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Defending the West www.westernlaw.org

Western Environmental Law Center

August 13, 2014

SENT (WITH ATTACHMENTS) VIA U.S. MAIL (RETURN RECEIPT) AND E-MAIL

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Dan Ashe
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Re: Sixty-day notice of intent to sue for violating Section 4 of the Endangered Species Act in deciding not to list a distinct population segment of the North American wolverine (*Gulo gulo lucus*) occurring in the contiguous United States.

Dear Secretary Jewell and Director Ashe:

The Western Environmental Law Center (WELC) hereby provides this sixty-day notice of intent to sue for violations of Section 4 of the Endangered Species Act (ESA), 16 U.S.C. §1533, in deciding not to list a distinct population segment (DPS) of North American wolverine (*Gulo gulo lucus*) occurring in the contiguous United States (hereinafter "wolverine").

This notice is provided by WELC on behalf of the following organizations and individuals, all of which have a significant, concrete interest in ensuring the long-term survival and recovery of wolverine in the contiguous United States and ensuring the U.S. Fish and Wildlife Service (the Service) utilizes the best available science when making listing decisions: *WildEarth Guardians*, *Friends of the*

Bitterroot, Friends of the Wild Swan, the Swan View Coalition, Oregon Wild, Cascadia Wildlands, the Alliance for the Wild Rockies, the Cottonwood Environmental Law Center, George Wuerthner, the Kootenai Environmental Alliance, Footloose Montana, Native Ecosystems Council, and the Helena Hunters and Anglers Association.

On August 13, 2014, the Service published a notice in the Federal Register (Docket No. FWS-R6-ES-2012-0107) announcing its decision to withdraw the proposed rule to list wolverine as a threatened species under the ESA (78 Fed. Reg. 7864 (February 4, 2013)) and finding that wolverine are not warranted for listing as an endangered or threatened species (hereinafter “listing decision” or “decision”).

According to the Service, listing wolverines is not warranted because it believes: (1) the wolverine’s range may be “expanding” in the contiguous United States and suitable habitat is and will remain available (even under conditions of future reduced snowpack from climate change); (2) non-climate related threats to wolverine, including an already small population size (actual and effective), timber management, winter recreation, land development, transportation corridors, natural mortality, trapping (incidental and intentional), and travel management – by themselves or in the aggregate – pose no threat to wolverine; and (3) there is insufficient evidence to reasonably conclude that climate change poses a threat to wolverine or its habitat in the foreseeable future.

Regarding climate change, the Service maintains information on an obligate relationship between wolverines and the need for persistent snow at the home range or DPS level is lacking (the Service admits such a relationship exists for denning) and that it cannot reliably predict – at the appropriate scale – how the loss of snow from climate change will impact denning sites. According to the Service, McKelvey et al. (2011) does not provide, and it does not have, the fine scale resolution of climate change models (or certainty in those models) which it maintains is necessary to make a listing determination. The Service also maintains there is too much uncertainty over whether den sites for wolverines will become a limiting factor in the foreseeable future or whether habitat connectivity for wolverine will no longer be maintained to warrant listing. The Service is wrong.

In deciding not to list wolverine, the Service failed to see the proverbial forest for the trees. The Service focused so much on the fine details and lack of “certain predictions,” “fine scale” data, “precise mechanisms,” and “definitive” conclusions on how climate change will impact wolverines – data that is both impractical and nearly impossible to obtain – in order justify not listing (likely in response to political pressure from Montana, Idaho, and Wyoming) that it failed to see the big picture and the larger cause and effect principles at play, i.e. , that a warming climate

will most likely result in a detrimental impact on wolverine. There is general agreement amongst the scientific community that wolverine are a cold-climate dependent species that rely on snow (for denning and likely other benefits) and that the amount of snow within the range of wolverine will continue to decrease in the foreseeable future in response to a warming climate.

While some uncertainties exist and will always exist – indeed, there are many things we may never know about wolverines – the “best available science” – including the findings and recommendations of the Service’s own biologists, the peer-reviewed papers on wolverines and the likely impacts of climate change referenced in the Service’s proposed rule, two peer-reviewed panels (February, 2013 and April, 2014), the Society of Conservation Biologists North American Section (SCB), the American Society of Mammalogists (ASM), and fifty-six scientists (*see* Attachments)– reveals that the wolverine warrants protective status under the ESA’s “best available science” standard because they are a snow-dependent species threatened by climate change.

As detailed below, the Service wholly failed to grasp and apply the ESA’s “best available science” standard – as directed by Congress – and issued a decision not to list wolverines that is arbitrary, capricious, and not in accordance with law.

Best available science

Pursuant to Section 4(b)(1)(A), 16 U. S.C. § 1533 (b)(1)(A), the Service’s implementing regulations, and the Service’s 2011 policy on scientific integrity, the Service must make all listing determinations “solely on the basis of the best scientific and commercial data available.” The Service failed to do so when deciding not to list wolverine.

The standard – often referred to as the “best available science” standard – does not require scientific certainty (assuming it even exists) or prohibit the Service from making listing decisions in the face of uncertainty or even scientific disagreement. On the contrary, reliance upon the best available science, as opposed to requiring absolute scientific certainty, “is in keeping with congressional intent” that an agency “take preventive measures before a species is ‘conclusively’ headed for extinction.” *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 679–80 (D.D.C.1997) (emphasis in original); *see also American Wildlands v. Norton*, 193 F.Supp.2d 244, 251 (D.D.C.2002) (same). As such, contrary to the Service’s listing decision, “definitive conclusions” are not required.

As explained by the Service when listing Canada lynx: “We agree that additional studies of lynx are necessary to better understand the dynamics and requirements of lynx populations in the contiguous United States . . . However, the [ESA] does not allow us to defer a listing decision based on the need for more research. Most scientists would agree that there is always a need for more research, but listing decisions cannot be postponed based on this premise when known threats to the species are present that may result in a species’ trend toward extinction.” 65 Fed. Reg. 16052, 16064 (March 24, 2000); *see also* 55 Fed. Reg. 26114, 26128 (June 26, 1990)(Northern spotted owl) (because the Service used “the best data available . . . [it was] not obligated to have data on all aspects of a species’ biology prior to reaching a determination on listing.”); 61 Fed. Reg. 25813, 24817 (May 23, 1996) (California red-legged frog) (deciding to list species even though many aspects of the species’ status were “not completely understood”). A similar approach should have been (but was not) applied with respect to wolverine.

Indeed, instead of recognizing that some degree of speculation and uncertainty will always exist – especially when dealing with a rare and elusive creature like wolverine and imprecise climate change models – the Service insisted on “fine scale” data and proof of the “precise mechanism(s)” demonstrating how climate change will negatively impact wolverine habitat, including denning. This is an impracticable and impossible approach that conflicts with the ESA’s “best available science” standard.

Specifically, in deciding not to list wolverine, the Service failed to utilize the ESA’s best available science standard in a number of respects.

First, the Service inappropriately manipulated its decision by relying on certain, select sources of information and “cloner” comments from certain individuals and states like Idaho, Montana, and Wyoming (not made available for public review and comment) to the exclusion of other, more reliable sources including, but not limited to, the peer-reviewed studies cited and referenced in the proposed listing rule and in comments submitted by WELC and other organizations, the findings of the Service’s own biologists, the findings of two peer-review panels (February, 2013 and April, 2014), and the findings of the SCB, ASM, and fifty-six scientists, *see Attachments*. This is not allowed. *See Southwest Center for Biological Diversity v. Norton*, 2002 WL 1733618. *8 (D. D.C. 2002).

For example, the Service’s listing decision relied heavily on the State of Idaho’s comments and data (not subjected to peer review) on the issue of whether snow decline equates to year round habitat decline for wolverine while disregarding the findings of Copeland et al. (2010), on this very subject. The Service also places

too much emphasis on single, isolated dispersal events (single wolverine traveling to Colorado, for example) to support its finding that the population is expanding and that increased fragmentation from smaller and more isolated pockets of wolverine habitat is not a problem even though: (1) no regional studies or surveys on expansion have been undertaken and no evidence of reproduction in these “new” areas exists; and (2) McKelevy et al. (2011) says increased fragmentation is a problem. A wolverine’s ability and capacity to travel through areas of unsuitable habitat does not undermine McKelevy et al. (2011)’s findings regarding anticipated loss of connectivity. These are just a few examples.

Second, and discussed throughout this notice and in WELC’s and others’ comments on the proposed rule, the Service disregarded scientifically superior evidence on wolverine (including evidence on the wolverine’s historic and current status and range and threats to the species and its habitat). The Service’s unexplained disregard of scientifically superior, peer reviewed papers while relying on non-peer reviewed and politically motivated comments and concerns from Montana, Idaho, and Wyoming and others conflicts with the ESA’s best available science standard. *Id.*

For example, in electing not to list wolverine, the Service discounted and failed to utilize the best available science on how various threats to the species, including an already low total and effective population size in the contiguous United States, climate change, winter recreation (*see* Heinemeyer et al.’s on-going research in Idaho), lack of protective areas (recent research from Canada reveals wolverines do better in wilderness and protected parks with less human disturbance), travel planning, transportation corridors, development, trapping (incidental and intentional) and timber management may – individually and in the aggregate – threaten wolverine, wolverine habitat and range, and the ability of wolverine to move between sub-populations within the contiguous United States and between wolverine in the contiguous United States and wolverine in Canada (connectivity). The Service also failed to analyze these threats across all or a “significant portion” of the wolverine’s historic range and failed to account for and consider the amount of historic wolverine habitat already lost.

Notably, in the listing decision, the Service focused mainly on the impacts of climate change and, in so doing, failed to utilize the best available science on these and other non-climate stressors. The best available science – including peer-reviewed papers cited in the proposed rule and papers submitted and cited in comments on the proposed rule (including those from WELC) – reveal wolverines – whose total numbers range from 250-300 individuals in the contiguous United

States (with a much smaller effective population) – qualify for threatened or endangered status in the absence of the threats from climate change.

The Service also disregarded (without citing any new studies) scientifically superior evidence on climate change and how it may impact wolverine, including but not limited to research from the Rocky Mountain Research Station and the peer-reviewed papers cited in the proposed rule, including McKelvey et al. (2011) and the papers it relies on. The Service even disregarded the recommendations of its own biologists, including the Field Supervisor of the Montana Ecological Services Office's May, 2014, recommendation to list wolverine in light of the foreseeable threats from climate change and the findings of the February, 2013, and April, 2014, peer review panels, the SCB, and ASM. As mentioned above, the Service also failed to cite any new peer-reviewed paper published since McKelvey et al. (2011) that supports its findings or would otherwise warrant an about face on listing.

The majority of scientists believe McKelvey et al. (2011) and the other scientific, peer-reviewed papers analyzed by the Service in developing the proposed rule represent the best available science on wolverine. The majority of scientists also believe there is no legitimate scientific dispute that: (1) wolverines are dependent on cold and snowy conditions and habitat that is covered by snow until late spring for denning (and likely foraging); and (2) that climate change models predict a loss of snowpack within wolverine habitat in the DPS.

Third, as mentioned above, the Service failed to recognize that under the ESA's best available science standard, relatively minor flaws in scientific data or the absence of "precise mechanisms" do not render that information unreliable. The criticisms of Copeland et al. (2010) and McKelevy et al. (2011), for example, focus on small mechanisms of the snow model used, but do not undermine or disprove the model itself. As the Service's own biologist explains, the "precise mechanism" behind the relationship between wolverines and deep snow is "less important" than the fact that deep snow appears to be an obligate habitat feature for this species."

The Service's listing decision admits that McKelvey et al. (2011) and the studies it relies on are considered the "best available science" on wolverine. As outlined above, any uncertainty that may exist (due to the scale used) over how climate change and other threats may impact wolverines is inherently part of the listing determination and consistent with the best available science standard. Such uncertainty, therefore, cannot and should not be used (as it was in the wolverine decision) to deprive a species of protective measures under the ESA. The ESA "contains no requirement that the evidence be conclusive in order for a species to be

listed. Application of such a stringent standard violates the plain terms of the statute.” *Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670, 679 (D.D.C. 1997).

Fourth, and related to the discussion above, the Service’s listing decision – as discussed above – mistakenly requires the “best data possible” on climate change and how it may impact wolverine when the standard under the ESA only requires the best data “available.”

Fifth, the Service’s listing decision mistakenly insists on having “conclusive” data or the ability to draw “definitive conclusions” on how climate change will affect wolverine when, as mentioned above, this is not required or expected by Section 4 of the ESA. Nor is the Service required to conduct or obtain new, independent research to improve the pool of existing, available data. The ESA anticipates and expects that in certain situations, like those circumstances presented for wolverine, the Service must and should rely on even inconclusive or uncertain information if that is the “best available science” at the time the decision is made. “Definitive conclusions” and “precise mechanisms” are not required, likely possible, or expected in the ESA.

Sixth, under the “best available science” standard and in accordance with the precautionary principle and Congress’ intent in the ESA to be proactive, any ambiguity or uncertainty should weigh in favor of listing. In other words, the “benefit of the doubt” should go to providing protective ESA status to wolverine while additional studies and research is obtained.

Based on the best available science, the Service should adopt a precautionary approach, provide wolverine protective ESA status, and then seek to better understand wolverine, the species’ habitat needs and relationship to cold, snow-dependent environments, and how climate change and other threats will impact the species. Once this information is obtained, the Service could then decide to maintain the wolverine’s listing status, upgrade the species’ status, or de-list the species in response to the information and data obtained. In the meantime, however, wolverine would be protected in the face of scientific “uncertainty” (assuming it even exists) about the degree of threats.

Finally, under the ESA’s “best available science” standard, the Service must manage and consider all the evidence and data submitted to the Agency in an open and transparent manner. This did not occur. The public was never given the opportunity to review and comment on the “key” decision documents that prompted the Service to reverse course on its earlier, proposed rule to list wolverines (a single leaked memo does not suffice). Nor did the Service subject its

final listing decision, which reverses its earlier findings, to peer review in direct contravention of the Service's own policy, *see* 59 Fed. Reg. 34270 (July 1, 1994).

In sum, listing wolverine is warranted because the best available science reveals the current population is dangerously low, there are known and documented threats to wolverine, and that these threats may result in a trend towards extinction.

Misapplication of the ESA's standards

As mentioned above, the Service's listing decision is premised on a misapplication of the term "best available science." The Service's listing decision is also premised on a misapplication of the term "threatened" and "endangered" as used and applied in the ESA.

Pursuant to the ESA, a species is "threatened" if it is "likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." 16 U.S.C. § 1532(20). A species is "endangered" if it is "in danger of extinction throughout all or a significant portion of its range." 16 U.S.C. § 1532(6). Construction of this language must be based on the best available science. *See Trout Unlimited v. Lohn*, 645 F.Supp. 2d 929, 947, 948 (D. Or. 2007); *Western Watersheds Project v. Foss*, 2005 WL 2002473, *15-17 (D. Id. 2005).

"Likely to become endangered" means "likely" to be "in danger of extinction." *Lohn*, 645 F.Supp. 2d at 948. "[L]ikely' clearly means something less than 100% certain, but how much less is not as clear." *Id.* at 945. A reasonable construction of "likely" is at least a 50% chance (more likely than not). *Id.* at 949. In any case, the level of certainty relied upon by the Service must be based on consideration of the relevant statutory factors using the best available science. *Id.* at 947.

Likewise, "in danger of extinction" is not a fixed term, but its construction must be grounded in the best available science. *See id.* at 948. Certainly, "in danger of extinction" does not mean a "high risk of extinction." *Western Watersheds Project*, 2005 WL 2002473, *17 (D. Id. 2005). "Instead, the required danger level for extinction necessarily depends on the applicable scientific viability assessments for the particular species." *Lohn*, 645 F.Supp. at 948. For example, 1-5% risk of extinction in 100 years can create a discernible risk of extinction. *Foss*, 2005 WL 2002473, *15 (citing *Center for Biological Diversity v. Lohn*, 296 F.Supp.2d 1223, 1232 (W.D.Wash.2003)).

The term “foreseeable future” must also be defined by reference to the best available science. *See Foss*, 2005 WL 2002473, *15-17. As the Service recognized in a 2009 Solicitor Memorandum, “[t]he Secretary’s analysis of what constitutes the foreseeable future for a particular listing determination must be rooted in the best available data that allow predictions into the future, and the foreseeable future extends only so far as those predictions are reliable. ‘Reliable’ does not mean ‘certain’; it means sufficient to provide a reasonable degree of confidence in the prediction, in light of the conservation purposes of the Act.” M-Opinion 37021 at 13. What must be avoided is “speculation.” *Id.* at 8.

The corollary is that the Service may not dismiss a risk of extinction that may be reasonably forecasted by science. *See Foss*, 2005 WL 2002473, *15-17. It “defies common sense” to define “foreseeable future” to exclude the timeframe in which [the best available science] predict[s] extinction. *Id.* at 15. Prediction of the future is necessarily grounded in the “data and logic” of today. M-Opinion 37021 at 8. As one court reasoned, if a species will be endangered in the future if current circumstances continue, “it is clearly threatened today.” *Biodiversity Legal Found. v. Babbitt*, 943 F. Supp. 23, 25 n.5 (D.D.C. 1996).

With respect to wolverine, the Service failed to properly apply the ESA’s standards for “threatened” and “endangered” and the terms included therein when deciding not to list, requiring instead “certain predictions,” “fine scale” data, “precise mechanisms,” and “definitive” conclusions to support listing.

As explained by the SCB and ASM, the Service’s own policy (M-Opinion 37021) “does not preclude use of predictive modeling approaches that are well-supported in the scientific literature, such as those used to project future effects of climate change on snow cover, and the of loss of habitat components such as snow cover on species dependent on or limited by these factors.” *See Attachments*. But in the case of wolverine, the Service mistakenly interprets its own policy guidance “to require data – specifically ‘experimental evidence’ – that in all likelihood would be impractical or impossible to obtain for a rare free-living mammal.” *Id.* The Service’s decision, therefore, “represents an arbitrarily narrow interpretation of the M-Opinion that, if generally applied, would substantially limit the ability of science to inform listing determinations.” *Id.*

The Service also failed to properly define and apply the phrase “significant portion of its range” when: (1) deciding not to list wolverine; and (2) defining the phrase in its Final Policy on Interpretation of the Phrase “Significant Portion of Its Range,” 79 Fed. Reg. 37577 (July 1, 2014).

Under the ESA, the Service must consider a species' status – in this case the DPS of wolverine in the entire contiguous United States – across a “significant portion of its range” in making listing determinations. *Defenders of Wildlife v. Norton*, 258 F.3d 1136 (9th Cir. 2001). The phrase “significant portion of its range” can mean, among other things, a “major geographical area[] in which [the species] is no longer viable but once was. Those areas need not coincide with national or state political boundaries, although they can.” *Defenders of Wildlife*, 258 F. 3d at 1145-46. The phrase *does not* mean that threats in the “significant portion” must render the entire species at risk of extinction. *Id.* at 1141. On the contrary, legislative history demonstrates that the phrase was intended to allow for protection in one area even if a species is abundant or overabundant in another area. *Id.* at 1144. Nor is there any bright-line percentage of habitat that must be affected in order for an area to be “significant.” *Id.* at 1143. For a species with a small historical range, even a very small percentage loss of habitat may be “significant.” *Id.*

Notably, the Service cannot interpret the phrase in a way that excludes analysis of the wolverine's historic range. *Tucson Herpetological Soc. v. Salazar*, 566 F.3d 870, 876 (9th Cir. 2009). Rather, the task of defining the phrase includes quantification of the wolverine's historic range and an evaluation of whether the lost habitat amounts to a “significant portion” of that range. *Id.* Nor may the Service look only to the health of the wolverine population in certain areas while turning a blind eye to threats in areas where the population is either extirpated or home to only a few individuals. “It is insufficient, under *Defenders of Wildlife*, to point to one area or class of areas where [a species'] populations persist to support a finding that threats to the species elsewhere are not significant” *Tucson Herpetological Soc.*, 566 F.3d at 877. The ESA requires more. *Id.*

Here, the Service never engaged in a proper “significant portion of its range” analysis with respect to wolverine. The Service, for example, failed to quantify and explain whether the loss of the DPS's historic range in the contiguous United States amounts to a “significant portion” and inappropriately supported its finding of non-significance by looking only to the health of wolverine populations in certain areas (including populations outside the DPS). The Service failed to analyze and explain whether the wolverine's lost, historic habitat in the contiguous United States, which includes, but is not limited to, large portions of the Sierras in California, the entire Southern Rockies (from north-central New Mexico, throughout Colorado, and south-central Wyoming), Oregon's and large portions of Washington's Cascade Mountains, portions of Idaho, Montana, Utah, and Nevada (as well as portions of Michigan and Wisconsin) qualifies a “significant portion of its range” for listing purposes.

In sum, in electing not to list the DPS of wolverine in the contiguous United States, the Service never examined whether the DPS is endangered or threatened “across a significant portion of its range” as that phrase is to be defined under the ESA. Nor does the Service’s new, July 1, 2014, policy defining the phrase (assuming it was applied), see 79 Fed. Reg. 37577, remedy the violation.

The Service’s new policy demands that a high threshold be reached before a species can be considered endangered or threatened throughout a “significant portion of its range.” Specifically, the policy (1) excludes lost historical range, and (2) requires that the existence of members in the “significant portion” of a species’ range be essential to ensuring that the species is not “endangered” or “threatened” across its entire range. 79 Fed. Reg. at 37609. This is not what Congress intended.

As described above and outlined in *Defenders of Wildlife*, the ESA requires the Service to analyze where lost historical range qualifies as a “significant portion.” 258 F. 3d at 1145. *Defenders of Wildlife* also holds that a species may be endangered or threatened across one portion of its range even if, in another part of its range, the species is so abundant that the animals are overrunning the human population. *Id.* at 1144. As *Defenders of Wildlife* pointed out, the ESA’s text seems to be premised on the following maxim: “There seems to be a tacit assumption that if grizzlies survive in Canada and Alaska, that is good enough. It is not good enough for me. . . . Relegating grizzlies to Alaska is about like relegating happiness to heaven; one may never get there.” *Id.* at 1145 n. 11 (quoting Aldo Leopold, *A Sand County Almanac* 277 (1966)).

With respect to wolverine, it is not “good enough” under the ESA to relegate wolverines to Alaska and Canada – or even to small portions of the contiguous United States (Montana) – while turning a blind eye to the species’ lost and shrinking habitats throughout its historic range in the contiguous United States. Nor can the Service rely on “healthy” wolverine populations in Canada or Alaska (populations outside the DPS) to deprive wolverine in the contiguous United States – the DPS – protective status. When evaluating “significant portion of a species range” the Service must limit the analysis to the species’ range; in this case the “species” is the contiguous United States DPS of wolverine.

The Service also places inappropriate weight on its finding that threats to the wolverine are not “geographically concentrated.” However, this is not the test. Significant portions of the wolverine’s range may be disappearing even though the culprit is widespread climate change, not more pinpoint threats.

The Service's interpretation of the phrase "significant portion of its range," therefore, as applied to the wolverine listing decision and as outlined in its new policy, 79 Fed. Reg. 37577, is inconsistent with the ESA. And, if the Service did rely on the new policy, doing so violated the notice and comment requirements because the policy was in draft form for over two years and was not cited or relied on in the proposed rule.

Insufficient data to support decision in the record

Pursuant to the ESA and APA, the Service's listing decision must be supported by reliable and meaningful data and evidence and there must be a rational connection between the facts found in the record and the ultimate choice made. *See Defenders of Wildlife v. Babbitt*, 958 F. Supp. 670 (D.D.C. 1997).

Here, the Service's listing decision fails to provide biological support and data for its findings that the wolverine population in the United States is "growing and expanding." There is some evidence of a small recovery in Washington's North Cascades but beyond that there is no meaningful evidence or data demonstrating wolverine are expanding their range within the contiguous United States. No state or regional surveys at the necessary scale have been conducted. A single individual wolverine walking to Colorado or the Sierras does not equate to growth and expansion. Nor does documenting a few individual wolverines in northeastern Oregon or a single wolverine in Utah. These events are likely nothing "new" (anecdotal reports of wolverine sightings in these states have always existed) and certainly are not evidence of a population increase or expansion. Indeed, no evidence exists suggesting that these events have resulted in colonization of an area with successful breeding.

The Service's listing decision also fails to provide sufficient biological support and data for its finding: (1) that the total habitat capacity for wolverine in the entire contiguous United States is only 644 wolverines (well below the habitat capacity in western Canada) and that the "current population size is approximately half of capacity"; (2) that the current population level (actual and effective) of wolverine in the contiguous United States – assuming it is approximately 300 total with an unknown effective population – is stable and not a threat to the species or reason (by itself) to list (irrespective of the Service's climate change findings); (3) that effective population size would never reach a 100 wolverine, even at full habitat capacity and that demographic stochasticity and loss of genetic diversity due to small effective population sizes is not a threat to wolverine; (4) that there is no evidence or data to suggest the impacts to wolverine habitat from climate change are "currently occurring" (see WELC's May 5, 2014, comments and the

Intergovernmental Panel on Climate Change (IPCC's) Fifth Assessment Report (March 31, 2014)); (5) that more information and data, including "precise mechanisms," are needed in order to predict that climate change will adversely impact wolverine habitat and range in the foreseeable future and that an analysis of the impacts of climate change on wolverine must be at a scale fine enough to deal with the site specific characteristics of den sites; (6) that wolverine den sites are currently not scarce or lacking or otherwise limiting wolverine reproduction and population abundance (the Service does not mention or discuss the fact that the vast majority of den sites – including all in Colorado – are likely unoccupied by wolverine due to low numbers); (7) that insufficient information exists demonstrating that climate change will negatively impact wolverine dens, den success, or other habitat; (8) that a projected loss of 31% and 63% of areas with snow cover persisting until mid-May does not represent the equivalent loss or an approximate loss of wolverine habitat; (9) that insufficient information exists demonstrating that climate change will result in reduced connectivity and genetic exchange between sub-populations of wolverine in the foreseeable future; (10) that the Service can only predict a decline of wolverine habitat from climate change if wolverine have an obligate relationship "with snow for all stages."; (11) that "secondary threats" to wolverine identified in the proposed rule, as well as other anthropogenic threats to wolverine (e.g., winter recreation, transportation corridors) do not individually or in the aggregate pose a threat to wolverine or that the best available science does not substantiate that such activities, including dispersed recreation, pose a threat to wolverine; (12) that legal wolverine trapping in Montana is not a threat to the population, that reduced harvest levels in Montana over the years are not due to reduced numbers of wolverines (just shorter seasons), and that known and future rates of incidental trapping in Montana and other states is not a threat to the species; (13) that the primary concern about the future of wolverines is associated with the availability of den sites; (14) that the available evidence does not indicate listing is warranted; (15) that wolverines "coexist with some level of human disturbance and habitat modification"; (16) that "even under future conditions of projected habitat loss" there would be sufficient habitat available in the contiguous U.S. to "potentially continue supporting wolverine populations at roughly the same level of abundance as at present"; and (17) that climate change, by itself or in conjunction with other threats (trapping, small population, winter recreation, development, etc...) does not pose a threat to wolverine or its habitat in the foreseeable future such that wolverines warrant listing under the ESA.

Having such biological support and data is especially important in this case, where the Service's finding that wolverine do not warrant listing under the ESA contradicts the Service's earlier findings in the proposed rule, the extensive comments submitted by WELC and other organizations and agencies (which the

Service neglected to properly respond to) and even the recommendations from the Service's biologists, two peer reviewed panels, and the SCB, ASM, and fifty-six scientists. *See* Attachments. The Service can “draw conclusions based on less than conclusive scientific evidence, [but] it cannot base its conclusions on no evidence.” *National Assoc. of Home Builders v Norton*, 340 F.3d 835, 847 (9th Cir. 2003).

Reliance on conservation efforts

Pursuant to Section 4(b)(1)(A), 16 U. S.C. § 1533 (b)(1)(A), and the Service's implementing regulations, the Service must make listing determinations after “conducting a review of the status of the species and after taking into account those efforts, if any, being made by any State” to protect such species.

Under the ESA, the Service can rely on conservation efforts, including state-initiated efforts, so long as they are binding and current, not voluntary or future, and have a proven track record of success. *See Save Our Springs v. Babbitt*, 27 F. Supp. 2d 739, 748 (W.D. Tex. 1997); *Oregon Natural Res. Council v. Daley*, 6 F. Supp. 2d 1139, 1153 (D. Or. 1998); *Fed'n of Fly Fishers v. Daley*, 131 F. Supp. 2d 1158, 1165 (N.D. Cal. 2000); *Ctr. For Biological Diversity v. Morgenweck*, 351 F. Supp. 2d 1137, 1141 (D. Colo. 2004). A sufficient track record of success is two years. *Save Our Springs*, 27 F. Supp. 2d at 748. Any conservation effort relied upon by the Service must also have been submitted for public notice and comment. *Id.*; *see also Morgenweck*, 351 F. Supp. 2d at 1141.

In the listing decision, the Service inappropriately relies on non-binding state efforts such as, but not limited to, Idaho's, Wyoming's, and other states' bans on wolverine trapping and Montana's restrictions on wolverine trapping (including the current injunction prohibiting wolverine trapping). These state regulations are insufficient because they may be withdrawn or amended at any time and deal only with a small portion of the species' range and habitat.

Reliance on state efforts, such as trapping restrictions, is particularly inappropriate where the state requirements are less stringent than the requirements of the ESA. The ESA was intended to establish a federal floor for wildlife protection. Thus, in Section 4(b)(1)(A), Congress's aim was to prevent disruption of a state conservation program that would be *more* protective of a species than required under the ESA. *See* H.R. Rep. No. 93-412, p. 14 (1973) (“the State powers to regulate in a more restrictive fashion or to include additional species remain unimpaired.”). If the wolverine were listed, it would be protected from all forms of “take,” including “harvest” that is “sustainable” or spread “equitably” throughout a state.

Five listing factors

The Service's listing decision also violates Section 4(a)(1) of the ESA, 16 U.S.C. § 1533(a)(1).

Pursuant to Section 4(a)(1) of the ESA, 16 U.S.C. § 1533(a)(1), and the Service's implementing regulations, the Service is required to determine whether a species is threatened or endangered because of any of the following factors: (A) the present or threatened destruction, modification, or curtailment of the species' range; (B) overutilization for commercial, recreational, scientific, or educational purposes; (C) disease or predation; (D) the inadequacy of existing regulatory mechanisms; and (E) other man-made factors affecting the species' continued existence. *Tucson Herpetological Soc'y v. Salazar*, 566 F.3d 870, 873 (9th Cir. 2009) (citing 16 U.S.C. § 1533(a)(1); 50 C.F.R. § 424.11(c)). These factors are listed in the disjunctive so any one or combination of them can be sufficient for a finding that a species qualifies as threatened or endangered.

In deciding not to list wolverine, the Service failed to carefully consider and adequately apply Section 4(a)(1)'s listing factors in accordance with the ESA and the Service's implementing regulations.

Specifically, the Service failed to support its findings with sufficient and reliable evidence, including, as mentioned above, the best available, peer-reviewed science on wolverine and threats to wolverine. The Service also relied on unproven and unreliable methods to support its findings and failed to properly define the wolverine's range (both historic and present) and habitat within the contiguous United States. In addition, the Service failed to adequately consider historic population numbers (actual and trend) and current population numbers (actual and trend).

In applying the ESA's five listing factors, the Service also failed to consider and analyze how climate change is already and will continue to directly, indirectly, and cumulatively impact wolverine and a "significant portion" of the wolverine's range and habitat (both denning and foraging and core and secondary) in the contiguous United States.

Likewise, the Service erroneously discounted and did not adequately analyze the direct, indirect, and cumulative impacts of winter recreation, timber management, an already small total and effective population size, transportation corridors, climate change, travel planning, development, and trapping (for both

other species in occupied wolverine habitat and intentional trapping of wolverines in Montana) on wolverines. This includes how such threats may individually or in the aggregate affect individual wolverines, wolverine range and habitat (denning and foraging), and wolverine movement and connectivity between sub-populations in the contiguous United States and between wolverine in Canada and the contiguous United States. The Service also failed to assess the threats to wolverine across a significant portion of its range.

In applying the ESA's five listing factors, the Service also erroneously discounted and did not adequately consider how the lack of existing regulatory mechanisms for wolverines, specifically the lack of guidance in state wildlife and resource management plans, National Forest Plans, National Park Service management plans, and BLM resource management plans and the lack of any binding international, national, or state level regulatory mechanisms to address greenhouse gas emissions may directly, indirectly, or cumulatively affect wolverines.

In sum, the data and studies cited in the proposed rule and submitted by members of the public on the proposed rule, and the findings of the February, 2013, and April, 2014, peer-review panels, as well as the Service's own biologists, and the comments from the SCB, ASM, and fifty-six scientists (see Attachments), conclusively show – in accordance with the ESA's "best available science standard" – that the wolverine population is already dangerously small and currently faces serious and significant threats under several of the listing factors and, as such, merits listing as threatened or endangered under the ESA

Wherefore, this sixty day notice letter serves to put the Service on notice of its liability for violating the ESA and inform the Agency of our intent to file a citizen suit under the ESA seeking the appropriate relief.

This notice is provided pursuant to, and in accordance with, Section 11 (g)(2) of the ESA, 16 U.S.C. § 1540(g)(2).

Sincerely,

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