

**Terrestrial Wildlife Technical Report  
U.S. Forest Service Stibnite Gold Project  
Final Environmental Impact Statement (FEIS) and  
Response to Comments on the Supplemental Draft EIS**

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**Executive Summary**

At Idaho Conservation League's (ICL hereafter) request, we previously reviewed and provided comments on the Stibnite Gold Project (SGP) SDEIS, focusing on the wildlife analysis (Terrestrial Wildlife Technical Report - Final 010823.pdf in U.S. Forest Service project record.) These comments were incorporated into a multi-conservation group comment letter (#17634 - Bonnie Gestring [Northwest Program Director, Earthworks] and seven others, 2023.)

We now provide the following review of the SGP FEIS, focusing specifically on:

- (1) Forest Service (FS hereafter) response to comments on the SDEIS in Appendix B of the FEIS,
- (2) revisions to the wildlife analysis in the FEIS,
- (3) SGP Biological Assessment (BA) for Threatened, Endangered, and Candidate Species,
- (4) U.S. Fish and Wildlife Service's Biological Opinion (BO).

We focused on the BA, in part, because the FS asserted that, in response to our comments, the BA contained additional information not provided in the FEIS. We also reviewed the BO to understand how the BA was interpreted in reaching measures to protect listed wildlife species.

We tailored this review to the topics outlined in the multi-conservation group's Objection letter to support that content. Whenever pertinent, we listed the comment number from Appendix B of the FEIS and the page number of our comment in the Gestring et al. 2023 letter (#17634.)

In summary, most of our comments on the SDEIS have not been addressed and still apply (see Gestring et al. 2023, and our associated Terrestrial Wildlife Technical Report [Dronkert Egnew and Evans Mack 2023]). Since our comments were submitted, the political and media pressure surrounding SGP have become very intense. At the same time, Perpetua Resources continues to advertise that the SGP is designed to be environmentally responsible. If this is the case, then a few key changes in the project design and mitigation measures should occur to minimize what we determine to be significant wildlife impacts.

We recommend the following additional Environmental Design Features (EDFs) and mitigation measures for wolverine:

1. If the Burntlog Route is approved and built, only mine traffic should be allowed for its entirety in winter. In summer, public use should occur only on the existing Burnt Log Road (FR #447). No public use should be allowed on the Burnt Log Road in winter.
2. No new Over-snow Vehicle (OSV) route in Cabin Creek. Any changes to OSV grooming and routes must be informed by an analysis consistent with the Travel Management Rule, Subpart C. This analysis must fully consider the recent research on the effects of winter recreation and travel on wolverine. The FS should commit to completion of a winter recreation travel plan that includes, but is not limited to, the entire area affected by the SGP.
3. Remove roadkill as encountered. Report any ESA-listed or sensitive species to the FS.
4. Fund development of a model of winter recreation, such as was completed in Colorado (Olson et al. 2017), based on terrain selection of motorized and non-motorized winter recreationists. This will enable predictions of areas of potential conflict or disturbance to wildlife. For expediency and economy, coordinate and/or contract with the researchers who maintain an extensive recreation dataset collected during the wolverine–winter recreation study (Heinemeyer et al. 2019a).
5. Fund development of a fine-scale denning habitat model (e.g., talus layer) for wolverine for the two Tier 1 Wolverine Priority Conservation Areas that encompass the project area. Framework and methods were established during the wolverine–winter recreation study (Heinemeyer et al. 2019a).
6. Fund a program to conduct annual recreation monitoring of winter recreation for the first 5 years of the SGP, beginning with the construction phase, then on an adjusted schedule thereafter. A survey grid and methods were developed for the wolverine–winter recreation study that uses fixed wing aerial surveys and infra-red trail counters (Heinemeyer et al. 2017, Heinemeyer et al. 2019b). A baseline of recreation intensity and footprint was established for the SGP area from surveys in 2018 (Heinemeyer et al. 2019b), hence data analysis should be coordinated and/or contracted with those researchers.
7. Fund a project to monitor wolverine activity with remote cameras in winter on an established schedule (every 2 or 3 years) using a method that incorporates collecting genetic material (hair snagging with gun brushes) to identify and track individuals. The Western Association of Fish and Wildlife Agency (WAFWA) multi-state camera survey provides a blueprint (Lukacs et al. 2020).

Perhaps more important, as we noted previously on our comments on the SDEIS, the Payette and Boise National Forests have not conducted winter travel management planning in accordance with Subpart C of the Travel Management Rule; thus, they cannot assume that the existing system of OSV routes and areas comply with this Rule.

The Payette National Forest has long recognized the need to complete winter travel planning. In fact, previous environmental analyses of winter travel were put on hold to allow studies on the

effects of winter recreation on wolverines. This became a multi-year, multi-forest study (including the Payette, Boise and Sawtooth National Forests, among others) that is certainly one of the most extensive and rigorous to date. The results of this study showed that male and female wolverines avoided motorized and non-motorized recreation to some degree, with females showing a stronger response. Both male and female wolverines responded more to dispersed recreation, motorized and non-motorized, than linear travel. Increasing avoidance of areas as the amount of off-road winter recreation increased resulted in indirect habitat loss or degradation of moderate- or high-quality habitats.

Following this study, the Idaho Fish and Game Department (IDFG) continued to collect data on wolverines in the project area with remote cameras. A multi-state survey in the winter of 2016-17 encompassed the project area, and a follow-up, more intensive camera survey occurred during the winter of 2020-21. Wolverine were detected in the project area during both efforts (Evans Mack 2018, Evans Mack and Hagen 2022).

It is essential that the FS makes use of this research and best available science, (conducted on and supported by the Payette and Boise National Forests) to inform decisions regarding winter travel in the SGP area. Ideally, the FS would meet the intent of the Travel Management Rule and conduct a comprehensive travel plan analysis across both national forests before making any project-specific decisions on winter travel. But certainly, any project-specific decisions must be informed by the recent research and best available science.

Our **Terrestrial Wildlife Key Areas Of Concern** are listed below and developed further in the following pages.

1. The SGP would have impacts on many wildlife species. **The FS provided only cursory and inadequate responses to our wildlife comments on the SDEIS**, particularly to key issues of effects to ESA-listed species.
2. **The NEPA requires that an EIS describe an environmental baseline; an accurate baseline is “essential” to an informed analysis (40 C.F.R.§ 1502.15 & 1502.22).**
3. **The analysis of effects to many important species, particularly wolverine, is inadequate.** The wolverine was recently listed as threatened under the Endangered Species Act (ESA). Due to the listing, and the requirement to confer with the U.S. Fish and Wildlife Service (FWS) on the effects of the project on listed species, the FS stated some changes to the analysis were made in the BA. Our review of the BA shows the FS failed to adequately analyze potential impacts to wolverine in many ways, and thus failed to provide the FWS with sufficient information for a defensible effects determination.
4. **New motorized vehicle routes and facilities in winter will adversely affect many wildlife species, particularly wolverine.** The FS must adhere to the requirements of Subpart C of Travel Management Rule when proposing to designate new OSV routes for the SGP.

5. **Road and route construction and use are highly likely to affect wildlife species.** The FS draft Record of Decision (ROD) purports to address these concerns with the addition of a closure of the Burntlog Route to public access. This closure is inconsistently described and analyzed throughout the FEIS and draft ROD.
6. **Utilities and right-of-ways contribute to effects on wildlife.** Large portions of the proposed transmission corridors associated with the SGP are located in lands with few roads. Ignoring our comments on the SDEIS, the FEIS does not adequately analyze the effects of these facilities on wildlife habitat, including habitat fragmentation and migration corridors.
7. The project does not meet the requirements of the **Migratory Bird Treaty Act**. The analysis of effects to migratory bird species in the FEIS continues to admit the project could include direct mortality of migratory birds.
8. The Wildlife **Environmental Design Features (EDFs)** are not consistent between the analyses in the wildlife specialist report, the SDEIS, and the FEIS. The analysis is predicated on certain surveys to be conducted; but these surveys are not included in the EDFs in the FEIS. **Mitigation Measures are vague and inadequate.**
9. **Avalanche hazard mitigation activities will negatively affect wildlife.** Some attempt to address this was made, but it was insufficient.
10. **The effects to various wildlife species from climate change are addressed perfunctorily.** The climate change analysis fails to account for the cumulative impacts of habitat loss associated with the SGP with habitat loss from climate change to snow-dependent species such as the lynx and wolverine.

## **Discussion**

### **1. The FS provided only cursory and inadequate responses to wildlife comments.**

Overall, the comments related to wildlife that we submitted in response to the SDEIS, (summarized in Appendix B of the FEIS), were not addressed. The stock response by the Forest Service was "...the level of analysis regarding potential impacts is adequate..." and/or "...for most species a data cutoff date for the EIS was 2017/2018." We believe our concerns remain valid and the inadequate response should be brought forward in the Objections document. We provide more detail below.

The many concerns that the FS failed to respond to included substantive issues about:

- long-term and permanent impacts to wildlife (#309),
- Irreversible and Irretrievable Commitments for wildlife (#317)
- the inadequacy of baseline data, including using the metric of "acres-disturbed" for effects analyses (#312)

- failure to fully consider effects to listed species such as the Canada Lynx and wolverine (#312, #321, #323, #324, #325, #330)
- road and utility line construction and management (#312)
- climate change in relation to wildlife

The typical FS response was either:

“No text revisions made as it has been determined that the level of analysis regarding potential impacts is adequate for wildlife species that may occur in the wildlife analysis area as discussed in Section 4.13.2.”

or:

“No further response required. General in nature or position statement.”

We strongly disagree that our comments were “general in nature or position statement” or that the analysis was adequate.” The FS ignored and failed to address the entirety and specifics of our comments.

In response to our concerns about lack of up-to-date information (#316):

“In our comment letter on the 2020 DEIS, we repeatedly noted areas where wildlife data should be updated. The 2022 SDEIS made little effort to address these concerns. For example, the habitat layer for lynx was not updated to reflect changes from recent fires. As identified in our wolverine comments (below) the Forest Service did not utilize adequate baseline data. The Environmental Design Features (EDFs) for the project include EDFs that commit to future survey work, hence important wildlife data would not be obtained or available to inform the current analysis in the SDEIS.”

The FS responded:

“Where appropriate (e.g., change in protection status, significant update in available data or understanding of the species’ known range/habitat requirements), additional data has been added to the Final EIS. However, for most species a data cutoff date for the EIS was 2017/2018.”

We found few situations in the FEIS where the FS deemed it “appropriate” to update information and subsequent analysis. In almost all cases where this type of statement was made, the FS failed to provide a section number so that we could find any changes that were made.

As stated in comments on the SDEIS, there are many places where the effects to wildlife were not sufficiently analyzed. Yet, the FS astonishingly asserts that the analysis was limited to data available as of 2017/2018. This is at least 6 years ago.

It is notable that despite the huge effort put forth by Gestring et al. 2023 to provide important, substantive comments to improve the analysis, the FS made only a very few key changes in the FEIS, as described in section 1.11 (excerpted below.) Only 4 of these changes directly applied to our wildlife comments (see underlined text below), and most were inadequate (as detailed elsewhere in this objection.) One change the FS made, which we appreciate, was to update the

wolverine occurrence discussion with the information we provided in our comments on the SDEIS.

#### “1.11 Changes from the SDEIS to the Final EIS

The Forest Service considered all substantive comments and used them to assist in updating, revising, or adding clarifications to the Final EIS. The Final EIS changes include consideration given to public comments, corrections, and minor grammatical changes including rewording for clarification of purpose and intent.

The Forest Service focused on addressing public comments, while continuing to meet its legal, regulatory, and policy mandates. No additional alternatives have been evaluated in the Final EIS. There are mitigation measures added to address resource impacts. Key changes to the Final EIS include:

- Geotechnical sampling and data collection in support of the Burntlog Route development (Section 2.4.4.3).
- A new figure depicting growth media profiles (Figure 2.4-19).
- Reclamation cover materials baseline data updated and revised (Section 3.5).
- Additional wolverine baseline data provided (Section 3.13). Wolverine status changed from Proposed Threatened to Federally Threatened.
- Expansion of the Access and Transportation analysis area to include SH 55 south to I-84 in Boise and north to US 95 in New Meadows (Section 3.16).
- Revised heritage resources baseline data to include additional inventories and updated evaluations (Section 3.17).
- Inventoried Roadless Areas revised to Idaho Roadless Areas and roadless characteristics baseline data was expanded (Section 3.23).
- Additional avalanche and seismic analysis (Section 4.2).
- Addition of individual GHG emissions estimates by Project activity (Section 4.4).
- Detail added regarding growth media suitability criteria (Section 4.5).
- Expanded avalanche analysis (Section 4.6).
- Additional water treatment description (Section 4.9).
- Revised wetlands analysis associated with submittal of the Compensatory Mitigation Plan to the USACE (Section 4.11).
- Analysis of offsite transportation of hazardous materials added (Section 4.16).
- Additional mitigation measure to restrict public access to newly constructed portions of the Burntlog Route (Section 4.16.3).
- Travel Management Rule subsection added (Section 4.19).
- Expanded Idaho Roadless Areas roadless characteristics analysis (Section 4.23). Additional mitigation measures identified (Chapter 4).”

**2. The NEPA requires that an EIS describes the environmental baseline of the areas to be analyzed (40 C.F.R. § 1502.15), noting that an accurate baseline is “essential” to an informed analysis (40 C.F.R. § 1502.22).** The FS did update wolverine occurrence with the information we provided in our comments on the SDEIS. However, the current condition of

wildlife habitat was not updated with the effects of recent fires, hence the analysis is inaccurate. Further, an agency cannot rely on post-approval surveys, studies, or mitigation as a substitute for suitable baseline information.

Our comment (#318) stated:

“NEPA requires that an EIS describes the environmental baseline of the areas to be analyzed (40 C.F.R. § 1502.15), noting that an accurate baseline is “essential” to an informed analysis (40 C.F.R. § 1502.22). The current condition of wildlife habitat was not updated with the effects of recent fires, hence the analysis is inaccurate. Further, an agency cannot rely on post-approval surveys, studies, or mitigation as a substitute for suitable baseline information.....”

The FS ignored our request for an updated environmental baseline, noting the following:

“The requirements for wildlife surveys have been added to the Forest Service requirements described in Chapter 2 of the EIS.”

Future surveys are not a substitute for existing baseline.

### **3. The analysis of effects to ESA-listed wildlife species, particularly the wolverine, is inadequate.**

In several instances in Appendix B of the FEIS (e.g., comment #321 and #323), the FS stated that they did not make any text revisions in the FEIS but provided additional information in the BA for Canada lynx and wolverine.

An adequate analysis and conservation of the wolverine is of key importance because the project area supports wolverines and high-quality wolverine habitat. This habitat is part of an interconnected landscape across south-central Idaho, which is near the southern extent of wolverine occurrence in the continental United States. Wolverines at the southern extent of their range exist as small and semi-isolated subpopulations within a larger metapopulation, and wolverine persistence at this southern extent of its range depends on regular dispersal of individuals among blocks of habitat. Habitat in the project area provides a stepping stone between important breeding concentrations of wolverine to the north (Salmon River Mountains north and east of McCall) and to the south (Sawtooth Mountains), and these two areas are known to be demographically connected through genetic data (see comment #19, p. 462–463, for citations).

Appendix A to this document summarizes whether or not the FS added information on wolverine to the BA and if the additional text adequately reflected the scope of the comment. Also, see review of the BA, specifically, below.

In our comments (#321 and #323) on the SDEIS, we noted that the analysis of effects to listed species (e.g., wolverine and Canada lynx) was insufficient with outdated information.

The FS responded with:

“No text revisions made as it was determined that a cutoff date for data for the EIS was 2017/2018 and that the analysis in the EIS is sufficient for the species; however, the Canada lynx is a federally threatened species and therefore included in the Project's BA as part of the consultation process with the USFWS. Additional details for this species are provided in the BA.”

“No text revisions made as it was determined that a cutoff date for data for the EIS was 2017/2018 and that the analysis in the EIS is sufficient for the species; however, the wolverine is a federally proposed (as threatened) species and therefore included in the Project's BA as part of the consultation process with the USFWS. Additional details for this species are provided in the BA.”

In our comment (#325), we stated that “Importance of wolverine habitat is not adequately portrayed and the potential for habitat fragmentation and barriers to movement is not adequately addressed”

The FS said that additional information was included in the BA.

We expressed concerns about the effects of trapping (#327) and were told to look at the BA.

Thus, we reviewed the BA. In light of the wolverine's changed status under ESA since the SDEIS, we assessed if the FS had provided sufficient information on wolverine in the BA to address the threats and issues identified in the FWS listing decision. The wolverine was listed as Threatened under the Endangered Species Act on 30 November 2023 (Federal Register Vol. 88, No. 229, pp. 83726–83772), with an effective date of 2 January 2024. Four months later, the FS submitted a revised draft BA to the U.S. Fish and Wildlife Service (FWS) on 26 March 2024, and submitted a final BA in July 2024. Thus, the FS had 4-6 months to address threats to wolverine identified in the listing decision. In addition, because the wolverine had reverted to proposed for listing status under ESA in 2020, this species had already been included in the Project's BA as part of the consultation process with the FWS.

From our review of the BA, we concluded the FS failed to adequately discuss and disclose potential impacts to wolverine in the following ways, and thus failed to provide the FWS with sufficient information on which to make an effects determination.

a. Loss of Habitat

The BA and FEIS quantified direct loss of habitat, in acres, based on the footprint of activities. Indirect effects (fragmentation of habitat, increased competition for resources due to displacement from territories, potential for den abandonment from human disturbance, potential for mortality from increased trapping opportunities) were assumed across all modeled wolverine



habitat in the analysis area (BA Table 4.5-3, p. 498). While we appreciate the recognition of indirect effects themselves, the BA provided no analysis of how indirect effects potentially constrain wolverine movements and effectively reduce access to critical resources. For example, although the BA superficially discussed impacts of winter recreation (p. 500, citing Heinemeyer et al. 2019a), the FS failed to recognize that wolverines experienced habitat degradation across all intensities of winter recreation. For female wolverines, 14% of habitat within home ranges, on average, was reduced in quality due to winter recreation, with at least one individual experiencing a 70% degradation of habitat under the highest intensity of recreation. The BA failed to disclose how functional loss of habitat anticipated by the new Cabin Creek OSV trail and the associated off-trail over-snow travel would be additive to the base acres lost from construction and operations.

#### b. Decrease in Connectivity among Subpopulations

The BA failed to recognize the importance of both the habitat and the individual wolverines resident in the project area to sustaining connectivity within the Central Idaho wolverine subpopulations. Comment #325 on the SDEIS raised this point in detail (FEIS Appendix B p. B-442). Above on p. 6 we summarized how wolverine habitat provides a stepping stone across Central Idaho and how resident individual wolverines in the analysis area provide genetic connectivity.

#### c. Protection Measures and Mitigations are not Meaningful or Effective for Wolverine

The five protection measures identified in the BA (BA p. 498) do not effectively address impacts or, in the case of speed limits, are questionable as to their ability to be enforced. Of the six mitigation measures identified for wolverine (BA p. 501–502), only one—the 1-mi no-disturbance buffer around modeled denning habitat during December through March for exploratory drilling activity—is specific enough to provide concrete benefit. There is no effective mitigation proposed to address the new Cabin Creek OSV trail, despite published information on the sensitivity of wolverines to over-snow recreation and a functional loss of habitat within home ranges as a result of recreation. The three measures related to roads are vaguely worded. Most importantly, managing public access on the Burntlog Route remains murky. For example, the FS response to comment #328 in FEIS Appendix B states

“The EIS has been revised to include a mitigation measure that restricts public use of the Burntlog Route”.

However, the mitigation measures for wolverine identified in the FEIS (4.13.3, p. 4-490) and the BA (p. 501) do not mention the Burntlog Route by name but, rather, state

“Mark new or temporary roads off limits to non-authorized motorized access to reduce traffic and increased access in wolverine habitat.”

The BA later provides alternative language (p. 502), which also was reflected in the DROD (p. 25):

“Public use of the Burntlog Route will be restricted. Seasonal use of the newly constructed portions of the Burntlog Route will be allowed only during the snow-free portion of Year -1 when there would be no other access to the Thunder Mountain Road...During operations, public use of existing segments of the Burntlog Route (i.e., Burnt Log Road [FS447], Meadow Creek Lookout Road [FR51290], and Thunder Mountain Road [FR50375]) will be unrestricted.”

This suggests that the public would be allowed on the existing portion of the Burnt Log Road year round, which seems to result in an increase in use, not a restriction.

We provided recommendations for mitigation for wolverine in our comments on the SDEIS. None of these recommendations were recognized by the FS. We provide a list again in the Executive Summary for the Wildlife Objection.

d. Combined Effects Are Inadequately Described and Not Consistent with the Listing Decision for Wolverine

The FS failed to emphasize the combined effects of new roads in habitat, higher traffic volumes, human disturbance from operations and from increased access allowed to the public, and new over-snow recreation on and off designated trails.

In the 2023 listing decision for wolverine, the FWS identified ongoing and increasing impacts of climate change and associated habitat degradation and fragmentation as the primary threat to wolverine (Federal Register Vol 88, No. 229, p. 83726). In addition, the FWS identified a number of threats to wolverine that, “**in isolation**”, would not affect the species at the population level, but that could be exacerbated by climate change in the foreseeable future and could work synergistically to increase impacts (Federal Register Vol 88, No. 229 p. 83752). These recognized threats included multi-lane roads, backcountry winter recreation, and human development, which, exacerbated by climate change, could then impact genetic diversity and small population dynamics (Federal Register Vol 88, No. 229 p. 83749).

The SGP simultaneously increases winter recreation, human development and roads; thus, these recognized threats are no longer “in isolation” but rather are a combined impact. Any adverse impacts that this project will have on wolverines and wolverine habitat will be amplified and exacerbated by the pressures the species is already facing with declining spring snow cover and expanding winter recreational use. Failure to place impacts into this “combined” context was a weakness of the BA and contrary to how the 2023 listing decision was constructed. The absence of this presentation in the BA may have limited the FWS conclusions in their Biological Opinion.

We note that Section 4.5.4 of the BA, Cumulative Effects, is different from what we are describing as combined effects. Cumulative Effects are defined by the FS as those actions on state and private lands within the Action Area that are expected to occur. The FS determined

that cumulative effects could have “future incremental disturbance impacts on the wolverine” (BA p. 503).

We also reviewed the FWS Biological Opinion and found that the FWS failed to adequately consider potential impacts to wolverine in a number of ways, and thus reached conclusions that may be in conflict with the listing decision. We provide our review of the BO in Appendix B to this document.

**4. New motorized vehicle routes and facilities in winter will adversely affect many wildlife species, particularly wolverine.** The FS made some attempt to address our comment that they must adhere to the requirements of Subpart C of Travel Management Rule when proposing to designate new OSV routes for the SGP, but this attempt was inadequate. At the same time, the FS admitted the new route would present a public safety hazard due to the potential for avalanches along the route.

This issue was discussed in depth in the Gestring et al. 2023 comment letter under the topic of “New motorized vehicle routes, 1. Over Snow Vehicle and other public access issues.” Subsequent objections under that topic are also pertinent to our wildlife concerns.

As we previously commented (see our comments on the SDEIS,) and as the FS has disclosed, one part of the project that will greatly affect wildlife, particularly wolverine, is the proposed creation and grooming of the Cabin Creek OSV trail. This OSV trail is in no way integral to mine approval or the implications of mining law and regulations. It is also hazardous to human health and safety.

The FS, in a nod to a few vocal OSV users, has included the OSV route in the project decision:

**“2.3.10 Recreation**

Cabin Creek Over-snow Vehicle Route Avalanche Hazard Communication Plan  
Issue: Closure of the Warm Lake Road to winter recreation use as a groomed over-snow vehicle route would transfer winter recreation opportunities to the Cabin Creek Road. Transfer of the over-snow vehicle route to Cabin Creek Road presents new terrain and avalanche hazards.”

“Measure: A Cabin Creek Over-snow Vehicle Route Avalanche Hazard Communication Plan will be developed by the Project Operator describing the new avalanche hazards and then explain where information will be located to communicate avalanche forecast hazards. Avalanche forecasts for the Cabin Creek over-snow vehicle route will be developed based on data from the Project Operator's weather station along Warm Lake Summit.”

The FS includes a feeble mitigation measure for wolverine in relation to winter over-snow use:

“9.3.6 Wildlife – Wolverine

Description Reference

Winter recreation use in high-elevation habitats characteristic of wolverine denning habitat will be monitored periodically. Where practicable, monitoring will be done in cooperation with State fish and game agencies.”

This route is not only bad for wolverine, Canada lynx, and other wildlife, it also is hazardous for public use, requiring a measure to “communicate avalanche forecast hazards”. Rather than making the correct decision to protect human health and safety and protect threatened wildlife species, the FS decision instead includes the new OSV route.

The FS made a poor attempt to address the requirements of the Travel Management Rule.

In the FEIS, p. 2-22 the FS states:

“Travel Management Rule

The reroute of Stibnite Road and the designation of a temporary OSV route to replace an existing OSV route are actions that fall under the Travel Management Rule (36 CFR 212), Subparts B and C, respectively (FSM7715.03(5)). These actions require consideration under the Travel Management Rule Minimization Criteria (36 CFR 212.55(b)). This is presented in Section 4.19, Recreation Resources.”

The Executive Summary (ES-29) asserts:

“Travel Management Rule minimization criteria for the reroute of Stibnite Road through the mine site and the temporary relocation of the Warm Lake OSV route to Cabin Creek Road and west of Johnson Creek Road were considered to determine if the routes intersect with impaired watersheds, wetlands, riparian areas, high-risk flood hazard areas, soils having erosion potential, and riparian vegetation communities.”

The FEIS and DROD include an inadequate analysis to minimize effects to wildlife (see p. 4-593, Table 4.19-3, and section 7.19.). The portions of 7.19 most pertinent to wildlife are excerpted below:

“7.19 Travel Management Rule

The reroute of Stibnite Road and the designation of a temporary over-snow vehicle route to replace an existing over-snow vehicle route are actions that fall under the Travel Management Rule (36 CFR 212), Subparts B and C, respectively (FSM7715.03(5)). These actions require consideration under the Travel Management Rule Minimization Criteria (36 CFR 212.55(b)). The environmental design features (see Parts 9.2, 9.3.2, 9.3.3, 9.3.4, 9.3.6, 9.3.7, 9.3.12, and 9.3.14 below) and mitigation measures (see Parts 2.3.2, 2.3.5, 2.3.6, 2.3.8, and 2.3.10) were developed with the objective of minimizing:

.....Harassment of wildlife and significant disruption of wildlife habitats – The route uses the existing Cabin Creek Road (FR 50467) to minimize effects on wildlife. Best management practices and environmental design features protective of wildlife are described in Table 5, Table 6, and Parts 9.3.3, 9.3.4, and 9.3.6 of this ROD below;....

The minimization analysis of is inadequate and deceptive because it:

- fails to fully address the required minimization criteria (see our comments on the SDEIS regarding this topic),
- fails to include any meaningful environmental design features and mitigation measures (despite purporting to include them by listing a number of sections in the FEIS), and
- fails to disclose that the existing Cabin Creek Road (FR 50467) is impassible to vehicles in winter. During winter months, there is little to no “harassment of wildlife and significant disruption of wildlife habitats.”

The Forest Service cannot argue adding a groomed OSV trail to a road that is not currently traveled in winter will minimize effects on wildlife. In fact, the FS is increasing impacts to wildlife during the critical winter time period.

Almost as an afterthought and without any analysis, the FS admits (p. 2-21) that in order for the Cabin Creek Road to be used as a Groomed OSV Route the following additional impacts must occur (underline added):

“Near Warm Lake, an approximately 2-acre parking area would be established west of South Fork Road on FR 474B. A new 3.2-mile groomer access trail would be established from the parking area to the Forest Service Warm Lake Project Camp south of Paradise Valley Road (FR 488) where the groomer would be stored. An approximate 0.1-mile segment would be groomed from the intersection of Paradise Valley Road and FR 488A to Warm Lake Road. The Cabin Creek Road (FR 467) groomed OSV route would extend approximately 11 miles to the Trout Creek Campground on Johnson Creek Road. Portions of Cabin Creek Road would require stream crossing improvements, road widening, and surface grading to support the OSV route grooming equipment.”

In our comments on the SDEIS, we discussed the potential impacts of the proposed new OSV trail and suggested a number of potential mitigation measures. In the scope and scale of the SGP, these measures would **not** be onerous or costly to implement, particularly since Perpetua is advertising how environmentally friendly this project will be.

Instead, this is the only mitigation measure that was included (9.3.6):

“Winter recreation use in high-elevation habitats characteristic of wolverine denning habitat will be monitored periodically. Where practicable, monitoring will be done in cooperation with State fish and game agencies.”

Sadly, FS and Perpetua appear willing to exaggerate the need and incur the cost (i.e., grooming and avalanche hazard forecasting) for the OSV trail for a small number of OSV users, while being unwilling to include any meaningful EDFs or mitigation measures to protect the threatened wolverine and Canada lynx (along with other wildlife species).

In addition, the FS must complete a FP amendment for the effects of the increase in groomed routes on Canada lynx. The justification for the FP amendment is also inadequate and deceptive (see FEIS, Appendix A).

**5. Road and route construction and use are highly likely to affect wildlife species.** The FS draft ROD purports to address our concerns with the addition of a closure of the Burntlog Route (to be built for mine access) to public access. The direction for this closure is not consistently described between the FEIS and draft ROD, and pertains only to the segment of the road described as a “route”, resulting in greater impacts to wildlife and non-adherence to the requirements of the Travel Management Rule.

For additional comments on the Burnt Log Road and Burntlog Route, see Issue #3 above.

**6. Utilities and right-of-ways contribute to the effects on wildlife.** Large portions of the proposed transmission corridors associated with the SGP are located in lands with few roads. Ignoring our comments on the SDEIS (#335), the FEIS does not adequately analyze the effects of these facilities on wildlife habitat, including habitat fragmentation and migration corridors.

Other concerns we expressed about unauthorized motor vehicle use were ignored. For example, we stated (#175)

“The SDEIS failed to sufficiently consider impacts from increased unauthorized motor vehicle use. New roads for construction and maintenance of transmission lines will provide more access for motorized recreation in areas without a current road system and more opportunities for illegal off-road riding.....”

The poor response from the FS stated:

“No text revisions made as it has been determined that the level of analysis regarding potential impacts is adequate for wildlife species that may occur in the wildlife analysis area as discussed in Section 4.13.2”

**7. As noted in our comments on the SDEIS, the project does not meet the requirements of the Migratory Bird Treaty Act.** The analysis of effects to migratory bird species in the FEIS continues to admit the project could include direct mortality of migratory birds, despite a purported environmental design feature (EDF) to search for and protect nests.

We commented (#316):

“The analysis of effects to migratory bird species admits the project could include direct mortality of migratory birds, and does not meet the requirements of the Migratory Bird Treaty Act. The analysis of Migratory Bird Species and Bald and Golden Eagles (p. 4-448) shows the project fails to meet the requirements of the MBTA:...”

The FS responded:

“Project impacts on migratory birds would be minimized through the application of Forest Service requirements to conduct migratory bird surveys prior to engaging in ground disturbing activities. Activities would not proceed in areas with identified nests. Further, Project infrastructure would follow design criteria for bird species.”

We could find no definitive requirements for this EDF in the FEIS, although the draft Decision states:

#### “7.9 Migratory Bird Treaty Act

Ground clearing and timber removal are necessary precursors to mineral mining and milling and are part of this decision. There is potential for the Selected Alternative to impact migratory birds. In January 2001, Executive Order 13186 required federal agencies (those taking actions that may negatively impact migratory birds) to develop a memorandum of understanding with the U.S. Fish and Wildlife Service to promote the recommendations of various migratory bird programs and conservation considerations. The Forest Service developed a memorandum of understanding with the U.S. Fish and Wildlife Service in 2008.

The needs of migratory birds have been incorporated into the Payette National Forest and Boise National Forest planning process and specific mitigation measures are required as part of this decision. Appropriate measures to minimize those impacts, such as ground clearing areas outside of nesting seasons, are described in Section 2.4 of the FEIS. I find that the Selected Alternative complies with this Executive Order.

Section 2.4 admits to numerous impacts to migratory birds and golden eagles (see section titled: Migratory Bird Species and Golden Eagles) and then states that in Section 2.4.9, Perpetua has committed to conducting pre-construction migratory bird nest surveys during the breeding season in areas prior to ground disturbing activities. Active nests would then have a protection buffer established based on the habitat type present and species utilizing the nest. No ground disturbance or other human activity would be allowed until the young have fledged or the adults abandon the nest on their own accord. This would reduce the potential loss of a nest or young (i.e., violation of the MBTA and Bald and Golden Eagle Protection Act) as a result of the SGP.....Cutting of trees for 2021 MMP activities would avoid avian tree nests and a Forest Service wildlife biologist would be notified of any occupied sensitive species nests encountered. Although design features would reduce direct impacts, there would still be a decrease in habitat....”

In our many years of experience conducting wildlife surveys, finding active nests, particularly small bird nests, is an extremely difficult and resource-intensive endeavor. Thus, we anticipate that Perpetua's "commitment" to conducting surveys would be ineffective. In fact, most of the EDFs and Mitigation Measures for Migratory Birds and other wildlife species are so vague and unsubstantial as to be largely meaningless - see discussion under #8. below.

**8. The Wildlife Environmental Design Features (EDFs) are not consistent between the analyses in the wildlife specialist report, the SDEIS, and the FEIS. The analysis is predicated on certain surveys to be conducted; but these surveys are not included in the EDFs in the FEIS. Mitigation Measures are vague and inadequate.**

The same pattern of assuring us that design features or mitigation measures would address or minimize impacts to wildlife continues throughout the FEIS and draft ROD. The FS relies on Environmental Design Features (EDFs) to assure the public that resources would be protected.

We commented (#319, #320):

"The Wildlife Environmental Design Features (EDFs) are not consistent between the analyses in the wildlife specialist report and the SDEIS. For example, the analysis is predicated on certain surveys to be conducted; but these surveys are not included in the EDFs

Wildlife EDFs are not consistent between the analyses in the Wildlife Specialist Report and the SDEIS

The Wildlife Specialist Report (WSR) lists design features to address regulatory and Forest Plan requirements, see WSR, Table 2-2 Prominent Regulatory and Forest Plan Requirements for Wildlife and Wildlife Habitat. Some of the EDFs are worded differently and so might cancel one another (see below, specifically bolded text). Following each EDF listed below, we identify if the EDF was included in the SDEIS."

In addition, we noted:

"Some measures would be designed during project implementation. As noted in our comment #8, this is a violation of the NEPA: an agency cannot rely on post-approval surveys, studies, or mitigation as a substitute for suitable baseline information."

Unfortunately, in the FEIS and draft ROD, the FS continued "to kick the can down the road" by failing to identify any meaningful EDFs. Examples (largely from the FEIS section 2.4.9) follow with our comments in red font:

"The project will be designed to meet the terms of approved recovery plans for TEPC species. For TEPC species without a recovery plan, best information available will be used in design and implementation [fails to identify what measures will be used to



**meaningfully implement this commitment].** Recovery plans exist for bull trout, steelhead, chinook, and the Northern Idaho ground squirrel. A draft recovery plan for the Canada lynx and recovery outlines for whitebark pine and wolverine are available as of June 2024.”

“For Sensitive species, land clearing activities in areas where complete vegetation removal is necessary greater than 0.5 acres would not occur, to the extent possible **[How possible is this? The following text, underlined, absolves most project activities from this measure.]**, until after the bird breeding season (April 1 through July 30th) for migratory and resident birds. This design feature does not apply to the mine site, road construction or maintenance, hazard tree felling, or the power line upgrades and construction.”

“Where practicable, **[define or this is a meaningless EDF]** monitoring of high elevation habitats characteristic of wolverine denning habitat would be done in cooperation with State fish and game agencies.”

“Design and implement **[define or this is a meaningless EDF]** projects within occupied habitats of Sensitive species to help prevent them from becoming listed. Use Forest Service-approved portions of Conservation Strategies and Agreements, as appropriate, in the management of Sensitive species habitat to keep management actions from contributing to a trend toward listing for these species. FP Component BNF and PNF: WIST02 Wildlife, Vegetation.”

#### Table 2.4-13 Proponent Proposed Design Features

During construction, approximately 11 miles of groomed OSV route would be maintained along Cabin Creek Road (FR 467): Recreation **[any potential “benefits” to ORV users are offset by public health and safety concerns from avalanche hazards, and potential impacts to wolverine.]**

Implement an Avian Protection Plan at the SGP for transmission lines, including designing power lines and poles to minimize potential bird mortalities due to electrocution. Develop procedures for managing nests of protected species on utility structures (if nests are built). **[Good]**

Perpetua would establish and post speed limits for the Burntlog Route, SGP haul roads, and light vehicle access roads on the SGP site. Slower speed limits would be posted at known wildlife crossings and along defined migratory corridors during migration season. **[A good measure if followed and/or enforced].**

We previously commented on the inadequacy of the purported Mitigation Measures for wildlife, and particularly wolverine, i.e., for the Burntlog Route and Burnt Log Road.

“4.13.3 Mitigation Measures (4-490)

- The Forest Service wildlife biologist would be notified of any occupied wolverine dens encountered during construction and operation. [This is so unlikely as to be meaningless. A far better measure would be to support additional wolverine surveys and monitoring as described in our Executive Summary, above.]

See comments on wildlife EDFs and Mitigation Measures throughout this section. For recommendations on additional mitigation measures for wolverine see Issue #3 above.

**9. Avalanche hazard mitigation activities will negatively affect wildlife.**

Some attempt to address this was made, but it was insufficient. See comments on avalanche hazards in the group Objection letter.

**10. The effects to various wildlife species from climate change are addressed perfunctorily.**

The climate change analysis and the analysis of cumulative effects for wildlife fail to account for the cumulative impacts of habitat loss associated with the mine and with habitat loss from climate change to snow-dependent species such as the lynx and wolverine. The only mention of climate change in the BA specific to wolverine is as a summary of threats identified by the FWS in the listing decision (BA p. 491).

See also our comments on this topic in Appendix B below.

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## Appendix A - Comparison Table of SDEIS Comment, FS Response, and BA Text

Comment Number	Comment	Comment Response
323	<p>11. The analysis of effects to wolverine is insufficient</p> <p>....However, the SDEIS failed to connect that the spatial separation and low fecundity determined by life history, combined with specialized habitat requirements (persistent snow cover, cool temperatures), magnify this species' vulnerability to threats such as climate change, habitat fragmentation, backcountry winter recreation, and other factors. Thus, the SDEIS did not fully capture the importance of the project area for wolverine or the difference between alternatives using acres of habitat as the metric.</p>	<p>No text revisions made as it was determined that a cutoff date for data for the EIS was 2017/2018 and that the analysis in the EIS is sufficient for the species; however, the wolverine is a federally proposed (as threatened) species and therefore included in the Project's BA as part of the consultation process with the USFWS. <b>Additional details for this species are provided in the BA.</b></p> <p>We found no language that emphasizes how or why threats are magnified due to life history traits.</p>
324	<p>a. Summary of wolverine occurrence is not complete</p> <p>....A complete and accurate synthesis of sightings is important to establish a baseline for analysis. Resident, reproductive individuals maintain established territories and exhibit high fidelity to their territories. Venturing outside a territory boundary incurs some level of risk due to neighboring territorial wolverines. The SDEIS recognized this:</p> <p>This is important because territoriality constraints define how wolverines can react to changes in habitat quality or displacement from occupied habitat.(SDEIS p. 3-345).Thus, analysis of the potential impacts of new roads and increased human-related activities should be put in the context of potential loss of quality habitat within individuals' home ranges, yet the Forest Service failed to do so.</p>	<p>Due to the species recent reinstatement as a federally proposed species, updated species occurrence information has been added to Section 3.14 and 4.14 in the Final EIS.</p> <p>The FS did incorporate our occurrence data into the BA. The FS did not address loss of quality of habitat within home ranges.</p>

325	<p>Importance of wolverine habitat is not adequately portrayed and the potential for habitat fragmentation and barriers to movement is not adequately addressed</p> <p>(See entirety of our comment in FEIS Appendix B, p. B-442)</p>	<p>No text revisions made as it was determined that a cutoff date for data for the EIS was 2017/2018 and that the analysis in the EIS is sufficient for the species; however, the wolverine is a federally proposed (as threatened) species and therefore included in the BA as part of the consultation process with the USFWS. <b>Additional details for this species are provided in the BA.</b></p> <p>The FS did not address high-quality habitat as a stepping stone within the interconnected landscape across Central Idaho, nor the importance of demographic connectivity to small, isolated populations of wolverine. The BA did not attempt to analyze the alternatives in terms of how remains connected and contiguous rather than simply a count of acres affected.</p>
326	<p>The proposed Burntlog Route is of particular concern for wolverines because it is adjacent to, and occasionally directly crosses, some of the highest-quality habitat in the analysis area based on the number of years with persistent snow cover (SDEIS Figure 3.13-4). The SDEIS attempts to downplay the impact the Burntlog Route would have on wolverines ....(see entirety of comment on p. B-442)</p>	<p>No text revisions made as it has been determined that the analysis in the EIS is sufficient for the wolverine. Since it is a proposed species and therefore included in the BA, it will be included as part of the consultation process with the USFWS. <b>Additional details for these species are provided in the BA.</b></p> <p>The BA does not include the interpretations from the literature we offered in our comment, nor does it add the citation we provided.</p>
327	<p>SDEIS does not adequately address the potential for increased non-target trapping... (see entirety of comment on p. B-443)</p>	<p>No text revisions made and it has been determined that the analysis in the EIS is sufficient for these species; however, the Canada lynx and the wolverine are listed species and therefore included in the BA as part of the consultation process with the USFWS. <b>Additional details for these species are provided in the BA.</b></p> <p>There is no enumeration of trapping occurrences in the BA, as recommended by our comment, and no new information presented.</p>

328	d. SDEIS does not adequately address the likely increase in winter travel and associated impacts	<p>The EIS has been revised to include a mitigation measure that restricts public use of the Burntlog Route.</p> <p>We find this mitigation to be unclear, uncertain, and not sufficient as proposed. In addition, no mitigation associated with the proposed new OSV trail was offered.</p>
329	Cumulative impacts were not considered	<p>No text revisions made and it has been determined that the analysis in the EIS is sufficient for the species; however, the wolverine is a federally proposed (as threatened) species and therefore included in the BA as part of the consultation process with the USFWS. <b>Additional details for this species are provided in the BA.</b></p> <p>The BA does have a section related to 'Cumulative Effects', which is defined as nonfederal actions on state and private land anticipated to occur. This is not the intent of our comment and we may have been trapped by semantics, as "cumulative" appears to have a regulatory meaning. Our comment addressed the "accumulation", or "combination" of impacts, which was not fully developed in the BA.</p>

## **Appendix B - Review of U.S. Fish and Wildlife Service Biological Opinion**

The U.S. Fish and Wildlife Service (FWS hereafter, also referred to as “Service”) failed to adequately consider potential impacts to wolverine in the following ways, and thus reached conclusions that may be in conflict with the listing decision (Federal Register Vol. 88, No. 229, pp. 83726–83772).

### **1. Limited Understanding of Wolverine Ecology Led to Uninformed Conclusions**

The Biological Opinion (BO) gave several reasonable interpretations of wolverine literature to describe some impacts. These included a discussion of how noise pollution, equipment and vehicle use, and general human presence on the landscape can cause wolverines to avoid otherwise suitable habitat, limiting their access to critical resources (p. 303); the discussion of denning behavior (p. 303-304); and the discussion of impacts from the proposed new Cabin Creek OSV trail (p. 307). Overall, however, the BO displayed a naïve understanding of wolverine ecology, and many times offered the overly simplistic solution that wolverines, due to their mobility, could “flee” from impacts (pp. 300, 305, 306, 308, 309) or “move freely” to other habitat (p. 314).

The expectation that wolverines will simply go elsewhere is not supported by wolverine life history strategies and social structure. For a wolverine to “avoid” activity, it would have to do so temporally or spatially, either of which could equate to a loss of access to resources within its territory and effectively reduce territory size. Resident, reproductive individual wolverines maintain and defend established territories and exhibit high fidelity to their territories. Both adult and subadult wolverines are killed by other wolverines in some instances (Aronsson and Persson 2018). As a consequence, venturing beyond one’s territory incurs some level of risk due to neighboring territorial wolverines. We made this point to the FS in comment #323 to the SDEIS (FEIS Appendix B, p. B-441).

### **2. Incomplete Effects and Conclusions**

The Service’s determination of effects found in the Summary of Effects (p. 312-313) and Conclusions (p. 314) was driven exclusively by direct habitat loss, which was quantified solely by the 2,341.6 acres (their calculation) disturbed by the construction and operations footprint. This led to a stark minimal calculation that 0.7% of the total acres of modeled wolverine habitat in the analysis area would be affected. No indirect effects were included in the calculation of effects, despite the fact that the FS’s BA ascribed indirect effects to all 340,000+ acres of modeled habitat.

The FWS failed to recognize how indirect effects potentially constrain wolverine movements and effectively reduce access to critical resources. For example, although the BO discussed impacts of winter recreation, the FWS failed to recognize that wolverines experienced habitat degradation across all intensities of winter recreation. For female wolverines, 14% of habitat within home ranges, on average, was reduced in quality due to winter recreation, with at least one individual experiencing a 70% degradation of habitat under the highest intensity of recreation (Heinemeyer et al. 2019).

The BO failed to analyze how functional loss of habitat anticipated by the new OSV route would be additive to the base acres lost from construction and operations. The FWS concluded that “Long-term effects are not expected to wolverines in the action area or statewide nor are

measurable effects expected to the conservation or recovery of the species.” In the end, the FWS defined “Incidental Take” as merely the 779.3 acres of denning habitat disturbed by all phases of the project (p. 315).

As stated above under #1, the simplistic view that wolverines could “flee” from disturbance also weakened the FWS conclusions. For example:

“Mine site construction and project vehicle traffic may temporarily disturb wolverines in the vicinity, causing them to flee the area or avoid affected areas and heightened human activity. Dispersing wolverines may avoid areas where humans and machinery are present while construction is taking place, although these individuals will likely move around the disturbance as they pass through the area. Therefore, construction is not anticipated to impede dispersing individual’s movements or affect gene flow between wolverine populations. Due to these reasons, and because wolverines have low population densities and large home ranges, the disturbance effects to dispersing wolverines are expected to be insignificant” (BO p. 300).

At the same time, the FWS also concluded that “the footprint of human activities throughout the life of the proposed action may limit wolverine dispersal and population connectivity, especially for female wolverines” (p. 306). This contradicts the previous statement.

The FWS also contended that “Vehicle-wildlife collisions will likely be the largest impact to wolverines related to the proposed action.” (p. 307). This is an incomprehensible oversimplification of all the combined impacts discussed in the FS BA and summarized in the BO itself.

Finally, it should be noted that the FWS assumed that proposed speed limits on the Burntlog Route would be effective, and assumed that public access would be restricted on the Burntlog Route, excerpting text verbatim from the BA (BO p. 305). The FWS did not recognize the lack of clarity and potential inconsistency in how the FS described access management of the Burntlog Route (see discussion under issue #3 earlier in this document) and did not distinguish between the Route and the existing Burnt Log Road.

### **3. Combined Impacts Are Inadequately Described**

Just as we found with the FS BA, the FWS failed to recognize, in any meaningful way, the combined effects of all the impacts identified in the BO. These include habitat loss, habitat fragmentation, potential injury or mortality from vehicle collisions, changes to habitat use from noise or light, contamination of water or food, new roads in habitat, higher traffic volumes, human disturbance from operations and from increased access allowed to the public, increased competition for resources, displacement, increased human presence causing a decline in breeding and recruitment, and new over-snow recreation on and off designated trails (p. 298 and elsewhere). As we stated in our comments to the FS, the wolverine’s spatial separation and low fecundity, combined with specialized habitat requirements (i.e., persistent snow cover, cool temperatures), magnify this species’ vulnerability to threats such as climate change, habitat fragmentation, backcountry winter recreation, and other factors (. Any adverse impacts that this project will have on wolverines and wolverine habitat will be amplified and exacerbated by the pressures the species is already facing with declining spring snow cover and expanding winter recreational use. Failure to place impacts into this “combined” context was a weakness of the BO and contrary to how the 2023 listing decision was constructed.



In their Summary of Effects, the FWS oversimplified and possibly misrepresented the listing decision by identifying only two secondary threats to wolverine:

“The primary threats to wolverine rangewide are climate change and inadequate regulatory mechanisms related to climate change, and secondary threats are harvest (trapping) and small population size (USFWS 2023d, entire). The proposed action and its effects to wolverines are not considered among the primary threats to wolverine. While the proposed action will not ameliorate threats acting on wolverine, neither will it exacerbate those threats rangewide” (p. 313).

What the listing decision actually stated was:

“We have determined that the contiguous U.S. DPS of the North American wolverine is a threatened species due primarily to the ongoing and increasing impacts of climate change and associated habitat degradation and fragmentation” (Federal Register Vol 88, No. 229, p. 83726).

“We expect climate change to exacerbate effects from multi-lane roads, backcountry winter recreation, and human development, all of which could then impact genetic diversity and small population dynamics” (Federal Register Vol 88, No. 229 p. 83749).

The listing decision went on to state that each of the above-mentioned three threats (multi-lane roads, backcountry winter recreation, and human development, would not, “in isolation”, affect the species at the population level, but, combined with other threats, could negatively affect wolverine population resilience in the future (Federal Register Vol 88, No. 229 p. 83752-83753).

The SGP simultaneously increases winter recreation, human development and roads; thus, these recognized threats are no longer “in isolation” but rather are a combined impact.

#### **4. Conservation Recommendations for Wolverine are Entirely Lacking**

The FWS defines Conservation Recommendations as “discretionary agency activities to minimize or avoid adverse effects of a proposed action on listed species or critical habitat, to help implement recovery programs, or to develop new information on listed species” (p. 317). The list that appears on p. 317 encompasses all of the species assessed in the BO. Incredibly, of the 9 recommendations listed, not a single one pertains to wolverine.