

May 7, 2016

Public Comments Processing
Attn: Docket No. FWS-R6-ES-2016-0042
U.S. Fish and Wildlife Service
MS: BPHC
5275 Leesburg Pike
Falls Church, VA 22041-3803

Re: Comments on Proposal to Remove Grizzly Bear (*Ursus arctos horribilis*) from List of Endangered and Threatened Species

Ladies and Gentlemen:

My family and I have often visited Yellowstone National Park, Grand Teton National Park, and other federal public lands in the region commonly known as the Greater Yellowstone Ecosystem (GYE).¹ The United States Fish and Wildlife Service (USFWS) should strive toward a goal of restoring the grizzly bear² (*Ursus arctos horribilis*) to a sustainable and enduring population numbering at least in the several thousand before removing the protections afforded the species by the Endangered Species Act. Moreover, I believe that USFWS is obligated by both the Endangered Species Act (ESA) and the Administrative Procedure Act (APA) to disregard the political preferences and sensitivities of states within the GYE, state elected officials, state fish and wildlife agency employees, and extractive industry firms, executives, and employees who prefer a policy that would encourage more development of GYE land and less protection of the grizzly bear from hunting and other human impacts. I therefore oppose USFWS' proposed decision to remove the GYE population of *U.a. horribilis* from the list of threatened and endangered species.

¹ The Greater Yellowstone Ecosystem is commonly understood to encompass all of Yellowstone and Grand Teton National Parks as well as portions of five adjacent national forests, three national wildlife refuges, Bureau of Land Management acreage, and smaller amounts of state, tribal, and private land in Idaho, Montana, and Wyoming. The federal land within the GYE includes ten units of the National Wilderness Preservation System. National Park Service. 2015. "Greater Yellowstone Ecosystem," pp. 53-101 in National Park Service, Yellowstone Issues and Resources Handbook, 2015 (Washington, DC: U.S. Department of Interior. Available at http://www.nps.gov/yell/planyourvisit/upload/RI_2015_gye_sm.pdf) (last visited May 4, 2016).

² The term "grizzly bear" can refer to any morphological form or subspecies of brown bear native to North America, including the mainland grizzly (*Ursus arctos horribilis*), the Kodiak bear (*U. a. middendorffi*), the peninsular grizzly (*U. a. gyas*), and the recently extinct California grizzly (*U. a. californicus*) and Mexican grizzly bear (*U. a. nelsoni*). See Schwartz, C. C., Miller, S. D. and Haroldson, M. A. (2003). "Grizzly Bear," pp. 556–586 in G. A. Feldhamer, B. C. Thompson and J. A. Chapman, eds. *Wild Mammals of North America: Biology, Management, and Conservation*. Baltimore, MD: Johns Hopkins University Press. Available at http://www.gsseser.com/RMAteachers/Grizzly_Chapter.pdf (last visited May 4, 2016). The brown bear that is native to Yellowstone National Park, and which is the subject of the USFWS proposal to de-list, should be referred to informally as the North American brown bear instead of as the "grizzly bear."

I. USFWS does not have the authority to create the GYE distinct population segment

At least one federal district court has already held that USFWS may not create a distinct population segment (DPS) of a species so that it can then remove that DPS from the list of threatened and endangered species. In *Humane Society of the United States v. Jewell*, 2014 WL 7237702 (D.D. C., Dec. 19, 2014), the court made clear that such a regulatory approach, which USFWS has now proposed to use in the case of *U.a. horribilis*, “cannot be reconciled with the structure and purpose of the ESA.” *Id.* at *30. This conclusion is correct because the ESA does not authorize USFWS to create a DPS unless the DPS itself is at risk of extinction. “[T]he creation or initial designation of a DPS operates as a one-way ratchet to provide ESA protections to the covered vertebrates. Only after a DPS has been created *to afford protection* to the covered vertebrates may the DPS be revised and the covered vertebrates down-listed. If the ESA's protections are removed altogether from the vertebrates covered by a DPS, that DPS, as a legal grouping entitled to the ESA's regulatory protections, ceases to exist, since the grouping is a creature of statute in the first instance.” *Id.*

That USFWS disagrees with this federal district court decision does not render it unenforceable. USFWS is not free to disregard the holding in the *Jewell* case because the case may be on appeal, unless a stay of the district court decision has been obtained, and it is not free to give greater weight to an opinion of the Department of Interior solicitor than to an opinion of a United States district judge.

But *Jewell* is not the only precedent that casts doubt on the agency’s decision to create the GYE DPS. Even the solicitor’s opinion cited by the agency in the March 11 notice indicates that its understanding of its authority to create a DPS is incorrect. That solicitor opinion makes clear that USFWS must first conclude that a particular unique population of a species is threatened or endangered before the agency can create a DPS that includes such a population.³

Indeed, USFWS itself has previously indicated that it agrees with this understanding of its authority. In 2003, the agency declared in a regulation that created a DPS of gray wolves (*Canis lupus*) that “[d]elisting can only occur if the listed species is recovered, if the listed species is extinct, or if the original listing was based on data, or data interpretation, that were in error.”⁴ This explanation by USFWS of its understanding of the ESA does not include any mention of removing a population in a portion of a species former range through the mechanism of creating a DPS and then finding that particular DPS no longer at risk of extinction.⁵

³ Solicitor’s Opinion at 499A.

⁴ 68 Fed. Reg. 15,804, 15,859 (Apr. 1, 2003).

⁵ The March 11, 2016 notice contains no explanation of any conclusion by USFWS that its 2003 interpretation of its authority under the ESA to create a DPS was incorrect. Absent such an explanation, the agency cannot be assumed to have gained a different, to say nothing of improved, understanding of its statutory authority. See *generally Phoenix Hydro Corp. v. Federal Energy Regulatory Commission*, 775 F.2d 1187, 1191 (D.C.Cir.1985). For the reasons stated in the text of this letter, the 2008 Solicitor’s Opinion is not such an explanation.

As the U.S. District Court for the District of Montana has explained, USFWS is not granted the authority to create a DPS of a species for the purpose of removing that DPS from ESA protection because, “under such an interpretation, [USFWS] could remove virtually any species from the threatened and endangered list simply by designating it a DPS,” regardless of its status throughout its range. *Greater Yellowstone Coalition, Inc. v. Servheen*, 672 F.Supp.2d 1105, 1125 n. 9 (D. Mont. 2009), *aff’d in part, rev’d in part on other grounds*, 665 F.3d 1015, 1020 (9th Cir.2011). “An ‘unprotected DPS’ is, in short, an oxymoron.” *Jewell*, 2014 WL 7237702, at *32.

II. The GYE DPS of the North American Brown Bear has not achieved recovery

The North American brown bear, an iconic species of this country and of North America, once ranged from the Alaskan Arctic to Mexico’s Sierra Madre Occidental and from the west coast to the western shores of Hudson Bay.⁶ There were as many as 50,000 individuals present in the continental United States in the year 1800.⁷ *U.a. horribilis* populations in the United States were isolated by sometime in the 1920s⁸ and, by then, the North American brown bear’s range south of the Canadian border had reached the astonishing level of less than one percent of its historic maximum.⁹ By the middle of the twentieth century, North American brown bears were essentially extirpated from the continental United States. Remnant populations existed only in Yellowstone National Park and in the northern Rockies of Montana and Idaho.¹⁰ This sharp decline in the species’ population led to the listing of *U.a. horribilis* as a threatened species¹¹ under the ESA in 1975.¹²

At present, there are between 1,400-1,700 individual North American brown bears left in the continental United States.¹³ That amounts to less than four percent, and possibly less than

⁶ Blood, D. A. 2002. “*Grizzly Bears in British Columbia*” (PDF). Province of British Columbia: Ministry of Water, Land and Air Protection. Available at <http://www.env.gov.bc.ca/wld/documents/grizzlybear.pdf> (last visited May 4, 2016).

⁷ U.S. Fish & Wildlife Service. 1993. Grizzly Bear Recovery Plan. Available at http://www.nps.gov/noca/upload/Grizzly_bear_recovery_plan.pdf (last visited May 4, 2016).

⁸ Servheen, C., S. Herrero, B. Peyton, K. Pelletier, K. Moll, & J. Moll. 1999. Bears: Status survey and conservation action plan (Vol. 44): IUCN. Available at <http://portals.iucn.org/library/efiles/documents/1999-004.pdf> (last visited May 4, 2016).

⁹ Miller, C.R., & L.P. Waits. 2003. The history of effective population size and genetic diversity in the Yellowstone grizzly (*Ursus arctos*): Implications for conservation. *Proceedings of the National Academy of Sciences*, 100(7), pp. 4334-4339. Available at <http://www.pnas.org/content/100/7/4334.full.pdf> (last visited May 4, 2016).

¹⁰ “When the grizzly bear was listed in 1975, the population estimate in the GYA ranged from 136 to 312 individuals.” 72 Fed. Reg. 14866, 14869 (Mar. 27, 2009) (citations omitted). “Of 37 grizzly populations present in 1922, 31 were extirpated by 1975.” Grizzly Bear (Endangered Species: Mammals). Mountain-Prairie Region, U.S. Fish and Wildlife Service. Available at <http://www.fws.gov/mountain-prairie/es/grizzlyBear.php> (last visited May 3, 2016).

¹¹ Under the ESA, a species is deemed “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). As the discussion contained in this letter indicates, the North American brown bear would be “likely” to become “endangered” in many parts, if not all, of its current range if a decision to remove ESA protection is taken.

¹² 40 Fed. Reg. 31,734 (July 28, 1975).

¹³ Grizzly Bear (Endangered Species: Mammals). Mountain-Prairie Region, U.S. Fish and Wildlife Service. Available at <http://www.fws.gov/mountain-prairie/es/grizzlyBear.php> (last visited May 3, 2016).

three percent, of the species' likely historic abundance. There are approximately 700 individual North American brown bears within the GYE, according to USFWS.¹⁴ This is a small population and it cannot even be assumed to be scientifically valid. At least one peer-reviewed scientific paper calls the accuracy of this estimate into question.¹⁵ Even the Interagency Grizzly Bear Study Team concluded, in its 2013 Annual Report, that the population has not increased since the early 2000s.¹⁶

Moreover, all of the distinct population segments of the North American brown bear exist in a situation of practical genetic isolation from one another. There are no corridors that permit individual North American brown bears in the GYE to make their way to the North Continental Divide Ecosystem (NCDE), for example, and individuals of the species in the other areas on the continent outside of Alaska in which it persists: Washington's North Cascades region, the Selkirk Mountains of northern Idaho, northeastern Washington, and southeast British Columbia, and the Cabinet-Yaak area of northwest Montana and northern Idaho. USFWS has acknowledged that the individuals found in the five areas in which populations exist are not significantly genetically distinct.

These facts make clear that there has actually been very little, if any, recovery of *U.a. horribilis* in the United States. Rather than finalize a de-listing proposal that would accept this situation as an unchangeable reality, USFWS should instead recognize that ESA protection of the North American brown bear provides a tool to re-establish a mechanism for interaction between individuals of these isolated populations.

III. The Northern Rockies states have not established regulatory mechanisms that are sufficient to assure a recovered population of North American brown bears

Recovery of even the relatively small remaining population of the North American brown bear cannot be said to have occurred, as USFWS has itself recognized, until that population has "has high long-term prospects for survival within acceptable levels of risk."¹⁷ With only about 700 individuals, it would not take much mortality to send the species again to a level at which the risk of extinction would be unacceptably high. It is obvious, then, that USFWS' willingness to condone hunting of the North American brown bear would, if the proposed de-listing is

¹⁴ "There were 717 grizzlies at last count in the 20 million acres in and around Yellowstone National Park." Robbins, J. (May 2, 2016). After a comeback, new challenges for Yellowstone's grizzly bears. New York Times. Available at <http://www.nytimes.com/2016/05/03/science/after-a-comeback-new-challenges-for-yellowstones-grizzly-bears.html?mabReward=CTM&action=click&pgtype=Homepage®ion=CColumn&module=Recommendation&src=rechp&WT.nav=RecEngine> (last visited May 3, 2016).

¹⁵ Doak, D.F. & K. Cutler. 2014. Re-evaluating evidence for past population trends and predicted dynamics of Yellowstone grizzly bears. Conservation Letters 7(3): 313-322.

¹⁶ Haroldson, M. and K. Frey. 2014. Estimated sustainability of annual grizzly bear mortalities. Pages 27-31 in F.T. van Manen, M.A. Haroldson, K. West, & S.C. Soileau, eds. Yellowstone grizzly bear investigations: Annual report of the Interagency Grizzly Bear Study Team, 2013. Bozeman, MT: U.S. Geological Survey.

¹⁷ U.S. Fish & Wildlife Service. (Feb. 2016). Draft 2016 Conservation Strategy for the Grizzly Bear in the Greater Yellowstone Ecosystem 25. Available at http://www.fws.gov/mountain-prairie/es/FINALCS.DRAFT_Feb_19_2016_FINAL.pdf (last visited May 3, 2016).

finalized, significantly raise the risk that *U.a. horribilis*' population within the GYE would rapidly plummet.

The states of Idaho, Montana, and Wyoming ("Northern Rockies states") have already indicated that they will permit hunting of the North American brown bear. The agency, along with other federal and state agencies (including the fish and wildlife management agencies of those three states) have entered into an agreement that would come into effect if de-listing occurs and that agreement purports to require maintenance of a minimum population of North American brown bears in the GYE. However, the agreement includes no enforcement mechanism and no identified tool by which USFWS can persuade these three states to accommodate a recovered North American brown bear population. In fact, judging by the enthusiasm with which those three northern Rockies states have permitted a wholesale slaughter of gray wolves, it is reasonable to expect that the North American brown bear population will approach the level that justified listing in 1975 within just a few years.

That statement may seem alarmist, but a close look at the relevant facts indicates that it is not. For example, the Northern Rockies states have not even specified the number of individual North American brown bears that will be available for trophy hunting. Nor have the three states explained how they will limit the methods by which hunters can seek to kill individual bears. None of the three states have, so far, detailed age limits, sex ratios, or bag limits that would apply to North American brown bears. Wyoming¹⁸ (in 2005) and Idaho¹⁹ (in 2002) have said that they will aim to prevent the North American brown bear from re-occupying its historic range.

USFWS itself has apparently agreed, unwisely, that the individual North American brown bears outside of the GYE will not be counted in determinations whether the minimum population theoretically required by the joint conservation agreement has been met. Thus, renewed hunting of North American brown bears will inevitably degrade, even more than it already has been in the case of *U.a. horribilis*, the natural check on genetic drift and reduced genetic diversity. That, in turn, will raise the odds of a catastrophic population decline.

History, too, counsels caution. As indicated in a 1999 status review of the species, "[t]he grizzly was considered a predator and a competitor of humans by the settlers who occupied the American West. As such it was shot, poisoned, and killed wherever it was found."²⁰ The reasonable prospect that this outcome could recur is enough to justify a USFWS conclusion that the North American brown bear would again face a reasonable risk of extirpation in the GYE if ESA protections for that distinct population segment of the species are removed.

¹⁸ Moody, D.S., C.R. Anderson, D.D. Bjornie, and J.M. Emmerich. 2005. Wyoming Grizzly Bear Occupancy Management Guidelines. Lander, WY: Wyoming Game & Fish Department.

¹⁹ Orme, M., D. Christopherson, B. Ferguson, G. Jeppesen, D. Kritsky, B. Mincher, J. Peek, C. Siddoway, J. Gerber, K. Marlor, and B. Robson. 2002. State of Idaho Yellowstone Grizzly Bear Management Plan.

²⁰ Servheen, C., S. Herrero, B. Peyton, K. Pelletier, K. Moll, & J. Moll. (1999). Bears: Status survey and conservation action plan (Vol. 44): IUCN. Available at <http://portals.iucn.org/library/efiles/documents/1999-004.pdf> (last visited May 4, 2016).

An understanding of ecology justifies a strong reluctance to permit renewed hunting of North American brown bears. In general, trophy hunting of large predatory mammals, whether it is the North American brown bear, the gray wolf, or the mountain lion, is destructive to the healthy functioning of an ecosystem. Human hunters, and the bureaucrats that profess a commitment to limiting their impacts, rarely take adequate account of the wide-ranging impacts that reductions in predator populations, or even their elimination from an ecosystem, have. Numerous scientific studies reinforce the point that a healthy population of large predators in an ecosystem maintains trophic cascades,²¹ for example, and prevents expansion of the populations of smaller predators.²²

Moreover, USFWS should not avert its attention from the cold reality of how state game and fish agencies work. They seek to maximize revenue, which is generally obtained for the most part from hunters seeking to kill large ungulates, and so the state game and fish agencies have a built-in bias against large predatory mammals. That bias is reinforced by political pressures from state legislatures and governors who are, for the most part, hostile to conservation goals involving large predatory mammals. USFWS is forbidden by the ESA to even consider the political preferences, or other ideological beliefs, of humans who live and work in the range of the North American brown bear or to take account of the economic impacts and social attitudes that a new listing, or a continued listing, would have. The agency must, instead, focus only on the scientific justification for listing or not listing a species.

USFWS should note that there is no plausible scientific argument holding that allowing the hunting of North American brown bears in and around the GYE will advance the goal of assuring a continued biological recovery of their species or even of the GYE DPS. In fact, there are very plausible scientific arguments that indicate that such hunting should not be permitted.

First, the notion that humans can “fill in” for predators when it comes to maintaining an ecosystem’s prey base at appropriate levels, thereby justifying hunting of predators, is not valid. This has been demonstrated in numerous studies, including by Wright and colleagues in 2006²³ and by Smith and colleagues in 2004.²⁴

Second, if the goal of USFWS is to minimize interaction between North American brown bears and humans, which necessarily means limiting incentives for North American brown bears to prey on livestock, then the agency should consider that hunting of ungulates – which is not

²¹ Beschta, R. and W.J. Ripple. 2008. Wolves, trophic cascades, and rivers in Olympic National Park. *USA Ecohydrology* 1: 118-130; Ripple, R.J. and R. Beschta. 2003. Wolf reintroduction, predation risk, and cottonwood recovery in Yellowstone National Park. *Forest Ecology and Management* 184: 299-313.

²² Rogers, C.M. and S.B. Heard. 2000 The mesopredator release hypothesis: Integrating landbird management with ecological theory. *Studies in Avian Biology* 21: 138-143; Soule, M.E. 1988. Reconstructed dynamics of rapid extinctions of chaparral-requiring birds in urban habitat islands. *Conservation Biology* 2: 75-91.

²³ Wright, G.J., R.O. Peterson, D.W. Smith, and T.W. Lemke. 2006. Selection of northern Yellowstone elk by gray wolves and hunters. *Journal of Wildlife Management* 70(4): 1070-1078.

²⁴ Smith, D.W., T.D. Drummer, K.M. Murphy, D.S. Guernsey, and S.B. Evans. 2004. Winter prey selection and estimation of wolf kill rates in Yellowstone National Park, 1995-2000. *Journal of Wildlife Management* 68(1): 153-166.

affected one way or another by the de-listing proposal relating to the GYE DPS of *U.a. horribilis* – can increase the tendency of predators to seek livestock as prey.²⁵ Rather than encouraging hunting of North American brown bears, the agency should both maintain a ban on hunting this species by retaining it on the list of threatened and endangered species and also work to discourage hunting of ungulates. Indeed, applying a system of adaptive management – a goal that USFWS professes to hold in high importance – indicates that the agency should actually manage for a higher population of ungulates and prevent hunting of large predators because such a management approach could actually lead to less livestock depredation by North American brown bears, as well as by other large predators.²⁶ The ESA, which effectively bans hunting of a species when it is listed, provides the tool to achieve the predator protection aspect of that approach with respect to the North American brown bear.

Third, if USFWS tolerates hunting of North American brown bears as a result of de-listing the GYE DPS, then it is running a risk that increased reproductive suppression among females and the phenomenon of inverse density dependence will further depress the population of these animals.²⁷ As indicated in a well-known study of wolves in Denali National Park, it is essential that management of a large, social predator species, such as the North American brown bear (cubs live with their mothers for quite some time in a family group) requires “more emphasis on qualitative biological features” when determining the extent to which hunting of the species should be allowed.²⁸

In terms of the agency’s legal obligations under the ESA and the APA, it is clear that the proposed de-listing does not meet the requirement that regulatory mechanisms are adequate to preserve the species. See 16 U.S.C. § 1533(a)(1)(D). There is no evidence that Idaho, Montana, and Wyoming have enacted any statute or regulation that contains any mechanism reasonably likely to assure that the population floor specified in the joint conservation agreement is enforced. Thus, the joint conservation agreement is, in effect, a voluntary commitment. As such, it cannot form the basis of a de-listing decision because the relevant section of the ESA, 16 U.S.C. §1533(b)(1)(B), refers specifically, using the present tense, to “efforts being made.” *Oregon Natural Resources Council v. Daley*, 6 F. Supp. 2d 1139, 1153-1154 (D. Or. 1998).

Even if the protocols established by Idaho, Montana, and Wyoming to assure the minimum population of individuals in the GYE population were not lacking in effective enforcement certainty, USFWS could not rely upon them in making its decision regarding the North American

²⁵ Merrigi, A. and S. Lovari. 1996. A review of wolf predation in southern Europe: Does the wolf prefer wild prey to livestock? *Journal of Applied Ecology* 33(6): 1561-1571.

²⁶ Musiani, M. and P. Paquet. 2004. The practices of wolf persecution, protection, and restoration in Canada and the United States. *BioScience* 54(1): 50-60.

²⁷ Cooley, H.S. 2008. Effects of hunting on cougar population demography. Ph.D. dissertation. Washington State University. Available at http://www.dissertations.wsu.edu/Dissertations/Fall2008/h_cooley_091508.pdf (last visited May 7, 2016).

²⁸ Haber, G. 1996. Biological, conservation, and ethical implications of exploiting and controlling wolves. *Conservation Biology* 10(4): 1068-1081.

brown bear's ESA status because they are promises of future action and not present obligations. "[T]he law is clear that [the agency] cannot consider future conservation efforts" in deciding whether to remove a species from ESA protection. *Center for Biological Diversity v. Morgenweck*, 351 F. Supp. 2d 1137, 1141 (D. Colo. 2004). See also *Colorado River Cutthroat Trout v. Salazar*, 898 F. Supp. 2d 191, 207–208 (D.D.C. 2012) (USFWS "cannot rely on promised and unenforceable conservation agreements in evaluating regulatory mechanisms . . ."); *Biodiversity Legal Foundation v. Babbitt*, 943 F. Supp. 23, 26 (D.D.C. 1996) ("[I]n multiple places, the record makes reference to possible future actions of the Forest Service to provide sanctuary for the wolf. Although the Secretary has every right to do this, he cannot use promises of proposed future actions as an excuse for not making a determination based on the existing record.").

IV. USFWS has not explained its conclusion that *U.a. horribilis* current range in the GYE is a significant portion of its historic range

The ESA requires USFWS to provide an explanation of any finding that a protected species' current range is a sufficient fraction of its larger, historic range. See *Defenders of Wildlife v. Norton*, 258 F.3d 1136, 1141 (9th Cir. 2001) (citing *Asarco, Inc. v. U.S. Environmental Protection Agency*, 616 F.2d 1153, 1159 (9th Cir.1980)) (Where "it is on the record apparent that the area in which the [species] is expected to survive is much smaller than its historical range, the Secretary must at least explain her conclusion that the area in which the species can no longer live is not a 'significant portion of its range.'"). The March 11, 2016 notice fails utterly to do this. It focuses only on the GYE itself, dismissing areas outside of it and the other four recovery zones that were once occupied by North American brown bears states as being "likely to never contribute meaningfully" to the population of North American brown bears in the GYE.²⁹

Note that USFWS must, in fact, consider the historic range of the species when making a listing determination, not just the species' contemporaneous range. See *Defenders of Wildlife*, 258 F.3d at 1145; *Jewell*, 2014 WL 7237702, at *46. I recognize that USFWS released a policy document in 2014³⁰ that purports to define the phrase "significant portion of its range," 16 U.S.C. §§ 1532(20), 1533(6), but that definition is subject to ongoing litigation in the U.S. District Court for the District of Arizona and, in any case, is likely inconsistent with the text and structure of the ESA and with Congress' intent in drafting the ESA in the manner that it did. Moreover, the U.S. District Court for the District of Columbia has previously indicated that the word "significant" in the statutory phrase in question refers to "noticeably or measurably large amount," and that the SPR inquiry should consider large geographic areas of a species' range. *Defenders of Wildlife v. Norton*, 239 F. Supp. 9, 19 (D.D.C. 2002). Therefore, USFWS should not apply the definition specified in the July 1, 2014 policy document during the course of this process aimed at determining whether retention of the GYE DPS of *U.a. horribilis* on the list of threatened and endangered species is appropriate.

²⁹ 81 Fed. Reg. at 13,223.

³⁰ 79 Fed. Reg. 37,578 (July 1, 2014).

Regardless of whether the agency's 2014 attempt to define "significant portion of its range" is consistent with the ESA and the APA, the agency must not consider questions relating to whether expansion into historic range would be "socially acceptable" or politically popular or economically disadvantageous.

V. USFWS has failed to give due consideration to the ecosystem impacts of anthropogenic climate change

USFWS must consider future impacts of anthropogenic climate change before denying a species the protection of the ESA, even if the agency cannot be certain of the exact extent of those impacts on the species. In *Defenders of Wildlife v. Jewell*, No. CV 14-246-M-DLC (Apr. 4, 2016), the U.S. District Court for the District of Montana held that, pursuant to 16 U.S.C. § 1533(a)(1), USFWS must determine whether any "natural" or "manmade" factor threatens a species continued existence. The court made clear that the agency cannot disregard the best scientific knowledge available at present in the hope that better knowledge tomorrow may raise doubt about such contemporaneous knowledge. "[T]he best scientific data available standard does not require that [USFWS] act only when it can justify its decision with absolute confidence." *Id.* (slip op. Apr. 4, 2016), at 63 (quoting *Arizona Cattle Growers Assn. v. Salazar*, 606 F.3d 1160, 1164 (9th Cir. 2010)). Nor may USFWS rely on an "implausible misinterpretation" to discount current scientific knowledge. *Id.* (slip op., Apr. 4, 2016), at 67. Application of those rules, especially with respect to the ongoing effort to understand the impact of anthropogenic climate change on the North American brown bear's food supply, indicates that de-listing would be unlawful.

Many of the food sources upon which North American brown bears are in decline, likely due to anthropogenic climate change, and the agency must give greater weight to the likelihood that these declines will have an adverse impact on GYE DPS of *U.a. horribilis*. One such food source, whitebark pine (*Pinus albicaulus*) nuts, is particularly important to individual North American brown bears in the GYE. The nut is highly caloric, and the trees grow in remote locations and at high elevation. Unfortunately, at least 80 percent of individual whitebark pine trees in the GYE have been killed by mountain pine beetles.³¹ In coming decades, North American brown bears are likely to face a growing, and potentially catastrophic, shortage of this vital source of nutrition.³² An estimated 80-90 percent of current whitebark pine range could be lost during the next century as anthropogenic climate change proceeds.³³ Additional losses of the

³¹ Macfarlane, W.W., J.A. Logan and W.R. Kern. 2013. Using the landscape assessment system (LAS) to assess mountain pine beetle-caused mortality of whitebark pine, Greater Yellowstone Ecosystem, 2009. Project report. Greater Yellowstone Coordinating Committee, Whitebark Pine Subcommittee.

³² Felicetti, L.A., C.C. Schwartz, R.O. Rye, M.A. Haroldson, K.A. Gunther, D.L. Phillips, & C.T. Robbins (2003). Use of sulfur and nitrogen stable isotopes to determine the importance of whitebark pine nuts to Yellowstone grizzly bears. *Canadian Journal of Zoology* 81:763-770.

³³ Chang, T.A. Hansen, N. Piekielek, & T. Olliff. (Sept. 20, 2013). Whitebark pine distribution models under projected future climates in the GYA. Presentation at Challenges of Whitebark Pine Restoration Meeting, Bozeman, Montana; Warwell, M.V., G.E. Rehfeldt, & N.L. Crookston. (2007). Modeling contemporary climate profiles of whitebark pine (*Pinus albicaulis*) and predicting responses to global warming. Pp. 139-142 in

whitebark pine tree population can be expected as disease, insects, fire, and reproductive failure affect this plant species' numbers.

The loss of whitebark pine tree nuts will lead North American brown bears to forage at lower elevations, raising the likelihood that the animals will seek more meat as a replacement for the whitebark pine seeds and, therefore, increasing the likelihood that North American brown bears will pursue livestock as prey. That risk is exacerbated by the ongoing declines in wild elk and bison herds in the GYE.³⁴ Moreover, a reduction in the availability of whitebark pine seeds will lead to less reproductive success for female North American brown bears. In fact, the number of cubs produced by GYE North American brown bear females has declined.³⁵

Nor is the loss of whitebark pine seeds the only threat to the food supply of the GYE DPS of the North American brown bear. Army cutworm moths depend on tundra flowers for nectar and tundra flowers are quickly disappearing as average air temperatures in the GYE increase under the influence of anthropogenic climate change.³⁶ Huckleberries, too, are becoming far less abundant within the GYE, both as a result of warming temperatures and a persistent drought pattern.³⁷ Then there is the Yellowstone cutthroat trout (*Oncorhynchus clarki bouvieri*). North American brown bears eat this fish when it is in spawning streams. *O.c. bouvieri* is one of the most energy-intensive food sources available to North American brown bears in the GYE.³⁸ While the population of this fish species has recently experienced a marginal increase in Yellowstone Lake, its numbers throughout the GYE have dramatically fallen since European settlement.³⁹ Moreover, given the likelihood of decreased winter snowfall in the GYE, and

Proceedings of the Conference Whitebark Pine: A Pacific Coast Perspective. USDA Forest Service R6-NR-FHP-2007-01.

³⁴ Bjornlie, D.D., F.T. van Manen, M.R. Ebinger, M.A. Haroldson, D.J. Thompson, and C.M. Costello. 2014. Whitebark pine, population density, and home-range size of grizzly bears in the Greater Yellowstone Ecosystem. PLOS One 9(2): e88160. Available at <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0088160> (last visited May 7, 2016).

³⁵ van Manen, F.T., M.A. Haroldson, D.D. Bjornlie, M.R. Ebinger, D.J. Thompson, C.M. Costello, and G.C. White. 2015. Density dependence, whitebark pine, and vital rates of grizzly bears. Journal of Wildlife Management 80(2): 300-313.

³⁶ Fagre, D. B., D. L. Peterson, and A. E. Hessler. 2003. Taking the pulse of mountains: Ecosystem responses to climatic variability. Climatic Change 59:263-282.

³⁷ Bjornlie, D.D., F.T. van Manen, M.R. Ebinger, M.A. Haroldson, D.J. Thompson, and C.M. Costello. 2014. Whitebark pine, population density, and home-range size of grizzly bears in the Greater Yellowstone Ecosystem. PLOS One 9(2): e88160. Available at <http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0088160> (last visited May 7, 2016).

³⁸ Reinhart, D. P. 1990. Grizzly bear habitat use on cutthroat trout spawning streams in tributaries of Yellowstone Lake. M.S. Thesis, Montana State Univ., Bozeman; Knight, R. R., D. J. Mattson, and B. M. Blanchard. 1984. Movements and habitat use of the Yellowstone grizzly bear. U.S. Department of the Interior, National Park Service, Interagency Grizzly Bear Study Team. Unpublished Report; Mealey, S. P. 1975. The natural food habits of free-ranging grizzly bears in Yellowstone National Park, 1973-1974. M.S. Thesis, Montana State Univ., Bozeman.

³⁹ *O.c. bouvieri* formerly ranged as far as Shoshone Falls on the Snake River in Idaho, Snake River tributaries in Wyoming, the Yellowstone River in Montana, Yellowstone River tributaries extending to Montana's Tongue River, and to other rivers in Idaho, Nevada, Utah, and Washington. Today it occupies only about 40 percent of its historic range and only about a quarter of the species' historic range is occupied by genetically unaltered individuals. Gresswell, R.E. June 30, 2009. Yellowstone Cutthroat Trout (*Oncorhynchus clarkii bouvieri*): A Technical

consequent reductions in flows to the GYE's rivers and streams (including those that feed Yellowstone Lake) as anthropogenic climate change proceeds, it cannot be assumed that this important source of protein for the North American brown bear will continue to be available to a degree necessary to sustain a recovered bear population.

These scientific facts are widely accepted. USFWS has previously acknowledged them. Regrettably, the agency continues to downplay their importance. The March 11, 2016 notice goes to great lengths to argue that these facts really do not matter because *U.a. horribilis* can use other foods. This dismissive argument overlooks the reality that individuals in the GYE DPS of North American brown bears will necessarily experience a greater imperative to roam farther away from the two national parks (Yellowstone and Grand Teton) in an effort to find food and that this wandering will inevitably increase the frequency with which the bears come into contact with humans. We are already seeing the results of that, as the Interagency Grizzly Bear Study Team's mortality data base shows a marked and consistent increase in bear deaths caused by human interaction. USFWS further and strenuously claims that the GYE DPS has achieved carrying capacity. However, the agency does not give much weight to scientific evidence indicating that loss of food sources is actually the main driver of the significantly slower growth rate in the GYE DPS census that has been observed in recent years.⁴⁰

VI. De-listing the North American brown bear within the GYE would damage the cultural, economic, and social fabric of the human communities in the region

Removal of the North American brown bear from the list of threatened and endangered species is not only scientifically unjustified. Such a decision would also harm the economic prospects and the developing human culture within the GYE. In the interior west it is common for people to choose places in which to work, study, open a business, establish a home, and raise a family on the basis of quality of life. Among the most important factors in determining quality of life is the wild character of an area considered for residence.⁴¹

De-listing of the North American brown bear would be likely to lead to a reduction in the population of this iconic species, and probably within short order as hunting rapidly gains traction, and would reduce incentives for federal land management agencies to manage public land in a manner likely to protect wildlife and habitat qualities conducive both to the North American brown bear and to the many flora and fauna species that are part of its food web and

Conservation Assessment. Report prepared for USDA Forest Service, Rocky Mountain Region, Species Conservation Project. Available at http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5210128.pdf (last visited May 4, 2016). Potential impacts of anthropogenic climate change are not the only obstacles to future abundance for *O.c. bouvieri*, as they also remain threatened throughout their remaining range, including in Yellowstone Lake, by human activities such as agriculture and livestock grazing and by the introduction of non-native trout species. Id.

⁴⁰ Doak, D.F. & K. Cutler. 2014. Re-evaluating evidence for past population trends and predicted dynamics of Yellowstone grizzly bears. *Conservation Letters* 7(3): 313-322.

⁴¹ Rasker, R. & A. Hansen. 2000. Natural amenities and population growth in the Greater Yellowstone region. *Human Ecology Review* 7:2, pp. 30-40. Available at <http://www.montana.edu/hansenlab/documents/downloadables/raskerhansen2000.PDF> (last visited May 4, 2016).

the GYE. Without the “hammer” of ESA protection, federal land management agencies will find it all too easy to agree to development projects, including timber extraction, mining, increased grazing, and intrusive recreation projects and permits, that will further damage *U.a. horribilis*’ prospects for long-term survival and the attractiveness of the communities within the GYE to Americans who wish to live and work there.

Moreover, by lessening the likelihood that North American brown bears will be in any way abundant in the future, removal of the GYE DPS of North American brown bears from the list of threatened and endangered species would also discourage tourism to the region. At present, tourism in the GYE is a \$1 billion-plus industry.⁴² The North American brown bear, along with gray wolves, “are the marquee attractions.”⁴³ Every individual of the GYE DPS is, as Dr. Jane Goodall and colleagues said in a recent letter to USFWS, “worth far more alive than dead.” Insisting that states can and will protect the important environmental values that grow the region’s social and economic attractiveness is not a persuasive argument by USFWS in support of its de-listing proposal. The agency is entrusted by law (specifically, the ESA) to assure that species that were protected by a listing as “threatened” or “endangered,” and which have been deemed recovered, will remain free of the risk of extinction. It can neither delegate that responsibility to the states nor lawfully assume that states will carry it out. Indeed, making that assumption would be quite naïve, as recent experiences with state management of the gray wolf and as the history of this nation’s treatment of its wildlife so vividly indicates.

VII. Conclusion

Most scientists do not believe that the GYE DPS of *U.a. horribilis* should be removed from the list of threatened and endangered species.⁴⁴ Nor do most Americans. USFWS should pay attention to that near-consensus, particularly when the available scientific evidence and the legal obligations the agency is bound to fulfill do not support de-listing. Please withdraw the proposal to remove the North American brown bear from the list of threatened and endangered species and, instead, maintain the vital support ESA protection provides to this iconic American wildlife species.

Thank you for considering my comments.

Sincerely,

⁴² Wilkinson, T. Oct. 1, 2015. What’s next for Yellowstone’s grizzlies? National Geographic. Available at <http://news.nationalgeographic.com/2015/10/151001-grizzly-bears-animals-science-conservation-nation/> (last visited May 4, 2016).

⁴³ Id.

⁴⁴ Szarek, H. 2015. Subjectivity in Expert Decision Making: Risk Assessment, Acceptability, and Cognitive Heuristics Affecting Endangered Species Act Listing Judgments for the Greater Yellowstone Ecosystem Grizzly Bear. M.S. degree thesis, Ohio State University. Available at http://etd.ohiolink.edu/!etd.send_file?accession=osu1430998102&disposition=inline (last visited May 4, 2016).

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