



October 13, 2020

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RE: Sixty-Day Notice of Intent to Sue to Remedy Violations of the Endangered Species Act in the United States Fish and Wildlife Service’s Withdrawal of the Proposed Rule to List the Distinct Population Segment of the North American Wolverine Occurring in the Contiguous United States as Threatened

Dear Secretary Bernhardt and Director Skipwith,

On behalf of the Center for Biological Diversity, Conservation Northwest, Defenders of Wildlife, Friends of the Clearwater, Greater Yellowstone Coalition, Idaho Conservation League, Jackson Hole Conservation Alliance, Klamath-Siskiyou Wildlands Center, and Rocky Mountain Wild, in accordance with the citizen suit provision of the Endangered Species Act (“ESA” or “Act”), 16 U.S.C. § 1540(g), I hereby provide notice that the U.S. Fish and Wildlife Service (“FWS” or “Service”) is in violation of the ESA with regard to the Service’s October 13, 2020 withdrawal of the proposed rule to list the distinct population segment (“DPS”) of the North American wolverine occurring in the contiguous United States as a threatened species under the Act. 85 Fed. Reg. 64,618 (Oct. 13, 2020) (“Withdrawal”). In light of the imperiled status of this wolverine DPS, including both present and future threats to the species’ survival, and the Service’s unlawful disregard of the best available science confirming the species’ threatened status, the Withdrawal violates section 4 of the ESA. 16 U.S.C. § 1533.

In the Service's most recent attempt in its multi-decade effort to reject the listing of the wolverine, the Service arbitrarily and unlawfully determined that the lower-48 wolverine population does not qualify as a DPS and dismissed threats to the wolverine that are established by the best available scientific information. The Service's withdrawal of the proposed wolverine listing threatens severe consequences for the iconic wolverine in the lower-48 United States. Accordingly, pursuant to the citizen suit provision of the ESA, 16 U.S.C. § 1540(g)(2), this letter provides you with notice that, unless within 60 days of receipt of this letter the Service rescinds and reconsiders its Withdrawal, we intend to challenge the Service's decision in federal court.

I. The Service Erroneously Determined that Wolverines in the Lower-48 United States Do Not Qualify as a DPS

The Service's Withdrawal decision errs at the outset in determining that the lower-48 wolverine population does not constitute as a DPS under 16 U.S.C. § 1532(16). Although the ESA does not define the term "distinct population segment," the Service in 1996 issued a policy interpreting this term in a manner that requires consideration of the discreteness of the population segment in relation to the remainder of the species to which it belongs; the significance of the population segment to the species to which it belongs; and the population segment's conservation status in relation to the Act's standards for listing. 61 Fed. Reg. 4,722, 4,725 (Feb. 7, 1996).

With respect to the discreteness element, "[t]he standard established for discreteness is simply an attempt to allow an entity given DPS status under the Act to be adequately defined and described." *Id.* at 4,724. Under the Service's DPS policy, a population may be discrete if it meets one of the following conditions:

1. It is markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors. Quantitative measures of genetic or morphological discontinuity may provide evidence of this separation, or
2. It is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D) of the Act.

Id. at 4,725. Importantly, this discreteness standard "does not require absolute separation of a DPS from other members of its species, because this can rarely be demonstrated in nature for any population of organisms." *Id.* at 4,724. To the contrary, "the standard adopted allows for some limited interchange among population segments considered to be discrete." *Id.*

In the Withdrawal, the Service focused solely on the issue of discreteness. In so doing, the Service reconsidered and rejected its earlier determination that the lower-48 wolverine population satisfied the discreteness criterion because of differences in conservation status defined by the U.S.-Canada international border. As discussed below, the best available scientific information undermines this conclusion. The Service's discreteness determination was therefore arbitrary and unlawful.

A. Differences in Conservation Status between Canada and the U.S.

The Service arbitrarily determined the differences in the wolverine's conservation status based on the U.S.-Canada border is not substantial and significant for several reasons, none of which were legitimate. First, the Service asserted that the wolverine's small total population size in the lower-48 states was not reflective of a difference in conservation status from Canadian populations, but rather reflected the lower-48 population's status as a peripheral population at the southern extent of the species' North American range. However, this assertion itself recognizes a difference in conservation status because the peripheral location of the lower-48 wolverine population places it in fragmented habitat where metapopulation function must be maintained across scattered core populations occupying relatively isolated suitable habitat areas, whereas more robust Canadian populations occupying relatively contiguous suitable habitat do not share the same conservation challenges.

Second, the Service asserted that the lower-48 wolverine population's extraordinarily small effective population size does not represent a difference in conservation status from Canadian populations because, the Service claimed, wolverines in the contiguous United States are genetically continuous with wolverines in adjacent Canadian provinces. However, the recent Sawaya, et al. (2019) study, attached as Exhibit 1, established that the Trans-Canada Highway represents a significant barrier to wolverine movement southward from more northerly populations, resulting in substantial genetic discontinuity between wolverines on either side of this highway, as measured by a mitochondrial haplotype analysis. Sawaya, et al. also demonstrated that the U.S. wolverine subpopulations in the Northern Rockies and North Cascades each have only 25 percent of the haplotype diversity of Canadian wolverine populations to the north. Further, the recent Mowat, et al. (2019) study, attached as Exhibit 2, documented unsustainable trapping levels in southern Canada with impacts particularly focused on young wolverines most likely to constitute dispersers carrying new genetic material into the lower-48 population. The Service ignored the Sawaya, et al. and Mowat, et al. scientific findings in asserting genetic continuity between Canadian and lower-48 wolverines.

Third, the Service claimed that habitat fragmentation in the contiguous United States is not a significant difference in conservation status from wolverines in Canada because wolverines move through areas without snow cover and female wolverines have

been observed to den outside areas retaining deep, persistent spring snow in boreal regions of Canada and Scandinavia. This assertion again irrationally seeks to minimize the obvious difference between a peripheral lower-48 population occupying relatively isolated suitable habitat areas and a core Canadian population occupying relatively contiguous habitat. The Service's observation that wolverines may sometimes travel or den outside isolated areas of snowy habitat does not render this obvious difference irrelevant because recent scientific evidence confirms that roads and other landscape developments present a significant barrier to such movements, see Ex. 1 (Sawaya, et al. (2019)), Ex. 2 (Mowat, et al. (2019)), and Scrafford, et al. (2018), attached as Exhibit 3, and wolverines have not been documented denning outside areas of deep, persistent spring snow in the more southerly portion of their range where the listing inquiry is focused.

These differences in conservation status alone are sufficient to justify a finding of discreteness.

B. Additional Factors

In addition to irrationally dismissing differences in conservation status that were sufficient to justify a finding of discreteness, the Service also arbitrarily rejected independent bases for a finding of discreteness based on other factors.

First, the Service claimed that differences in control of exploitation between the contiguous United States and Canada did not justify a finding of discreteness because of allegedly limited impacts of trapping in Canada. However, the recent Mowat, et al. (2019), Ex. 2, and Kukka, et al. (2017), attached as Exhibit 4, publications demonstrate that the current rate of wolverine trapping in southern Canada is unsustainable and that trapping disproportionately impacts younger wolverines that are most likely to constitute the dispersers that FWS relies upon to ensure connectivity with the lower-48 population. The findings demonstrate that unsustainable exploitation of wolverines in Canada threatens wolverines in the lower-48 by impeding dispersal of Canadian wolverines across the international border, and this threat is only underscored by the Service's numerous findings that rely on such dispersal to alleviate apparent threats to the lower-48 population.

This same evidence concerning the impacts of Canadian trapping also undermines the Service's findings regarding discreteness based on differences in conservation status and differences in regulatory mechanisms, given that unsustainable trapping in Canada impedes dispersal of wolverines that the Service itself acknowledges is needed to replenish the numbers and genetic viability of the fragmented lower-48 population.

The Service's failure to acknowledge or consider these factors ultimately renders its conclusion that the lower-48 wolverine population is not a DPS irrational, arbitrary, and unlawful.

II. The Service Irrationally Rejected Threats to the Wolverine Established by the Best Available Science

Despite finding that the lower-48 wolverine population does not qualify as a DPS and therefore cannot be listed under the ESA, the Service went on to address the population's biological status and evaluate threats to the population. In so doing, the Service irrationally and unlawfully dismissed threats established by the best available scientific information.

A. Climate Change

First, the Service failed to rationally assess the risk of climate change to the wolverine DPS's survival. Under section 4(a)(1)(E) of the ESA, 16 U.S.C. § 1533(a)(1)(E), the Service must list a species as threatened or endangered due to "other natural or manmade factors affecting its continued existence." The Service's evaluation of the threat posed by these factors must be rational, Greater Yellowstone Coal. v. Servheen, 665 F.3d 1015, 1020 (9th Cir. 2011), and grounded in the best available science, 16 U.S.C. § 1533(b)(1)(A). In the Withdrawal, the Service failed to rationally assess the risk of climate change to the survival of the wolverine DPS in light of the best available science.

Wolverines once ranged across the northernmost tier of the United States from Maine to Washington, and south into the Adirondacks of New York, the Rocky Mountains as far south as New Mexico, and the Sierra Nevada-Cascade and Siskiyou Mountains as far south as California. The wolverine has been eliminated from all but a fragment of this historic range by the destruction of its wilderness habitat and trapping by European settlers. Wolverines were extirpated from the upper Midwest states by the early 1900s, and from the Northeast shortly thereafter. Although single wolverines have in recent years traveled to California, Colorado, and the Washington coast, today wolverine populations are known to exist in the contiguous United States only in the Rocky Mountain regions of Idaho, Montana, and Wyoming, in the Cascade Mountains of Washington, and in far northeastern Oregon. The entire population in the contiguous United States is estimated at just 300 wolverines or fewer.

Wolverines are adapted to live in high-altitude and high-latitude ecosystems characterized by deep snow and cold temperatures. At the southern portion of the wolverine's North American range in the contiguous United States, deep snow is particularly important for wolverine reproduction: females create dens by tunneling deep into the snowpack, where they give birth in protected den cavities at ground level. This

denning behavior leaves the wolverine vulnerable to localized or even range-wide extinctions due to escalating threats from climate change and human disturbance.

Despite this well-documented relationship between a cold, snowy climate and wolverine survival, the Service arbitrarily concluded that climate change does not pose a significant risk to the wolverine's survival as a species because, it argues, the wolverine DPS is not dependent on snow cover for denning and, in any event, snow pack will persist at adequate levels for wolverine reproductive success.

1. Impact on Wolverine Denning

Regarding the effect of climate change on North American wolverine denning, the Service cited to various studies that it argues undermine the obligate relationship between spring snowpack and denning. However, these studies and the Service's own reasoning in the Withdrawal decision do not diminish the threat that climate change poses to the wolverine population in the lower-48 states for several reasons.

First, the Service erroneously rejected the best available information regarding the wolverine DPS's reliance on snow for reproductive success. The best available information, specifically the Copeland, et al. (2010) study discussed by the Service in the Withdrawal and in the Species Status Assessment ("SSA"), on which the Withdrawal relies, establishes that wolverine habitat is characterized by persistent spring snowpack and, in particular, by snowpack that persists until the end of the species' spring reproductive denning period. The Service's Withdrawal decision attempted to cast doubt on the methodology of the Copeland, et al. (2010) study. Specifically, the Service in the Withdrawal decision suggested that additional study was needed to evaluate if wolverines in the contiguous United States are dependent on late-spring snowpack for their reproductive success.

At the outset, the Service appears to misapprehend the utility of the Copeland, et al. (2010) study, which positions its bioclimatic model as a broad starting point for modeling wolverine denning site selection, with the assumption that further studies and models will account for the various additional factors that further explain wolverine denning behavior. The Service highlights various studies demonstrating additional selection criteria for wolverine denning sites, all demonstrating that wolverines are cold-adapted, and none of which disprove selection for late-spring snow selection at denning sites. More fundamentally, the Service ignores that these studies serve to reinforce the threat of climate change on the species which, by all accounts, is suited to a cold and snowy climate. In the absence of any cited study discrediting the Copeland, et al. (2010) study, the Service's treatment of the study's findings is irrational.

Second, the Service failed to rationally assess the best available information regarding the denning behavior of the wolverine within the DPS, most notably by citing

to various studies recording wolverine behavior observed in dissimilar wolverine population areas outside of the wolverine DPS without providing any justification for its basis of comparison. Specifically, the Service relied on information from boreal regions of Scandinavia and Canada to posit that the wolverine DPS does not require persistent snowpack for successful denning. However, these cited studies fail to diminish the threat that climate change poses to the wolverine population at the southern periphery of its range in the lower-48 states.

Significantly, the Service pointed to no documented dens outside of the spring snow cover model within the range of the wolverine DPS. This fact alone undermines the credibility of the Service's arguments regarding the best available information.

A closer examination of the studies selectively cited by the Service reveals their poor fit to the wolverine meta-population at issue in the ESA listing decision. The Service largely relies on a 2016 study by Webb, et al. concerning distribution of female wolverines relative to snow cover in Alberta, Canada. However, as further discussed in the attached comment letter, Exhibit 5 at p. 6-7, which is incorporated by reference, the Webb, et al. (2016) study does not dispel the threat that a warming climate poses to the wolverine population in the lower-48 United States in several regards. Importantly, the authors of the study acknowledged that the less rocky and less snowy terrain used for denning by wolverines occupying boreal forest habitats in Alberta, Canada, the focus of the study, were dissimilar to the terrain of the Rocky Mountains occupied by the wolverine DPS. Specifically, Webb advised that "it may be important to view the Rocky Mountains and Boreal Forest data separately when drawing conclusions" and suggested that its boreal forest observations reflect particular wolverine associations with habitat conditions that are unique to that environment. The Service ignored Webb's own caution about the application of the study by using it to extrapolate about the behavior of wolverines in the lower-48 states.

The other studies cited by the Service for this point are similarly distinguishable. All of these studies examine populations outside of the wolverine DPS geographical parameters. As the Service itself observed in a prior decision concerning the wolverine, the discovery of such wolverine dens "in flat or lowland boreal forest area," like the dens cited by the Service in the Withdrawal, would be "largely irrelevant" to any listing decision because "the habitats in the contiguous U.S. DPS are not lowland boreal habitats but rather mountainous habitats where the [Copeland et al. (2010)] model fit is very good." 79 Fed. Reg. 47,521, 47,527 (Aug. 13, 2014).

Third, the Service's contention that other factors, outside of persistent spring snowpack, better predict wolverine denning behavior, and, therefore, the wolverine DPS does not require large areas of deep spring snowpack for successful reproduction, is not supported by the best available science. In its Withdrawal, the Service relied on its underlying analysis in the SSA to support this point. The primary study cited by the

Service in the SSA for this contention, Heim, et al. (2017), is consistent with, rather than disproving of, the best available information found in the Copeland, et al. (2010) study. The Heim, et al. (2017) study evaluated the cumulative effects of climate and landscape change using species distribution models relative to the spatial distribution of the wolverine, finding that “the cumulative effects model better explained wolverine frequency than any single-factor model . . . which suggests that no single abiotic or biotic variable explains wolverine distribution.” SSA at 34. The Service utilized Heim’s modeling to suggest that, because other factors outside of spring snow cover also account for denning behavior, spring snowpack is irrelevant to the wolverine DPS. However, the Heim, et al. (2017) study is not structured to answer an either-or question but rather to examine multiple factors, starting with Copeland, et al.’s (2010) methodology and building from there. The Heim study does not disprove the selection for snow; instead, the study reinforces that, within the snow model, wolverines also select for additional features. This does not disprove the wolverine’s extensive reliance on areas characterized by persistent spring snowpack.

In summary, the Service rejected the best available information by relying on observations about dissimilar wolverine habitats, without providing any explanation why such dissimilar observations are relevant to the lower-48 population, and without addressing previous Service findings that are inconsistent with the Service’s determination. Moreover, the Service dismissed the wolverine’s vulnerability to climate change based on information that only underscores the species’ dependence on cold and snowy climates. The Service’s conclusions, therefore, are arbitrary and capricious and violate the ESA.

2. Persistence of Spring Snow

In addition to its arbitrary discussion of the wolverine’s dependence on habitat areas characterized by persistent spring snowpack, the Service’s Withdrawal irrationally assessed the likelihood that the impacts of climate change would threaten the viability of the DPS. In particular, the Service relied on narrow findings regarding snow persistence in a small portion of the wolverine’s range where snow is expected to be most persistent, and then applied those findings broadly across dissimilar areas to conclude that a reduction in snow due to climate change would not result in a significant loss of individuals or threat to population resiliency across the DPS.

At the outset of its discussion, the Service acknowledged that observed trends and future climate model projections indicate warming temperatures for much of the western United States, including areas within the range of the wolverine DPS. The Service, however, noted that certain higher elevations, such as the Rocky Mountains and Sierra Nevada Mountains, are likely to be more resilient to projected changes in temperature and precipitation and claimed that, as a result, wolverines in the lower-48 will still have access to areas with significant spring snow cover in the future. To support this assertion,

the Service pointed to a 2017 analysis, Ray, et al., from NOAA/CU that modeled future snow persistence for Glacier and Rocky Mountain National Parks. The Service stated that these locations were selected for analysis because they encompass the latitudinal and elevational range of wolverines within the contiguous United States. The Service asserted that the study's results indicated that large tracts (several hundred square kilometers (miles) for each site) of significant future snow (greater than 0.5 m (20 in) in depth) are projected to remain within suitable wolverine denning habitat. Accordingly, the Service concluded that the species' needs related to reproductive behavior are expected to be met in the future (i.e., 38-50 years) within its North American range, including the contiguous United States.

The Service's reliance on these findings to conclude that climate change will not produce a significant negative impact on the wolverine DPS is irrational because its conclusions are not supported by or derived from the best available science. Fundamentally, using only the areas assessed in the NOAA study—Glacier National Park and the Colorado Rockies—to make sweeping predictions about the impacts of climate change on wolverines in the entire meta-population and across the entire DPS is irrational for several reasons. First, the NOAA study selectively examined only the two locations most likely to retain spring snow cover into the next century according to the findings from a study authored by McKelvey, et al. (2011). The Service discussed, but did not refute, the McKelvey analysis in its Withdrawal, and in particular offered no basis to question McKelvey's results regarding areas more and less likely to retain spring snow cover. The Service thus "cherry-picked" the two locations most likely to retain snow while offering no rational basis to reject the McKelvey, et al. (2011) study's conclusion as to other locations within the wolverine's range: that the wolverine's habitat across the contiguous United States region could shrink by up to 63% in 2085. In contrast to the area addressed by the McKelvey, et al. (2011) study, Glacier National Park and the Colorado Rockies represent only a small portion of the wolverine's range (extreme north and south) and, as discussed, the particular portion deemed most likely to retain spring snowpack. Moreover, one of the assessed areas, the Colorado Rockies, contains no current wolverine population, so relying on the prospect of persistent spring snowpack there is irrelevant to the DPS's survival.

By relying on predictions for only this limited and most snowy portion of the range, the Service failed to consider the potential impacts to the wolverine meta-population throughout its entire range. For example, the Service disregarded likely climate impacts on snow retention in those portions of the wolverine's range in the lower-48 states predicted by McKelvey to face massive losses of spring snow cover – for instance, lower-elevation habitat areas in Idaho. Further, by focusing only on the most snowy portions of the wolverine's lower-48 range, the Service necessarily omitted any analysis of the impacts to the interstitial mountain ranges on which the meta-population depends. This analysis also did nothing to assess the distribution of the remaining snowpack in relationship to other habitat features of potential importance to wolverines.

The Service itself acknowledged that wolverines select denning sites based on several factors, but entirely failed to evaluate any of those factors in concluding that snowpack persistence will necessarily support a continued wolverine DPS population. Put simply, the Service's narrow and incomplete examination of the future effects of climate change renders the Service's conclusions irrational and arbitrary.

B. Small and Fragmented Population

In addition to its conclusions regarding climate change, the Service also failed to rationally support its conclusion that wolverine abundance does not appear to be declining in the contiguous United States, and, therefore, again failed to rationally assess the potential impact of any "natural or manmade factors affecting [the wolverine's] continued existence." 16 U.S.C. § 1533(a)(1)(E). In rejecting threats associated with an extremely small and fragmented population, the Service pointed to a handful of anecdotal observations while ignoring evidence of decline. Essentially, the Service incorrectly used the ideas of "expansion" and occupancy as proxies for population growth, while ignoring contrary evidence.

Regarding range expansion, the Service stated that observed wolverine movement in the lower-48 supports some level of connectivity, and potential gene flow, between the current occupied habitat and unoccupied habitat within the wolverine's historical range. Specifically, the Service pointed to the fact that wolverines have recently dispersed into historically occupied areas, including California and Colorado. These "dispersal" events each include the movement of a lone male wolverine into an unoccupied habitat within the wolverine's historic range. However, the Service irrationally concluded that these movements reflect "connectivity" and "gene flow" between these habitats because the Service overlooks a quintessential aspect required for connectivity and gene flow: the presence of a female wolverine in the region to allow reproduction. Moreover, population growth studies require demographic parameters—including reproductive rates, recruitment rates, and survival rates—to assess any claims about population viability in a species over time. Noting a handful of instances of individual males dispersing to unoccupied regions of the historic range is not a substitute for robust work on demographics and cannot support a conclusion that the species is expanding into unoccupied regions of its historic range.

The Service also referenced a recent multi-state occupancy survey to support its unfounded claims about population resiliency. However, the occupancy study assessed simple presence or absence of wolverines over one season, extrapolating to assert more wolverine presence than the study actually documented. Although this study may offer a snapshot of wolverine occupancy in some areas for a limited period of time, its conclusions cannot be relied on as definitive proof of occupancy rates throughout the range or otherwise extrapolated to population growth because they observe only a single season and have no "closure." See Ex. 2 at p. 11 (Mowat, et al. (2019)). In this context,

“closure” refers to ability of the study to discern between a single disperser moving through areas that have otherwise been determined to be unoccupied as opposed to actual occupants. As a result, the study threatens to yield overestimation of wolverines in the occupant population.

The Service’s treatment of other recent wolverine observations suffers from the same flaws. The Service reported two wolverine observations in Grand Teton National Park in March 2017 followed by a more southerly wolverine observation in the Wyoming Range in May 2017. The Service failed to consider the prospect that these observations did not reflect different wolverines in separate locations but rather a single wolverine that passed through the Teton Range (leaving that range vacant of wolverines) and then moved on to the Wyoming Range (and possibly traveled onward from there). Absent consideration of such clear possibilities, it is easy to transform multiple sightings of the same dispersing wolverine into a population boom spanning multiple mountain ranges. The Service arbitrarily failed to address this obvious danger arising from its chosen method of population analysis.

Despite the inherent limitations of the occupancy survey and similar observations, the Service referenced the study to assert wolverine population expansion and resiliency. The agency, however, failed to reconcile that assertion with more thorough and longer-term studies of traditionally occupied areas that have recently been determined to be unoccupied. As set forth in more detail in the attached comment letter, recent monitoring reports provide evidence of wolverine population decline—not expansion—in significant portions of the DPS. Exhibit 5, p. 5-6. Notably, comparing a 2015 Progress report for the species with studies conducted in the early 2000s reveals that traditionally occupied areas of the wolverine range have decreased in population size in the past several years without new resident animals filling these vacant spots. In contrast to these longer-term and more focused analyses, the multi-state occupancy study cited by the Service does not distinguish between actual occupants and dispersers, who are moving through the area but not otherwise remaining as occupants.

C. Other Threats

The Service also arbitrarily dismissed other threats to the wolverine population in the lower-48 states. Regarding the threats to the wolverine DPS arising from a low effective population size and overall small population size, the crux of the Service’s argument on this point is that the wolverine population in the lower-48 is connected with a larger and more robust Canadian population that can replenish its numbers and genetic diversity. As discussed above in the section regarding the lower-48 wolverine as a discrete population from Canadian wolverine populations, supra Sec. I, the Service’s conclusions are unsupported.

The Service dismissed threats arising from overexploitation of wolverines in Canadian source populations as well as inadequate genetic diversity in the lower-48 population based on a finding of sustainable trapping levels and relatively unimpeded movement of Canadian dispersers into the lower-48 population, but, as addressed in the DPS discussion above, these determinations ignore scientific information demonstrating that wolverine trapping levels in southern Canada are unsustainable and impede dispersal and that the Trans-Canada Highway constitutes a significant barrier to wolverine movement resulting in genetic discontinuity of wolverine haplotypes north and south of this barrier.

The Service dismissed threats arising from the wolverine's small total and effective population sizes based on similar findings of continuity with Canadian populations that were unjustified and unreasonable in light of the scientific evidence discussed above, which the Service ignored.

Finally, the Service dismissed the threat of escalating winter recreation activities in wolverine habitat based on an assertion that wolverines can maintain residency in high winter-recreational use areas. However, in reaching this conclusion, the Service ignored findings from the Heinemeyer, et al. (2019) report establishing that female wolverines, the most significant cohort of the population for reproduction, exhibited stronger avoidance of off-road motorized recreation and experienced higher indirect habitat loss than male wolverines. Heinemeyer, et al. (2019) therefore suggested that indirect habitat loss, particularly to females, may be of conservation concern in areas with higher recreation levels. The Service arbitrarily disregarded this threat, and further failed to evaluate it in light of future trends indicating that wolverines are likely to face greater pressure from winter recreational activities over time, given trends of increasing recreation levels with increasing human population and likely concentration of such recreation in smaller areas given the loss of snow pack due to the anticipated impacts of climate change.

The Service's unsupported conclusions, as well as its failure to account for contrary evidence, are arbitrary and capricious.

III. Conclusion

As set forth in this letter and the attached comment letter the Service violated the ESA in withdrawing its proposed rule to list the wolverine in the lower-48 United States as a threatened species under the ESA.

If the Service does not rescind its Withdrawal decision within 60 days of the receipt of this letter, the parties to this notice letter will institute a legal action to challenge the Service's action in federal court.

Sincerely,

A handwritten signature in blue ink, appearing to read "Amanda Galvan". The signature is fluid and cursive, with a large initial "A" and "G".

Amanda Galvan