



June 14, 2012

John D. Pierson, District Ranger
Reserve Ranger District
Gila National Forest
P.O. Box 170
Reserve, NM 87830
Email: abaldridge@fs.fed.us

RE: Scoping Comments and WildEarth Guardians' Alternative Regarding the Proposed
Grazing Management Action on the Cox Canyon, Deadman, O Bar O and Y Canyon
Allotments

Dear Mr. Pierson,

Thank you for contacting WildEarth Guardians regarding the USDA Forest Service's proposed action on the Cox Canyon, Deadman, O Bar O and Y Canyon Allotments of the Gila National Forest. These comments and alternative are submitted on behalf of WildEarth Guardians and our 12,500 members and supporters who care about, and are affected by, the management of our National Forests.

WildEarth Guardians has a long history of participation in the Forest Service's management of livestock grazing on this and other allotments in Forest Service Region 3 generally, and in the Forest Service's management of livestock grazing on these and other allotments in the Mexican gray wolf Blue Range Wolf Recovery Area ("BRWRA") specifically. The present action being scoped is a result of a settlement agreement between the USFS and WildEarth Guardians that stipulated a timeline for NEPA and consideration of an alternative submitted by WildEarth Guardians. Section 2(G) of the stipulated settlement agreement directs the USFS "to consider an alternative submitted by Plaintiff in that NEPA analysis so long as Plaintiff provides the Forest Service with a detailed description of that alternative during the scoping period for the NEPA analysis."¹

Recent scientific studies have indisputably shown that grazing in the arid areas of our country, such as those in New Mexico and Arizona, eradicates native flora and fauna and degrades water quality.² These devastating effects stem from the fact that cattle drive out native wildlife and denude the landscape while trampling soils and destroying stream

¹ See *WildEarth Guardians v. United States Forest Service* Civ. No. 07-1043-JB –ACT at 3.

² See e.g. Wuerthner, G and M Matteson (eds). 2002. *Welfare ranching: the subsidized destruction of the American west*. Island Press, Washington; see also TL Fleischner. 1994. *Ecological Costs of Livestock Grazing in Western North America*. *Conservation Biology* 8:3:629-644.

banks. Many concerned citizens, including those in our own membership, seek change for range management on our public lands.

I. NEPA Obligations to Consider Environmental Impacts Including those on the Mexican Gray Wolf.

NEPA mandates environmental review of all “major federal actions” that may “significantly affect” the quality of the environment.” 42 U.S.C. § 4332(C). NEPA’s “action-forcing procedures” require the Forest Service to take a “hard look” at the environmental consequences of its proposed actions before proceeding to act, and to encourage public involvement in the agency decision-making process, before decision are made. *See e.g., Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989). The purpose of NEPA, which is “primarily procedural” in nature, is not to dictate results, but rather to ensure an informed and transparent agency decision-making process wherein the public can actively participate. *Save the Yaak Committee v. Block*, 348 F.2d 714, 178 (9th Cir.1988).

The issuance or re-issuance of a livestock grazing permit is an agency action for the purposes of NEPA. *See, e.g., National Resources Defense Council v. Morton*, 388 F.Supp. 829 (D.D.C. 1974), *aff’d without opinion*, 527 F.2d 1386 (D.C. Cir. 1976). In other words, each time the Forest Service issues or renews a term grazing permit, the duty to develop an EA or EIS is always triggered. In this way, NEPA has historically acted as a checkpoint for the Forest Service and as an avenue for public involvement in public lands grazing management decisions.

The Gila National Forest Land and Resource Management Plan (“GNFP”) is the governing Forest Plan on the Gila National Forest. The GNFP contains objectives for the protection of various resources within the Gila National Forest. Among them, the GNFP states that the Forest Service will: “Maintain and/or improve habitat for threatened and endangered species and work toward the eventual recovery and delisting of species through recovery plans.” GNFP at 12.

The proposed actions have the potential to significantly impact threatened and endangered species including, but not limited to, the Mexican gray wolf, Mexican spotted owl, Chiricahua leopard frog, spikedace, and loach minnow.

The Mexican gray wolf is especially vulnerable to impacts from grazing. Since the first eleven Mexican wolves were reintroduced into the BRWRA in 1998, 70 have been removed from the area due to conflicts with Forest Service-permitted livestock. Since 2005 alone, 45 Mexican wolves have been permanently removed, *i.e.* killed or trapped and forever returned to captivity, for the same. More wolves have been removed from the BRWRA for preying on livestock than for any other reason. Considering that no more than 59 Mexican wolves have ever existed within the BRWRA at any one given time since the recovery program began, this high rate of permanent removals is both significant and biologically unsustainable.

WildEarth Guardians is committed to the health of our National Forests, including the species and habitat they support. To this end, helping to restore a viable population of

Mexican gray wolves to their rightful place in the American Southwest is one of WildEarth Guardians' primary conservation campaigns.

NEPA procedures must insure that *high quality* environmental information is available to public officials and citizens before decisions are made and before actions are taken.³ Accurate scientific analysis, expert agency comments, and public scrutiny are essential to implementing NEPA.⁴ Most importantly, NEPA documents must concentrate on the issues that are truly significant to the action.⁵ Livestock grazing often has significant effects on the environment, which must be disclosed and examined in an EA. These impacts typically affect range condition, watershed and riparian health, wildlife, and wildlife habitat.

Cattle grazing denudes the landscape, removes native vegetation, encourages invasion by exotic species, compacts soils, reduces water infiltration rates, and accelerates erosion.⁶ In the arid southwest, collective cattle grazing has reduced the density and biomass of many plant species, reduced biodiversity, aided in the spread of disease, altered ecological succession and landscape heterogeneity, altered nutrient cycles and distribution, and diminished both the productivity and land use options for future generations.⁷ Livestock grazing also disturbs the soil surface through the destruction of biological soil crusts- the assemblages of tiny, often microscopic, organisms, such as cyanobacteria, green algae, fungi, lichens, and mosses, living on or just beneath the soil surface.⁸

Biological soil crusts⁹ are important elements of arid and semi-arid ecosystems. These crusts contribute to increased organic matter, increased minerals, increased soil stability, reduced water run-off, enhanced germination and seedling establishment of native plants, decreased germination of some alien plant species, and increased survivorship of native vascular species.¹⁰ Biological soil crusts provide little fuel to carry fire and may act as refugia, slowing fire, decreasing its intensity, and contributing to the mosaic pattern of vegetation.¹¹ Livestock negatively impact biological crusts through trampling and compaction, especially during dry seasons.¹² Both cover and biomass of the

³ See 40 C.F.R. § 1500.1(b).

⁴ *Id.*

⁵ See *id.*

⁶ See e.g. Freilich, JE, JM Emlen, JJ Duda, DC Freeman & PJ Cafaro. 2003. Ecological effects of ranching: a six-point critique. *BioScience* 53(8): 759-765; Belsky, J & JL Gelbard. *Comrades in Harm: Livestock and Exotic Weeds in the Intermountain West* in Wuerthner, G & M Matteson (eds). *Welfare ranching: the subsidized destruction of the American west*. Island Press (2002).

⁷ Kaufman, JB & Krueger WC. 1984. Livestock impacts on riparian ecosystems and streamside management implications...a review. *Journal of Range Management* 37:430-438.

⁸ Webb, R & M Salvo. Sage Grouse: Imperiled Icon of the Sagebrush Sea, in Wuerthner (2002).

⁹ Biological soil crusts are also known as cryptobiotic or cryptogamic crusts.

¹⁰ Belnap, J. 1994b. Potential role of cryptobiotic soil crusts in semiarid rangelands. Pp. 179-185 in S. B. Monsen and S. G. Kitchen (compilers), *Proceedings — Ecology and Management of Annual Rangelands*. General Technical Report INT-GTR-313. USDA Forest Service Intermountain Research Station, Ogden, UT.; Belnap, J. and J. S. Gardner. 1993. Soil microstructure in soils of the Colorado Plateau: the role of the cyanobacterium *Microcoleus vaginatus*. *Great Basin Naturalist* 53: 40-47; Belnap, J. R. Rosentreter, S. Leonard, J. H. Kaltenecker, J. Williams, and D. Eldridge. 2001. Biological soil crusts: ecology and management. Technical Reference 1730-2. U.S.D.A. BLM National Science and Technology Center Information and Communications Group, P.O. Box 25047, Denver, CO 80225-0047

¹¹ Belnap et al. 2001

¹² Anderson, D.C., K.T. Harper, S.R. Rushforth. 1983. Recovery of cryptogamic soil crusts from grazing on Utah winter ranges. *Journal of Range Management* 35(3): 355-359; Belnap and Gardner 1993; Beymer and Klopatek 1992; Belnap et al. 2001.

biological soil crust has been found to be reduced on areas grazed by domestic livestock and exposed soil to increase. Significant correlations can exist between biological soil crust cover and the composition of vascular plant communities, so that damage can result in an altered vascular flora.¹³ Importantly, it may take centuries for biological soil crusts to recover from the effects of cattle grazing in arid climates.¹⁴

Cattle grazing destroys riparian areas and impairs water quality. Riparian and stream ecosystems represent only 0.5 to 1 percent of the surface area of arid lands in the eleven western United States,¹⁵ yet support an estimated 60 to 70 percent of Western bird species¹⁶ and as many as 80 percent of wildlife species in Arizona and New Mexico.¹⁷ Despite the immense ecological importance of these areas, grazing by livestock has damaged 80 percent of the streams and riparian ecosystems in arid regions of the western United States.¹⁸ As recently as 1990, the U.S. Environmental Protection Agency reported that, “extensive field observations suggest that riparian areas throughout much of the West are in their worst conditions in history.”¹⁹ In addition, a joint Bureau of Land Management and Forest Service report concluded that “riparian areas have continued to decline” since grazing reforms in the 1930’s.²⁰

The result of cattle grazing in and around riparian areas is nothing short of ecological collapse. A recent survey of scientific literature reported on the effects of livestock grazing on Western streams and riparian zones.²¹ Cattle have a negative effect on water quality and seasonal quantity, stream channel morphology, hydrology, riparian zone soils, instream and stream bank vegetation, and aquatic and riparian wildlife.²² Strikingly, this comprehensive survey of peer-reviewed, experimental and comparative studies found no positive environmental impacts due to cattle grazing.²³

Cattle not only destroy wildlife habitat through the degradation of water quality; they also impair human water supplies. Agriculture is the major source of water quality impairment in this country. Siltation, introduction of excessive “nutrient” materials, bacteria, proliferation of oxygen-depleting substances, and pesticides rank as the top causes of water quality decline in rivers, and agriculture- including livestock production- is linked to all of them.²⁴

¹³ Beymer and Klopatek 1992.

¹⁴ Webb, R & M Salvo. Sage Grouse: Imperiled Icon of the Sagebrush Sea in Wuerthner (2002).

¹⁵ U.S. General Accounting Office (“GAO”). 1988. *Public rangelands: some riparian areas restored by widespread improvement will be slow*. GAO/RCED-88-105; see also Belsky, A.J., A. Matzke, and S. Uselman. 1999. *Survey of livestock influences on stream and riparian ecosystems in the Western United States*. *Journal of Soil and Water Conservation* 54: 419-431.

¹⁶ Omart, R.D. 1996. *Historical and present impacts of livestock grazing on fish and wildlife resources in western riparian habitats*. Pp. 245-279. In: P.R. Krausman (ed.), *Rangeland wildlife*. Society for Range Management: Denver, CO; see also Belsky et al. (1999).

¹⁷ Chaney, E., W. Elmore, and W.S. Platts. 1990. *Livestock grazing on Western riparian areas*. Northwest Resource Information Center, Inc.: Eagle, ID; see also Belsky et al. (1999).

¹⁸ U.S. Department of Interior. 1994. *Rangeland reform '94, draft environmental impact statement*. Bureau of Land Management: Washington D.C.; see also Belsky et al. (1999).

¹⁹ Chaney et al. (1990).

²⁰ U.S. Department of Interior (1994).

²¹ Belsky et al. (1999).

²² See *id.*

²³ See *id.*

²⁴ U.S. Environmental Protection Agency, *The Quality of Our Nation's Water: 1996- Executive Summary of the National Water Quality Inventory: Report to Congress*, EPA841-S-97-001 (Washington, D.C.: USEPA, Office of Water, 1998).

Cattle grazing additionally harms wildlife and imperils species. The detrimental effects of cattle grazing on wildlife and threatened and endangered species are numerous and far reaching. Nearly one-quarter of all of the imperiled species listed under the ESA are imperiled by livestock grazing; in the southwest, grazing is a leading cause of species endangerment.²⁵ Large numbers of permitted livestock on lands completely unsuitable for such grazing pressure causes ecosystem disruption and imbalance. Livestock production negatively impacts approximately 114 threatened and endangered species nationwide.²⁶ In some cases, livestock production is the ultimate cause of species decline, even if it is not the proximate cause.²⁷

Grazing injures wildlife in many ways, ranging from food depletion to habitat fragmentation to complete removal due to livestock conflicts. Specifically, fencing and other so-called range “improvements” fragment habitat, creating edge effects and isolating populations.²⁸ Barbed wire fencing in particular causes significant mortality in raptor and other bird species populations.²⁹ Even water developments, which are typically assumed to benefit wildlife, are often detrimental in the context of natural adaptations of species.³⁰ However, perhaps the most disturbing direct impact to wildlife from public lands ranching operations is injury and death through government-sponsored predator control programs.

USDA APHIS Wildlife Services spends millions of taxpayer dollars annually in an inhuman and ineffective effort to protect private livestock by killing predators on both private and public lands.³¹ Western coyotes are the major target. Approximately 70,000 per year have been killed over the last decade. Methods of killing include leghold traps, aerial gunning, neck snares, sodium cyanide-loaded devices called M-44s, and denning (killing pups in dens).

The seventeen western states account for more than two-thirds of Wildlife Services’ expenditures nationwide (67%), with most of this money going to livestock protection (71%). Taxpayers in western states pay twice, sometimes thrice over, as state and county governments also contribute to USDA APHIS Wildlife Services control activities. In the late 1990s, the cost of killing predators in the western states exceeded reported livestock losses to predators by a ratio of three to one.³²

²⁵ Flather, CT, L A Joyce, & C A Bloomgarden. 1994. Species endangerment patterns in the United States. Pp. 42. USDA Forest Service, Ft Collins.

²⁶ Wuerthner, G. A Heavy Toll: Native Animals Harmed by Livestock Production *in* Wuerthner (2002).

²⁷ *Id.*

²⁸ Freilich et al. 2003.

²⁹ Anderson, HL. 1977. Barbed wire impales another great horned owl. *Raptor Research* 11:71-72;

Avery, ML, PF Springer, & NS Dailey. 1978. Avian mortality at man-made structures: An annotated bibliography. U.S. Fish and Wildlife Service; Fitzner, RE 1975. Owl mortality on fences and utility lines. *Journal of Raptor Research* 9:55-57.

³⁰ Burkett, DW & BC Thompson. 1994. Wildlife association with human-altered watersources in semi-arid vegetation communities. *Conservation Biology* 8(3): 682-690.

³¹ Brooks, F & C Briggs. A war against predators: the killing of wildlife funded by taxpayers, *in* Wuerthner (2002). (All information contained within the next three paragraphs is taken from this source.)

³² Predator Conservation Alliance, *Wildlife “Services”? A Presentation and Analysis of the USDA Wildlife Services Program’s Expenditures and Kill Figures for Fiscal Year 1999* (Bozeman, Mont.: PCA, 2001); Wildlife Services, *Annual Report* (Washington, D.C.: USDA/APHIS Wildlife Services, 1999), www.aphis.usda.gov/ws.

Although non-lethal methods of predator control have been found to be more effective in protecting livestock, a 1995 U.S. General Accounting Office report revealed that USDA APHIS Wildlife Services uses lethal methods in almost all instances.³³

Even critically endangered species, like the Mexican gray wolf, are directly and severely impacted by livestock grazing. The BRWRA, which is comprised of the Gila and Apache National Forests, has been designated as the one and only active recovery zone for the Mexican wolf. As such, the BRWRA houses the only remaining free ranging Mexican gray wolves on Earth. That population, currently numbering fewer than 55 wolves, is far short of established recovery objectives, which were expected to have been met by now. As previously stated, WildEarth Guardians is committed to the timely restoration and recovery of the Mexican gray wolf in the American Southwest.

WildEarth Guardians is fully aware that the Mexican gray wolf population in the BRWRA has been deemed an “experimental, non-essential” population pursuant to ESA § 10(j). WildEarth Guardians is aware that the Forest Service routinely relies on this designation to improperly argue that it has no duty to consider Mexican gray wolves when making its grazing management decisions. We respectfully assert that the Forest Service’s position on this matter is misguided.

It has not escaped anyone, including the Forest Service, that wolves are permanently removed from the BRWRA for preying on cattle permitted by the Forest Service. Management related removals are the primary cause of the failure of the reintroduction project to meet its objectives.

NEPA requires that you disclose sufficient evidence and analysis of the real impacts of reauthorizing grazing on the Cox Canyon, Deadman, O Bar O and Y Canyon Allotments to range resources, riparian and watershed health, and wildlife, including threatened and endangered species.³⁴ In order to be “sufficient,” under NEPA, an EA or EIS must “put interested persons on notice of the significant impacts of [the] project on the environment.”³⁵ That includes putting the public on notice of how continued grazing in this and other allotments of the BRWRA may potentially significantly impact the Mexican gray wolf. Neither 50 C.F.R. § 17.84(k), 63 F.R. 1755, nor ESA § 10(j) itself excuses your compliance with NEPA, NFMA, or ESA § 7(a)(1) regarding the proven impacts of current livestock management to Mexican gray wolves. In fact, 50 C.F.R. § 17.84(k) and 63 F.R. 1755 expressly reinforce the fact that these other duties remain intact and unaffected by the “non-essential, experimental” designation of this population.

It is of no consequence that the U.S. Fish and Wildlife Service is primarily responsible for Mexican gray wolf management. Mexican gray wolves live on Forest Service lands, and the Forest Service, as the primary federal land management agency of the BRWRA, is charged with conserving wildlife and threatened and endangered species within its borders. Beyond the agency’s federal obligations to all species, the Forest Service has committed to restoring and conserving the Mexican gray wolf specifically, as evidenced

³³ General Accounting Office, *Animal Damage Control Program: Efforts to Protect Livestock from Predators*, GAO/RCED-96-3 (Washington, D.C.: USGAO, 1995).

³⁴ See 40 C.F.R. § 1508.9(b).

³⁵ *Iowa Citizens for Environmental Quality, Inc. v. Volpe*, 487 F.2d 849, 853 (8th Cir. 1973).

in its membership in the AMOC and its signature on the MOU. We ask that the Forest Service now live up to that obligation by thoroughly discussing potential impacts to one or more Mexican gray wolves along with options for better management practices in the upcoming EA for the Cox Canyon, Deadman, O Bar O and Y Canyon Allotment.

II. WildEarth Guardians Alternative to the Proposed Action

NEPA requires federal agencies to consider alternatives to their proposed actions, and examine the environmental impacts of those alternatives. This requirement implements NEPA's environmental policies. It requires federal agencies to consider whether they can carry out their proposed action in a less environmentally damaging manner, and whether alternatives exist that make the action unnecessary. In fact, the CEQ has described the alternatives requirement as the "heart" of environmental review.³⁶ The courts have been correspondingly emphatic, calling the alternatives requirement the "linchpin" of the EIS.³⁷

Wolves maintain large home ranges in their search for prey. The more livestock that are present within the BRWRA and the more widespread their distribution, the greater the probability of wolves encountering and possibly preying on livestock. Under current wolf management, this results in the "take" and removal of wolves, either through capture or kill. The success of gray wolf recovery in the northern Rocky Mountains is attributed in large part to the existence of large livestock-free core areas where wolves need not be managed or controlled for interactions with livestock.³⁸

Livestock grazing is a permitted privilege within the BRWRA "where consistent with other multiple use goals and objectives." The elimination of grazing privileges within the BRWRA would not significantly affect the livestock industry as a whole.³⁹ However, the success of the BRWRA Mexican gray wolf reintroduction project is entirely dependent on wolves thriving and persisting within the BRWRA. We believe that these facts elevate the priority of Mexican wolf recovery above that of livestock production within the BRWRA, and that this priority should be reflected in the pending decision by the Forest Service on the Cox Canyon, Deadman, O Bar O and Y Canyon Allotments.

WildEarth Guardians' alternative removes livestock from the Cox Canyon, Deadman, O Bar O and Y Canyon Allotments for resource protection for ten (10) years. Allotment boundary fences would not be removed and fence maintenance responsibilities would be reassigned to adjacent permit holders. The permits would be waived back to the U.S. Forest Service. The permits could be considered for reissuance at the end of the ten-year permit period.

A permit-waiver, 10-year livestock non-use alternative is not unprecedented on the Gila National Forest or other National Forests. (See Exhibits attached). The permit-waiver, 10-year livestock non-use alternative would result in significant benefits to the Mexican

³⁶ See 40 C.F.R. § 1502.14

³⁷ See *Monroe County Conservation Council, Inc. v. Volpe*, 472 F.2d 693 (2nd Cir.1972).

³⁸ Bangs E.E., S.H. Fritts, J.A. Fontaine, D.W. Smith, K.M. Murphy, C.M. Mack, and C.C. Niemeyer. 1998. *Status of gray wolf restoration in Montana, Idaho, and Wyoming*. Wildlife Society Bulletin 26:785-798.

³⁹ Donahue, D.L. 1999. *The Western Range Revisited*. University of Oklahoma Press, Norman.

gray wolf and meet the Forest Service's obligations under the ESA for listed species recovery. The alternative would result in additional improvement to resources including range, threatened and endangered species (TES), sensitive species, and water quality. Finally, significant measurable fiscal benefits would accrue to the U.S. government and taxpayer, not exclusively but especially eliminating the cost of range improvement infrastructure of up to \$1 million.

III. Other Appropriate Issues for the Forthcoming EA

a. Cost-Benefit Analysis

Federal law requires the Forest Service to conduct cost-benefit analyses for its grazing management decisions, which include weighing values such as environmental quality. In its provisions specifying the requirements for environmental decision-making by federal agencies, NEPA requires that agencies develop methods to ensure that "presently unquantified environmental amenities and values" be given appropriate consideration in decision-making along with economic and technical considerations.⁴⁰

The Proposed Action includes range improvement structures at a total cost on \$944,750 for all four allotments. Funding for these range improvements has not been secured and sources are only named as future potential.⁴¹ Nearly \$1 million in funding must be compared to any fiscal benefit to the federal government.

The EA or EIS for the reauthorization of grazing on the Cox Canyon, Deadman, O Bar O and Y Canyon Allotments should include a proper cost-benefit analysis, which realistically takes environmental quality into account. Accordingly, forthcoming NEPA review should attempt to accurately quantify the income of enhanced hunting and recreation, along with the non-monetary ecological and social benefits, which would arise from the cessation of grazing, and the devotion of the allotment to wildlife and other unique resources.

The Forest Service must consider socio-economic benefits not only to permittees and local communities, but also to the entire public now and in future generations, as they are the ultimate owners and inheritors of this land. Any consideration of the "lifestyle and culture" of ranching interests must be weighed explicitly against the "lifestyle and culture" of the far more numerous hikers, hunters, fishers, and professional or amateur mycologists, ornithologists, entomologists, herpetologists, botanists, mammalogists and other zoologists, wilderness lovers and bird watchers that frequent and enjoy the biodiversity and landscape of this allotment. Through appropriate social survey, the Forest Service should estimate the actual demand for these services.

A true cost-benefit analysis of continued livestock grazing on the arid public lands of the American Southwest reveals the heavy burden paid by the public at large for the slight benefit reaped by a select few. Surely, the only "benefit" of continued grazing on the Cox

⁴⁰ 42 U.S.C. § 4332(B).

⁴¹ The fact that the funding is not secured at this time is likely a NEPA violation. If a decision is signed with these terms and conditions unfunded and unconstructed, the cattle may not be on the lands until the infrastructure is in place.

Canyon, Deadman, O Bar O and Y Canyon Allotments is that of a financial subsidy to the associated permittees. The public has no obligation to financially support ranchers who are engaged in an economically dwindling and environmentally destructive industry. This is especially true when evidence shows that putting our public land to other uses is more ecologically and fiscally responsible.

The benefit of continued grazing on these allotments outweighs neither the ecological costs nor the financial burden to the American taxpayer. The Government Accountability Office has reported that the federal government spends at least \$144 million each year managing private livestock grazing on federal public lands, but collects only \$21 million in grazing fees. This equates to a net loss of at least \$123 million per year.⁴² Considering the additional direct and indirect costs not included in the Government Accountability Office report, economists have estimated that the federal public lands grazing on Bureau of Land Management and Forest Service lands may cost as much as \$500 million to \$1 billion annually.⁴³

The benefits that would flow from the elimination of cattle, however, are numerous. Besides its inherent value, livestock-free and fence-free wildlife habitat enhances opportunities for ecological services and recreational uses. There is rising demand for outdoor recreation on our public lands. As a recently released report emphatically illustrates, the economic contribution of recreationists to the national economy is staggering in the United States today.⁴⁴

From birdwatchers to mountain bikers, outdoor enthusiasts bring in almost \$300 billion in annual retail sales, and contribute more than twice that to the United States economy. Outdoor recreationists spend \$46 billion a year on the gear they need to recreate in the American woods, rivers, and slopes. They spend five times that much – \$243 billion – on the food, lodging, entertainment, and transportation they require along the way. In all, active outdoor recreation pumps \$730 billion annually into the United States economy.

The recreation industry supports about 6.5 million jobs, and associated annual tax revenues add up to \$88 billion a year. Wildlife viewing is currently the most common outdoor activity, with birding alone attracting 66 million people in 2005. Biking is the second most favored outdoor activity. In fact, 60 million people took part in cycling in 2005, while those taking to the trails for running, hiking, rock climbing or backpacking totaled 56 million.

There is an obvious demand for untraditional, non-consumptive uses of our National Forests. Unlike livestock grazing, these new uses are compatible with maintaining landscape health. We and others see the potential value in our National Forest system for providing unparalleled opportunity for much-needed wildlife habitat, species recovery, and natural areas.

⁴² GAO. 2005. Livestock grazing: federal expenditures and receipts vary, depending on the agency and the purpose of the fee charged. GAO-05-869. Government Accountability Office. Washington, D.C.

⁴³ Moscovitz, K. and C. Romaniello. 2002. *Assessing the full cost of the federal grazing program*. Center for Biological Diversity. Tuscon, AZ. The estimated cost of the federal grazing program at \$500 million is consistent with estimates developed by other experts.

⁴⁴ Joanne Kelly, *US Impact of Outdoor Recreation: \$730 Billion*, Scripps Howard News Service, Sept. 18, 2006 (all information cited in the following two paragraphs was obtained from this article).

b. Climate Change and Allowable Forage Use

Climate change is certain and caused predominantly by heat-trapping gases produced from the burning of fossil fuels, aided in part by the clearing of forests and agricultural activities. It is evident that increases in greenhouse gases very likely account for most of the earth's warming over the past 50 years. The atmospheric concentration of carbon dioxide, the greenhouse gas produced in the largest quantities, has risen about 35 percent since 1750 to about 390 parts per million by volume, the highest level in at least 800,000 years.⁴⁵

Although efforts are underway to reduce global emissions of greenhouse gases, it is fairly inevitable that humans will need to undertake measures to adapt to climate change and the resulting effects on natural systems, including changes in streamflow, wildfires, crop productivity, temperature, and sea level.

Adapting to these changes will require a herculean effort on the part of modern society, and coordination across large landscapes will be critical. An advantage in the West is vast, relatively well-connected holdings of federal lands that can buffer and mitigate impacts of climate change. The Secretaries of Interior and Agriculture have acknowledged these unique opportunities and directed their respective departments to address climate change.

The USFS manages 193 million acres of forests and grasslands in the United States; 142 million acres in the eleven western states. In July 2010, the USFS released a *National Roadmap for Adapting to Climate Change*.⁴⁶ The Department of Interior ("DOI") has also specified unequivocal actions towards science-based adaptation strategies to protect vital ecosystem services, including water quantity and quality, biological diversity, and fish and wildlife habitat.⁴⁷

Adaptation to the effects of climate change is an objective that fits with the mission of the USFS. In fact, the federal forestlands were originally reserved at the end of the 19th century in part to protect watersheds and secure favorable flows of water. Approximately one out of five Americans depends on a national forest for drinking water.⁴⁸ In an era of climate change, forests and grasslands will play an increasingly vital role in protecting the nation's watersheds and, as succinctly stated by the USFS: "a successful response to climate change will entail sound stewardship of America's watersheds."⁴⁹

⁴⁵ [NRC] National Research Council 2010. *Climate Stabilization Targets: Emissions, Concentrations, and Impacts over Decades to Millennia* Committee on Stabilization Targets for Atmospheric Greenhouse Gas Concentrations. Washington DC: National Research Council. ISBN: 0-309-15177-5, 190 <http://www.nap.edu/catalog/12877.html>. Accessed August 13, 2010.

⁴⁶ (USDA) U.S. Department of Agriculture, U.S. Forest Service 2010. *National Roadmap for Responding to Climate Change*. <http://www.fs.fed.us/climatechange/climate-update.shtml>. Accessed August 24, 2010.

⁴⁷ [USDI] U.S. Department of Interior 2009a. *Empowering Natural Resource Managers to Adapt to Climate Change*. U.S. Department of the Interior COP-15 Copenhagen, Dec. 7-18, 2009. <http://www.doi.gov/archive/climatechange/>. Accessed August 24, 2010.

⁴⁸ (USFS) U.S. Department of Agriculture, U.S. Forest Service 2010. *National Roadmap for Responding to Climate Change*. <http://www.fs.fed.us/climatechange/climate-update.shtml>. Accessed August 24, 2010.

⁴⁹ USDA 2010.

Forest Service Chief Tom Tidwell has noted the importance of climate change and water in management of the National Forest System. Specifically, in a November 20, 2009 memo to staff entitled “Responding to Climate Change: Developing Integrated Plans for Landscape Conservation,” the Chief stated:

“Responding to the challenges of climate change in providing water and water-related ecosystem services is one of the most urgent tasks facing us as an agency.”

The Chief requested area-specific action plans by March 1, 2010 based partly on the *Framework*. The *Framework* provides the vision, guiding principles, goals, and recommended actions for pursuing the Agency’s mission in a rapidly changing climate. The *Framework* guides the integration of climate change into the programs, policies, processes, and partnerships of the Agency.

The western United States is already experiencing climate change impacts.⁵⁰ The U.S. Global Change Research Program (“USGCRP,” which includes the Departments of Interior and Agriculture) has identified the effects of this increasing temperature in the Southwest to include:

- Water supplies becoming increasingly scarce, calling for trade-offs among competing uses, and potentially leading to conflict;
- Increasing temperature, drought, wildfire, and invasive species, accelerating transformation of the landscape;
- Increased frequency and altered timing of flooding, increasing risks to people, ecosystems, and infrastructure;
- Unique tourism and recreation opportunities likely suffering; and
- Cities and agriculture facing increasing risks.⁵¹

Climate simulations of the Palmer Drought Severity Index (PDSI) for near-term periods show an increase in drought severity that occurs together with surface warming. The southwest U.S. is already experiencing climate change impacts, and effects are commonly accepted in the literature. Warming trends in the Southwest are considered to be swifter than other regions of the country and may be significantly greater than the global average.⁵² The rapid increase in temperatures in this region, particularly summertime temperature, will have drastic effects on hydrology, which in turn may result in severe water supply challenges in the near future.⁵³

Changes in snowpack and timing of runoff are certain in much of the western U.S. but are especially grave for the southwestern and interior western U.S. river basins. The National Research Council (“NRC”) has concluded that runoff in the Rio Grande Basin will decrease by 12% for every one degree of temperature rise, the greatest reduction projected

⁵⁰ [USGCRP] U.S. Global Change Research Program 2009. Karl, Thomas, Jerry M. Melillo, and Thomas C. Peterson, (eds.). *Global Climate Change Impacts in the United States*. Cambridge University Press, 2009.

⁵¹ *Id.*

⁵² *Id.*

⁵³ *Id.*

for any stream basin in the U.S.⁵⁴ Both the upper and lower Colorado River basin will experience decreases in runoff of more than 6% for every one degree in temperature.⁵⁵ The Great Basin will experience a decrease in runoff of 5%, California a decrease of 3% and the Pacific Northwest could see an increase of 1%.”⁵⁶

The New Mexico Office of the State Engineer has noted that:

“Increasing temperatures and drought will present challenges to rangeland health. These include likely shifts of plant dominance and structure that are not easily reversed and often result in an increase in invasives as ecological conditions change, as well as the potential for rangeland degradation.”⁵⁷

The Gila is no doubt experiencing climate change exacerbating drought conditions unseen in recent generations. Such obvious changes will require adaptation on the part of rangeland managers. However, the Proposed Action does not consider reducing herbaceous forage utilization levels from the current standard of 31 to 40%.

Thank you again for this opportunity to comment. Please keep WildEarth Guardians apprised of any and all developments on these and other Gila National Forests grazing allotments.

Respectfully submitted,



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⁵⁴ NRC 2010.

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ [OSE] New Mexico Office of the State Engineer/Interstate Stream Commission. 2006. *The Impact of Climate Change on New Mexico's Water Supply and Ability to Manage Water Resources*. John R. D'Antonio, P.E., State Engineer. July 2006.