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

WESTERN WATERSHEDS PROJECT, et al., Plaintiffs, v. SALAZAR, et al., Defendants.	CV-09-159-M-CCL PLAINTIFFS' "STATEMENT OF GENUINE ISSUES" IN OPPOSITION TO DEFENDANTS' MOTION FOR SUMMARY JUDGMENT AND IN SUPPORT OF PLAINTIFFS' MOTION FOR SUMMARY JUDGMENT

As Defendants note in their "Statement of Undisputed Facts", the Ninth Circuit has held that summary judgment motions are an appropriate vehicle for resolving challenges to agency actions under the Administrative Procedures Act (APA), 5 U.S.C. Sec. 701 *et seq*. Northwest Motorcycle Association v. United States Department of Agriculture, 18 F.3d 1468, 1471-72 (9th Cir. 1994). Although the statements of "undisputed facts" and "genuine issues" do not entirely apply to administrative record cases, Plaintiffs offer the following statement of issues in response to Defendants' statement of the facts taken from the administrative record:

BISON AND THE GREATER YELLOWSTONE ECOSYSTEM

1. Bison are for all practical purposes, ecologically extinct across most of their native range. ARY8949; 8942 (Freese, et al 2007).
2. Circa 1500 bison occupy less than 1% of their original range ARY 6097 (Sanderson et al 2008).)
3. Scientists have found genetic introgression from interspecies hybridization is a significant threat to species conservation ARY 5329-5340 (Halbert and Derr 2007). A study of federal bison herds identified the Yellowstone population as genetically unique, only one of two, without domestic cattle introgression ARY 5329-5340 (Halbert and Derr 2007).

4. The YNP area bison are ecologically and evolutionarily significant to the species as a whole. ARY4029 (Gates et al 2005).
5. Bison were historically present throughout the GYE. ARY4017, 4028 (Gates et al 2005).
6. Bison serve a critical ecological function, and were "essential to the ecology of grassland ecosystems" when bison were widespread. Scientists consider that "conserving bison and conserving landscapes through bison are inseparable notions." ARY6093-6107 (Sanderson et al 2008).
7. The ecological effects of bison versus cattle are very different. ARY8942-8943 (Freese et al. 2007).
8. Bison grazing increases plant diversity and affects grassland bird populations positively, as well as having other positive effects upon diversity. ARY8942. Abundance and richness of forbs, and spatial diversity of biomass and cover are higher in sites with bison than those with cattle. ARY8942.
9. Bison are likely a keystone species in the Yellowstone ecosystem, with a large effect on other species that helps determine the structure and function of the ecosystem over time. ARY6536 (Surveillance Plan for Bison).

10. All agencies involved with bison management in the Greater Yellowstone Ecosystem recognize that the bison historically occupied an area larger than Yellowstone National Park (YNP), and that the bison do not belong exclusively to YNP. ARY6130 (Email Laye to Plumb)

11. YNP is not a self-contained ecosystem**.** FEIS Vol. I, p. ii, vii-viii.; Gates et al at ARY4137.

12. To maintain a viable population of bison in the GYE, they *must* be able to access low elevation winter ranges outside YNP. ARY5305, 5307 (Handbook NEPA Adaptive Management, citing Gates et al 2005); ARY6941 (Brief 15 Oct 2008); ARY7706 (Letter, Lewis to Mackay); ARY6586 (Differences 2000 to 2008); 6978 (Letter Lewis to Hockett); ARY6537 (Surveillance Plan for Bison). It may be necessary for at least 600-800 bison to be allowed access to winter range outside YNP in order to conserve the bison population long-term. ARY6589. The migrations to the boundary may create a "sink" because bison will be culled. ARY6537.

13. Bison migrations into Montana are natural events. FEIS Vol. I, p. ii, vii-viii.

IBMP IMPLEMENTATION AND MANAGEMENT CHANGES

14. Some bison in the GYE have been exposed to the bacteria *Brucella abortus,* a disease originally brought by European cattle. ARY9348-49. (Cross 2010). Elk also carry brucellosis. ARY9195 (Geremia et al).

15. The presence of brucellosis in domestic cattle herds can result in economic impacts to cattle producers, and the loss of brucellosis class-free status for the affected state. ARY9195 (Geremia, et al Book Chapter – Bison Demography).

16. Conflicts between interests in Montana and the federal agencies over bison management and the perceived threat of brucellosis transmission to domestic cattle in Montana led to the Interagency Bison Management Plan. FEIS Vol. I, p. vi; xiv. State and federal agencies prepared environmental impact statements (FEIS) and signed a record of decision (ROD) for the IBMP in 2000, which was implemented in 2001. Participating agencies include the National Park Service, United States Forest Service, the Animal and Plant Health Inspection Service, the Montana Department of Livestock, and the Montana Department of Fish, Wildlife and Parks. ARY4116-4118 (Gates et al); FEIS Vol. I, p. ii-vi.

17. The IBMP was designed to maintain spatial and temporal separation

between bison and domestic cattle, due to perceived risks of brucellosis transmission from bison to cattle. FEIS Vol. I, p. vi; xiv; 738-739.

18. Historically, bison moved through open plains, grasslands, and woodlands. Because of concerns from the livestock industry about transmission of brucellosis, the Yellowstone bison have been confined to a limited range. ARY7123 (RTR EA).

19. The IBMP is also supposed to maintain a wild, free-ranging bison population. FEIS, Vol. I, p. vii. This is meant to maintain a viable population of wild bison, defined in biological, genetic and ecological terms. Id. at xiv.

20. The ROD prescribed three management steps that the agencies asserted "will minimize the risk of transmission of brucellosis to cattle grazing on public and private lands adjacent to Yellowstone National Park." ROD p. 22.

21. The analysis provided in the FEIS for alternatives for bison management was assumed to be valid for 15 years. FEIS Vol. I p. vii.

22. The IBMP has not been completely or consistently implemented, and many assumptions and predictions were inaccurate, and information and circumstances have changed. ARY7622 (Brief IBMP

Expectations_Realizations 26 Oct. 2009); ARY3639 at 3641 (NPS in IBMP meeting notes June 2004); ARY5305 (noting "uncertainties" in the IBMP/FEIS).

23. In March, 2008, the U.S. Government Accountability Office issued a report criticizing several aspects of the IBMP. The report stated the agencies did not have measurable objectives and thus "have no sound basis for making decisions or measuring the success of their efforts." ARY6171 (GAO Report 2008). Adaptive management is "impaired" by the lack of linkages among management objectives, systematic monitoring, and decisions adjusting the plan and management actions. ARY6174 (GAO Report 2008). GAO also concluded the "agencies' management lacks the accountability and transparency expected by the public and Congress." ARY6179 (GAO Report 2008). The GAO recommended the agencies clearly define objective and outcomes and "refine, revise, or replace the plan and agency operating procedures" to reflect the measurable objectives. Id. at 6180.

24. The agencies have noted that if assumptions of the IBMP were not realistic, they would need to amend the plan. ARY5290, 5304 (Sept 18-19 2006 IBMP Adp. Mgt Agreement).

25. The agencies have also made management changes, which retain the

IBMP framework and further implement it while changing management direction or adding management actions. ARY7384 (Note to Admin Record Adaptive Adjustments 2009).

26. Some management changes include:

a. Adopting Adaptive Management Adjustments in 2005, to authorize a public hunt as a management tool for bison under the IBMP. ARY4368-4369.

b. Adopting Adaptive Management Adjustments in 2006, providing bulls may be tolerated outside YNP if deemed low-risk and in order to provide for implementing Montana's public hunt; and clarifying the 3000 population reference in the FEIS and ROD is a guideline and not a target for deliberate population adjustment. ARY5319-5320.

c. Adopting Adaptive Adjustments in December 2008, altering allowance for some numbers and distribution of bison outside YNP, at the discretion of the Montana State Veterinarian, and outlining research tasks of the partner agencies; with note that changes are in recognition of new information and changed circumstances such as land ownership and use. FS832.

d. Amending the Operating Procedures in 2009 to implement the

IBMP as adapted in 2008. ARY7284-7294.

e. Adopting the Royal Teton Ranch Agreement (RTR Agreement) to implement the IBMP. YNP committed to provide $1,500,000 funding to lease grazing rights on the RTR, and committed to participate in IBMP and related management actions including hazing and capture of bison and coordinating Montana's bison hunt. ARY7208-7214 (RTR Agreement YNP&MFWP 12-30-08). The RTR "preserves the IBMP" and "limits bison distribution", "limits bison population" and "promotes bison vaccination in the park." ARY6195, 6201 (RTR Powerpoint). The RTR requires capture of all bison moving towards the northern boundary of YNP, which was not called for in the ROD. ARY7088-7089 (WWP & BFC Comments re RTR).

f. Issuing a Special Use Permit for fence construction to facilitate the RTR Agreement bison management actions. FS798 (Decision Memo).

g. Renewing the Horse Butte capture facility permit to allow the Montana Department of Livestock and cooperating agencies to install and operate a bison capture facility on GNF lands. FS68

(Decision Memo).

h. Implementing a Quarantine Feasibility Study (QFS). ARY4495-4502 (QFS Q&A). The NPS issued a permit to allow removal of bison from YNP for the study. The NPS and FS did not participate in any NEPA analysis for the QFS. The QFS could remove 200 calves from YNP and would result in killing all calves that test seropositive, and up to half of the remaining bison for testing purposes. ARY4495-4502.

27. The agencies previously committed to do NEPA for every management change. ARY3784 (from IBMP managers meeting notes, Oct. 2004).

NEW INFORMATION AND CHANGED CIRCUMSTANCES

28. "The signatories have collected substantial new information regarding bison, brucellosis, and the management of transmission risk." ARY7678; ARY6533 (Surveillance Plan for Bison).

BRUCELLOSIS – TRANSMISSION RISK, CATTLE GRAZING, IMPACTS TO LIVESTOCK INDUSTRY

29. The FEIS alternatives and impacts analysis were based upon the presence of domestic cattle grazing allotments on GNF lands and private lands on Horse Butte and other areas west and north of YNP. Impacts analysis was based on having 434 cow-calf pairs north of

YNP on Forest Service lands; 364 cow-calf pairs on Horse Butte and Wapiti allotments; and 128 pairs on other allotments west and south of Hebgen Lake. FEIS Vol. I, p. 33.

30. Since then, all cattle have been removed from Horse Butte. The FS allotment was vacated and closed. ARY6204 (Letter Preso to IBMP); FS839 (Court Order). The private land where cattle were grazed was sold and is now intended by its owners to be a "bison friendly zone." ARY5836 (Galanis email to Gov. Schweitzer);

31. The risk of brucellosis transmission from bison to cattle on the Horse Butte peninsula was substantially lower (approximately zero) in 2008-2009 compared to 2000 when the ROD was signed. ARY7706. The Horse Butte allotment was the only active allotment in Zone 2 of the western management area. ARY4410.

32. Additionally, no cattle currently graze on the Wapiti allotment. FS677 (Letter approving non-use for third year).

33. Bison are limited on the GNF because of domestic cattle grazing allotments; in restricted areas, seasons and numbers they are allowed only where the forest does not allow domestic livestock producers to use the forest. ARY7678.

34. Although the IBMP recognized a need to conserve bison in the GYE,

only a small portion of the GNF adjacent to YNP was included as a conservation area available to bison. ARY6533 (Surveillance Plan for Bison).

35. Removing cattle from areas of the GNF is a prerequisite for bison use under the IBMP. FS57-1. It is necessary for the USFS to hold cattle allotments vacant before bison will be allowed to use the area under the IBMP. FS64, at 1-2.

36. If cattle were eliminated from areas surrounding YNP, the policy of managing bison to maintain separation from cattle would be diminished. FS680-18 (Final Decision Notice).

37. The Forest Service has resisted changing domestic grazing on the GNF to accommodate bison and provide habitat. Examples include:

a. ARY3567 (IBMP meeting notes Feb. 2004) noting it is a "sticky issue" to provide for bison habitat in Taylor Fork and on Cache-Eldridge allotment.

b. FS680 Final-Decision-Notice, at 21: "Some commenters suggested that re-authorizing cattle grazing on this allotment could perpetuate a political situation that makes it difficult to consider a potential change in management emphasis toward bison. In other words, it would be easier to make such a change

without an active cattle operation on the allotment than it would be with a newly issued permit in place. This opinion is not without some merit, but choosing the "no graze" alternative for this reason is not good rationale. First, such reasoning would be contrary to the existing Forest Plan direction for the area that emphasizes livestock grazing. Secondly, it would represent a position on my part that revision of the IBMP should be done to consider a shift in management emphasis. This is not a position appropriate for me to take unilaterally. As I stated earlier, I do not think it is appropriate to independently facilitate changes in the IBMP through the decisions I make for individual activities such as for livestock grazing on the Cache-Eldridge Allotment."

c. FS709, at 4: "This analysis and the subsequent decision on the Wapiti Allotment will not include consideration of bison issues in the Taylor Fork area. Currently, the management of bison in Montana falls within the jurisdiction of the Montana Department of Livestock, Montana Fish, Wildlife, & Parks, and USDA Animal & Plant Health Inspection Service. Management actions are guided by the Interagency Bison Management Plan (IBMP). The IBMP currently specifies that

bison are not allowed to occupy the Taylor Fork drainage. If the cooperating agencies in the IBMP consider changes in bison management policy that favors the establishment of areas outside Yellowstone National Park where bison can be allowed to migrate freely, and if one candidate area is the Taylor Fork drainage, we would have the ability to modify or cancel the grazing permit at that time to accommodate use of the Wapiti area by bison."

d. FS680-EA-Text, at 17: "This alternative was suggested for the purpose of preventing closure of the Taylor Fork area to native bison. This idea is based on the assumption that if cattle are removed from the project area, bison from Yellowstone National Park will be allowed to occupy the Cache/Eldridge area. The decision to manage bison was published by the Interagency Bison Management Plan (USDI, USFS 2000b), and sets limitations on bison distribution in and around Yellowstone National Park. That decision excluded the Taylor Fork as an area acceptable for native bison occupancy. Therefore, the Cache-Eldridge Allotment is currently closed to bison regardless of the type of domestic animal stocked there (see

further discussion in Appendix A, pg. A-7). Changes to the Interagency Bison Management Plan are beyond the scope of this analysis, and the Forest Service alone does not have the authority to revisit this decision. The Secretaries of Interior and Agriculture, along with the governor of Montana, made the decision on the areas in which bison would be allowed outside of Yellowstone National Park."

38. The FEIS was based on the presumption that a number of adverse economic impacts would occur within the domestic livestock industry if no bison-cattle management activities were conducted. The predictions of adverse impacts and expected brucellosis transmission from bison (in the absence of intensive management), was used as a baseline to compare costs and benefits of the alternatives. FEIS Vol. I, p. 107. The predicted potential for "widespread economic consequences" was a "primary motivating factor" for alternatives aimed to prevent brucellosis transmission to domestic cattle and to prevent the loss of Montana's brucellosis class-free status, which was presumed to be possible by keeping bison and cattle separate. Id. at 110, 153.

39. The FEIS did not analyze any "no management" strategy's, because

the agencies presumed that "hands-on" management was necessary and that such actions would reduce seroprevalence in the bison population, and thereby protect Montana against losing its brucellosis class-free status. FEIS Vol. I, p. 152.

40. The FEIS was not based upon a quantified risk assessment for transmission of brucellosis from bison to domestic cattle and the risk was thought impossible to quantify. FEIS Vol. I, p. 11. There were disagreements about the risk and possibility of transmission, and little available information. Thus, the agencies merely agreed to factors they believed would affect the risk, as a basis for planning management actions. Id.

41. Since that time, a quantified risk assessment has been completed. ARY7219-7228 (Kilpatrick et al 2009).

42. The risk assessment concluded the risk of transmission from bison to cattle is zero during most years, even when moderate numbers of bison migrate beyond YNP borders. The study also recommended alternative management scenarios that would be more cost-effective and would not require heavy culling and other intensive management of bison. ARY7219-7228.

43. Also since the IBMP was implemented, Montana (and Idaho and

Wyoming) lost its brucellosis class-free status for a period of time when cattle herds had brucellosis. None of the transmissions were due to bison, and were most likely due to elk. ARY6110; ARY9349; ARY 7616-7619 (Beja-Pereira et al. 2009).

44. At the time the IBMP was developed, elk were thought to be poor transmitters of brucellosis to cattle, and elk populations outside the GYE were not known to carry brucellosis. ARY9349. The FEIS did not consider elk transmissions when analyzing alternatives and the impacts of the various alternatives' effectiveness in achieving the objective of protecting against loss of brucellosis class-free status. FEIS Vol. I, p. 33-34; 106-110; 153.

45. Brucellosis seroprevalence in elk is increasing in the GYE, and scientists believe elk are a maintenance host for brucellosis in new areas of the GYE. ARY9348-9358.

46. Scientists also now know that brucellosis persists in elk populations outside the GYE. ARY9349.

47. Scientists have said this new information regarding brucellosis in free-ranging elk "means that the current focus on feeding grounds and bison is probably insufficient for eradication or even controlling the risk of transmission to cattle." ARY9355; also see ARY7302 (Letter

re SEIS from NRDC).

48. Even where bison and cattle co-mingle, bison have not been known to transmit brucellosis to cattle. They co-mingle in the area of the National Elk Refuge in Wyoming, on private lands during migration and on cattle trail driveways in spring and fall and on grazing allotments on the Grand Teton National Park and Forest Service lands in the summer. ARY179-385 (Cheville 1998).

49. The IBMP presumed the agencies could eradicate brucellosis from wildlife, and included an objective that is a commitment to do so (also noting that brucellosis in elk would have to be addressed). FEIS Vol. I, p. 14; 114. The FEIS presumed a vaccine would be available and used in bison within two to three years of implementing the IBMP. FEIS Vol. I, p. 27-29.

50. Since the IBMP was implemented, the agencies have noted eradication is not actually feasible. ARY3590 (YCR Response to Bruc. Elimination Plan). Vaccination has not been determined to be effective or viable yet, contributing to the inability to eradicate brucellosis from wildlife. ARY7225-7226 (Kilpatrick et al 2009).

51. Brucellosis is considered endemic; is in elk more than thought; and transmissions from elk are occurring, while they are not occurring

from bison even where they co-mingle. ARY6631-6701 (Ebinger Cross) – brucellosis is endemic in YNP bison; ARY5364-5372 (Fuller 2007) – brucellsois is enzootic in YNP bison.

52. The FEIS also predicted all alternatives would result in reducing the seroprevalence rate in bison. FEIS Vol. I, p. 27-29.

53. The IBMP has not resulted in reduced exposure or seroprevalence in bison. ARY7622. In fact, seroprevalence in adult females in the population has increased or remained constant. ARY7681; 7691 Table 1 (IBMP Expectations and Realizations, Sept. 2009).

54. The FEIS presumed that bison would be captured and tested for exposure to brucellosis before consigning test-positive bison to slaughter. ARY7681.

55. The ROD stated that in Step 1 all bison migrating out of YNP on the western management area would first be hazed, and if hazing was ineffective they would be captured, and all captured bison would be tested before sending seropositives to slaughter. ROD p. 23. The ROD also stated that in Step 1 all bison on the northern management area would first be hazed within YNP to prevent movement north, and if hazing was unsuccessful, bison would be captured and all bison would be tested, seropositives slaughtered, and up to 125

seronegatives held temporarily at the Stephens Creek capture facility. ROD p. 27.

56. The FEIS indicated the selected alternative would "keep" seronegative bison in the population. FEIS Vol. I, p. 458.

57. The agencies have actually consigned thousands of bison to slaughter without ever testing for exposure to brucellosis, or when they test negative. ARY7681, 7693; ARY (Bison hazing and capture ops 2007-08 summary) (1218 not tested); 2006 multiple slaughters without testing (01-26-10)(04-13-08, 888 bison slaughtered without testing); in 2008, documented 1218 slaughtered without testing (8-31-08).

58. When the agencies do test before consigning bison to slaughter, they have used a blood test for the presence of *Brucella* antibodies, which overestimates the number of bison actually harboring the bacteria. FEIS Vol. I, p. x.

59. A published study has shown it is possible to detect *Brucella* DNA in blood samples rather than antibodies to *Brucella* and thus determine actual infection. ARY6126-6127 (Email Laye to Plumb re Response to GAO 2008).

60. The agencies have not validated the test for field use in bison, and

have not used the test since it became available. ARY6130.

61. YNP went so far as to disallow a staff wildlife biologist to pursue development of the test, which the biologist believed would provide a more accurate test and prevent unnecessary bison slaughter. Ex. 2 (Dec. Lindstrom). The biologist has stated a Polymerase Chain Reaction (PCR) test that has been developed should be a reliable test for infection if properly used. Ex. 2, Lindstrom Dec., par. 10.

62. The Gallatin National Forest contains or contained sufficient amount of sagebrush habitat to warrant specific management direction, as evidenced by the following paragraphs:

63. "Sunnybrook Allotment… Suitable vegetation types (approximately 3,690 acres) within the allotment range from open, rolling grasslands and sagebrush hills to areas of forested range with a grass understory. Most of the suitable range occurs between an elevation of 5,000 and 7,000 feet." (pg. 5) The Fridley, Lewis Creek and Sunnybrook Allotments are "composed of sagebrush/bunch grass meadows" (pg. 54-55). FS311, at 5, 54-55.

64. "The Cache-Eldridge Allotment is represented by stands of heavy timber with interspersed sagebrush or high-elevation grass/forb

meadows… Sagebrush meadows are common among all the pastures…" FS833, at 3.

65. "The Taylor Fork and Big Horn drainages lie within the Gallatin Winter Range…Lower elevation sagebrush…communities provide important winter range for these species." FS89, at 83.

66. "…we stopped in a meadow [in the Six Mile North Allotment] for a utilization check… There was a mixture of bunchgrasses, basin wildrye, and big sagebrush…cattle seemed to be using the allotment in a uniform manner…" FS262

67. "The vegetation in the capture facility area near Horse Butte is comprised largely of sagebrush…" FS63, Vol. 4-145, at 12.

68. "…on the Bear Canyon and Goose Creek Grazing Allotments… 2,419 acres are considered suitable for livestock use… Suitable types include primary grassland, primary meadow, primary sagebrush…" FS610-Chap.1, at 1.

69. The [Green Lake] allotment consists of approximately 3,525 acres of National Forest, of which 2,163 acres are considered suitable for grazing…the majority of suitable acres consist of sagebrush/grassland types…" FS541, at 1.

70. "The [Mill Creek allotment] project area can be characterized as a mosaic of grass/forb meadows, sagebrush/grass hillsides, and conifer types with a suitable understory for livestock grazing." FS549, at 35.

71. "Since a significant portion of the present Watkins Creek [allotment] is in dense sagebush, should eradication measures be implemented? [eradication approved in the selected alternative]" FS652, at 6.

72. The GNF has intentionally destroyed sagebrush habitat rather than managing to maintain it, as evidence by the following paragraphs:

73. "Management Area 17 (MA17)-Range/Big Game… In MA 17 the standards for range include… Schedule forage improvement projects, such as sagebrush burning and poisonous plant control." FS1, at III-53; FS415, at 5.

74. "Since a significant portion of the present Watkins Creek [allotment] is in dense sagebush, should eradication measures be implemented? [eradication approved in the selected alternative]" FS652, at 6.

75. "Since a significant portion of the present Watkins Creek [allotment] is in dense sagebush, should eradication measures be implemented? [eradication approved in the selected alternative]" FS652, at 6.

76. "Additional measurements [of forage] were taken throughout the 1980's during the prescribed sagebrush burns in the [Slip and Slide] allotment." FS528, at 15.

77. "the existing permittee is interested in a prescribed burn in this area to reduce sagebrush…" FS515, at 7.

BISON POPULATION AND DEMOGRAPHICS (CONSERVATION)

78. Population genetics play an important role in the management of species, particularly in closed systems such as the range of Yellowstone bison. ARY6565 (Surveillance Plan for Bison).

79. Reduced genetic variability can have negative consequences for the long-term persistence of populations, and limit a species' ability to adapt to environmental change. ARY6565.

80. For long-term conservation of the bison population, managers need to know how implementation of the IBMP could influence bison genetic diversity and the long-term viability of any unique subpopulations. These decisions require knowledge of the existing genetic makeup and influential factors. If the population is structured by geographic area, then management actions culling bison may influence groups disproportionately and lead to a higher risk of losing unique alleles. ARY6565.

81. The FEIS presumed the bison population would stabilize around 3700 under the selected alternative, and that the population would be managed at around 3000 bison. FEIS Vol. I, p. 27, 459; ARY6586.

82. The FEIS did not predict, and thus did not analyze impacts of, large fluctuations in bison population size. FEIS Vol. I, p. 25.

83. The FEIS modeling predicted no more than approximately 245 bison would be killed each year under the IBMP. ARY6587 (Assumptions and Realizations 2008).

84. The IBMP FEIS predicted a total of 1384 bison would be killed between 2001 and 2008. ARY6587.

85. In the 15 years before the IBMP was implemented (1985-2000) about 3,100 bison were culled. ARY7678.

86. Since the IBMP was implemented in 2001, and until just 2008 (about half the time in which 3100 bison were killed prior to the IBMP), 3681 bison have been killed through management culls and hunting. ARY6592.

87. The IBMP does not require bison to be killed when the overall population reaches 3000, and that number is to be used as a management guide only. ARY4835 (YNP Reply to Hinchey); ARY5319 (Operating Procedures 2006-2007)

88. The food-limiting capacity for bison in YNP is thought to be 5500-7500 (ARY5429 (House of Representatives hearing)), with approximately 2400 in the northern herd and 3800 in the central herd. ARY6941 (Briefing Statement Oct. 2008). The bison have not reached this food-limited carrying capacity. ARY6941.

89. Instead of stabilizing as predicted, the bison population has fluctuated erratically between 2400 and 5000 due to occasional large culls and rapid population growth. ARY6586 (2008 Assumptions & Realizations).

90. The FEIS did not analyze large fluctuations, and the model interpretation indicated if the agencies killed as many as 1,100 bison and managed the population at 2500, "this could represent a loss in long-term availability compared with the ecological potential of the Yellowstone ecosystem." FEIS Vol. I, p. 468.

91. For example, in 2006, 1043 bison were killed instead of the FEIS predicted 245, and in 2008, 1728 bison were killed instead of the predicted 245. ARY6587.

92. Large management culls may be unintentionally threatening the viability of the bison populations, and affecting bison demographics and vital rates. ARY9218, 9194-95(Book Chapter – Demography of

Yellowstone Bison); and ARY7676-7701 (Expectations and Realizations 2009).

93. IBMP management has had other unanticipated impacts, including stress caused by holding bison at the Stephens Creek capture facility for longer amounts of time than planned. ARY6767 ("holding bison inside fenced areas of the park, feeding them hay and supplying water using troughs for one quarter of the year is not the intended purpose of the Stephens Creek capture facility, nor is it beneficial to an inherently wild population"); ARY4856 (holding bison in Stephens Creek may decrease chances of survival for energy stressed bison); ARY3604 (documenting excess stress to bison).

94. The FEIS did not analyze disparate impacts on breeding groups of bison, but conducted analysis and selected the IBMP alternative to manage the population as one genetically indistinct population. See, e.g., FEIS Vol. I, p. 458-467 (discussing predicted impacts of Modified Preferred Alternative, discussing only overall population expectations).

95. Scientists have since shown that the two breeding groups may be genetically distinct subpopulations, and there may be as many as three distinct subpopulations. ARY3236-3448 (Halbert 2003); ARY5700-

5762 (Gardipee 2007); ARY7374-7379 (Luikart model study plan May 2009); ARY9196 (Geremia, et al., recognizing two semi-distinct subpopulations); ARY6940 (Briefing Statement Oct. 15, 2008); ARY4020 (Gates et al. 2005, recognizing two bison subpopulations).

96. The level of genetic interchange between the populations is uncertain, and affects the necessary population size and structure to maintain genetic variation and prevent inbreeding depression. ARY6537-6538 (Surveillance Plan for Bison).

97. The movements of the bison groups were also miscalculated in the FEIS. ARY7681; ARY6586.

98. The management actions have impacted the breeding groups or subpopulations disparately. For example, the differential culling lowered the growth rate of the central herd, and it has not recovered as expected in subsequent years of minimal management culling. ARY7683.

99. In August 2006, NPS counted 1100 fewer bison than the previous summer, with 1000 fewer in the central herd. They counted the fewest bison in more than a decade wintering in the Madison, Gibbon and Firehole River drainages, but the second highest number counted in the northern winter range since aerial surveys began. ARY (3-15-

07).

100. Also, in fall 2008, the NPS counted fewer bison in the central herd than in the northern herd for the first time since consistent counts were conducted beginning in 1970. ARY (8-31-08). That herd "declined dramatically" from 3,531 bison during 2005 to 1,469 in 2008. Id.

101. Additionally, earlier in the year (spring, 2008), the NPS noted there may have been fewer than 50% of the population remaining from the previous summer. ARY (4-30-08).

102. Population counts of the central herd have varied wildly due to culling up to 20% of the population annually. ARY9196.

103. Management removals could also jeopardize the viability of the northern herd, especially in harsh winters. ARY4012-4340 (Gates et al 2005).

104. The FEIS presumed the selected alternative would not "measurably affect the age/sex distribution or reproductive rates" of the bison population. FEIS Vol. I, p. 459-461.

105. The FEIS acknowledged that if management actions resulted in nonrandom selective removals of bison (lethal or nonlethal), this could negatively influence the genetic integrity and viability of the

bison population. FEIS Vol. I, p. 288 (?); 83.

106. Large, non-random culls have occurred since the IBMP was implemented in 2000. ARY6586 (Assumptions and Realizations 2008).

107. The IBMP underestimated bison abundance, distribution, migration, and culls. ARY7622.

108. These large, non-random culls have altered the demographics of the bison populations, including age and sex ratios, and the genetic structure of the population. ARY6586; ARY7682-7683 (Expectations and Realizations 2009). The culls have altered the gender structure by removing more females and substantially reducing the numbers of bison in certain age classes by removing large numbers of calves in some years. ARY7622.

109. The disproportionate culling of calf-mother pairs that likely occurred in 2006 and 2008 could "reduce the rates of genetic recombination and lead to a higher probability of lost genetic diversity." ARY7694 (citing Halbert 2003; Geremia et al. 2009b).

110. The altered demographic and genetic structure from IBMP management actions renders it difficult for the agencies to predict future trends. ARY6586.

111. Scientists have expressed scientific concern for the genetic health of plains bison overall, because all herds (including those in the GYE) were founded by few individual bison. ARY4679-4709 (Gross et al. 2005).

112. The long-term impacts of continued IBMP management and large-scale culls is expected to create an "unstable bison population that may not respond quickly to future challenges" and that may have consequences persisting for multiple generations. ARY7683.

113. The unanticipated affects on the bison population numbers and demographics may also diminish the ecological processes within YNP. ARY7677.

114. Agencies have noted large removals could "undo" the plan and have unacceptable biological and ecological consequences. ARY4851 (2006 IBMP Partner Meeting Notes).

115. When the IBMP was adopted, and FEIS analysis completed, the agencies had little available data regarding bison genetics and minimum viable populations. FEIS Vol. II, 183-184; Vol. I, p. 114-115; 150-152.

116. The FEIS recognized the bison in the GYE may be "genetically important" and thought 580 bison may be sufficient to protect the

genetic viability of the population. Id.

117. The FEIS also recognized a number of factors in addition to overall population numbers are necessary to determining and maintaining a viable population. Factors include sex ratio of breeding adults, reproductive success of males and females, fluctuations in population size, and random chance. Id.

118. The agencies stated they would reevaluate the minimum population size when new information became available. Id.

119. New available science suggests at least 1000-2000 bison are needed *in each breeding group* to retain enough genetic diversity to preserve the bison population over the next 200 years. ARY7374-7379 (Luikart model study plan May 2009). Even higher numbers may be required due to factors Gross and Wang 2006 did not consider. Id.

120. Some scientists suggest that to minimize inbreeding depression and maintain genetic variation in bison populations, a population of 2000-3000 animals with regular genetic exchange with another differentiated population with the same or greater number may be necessary. ARY7372 (Hedrick 2009).

121. Many thousands of bison may actually be necessary to protect

genetic diversity for evolutionary potential; and thousands are likely necessary to fully express their ecological role. ARY7229-7235 (Traill 2009); ARY6940 (citing Freese et al. 2007, and Sanderson et al. 2008); ARY6588-6589.

BISON AS A GRIZZLY BEAR FOOD SOURCE

122. The FEIS recognized bison are an important food source for grizzly bears in the Greater Yellowstone Ecosystem. The FEIS analyzed impacts based on the model predicting the bison population would stabilize, under any alternative. FEIS Vol. I, p. 42-43.

123. The FEIS also recognized in its analysis that the degree to which an alternative actually modified the bison population numbers could likewise affect bears, because bison are an important food source. FEIS Vol. I, p. 42.

124. Since the FEIS was completed, new information has become available that indicates another key food source for grizzly bears – the whitebark pine – is in severe decline. ARY7302 (Letter NRDC to IBMP Partners, citing Tomback et al. 2001 for widespread declines of whitebark pine); ARY8227-8234 (whitebark pine is a critical food source for grizzly bears).

125. Scientists have expressed concern that grizzly bears thus may

become more dependent upon bison to sustain them. ARY7302.

SEIS REQUESTS AND DENIALS

126. Based on much of the information identified above, and other new information and circumstances, several conservation, animal rights, and tribal organizations, as well as individuals, wrote multiple times to request the IBMP agencies prepare an SEIS to address the new information and changed circumstances. ARY6203-6210 (Earthjustice Letter); 6967-6973 (WWP et al. Letter); 7245-7248 (WWP Second Request Letter); 7299-7305 (NRDC Letter).

127. The IBMP agencies' responses acknowledged that new information had become available, but asserted that because of the adaptive management framework selected for the IBMP, no SEIS was necessary. ARY7416; ARY7062 (acknowledging uncertainties as reason for adaptive management framework); ARY6460 (stating partner agencies have been adapting due to new circumstances).

128. The letters indicated the agencies decided not to prepare a supplemental EIS for the IBMP management decisions, but did not offer an explanation based on an evaluation of the significance of the new information and circumstances identified. ARY7416; ARY7062; ARY6460.

Respectfully submitted,

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