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January 14, 2015

By E-Mail and Certified Mail

Sally Jewell, Secretary
U.S. Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

Daniel M. Ashe, Director
U.S. Fish and Wildlife Service
Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

Kathryn Conant, Acting Supervisor
Bridger-Teton National Forest
P.O. Box 1888
340 N. Cache
Jackson, WY 83001

RE: Notice of Intent to Sue to Remedy Violation of the Endangered Species Act in Regard to the United States Fish and Wildlife Service's "No Jeopardy" Determination for the Grizzly Bear (Ursus arctos horribilis) in the Biological Opinion for the 2014 Supplement to the 2013 Supplement and 2010 Amendment to the 1999 Biological Assessment for Livestock Grazing on the Northern Portions of the Pinedale Ranger District, 06E13000-2014-F-0040 (Sept. 3, 2014)

Dear Secretary Jewell, Director Ashe, and Acting Supervisor Conant:

On behalf of the Sierra Club and Western Watersheds Project, I am writing to provide you with notice that the United States Fish and Wildlife Service ("FWS" or "Service") is in violation of section 7 of the Endangered Species Act ("ESA"), 16 U.S.C. § 1536, with regard to its "no jeopardy" determination for the grizzly bear (Ursus arctos horribilis) in the Biological Opinion for the 2014 Supplement to the 2013 Supplement and 2010 Amendment to the 1999 Biological Assessment for Livestock Grazing on the Northern Portions of the Pinedale Ranger District, 06E13000-2014-F-0040 (Sept. 3, 2014) [hereinafter 2014 BiOp]. The U.S. Forest Service is likewise in violation of section 7 of the ESA for arbitrarily relying on the unlawful 2014 BiOp to satisfy its own ESA section 7 obligations.

Specifically, FWS violated section 7 of the ESA in finding that the lethal take of eleven grizzly bears in connection with livestock grazing on allotments administered by the Bridger-Teton National Forest in the Upper Green River area of northwest Wyoming (hereinafter "Upper Green")

NORTHERN ROCKIES OFFICE 313 EAST MAIN STREET BOZEMAN, MT 59715

T: 406.586.9699 F: 406.586.9695 NROFFICE@EARTHJUSTICE.ORG WWW.EARTHJUSTICE.ORG

will not jeopardize the species' continued existence. The Service's stated rationale for this conclusion was that the anticipated level of take will not result in violation of mortality thresholds established to ensure a viable grizzly bear population in the entire Greater Yellowstone Area ("GYA").[1] However, FWS did not rationally support this conclusion and, indeed, overlooked critical information concerning the impact of the Upper Green grazing operations and the status of the grizzly bear across the GYA. Specifically, FWS failed to consider critical information by omitting any analysis—or even acknowledgement—of all of the additional take of grizzly bears that FWS has already anticipated in the agency's operative biological opinions across the entire GYA. All such take counts against the mortality thresholds that FWS relied upon in the 2014 BiOp. Accordingly, only by considering the anticipated take of grizzly bears in the Upper Green in combination with other anticipated take of grizzly bears across the GYA could FWS rationally determine whether the extraordinary lethal take of eleven grizzlies anticipated in the 2014 BiOp may constitute the "straw that breaks the camel's back" for purposes of the Service's established GYE mortality thresholds and, concomitantly, its ESA jeopardy analysis. Yet FWS undertook no such consideration. Accordingly, FWS's "no-jeopardy" conclusion in the 2014 BiOp was irrational.

This failure of rational decision making by the agency is all the more troubling because it appears that the cumulative take of grizzly bears anticipated by FWS across the GYA to date may indeed be more than sufficient to exceed mortality thresholds. An analysis of FWS's incidental take statements contained in operative biological opinions across the GYA indicates that the Service has anticipated a level of take that could surpass FWS's own established sustainable mortality threshold for independent female grizzly bears—the most biologically critical component of the population—by more than three times, depending on the level and timing of anticipated mortalities. Given the rationale employed by FWS in the 2014 BiOp, the agency could not rationally render a "no-jeopardy" determination regarding the Upper Green livestock grazing operations without at least considering the extraordinary lethal impact of those operations in conjunction with the aggregate level of grizzly bear mortality that FWS has already anticipated will occur.

Further, FWS arbitrarily limited the scope of the 2014 BiOp to five years, which served to mask the extraordinary lethal impact of the Upper Green livestock grazing operations on grizzly bears.

Because FWS in the 2014 BiOp failed to conduct a rational jeopardy analysis utilizing the best available scientific information to ensure that the Upper Green grazing operations will not jeopardize the continued existence of the grizzly bear, the Service has violated section 7 of the ESA, 16 U.S.C. § 1536. Further, the Forest Service's reliance on this flawed BiOp to satisfy its ESA section 7 duty in connection with its administration of the Upper Green grazing operations is also arbitrary and unlawful. Pursuant to section 11(g) of the ESA, id. § 1540(g), this letter provides you with notice that, unless within 60 days of receipt of this letter FWS and the Forest Service withdraw the 2014 BiOp and reinitiate a section 7 consultation process that rationally evaluates the impact of incidental take of grizzly bears in connection with the Upper Green grazing operations, the parties to this notice letter intend to challenge the agencies' unlawful conduct in federal district court.

[1] As with the 2014 BiOp, this letter treats the terms "Greater Yellowstone Area ('GYA')" and "Greater Yellowstone Ecosystem ('GYE')" as synonymous. 2014 BiOp, at 10.

I. THE PARTIES TO THIS LETTER

The parties to this notice letter have a strong interest in the conservation of the grizzly bear and the integrity of our nation's public lands.

The Sierra Club is a national non-profit conservation organization with more than 595,000 members. Its mission is to explore, enjoy, and protect the wild places of the Earth; to practice and promote the responsible use of the earth's ecosystems and resources; to educate and enlist humanity to protect and restore the quality of the natural and human environment; and to use all lawful means to carry out these objectives.

Western Watersheds Project is a non-profit conservation organization founded in 1993 with the mission of protecting and restoring western watersheds and wildlife through education, public policy initiatives, and litigation. Headquartered in Hailey, Idaho, Western Watersheds Project has 2,000 members and field offices in Idaho, Montana, Oregon, Wyoming, Arizona, and California.

II. LEGAL FRAMEWORK

The ESA is "the most comprehensive legislation for the preservation of endangered species ever enacted by any nation." Tenn. Valley Auth. v. Hill, 437 U.S. 153, 180 (1978). It was enacted "to provide a program for the conservation of ... endangered species and threatened species" and "to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved." 16 U.S.C. § 1531(b). To receive the full protections of the Act, a species must first be listed by the Secretary of the Interior as "endangered" or "threatened" pursuant to ESA section 4. See id. § 1533. The ESA defines an "endangered species" as "any species which is in danger of extinction throughout all or a significant portion of its range." Id. § 1532(6). A "threatened" species" is "any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range." Id. § 1532(20).

Section 7 of the ESA commands that all federal agencies "shall, in consultation with and with the assistance of" a federal wildlife agency (the FWS for terrestrial species such as the grizzly bear): (1) "utilize their authorities in furtherance of the purposes of [the ESA] by carrying out programs for the conservation of endangered and threatened species," Id. § 1536(a)(1), and (2) "insure that any action authorized, funded, or carried out by [any agency] is not likely to jeopardize the continued existence of any endangered species or threatened species," id. § 1536(a)(2). Regulations implementing this consultation requirement direct that formal consultation is required before a federal agency may take "any action [that] may affect listed species." 50 C.F.R. § 402.14(a). Section 7(a)(2) of the ESA requires every federal agency to "use the best scientific and commercial data available" in assessing impacts to protected species. 16 U.S.C. § 1536(a)(2).

Formal consultation results in the issuance of a Biological Opinion by the Service. If FWS concludes in the Biological Opinion that the proposed action is likely to jeopardize an endangered species or threatened species, the FWS may recommend reasonable alternatives to

avoid the likelihood of jeopardy so that the agency action may proceed. See id. § 1536(b)(3)(A); 50 C.F.R. § 402.14(h)(3). But even if FWS concludes in the Biological Opinion that the agency's proposed action is not likely to jeopardize a listed species, FWS still must specify the amount or extent of any incidental "taking" of the species that is anticipated to occur as a result of the action and specify "reasonable and prudent measures" to minimize the impact of such takings, as well as the "terms and conditions" that the agency must follow in implementing such measures. 16 U.S.C. § 1536(b)(4); 50 C.F.R. §§ 402.14(i)(1)(i), (ii), (iv). "Taking," under the ESA, "means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct." 16 U.S.C. § 1532(19). Such provisions concerning the incidental taking of endangered or threatened wildlife are embodied in an "Incidental Take Statement" ("ITS"). 50 C.F.R. § 402.14(i). The ITS authorizes the agency, if in compliance with the statement's terms and conditions, to "take" listed species without facing ESA liability. 16 U.S.C. § 1536(o)(2); 50 C.F.R. § 402.14(i)(5).

Even after the procedural requirements of a consultation are complete, however, the ultimate duty to ensure that an activity does not jeopardize a listed species lies with the action agency. An action agency's reliance on an inadequate, incomplete, or flawed biological opinion to satisfy its ESA section 7 duty is arbitrary and capricious. See, e.g., Stop H-3 Ass'n. v. Dole, 740 F.2d 1442, 1460 (9th Cir. 1984).

III. FACTUAL BACKGROUND

A. The Grizzly Bear

The presence of grizzly bears is a key attribute of the Northern Rocky Mountains region—an attribute that, at least in the lower-48 states, is virtually unique to the Northern Rockies as a result of the grizzly's history of persecution. Before European-American settlement of the American West, grizzly bears roamed from the Great Plains to the Pacific coastline, and from the Canadian border to Mexico, inhabiting every habitat except the most arid and hot desert lands. With settlement, grizzlies were shot, poisoned, and trapped wherever they were found, resulting in their extirpation everywhere except mountain redoubts far from human intolerance. In an historical blink of an eye—from 1850 to1950—humans restricted the range of grizzly bears by 98 to 99 percent, isolating the remaining bears in a few remnant islands of wild country. Once 50,000 to 100,000 strong in the lower 48, the grizzly population was reduced to fewer than 1,000 bears. Today, the few remaining areas occupied by grizzly bears in the lower 48 United States include the Greater Yellowstone Ecosystem.

In 1975, FWS responded to the grizzly bear's plight by listing the species as threatened under the ESA. 40 Fed. Reg. 31,734 (July 28, 1975). Pursuant to ESA section 4(f), 16 U.S.C. § 1533(f), FWS drafted an initial recovery plan for the grizzly in 1982 and issued a revised recovery plan in 1993. The 1993 plan identified six recovery zones for the grizzly bear, each zone drawn so as to include habitat sufficient to support a recovered grizzly bear population. 2014 BiOp, at 13; see generally U.S. Fish & Wildlife Serv., Grizzly Bear Recovery Plan (1993) [hereinafter 1993 Recovery Plan]. One of the recovery zones encompasses the Greater Yellowstone Area ("GYA"). 2014 BiOp, at 13; 1993 Recovery Plan, Part Three, at 39-58. The Greater Yellowstone grizzly bear population, which includes the grizzlies in the Upper Green

area, is unique because it "is discrete from other grizzly populations, has markedly different genetic characteristics, and exists in a unique ecological setting where bears use terrestrial mammals as their primary source of nutrition." 2014 BiOp, at 10-11. The population's "discreteness" is a particularly important factor; the GYE grizzly population is completely isolated from other grizzly populations, which means there is no interchange with other populations to contribute new genetic material or provide immigrant bears to offset grizzly mortalities within the Greater Yellowstone region.

Grizzly bear recovery in the GYA hinges on the establishment and implementation of scientifically sound recovery criteria, including minimum population numbers and mortality thresholds. FWS, in consultation with the Interagency Grizzly Bear Study Team ("IGBST"), an interagency consortium responsible for long-term monitoring and research of grizzly bears in the GYA, established recovery criteria for the GYA grizzly bear population; the criteria set forth in the 1993 recovery plan have been updated several times in the intervening years based on the best available science. These recovery criteria apply across the entire GYA.

The IGBST established mortality thresholds for three different cohorts of grizzly bears in the GYA: independent-aged females, independent aged-males, and dependent young. These cohort-specific mortality thresholds are set at levels designed to ensure that the GYA grizzly population does not decline. In the words of the IGBST, the thresholds have been established "to maintain long-term population viability." IGBST, Updating and Evaluating Approaches to Estimate Population Size and Sustainable Mortality Limits for Grizzly Bears in the Greater Yellowstone Ecosystem 10 (10 Sept. 2012). The IGBST sets mortality thresholds for the independent female cohort with particular care. Independent female grizzlies effectively drive population growth, and "providing maximum protection for females is essential to recovery." 1993 Recovery Plan, Part One, at 5. While one male grizzly bear can breed with multiple females, it is the survival of a female and her cubs that enables the grizzly population to grow—and that growth rate is quite slow. As FWS has explained,

> [g]rizzly bears have one of the lowest reproductive rates among terrestrial mammals, resulting primarily from the late age of first reproduction, small average litter size, and the long interval between litters. ... [D]uring the first 10 years of her life, a female grizzly bear is capable of adding only two litters to the total population. If there are litters of two cubs with a 50:50 sex ratio, and a 50 percent survivorship of young to age 5.5, at best she can replace herself with one breeding age female in the first decade of her life.

Id., Part One, at 4. Over her lifetime, a female theoretically could add 3.5 females to the population, but "actual reproductive expectancy is usually far less." Id., Part One, at 4-5. Thus, determining a sustainable mortality rate for the independent female cohort, and ensuring that mortality rate is not exceeded, is essential for grizzly bear recovery. Robust mortality thresholds for GYA grizzly bears are all the more important given that "[h]uman activities resulting in conflicts and subsequent mortality and displacement were the main reasons the grizzly bear was listed as threatened" and mortalities from such conflicts remain "a primary source of grizzly bear mortality." 2014 BiOp, at 16, 22.

B. Grizzly Bears and Livestock Grazing in the Upper Green

Situated at the headwaters of the Green River between the Gros Ventre and Bridger Wilderness areas, the nine Upper Green area livestock grazing allotments encompass 207,188 acres in northwestern Wyoming. Id. at 25. The allotments include Badger Creek, Beaver-Twin Creeks, Noble Pastures, Roaring Fork, Upper Green River (which includes Mud Lake/Fish Creek, Mosquito Lake Pastures, Tepee/Tosi/Kinky S, Moose/Gypsum, and Kinky Creek N), Wagon Creek, New Fork-Boulder, Pot Creek, and the Elk Ridge Complex. Id. at 5. The southern boundary of the southernmost of these allotments, the New Fork-Boulder allotment, is located approximately 50 miles northwest of Pinedale, Wyoming. See id. at 6. The allotments are grazed predominantly by cattle (11,236 cows/calves), although the Elk Ridge Complex includes four domestic sheep allotments (3,750 ewes/lambs). Id. at 5.

All of the allotments fall within occupied grizzly bear habitat, and the Upper Green River area has been considered "a grizzly bear conflict hotspot for several years." Id. at 7, 37. Indeed, nearly a quarter of all grizzly bear conflicts in the GYA between 2009 and 2011 occurred in the Green River area where the subject allotments are located, and "the numbers of conflicts and lethal management removals on the nine allotments have increased during the last four years." Id. at 17, 29. In 2013, more than a third of grizzly bear mortalities in the GYA occurred in the Upper Green, despite the fact that the Upper Green area's allotments represent only 1.7 percent of occupied grizzly habitat in the ecosystem. Id. at 27, 28. Conflicts and mortalities in the Upper Green have continued to trend upward even while, as reported by the IGBST at its October 29, 2014 Yellowstone Ecosystem Subcommittee meeting, overall grizzly bear numbers in the GYA have stabilized since the early 2000s. See Rob Chaney, Grizzly Numbers May Determine Path to Possible Delisting, Missoulian, Dec. 11, 2014. Indeed, the best available scientific information indicates that the grizzly population trajectory has flattened and the population may even have declined since 2007, following the catastrophic loss of a key grizzly bear food source (the seeds of the whitebark pine tree) across the GYA. See Declaration of David Mattson ¶¶ 4, 7 (attached as Exhibit 1). Thus, livestock grazing operations in the Upper Green area have resulted in the killing of an ever-increasing number of bears—including female bears—on a landscape where the bear population has, at best, stopped growing.

To assess and address the conflicts in the Upper Green, FWS has engaged in a series of Section 7 consultations regarding the impacts to grizzly bears of livestock grazing in the area. These efforts began in 1997, when the U.S. Forest Service drafted a Biological Assessment ("BA") that considered the effects of livestock grazing on grizzlies on a number of permitted allotments in the Upper Green River area. 16 U.S.C. § 1536(c)(1); 2014 BiOp, at 2. In 1999, the Forest Service amended the BA and initiated formal consultation with FWS. 16 U.S.C. § 1536(a)(2); 2014 BiOp, at 2. The Service issued its first Biological Opinion on grazing in the Upper Green area in 1999. The 1999 BiOp anticipated the lethal removal of five grizzly bears (four males and one female) over an indefinite time period as a result of grazing activities on the subject allotments. 2014 BiOp, at 2.

In 2009, the Forest reached the level of take anticipated in the 1999 BiOp, and the next year reinitiated consultation with FWS. Id. The Forest Service also expanded the project area to encompass additional allotments. Id. FWS issued an amended BiOp in January of 2011 that

anticipated the incidental take of six grizzly bears within any consecutive three-year period. Id. Yet little more than a year later, in August 2012, the Forest reached this maximum anticipated level of incidental take and again reinitiated consultation. Id. Later that same month, the level of anticipated take was exceeded. Id. In all, seven bears (four in 2011 and three in 2012) were taken over the course of two years (2011-2012). Id. In response, FWS decided "to provide an amended, short-term ITS to the Forest" that allowed an additional three bears to be lethally removed during the 2012 grazing season alone. Id. at 2-3.

In April 2013, the Forest reinitiated formal consultation, and FWS produced an "Appended BiOp" that again increased the anticipated take of grizzly bears as a result of livestock grazing operations in the Upper Green area. Id. at 3. This time, FWS anticipated the take of eleven grizzly bears (three females and eight males) within any consecutive three-year period on the Upper Green allotments. Id. at 3. Yet four grizzly bears (two males, two females) were lethally removed during the 2013 grazing season alone, and the Forest believed it likely that the anticipated level of female grizzly take would be exceeded during the first three-year consecutive period. Id. at 1, 3.

Accordingly, a renewed consultation followed, resulting in the 2014 BiOp where the FWS anticipated and exempted, within any consecutive three-year period, the lethal removal of eleven grizzly bears and the relocation of an additional eighteen bears. Id. at 4, 42. The 2014 BiOp addresses the impacts of Upper Green livestock grazing operations on the grizzly bear through the end of 2019. Id. at 4. In the 2014 BiOp, FWS no longer established separate take allocations by sex—notwithstanding the importance of female bears to any grizzly population—because, according to the agency, "female mortalities in the GYA have, overall, remained below the established mortality thresholds and take of females on the allotments, while increasing slightly, continues to number two or less individuals per year." Id., App. A, at A-6. According to FWS, "this level of anticipated take is not likely to jeopardize the continued existence of the grizzly bear." Id. at 42.[2]

In sum, FWS and the Forest Service's implementation of the ESA with respect to grizzly bear conflicts in the Upper Green area has yielded an ever-increasing exemption from the ESA's take prohibition, and this ever-increasing take exemption has occurred against the backdrop of a grizzly bear population whose growth has stalled since the early 2000s. Most recently, FWS's 2014 BiOp anticipated that the Forest Service's administration of livestock grazing in the Upper Green would result in the lethal removal of eleven grizzly bears within any consecutive three-year period. Rather than demanding that livestock operators implement significantly stronger measures to reduce conflicts with bears, FWS attempted to discount this extraordinary impact to a threatened species as inconsequential when measured against the grizzly bear mortality thresholds for the entire GYA region.

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[2] The 2014 BiOp anticipates the lethal take of eleven grizzly bears within any consecutive three-year period, and is valid through the end of 2019. Given the number of consecutive three-year periods falling within this time frame, it is theoretically possible for 22 grizzly bears to be lethally removed from the Upper Green grazing allotments without exceeding the anticipated level of incidental take.

IV. VIOLATIONS OF THE ESA

The Forest Service's reliance on FWS's 2014 BiOp and its accompanying increased incidental take statement to authorize Upper Green livestock grazing operations that will adversely impact grizzly bears violates the ESA.

A. FWS's 2014 BiOp Failed Rationally to Assess the Impact of the Anticipated Killing of Eleven Additional Grizzly Bears

FWS's 2014 BiOp failed rationally to assess the impact of the anticipated killing of eleven grizzly bears in connection with the Upper Green livestock grazing operations in light of other killing of grizzly bears that FWS anticipates will occur, and has exempted from ESA liability, as a result of numerous incidental take statements for grizzly bears in the Yellowstone-area population.

In the 2014 BiOp, FWS concluded "that the effects of livestock grazing on the nine allotments in the northern portions of the Bridger-Teton National Forest's Pinedale Ranger District, as proposed, are not likely to jeopardize the continued existence of the grizzly bear." Id. at 38. FWS reached this conclusion by looking at the overall population trajectory of and mortality thresholds established for the GYA grizzly bear population writ large, and determining that the take of eleven bears in the Upper Green action area[3] is not likely to cause those GYA-wide thresholds to be exceeded. FWS reasoned that

> the overall core population of grizzly bears of the GYA is expected to remain relatively unaffected by grazing activities in the Upper Green River area. The adverse effects from the proposed livestock grazing on grizzly bears will occur in an area that constitutes only a small portion of the grizzly bear's range in the GYA.

Id. at 39. As the agency explained further, the anticipated level of incidental take

> will have a relatively minor impact on the overall population of this species. ... Mortality is expected to remain within the constraints of recovery criteria mortality limits established by the Recovery Plan and revised supplements. The estimated loss of no more than 11 bears within any consecutive 3-year period through 2019 represents a relatively minor impact on the overall GYA population of this species .... The anticipated level of grizzly bear mortality caused by the proposed action falls within the scope of recovery criteria mortality limits

[3] The "action area" includes "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action." 2014 BiOp, at 25, citing 50 CFR 402.02. In the 2014 BiOp, FWS defined the action area to include the nine allotments and all lands falling within a 7.5 mile-perimeter beyond the allotment boundaries. 2014 BiOp, at 25, 26. The agency reasoned that this area encompasses the lands "where the scent and noise levels caused by livestock grazing are likely to extend." Id. at 25.

> established under the Grizzly Bear Recovery Plan that were developed to facilitate the further increase in grizzly bear numbers and distribution in the GYA.

Id. at 39-40. By emphasizing "rangewide survival and recovery needs of grizzly bears," id. at 5 (emphasis added), the agency was able to effectively render the bears in the Upper Green dispensable. See also id. at 40 ("If the adverse effects of the proposed action on grizzly bears are not significant at the recovery area scale, then those effects are unlikely to be discernible at the rangewide scale."). Indeed, the agency anticipated and exempted the lethal removal of eleven bears while conservatively calculating that "about 11-13 grizzly bears occur within the nine allotments." Id. at 27. In other words, FWS anticipated and exempted from otherwise applicable ESA liability the lethal take of potentially all the grizzly bears that occur on the subject public-land livestock grazing allotments.

At the heart of the agency's analysis in the 2014 BiOp was its focus on ecosystem-wide mortality thresholds and its conclusion that take levels anticipated to occur on the Upper Green allotments—even if met within every consecutive three-year period covered by the biological opinion—would not cause those GYA-wide thresholds to be exceeded. See id. at 29 (reasoning that FWS "must consider these [Upper Green] mortalities relative to the entire GYA," and "all mortalities within the GYA, including those in the allotments, generally remain below established mortality thresholds."). At the same time, however, FWS admitted that "[m]ortalities occurring in the action area, along with other losses, could cause total estimated mortalities to exceed limits in the GYA, which in turn, could potentially impact population growth." Id. at 32-33 (emphasis added). Despite this admission, the agency never undertook the basic analysis that would be necessary to investigate this threat, i.e., it never considered whether the take it has anticipated and exempted in the Upper Green along with the take it has already anticipated and exempted elsewhere in the GYA will result in "total estimated mortalities ... exceed[ing] limits in the GYA." Id.

In this regard, it is important to note that, in estimating anticipated take for any ITS, "it is incumbent upon the Service to identify a level of take that is reasonably likely to occur." Id. at 41 (emphasis added). See also Ariz. Cattle Growers' Ass'n v. FWS, 273 F.3d 1229, 1242 (9th Cir. 2001) ("[A]bsent rare circumstances such as those involving migratory species, it is arbitrary and capricious to issue an Incidental Take Statement when the Fish and Wildlife Service has no rational basis to conclude that a take will occur incident to the otherwise lawful activity."); 2014 BiOp at A-3 ("the ITS represents the best estimate we were able to produce"). Thus, in every ITS issued across the GYA, the Service has identified an anticipated level of take "reasonably likely to occur"—not an overestimate of take that is unlikely to ever be realized. But nowhere in the 2014 BiOp's ITS did FWS analyze the implications of take anticipated in the Upper Green in concert with take that FWS has determined is "reasonably likely to occur" elsewhere in the ecosystem.

This omission is particularly problematic because a review of all the ITSs issued for the GYA suggests that, if all grizzly bear take anticipated by FWS across the GYA were to occur over a small number of years, the annual mortality threshold for the independent female cohort—the most critical cohort from a recovery perspective—indeed would be exceeded. Specifically, the IGBST has established an updated annual mortality threshold for independent female bears

of 7.6%.[4] Interagency Grizzly Bear Study Team, Yellowstone Grizzly Bear Investigations 2013 31 (2014). Given the estimated independent female cohort of 258 individuals at the end of 2013, see id., this means that the independent female cohort could sustain a maximum of 20 mortalities per year across the GYA before the grizzly population would be pushed into decline. However, an analysis of operative biological opinions issued by FWS across the GYA reveals that FWS has anticipated (i.e., believes "reasonably likely to occur") the lethal take of as many as 65 independent female grizzly bears in a single year.[5] Depending on when they accrue, these anticipated takings could substantially exceed FWS's own sustainable mortality limit for independent female bears. In the aggregate, the lethal removals of female bears that FWS has anticipated in the GYA would more than triple this limit. Accordingly, the amount of grizzly bear take across the Yellowstone region anticipated by FWS is more than sufficient to exceed the sustainable annual mortality threshold for adult female grizzly bears for three consecutive years. Further, this does not even account for additional, unknown grizzly bear mortalities. For every known grizzly bear mortality in the Greater Yellowstone Area, there are additional unknown mortalities. See IGBST, Reassessing Methods to Estimate Population Size and Sustainable Mortality Limits for the Yellowstone Grizzly Bear 41 (2005) (ratio of known:unknown deaths approximately 1:2). Thus, total grizzly bear mortality in the GYA—and its impact on the sustainability of the grizzly bear population—would be substantially higher than that anticipated by the ITSs alone. Such anticipated future mortality presents a substantial issue concerning the status of the Yellowstone-area grizzly population given that available scientific information already documents increased mortalities, reduced survival rates among significant components of the population, and even a potential declining population trajectory in association with grizzly transition to a more heavily meat-based diet in the wake of the collapse of whitebark pine since 2007. See Mattson Decl. ¶¶ 4-7 (Exhibit 1).

FWS never considered these key facts in its jeopardy analysis for the 2014 BiOp, and for this reason violated the ESA. FWS determined that the anticipated level of grizzly bear take resulting from livestock grazing in the Upper Green area would not jeopardize the species because the anticipated level of take "falls within the scope of recovery criteria mortality limits." 2014 BiOp at 39. Accordingly, FWS relied on satisfaction of recovery criteria mortality limits to ensure the continuing viability of the species in the face of the lethal impacts anticipated to be

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[4] The IGBST originally recommended the 7.6% independent female mortality threshold in its 2012 document entitled Updating and Evaluating Approaches to Estimate Population Size and Sustainable Mortality Limits for Grizzly Bears in the Greater Yellowstone Ecosystem, at 8, 37. The previously recommended threshold for this cohort was 9%. Id. at 8, 15, 37. The IGBST recommended this change to account for lower observed juvenile survival rates and fecundity, as well as its desire to manage for a stable (rather than increasing) population. Id. at 7-8, 37. While not yet formally accepted, the IGBST refers to both this threshold, as well as its previously recommended threshold of 9%, in its annual reports. See, e.g., Interagency Grizzly Bear Study Team, Yellowstone Grizzly Bear Investigations 2013 31 (2014). Even if a 9% mortality threshold remained in effect, this translates to a maximum of 23 female bear deaths per year. Inclusive of the Upper Green grazing allotments, FWS has anticipated the take of nearly 3 times the sustainable level of mortality.

[5] See Exhibit 2 and Appendix of referenced biological opinions.

caused by the Upper Green grazing operations. Having chosen to rely on this rationale, however, FWS could not ignore all the additional take of grizzly bears that the Service has anticipated and exempted across the GYA, all of which counts against the recovery criteria mortality limits that FWS invoked. Only through comprehensive consideration of all anticipated take throughout the GYA could FWS rationally determine whether the anticipated further take of eleven grizzly bears as a result of Upper Green livestock grazing operations would "have a relatively minor impact," as the agency concluded, id., or instead would constitute "the straw that breaks the camel's back" by jeopardizing the species. The fact that FWS has anticipated and exempted take of grizzlies across the GYA that could more than triple the agency's own sustainable mortality threshold for independent female bears in any single year only underscores the irrationality of the agency's truncated analysis in the 2014 BiOp.

FWS's failure to consider all take of grizzly bears that the agency has anticipated and exempted throughout the GYA violates the ESA because FWS failed to utilize "the best scientific and commercial data available" in its jeopardy analysis. 16 U.S.C. § 1536(a)(2). In this case, the available scientific data included the incidental take statements contained within FWS's own operative biological opinions for the GYA, yet FWS never considered them. This failure further violated the ESA by corrupting the substance of the Service's jeopardy analysis, yielding an arbitrary and unlawful determination that the Forest Service's administration of the Upper Green livestock grazing operations "is not likely to jeopardize the continued existence" of the grizzly bear. Id.

B. FWS Arbitrarily Limited the Scope of the 2014 BiOp to Five Years

FWS further violated the ESA by arbitrarily limiting the scope of the 2014 BiOp to five years—a short-term period that masked the full impact of Upper Green livestock grazing operations that have yielded the lethal taking of seventeen grizzly bears since 1999. "[T]he scope of the agency action is crucial because the ESA requires the biological opinion to analyze the effect of the entire agency action." Conner v. Burford, 848 F.2d 1441, 1453 (9th Cir.1988) (emphasis in original). "The delineation of the scope of an action can have a determinative effect on the ability of a biological opinion fully to describe the impact of the action on the viability of the threatened species ... ." Wild Fish Conservancy v. Salazar, 628 F.3d 513, 522 (9th Cir. 2010). In particular, "[t]he artificial division of a continuing operation into short terms can undermine the consulting agency's ability to determine accurately the species' likelihood of survival and recovery." Id.

Here, FWS's 2014 BiOp addresses the impact of Upper Green livestock grazing operations over only a five-year period despite the fact that those operations have been ongoing annually with no indication that they may terminate at any future date. By choosing an arbitrary five-year period for its analysis, FWS arbitrarily truncated its assessment of the impact of the Upper Green grazing operations on the threatened grizzly bear. FWS's five-year analysis timeframe bears no relationship to the anticipated duration of the Upper Green grazing operations or their anticipated lethal consequences for grizzlies. Those consequences may reasonably be anticipated to extend further than five years into the future, yielding additional mortalities beyond the eleven anticipated in the 2014 BiOp. By artificially constraining its analysis to a five-year period, FWS never considered whether those reasonably foreseeable

future mortalities, in conjunction with the eleven mortalities anticipated in the 2014 BiOp (and other lethal take anticipated by FWS around the GYA) would "reduce appreciably the likelihood of both the survival and recovery of [the grizzly bear] in the wild." 50 C.F.R. § 402.02. To the contrary, FWS's five-year analysis period served only to arbitrarily limit the number of anticipated grizzly mortalities that must be measured for an "appreciable" impact on the species.

FWS's past course of conduct with respect to the Upper Green grazing operations has already masked the full impact of those operations on the grizzly bear. Prior to the 2014 BiOp, FWS issued four incidental take statements to the Forest Service in connection with the Upper Green livestock grazing operations, one of which was limited in scope to only a single year. In so doing, FWS has artificially segregated the impacts of the Upper Green grazing operations into periods that are too short in duration to capture the full consequences for the grizzly bear. Thus, FWS never considered the aggregate impact of the seventeen lethal takes of grizzly bears in connection with the Upper Green grazing operations that actually occurred over that period, instead considering only whether smaller number of lethal takes over shorter periods of time would likely jeopardize the species. Now the 2014 BiOp promises to continue that arbitrary mode of analysis into the future.

In an effort to justify this outcome, FWS stated in the 2014 BiOp that a five-year period of analysis "will allow for more frequent review of changing conditions and incorporation of new science as it becomes available." 2014 BiOp, at 42. However, while FWS certainly has a legal duty to reinitiate consultation when new information or a project modification indicates previously unanticipated impacts of the project on a listed species, see 50 C.F.R. § 402.16(b), (c), this duty "does not diminish the Service's obligation to prepare a comprehensive biological opinion now." Wild Fish Conservancy, 628 F.3d at 525. Because FWS arbitrarily limited the scope of the 2014 BiOp to five years, thereby artificially masking the impact of the Upper Green livestock grazing operations on the grizzly bear, FWS rendered an irrational and unlawful determination that the Forest Service's administration of the Upper Green livestock grazing operations "is not likely to jeopardize the continued existence" of the grizzly bear. 16 U.S.C. § 1536(a)(2).

C. The Forest Service May Not Lawfully Rely On the 2014 BiOp

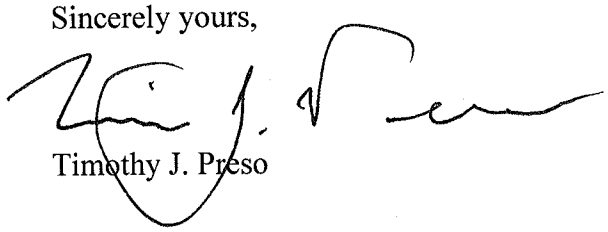
Because the "no-jeopardy" determination in FWS's 2014 BiOp was arbitrary and unlawful for the reasons stated above, the Forest Service could not lawfully rely on it to discharge that agency's own ESA responsibilities in connection with the Upper Green livestock grazing operations. "Consulting with the FWS alone does not satisfy an agency's duty under the Endangered Species Act." Resources Ltd., Inc. v. Robertson, 35 F.3d 1300, 1304 (9th Cir. 1994). To the contrary, the ESA independently requires the Forest Service to "insure that any action [it] authorize[s], fund[s], or carrie[s] out ... is not likely to jeopardize the continued existence of any endangered species or threatened species." 16 U.S.C. § 1536(a)(2). Because "[a]n agency cannot abrogate its responsibility to ensure that its actions will not jeopardize a listed species[,] its decision to rely on a FWS biological opinion must not have been arbitrary or capricious." Resources Ltd., 35 F.3d at 1304 (quotations omitted). Here, FWS's 2014 BiOp was arbitrary and capricious and the Forest Service could not rationally or lawfully rely on it.

V. CONCLUSION

As set forth in this letter, FWS has violated the ESA by irrationally concluding that the lethal take of eleven bears on the Upper Green livestock allotments will not jeopardize the grizzly bear's continued existence. This conclusion is irrational because FWS relied on mortality thresholds set for the entire ecosystem as the basis for its conclusion, yet has never considered whether its anticipated levels of take across the entire ecosystem would exceed those thresholds. Indeed, were the take anticipated and exempted in each BiOp across the GYA to be met in any given year, the mortality threshold set for the independent female cohort of the GYA grizzly bear would be exceeded by more than three times over. FWS's conclusion also was irrational because FWS arbitrarily limited the temporal scope of the 2014 BiOp.

Accordingly, unless within 60 days of receipt of this letter FWS and the Forest Service withdraw the 2014 BiOp and reinitiate a section 7 consultation process that rationally evaluates the impact of incidental take of grizzly bears in connection with the Upper Green grazing operations, the parties to this notice letter will institute an action in federal district court to challenge the agencies' legal violation and to ensure conservation of the grizzly bear as required by the ESA. If you would like to discuss the significant ESA violations described above and seek a mutually acceptable solution to them, please contact me.

Sincerely yours,



Timothy J. Preso

Exhibit 1

DECLARATION OF DAVID MATTSON

I, David Mattson, declare as follows:

1. My 30 plus years of professional training and experience have focused on the ecology and management of grizzly bears and mountain lions as well as on the role of science in natural resources policy. I have a Bachelor's Degree in Forest Management, an M.S. Degree in Forest Ecology, and a Ph.D. Degree in Wildlife Ecology from the University of Idaho. Prior to my retirement in 2013, I was Research Wildlife Biologist and Leader of the Colorado Plateau Research Station with the U.S. Geological Survey (USGS). I also held positions as Visiting Scholar at the Massachusetts Institute of Technology (MIT) and a related position as Western Field Director of the MIT-USGS Science Impact Collaborative. I currently hold positions as Lecturer and Senior Visiting Scientist at the Yale School of Forestry & Environmental Studies, Adjunct Faculty at Northern Arizona University, and Research Associate with the Northern Rockies Conservation Cooperative. I co-teach courses at Yale on, among other things, the conservation of large carnivores, large-scale conservation, and natural resources policy.

2. My investigations of Yellowstone's grizzly bears date back to 1979 when, beginning with that field season, I annually covered over 1500 miles on foot in the backcountry of the Yellowstone Ecosystem studying the habitat and behaviors of grizzly bears. My fieldwork in the Yellowstone Ecosystem continued through 1993, including a period from 1984-1993 when I held primary responsibility for investigating grizzly bear diet, habitat use, and relations with humans as a member of the Interagency Grizzly Bear Study Team. More recently, during 2003-2013, I led investigations of mountain lion ecology and demography in 7 different study areas in the southwestern United States. Specific to the content of this declaration, my investigations of the demography of populations of large carnivores have spanned 1990 through the present. I have authored or co-authored a number of publications of relevance to the demography of the Yellowstone grizzly bear population, including two papers on the effects of food variability and habituation to humans (Mattson et al. 1992; Pease and Mattson 1999), two papers on methods used for population monitoring (Mattson 1997; Mattson 1998), one paper on factors implicated in West-wide extirpations of grizzly bears (Mattson and Merrill 2002), and three papers on the extent and nature of habitat suitable for supporting grizzly bear populations in the northern U.S. Rocky Mountains (Merrill et al. 1999; Merrill and Mattson 2003; Mattson and Merrill 2004). My grizzly bear-related work has been covered by journals such as *Science*, and reported in invited lectures at venues such as the *Smithsonian Institute* and the *American Museum of Natural History*. My attached resume (Exhibit 1) provides additional information. A bibliography of literature cited in this declaration is attached as Exhibit 2 to this declaration.

3. The Yellowstone grizzly bear population has recently experienced catastrophic losses of two key foods—whitebark pine seeds and cutthroat trout. A recent climate-driven mountain pine beetle epidemic killed most mature whitebark pine trees in the ecosystem (Macfarlane et al. 2013)—trees that had produced seeds that were a major source of food for grizzly bears, especially for adult females (Mattson 2000). The maximum losses of whitebark pine occurred between roughly 2003 and 2007 (Macfarlane et al. 2013). Somewhat earlier, during the late 1990s and early 2000s, predation by non-native Lake trout, introduced during the mid-1990s into Yellowstone Lake, functionally eliminated the native cutthroat trout that had

been a major source of energy for most of the bears living near Yellowstone Lake (Mattson and Reinhart 1995; Haroldson et al. 2005; Teisberg et al. 2014). Unlike cutthroat trout, the Lake trout do not spawn in tributary streams, but rather in the depths of Yellowstone Lake, and are therefore not available as a food source for grizzly bears.

4. The most recent estimates of size published for the Yellowstone grizzly bear population by the Interagency Grizzly Bear Study Team (IGBST) in its 2013 Annual Report, using the current preferred Mark-Resight method, show that the population has not increased since the early 2000s (Haroldson et al. 2014; see Figure 1a). This conclusion is consistent with a statement I understand was made by the current IGBST Leader, Frank van Manen, to managers at the 9-10 December, 2014, meeting of the Interagency Grizzly Bear Committee (Chaney 2014). Moreover, if a trend line is fit to a 3-yr running average of IGBST annual population estimates for the period 2007-2013, there is evidence of a population decline (Figure 1b). This 2007-2013 period follows the catastrophic loss of whitebark pine and cutthroat trout as grizzly bear food sources for the Yellowstone population. All referenced figures are set forth in Exhibit 3.

5. Recently published research suggests that Yellowstone's grizzly bears are compensating for recent catastrophic losses of whitebark pine and cutthroat trout by eating more meat (Middleton et al. 2013; Schwartz et al. 2014). Part of this increase involves bears scavenging the remains of hunter-killed elk (Orozco & Miles 2013) as well as depredating on livestock, primarily on the periphery of the ecosystem in areas such as the Upper Green River drainage (DeBolt et al. 2013, 2014). Increased consumption of meat from livestock is indicated by the substantial increase in depredation-related human-grizzly bear conflicts since 2007 (data from IGBST Annual Reports, 2000-2013).

6. Coincident with this transition by grizzly bears to heavier reliance on meat as a food source, the number of known grizzly bear mortalities in the Yellowstone population has sharply increased. The IGBST's published statements and data, most recently in its 2013 Annual Report (Haroldson & Frey 2014), show that cub and yearling survival rates have likely declined in recent years at the same time that ecosystem-wide numbers of known and probable grizzly bear deaths have increased (since 2007) to unprecedented levels, even after considering a decline during 2013 and 2014 (van Manen quoted in Dayton 2014; see Figure 2). Deaths caused by both elk hunters and by individuals responding to livestock conflicts have contributed substantially to this increase, although deaths by other causes have increased as well (see Figure 3). Deaths caused by hunters increased steeply after 2007 and, although fewer during 2012-2013, remain higher than during any other period of record keeping, despite a decline in numbers of sport hunters in grizzly bear range (Clapp et al. 2014; Figure 3b).

7. In summary, invoking weight of evidence, this information leads to the following conclusions: The Yellowstone grizzly bear population has not grown since the early 2000s and may have even declined since 2007. The recent increases in grizzly bear deaths from meat-related conflicts with humans (i.e., conflicts involving livestock and big game either killed or pursued by hunters) are related, in turn, to increased reliance by bears on meat. This turn to meat is plausibly related to recent catastrophic losses of two key foods—whitebark pine seeds and cutthroat trout.

Pursuant to 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct. Executed on December 22, 2014, in Livingston, Montana.

David Mattson

Mattson Declaration
Exhibit 1

David J Mattson, Ph.D.

Short Biography

Dr. David Mattson is currently Lecturer and Visiting Senior Scientist at the Yale School of Forestry and Environmental Studies, Adjunct Faculty at Northern Arizona University, and Research Associate with the Northern Rockies Conservation Cooperative. His former positions, prior to retirement from the U.S. Geological Survey, include Research Wildlife Biologist, Leader of the Colorado Plateau Research Station, and Western Field Director of the MIT-USGS Science Impact Collaborative, all with the USGS. He holds degrees in Forest Resource Management and Forest Ecology and a doctorate in Wildlife Resource Management from the University of Idaho. Dr. Mattson has studied large carnivores for 30 years and has incorporated ecological information from pumas and grizzly bears into demographic, habitat, and risk management models. His ecological research has also included focus on details of carnivore behaviors, including foraging, predation, and relations with humans. His human dimensions research has focused on conservation policy issues dealing with social, political, and organizational dynamics that shape policies and practices of carnivore and other conservation programs. David teaches classes on relations between science and policy. His work has been featured in *Science*, *Ecology*, *Conservation Biology*, *Biological Conservation*, *The Journal of Wildlife Management*, and the *Journal of Mammalogy*, and invited talks at the Smithsonian, American Museum of Natural History, the American Institute of Biological Sciences, and International Conferences on Bear Research and Management.

Areas of research

- Behavioral ecology and demography of large carnivores
- Spatial models of habitat suitability and demography
- Human-large carnivore relations
- Public interest leadership
- Conservation policy and decision-making
- Relations between science and policy

Past and present research projects

- Demography, foraging behavior, and relations with humans and habitat, Yellowstone grizzly bears, 1979-present
- Demography and relations with humans and habitat, Kluane grizzly bears, Yukon Territory, 1992-2006
- Models of habitat suitability for grizzly bears in western North America, 1995-present
- Conservation policy systems for grizzly bears, mountain lions, and wildlife water developments, 1995-present
- Practices to foster coexistence between ranchers and grizzly bears, western Montana, 1998-present
- Demography, foraging behavior, and relations with humans and habitat, mountain lions in Arizona, Utah, and Nevada, 2002-present
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Exhibit 3

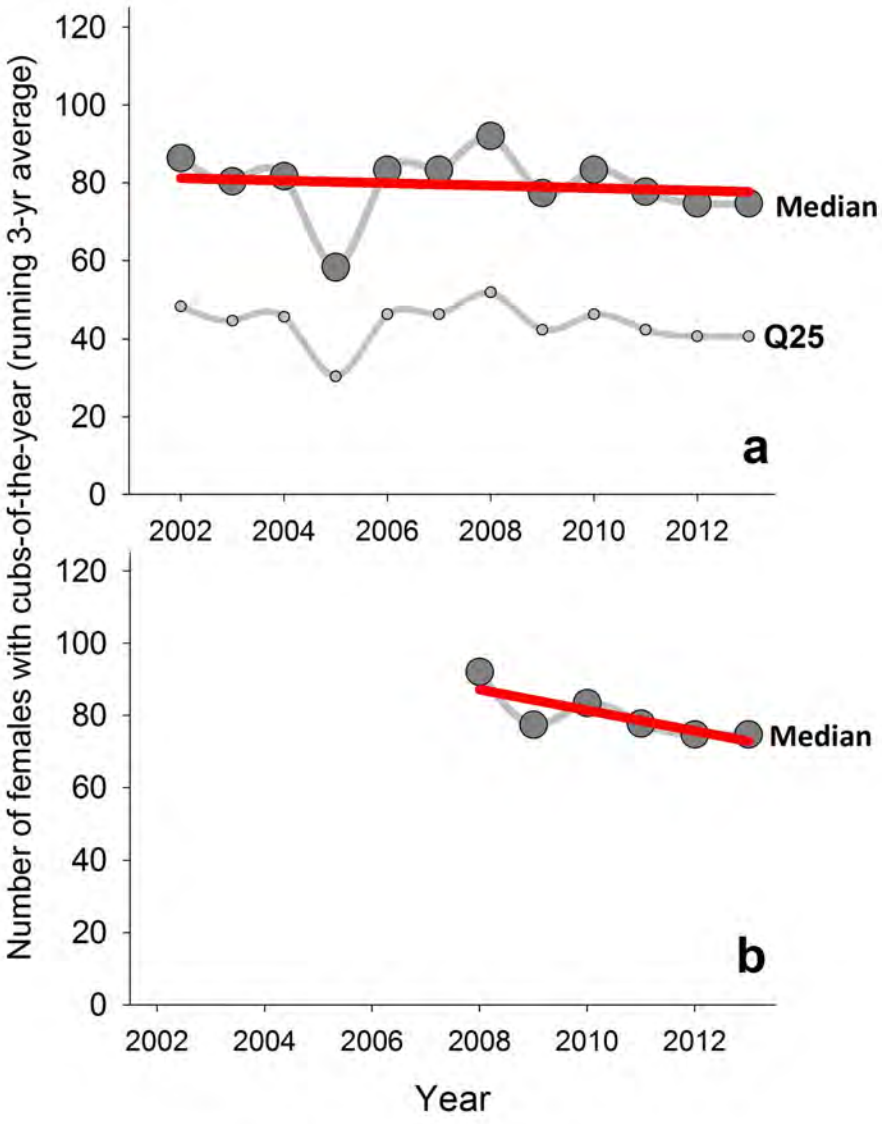

Figure 1. Three-year running average of total number of females with cubs-of-the-year (COY) estimated by the current preferred Mark-resight method. Estimates of total population size are essentially a simple multiplication of this number to account for other sex-age classes. The top figure (**a**) shows the median estimate of numbers of females with COY in the Yellowstone grizzly bear population as dark gray dots and the lower quartile bound of this estimate (Q25) as smaller lighter gray dots. A linear trend line (in red) has been fit to the median estimates showing no increase in population size. The bottom figure (**b**) repeats the information for median estimates, but only for the years 2007-2013. Invoking weight of evidence, the fitted trend line is more consistent with a declining rather than stable population.

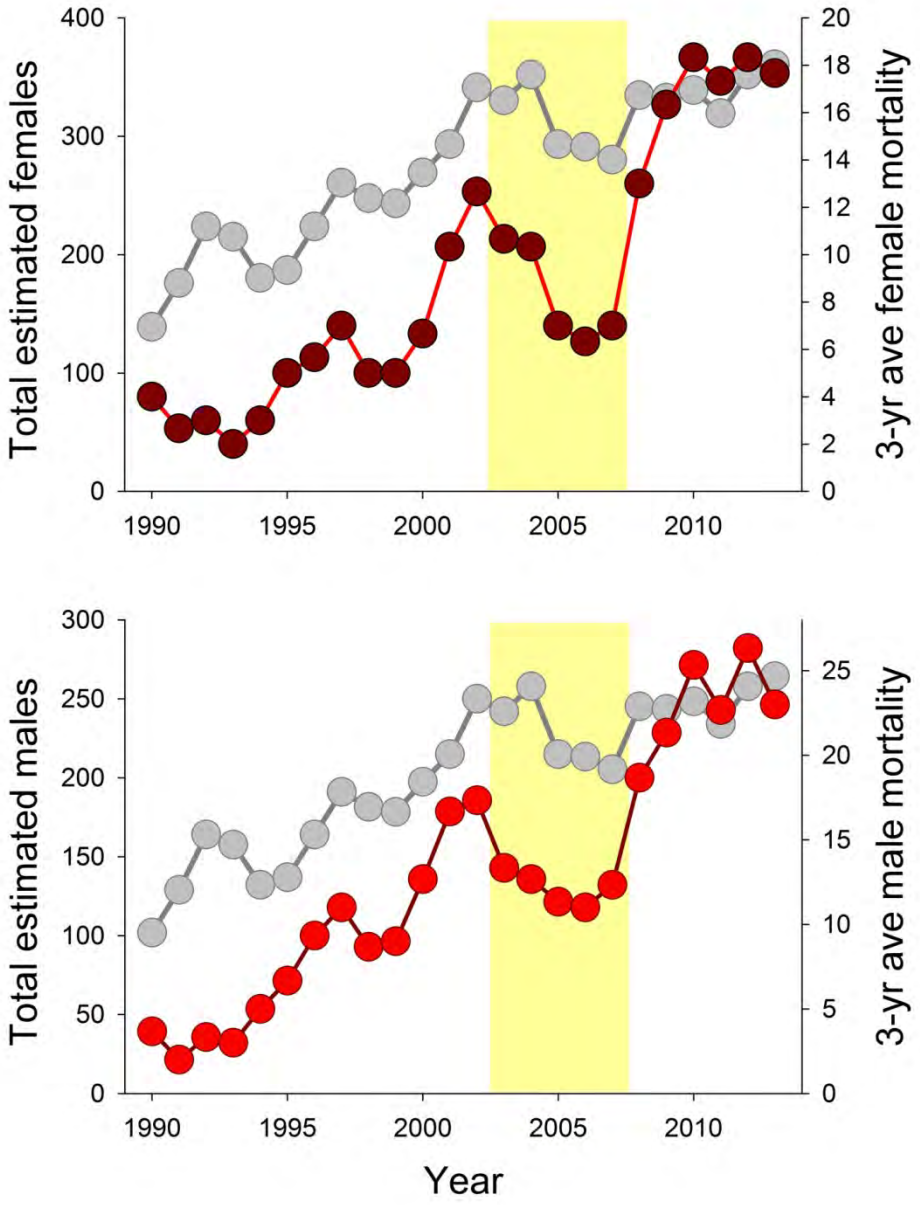

Figure 2. Three-year running averages of total female (top) and male (bottom) deaths, both in shades of red, superimposed on total numbers of male and female bears estimated for the population, shown in gray. Mortalities are from all causes, and with cubs and yearlings for which sex is unknown allocated to the respective sexes based on an assumed 1:1 sex ratio. Total numbers of bears are derived from Chao2-based estimates of population size, and using pre-2012 estimates of population structure. The yellow-shaded area denotes the time period during which maximum losses of whitebark pine occurred. The obvious points to be made here are that mortalities of both sexes increased substantially during recent years at the same time that there was no estimated increase in population size, and immediately after the period when most whitebark pine was lost. These conclusions are robust to any nuances in method.

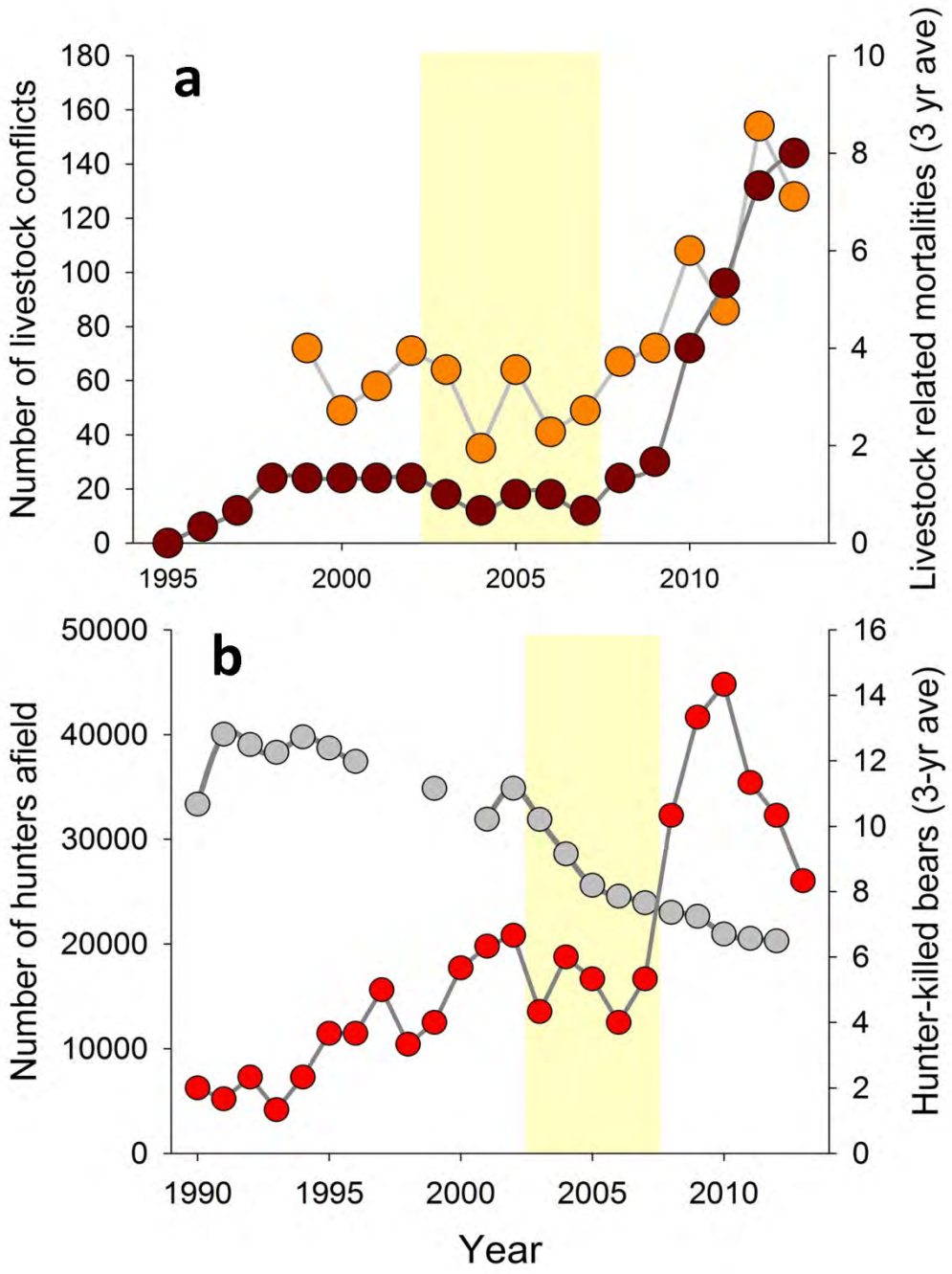

Figure 3. (**a**) Total numbers of livestock-related conflicts, shown by orange dots, and known and probable grizzly bear deaths related to livestock conflicts, shown by dark red dots. Mortality figures represent a 3-year running average. (**b**) Total numbers of grizzly bears known to have been killed, or probably killed, by hunters in association with their hunting activities, shown by the red dots. These activities included camping and traveling while on a hunt. The gray dots denote numbers of sport hunters within or near occupied grizzly bear habitat. As in figure 2, the yellow shaded areas denote the period when most whitebark pine was lost in the ecosystem. The obvious point to be made here is that conflicts and mortalities related to human-associated meat increased dramatically immediately after the period with most whitebark pine was lost.

Exhibit 2

FWS Document ID (if available)	Date of Document	Title of Document	Female Lethal Take Anticipated (or, if lower, allowed before reconsultation)	Language Relied Upon in Determining Female Take
WY4715	7-Mar-03	Proposed Livestock Grazing on the Teton Division of the Bridger-Teton National Forest	1	"The Service anticipates the total loss of 4 grizzly bears (adult or juvenile), with no more than **1** being **adult female**[.]" p.15
WY5998	22-Aug-03	Final Biological Opinion, Proposed Reconstruction of 38 Miles of Highway 287/26 from Moran Junction, Teton County, to easter Shoshone National Forest Boundary, Fremont County, Wyoming	1	"The Service anticipates **1 grizzly bear (adult or juvenile)** could be taken as a result of this proposed action[.]" p.23
WY7403	5-Dec-03	Biological Opinion, Proposed Reconstruction Project, Segment 4 of U.S. 212 (Beartooth Highway), Park County, Wyoming	1	"The Service anticipates **1 grizzly bear (adult or juvenile)** could be taken as a result of the proposed action[.]" p.39
	29-Oct-04	Gallatin National Forest Plan	2	"We anticipate that no more than **two grizzly bears** will be removed from the action area outside of the recovery zone for management purposes related to authorizations made under the Forest Plan during the remaining life of the Forest Plan related to sanitation/food storage and/or livestock grazing." p.43-44.
WY9351	2-May-06	Biological Assessment for Reissuance of Grazing Permits in Grand Teton National Park	1	"The Service anticipates the total loss of **1 grizzly bear (adult or juvenile)** for the life of the grazing permits." p.35
	20-Sep-06	Proposed Gallatin National Forest Travel Plan	0	"The Service is unable to quantify the number of grizzly bears that will be incidentally taken as a result of the proposed Travel Plan." p.64
	24-Dec-09	Gallatin National Forest, Bozeman Municipal Watershed Fuel Reduction	0	"No additional incidental take will be exempted in this biological opinion." p.28
WY10F0196	3-Sep-10	Formal Consultation on the addendum to the Proposed Yellowstone Park Road Reconstruction and Maintenance, 2008-2028, in Park and Teton Counties, Wyoming	6	"[W]e anticipate that no more than **6 grizzly bears (adult or juvenile)** within any consecutive 3-year period, or 36 bears total, will be taken during the remaining 18 years of the 20-year proposed Project." p.18
WY10F0371	24-May-11	Amendment to the Biological Assessment for the Continuance of Livestock Grazing on the Sherman Cattle and Horse Allotment, Bridger-Teton National Forest	3	"The Service anticipates a total of **3 grizzly bear mortalities** as a result of the proposed action." p.20
WY11F0096	21-Jul-11	Re-initiation of Formal Consultation on Grand Teton National Park Transportation Plan/EIS	4	"[T]he Service anticipates up to **four additional grizzly bears** may be incidentally taken directly or indirectly as a result of the Transportation Plan during the remaining 6 years this biological opinion is valid." p.2
WY11F0218	31-Aug-11	Twenty 10-Year Grazing Permit Renewals, Lander Field Office Area, Wyoming	4	"The Service anticipates a total of **4 grizzly bear mortalities** as a result of livestock grazing on these 23 allotments." p.7
	8-Nov-11	Biological Opinion on U.S. Sheep Experimental Station Grazing and Associated Projects, Agricultural Research Services	3	"[A] maximum of **three grizzly bears** over a 10 year period may be taken as a result of the action[.]" p.18

FWS Document ID (if available)	Date of Document	Title of Document	Female Lethal Take Anticipated (or, if lower, allowed before reconsultation)	Language Relied Upon in Determining Female Take
WY11F0246	6-Mar-12	Endangered Species Act Section 7 Consultation, Programmatic Biological Opinion, 2011 Amendment to the 2003 Biological Assessment for Commercial Livestock Grazing on the Shoshone National Forest	7	"The Service anticipates a maximum of 6 grizzly bear mortalities no the North Zone and 10 grizzly bear mortalities on the South Zone as a result of the proposed livestock grazing. … [S]hould grazing activities on these allotments result in the lethal removal of more than **three grizzly bears** within any 2 consecutive years **on the North Zone** or more than **4 grizzly bear**s within any 2 consecutive years **on the South Zone**, the Forest will reinitiate consultation with the Service regarding the specific Zone." p.13
WY11F0215	21-Mar-12	Formal Consultation: Shoshone National Forest Outfitter and Guide Special Use Permits Biological Assessment	3	"The Service anticipates no more than **3 grizzly bear mortalities** in 10 years as a result of the proposed action." p.18
WY112F0135	4-Apr-12	Biological Assessment for Lake Area Comprehensive Plan/Environmental Assessment	4	"[W]e anticipate that no more than … **4 grizzly bears** (adult or juvenile of either gender) will be taken during the 20-year proposed Project[.]" p.22
	28-May-13	Beaverhead-Deerlodge National Forest Land and Resource Management Plan (Revised Forest Plan)	5	"[W]e anticipate that no more than **one grizzly bear** will be removed from the Yellowstone analysis area during the life of the Revised Forest Plan for management purposes related to food and attractant storage issues" (p.85); "[W]e anticipate no more than **one grizzly bear** will be removed from the [West and North Analysis Area ("WNAA")] during the life of the Revised Forest Plan for management purposes related to food and attractant storage issues" (p.86); "[W]e anticipate that no more than **two grizzly bears** will be removed from or killed within the Yellowstone analysis area during the life of the Revised Forest Plan related to livestock grazing or associated activities authorized under the Revised Forest Plan" (p.87); "[W]e anticipate no more than **one grizzly bear** will be removed from or killed within the WNAA during the life of the Revised Forest Plan related to permitted livestock grazing or associated activities authorized under the Revised Forest Plan" (p.88).
WY13F0094	13-Sep-13	Re-initiation of Formal Consultation on Grand Teton National Park and National Elk Refuge Bison and Elk Management Plan/EIS	6	"[T]he Service anticipates up to **4 additional grizzly bears** in the Park and **2 grizzly bears on the Refuge** may be incidentally taken directly or indirectly as a result of the Plan during the remaining 9 years this biological opinion is valid." p.4
WY13F0140	25-Sep-13	Authorize Livestock Crossing Permits (Environmental Asssesment DOI-BLM-WY-020-2013-0026), Cody Field Office Area, Wyoming	1	"The Service anticipates no more than 2 grizzly bear mortalities in 5 years as a result of trailing livestock. … If, during the course of the action, this level of incidental take is reached (**1 grizzly bear mortality** within the 5-year duration of this biological opinion), such **incidental take represents new information requiring re-initiation of consultation** and review of the reasonable and prudent measures required." p.12-13

FWS Document ID (if available)	Date of Document	Title of Document	Female Lethal Take Anticipated (or, if lower, allowed before reconsultation)	Language Relied Upon in Determining Female Take
WY13F0099	20-Nov-13	ESA Section 7 Consultation: Programmatic BiOp: 2013 Biological Assessment for the Revised Shoshone National Forest Land and Resource Management Plan	0	"We conservatively estimate that some low level of incidental take, both lethal and non-lethal, of grizzly bears … may occur on the Forest. However, the amount or extent of take for grizzly bears is unquantifiable at this time." p.23
WY13F0159	7-Feb-14	BA of Commercial Stock Outfitter Concession Contract/Plan Environmental Assessment	2	"The Service anticipates no more than **2 grizzly bear mortalities** in 10 years as a result of the proposed action." p.19
WY14F0040	3-Sep-14	2014 Supplement to the 2013 Supplement and 2010 Amendment to the 1999 Biological Assessment for Livestock Grazing on the Northern Portions of the Pinedale Ranger District	11	"The Service anticipates that a total of **11 grizzly bear mortalities** within any consecutive 3-year period and 18 relocations within any consecutive 3-year period will occur on the nine allotments as a result of the proposed action." p.42
		TOTAL LETHAL FEMALE TAKE ANTICIPATED/EXEMPTED	**65**	