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IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF MONTANA
MISSOULA DIVISION

WILDEARTH GUARDIANS <i>et al.</i> ,)	
)	
Plaintiffs,)	Case No. 9:14-cv-0250-DLC
)	
vs.)	(Consolidated with Case Nos.
)	14-246-M-DLC and 14-247-
SALLY JEWELL, in her official capacity as)	M-DLC)
Secretary of the Interior, <i>et al.</i> ,)	
)	MEMORANDUM OF LAW
Federal-Defendants.)	IN SUPPORT OF
)	PLAINTIFFS' MOTION
)	FOR SUMMARY
)	JUDGMENT
)	
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EXHIBIT B	Declaration of Arlene Montgomery
EXHIBIT C	Declaration of George Wuerthner
EXHIBIT D	Declaration of Gary Beach
EXHIBIT E	Declaration of Bethany Cotton
EXHIBIT F	Declaration of Walter H. Sykes IV
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¹ Plaintiffs' Exhibits are properly before this Court because they are submitted for the sole purpose of demonstrating Plaintiffs satisfy the minimum requirements for Article III standing.

As wolverine become better known at last, it adds a fierce emphasis to the message that every bear, wolf, lynx, and other major carnivore keeps giving: If the living systems we choose to protect aren't large and strong and interconnected, then we aren't really conserving them. Not for the long term. Not with some real teeth in the scenery. We're just talking about saving nature while we settle for something less wild.

-Douglas H. Chadwick, *The Wolverine Way*

INTRODUCTION

Plaintiffs, WildEarth Guardians *et al.* hereby submit this memorandum of law in support of their motion for summary judgment. This case challenges the U.S. Fish and Wildlife Service's (Service's) August 13, 2014 decision to withdraw the proposed rule to list a distinct population segment of the North American wolverine occurring in the contiguous United States (wolverine) as a threatened species under the Endangered Species Act (ESA). FR-001.²

The best available science, including *every* published peer-review paper on the topic, reveals the wolverine – a snow-dependent species – is threatened by climate change. The science also reveals wolverine are threatened by an extremely small population size (only 250-300 remain in the contiguous United States) and by the cumulative effects of multiple threats. The Service initially agreed and proposed listing for these reasons. SOF at ¶¶ 82- 88.

² Citations are to Plaintiffs' statement of facts (SOF) and bates stamped pages on six discs: Final Rule (FR), Proposed Rule (PR), Public Involvement (PI), Literature (LIT), Supplemental (SUP), and Significant Portion of Range (SPR).

But at the eleventh hour and against the advice of its own biologists, the Service did an about-face and elected not to list wolverine. The Service did not rely on new published literature, new studies, or new data to support the change. Nor did the Service document relevant errors or omissions in the existing science that it previously relied upon. Instead, the Service premised its decision on unsupported theories, speculation, uncertainties, and an insistence on “definitive conclusions.” This conflicts with the ESA.

Congress directed the Service to consider the best scientific information “‘available,’ not the best scientific data *possible*.” *Building Indus. Ass’n of Superior California v. Norton*, 247 F.3d 1241, 1246 (D.C. Cir. 2001) (emphasis in original). The Service also violated the ESA by failing to evaluate whether wolverines are threatened by the inadequacy of existing regulatory mechanisms as required by the ESA,¹⁶ U.S.C. § 1533(a)(1)(D), and by failing to properly define and apply the term “significant portion of its range” in accordance with the ESA.

BACKGROUND³

A. The wolverine.

The wolverine is known as the “southern polar bear” because it is custom built for cold, snowy climates. The wolverine has crampon-clawed feet that are enormous relative to its body; an adaptation that allows the wolverine to spread its

³ See Plaintiffs’ SOF for a more detailed background.

weight like snowshoes and travel easily over deep snow, LIT-1643; *see also* LIT-1641 (photo). To hold in heat, wolverines wear a double fur coat: a dense inner layer of wool beneath a cover of stout guard hairs textured to resist absorbing moisture and shed frost. LIT-497. A wolverine's skull and teeth are also muscular, allowing it to feed on frozen flesh and crush large bones. *Id.*; LIT-1411.

Wolverines also have an excellent sense of smell "to find food beneath the snow." PR-763.

Wolverines are habitat specialists strongly associated with cold climates with deep persistent spring snow. PR-00763; PI-487. Wolverine depend on deep persistent spring snow for successful denning and reproduction and year-round habitat use. PR-763, 764; *see also* SOF at ¶¶ 9-12. No records exist of wolverine denning anywhere but in snow, despite the wide availability of snow-free denning opportunities within the species' range. *Id.*; PR-764; LIT-1642. The requirement of "cold, snowy conditions" means wolverine distribution in the western US is restricted to high elevation, mountainous terrain. PR-00763; PI-1940; SOF at ¶ 13; *see also* FR-13512 (map).

Wolverines were once found across the western United States, from the North Cascades and Northern Rockies to the Sierra Nevada and Southern Rockies. PR-767; *see also* LIT-399 (map). Wolverine also occupied parts of the Great Lakes region. LIT-396; LIT-400 (map). By the first half of the twentieth century

wolverines were likely extirpated from the entire contiguous United States. PR-767; LIT-397. By the second half of the twentieth century, small subpopulations of wolverines were able to reestablish themselves in the North Cascades and Northern Rockies, but not in other historic habitat. *Id.*; SOF at ¶¶ 19-24.

B. The Service’s proposed rule to list wolverine as a threatened species.

On February 4, 2013 the Service issued a proposed rule to list the wolverine as a threatened species. PR-760. The Service identified habitat loss from climate change as the primary threat to the species because the best available science revealed:

- wolverines are dependent on cold habitats that maintain persistent, deep snow cover late into the spring for both year-round use and denning;
- warming temperatures due to climate change are reducing spring snowpack in the western United States; and
- the loss of spring snowpack from climate change is likely to significantly reduce the amount of available wolverine habitat in the western United States.

PR-770 to PR-773; FR-6811. The Service explained there are five peer-reviewed studies on the impacts of climate change on wolverine, all of which “support the conclusion that climate changes caused by warming are likely to negatively affect wolverine habitat in the future.” PR-773. Of the five studies, McKelvey *et al.* (2011) is the “most sophisticated” analysis. PR-770.

McKelvey *et al.* (2011) predicts that currently available wolverine habitat in the western US is shrinking and will continue to shrink in the foreseeable future. PR-772; LIT-2575 (Fig. 4). Approximately 31 percent of current wolverine habitat will be lost due to climate warming by 2045. *Id.*; LIT-2574 to LIT-2575. That loss expands to 63 percent by 2085. *Id.*; LIT-2575. Based on this peer-reviewed finding, the Service reasonably concluded that wolverines are threatened by climate change. PR-773. The Service also determined that other factors, including a small population size (250 to 300 individuals) and additive mortality from trapping also justify listing “when combined with the effects of climate change.” PR-777; PR-781.

C. Two rounds of independent peer review.

The Service’s proposed rule was subjected to two rounds of peer-review. First, it was submitted to seven wolverine biologists for independent review. Five of the seven wolverine biologists supported the Service’s interpretation of the science and rationale for listing. SOF at ¶¶ 89-95. These included John Squires, Michael Schwartz, William Zielinski, Jeff Copeland, and Keith Aubry. SOF at ¶¶ 89-95. The remaining two peer reviewers – Audrey Magoun and Robert Inman – questioned the Service’s use and reliance on Copeland *et al.* (2010)’s snow model which McKelvey *et al.* (2011) relied upon for its climate impact projections. SOF at ¶¶ 96-106.

Following publication of the proposed rule, the Service received comments from various states skeptical of the climate change science. FR-15789. The states provided no peer-reviewed papers or relevant data to justify their skepticism. Nor did the states correctly portray, interpret, or understand the best available science on climate change impacts to wolverine. The states' comments were thus easily rebutted by the leading wolverine biologists. PI-100942 to PI-100962; *see also* PI-1251 to PI-1255.

State opposition, however, prompted the Service to meet with state officials to explore ways to avoid federal listing. SOF at ¶¶ 110-116. This effort failed, PI-202, but the Service remained engaged with the states, met privately with state officials at a “wolverine summit” in November 2013, SOF at ¶¶ 118-123, and agreed to the states' request to convene a second round of peer review. This second round involved a private two-day science panel – selected by state representatives – to review the science on climate change impacts. SOF at ¶¶ 124-126.

On April 3, 2014, nine members of a wolverine science panel met in Spokane, Washington. FR-14014. While the science panel recognized some uncertainty in the science exists, their findings confirmed the original rationale for listing in the proposed rule, including the Service's reliance on McKelvey *et al.* (2011), was valid. SOF at ¶¶ 127-132.

D. The Service’s lead biologists on the wolverine listing reaffirm their decision to list wolverine as a threatened species.

On May 14, 2014, and following two rounds of peer review, the Service’s biologists leading the wolverine listing process prepared a formal memorandum recommending the species be listed as a threatened. FR-5627 to FR-5636. On the impacts of climate change, the biologists reiterated their determination that McKelvey *et al.* (2011) is the best available science. *See* FR-5631 to FR-5632; FR-5636. The biologists also determined that mortality from trapping and the effects of an already small population size, when considered cumulatively with climate change, are also a threat. FR-5633 to FR-5634.

E. The Service’s Region 6 Administrator – Noreen Walsh – rejects the recommendations of the Service’s own biologists.

Sometime before May 21, 2014, less than a week after receiving a final recommendation to list wolverine from the Service’s lead biologists (outlined above), the Service’s Region 6 Administrator – Noreen Walsh – completed a draft memorandum rejecting her biologists’ recommendation. FR-05535.

In her memorandum, Ms. Walsh maintained listing was no longer warranted due to “evidence” of wolverine population expansion, uncertainty over the obligate relationship between wolverine and deep snow at the home range scale, uncertainty in the snow models used in McKelvey *et al.* (2011), and the inability to make “definitive conclusions” about the precise impacts to wolverine. FR-5371, 5372.

Ms. Walsh relied heavily on comments submitted by the states and explained that she does not accept McKelvey *et al.* (2011)’s assumption “that a loss of snow across the range of wolverine will result in a commensurate reduction in wolverine habitat.” FR-5372. Ms. Walsh also took issue with the lack of understanding behind the relationship between wolverines and deep snow: “the precise mechanism is very important to our conclusions about wolverine habitat loss given the potential for variation of snowfall across the species’ range.” FR-05365.

For these reasons, Ms. Walsh could not “accept the conclusion about wolverine habitat loss” and could not “support [her own biologists’] recommendation . . . [to] list the wolverine as threatened.” *Id.* This conclusion was hers “alone” and not influenced by the states. *Id.*; *see also* SOF at ¶ 153 (biologists raising questions about state influence). The Service biologists (who recommended listing) were then directed to “prepare a withdrawal of the proposed rule for transmittal to the Director.” FR-5373; FR-5230. This proved to be a contentious and difficult task, SOF at ¶¶ 154-156, and one that sparked objections from the larger scientific community. SOF at ¶¶ 166-173.

F. The Service’s withdrawal of the proposed listing rule.

On August 13, 2014 the Service published a notice of withdrawal of its proposed rule to list wolverine that largely tracks and adopts Ms. Walsh’s reasoning. FR-002. The Service determined that the “factors affecting [wolverine]

identified in the proposed rule are not as significant as believed at the time of the proposed rule's publication." *Id.* On the impacts of climate change, the Service maintained the impacts are too uncertain for listing. FR-016; SOF at ¶ 160. The Service also determined small population size, trapping, and other forms of human disturbance, individually or in the aggregate, were not a threat to wolverine. FR-021, 023.

STANDARD OF REVIEW

ESA claims are reviewed under the APA, 5 U.S.C. § 706 *et seq.* *Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 891 (9th Cir. 2002). Under the APA, courts shall hold unlawful and set aside agency action found to be "arbitrary and capricious, an abuse of discretion, or otherwise not in accordance with law." 5 U.S.C. § 706(2)(A).

While the APA standard is deferential, courts must nonetheless engage in a "thorough, probing, in depth review." *Citizens of Overton Park v. Volpe*, 401 U.S. 402, 415 (1971). Courts will not "rubber stamp administrative decisions 'they deem inconsistent with a statutory mandate or that frustrate the congressional policy underlying the statute.'" *Rocky Mountain Wild v. U.S. Fish and Wildlife Serv.*, 2014 WL 7176384, *3 (D. Mont. 2014). Courts must also reject decisions based on an "erroneous interpretation of law," decisions that fail "to consider an important aspect of the problem," or agency explanations that run counter to

evidence in the record. *League of Wilderness Defenders v. U.S. Forest Serv.*, 549 F.3d 1211, 1215 (9th Cir. 2008).

ARGUMENT

A. The Endangered Species Act.

Listing decisions under the ESA are based on “five statutorily prescribed factors, any one or combination of which may support a listing determination.” *Kern Co. Farm Bur. v. Allen*, 450 F.3d 1072, 1075 (9th Cir. 2006); 16 U.S.C. § 1533(a)(1) (five factors). Listing determinations must be based “solely on the basis of the best scientific and commercial data available.” 16 U.S.C. § 1533(b)(1)(A); 50 C.F.R. § 424.11(c). When the best available science indicates a species warrants listing, the Service “is compelled” to list regardless of other practical or political considerations. FR-6086.

Under the ESA, a species qualifies for “endangered” status if the best available science reveals it is “in danger of extinction throughout all or a significant portion of its range.” 16 U.S.C. § 1532(6). A “threatened species” is one that is “likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.” *Id.* at § 1532(2).

In this case, the Service’s decision not to list wolverine violates the ESA because: (1) the best available science reveals wolverine are threatened by climate change, a small population size, and cumulative impacts; (2) the Service failed to

evaluate whether wolverine are threatened by the inadequacy of existing regulatory mechanisms; and (3) the Service adopted and applied an interpretation of “significant portion of its range” that conflicts with the ESA.

B. The best available science reveals wolverine are threatened by climate change.

The ESA’s “best available science” requirement prohibits the Service from “disregarding available scientific evidence that is in some way better than the evidence [the agency] relies on.” *Kern Co.*, 450 F.3d at 1080; *see also Sw. Ctr. for Biological Diversity v. Norton*, 2002 WL 1733618, *8 (D.D.C. 2002) (agency cannot rely on certain sources to the exclusion of others.). The requirement also prohibits the Service from making listing decisions on the basis of unsupported opinions and conclusions, *Tucson Herpetological Soc’y v. Salazar*, 566 F.3d 870, 878 (9th Cir. 2009), or speculation and surmise, *Building Indus. Ass’n*, 247 F.3d at 1247. In this case, the Service’s about-face determination that climate change no longer poses a threat to wolverine violates the ESA’s best available science requirement for *six* reasons.

1. The Service applied the wrong standard: certainty, definitive conclusions, and precise mechanisms are not necessary.

First, the Service rejected the recommendations of its own biologists and the published findings of McKelvey *et al.* (2011) because there was too much “uncertainty” to draw “definitive conclusions.” FR-5359; *see also* FR-016 (we do

not have sufficient information to understand the “specific response” to climate change). According to the Service, the models relied upon in McKelvey *et al.* (2011) are too broad and not “fine enough to deal with site specific characteristics of wolverine dens.” FR-5360. The Service also insists it must know and fully understand the “precise mechanism” behind the obligate relationship between wolverine and deep snow, i.e., precisely how the loss of an essential habitat feature (deep snow) will impact denning, foraging, and ultimately wolverine abundance, trend, and viability. *Id.* This is incorrect.

The ESA “contains no requirement that the evidence be conclusive in order for a species to be listed.” *Defenders of Wildlife v. Babbitt*, 958 F.Supp. 670, 679 (D.D.C.1997). Congress directed the Service to utilize the best “available” science, not the best “possible” science. *Building Indus. Ass’n*, 247 F.3d at 1246. This point was made clear in *Sw. Ctr. for Biological Diversity v. Babbitt*, where the D.C. Circuit noted that the ESA’s requirement to utilize the best available science “prevented a court from ordering [the Service] to compile new information, ‘even if the available scientific and commercial data were quite inconclusive.’” 215 F.3d 58, 60 (D.C. Cir. 2000).

Studies “are often incomplete and open to challenge” and “relatively minor flaws in scientific data [do not] render the information unreliable.” *Southwest Ctr. for Biological Diversity*, 2002 WL 1733618 at *8. Occasional “imperfections” and

“uncertainties” are part of the scientific process. *Kern Co.*, 450 F.3d at 1081. The main purpose of the ESA “is to provide protection for species with an uncertain future, and uncertainty permeates all decisions made under the act.” SUP-313.

“Even in the best possible worlds . . . there is always a probabilistic element to any assessment of risk.” *Id.* The ESA “calls for the use of the best scientific data available in the decision-making process. It does not, and should not, require that all desirable data be available at the time of listing.” SUP-316.

This is especially true when dealing with a rare mammal threatened by climate change. Biologists often know and are able to document obligate relationships between a species and habitat types without fully understanding why that relationship exists or how the species will respond to predicted changes.

Unlike the polar bear, for example, the Service will never be able to solidly document wolverine mortality from climate change. As explained by the Assistant Regional Director: the Service is unlikely to “get this kind of ‘smoking gun’ because [wolverines] are seldom observed even when radio-collared, and the effects of climate change are likely to be much more subtle, such as slightly decreased reproductive output, fewer prime home ranges that are productive enough to support a female with kits, or decreased connectivity resulting in fewer successful movements between major habitat areas. Thus, detecting a species’

response either now or in the future is unlikely due to the near impossibility of obtaining such information on this hard-to-study species.” FR-5795.

The lack of a “smoking gun,” however, should not deprive the species of listing. “The precise mechanism(s) 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.” FR-5631. When listing the Canada lynx, for example, the Service explained that additional studies of lynx “are necessary” but listing was required because “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 . . .” 65 Fed. Reg. 16052, 16064 (March 24, 2000). Likewise, when listing the northern spotted owl, the Service explained “because the agency had ‘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 listings.”” *Defenders of Wildlife*, 958 F.Supp. at 680. The same is true with respect to the California red-legged frog, *id.* at 680, the Pacific walrus, 76 Fed. Reg. 7634-01 (February 10, 2011), and numerous other species that qualified for listing despite scientific uncertainty.

The Service often declines to list species when the impacts are too speculative, i.e., when the projected climate change impacts are indirect, secondary, or require a cascade of impacts to occur. FR-6086. As “additional steps

are added to the chain of impacts, additional uncertainty is also added, making conclusions more and more difficult to arrive at with the level of scientific certainty that we would like to have for making these decisions.” *Id.* This, however, is not the situation with wolverine because climate change is likely to lead to “a direct impact on a key aspect of the species’ habitat or physiology.” FR-6086. “Climate change poses numerous threats both directly and indirectly to [wolverine] . . . modeling predicts a continued loss of snow coverage during the spring denning period (the strongest correlate with wolverine productive success), and habitat models are also available to relate projected changes to continued loss of wolverine habitat.” PI-254; *see also* PI-089 (explaining decision).

According to the Service’s climate scientist, the listing of the polar bear, Pacific walrus, and wolverine share similar themes of evaluating how future climate change impacts will directly impact a key aspect of the species’ habitat. PI-465. Where “the concerns include increasing impacts over time (polar bear, walrus, and wolverine) we have made the case that there is a reasonable basis for listing.” *Id.* This stands in contrast to situations where the science is too inconclusive. *Id.*

This is not to say uncertainties do not exist; certainty, rather, is not expected or required under the ESA. Climate models – by their very nature – contain “some levels of uncertainty especially for short-term projections.” PI-254. And, spatial models that predict how wildlife use habitat – like those used for wolverine – “are

never 100% correct.” PI-1253. Nor is it possible to evaluate climate impacts at the smaller wolverine denning level scale – as insisted by the Service – “due to limitations in existing global climate models and to our limited understanding of the species’ tolerance to shallow and/or more patchy snow.” PI-1254. These models, however, are the best available science. As such, they cannot be ignored, PI-254, and must be the basis for the ESA listing.

It was therefore inappropriate for the Service to insist upon certainty, definitive conclusions, and precise mechanisms before listing wolverine. The Service must “take preventive measures before a species is ‘conclusively’ headed for extinction.” *Defenders of Wildlife*, 958 F.Supp.at 680-681. Congress sought to protect imperiled species “before the danger becomes imminent while long-range action is begun.” *Id.* at 680. By requiring “the listing of species be based on the ‘best available data’, Congress intended to give the ‘benefit of the doubt to the species.’” *Id.* (citing *Conner v. Burford*, 848 F.2d 1441, 1454 (9th Cir. 1988)).

2. Every published, peer-reviewed analysis of climate change impacts on wolverine supports the rationale for listing.

Second, the Service violated the ESA’s best available science requirement by making a listing decision that conflicts with *every* peer-reviewed analysis on the impacts of climate change on wolverine.

Five analyses of climate change impacts to wolverine were completed over the last decade, including Gonzalez *et al.* (2008), Brodie and Post (2010), Peacock

(2011), McKelvey *et al.* (2011), and Johnson *et al.* (2012). PI-070; *see also* PR-770 to PR-773 (citing papers); FR-5631 to FR-5632 (summarizing studies). Each analysis “support[s] the hypothesis that future climate warming is likely to significantly reduce wolverine habitat.” PI-070. “No analyses support the conclusion that wolverine habitat is likely to be unaffected or increase in the future.” *Id.*

Among the five analyses McKelvey *et al.* (2011) is considered “the most sophisticated.” PR-770. Using downscaled global climate change models to project the impacts of changes in temperature and precipitation to wolverine habitat, McKelvey *et al.* (2011) predicts 31 percent of current wolverine habitat in the western US will be lost due to climate warming by 2045. PR-772; LIT-2574 to LIT-2575. “That loss expands to 63 percent of wolverine habitat” by 2085. *Id.*; LIT-2575. Based on these findings, the Service reasonably determined that wolverines are threatened by climate change. PR-773; *see also* LIT-2575 (map showing predicted changes).

As the Service’s leading wolverine biologists concluded: “relying on McKelvey *et al.* (2011) as the best available scientific information regarding the effects of climate change on wolverine habitat remains scientifically justified . . . we have been unable to obtain or evaluate any other peer reviewed literature or other bodies of evidence that would lead us to a different conclusion [and] . . . any

conclusion that there will not be population effects appears to be based on opinion and speculation.” FR-5636. This “would not represent the best available scientific or commercial data available.” *Id.*

3. Two stages of independent peer review support the rationale for listing wolverine.

Third, the Service’s decision not to list wolverines violates the ESA’s best available science requirement because it conflicts with two phases of independent peer review. The first phase occurred when the Service’s proposed rule recommending listing was submitted to seven biologists to evaluate the underlying the rationale for listing. *See* SOF at ¶¶ 89 to 106. This phase of peer review supported the Service’s rationale for listing five to two. *Id.*; FR-4847 (comment). John Squires determined the Service’s rationale was “logical and transparent” and that “the link between climate change and the species’ listing was well-documented and clearly articulated.” PI-1278 to PI-1279; *see also* PI-1251 to PI-1256 (rebuttal comments). Michael Schwartz agreed, noting that the proposed rule “provides an accurate review of the factors affecting the species.” PI-1245.

The third peer reviewer, William Zielinski, stated that “the evidence for the effects of climate change on wolverine winter (and summer) habitat is strong . . .” PI-1294. Jeff Copeland, a leading wolverine biologist, also did not question or criticize the Service’s rationale for listing. PI-544; *see also* PI-503 (rebuttal comments). The fifth peer reviewer, Keith Aubry, was “extremely impressed” with

the level of scholarship contained in the proposed rule, including the “careful, thoughtful, and scientifically defensible way” in which the information was considered and applied. PI-484.

The remaining two peer reviewers – Audrey Magoun and Robert Inman – raised questions about the Service’s reliance on Copeland *et al.* (2010) and McKelvey *et al.* (2011) as the basis for determining that wolverine are threatened by climate change. *See* PI-968; PI-1141; PI-971; PI-747; PI-775. But the questions raised by Magoun and Inman were focused largely on the reliability of Copeland *et al.* (2010)’s snow model and not on the well-accepted understanding that: (a) wolverine are a snow-dependent species; (b) climate change will result in reduced snowpack within the wolverine’s range; and (c) warming will likely negatively affect the species. SOF at ¶¶ 99 to 106.⁴

⁴ Magoun and Inman claimed it was inappropriate to assess climate impacts based on Copeland *et al.*, (2010), which modeled spring snow to May 15. PI-1252. They reasoned the May 15 date was inappropriate based on their understanding of wolverine biology and observations of wolverines outside the model. *Id.* But Copeland *et al.* (2010) does not allege all wolverine den until May 15. The date was used to select for the areas with the deepest and most persistent snow, i.e., if the area had snow in May then it definitely had snow in March and April when wolverine really needed it. LIT-981. The snow model is a proxy for the wolverine’s biological requirements, not an explanation for every observed behavior. PI-1253; PI-100944. The fact that a given wolverine den or observation is found outside the model “does not disprove a model, in fact, such deviations are expected.” PI-1253. “For example, 97% of known dens across two continents are within [the snow model]. It was also found that the snow model identified areas of wolverine-use during non-snow periods. It is rare that a model with a single

Indeed, Inman relies on Copeland *et al.* (2010) and McKelvey *et al.* (2011) in his 2013 paper finding wolverine vulnerable to climate change. *See* LIT-6865; LIT-1654. Inman also notes that his habitat estimate and Copeland *et al.* (2010)'s snow model “matched well” concurring across greater than 96% of the western United States. LIT-1660. Inman was also one of the authors of Schwartz *et al.* (2009) which concluded that spring snow cover “is likely to continue to be strongly impacted by global climate change . . . threatening wolverine throughout their geographic distribution.” LIT-3170. Likewise, Magoun – the other dissenting reviewer – was one of the co-authors of Copeland *et al.* (2010), LIT-981. Magoun also authored a paper finding that “a critical feature of wolverine denning habitat is dependability of deep snow throughout the denning period.” LIT-2312. According to Kevin McKelvey: “the entire case for climate dependency, the precise nature of that dependency, and the inevitable consequences of that dependency are all fully defined by this statement [from Magoun]– you don’t actually need Copeland *et al.* (2010) or McKelvey *et al.* (2011).” FR-14834.

The second phase of peer review was the April 3, 2014 science panel, where nine experts on modeling, climate change, and wildlife ecology met to “better understand the strength of the relationship between climate change, wolverine

covariate, like spring snow, fits so well with empirical data across a species’ life history.” *Id.*

habitat, and future wolverine population trends through dialogue with an expert panel.” FR-14014. During the two-day event, some disagreement amongst the panelists emerged about the importance of deep snow at the larger home-range scale. The panelists, however, leaned toward there being an obligate relationship between contiguous deep snow and temperature at this larger scale. FR-14020. The panelists also agreed that deep snow is required for wolverines at the denning scale. *Id.* Deep snow is important for successful wolverine denning, likely “as a barrier from other mammalian carnivores”, as “thermal protection for kits,” and possibly important for “refrigeration of food caches”. FR-14019 (defining denning scale). According to McKelvey, the need for deep persistent snow for denning defines the wolverine’s home range “as animals can’t persist where they can’t den.” FR-5867. “Because female wolverines are strongly territorial, they need to maintain territories in areas they can den []. These territories extend well beyond the denning area . . . So yes, all you really need is dens because the dens infer home-range sized blocks of surrounding habitat.” *Id.*

The science panel was also explicitly asked if the projected loss of snow cover in McKelvey *et al.* (2011) was “about right or lean toward over or under estimates.” FR-14022. “The results indicated a peak in panelists’ belief that McKelvey *et al.* (2011) was ‘about right’ in the short term.” FR-14023. The panelists were also asked to evaluate how well McKelvey *et al.* (2011)’s spring

snow cover projections represent wolverine habitat. *Id.* The panelists believed “that the impacts of climate change on wolverine habitat may be greater than or less than the projections in McKelvey *et al.* (2011), however, there is no indication that the panelists believed that McKelvey *et al.* (2011) showed systematic error resulting in a one-sided bias.” *Id.*

In the end, all nine panelists “expressed pessimism for the long-term (roughly end of the century) future of wolverines in the contiguous US the effects of climate change on habitat.” FR-14024. The science panel “concluded unanimously that the scientific conclusions in the proposed listing regarding threats to the species from climate change were well supported.” PI-100718.

4. The Service’s own biologists responsible for reviewing the science and making a listing decision recommend listing wolverine.

Fourth, the decision not to list wolverines violates the ESA’s best available science because it overrides the recommendations of the Service’s own biologists tasked with making the listing recommendation. *See* SOF at ¶ 142.

On May 14, 2014, these biologists sent Ms. Walsh a formal memorandum proposing to list the wolverine as a threatened species. FR-5627 to FR-5636. The biologists were well informed: they had taken the lead on the listing decision, carefully reviewed all available literature, considered and discussed the findings of the two independent scientific reviews, and reviewed public comments and the

critiques from the states. The Service biologists summarized their findings as follows:

- Worldwide, wolverines are dependent on habitats that maintain persistent, deep snow cover late into the spring for denning and year-round use.
- Wolverines need persistent deep snow for a variety of reasons, including den structure (deep snow provides security from predators and a thermal buffer for kits), competitive advantage over other carnivores, and possibly “refrigeration” of cached food. There may also be thermal constraints on wolverine physiology that requires them to live in cold and snowy conditions.
- We do not know the precise mechanism(s) behind the relationship between wolverines and deep snow but this is less important than the fact that deep snow appears to be an obligate habitat feature for wolverine.
- Copeland *et al.* (2010) and McKelvey *et al.* (2011) are the best available science on the impacts of climate change on wolverine habitat.
- There are several other peer-reviewed and published climate change analyses of wolverine habitat that generally support the conclusions we have drawn from McKelvey *et al.* (2011).

FR-5631 to FR-5632. The Service’s Assistant Regional Director concluded by stating: “I believe this to be one of the best findings and most creative solutions to ESA administration I have ever reviewed.” FR-5626.⁵

⁵ Sometime before May 21, 2014 – less than a week after receiving this memorandum from the Service’s lead wolverine biologists – Ms. Walsh had already completed a draft memorandum rejecting Service biologists’ listing recommendation. FR-05535. She had likely decided against listing *before* she received the listing memorandum. On May 14, 2014, for example, she had received a “helpful” memorandum from Region 1 for why wolverine should not be

5. No new scientific papers, data, or analyses were completed to call the Service's rationale for listing into question.

Fifth, the decision not to list wolverines violates the ESA's best available science requirement because it was not based any new science, study, analysis, or data. Nor was it premised on any errors in the existing science or predictive models.

As a general rule, when there is competing scientific data it is appropriate for the court to defer to the agency's technical expertise "even if, as an original matter, a court might find contrary views more persuasive." *Marsh v. Oregon Natural Res. Council*, 490 U.S. 360, 378 (1989). But here, there is no "competing scientific data" because there is no new, peer reviewed paper, study, or data that contradicts McKelvey *et al.* (2011). Indeed, the Service concedes McKelvey *et al.* (2011) remains the "most sophisticated analysis of the impacts of climate change at a scale specific to wolverine." FR-5372; FR-013.

The only change that occurred is Ms. Walsh's interpretation of the science; specifically, her refusal to accept McKelvey *et al.* (2011)'s findings. FR-5372. Ms. Walsh (and later the Service) discuss a number of untested theories and new concepts about climate change impacts but none of them undermine McKelvey *et al.* (2011). The Service maintains, for example, that listing is not necessary

listed. FR-5619; *see also* FR-5573; FR-5575. The Region 1 recommendation was premised on the "personal notes" of a single individual. FR-14064 to FR-14065.

because “wolverines are believed to be expanding” their range in the contiguous United States. FR-016. But, as explained by the leading wolverine biologists, when “an organism has been extirpated from most of its range, there is room for expansion even if, globally, habitat has been reduced . . . The fact that wolverines appear to be expanding their range is important for the species’ conservation, but does not negate . . . [the] contention the climate change is the primary threat to long-term persistence.” PI-100958. Moreover, the dispersal of a single lone male wolverine into California and Colorado with no prospect of reproduction is not evidence of range expansion. LIT-1661; FR-3933 (comment).

The Service also maintains that even if snowpack is reduced, as predicted by McKelvey *et al.* (2011), sufficient habitat will remain. FR-016; FR-015. But this theory is premised on the inclusion of unoccupied wolverine habitat in the Sierra Nevada and Southern Rockies that may never become occupied. *See* LIT-1658, LIT-1659, PR-767. Inman himself admits that these areas are “of limited value in establishing or maintaining [wolverine] populations” because female wolverine dispersal is highly unlikely to ever occur. LIT-1661.

Ms. Walsh and the Service also refer to the findings of five of the science panelists (not all nine). FR-5362. But, as discussed *supra*, the entire nine member science panel upheld McKelvey *et al.* (2011)’s findings and methods and “expressed pessimism for the long-term (roughly end of the century) future of

wolverines in the contiguous US because of the effects of climate change on habitat.” FR-14022 to FR-14024.

Ms. Walsh and the Service also rely on a personal communication and a National Oceanic and Atmospheric Administration (NOAA) report assessing future water availability in Colorado. FR-5361. The communication and NOAA report, however, were never discussed with the wolverine biologists, *see* FR-55031, and are of limited value because they pertain to unoccupied, high-elevation mountains of the Southern Rockies where no wolverine population exists. FR-3928 (comment). The NOAA report has no applicability to the lower elevation, occupied wolverine habitat in the Northern Rockies where there is “strong evidence of dramatic decreases in snow.” FR-3928 (comment). The NOAA report also fails to make the important distinction between the amount of snow fall and a shorter snow season. FR-5031. “The effect of similar snow levels or somewhat greater snow levels [in Colorado], but for a shorter period, would seem to disadvantage wolverines” according to Copeland *et al.* (2010). *Id.*

Ms. Walsh also introduced a new theory (from state comments) that because wolverine dens “typically occur at high elevation and on north facing slopes[,]” the conclusions of habitat loss based on the loss of spring snow may not be accurate. FR-5372. This new theory was never presented, let alone analyzed. FR-3965 (comment). And, no citations to support this new concept are provided. *Id.*

According to Squires, it is not possible to evaluate climate impacts at this small scale “due to limitations in existing global climate models and to our limited understanding of the species’ tolerance to shallow and/or more patchy snow.” PI-001254. Even if snow remains on the north slopes, biologists still do not know “how patchy, shallow, or discontinuous snow across a wolverine’s home range will impact reproductive success or population persistence.” *Id.*

6. The larger scientific community supports the rationale for listing wolverine.

Sixth, the Service’s failure to utilize the best available science is highlighted by the Society of Conservation Biologist’s and the American Society of Mammalogist’s letter expressing serious concern about the Service’s wolverine listing decision. *See* PI-100716; PI-100722; *see also* SOF at ¶¶ 166 to 173. The decision “demonstrates a serious flaw in the [Service’s] listing determination process and continues a troubling pattern of disregard for best available science . . .” PI-100719.

The biologists note the decision is problematic because it requires hard data and “experimental evidence” that: (a) is impractical and impossible to obtain for a rare free-living mammal; and (b) would preclude the use of “predictive modeling approaches that are well-supported in the scientific literature.” PI-100718 to PI-100719. “In the case of the wolverine, the best available science necessarily incorporates results from predictive modeling.” PI-100719. This modeling is

reliable and well supported in the scientific literature. *Id.* The Service's refusal to list due to "uncertainty" about the predictive models, therefore, substantially limits the agency's ability to rely on such models when making listing determinations. PI-1000719. For these reasons, the Service's decision to withdrawal the wolverine listing rule "is inconsistent with both the best available science and language in the statute itself." PI-100719. In a separate letter, fifty-six wildlife ecologists and conservation biologists agreed: the Service's decision not to list wolverine due to climate change impacts "stands in conflict with [the ESA's] best available science standard" and sets "bad precedent by allowing an administrator to overrule the expert judgment of the Service's scientists [and] independent peer reviewers." PI-100722; *see also* FR-10457 ("We have about 500" e-mails asking us to "listen to scientists on wolverines").

C. The best available science reveals wolverine are threatened by an extremely small population size.

In addition to climate change, the Service also determined wolverine are not threatened by a small population size, even though only 250 to 300 individuals remain in the contiguous US. FR-023; SOF at ¶¶ 32-35. This finding conflicts with the best available science.

The 250 to 300 wolverine remaining in the contiguous US are scattered among a network of small subpopulations on mountain tops, some consisting of fewer than 10 individuals. PR-763; LIT-3163 (map). These small subpopulations

are disconnected from source populations in Canada, FR-022, and are becoming increasingly fragmented from one another due to human disturbance, human development, and loss of habitat. LIT-2568; PR-733; LIT-677. This already small and fragmented population also has rates of successful reproduction among the lowest known for mammals. PR-762; LIT-2821; LIT-3911. These factors alone typically qualify species for protective status under the ESA. *See, e.g.*, SUP-497 to SUP-499 (IUCN’s criteria for “endangered” status); 64 Fed. Reg. 26,725, 26,732 (May 17,1999) (grizzly listing).

A substantial number of the 250 to 300 remaining wolverines are likely unsuccessful breeders or non-breeding sub-adults. FR-022. This means the “effective population size” able to contribute to future generations is dangerously low, less than 50. *Id.*;SOF at ¶ 41(defining “effective population” size). This number is well below “what is thought necessary for short-term maintenance of genetic diversity.” FR-022. The “loss of genetic diversity can lead to inbreeding depression and is associated with increased risk of extinction.” *Id.*; *see also* LIT-3162; LIT-3106 (effective population must be greater than 50 to avoid extinction); LIT-3203 (thousands (not hundreds) are required for long-term persistence).

Concerns about wolverine small effective population size is highlighted in a recent analysis determining that without immigration from other wolverine populations (1 to 2 effective migrants per generation) “at least 400 breeding pairs

[of wolverine] would be necessary to ensure genetic viability of the northern Rocky Mountains wolverine population.” FR-022; LIT-662. The current wolverine population is nowhere close to this figure. Nor is immigration occurring at the necessary level, as there is also “an apparent lack of connectivity” between wolverine populations in Canada and the contiguous US. FR-022; LIT-3169 (Schwartz *et al.* 2009).

In response, the Service maintains that “continued population growth” in the contiguous United States will “ameliorate the effects of small population size” but this is pure speculation. *See* FR-5616 (population growth based on limited dispersal is “speculation”); FR-016 (hypothesis is “conjecture”). No peer-reviewed literature supports this opinion. On the contrary, there is currently a lack of connectivity with wolverines in Canada, FR-22, range expansion into unoccupied habitat is unlikely, SOF at ¶ 23, and subpopulations will become smaller and more fragmented due to loss of available habitat from climate change. PR-773; LIT-2575 (fig. 4).

The Service also admits there is a “potential” threat to wolverine from small population size but says the threat remains “as-yet undocumented.” FR-023. This is incorrect. As explained by Shawn Sartorius, the Service’s leading wolverine biologist: “wolverine populations in the [contiguous United States] are small, and

susceptible to demographic stochasticity, inbreeding, [and] loss of genetic diversity.” PI-083.

In fact, wolverine are already feeling the negative effects of reduced genetic diversity due to small population size. FR-022. “Genetic drift has already occurred in the subpopulations of the contiguous United States” and this genetic drift has “caused a loss of genetic diversity.” *Id.*; LIT-3162 (study); SOF at ¶¶ 43 to 46; FR-5634. “The Cegelski *et al.* (2006) and Schwartz *et al.* (2007) papers make it clear that wolverine populations in the western U.S. are already experiencing gene flow issues . . .” within an environment where gene flow is certainly not going to improve.” PI-547. These effects are likely to increase. *Id.*; *see also* FR-022 (citing literature); LIT-3162; LIT-662; *see also* FR-5634 (citing papers).

D. The best available science reveals the cumulative effects of climate change, small population size, trapping, and other human disturbances threaten wolverine.

Under the ESA, the Service is required to list a species if any one “or a combination” of the five statutory listing factors causes a species to be threatened or endangered. 50 C.F.R. § 424.11(c).

With respect to wolverine, the best available science reveals “multiple stressors acting in combination have greater potential to affect wolverines than each source alone.” FR-023. Other stressors, when considered with climate change, “become threats due to the cumulative effects they have on wolverine

populations.” PR-781. These other stressors include a small population size, SOF ¶¶ 32 to 46, mortality from trapping, SOF at ¶¶ 47 to 62, winter recreation in denning habitat, SOF at ¶¶ 63 to 75, and increased human development and transportation projects, SOF at ¶¶ 76 to 81.

Collectively, the loss of individual wolverines (especially females) in small subpopulations from trapping, the disturbance of wolverine denning from winter recreation, human development, low reproductive rates, and an already small and isolated population, combined with the loss of wolverine habitat (and increased fragmentation) from climate change may threaten the wolverine’s survival. A “small amount here, a small amount there, and still more at another point could add up to something with a much greater impact, until there comes a point where even a marginal increase will mean” the species does not survive.” *Klamath-Siskiyou Wildlands Ctr. v. BLM*, 387 F.3d 989, 994 (9th Cir. 2004).

The Service discusses these individual threats only in isolation, without analyzing the total combined impact and without addressing or correctly interpreting the best available science on the collective threat. *Compare* FR-21 (trapping not a threat) *with* SOF at ¶¶ 47 to 62 (trapping impacts); FR-017 (no impact from winter recreation) *with* SOF at ¶¶ 64 to 75 (potential negative impacts); FR-019 (no impact from roads and development) *with* SOF at ¶¶ 76 to 81 (serious threat). This is a violation of the ESA. 50 C.F.R. § 424.11(c); *WildEarth*

Guardians v. Salazar, 741 F.Supp.2d 89 (D.D.C. 2010) (Service violated ESA by failing to consider cumulative impact of listing factors).

E. The Service failed to evaluate whether wolverine are threatened by the inadequacy of existing regulatory mechanisms.

Pursuant to the ESA, the Service must evaluate whether a species warrants listing due to the “inadequacy of existing regulatory mechanisms.” 16 U.S.C. § 1533(a)(1)(D). This factor alone is sufficient to warrant listing. 50 C.F.R. § 424.11(c).

In this case, the Service originally maintained the inadequacy of existing regulatory mechanisms “is not considered a threat” because “regulatory mechanisms do not exist to address the threat of climate warming over wolverine habitat.” PI-082; PR-779. This approach was abandoned, however, because mechanisms to address climate change, such as the Clean Air Act do exist, PR-12879; FR-563, and the interpretation that “no regulatory mechanisms” means “no inadequacies” is “non-sensical.” FR-5633. In response, the Service’s biologists recommended the Agency change its position and recognize this factor as an additional threat to the species: “We recommend changing the Final Rule to conclude that the existing regulatory mechanisms are not adequate to address the threat of habitat loss and modification resulting from the environmental changes due to climate change.” FR-5634.

As discussed *supra*, ultimately Ms. Walsh rejected this and all other factors justifying listing. Ms. Walsh explained that “an evaluation of the inadequacy of existing regulatory mechanisms *is not necessary*” because there are no threats to wolverine under the other factors. FR-5381; *see also* FR-5382 (discussing change). In other words, since the Service determined that no other threats justify listing, there can be no additional threat from the inadequacy of existing regulatory mechanisms. FR-021. This is incorrect.

The Service’s interpretation impermissibly reads this listing factor out of the ESA. This is not what Congress intended, *see* 16 U.S.C. § 1533(a)(1)(D), nor how the Service approaches this factor in other listing decisions. *See, e.g.*, 65 Fed. Reg. 16052 (March 24, 2000) (listing Canada lynx due to inadequacy of existing regulatory mechanisms); *see also* FR-4913 (questioning interpretation).

The best available science reveals that existing regulatory mechanisms, including the Clean Air Act, FR-5633, state trapping regulations that allow trapping for other species in wolverine habitat that take wolverine, SOF at ¶¶ 58-62, and forest plans that include no standards for wolverine conservation (94 percent of all occupied habitat is located on National Forest lands) are presently inadequate to address the threats to wolverine. The Service, however, never evaluated the potential threat these inadequate regulatory mechanisms pose to wolverine as required by the ESA. 16 U.S.C. § 1533(a)(1)(D).

F. The Service failed to properly define and adequately consider whether wolverine qualify for listing throughout a “significant portion of its range.”

Pursuant to the ESA, the Service must list a species if it is endangered or threatened “throughout all or a significant portion of its range.” 16 U.S.C.

§1532(6), (20). Thus, there are two situations under which a species qualifies for listing: a species may be listed throughout all of its range or a “significant portion of its range.” 79 Fed. Reg. 37578, 37609 (July 1, 2014); SPR-106; FR-024.

The ESA does not define “significant portion of its range” but the Ninth Circuit explained one way a species may qualify for listing throughout “a significant portion of its range” is if there are “major geographical areas in which it is no longer viable but once was.” *Defenders of Wildlife v. Norton*, 258 F.3d 1136, 1145 (9th Cir. 2001). This requires the Service to engage in a two step process. *Tucson Herpetological Soc’y*, 566 F.3d at 876. The Service must: (a) quantify the species’ historic range “in order to establish a ‘temporal baseline’; and (b) determine whether the lost or no longer viable area, measured against the baseline, amounts to a significant portion. *Id.*

If a species is “expected to survive” in an area that is much smaller than its historic range, the Service must explain its conclusion that the lost area is not a “significant portion of its range.” *Defenders*, 258 F.3d at 1145. An “adequate explanation” why territory, which was part of a species’ historic range but is no

longer occupied or considered viable, is not a “significant portion” of the species’ range is required. *Humane Soc’y of the U.S. v. Jewell*, __ F. Supp. 3d __, 2014 WL 7237702 at *44 (D.D.C. Dec. 19, 2014). If the lost area qualifies as a “significant portion” then the Service must complete a threats assessment to determine if the species qualifies for listing throughout a “significant portion of its range.” 16 U.S.C. §§ 1532(6), (20).

Here, the Service failed to properly define and adequately consider and evaluate whether wolverine qualify for listing over a “significant portion of its range” for five reasons.

First, in July 2014, the Service adopted a new policy interpreting the phrase “significant portion of its range” that conflicts with the ESA.⁷⁹ Fed. Reg. 37578, 37578 (July 1, 2014) (hereinafter “SPR policy”); SPR-074. The SPR policy narrowly defines the term “range” as the “‘current’ range of the species ... occupied by the species at the time the Services make a determination under section 4 of the [ESA].” SPR-080; *see also* SPR-106 (same); FR-024 (same). As discussed *supra*, this new interpretation conflicts with the ESA and applicable Ninth Circuit case law because it eliminates a species’ lost historical range, i.e., the “geographical areas in which it is no longer viable but once was,” *Defenders*, 258 F.3d at 1145, from the analysis.

Pursuant to the SPR policy, the Service no longer determines whether a species' lost or no longer viable historic range, measured against the baseline, amounts to a "significant portion." SPR-106. Without question, this new interpretation conflicts with this Court's decision in *Rocky Mountain Wild*, 2014 WL 7176384 at *4, and applicable Ninth Circuit case law. *See Tucson Herpetological Soc'y*, 566 F.3d at 876 (Service must analyze lost historic range); *Defenders*, 258 F.3d at 1145 (same).

As explained in *Humane Soc'y*, the Service's interpretation "explicitly contradicts the conclusions by courts finding that 'range' must include the 'historic range.'" 2014 WL 7237702 at *46. The Service's interpretation also conflicts with the ESA. *Id.* Congress was clear: "The term 'range' [in the ESA] is used in the general sense, and refers to the historical range of the species." H.R. Rep. 95-1625 (Nov. 25, 1978). Indeed, the Service's interpretation would render "meaningless the word 'curtailment' in 16 U.S.C. § 1533(a)(1)(A), since it is impossible to determine the 'present . . . curtailment of [a species'] habitat or range' without knowing what the species' historic range was prior to being curtailed." *Humane Soc'y*, 2014 WL 7237702 at *46.

The Service goes to great length to justify its SPR policy, *see* SPR-74 to SPR-106, but as the Service's own staff noted: "The length of the [SPR] policy is a dead giveaway that we are in trouble." PR-16532. "Most significantly, we again

argue that in order to make an SPR, we must have threats that ultimately threaten the entire listable entity... The SPR section of the ESA was clearly (in my mind) written to allow listing of portion of a species range REGARDLESS of the importance of that portion to the rest of the species. This is problematic for us, but also reality.” PR-16532 (emphasis original). “As an agency, we seem to be unable to accept the realities of what the [ESA] requires and continue to promulgate suspect policies and guidance. Witness the draft SPR [Policy] that cascaded down to me yesterday. That policy won’t make it through a single court case, but we’re putting a lot of effort into it anyway.” PR-16533.

Second, because the Service applied the illegal SPR policy when deciding not to list wolverine, FR-024, it failed to apply the Ninth Circuit’s two-step process for analyzing whether wolverine qualify for listing throughout a “significant portion of its range.” *Tucson Herpetological Soc’y*, 566 F.3d at 876. The Service failed to: (a) first quantify wolverine historic range within the contiguous US, *see* SOF at ¶¶ 16-17 and LIT-398 (fig. 1), in order to establish a “temporal baseline;” and (b) then determine whether the amount of historic wolverine habitat lost in the contiguous United States, i.e., the “geographical areas in which it is no longer viable but once was,” *Defenders*, 258 F.3d at 1145, amounts to a “significant portion.” *Tucson Herpetological Soc’y*, 566 F.3d at 876. This violates the ESA. *Id.*

Third, even if one assumes, *arguendo*, that the Service engaged in the requisite two step process for evaluating whether wolverine qualify for listing throughout a “significant portion of its range,” the outcome of this process is either a finding that the lost geographical area is: (a) an insignificant portion; or (b) a significant portion, which would trigger the need for a threats assessment. The Service failed to comply with either outcome.

The Service, for instance, concedes that wolverine have not reestablished viable populations in major geographical areas in which the wolverine once was but is not longer viable, i.e., the Great Lakes region, Southern Rockies, Utah, Sierra Nevada, and Oregon’s Cascades, *see* LIT-398 (fig. 1). SOF at ¶ 20; PR-768. The Service also admits wolverines are unlikely to reestablish themselves in these areas due to their being no prospect of reproduction. SOF at ¶¶ 23-24; PR-767; LIT-1661; FR-3933 (comment). But the Service never took the requisite next step of explaining why these major geographic areas do not qualify as a “significant portion” of wolverine range.

The Service also did not find that such areas qualified as a “significant portion” of wolverine range and then assess whether wolverine qualified for listing in these lost areas. The Service never analyzed whether climate change, a small population size, incidental mortality from trapping, other forms of human disturbance, or the inadequacy of regulatory mechanisms, by themselves or in the

aggregate threaten wolverine within a significant portion of its range, e.g., within in the Great Lakes region, Southern Rockies, Utah, Sierra Nevada, and/or Oregon's Cascades, *see* LIT-398 (fig. 1).

Fourth, wolverine mortality from trapping (both intentional wolverine trapping in Montana and incidental wolverine trapping in Montana and other states) is a serious, localized threat that by itself, and with other stressors, can significantly harm wolverine. SOF at ¶¶ 47-62. The Service concedes that such localized threats must be analyzed in the “significant portion of its range analysis,” FR-005, but the Service never undertook this analysis. The Service never determined, for example, whether Montana represents a ‘significant portion’ of wolverine range and, if so, whether trapping (by itself or in conjunction with other stressors, e.g., small population size, climate change, human disturbance) threaten wolverine in this area.

Finally, the Service failed to determine whether the future loss of wolverine habitat due to climate change, *see* LIT-2575 (fig. 4), represents a “significant portion” of the wolverine range. Evidence in the record reveals that it likely is a “significant portion.” *See* PR-773 (climate change likely to result in “permanent loss of a significant portion of wolverine habitat.”); LIT-2575 (fig. 4).

In its withdrawal notice, the Service maintains there no portions of the range where threats are “significantly concentrated or substantially greater” than in other

portions, FR-025, but no explanation or analysis is provided. The Service does include the Sierra Nevada and Southern Rockies within wolverine “current range,” PR-768, but nowhere in the record does the Service explain why the existence of a lone male wolverine in the Sierra Nevada and the Southern Rockies, with no prospect of reproduction, fails to give rise to “significantly concentrated or substantially greater” threat. The Service merely concludes that it does. This does not suffice under the ESA. *Defenders*, 258 F.3d at 1145.

CONCLUSION

For the forgoing reasons, Plaintiffs respectfully request this Court grant their motion for summary judgment, set aside the Service’s August 13, 2014 notice of withdrawal, and remand this matter back to the Service for further proceedings consistent with this Court’s order.

Respectfully submitted this 4th day of June, 2015.

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