service's January 2022 Redstone to McClure Trail Project DEA.

The impacts from the CCB Trail could be significant, especially with regard to aquatic/riparian resources and wildlife, as is discussed further in these comments below. Numerous courts have ruled that an EIS must be prepared when expected impacts may be significant; in other words, an EIS must be prepared for a project even if it is not certain to have significant impacts. See, e. g., *Anderson v. Evans*, 314 F.3d 1006 (9th Cir. Dec. 2002). Thus, potential impacts from the Redstone-McClure Pass trail must be analyzed in an environmental impact statement that also analyzes the potential impacts of the larger CCB Trail plan.

II. ENVIRONMENTAL AND ECOLOGICAL IMPACTS

A. RECREATIONAL TRAIL -INDUCED HABITAT FRAGMENTATION AND HUMAN DISTURBANCE NEGATIVELY IMPACT NATIVE WILDLFE.

Decades of peer-reviewed scientific literature document the negative effects that trails and roads have on wildlife due both to habitat fragmentation and the associated human disturbance enabled by recreational trails. As proposed in the DEA, the Carbondale to Crested Butte - Crystal River Trail development (p. and 18) will result in both wildlife habitat fragmentation and elevated human disturbance.

GPS mapping (Figure 1) reveals that much of the Crystal River watershed is heavily fragmented by recreational trails and roads which currently serve to provide an abundance of recreational opportunities. Conversely, the Redstone to McClure Pass proposed trail segment under consideration for trail development is **one of the few un-trailed and un-roaded natural areas remaining** in our watershed which provides wildlife with a much-needed refuge from recreational disturbance.

1. HABITAT FRAGMENTATION NEGATIVELY IMPACTS ECOSYSTEM PROCESSES AND FUNCTION AND WILDLIFE.

Habitat loss and fragmentation are the main drivers of ongoing loss of biodiversity (MEA 2005, Brooks et al. 2002), Habitat fragmentation creates landscapes made of altered habitats or developed areas fundamentally different from those shaped by natural disturbances that species have adapted to over evolutionary time (Meffe and Carroll, 1997).

Recreational trails both directly impact habitat with fragmentation and indirectly through the loss or alteration of habitat. Trail development results in habitat loss, alters vegetation, modifies soil surface, and alters water balance (Benninger-Truax et al., 1992) and increases habitat fragmentation (Reed et al., 1996; Bregman et al., 2014).

Habitat fragmentation results in both a quantitative and qualitative loss of habitat for species originally dependent on that habitat type (Temple, 1986). Consequently, the abundance and diversity of species originally present often declines. Most importantly, fragmentation affects movement and dispersal and modifying behavior (Haila, 2002). Ultimately, habitat fragmentation diminishes the landscape's capacity

to sustain healthy populations and metapopulations in five primary ways: loss of original habitat, reduced habitat patch size, increased edge, increased isolation of patches, and modification of natural disturbance regimes (Forman, 1999).

Scientific research informs that recreational trails fragment habitat with negative consequences for wildlife. As reported in a literature review conducted by researchers at the USFS' Pacific Northwest Research station, the most common interactions reported between nonmotorized trails and focal wildlife species were displacement and avoidance, which altered habitat use (Gaines et al. 2003). In general, they found that ungulates respond to recreational activities by avoiding areas near roads, recreation trails, and other types of human activities. This avoidance results in habitat compression (loss of habitat) to human-intolerant wildlife species (Wisdom et al 2018). Further, Wisdom et al (2018) research revealed that when exposed to these activities, elk spent more time moving rather than feeding and resting. Increased movement and flight added energetic costs and decreased foraging times, which can affect animal health and diminish their ability to reproduce (Wisdom et al 2018) – and for female elk, these energetic costs can reduce body fat needed to successfully rear a calf (Mazza 2019).

2. HUMAN RECREATIONAL DISTURBANCE NEGATIVELY IMPACTS WILDLIFE.

As documented by ERO's monitoring data, human use of natural habitat in the proposed Redstone-McClure Pass development area is currently very low. (P. 35). ERO's camera trap data documents that in 2019 one of the Bear Creek cameras captured an average of 1,274 passes by people per year (2.2 people/day) and 536 dogs per year (0.95 dogs/day) with the highest average frequency being 190 people in May (6 people/day). The Lower Old McClure Pass camera also captured an average of 1,274 people per year (2.2 people/day) and 650 dogs per year (1.15/ day), with the highest average frequency being 181 people in September (6 people/day).

> **The data that were collected over the past two to three seasons by ERO show increased recreational use. Some potential data biases need to be acknowledged in the interpretation of these data: 1) Use across all public lands has dramatically increased since March of 2020 when the COVID-19 pandemic began and people looked for ways to be healthy and active while enjoying time with their families and friends. This created a huge increase in outdoor recreation, and 2) Pitkin County has actively promoted the Carbondale to Crested Butte trail for many years, especially since the Open Space Board and Staff began their public outreach for trail alignment alternatives. This has generated a lot of interest and curiosity well outside the Crystal River Valley.**

A stated purpose of the proposed trail development is to enable increased recreational use in the Crystal River valley. The effect of this development will be to **drive increased recreational use** of a currently very low recreational-use natural area.

Science informs that outdoor recreational trails and their accompanying human disturbance negatively impacts native wildlife in natural areas. Trails both fragment habitat and promote increased human use. Human recreational disturbance is documented to displace wildlife, decrease species diversity, introduce and spread invasive species, and decrease survival and reproduction rates in big game mammals(Gaines et al 2003, Larson et al 2016).

Wildlife is impacted by both direct and indirect effects of recreation. Direct impacts are due to wildlife often perceiving that humans are potential predators (Botsch et al. 2018). Thus, when exposed to

human presence, animals may react with important changes in their behavior and physiology (e.g., increased vigilance, flight, release of stress hormones which in turn may have consequences for individual fitness and the dynamics of animal populations (Botsch et al. 2018).

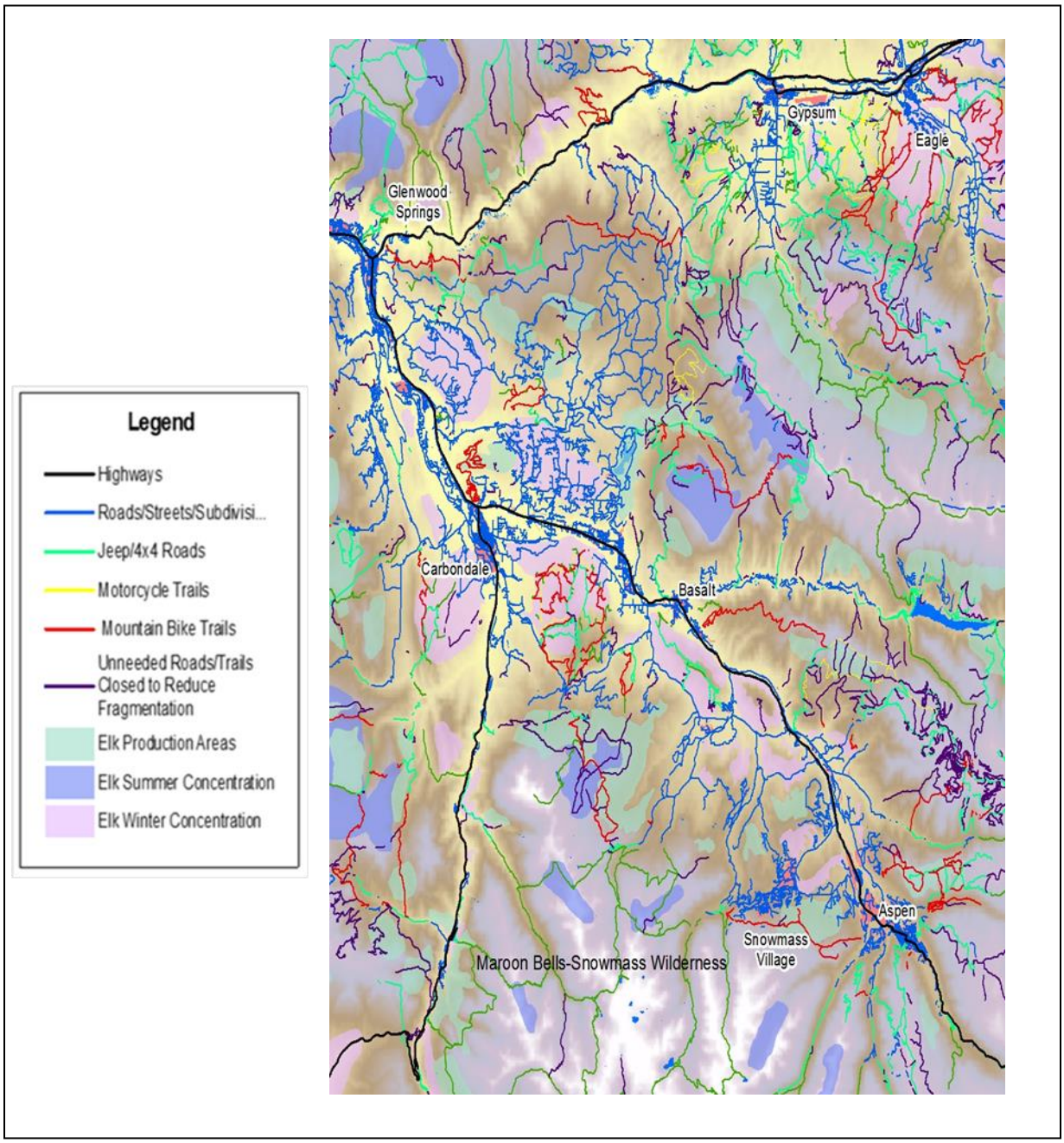

Figure 1: *Elk use areas and road and trail-induced fragmentation in the Roaring Fork watershed. Purple lines show unneeded roads and trails closed by the Forest Service, many receiving unauthorized mountain bike or motorcycle use.*

3. NATIVE VEGETATION WILL BE NEGATIVELY IMPACTED BY TRAIL DEVELOPMENT.

As presented by the USFS, this DEA considers only the Redstone to McClure Pass Trail development segment (p. 1). The DEA states: CCB Alternative A (no action alternative) is anticipated to result in

insignificant or minor impacts on vegetation resources (p. 19) while the USFS' preferred Alternative B "are anticipated to range from insignificant to moderate or locally high impacts, depending on the alignment alternatives that are selected for implementation".

> ***ERO's vegetation assessment of the Redstone to McClure Pass Trail Segment, in the draft EA states (p.26) "these trails are commonly used by the public for recreation and forest access…". And goes on to state (p.35) that "small trees, shrubs and grasses have regrown in the corridor adjacent to the historic roads, yet the proposed trail corridor is mostly cleared".***

ERO's assessment regarding vegetation recovery on the Old Wagon Road in the Redstone to McCLure Pass segment is not supported by observational evidence. Photo documentation and ERO's camera trap data tell a story of recovery and low human impact (Figure 2). The Old Wagon Road was abandoned several decades ago. Over that time, the road has undergone natural revegetation so that only a 0.5 - 1-meter-wide foot trail remains. Self-revegetation has resulted in good-quality breeding habitat for neotropical migrant songbirds (Table X) and forage for large ungulates as indicated by ERO's camera trap data (P.35 & 36). The proposed action, Alternative B, would set back recovery:

> ***Under the Proposed Action, vegetation disturbance and removal would occur along the trail corridor. In the northern section (Redstone to Hayes Creek Falls), new trail construction adjacent to Highway 133 would result in disturbance and removal of vegetation (primarily nonnative grasses and small shrubs) in the previously disturbed corridor. Along the existing non-system trails south of Hayes Creek Falls, limited vegetation clearing (up to about 3 feet from the trail centerline) would occur along the trail corridor to establish a proper clearance width. In addition, some sections along both the Rock Creek Wagon Road and Old McClure Pass Road would be reconstructed to increase trail sinuosity, reduce grades, and improve surface water drainage. These sections would result in new vegetation disturbance to grasses and shrubs within the existing roadbed.***

ERO's assessment ignores that over the several decades since the abandonment of the old wagon road and the establishment of the existing highway corridor, natural revegetation of the previously disturbed wagon route has largely restored that disturbed corridor. That habitat now provides important wildlife habitat for songbirds, small mammals, mesopredators, and large ungulates. The proposed trail development would increase trail width from the existing 0.5 - 1 meter wide trail to greater than 3 meters by removing established vegetation thereby removing wildlife habitat and introducing disturbance.

Figure 2*. Old Wagon Road June, 2020. Natural revegetation of the abandoned wagon road has recovered native vegetation which now provides habitat for neotropical migrant songbirds, large ungulates and other native species.*

4. WETLAND AND RIPARIAN HABITAT

ERO acknowledges that "high and moderate impacts on wetland and riparian habitat" may occur in other, **connected segments** of the trail development.

> ***ERO states (p. 19): CCB Alternative B is anticipated to result in moderate impacts on wetland and riparian habitat in the Crystal River Parcel and Janeway North segments. Moderate impacts on sensitive plant communities may occur in the Crystal River Parcel, Janeway North, and Narrows segments, and at the Bridge 11 location; and high impacts may occur in the Avalanche segment .***

The USFS' proposal to assess only one segment as independent and unconnected from other trail segments ignores ecosystem science, which instructs that ecosystems are connected through environmental and ecological processes. Regarding wetland and riparian habitat, environmental processes, especially hydrologic and soil and vegetation processes, function to transport and store water and sediment & dissolved materials and provide habitat for animals, plants, and humans. Because a watershed is hydrologically connected, alterations to one part of the system will impact downgradient habitats and those impacts will accumulate in the downstream/downgradient direction. Small impacts at the head of a watershed, when combined with other connected impacts lower in the watershed, may cumulatively result in large impacts. Thus, the NEPA requires that the entirety of a connected development must be considered.

5. NATIVE WILDLIFE WILL BE NEGATIVELY IMPACTED BY TRAIL DEVELOPMENT.

The draft DEA (p. 19) acknowledges that Alternative A (no action) is anticipated to result in insignificant or minor impacts on wildlife. Conversely, Alternative B is anticipated to result in "…moderate impacts on high quality undisturbed wildlife habitat in the Janeway North segment…Moderate impacts on bighorn and elk winter ranges, a bighorn migration corridor, and undisturbed habitat may occur in the Narrows segment…Wildlife impacts from CCB Alternative B would be high in the Avalanche segment, based on elk winter range, a bighorn migration corridor, and undisturbed high-quality wildlife habitat. **The remaining segments and bridge sites are anticipated to have insignificant or minor impacts on wildlife habitat."**

ERO fails to consider the essential connection of sub-populations necessary to sustaining the overall metapopulation and the consequences of the cumulative loss of subpopulations on the metapopulation. Both elk and bighorn sheep populations are evolutionarily structured as metapopulations – a structure that is essential to population health (Singer and Gudorf 1999, Hanski 2003).

Elk populations and long-term survivability will be negatively impacted by trail development.

Scientific research regarding impacts of recreational trails and related human disturbance on elk indicates that trail and route density are directly correlated with habitat fragmentation and compression (Wisdom et al. 2018). Mechanized (mountain bikes) and motorized (ATVS, dirt bikes, snowmobiles) recreational use have been documented to have the greatest impact on game animals, altering their feeding, resting, and travel patterns (Wisdom et al 2918, Naylor et al, 2009).

Recent research conducted at the USFS's Pacific Northwest Research Station concluded that elk are quite sensitive to the presence of humans. They found that elk avoided not only recreationists but also the trails associated with their activities. Their intolerance (as indicated by the distances they maintained) was highest for ATV riding, followed by mountain biking and to a lesser degree, the elk also avoided hikers and horseback riders.

Their research found that elk flight response occurred at distances over 3,218 feet for ATVs and close to that for mountain bikes and 1,640 to 2,460 feet for horseback riding and hiking; Distances elk kept from recreationists, 1,830 to 2,880 feet, were two to four times farther than the distances they kept from trails 780 to 1,020 feet (Figure 3).

In summary, key findings from the research at USFS's Pacific Northwest Research Station documents that: 1) elk avoid people and trails associated with all-terrain vehicle (ATV) use, mountain biking, hiking, and horseback riding; 2) Avoidance was strongest in response to ATV use, followed by mountain biking, and was less strong in response to hiking and horseback riding; 3) In response to these recreation activities, elk moved to areas where they were less likely to encounter recreationists; 4)Increased movement and flight added energetic costs and decreased foraging times, which can affect animal health and diminish their ability to reproduce.

Impacts from these human recreational disturbances include increased energy expenditures and decreased access to food sources. Moving more than necessary and not having enough to eat can be detrimental to elk population viability - if females don't put on enough body fat, they may not be able to reproduce. Less time and habitat for foraging can reduce food uptake essential to survivability and may cause a decrease in cow to calf ratios (Phillips & Alldredge, 2013). Research also documented that the amount and quality of forage area available to the elk shrank as they shifted away from recreation trails basically reducing carrying capacity by compressing suitable habitat – basically a form of habitat loss.

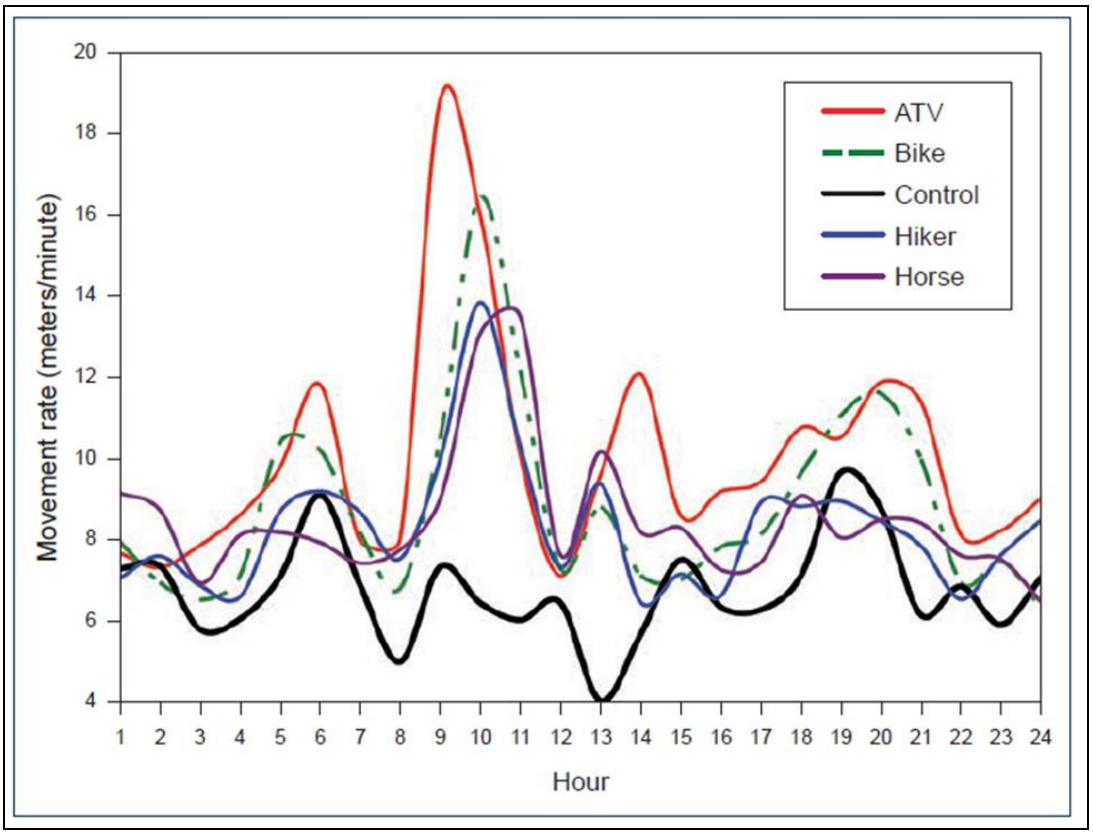

Figure 3. *When exposed to four types of trail-based recreation activities, elk spent more time moving than they did when humans were not present (black line). Elk avoided all types of recreation, particularly ATV use (red), followed by mountain biking (green), hiking (blue) and horseback riding(purple). Wisdom et al. 2018.*

Elk populations in the Roaring Fork watershed have experienced a 50% reduction since around the year 2000 (Paul Millhouse, pers.comm 2020). Colorado Parks and Wildlife biologists state that significant issues impacting the elk herd in the Avalanche Creek DAU include outdoor recreation and other human disturbance, habitat loss and fragmentation due to land development, and continued lack of large-scale habitat improvement projects. Further, CPW states: ***"Outdoor recreation has become a year-round presence on the landscape, particularly on public lands, and is the largest indirect impact to the area's wildlife populations*** (emphasis added). There is increasing demand for more recreational trails to be established, as well as frequent use and expansion of unofficial trails, all of which fragment and diminish the quality of remaining wildlife habitat and create disturbances to wildlife on a year-round basis." (CPW 2020).

As indicated by GIS mapping, the Redstone to McClure Pass area is currently one of the least fragmented habitats in the Crystal River Watershed (Figure 4). ERO's camera trap data documents that currently the social trails on the Old Wagon Road and in Bear Gulch have very low human recreational use. Decades of scientific research informs that wildlife is displaced from recreational trails – be they social trails or developed trails.

Wisdom et al (2018) found that the elk moved away from the trails during recreation and back toward trails when no humans were present and that elk moved significantly farther during ATV riding and mountain biking, compared to hiking and horseback riding (Figure 3). Additionally, they found that elk avoidance of trails was strongest during ATV riding, and that although elk avoidance of trails during mountain biking, hiking and horseback riding was statistically similar, the distribution of elk locations during these three types of recreation indicated that elk shifted farther from trails during mountain biking. Thus, wildlife impact and habitat lost to displacement **depends on the type and level of human recreational use** (Wisdom et al 2018).

One goal of the proposed CCB trail development is **increased human recreational use**. The science is unambiguous - trail development increases habitat fragmentation, habitat compression, and human disturbance, all of which negatively impact native wildlife. Research documents that recreational users, managed or unmanaged, disturb wildlife and *that seemingly benign activities like hiking, mountain biking, and camping changes how animals use their habitat, raises their stress levels, and can even cause populations to decline(Larson et al. 2019). For species such as elk, habitat compression in response to human activities is a form of habitat loss* (Rowland et al., 2004, Frair et al., 2008, Buchanan et al., 2014),

> **From the draft DEA (p.19): Completion of the proposed trail, regardless of CCB alignment alternative, is anticipated to *benefit recreational access and opportunities throughout the Crystal River Valley*. The proposed CCB trail would provide nonmotorized recreation and access opportunities for a variety of recreationists, including cyclists, runners, walkers, and equestrians, as well as localized connections between subdivisions, Redstone, Carbondale, and other trails and recreation destinations within the valley.**

To offset trail-induced human-disturbance impacts, the DEA Alternative B suggests that seasonal closures be implemented to prevent recreational use of the newly proposed trail during the most sensitive times of the year. CPW wildlife biologists have been consistent in their assessment of the effectiveness of seasonal closures:

Seasonal wildlife closures have limited success at protecting wildlife. This has been well documented by: 1) Wilderness Workshops' Crystal River Trail Report by Richard Thompson, 2) Kevin Wright throughout his career with CPW and letters he submitted to the BOCC in 2015 and 2017, and 3) numerous other professional wildlife biologists.

Additionally, the development of trail in the Redstone-McClure pass segment, as proposed by Alternative B, will very likely encourage increased recreational use of Bear Gulch, which now sees very low recreational use (1 person/day according to ERO's camera trap data) and is accessed only by a small social trail. Increased use will, as indicated by scientific research on trail impacts, result in 'habitat compression' (habitat loss) resulting in reduced carrying capacity and declining wildlife populations.

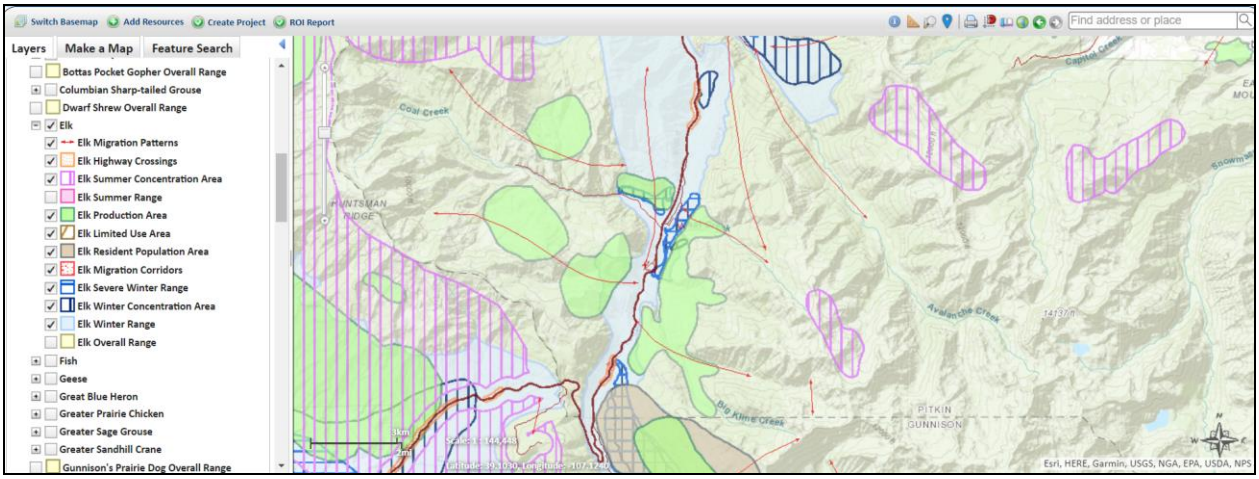

Figure 4. Elk Activity map 2022 (CODEX 2022).

NATIVE AVIAN SPECIES AND POPULATIONS WILL BE NEGATIVELY IMPACTEC BY TRAIL DEVELOPMENT.
Bird populations have continued to plummet in the past five decades, dropping by nearly three billion across North America—an overall decline of 29 percent from 1970 (Rosenberg et al 2019) the magnitude of which could significantly affect the continent's food webs and ecosystems (Daly 2019). Bird populations have declined across nearly all habitats and for a multitude of reasons including climate warming, habitat conversion, pesticides, habitat compression and loss, and human disturbance.

Recreational trails, and accompanying human disturbance, have long been documented by peer-reviewed science to impact bird species. Miller et al. (1998) reported a zone of influence of 100 m for some forest bird species. In addition, because roads and recreation trails may break up forest patches, nest predation and parasitism rates by species such as cowbirds increase (Hickman 1990, Miller et al. 1998). Gutzweiller et al (1994) found that songbird social and biological factors can influence tolerance to intrusion and that intrusion-induced behaviors such as nest abandonment and decreased nest attentiveness have led to reduced reproduction and survival in species that are intolerant of intrusion.

Decades of scientific research has come to recognize recreation as a leading factor in endangerment of plant and animal species on United States federal lands (Losos et al 1995). Recreation is one of the main causes of the decline of all threatened and endangered species in the USA (Thiel et al 2008) and is listed as a threat to 188 at risk bird species globally (Castley 2013). Effects of recreation on animals include behavioral responses such as increased flight and vigilance (Naylor et al. 2009]; changes in spatial or temporal habitat use (Thiel et al 2008); declines in abundance, occupancy, or density (Heil et al. 2007);

physiological stress (Mullner et al 2004); reduced reproductive success (Finney et al 2005); and altered species richness and community composition (Riffel et al 1996).

A systematic review of the scientific literature analyzed 274 articles on the effects of non-consumptive recreation on animals, across all geographic areas, taxonomic groups, and recreation activities (Larson et al 2016). Their review found that most articles focused on mammals (42% of articles) or birds (37%), locations in North America (37.7%) or Europe (26.6%), and on forested habitats (97%). Researchers also found that non-motorized activities had more evidence for a negative effect of recreation than motorized activities, with effects observed 1.2 times more frequently but they recognized that because motorized activities often cover larger spatial extents than non-motorized activities, it is possible that their impact has been underestimated.

Previously, research has shown that trails cause habitat loss and fragmentation, where larger areas of habitat are dissected into smaller pieces thereby separating wildlife populations and resulting in avian declines and community alteration. However, it has been difficult to say for certain whether it is the presence of trails or humans that have the most impact on forest birds (Frontiers, 2018). A research study from the Swiss Ornithological Institute, the first to disentangle the effect of recreational trails from the presence of humans on bird species, shows ***that the number of birds, as well as bird species, is lower when trails are used on a more regular basis***. This is also the case when trails have been used for many years, suggesting that forest birds do not get used to this recreational activity. Findings suggests that the physical **presence of trails has less of an impact on forest birds than how frequently these recreational paths are used by people** (emphasis added) (Botsch et al 2018).

Botsch et al (2018) research results document that the mere presence of people in forests can negatively affect the forest bird community along trails. Birds may perceive humans as potential predators (Frid and Dill 2002) and react with important changes in their behavior and physiology (e.g., increased vigilance, flight, release of stress hormones (Tablado and Jenni 2017) which negatively impact survivability.

Researchers recommend **preventing trail construction in undeveloped natural habitats** to reduce human access and thus disturbance, and that **new trails into remote forest areas not be promoted** (Botsch et al 2018).

Bird Community at The Old Wagon Road . Roaring Fork Audubon conducted breeding bird surveys at the Old Wagon Road from 2019 through 2021 in the proposed McClure Pass proposed trail development area. Surveys documented forty-five species of birds breeding along the Old Wagon Road and in surrounding habitat (Table 1).

According to the National Audubon Society, two-thirds (389 species) of North American bird species are considered at risk of extinction from global temperature rise**. National Audubon (Audubon 2022)conducted a climate vulnerability assessment of 62 of the approximately 287 birds that breed in Colorado (CBAP 2016). Eighteen of the species that were assessed by Audubon were documented at the Old Wagon Road. Of those eighteen, all eighteen were considered highly vulnerable to extinction from climate warming (Audubon 2022).** Highly and moderately vulnerable birds may lose more than half of their current range, making the protection of their current breeding habitat in our area even more important to their survival.

The State of North American Birds report (NABCI 2016) is based on the first-ever conservation vulnerability assessment for all 1,154 native bird species that occur in Canada, the continental United States, and Mexico. Included in that report is The Watch List, which identified 432 species of highest conservation concern based on high vulnerability scores of 14 or higher, or with a concern score of 13 and a steeply declining population trend. These are the species most at risk of extinction without significant conservation actions to reverse declines and reduce threats. Three species documented at the Old Wagon Road - Cassin's Finch, Evening Grosbeak and Virginia's Warbler all have scores of 13 or higher. Species with scores between 9 and 12 are of moderate concern due to declining populations (Table 1).

Additionally, the U.S. Fish and Wildlife Service recognizes eight of the forty-five breeding bird species at the Old Wagon Road as "bird species of conservation concern"(USFWS 2021)**.** Altogether, across three agencies and NGOs, a total of eighteen breeding bird species documented at the Old Wagon Road are of conservation concern and vulnerable to extinction.

Primary threats to bird species are habitat loss and human disturbance. Proactive bird conservation is critical at a time when continued human impacts will be intensified by effects of a changing climate (USFWS 2021). Protecting, conserving, and restoring our remaining wildlands and wildlife from further fragmentation, habitat compression and loss, and human disturbance at the local level is key to preventing extinction at a global level.

Table 1. Breeding Bird survey results at the Old Wagon Road in the proposed trail development. Watchlist scores of 9-12 indicate moderate declines; scores >13 indicate species at risk of extinction.

Breeding Bird Species at Old Wagon Road	Abundance by Year				Conservation Status		
	July3,2019	June, 2020	June26 2020	July 1 2021	Vulnerabillity to Climate Change (National Audubon)	USFW Bird Species of Concern	State of North American Birds Report
American Robin	1	10	11	7			5
Black-billed Magpie		2			Moderate		9
Black-capped Chickadee			2	1			7
Black-chinned Hummingbird	2	1	1				10
Black-headed Grosbeak	1	6	7	1			9
Blue-gray Gnatcatcher			3				7
Broadtailed Hummingbird	7	11	1	15	High	YES	12
Cassin's Finch			1		High	YES	13
Cedar Waxwing	2						6
Chipping Sparrow		5		1			8
Cooper's Hawk		2	2				7
Cordilleran Flycatcher	3	2		3	High	YES	11
Dusky Flycatcher		5	16		High		9
Evening Grosbeak	1				High	YES	13
Gray Catbird		1					8
Green-tailed Towhee	17	13	10	9	High		11
Hermit Thrush	1	1			High		6
House Wren	3	5	12	2			5
Lazuli Bunting		1	1				9
Mac Gillivrary's Warbler		1	15	3			12
Mountain Chickadee	6	2	2	1	High		10
Northern Flicker	2	2		3			9
Olive-sided Flycatcher		2			High	YES	9
Orange-crowned Warbler	8	15	7	11	High		9
Pine Siskin	6	2	12	6			10
Red-breasted Nuthatch			2				6
Red-crossbill	11				High		8
Red-naped Sapsucker			2		High		9
Ruby-crowned Kinglet	1	2	1	1	High		6
Sharp-shinned Hawk		1					
Spotted Towhee	1	2					
Steller's Jay	1	3	2	1			
Swainson's Thrush	1				High		10
Townsend's Solitaire			1	1	High		10
Tree Swallow			12				10
Turkey Vulture	1		1	1			
Violet-green Swallow	6	2	22	1			
Virginia's Warbler	11	12		9		YES	14
Warbling Vireo	11	15	6	9			
Western Tanager	10	12	11	15			9
Western Wood-pewee		3		2	High		
Wiilliamson's sapsucker	1				High	YES	12
Woodhouse's Scrub Jay		4				YES	
Yellow Warbler	3	3	4				
Yellow-rumped Warbler	4	2	5				

B. CUMULATIVE IMPACTS TO AQUATIC RESOURCES HAVE THE POTENTIAL TO BE SIGNIFICANT.

On pp. 18-20 of the Trail Project DEA, the Forest Service sets forth its analysis of the cumulative effects of the Carbondale to Crested Butte – Crystal River Trail as a reasonably foreseeable future action. After acknowledging that the CCB trail plan approved by Pitkin County in 2018 includes up to 14 potential bridge locations across the Crystal River and stating that "potential impacts" from alternative alignments and bridge locations "are summarized below, by resource," there is some discussion of the potential for impacts to cultural resources, vegetation, wildlife, and recreation. However, there is no discussion of the potential for water resource/ river impacts in the DEA's section intended to address cumulative Impacts from reasonably foreseeable future actions.

The only other comments on potential impacts to water resources is contained in the impact analysis for the proposed action - the segmented Redstone to McClure trail, which eliminates "aquatic resources/ fishes" from consideration because "no resources are present" (Table 3, p. 16) and dismisses consideration of potential impacts to the Crystal River with the statements that: "the Crystal River is not intersected by the proposed project" (p. 24). The DEA's conclusion that there are "no resources present" is a misstatement. Given that the proposed trail would cross at least two drainages and run alongside the Crystal River for part of its length, these resources are clearly present. In addition, given that the proposed trail route would cross five streams and be close to five wetland areas (Trail Project DEA, pp. 24, 25) and that an "armored ford" would be used to cross Bears Gulch and a bridge would be needed to cross Huntsman Gulch (Trail Project DEA, pp. 13, 26), the potential for direct effects on identified water resources and indirect effects on the Crystal River are clear. The potential for indirect effects on the Crystal River is in fact conceded in the DEA on p. 26 and in the final Summary of Effects table, which indicates short-term Water Resource impacts and potential vegetation clearing and interface with wetlands associated with the Project, while dismissing cumulative effects (Trail Project DEA, p. 72). Even if these effects individually are not significant, NEPA case law is clear that these effects cannot be dismissed in a cumulative effects analysis by terming them short term or temporary. 40 CFR §1508.27(b)(7).

Having conceded the potential for short term or minimal impacts to water resources and vegetation related to implementation of the Redstone to McClure Trail project (Trail Project DEA, pp. 19, 26), the DEA's discussion of potential cumulative impacts to water resources completely ignores the significant evidence of those impacts and minimizes impacts to riparian vegetation presented to the Forest Service in scoping comments submitted to the Forest Service in 2020. (See Katherine Hudson scoping comments dated March 12, 2020 and Crystal Caucus scoping comments dated March 16, 2020 and attachments to both, all incorporated herein). The Trail Project DEA language does note, but minimizes the possible significance of those impacts: "Overall, the impacts of the proposed CCB project on vegetation resources are anticipated to range from insignificant to moderate or locally high impacts, depending on the alignment alternatives that are selected for implementation." (Trail Project DEA, p. 19).

The Forest Service must give serious consideration to Pitkin County's own conclusions regarding the potential river/ riparian impacts associated with the build out of its entire, approved CCB trail project: the potential impacts of trail implementation on the Crystal River is that "new structures or hardening (e.g., riprap, walls, bridge abutments, or piers) would further degrade or constrict the stream channel, or result in a significant loss of wetland and riparian habitat" within and along the Crystal River stream channel and floodplain. December 2018 Final Trail Plan, p. 52.

Moreover, a detailed analysis of potential impacts to river/riparian resources provided by Pitkin County Open Space to Pitkin County Healthy Rivers Board documented the following potential impacts from trail build-out:

In its response to the River Board (attached), OST summarized potential impacts to aquatic resources by Alignment Alternatives (Alignment A – the "Highway" Alignment, on the east/ river side of Highway 133 along the bank of the Crystal River, and Alignment B – on the east side of the Crystal River, following existing trails and roads). These potential impacts are confirmed in the County's approved December 2018 Final Trail Plan (pp. 49 – 53), as well as in Appendix B of the Plan (the March 2018 Crystal River Section Environmental Review prepared by ERO Resources), pp. 19 – 23. (Note that the County does not address impacts to water resources in its own section of the Environmental Review of the Trail, but rather under a section titled "Vegetation Resources."). Language below quoted from pp. 19, 21-23 of Appendix B of the Final Trail Plan (emphasis added):

"New impacts to stream habitat resulting from the trail alternatives could result from the following:

- Installation of additional narrow bridges, which would further constrict the floodplain
- Installation of piers, retaining walls, riprap, or other hardened structures along or within the streambed, which would further constrict stream morphology and function and result in increased channelization
- Removal or fragmentation of high-quality floodplain riparian habitats due to trail construction and hardening
- Further dissection of floodplain connections due to new construction"

"Summary of Instream and Riparian Impacts
The impacts of each alternative (if implemented over the entire length of the study area) on instream and riparian habitats along the Crystal River are summarized below.

Alternative A
Alternative A follows the existing alignment of SH 133 for its entire length. During the field review, limited native vegetation was observed in the highway right-of-way. Anticipated impacts from Alternative A include the following:

- **Existing riparian vegetation would likely be removed** to make way for the trail bench, **with little opportunity for revegetation and mitigation.**
- Assuming a narrow trail disturbance width of up to 15 feet from centerline, **the trail would disturb up to about 75 acres of vegetation throughout the corridor,** most of which would be **adjacent to the Crystal River**.
- Challenging trail design solutions along **the narrow strip between the highway and the streambank would require about <u>11,300 feet (2.1 miles) of new riprap, walls, piers, or other hardened structures</u>.**
- **New hardened structures would further incise and degrade stream function in affected areas.**
- **New construction and excavation** along the Crystal River streambank, and in some cases within the channel, **would increase erosion and sedimentation and the potential for impacts to water quality and in-stream habitat.** While these impacts would be reduced by construction timing, best management practices (BMPs), and engineered solutions, the location and extent of this impact would elevate the risk of impacts.

Alternative B

Assuming that a 25-foot area would be the limits of disturbance from the center of the trail, about 50 acres of ground disturbance would occur from construction. This would be an over-estimation for either trail alternative, as both segments follow existing trails and roads for almost their entirety. Anticipated impacts from Alternative B include the following:

- Several small areas of wetland and riparian vegetation would be disturbed during construction.
- A larger extent of wetland and riparian vegetation in the Janeway North area (about 0.35 acre) would be impacted.
- Assuming a wider trail disturbance of up to 25 feet from centerline, the trail would disturb up to about 120 acres of vegetation throughout the corridor, most of which would be in upland locations.
- **Increased drainage and sedimentation would occur along the length of the trail during and immediately following construction, potentially impacting water quality and in-stream habitat.** Construction BMPs and the vegetated buffer distance between the trail alignment and the Crystal River in many areas would reduce these impacts.

Bridges

Fourteen potential bridge locations are identified in the study area. Some are new structures, while others are adjacent to or replacements of existing bridges. To the extent that trail alignment options utilize bridges to switch between Alternative A and Alternative B segments, **new bridge abutments could result in impacts to wetlands, riparian habitat, or stream function**. However, the location, extent, and significance of these impacts is not known at this time since the exact location and span length of new bridges has not been determined."

Moreover, it is very significant that the stream and riparian scientist who led the assessment of river health for the Crystal River Management Plan in 2016, Mark Beardsley, has determined that **the Crystal River is generally a very healthy river, and that building a new trail up the valley "will introduce long-term impacts to river health that will be difficult or impossible to reverse in the future."** In **Mark Beardsley's Report** on the impacts of the trail on the Crystal River titled Impacts of the Carbondale to Crested Butte Trail on the Health of the Crystal River, November 8, 2017 (attached), Beardsley found that bridges presented the greatest risk of impacts to river health by the proposed trail. He concluded that **8 of the 10 new bridges proposed would have "high to very high levels of impact to the river** because they cross at areas where the river has active floodplain and wider riparian areas. . . . **Building bridges in these locations would likely involve channelizing and armoring segments of the river and filling portions of active and functional floodplain with native riparian vegetation."** Because of that, Mr. Beardsley concludes that considering these impacts is critical to minimize the amount of permanent damage to a healthy river.

In the face of this evidence of significant potential cumulative impacts from CCB trail build out, the Forest Service DEA concludes, with respect to the Cumulative Effects to Water Resources of the Proposed Redstone to McClure trail (Trail Project DEA, p. 27):

Alternative 2 – Proposed Action

When combined with the effects of past, present, and reasonably foreseeable future actions, the proposed project could result in cumulative effects on water resources resulting from

sedimentation in tributary streams and the Crystal River during and immediately after construction. However, due to the anticipated timing of the foreseeable projects – the CCB - Crystal River Trail may be many years out – the Proposed Action is not expected to result in cumulative effects on water resources.

This conclusion rejects the direction of NEPA and the case law interpreting it that significance cannot be avoided by terming an action temporary or by breaking it down into small component parts and that an EIS must be prepared for a project even if it is not certain to have significant impacts. It also ignores Pitkin County's own description of the potential for wetland, riparian, and instream impacts associated, confirmed in its approved Final Trail Plan, as well as in the ERO Resources-prepared Appendix B to that Plan. This documentation makes it clear that impacts on aquatic and riparian resources resulting from the Proposed Action, when combined with impacts to these resources in other parts of the CCB Trail, could be significant.

C. CUMULATIVE IMPACTS FROM THE CCB TRAIL NEGATIVELY EFFECT CRYSTAL RIVER WILD AND SCENIC ELIGIBILITY

The DEA states clearly that because the 2002 WRNF Forest Plan (Forest Service, WRNF) designated the Crystal River corridor as eligible for Wild and Scenic Rivers Act (WSR) designation as a Recreational River, the Forest Service Plan directs that the Crystal River corridor within the CCB project area be "managed to protect and perpetuate" the Crystal River corridor in its current condition so that its recreation river qualities are not diminished." (Trail Project DEA p. 59). Given the potential impacts to aquatic resources of the Crystal River, confirmed in the County's approved December 2018 Final Trail Plan (pp. 49 – 53), as well as in Appendix B of the Plan (the March 2018 Crystal River Section Environmental Review prepared by ERO Resources, pp. 19 – 23), the DEA's conclusion that the cumulative impacts of the reasonably foreseeable action of the County approved buildout of the CCB would result in "cumulative benefits" to the Crystal River's Forest Service-confirmed Outstandingly Remarkable Values (ORVs) (Trail Project DEA, p. 60) is not supported by the facts already in the record.

The potential for construction of 14 new bridges, the channelizing and armoring segments of the river, and the filling of portions of active and functional floodplain are completely inconsistent with the stated goal of the Forest Plan "to protect and perpetuate eligible river segments in their current conditions" to preserve the Crystal River's identified ORVs and maintain its eligibility and suitability for Wild and Scenic designation. These potential impacts are set forth in the County's final Trail Plan, prepared by the consultant that also prepared the Forest Service's Draft EA, ERO Resources. See Appendix B of the Final Trail Plan, pp. 19, 21-23. This potential for impacts is confirmed by Mark Beardsley's Report, cited above, which concluded that building a new trail up the valley "will introduce long-term impacts to river health that will be difficult or impossible to reverse in the future."

Thus, it is clear that the buildout of the CCB is completely inconsistent with the Forest Plan's direction to "protect and perpetuate eligible river segments in their current conditions" and to preserve the Crystal River's ORV for recreational uses directly related to the river (e.g., fishing and boating). (Trail Project DEA, p. 59, quoting 2002 WRNF Forest Plan). In fact, the Forest Plan does not allow uses that do not conserve wild-scenic-recreational river eligibility. Forest Plan at 3-48. The outstandingly remarkable values which make the Crystal River eligible for designation as a recreational river under the Wild and Scenic Rivers Act are "[s]cenery, historic, recreational". Forest Plan FEIS at 3-567. The 14 bridges projected as a part of the full trail would surely degrade at least the scenery, and potentially, the river-connected recreational values of the Crystal River. There is therefore no basis for the DEA's conclusion

that the cumulative effect of the buildout of the CCB will result in “cumulative benefits” to the Crystal River’s recreational ORV (Trail Project DEA, p. 60).

CONCLUSION

The proposed trail will harm both ecosystem processes and functions that provide essential ecosystem services to both wildlife and human culture. The trail would diminish wildlife habitat, ultimately impacting wildlife population’ survivability by fragmenting wildlife with building infrastructure which would promote human use of an area that currently experiences very low human use, thereby increasing disturbance and decreasing available resources through the process of ‘habitat compression’.

If analysis of the project proceeds, an EIS considering the entire CCB proposal must be prepared, with the draft EIS distributed for public comment.

Because the DEA fails to take a hard and complete look at the direct, indirect, and cumulative impacts of both the Proposed Project and the full CCB, it cannot serve as the basis for the Forest Service to make a Finding of No Significant Impact. Given all of the potential environmental effects of constructing both the Redstone to McClure Pass Trail segment and the approved Carbondale to Crested Butte Trail discussed above and in the attached documents, and given that the Forest Service’s DEA appears to establish the potential for at least one, if not more than one, significant environmental impact that may result from the CCB project to wildlife, the river or another resource, Colorado Sierra Club strongly urges you to conclude that the issuance of a FONSI is not justified and the preparation of a DEIS is required.

Thank you for your consideration of our comments and incorporated supporting documents.

Respectfully submitted,
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