



Animal Welfare Institute

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Submitted via eplanning.blm.gov

RE: Draft RMP Amendment and EIS for Wild Horse Management in the Rock Springs and Rawlins Field Offices, Wyoming, DOI-BLM-WY-D040-2011-0001-RMP-EIS

Dear Ms. Foster:

The Animal Welfare Institute (AWI) submits these comments in response to the Bureau of Land Management's Draft resource management plan (RMP) amendment and environmental impact statement (EIS), NEPA # DOI-BLM-WY-D040-2011-0001-RMP-EIS, dated January 31, 2020, which seeks input on a proposed management plan for wild horses in the following Herd Management Areas (HMAs) in Wyoming: Adobe Town, Great Divide Basin, Salt Wells Creek, and White Mountain.

AWI is a national, nonprofit charitable organization founded in 1951, dedicated to alleviating the suffering inflicted on animals by humans. AWI engages policymakers, scientists, industry professionals, non-governmental organizations, farmers, veterinarians, teachers, and the public in its broad animal protection mission. AWI works to minimize the impacts of all human actions that are detrimental to wildlife, including by mitigating the use of inhumane methods to manage free-roaming wild horses and burros.

I. Introduction

While we understand that the Bureau of Land Management (BLM) must meet its obligations under the 2013 Consent Decree resulting from the Rock Springs Grazing Association (RSGA) lawsuit, *Rock Springs Grazing Association v. Salazar*, No. 11-CV-00263-NDF (D. Wyo. 2011), the agency is not required to adopt the actions listed in its preferred alternative (Alternative D) in order to comply with the terms of the Consent Decree. The Consent Decree requires only that the BLM consider and analyze certain actions, but in no way obligates the agency to implement any specific action (EIS pg. 9); *see also* Consent Decree at ¶ 6. For example, under the Consent Decree, the BLM must analyze the potential modification of Herd Management Areas (HMAs) and Appropriate Management Levels (AMLs), *see* Consent Decree at ¶ 6, but is not required to manage any of these HMAs below the currently operative AMLs, or eliminate HMAs altogether.

It is unfortunate that RSGA's withdrawal of consent to allow wild horses on privately-owned portions of the "checkerboard" terrain has put the BLM in a more challenging position. As the EIS notes, historically the RSGA had given consent to the BLM for wild horses to utilize its parcels within the checkerboard. But pursuing aggressive removals within the checkerboard in response to RSGA's actions is not a viable solution as a federal court has made clear. In 2016, the Tenth Circuit Court of Appeals ruled that the BLM's 2014 roundup of wild horses in the checkerboard region was illegal, finding that the agency violated both the Wild Free-Roaming Horses and Burros Act (WFRHBA), 16 U.S.C. §§ 1331-1340, and the Federal Land Policy and Management Act, 43 U.S.C. §§ 1701-1787. *American Wild Horse Preservation Campaign v. Jewell*, 847 F.3d 1174, 1188 (10th Cir. 2016). The Court held that the BLM may only remove wild horses from public lands after it determines that overpopulations exist, and that action is necessary to remove excess animals to achieve appropriate management levels. *Id.* at 1187-1188. The BLM may not, in effect, treat public land as private land by conducting a "Section 4 gather on the public land sections of the Checkerboard" in order to "attempt[] to stop wild horses from straying from the public land sections of the Checkerboard to the private lands sections of the Checkerboard." *Id.* at 1189. Should the BLM pursue the aggressive actions outlined in Alternative D of the draft RMP amendment and EIS – as further outlined and described in these comments (e.g., mass removals of wild horses, elimination of HMAs) – the agency may risk violating federal law.

While Section 4 of the WFRHBA grants a narrow and limited authority for the agency to remove wild horses at the request of private landowners, the scope of the preferred action far exceeds the law's purpose. The BLM's plan would set a dangerous precedent since the agency would be removing wild horses due to the mere assumption and expectation that these animals may stray onto parcels of private land at some point in the future. This novel interpretation presents a radical departure from how the BLM has managed wild horses in the past and offers a troubling – and flawed – interpretation of the WFRHBA.

Broadly speaking, the "challenges due to private land conflicts" that the BLM identifies as being the root of the need for this the new draft RMP amendment and EIS only underscore the importance and necessity of implementing scientifically proven fertility control methods that are available now to effectively and humanely manage wild horse populations – namely, immunocontraceptive vaccines such as porcine zona pellucida (PZP). Continuing the status quo of rounding up and removing horses, while continuing to diminish their natural habitats and range, is untenable. The EIS proposes to funnel more horses into an already unsustainable warehousing system that costs the agency approximately \$50 million a year, which, in recent years, has amounted to roughly two-thirds of the BLM's total Wild Horse and Burro (WHB) program budget.

We encourage the BLM to evaluate and raise the current AML, given that the planning area consists of federally designated wild horse habitat and the agency should aim to fulfill its statutory mandate to protect wild horses and allow them to exist on public lands. But of the four alternatives proposed in the EIS, AWI would prefer that the BLM pursue Alternative A (no action) – specifically maintaining a total AML for the HMAs included in this planning area (Adobe Town, Great Divide Basin, Salt Wells Creek, and White Mountain) of 1,481 to 2,065 horses across 2,811,401 acres of land.

II. Legal Background

A. Federal Land Policy Management Act

The Federal Land Policy Management Act of 1976 (FLPMA), 43 U.S.C. §§ 1701-1787, requires that certain public lands and their resources be “periodically and systematically inventoried and their present and future use [] projected through a land use planning process.” *Id.* § 1701(a)(2). FLPMA further mandates that “public lands be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use.” *Id.* § 1701(a)(8). FLPMA requires the public lands to be administered for “multiple-use,” which Congress defined as “the management of the public lands and their various resource values so that they are utilized in the combination that will best meet the present and future needs of the American people...with consideration being given to the relative values of the resources and not necessarily to the combination of uses that will give the greatest economic return or the greatest unit output.” *Id.* § 1702(c).

FLPMA’s implementing regulations require the BLM to periodically develop, maintain, and revise “resource management plans” (RMPs) – written documents “designed to guide and control future management actions and the development of subsequent, more detailed and limited scope plans for resources and uses.” 43 C.F.R. § 1601.0-2. Modifications to RMPs – including modifications to HMAs, their boundaries, or the AMLs that apply to a particular herd – may only be adopted through a formal amendment to or revision of the applicable RMP through FLPMA’s land-use planning process subject to public comment and NEPA review. See 43 C.F.R. § 4710.1. Accordingly, Congress created a formal two-step process in the FLPMA that requires the BLM to first issue a programmatic plan (i.e., a RMP) that sets overarching policies and management goals for the next few decades subject to NEPA compliance in an EIS, and then second issue site-specific decisions (themselves subject to NEPA review in either an EIS or EA) to actually implement on-the-ground actions consistent with the policies and management objectives identified in the programmatic plan. At both steps of this process, the public is allowed to meaningfully participate through the FLPMA and NEPA process.

B. National Environmental Policy Act

Congress enacted the National Environmental Policy Act (NEPA) more than four decades ago “[t]o declare a national policy which will encourage productive and enjoyable harmony between man and his environment; to promote efforts which will prevent or eliminate damage to the environment...” 42 U.S.C. § 4321. In light of this mandate, the Supreme Court has found that NEPA is “intended to reduce or eliminate environmental damage and to promote ‘the understanding of the ecological systems and natural resources important to’ the United States.” *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 756 (2004) (quoting 42 U.S.C. § 4321). NEPA is intended to “ensure[] that [federal agencies]... will carefully consider, detailed information concerning significant environmental impacts” and “also guarantees that the relevant information

will be made available to the larger [public] audience.” *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 349 (1989).

In NEPA’s implementing regulations, there are two specific mechanisms whereby federal agencies must evaluate the environmental and related impacts of a particular federal action – an EA and an EIS. *See* 42 U.S.C. § 4332(c). These procedural mechanisms are designed to inject environmental considerations “in the agency decisionmaking process itself,” and to “help public officials make decisions that are based on understanding of environmental consequences, and take actions that protect, restore, and enhance the environment.” *Pub. Citizen*, 541 U.S. at 768-69 (emphasis added) (quoting 40 C.F.R. § 1500.1(c)). Therefore, “NEPA’s core focus [is] on improving agency decisionmaking,” *Pub. Citizen*, 541 U.S. at 769 n.2, and specifically on ensuring that agencies take a “hard look” at potential environmental impacts and environmentally enhancing alternatives “as part of the agency’s process of deciding whether to pursue a particular federal action.” *Baltimore Gas and Elec. Co. v. Natural Res. Def. Council*, 462 U.S. 87, 100 (1983). The alternatives analysis “is the heart” of the NEPA process. 40 C.F.R. § 1502.14. NEPA’s implementing regulations require that the decision-making agency “present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decisionmaker and the public.” *Id.* Importantly, the NEPA process “shall serve as the means of assessing the environmental impact of proposed agency actions, rather than justifying decisions already made.” 40 C.F.R. § 1502.2(g) (emphasis added); *see also Id.* § 1502.5 (requiring that NEPA review “shall be prepared early enough so that it can serve practically as an important contribution to the decisionmaking process and will not be used to rationalize or justify decisions already made”) (emphasis added), *Forest Guardians v. U.S. Fish and Wildlife*, 611 F.3d 692, 712 (10th Cir. 2010) (However, “the comprehensive ‘hard look’ mandated by Congress and required by [NEPA] must be timely, and it must be taken objectively and in good faith, not as an exercise in form over substance, and not as a subterfuge designed to rationalize a decision already made.” *Metcalf v. Daley*, 214 F.3d 1135, 1141-42 (9th Cir. 2000)).

C. Wild Free-Roaming Horses and Burros Act

In 1971, Congress enacted the Wild Free-Roaming Horses and Burros Act out of concern that wild horses were “disappearing from the American scene.” 16 U.S.C. § 1331. Declaring that “wild horses are living symbols of the historic and pioneer spirit of the West,” and “contribute to the diversity of life forms within the Nation and enrich the lives of the American people,” Congress directed that wild horses “shall be protected from capture, branding, harassment, [and] death” and “be considered in the area where presently found, as an integral part of the natural system of the public lands.” *Id.* To implement that mandate, Congress declared that BLM shall “protect and manage wild free-roaming horses and burros as components of the public lands,” and provided that “[a]ll management activities shall be at the minimal feasible level.” 16 U.S.C. § 1333(a).

Under the Act, BLM manages wild horses on public lands within HMAs, which are “established for the maintenance of wild horse...herds,” 43 C.F.R. § 4710.3-1, in the areas they used in 1971. 43 C.F.R. § 4700.0-5(d). The WFRHBA further requires the BLM to manage wild horses “in a manner that is designed to achieve and maintain a thriving natural ecological balance on the public lands.” 16 U.S.C. § 1333(a). To do so, for each HMA, the BLM must: (1) maintain a current inventory of wild horses in each HMA, (2) “determine [the] appropriate management level” – i.e.,

the AML – of wild horses that the HMA can normally sustain, and (3) determine the method of achieving the designated AML and managing horses within it. 16 U.S.C. § 1333(b)(1); 43 C.F.R. §§ 4710.2, 4710.3-1. An AML is “expressed as a population range within which [wild horses] can be managed for the long term” in an HMA without resulting in rangeland damage. BLM, *Wild Horse Handbook*, at 17. The lower limit of the AML range is “established at a number that allows the population to grow (at the annual population growth rate) to the upper limit over a 4 to 5 year period, without any interim gathers.” *Id.*

Section 3 of the Wild Horse Act grants the BLM the authority to manage and protect wild horses by permanently removing “excess” horses from public lands, but only after the BLM specifically determines that: (1) “an overpopulation [of wild horses] exists on a given area of the public lands,” and (2) “action is necessary to remove excess animals.” 16 U.S.C. § 1333(b)(2). An “excess” wild horse is defined as one that “must be removed from an area *in order to preserve and maintain a thriving natural ecological balance...in that area.*” 16 U.S.C. § 1332(f) (emphasis added). Once the BLM makes a formal “excess determination,” it may remove only those “excess animals from the range so as to achieve appropriate management levels.” 16 U.S.C. § 1333(b)(2). According to the BLM’s wild horse manual, “[w]ild horses or burros should generally not be removed below the AML lower limit.” BLM, *Wild Horse Manual MS-4720*, at 4; *see also* BLM, *Wild Horse Handbook*, at 17 (wild horse removals should be conducted to “maintain population size within AML”); *see also American Wild Horse Preservation Campaign v. Jewell*, 847 F.3d 1174 (10th Cir. 2016). Removal of wild horses below the agency’s legally established AML may be warranted only “in emergency situations based on limited forage, water or other circumstances.” BLM, *Wild Horse Manual*, at 5. Before taking action to remove wild horses below AML if the agency determines that emergency circumstances exist, the BLM must conduct an adequate NEPA analysis subject to public participation and provide a compelling “[r]ationale to justify a reduction below the AML lower limit.” *Id.*

III. Discussion

A. Wild Horse Reductions

We have grave concerns about the proposed dramatic wild horse reductions. Under the BLM’s preferred alternative, the total AML would be 259 to 536 horses across 1,920,314 acres of BLM lands, or 1 horse for every 7,414.339 acres (excluding the additional 891,087 acres of non BLM-managed land in the planning area) (pg. 41). This proposed action represents a sweeping 74% reduction in the number of permitted wild horses (pg. 5). As the BLM notes, animal unit months (AUMs) “previously allocated to wild horse use may be reallocated to wildlife, livestock” and other functions (pg. 5).

Under the BLM’s plan, all checkerboard lands within the HMAs would be managed for zero wild horses; as a result, the entire Great Divide Basin HMA, the entire Salt Wells Creek HMA, the entire White Mountain HMA, and a large portion of the Adobe Town HMA would be managed for zero wild horses and revert to Herd Area (HA) status (i.e., cease to exist as HMAs). An estimated 3,000 would be permanently removed from the range and a staggering 2.5 million acres would no longer be allocated for wild horses, which represents an 87% reduction in the total acreage allocated for wild horse use under the BLM’s estimation (pg. 63). The estimation is based

on the March 2019 census (which contains the most recent publicly available data) since the EIS does not disclose current population numbers or include an approximate tally of how many individual animals the BLM is seeking to remove from the region.

These actions represent a stark and devastating loss that the agency is unable to justify, providing instead speculative rationales, without evidence, to support its claims – for example, that the preferred alternative would “result in fewer conflicts between wildlife and wild horses” (pg. 5). This is unacceptable under NEPA.

In a particularly shocking move, the BLM intends to remove all horses from the Wild Horse Scenic Loop, a popular area for the public to view wild horses. The agency’s proposed action would likely reduce tourism and interest; the EIS notes that visitors would have to drive further from larger population areas in order to view wild horses and that the increased travel time could deter visitors (pg. 90-91). The EIS cursorily acknowledges the negative ramifications, but fails to adequately consider the impacts of removing all wild horses from the viewing loop area. The BLM acknowledges that wild horses offer unique recreational and sightseeing experiences for visitors to these HMAs; however the EIS does not analyze how increasing livestock use could further reduce recreational and sightseeing opportunities (pg. 89).

At a minimum, the BLM should consider an alternative that allows wild horses to exist on solid block portions of public lands – for instance, as the BLM notes, over half of the portion of the Adobe Town HMA that would revert to HA status and be managed for zero wild horses exists outside of the checkerboard land pattern, meaning a solid block could be designated (pg. 17, pg. 41). Similarly, over half of the Great Divide Basin lies outside of the checkerboard land pattern, but here again the BLM has opted not to pursue creating contiguous portions to allow horses to reside in these HMAs. Moreover, the BLM could look to areas excluded from analysis in the EIS, namely the adjoining Little Colorado HMA, which consists wholly of public land; we urge the BLM to return to the drawing board to create contiguous areas of public lands for wild horses to inhabit rather than pursue costly, irresponsible, and potentially illegal mass removals.

Regarding the difficulties of ensuring that horses stay only on public lands, courts have held that the BLM is not required to prevent wild horses from straying onto private lands. *Fallini v. Hodel*, 783 F.2d 1343, 1345 (9th Cir. 1986) (cited with approval by *American Wild Horse Preservation Campaign v. Jewell*, 847 F.3d 1174, 1189 (10th Cir. 2016)). Indeed, the Tenth Circuit ruling in *American Wild Horse Preservation Campaign v. Jewell* regarding checkerboard roundups emphasized that the practical realities of the unusual land ownership pattern “do not provide BLM with the authority to construe the [WFRHBA] in a manner contrary to its plain and unambiguous terms” by responding to a “removal request by treating public lands as private lands” 847 F.3d at 1188.

It is worth noting that RSGA, which revoked its consent to allow wild horses on private land that it manages, owns only 14% of the checkerboard lands in the HMAs. Given the land pattern, RSGA “manages its private lands in concert with the unfenced public lands” such that RSGA’s own livestock “roam freely on property owned by [RSGA] and on the alternate sections of land owned by the federal government.” *Id.* at 1180 (quotation omitted). The BLM fails to adequately address this point in the current EIS and fails to fully disclose the exact amount of land at issue given that

the majority private landowner in the checkerboard is Anadarko Petroleum, owned by Occidental. The EIS simply notes that “RSGA owns numerous private land sections within each of these HMAs” without getting into specifics or the implications of prioritizing RSGA’s livestock grazing interests over the interests of the federally protected horses in the planning area (pg. 40).

This is especially troubling since, as has been widely reported in the media, the state of Wyoming is seeking to purchase Occidental’s lands in the checkerboard, meaning the supposed rationale of needing to prevent wild horses from venturing into private lands seems even less tenable. The EIS fails to disclose that the majority private landowner is considering selling lands within the checkerboard. The potential sale and purchase of these lands must be analyzed in the final EIS, including possibilities such as whether the BLM can work with the state to preserve habitat for wild horses, including in and around the Wild Horse Scenic Loop, which is vital to Wyoming tourism.

B. Appropriate Management Levels

Regarding the BLM’s designations of AMLs more generally – which play such a central role in the agency’s decision-making – the National Academy of Sciences (NAS) has raised concerns that the limits imposed by AMLs inadequately reflect the reality of wild horse populations on the range, and that the process for making these determinations is largely opaque, as discussed in its comprehensive 2013 report (commissioned by the BLM) on wild horse and burro management:¹

How AMLs are established, monitored, and adjusted is not transparent to stakeholders, supported by scientific information, or amenable to adaptation with new information and environmental and social change. (pg. 11)

At best, AMLs appear to be set arbitrarily; at worst, the opacity that NAS identified hinders sound management decisions that can be scrutinized and understood by the public – something evident from the BLM’s statement that AMLs could be adjusted without requiring a Land Use Plan amendment under its preferred alternative (pg. 63).

With this proposal, the agency would further balloon the population of warehoused wild horses despite the exorbitant costs associated with continuing this trajectory. The proportionally smaller AMLs and adjustments made under Alternative D simply shift wild horses from the range to short and long-term holding facilities. The EIS fails to consider the costs of removing such a large number of horses – information that needs to be explained in a future NEPA action before any roundups can occur.

Moreover, the preferred alternative proposes to “supplement herds with additional wild horses from other HMAs to help maintain AMLs following natural attrition or to help preserve *adequate* genetic diversity” [emphasis added] (pg. 59). The goal should not be to arrive at a point where the BLM has to bring in outside horses to prevent the myriad problems associated with inbreeding. The “zeroing out” of several HMAs renders the question of genetic diversity moot only insofar as whole herds are being eliminated.

¹ National Research Council 2013. *Using Science to Improve the BLM Wild Horse and Burro Program: A Way Forward*. Washington, DC: The National Academies Press.

The BLM is putting the cart before the horse in its “analysis” of maintaining genetic diversity, essentially making its decision before any analysis has been conducted. Statements in the EIS such as the following do not constitute satisfactory analysis under the BLM’s own tiered approach for adjusting AMLs, which includes assessing genetic viability (rather such “findings” offer little more than circular reasoning): “Under this alternative, the Salt Wells Creek HMA would revert to HA status and be managed for zero wild horses. As a result, there is no AML analysis associated with this alternative” (Appendix A).

The same problem is evident in the BLM’s analysis of the amount of sustainable forage available for wild horse use. Here again, the AML appears to be pre-determined based on how many horses the BLM wants to allow in conjunction with livestock grazing (with the supposed rationale shaped accordingly to fit the desired number). The BLM concedes it lacks current data and information to make accurate AML determinations: “The BLM currently lacks adequate utilization and use pattern mapping data to calculate an updated proposed carrying capacity for wild horses in this area” (Appendix A). Statements elsewhere in the EIS suggest the carrying capacity of the land is more than sufficient for the wild horse populations that currently exist.

C. Livestock Use

Reducing livestock grazing permits within these HMAs should be prioritized as this would help improve rangeland health. Under the agency’s preferred alternative, AUMs “previously allocated to wild horse use” may be allocated to livestock (exact allocations to be determined by BLM at a future date) (pg. 17). The lack of transparency and specificity on this point is troubling.

That said, reducing livestock grazing is not presented as a viable option in the EIS even though such a course of action should be considered as an alternative – specifically, maintaining the wild horse population as free-roaming and natural (as opposed to non-reproducing through permanent sterilization) by implementing reductions in livestock grazing. 43 CFR § 4710.5 authorizes the BLM to “close appropriate areas of the public lands to grazing use by all or a particular kind of livestock...[i]f necessary to provide habitat for wild horses or burros, to implement herd management actions, or to protect wild horses or burros from disease, harassment, or injury.” Livestock grazing is not required to fulfill the agency’s “multiple use” mandate. Furthermore, it is far more cost effective to curtail taxpayer-subsidized commercial livestock grazing in this area than it is to permanently remove wild horses from the range. The recent Tenth Circuit ruling in *Wyoming v. United States*, 839 F.3d 938 (10th Cir. 2016) affirms the BLM’s discretion to implement this alternative.

There is a considerable amount of livestock grazing occurring in these HMAs – in the vast majority of allotments within the planning area, 100% or slightly under 100% of the allotments are actively being used for livestock grazing (pg. 53). It is not surprising that tensions might arise due to the mere presence of wild horses given the rather stark prioritization of livestock interests.

The EIS fails to adequately consider alternative viewpoints on this matter, instead emphasizing how “some livestock users within the planning area have reduced their use levels in recent years as a result of wild horse populations exceeding AML, which can negatively impact livestock

operations” (pg. 54). Again, such statements present a tacit recognition that private livestock operations take precedence regarding the use of public lands and habitats that were specifically designated for wild horses.

As noted, approximately 2,466,118 acres would no longer be allocated for wild horse use, presenting an 87% reduction in the total acreage allocated for wild horse use (pg. 63). Essentially the BLM is proposing to nullify HMAs and zero out herds not because of factors such as a lack of forage or other resources, but simply because of an ongoing conflict with certain livestock interests. The agency’s preferred course of action is extreme and particularly inappropriate considering the imbalance that exists even in the “no action” (Alternative A) proposal. Under Alternative A, wild horses utilize an estimated 24,780 AUMs at high AML while livestock use an estimated 146,787 AUMs (pg. 67). As the EIS recognizes, there is sufficient water, forage, space, and cover to sustain the wild horse herds under the no action alternative even with the amount of livestock grazing that is allowed.

D. Proposed Gathers

The EIS does not consider the best scientific information available on the impact of gathers, including NAS’s findings that “removals are likely to keep the population at a size that maximizes population growth rate, which in turn maximizes the number of animals that must be removed and processed through holding facilities” (pg. 81). Put differently, mass removals would likely exacerbate the supposed problem the BLM is trying to solve in its mission to manage horses at sustainable levels across the west.

Should the agency round up and remove wild horses from any of these HMAs, we would urge the BLM to rely on water and bait trap gathers to avoid the stresses, injuries, and fatalities associated with helicopter roundups. As agency officials noted during the BLM’s National Wild Horse & Burro Advisory Board meeting in October 2019, the bait and water method does not cost more than using helicopters, so expense would likely not be a relevant justification for choosing helicopter roundups over more humane water and bait trap methods. Any subsequent NEPA actions should include an evaluation of the costs of this method compared to the use of helicopters or motorized vehicles.

It is disappointing that the BLM appears to have already decided to use the helicopter chase approach without regard for public concern (noting, for example, the need to bring animals in at a speed that avoids heat stress and fatigue, among other harmful effects). In Appendix B, the BLM states that gather efficiency “may be less with bait and water trapping” but this pronouncement is purely speculative and no evidence is provided to support the claim (pg. 4) The BLM should analyze the use of bait and water trapping for any proposed removals as part of its plan in the checkerboard.

The EIS emphasizes that using helicopters and motorized vehicles to round up horses is both “safe and effective” (pg. 57) despite acknowledging the numerous types of injuries that can and do occur directly as a result of these gather methods – from spontaneous abortions to broken limbs and even fatalities. The EIS notes that the BLM regards these as rare occurrences, but observers of recent roundups have identified and/or documented many such troubling instances – e.g., horses suffering

broken necks during recent operations in Nevada², helicopters running horses into barbed wire in Utah³, foals dying from “capture myopathy” (i.e., being run to death) during an Oregon roundup⁴, a wild mare either giving birth or miscarrying while being run in Nevada.⁵ We would be remiss not to observe that the 2014 checkerboard roundup resulted in several “acute” deaths – i.e., fatalities caused as a result of the gather and removal process – including multiple instances where horses broke their necks after running into panels.⁶

Regarding the proposed gather component, the BLM must take a hard look and fully analyze the deaths and injuries resulting from removals during roundup activities, and integrate specific data from such operations in recent years (while also analyzing the injuries and deaths resulting from transport to initial holding facilities, in short-term holding facilities, and in long-term holding facilities). The BLM must also consider how proposed gathers may disrupt other wildlife species, and harm sensitive sagebrush, grasslands, and riparian habitat areas. Should the BLM proceed with roundups, we request that real-time cameras be installed on all helicopters used in these operations and that video be live streamed online. Real-time cameras should also be installed in the trap, corral, and temporary holding pens so that BLM personnel, the public, and the media can monitor the entire roundup operation. Such technology would vastly improve the transparency of roundup operations and ensure that any welfare violations can be properly documented and addressed.

E. Non-Reproducing Herds

The 2013 Consent Decree requires that the BLM consider managing the White Mountain HMA as a non-reproducing herd. Consent Decree at ¶ 6(d). Adopting this “management” approach, however, would be of questionable legality because it would eliminate the ability of these federally protected wild horses to exhibit natural behaviors and thrive in their natural habitats.

In *American Wild Horse Preservation Campaign v. Zinke*, the court struck down the approach of creating sterile herds of wild horses in part because the agency failed to consider and analyze “the significant impacts of the chosen action alternative on the wild horse herd as discussed in the NAS Report[,]” which the court found to be relevant to BLM’s decision-making process. No. 1:16-cv-00001-EJL, at *17-18 (D. Idaho Sept. 29, 2017). Among other issues, the court found that sterilization removes an animal’s ability to be wild:

[P]reventing births and reproductive capacity of the horses alters wild horse behaviors and the social structure of the herd... The NAS Report concluded that

² Available: <https://www.blm.gov/programs/wild-horse-and-burro/herd-management/gathers-and-removals/nevada/2020-eagle-complex-wild-horse-gather>

³ Available: <https://www.satrib.com/news/environment/2018/08/09/deadly-aerial-roundup-ran/>

⁴ Available: <https://www.blm.gov/programs/wild-horse-and-burro/herd-management/gathers-and-removals/oregon/2018-warm-springs-wild-horse-gather>. See also, complaint letter jointly submitted by the Animal Welfare Institute and the American Wild Horse Campaign on potential violations of the BLM’s Comprehensive Animal Welfare Policy dated October 8, 2018.

⁵ Available: <https://returntofreedom.org/eagle-roundup-update/>

⁶ Available: <https://www.blm.gov/programs/wild-horse-and-burro/herd-management/gathers-and-removals/wyoming/2014-Checkerboard-Wild-Horse-Gather>

‘absence of young horses itself would alter the age structure of the population and could thereby affect harem dynamics.’ *Id.* at *20.

The BLM failed to consider the impacts of maintaining the herd as non-reproducing and whether those impacts were consistent with the requirement that the herd maintains its free-roaming behavior. *Id.* at *40.

To its credit, the BLM does note in the EIS that it has rejected the possibility of managing the Adobe Town HMA as entirely non-reproducing, although the sole justification appears to be predicated purely on expected interchange (i.e., wild horses entering from other areas) (pg. 19). Even so, throughout the EIS, the BLM is weighing options heavily skewed towards sterilization as the primary means of managing remaining horses under the preferred alternative.

The WFRHBA’s implementing regulations require that “wild horses and burros shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capacity of their habitat” (43 C.F.R. § 4700.0-6(a)). Additionally, “activities affecting wild horses and burros shall be undertaken with the goal of maintaining free-roaming behavior” (*Id.* at § 4700.0-6(c)). Sterilization destroys those aspects of wild horse behavior, developed over millions of years of evolutionary history in North America, and as such does not meet the bar set forth by these implementing regulations.

F. PZP Vaccine

AWI strongly supports the use of immunocontraceptive vaccines – especially PZP – as a fertility control method to safely and humanely manage wild horse populations. PZP in particular is well-tested and has been used successfully for years to curb population growth in numerous herds. As a fertility control option, PZP enjoys broad support in both the wild horse advocacy and scientific communities. Currently, the BLM expends less than 1 percent of its Wild Horse and Burro Program budget on PZP. However, as an additional \$21 million was appropriated for the BLM’s WHB program in Fiscal Year 2020 (pending the submission of a report and comprehensive management plan to Congress), the agency now has an ideal opportunity to use this funding to implement a robust PZP program across these and other HMAs.

In a recent bipartisan letter from federal lawmakers to the BLM, Member of Congress stated their hope that “the BLM’s management report will contain significant support for effective, reversible fertility control techniques, which are key scientifically proven tools for the management of equine populations” (Attachment 1) The letter also underscored some of the inadequacies of the BLM’s current approach to fertility control (or lack thereof): “In FY 2018, the BLM reported administering only 580 doses of PZP and 110 doses of PZP-22, and only on 16 [HMAs.]” AWI urges the BLM to use the additional allocation for the implementation of a comprehensive PZP fertility control program in the checkerboard and in other HMAs across the west. Moreover, we ask that as part of any NEPA action, the BLM analyze and explain why the agency has failed to utilize PZP in a manner and at a level that will impact population rates in the HMAs.

The benefits of PZP, which has been available for decades, are myriad and clear: it is safe, effective, and non-invasive – and as such, amply meets the “minimal feasible level” threshold of

the WFRHBA, which most of the other options outlined in the EIS do not. Importantly, of the select fertility control methods recommended by the NAS, only PZP is available now without further research. The NAS recommended PZP based on criteria such as delivery method, availability, efficacy, duration of effect, and potential for side effects (pg. 97).

Moreover, an economic model published in a peer-reviewed article predicted that the BLM could attain its population goals and save \$8 million in one HMA by using PZP fertility control and reducing and eventually eliminating removals.⁷ With the influx of funding for Fiscal Year 2020, pursuing PZP on a broad scale is clearly viable and the long-term cost-savings would almost certainly be significant.

Unfortunately, the EIS indicates that once again, the agency is failing to prioritize PZP use: “Population management tools could include gelding, spaying, sex ratio skewing, or other population growth suppression methods” (pg. 5, pg. 17). PZP is not listed as a priority option or tool, instead being lumped into the “other” category. It is unclear why the BLM seems bent on pursuing options that would disrupt social bands or otherwise undermine natural behaviors (while also threatening the very viability and existence of these herds) when its own discussion of PZP in the appendix outlines the numerous advantages to its use (e.g., PZP can be administered safely to pregnant mares, its use preserves herd genetics) – benefits that an endless cycle of roundups or sterilization methods simply cannot provide (Appendix B pgs. 3-8).

In terms of fertility control, the BLM should be focusing exclusively on PZP for its management of wild horses in the checkerboard. While we understand that the BLM has ongoing concerns about administering PZP due to variables such as terrain and the approachability of some herds, the BLM acknowledges that darting can be implemented when animals are gathered into corrals (as in bait and water trapping) or opportunistically by applicators near water sources or along main wild horse and burro trails (Appendix B pg. 3)

Ultimately, the use of PZP within these HMAs is the most economical and humane option for the BLM. It will preserve the natural behaviors that distinguish wild and free-roaming horses from domestic horses and stabilize populations within the HMA. We support the BLM’s consideration of PZP to manage these horses and request that the BLM implement a vigorous PZP program at current population levels utilizing Catch Treat and Release methods for the vaccination of all mares over 1 year of age with the PZP-22 or native PZP fertility control vaccine.

G. Sex Ratio Skewing

Sex ratio skewing comes up at several points in the EIS so we want to include some of our concerns with this controversial approach. The use of sex ratio skewing – i.e., artificially manipulating the number of males and females in a population – to suppress population growth has no scientific basis and therefore will not serve to accomplish the agency’s goals. Indeed sex ratio skewing undermines the complex social structure of herds and has deleterious effects on natural wild horse behaviors. Moreover, it creates aggression among males competing for an unnaturally low number

⁷ “An Economic Model Demonstrating the Long-Term Cost Benefits of Incorporating Fertility Control into Wild Horse (*Equus Caballus*) Management Programs on Public Lands in the United States.” *Journal of Zoo and Wildlife Medicine*. 44(4S): S34–S37, 2013.

of females. In addition to increased competition and aggression among males for limited females, sex ratio adjustments favoring stallions could lead to mares breeding an earlier age, thereby increasing reproductive rates.⁸ Sex ratio skewing also fails to manage population growth given that effective wildlife population control must be female-directed. The agency fails to take a hard look at the direct, indirect, and cumulative impacts that use of this method will have on the behavior and physiology of wild horses and herd dynamics and the environment of the HMAs at issue.

The BLM should reject sex ratio skewing, but to the extent that sex ratio adjustment is contemplated as part of any management plan, the EIS must provide scientific documentation that the practice does not cause increased aggression among stallions, cause mares to reproduce at younger ages, create undue stress on females, and actually reduces population growth.

As it stands, the EIS myopically assumes and asserts that the sweeping reduction in horses from roundups would result in decreased “fighting among stud horses” – and accordingly, “injuries associated with [such] fighting” would decrease – without any evidence to support such a claim and while ignoring the obvious problems that sex ratio skewing could engender (pg. 58).

H. Ovariectomy (“Spaying” Mares)

AWI asks that spaying mares be eliminated from consideration in this proposal. The agency fails to take a hard look at the direct, indirect, and cumulative impacts that use of this method will have on the behavior and physiology of wild horses and herd dynamics and the environment of the HMAs at issue. As written, the EIS does not adequately consider the risks and detrimental effects that many of the proposed procedures could have on wild horses, particularly the use of ovariectomy via colpotomy. We incorporate by reference previous comments submitted to the BLM on past proposals that included surgical sterilizations (e.g., the proposed spay experiments in Oregon) and which detail numerous animal welfare concerns that are currently absent from the EIS.⁹

⁸ The BLM itself has acknowledged the adverse effects of sex ratio skewing – see, for example, “The following affects would be expected from successive removals causing shifts in sex ratios away from normal ranges are. If selection criteria leave more studs than mares, band size would be expected to decrease, competition for mares would be expected to increase, recruitment age for reproduction among mares would be expected to decline, and size and number of bachelor bands would be expected to increase” (EA# DOI-BLM-OR-L050-2009-0066-EA). Also: “Skewing the sex ratio of stallions v. mares would result in a destabilization of the band (stallion, mare and foal)... Social band structure will be lost resulting in combative turmoil as surplus stallions attack a band stallion trying to capture his mare. This could result in the foal being either killed or lost. The mare and foal will not be allowed to feed or water naturally as the stallion tries to keep them away from the bachelor bands of stallions, resulting in stress to the mare during her lactation condition” (DOI-BLM-OR-B060-2010-0005-EA). Additionally, “Wild horse populations will produce roughly equal numbers of males and females over time (H-4700-1, 4.4.1). Garrott (1991b) found that for a 12-year period 65 of 74 (88 percent) herds sampled in Nevada, Oregon, and Wyoming had a foal sex ratio that did not differ from 50:50 (Roelle and Oyler-McCance 2015). Re-establishing a 50/50 male to female sex ratio is also expected to avoid consequences found to be caused by skewing the ratio in either direction. In the Pryor Mountain Wild Horse Range, Singer and Schoeneker (2000) found that increases in the number of males on this HMA lowered the breeding male age but did not alter the birth rate. In addition, bachelor males will likely continue to seek matings, thus increasing the overall level of male-male aggression (Rubenstein 1986)” (DOI-BLM-ORWA-B050-2017-0002-EA).

⁹ We incorporate by reference comments that AWI submitted in response to the Swasey HMA Horse Gather EA (DOI-BLM-UT-W020-2020-0002-EA), Warm Springs HMA Spay Feasibility and On-Range Outcomes EA (DOI-

The WFRHBA requires the BLM to manage wild horses and burros in a manner that protects their wild and free-roaming behavior. While Section 3(b)(1) as modified by the Public Rangelands Improvement Act of 1978 does specify options for population management that include sterilization, it states that such determinations must be made in conjunction with other wildlife agencies and experts independent of government, such as those recommended by the NAS.

Additionally, the WFRHBA mandates that “[a]ll management activities shall be at the minimal feasible level” 16 U.S.C. § 1333(a). Surgical sterilization, including ovariectomy via colpotomy, falls far short of this legal requirement. Such procedures are far more invasive, inhumane, and risky than other non-surgical methods of fertility control such as PZP.

The BLM cannot simply assert, as it does in the EIS, that surgical sterilizations can be achieved “with a relative minimum level of animal handling” (Appendix B pg. 18) – with the erroneous implication that this assumption (if accurate) would satisfy the legal threshold for what constitutes proper management at the “minimal feasible level.” The EIS does not explain how the agency weighs a presumed one-time gather for invasive surgeries that necessitate ample recovery time and post-operative care versus non-invasive and well-tested options like PZP that can be administered remotely.

The BLM has made clear through a series of EAs for the experimentation on wild mares in Oregon that the agency would prefer to utilize the method ovariectomy via colpotomy. The NAS directly advised the BLM not to employ this procedure due to the risk of trauma and infection. In its 2013 report on wild horse management, the NAS concluded:

The possibility that ovariectomy may be followed by prolonged bleeding or peritoneal infection makes it inadvisable for field application. (pg. 130)

and

Surgical ovariectomy and ovariohysterectomy are commonly used in domestic species, such as cats and dogs (including feral cats and dogs), but seldom applied to other free-ranging species. (pg. 98)

In addition, a 2015 National Research Council Review, also commissioned by the BLM, found:

Domestic mares are typically cross-tied (after ovariectomy via colpotomy) to keep them standing for 48 hours post-surgery to prevent evisceration through the unclosed incision in the anterior vagina. That protocol would not be possible in free-roaming mares because they cannot be held still for so long. Therefore, there is some concern that the investigator may see more fatalities after surgery than the 1% quoted in the protocol, based on domestic mares.

Despite the scientific recommendation from the NAS against ovariectomy as a method to control population growth, despite the public urging the BLM not to pursue spaying mares, despite litigation, and despite the overwhelming scientific controversy and public opposition, the BLM is nevertheless continuing to pursue a dangerous, precedent-setting, and extreme plan to sterilize wild mares.

As the BLM is aware, two major academic institutions (Oregon State University and Colorado State University) terminated partnerships with the BLM to oversee research experiments to assess the safety, efficacy, and complications, including mortality rates, from ovariectomizing wild mares. It is unclear what has changed in the agency's opinion if it is now seeking to bypass the research/study route altogether (originally intended to gauge the efficacy of utilizing these surgeries on mares in the wild) and instead start integrating spaying directly into its management plans.

Regarding past litigation on this subject, in November of 2018, a federal court enjoined the BLM from proceeding with its proposal to spay mares. *Kathrens v. Bernhardt*, Case No. 18-cv-1691 (D. Or. 2018). When issuing the preliminary injunction halting the spay experiments for the Warm Springs HMA, the court held that Plaintiffs were likely to succeed in proving that: (1) the agency's restrictions on public observation of the surgeries violated the plaintiffs' First Amendment rights; and (2) the BLM's lack of inquiry into whether the sterilization procedure was "socially acceptable" was arbitrary and capricious. *Id.* at *1-2. The ruling also noted that plaintiffs raised valid concerns regarding the BLM's abandonment of experimental protocols for monitoring the welfare of the horses. The Interior Board of Land Appeals formally vacated the Decision Record later that month. A similar 2016 BLM proposal to spay mares in the Warm Springs HMA (DOI-BLM-OR-B000-2015-0055-EA) also faced legal action and significant public opposition, leading the agency to vacate that Decision Record as well. *Cloud Foundation v. Jewell*, Case No. 16-cv-01650 (D. Or. 2016).

Use of ovariectomy via colpotomy has raised particular alarm among Members of Congress. Lawmakers in both the House and Senate have expressly criticized the BLM for pursuing this method, noting that the agency appears to recognize "the risky nature of the procedure, but is nevertheless aiming to quantify precisely how dangerous it is using federally protected animals," and that the BLM should instead "pursue humane and scientifically supported fertility control projects, such as the [PZP] vaccine" (Attachments 2 and 3). To that end, the Senate Appropriations Committee approved language in the Fiscal Year 2020 Interior report specifically delineating that "any population growth suppression strategies" employed by the BLM "must be proven, safe, and humane" (S. Rept. 116-123). Spaying mares would almost certainly fail to meet that bar.

Furthermore, an October 2019 letter to the Department of Interior, as well as a November 2019 letter to House and Senate lawmakers, signed by dozens of veterinarians from across the country, also expressed strong concerns about the BLM's proposed use of ovariectomy via colpotomy (Attachments 4 and 5). As the veterinarians noted in the former document, ovariectomy via colpotomy "is a painful surgical procedure" that "can be dangerous when performed on domestic horses, let alone [on] wild horses whose response to sedatives and analgesics is much less predictable." The letter also stated that "even in a controlled setting, this procedure can be accompanied by a high rate of complications...including risks of infection, trauma, post-operative

pain, hemorrhage, abdominal adhesions, evisceration, abscess formation, abortion, neuropathies, and even death.”

BLM’s wholesale failure to consider the social acceptability of surgically sterilizing wild mares, which was at issue in both the 2016 and 2018 lawsuits described above, or to collect data on mares’ post-surgical welfare, or to guarantee meaningful independent public observation, threaten a significant violation of the WHA. Congress enacted the WFRHBA precisely because of the social and cultural importance of wild horses. *See* 16 U.S.C. § 1331.

BLM has twice commissioned the NAS to issue comprehensive reports on the BLM’s program of wild horse management, and both times the NAS has affirmed the critical importance of considering the social acceptability of the agency’s methods for managing wild horse populations. “In 1982, the National Research Council noted that public opinion was the ‘major motivation behind the wild horse and burro protection program and a primary criterion of management success’” (pg. 239). In the 2013 report, the NAS reiterated its 1982 finding and noted that this “suggest[s] that control strategies must be responsive to public attitudes and preferences” (Ibid.).

The EIS does not adequately factor in social acceptability for any of the population control methods under consideration – from rounding up large numbers of horses (including in areas of particular interest to the public) to relying on surgical procedures that an overwhelming majority of Americans oppose. An October 2019 national survey conducted by The Harris Poll found that 77% of Americans opposed the BLM’s proposed use of ovariectomy via colpotomy to spay wild mares.¹⁰ Likewise, a separate October 2019 survey, conducted by Public Policy Polling, found that 79% of respondents opposed the surgical sterilization of wild mares. Not surprisingly, the agency has received thousands of comments to date objecting to its various proposals to ovariectomize wild horses. As mentioned above, the failure to account for social acceptability formed part of the court’s judgment when granting a PI against the BLM from proceeding with ovariectomies in the Warm Springs HMA.

As AWI was a plaintiff in the Warm Springs spay experiment litigation, this issue is of particular importance to the organization and our efforts to ensure that wild equines are managed humanely. AWI has detailed the health and behavioral concerns of spaying mares in past comments on the BLM’s EAs for the Mare Sterilization Research Project, which was supposed to take place at the Hines Corrals in Oregon (as well as more recently in comments responding to the EA for the Swasey HMA in Utah). We include some of the comments from veterinary professionals experienced with spaying procedures here again for reference as the agency considers whether to employ this method in Wyoming and in other parts of the country.

In “TheHorse.com,” Dr. Michael Ball describes the risks of ovariectomy in domestic horses:¹¹

Regardless of the method used for ovariectomy, this procedure is generally a painful one and the use of peri-operative analgesics is important. The horses often are hospitalized for 3-7 days and very carefully monitored in the immediate post-

¹⁰ Available: <https://awionline.org/pressreleases/new-poll-americans-overwhelmingly-oppose-risky-sterilization-experiments-wild-horses>

¹¹ Available: <https://thehorse.com/14853/ovariectomy/>

operative period for any signs of hemorrhage, which is a serious complication that can occur.

Dr. Robin Kelly, whose northern California-based equine veterinary practice includes the care of 245 wild horses and burros at the Montgomery Creek Ranch sanctuary in Elk Creek, reviewed the BLM's past research proposal and provided a statement with her concerns about the BLM's inability to provide post-operative care to ovariectomized wild mares (Attachment 6):

The postoperative management proposed for these [BLM] mares is minimal compared to significant postoperative recommendations for domesticated mares. These recommendations include keeping mares tied in a tie stall/tie line to prevent them from laying down/rolling to reduce risk of postoperative hemorrhage or herniation of bowel thru that must be left open to second intention healing. These measures are advised since extensive post-operative hemorrhage or herniation of bowel through incisions would not be survivable.

Domesticated mares would be treated with a more aggressive antibiotic choice for 7-10 days post operatively (monitoring daily for complications). Insufficient antimicrobials could result in peritonitis (also likely not survivable)...The wild mares will not be provided with post-surgical pain relief, according to the study description, and presumably [will be] turned out in a communal paddock with no restraint.

Dr. Kelly also wrote in a statement her concerns regarding the surgical procedures the BLM has proposed (Attachment 6):

Some of the other surgical ovariectomy procedures raise similar concerns regarding ability to adequately sedate wild horses and the abdominal compression of squeeze chutes that will be always necessary when working with wild horses.

Standing Laparotomy procedures through the flank to ovariectomize would still require complete draping of the wild horse's back end and the obvious issues of potential contamination of the surgical site would be easy to imagine since all hydraulic chute are in outside dusty BLM gather yards or outside facilities at ranches...The presumption that these wild horses could be led into a sterile veterinary clinic and be brought to stand in a stock is also an impossibility when they have never been handled.

Surgical procedures such as flank incisions also raise questions about the ability to provide sterile surgical fields, as do procedures that utilize general anesthesia to lay down horses to perform very invasive abdominal surgeries or flank incisions that would attempt to remove both ovaries from horses laying down on one side.

My concern with performing flank or abdominal incisions on wild horses in the open environment is that avoiding contamination of the surgical site would be quite difficult to prevent.

All of these surgical procedures are time consuming, expensive and carry high risks of contamination complications in wild horses. They are impractical and inadvisable for use in wild horses, particularly when non-surgical safer alternatives such as immunocontraception, are available.

The BLM must adequately analyze the feasibility of invasive surgical procedures for use on wild mares in the wild (and specifically in non-sterile conditions, as the agency admitted would be the case with the Warm Springs HMA proposal). The required confinement for safe recovery from this invasive surgical procedure is not possible in free-roaming mares, raising the risk of fatality. The BLM must analyze and consider how the agency plans to provide the mares with any of the required follow-up care after this procedure, including stall confinement, a period on crossties to prevent lying down or rolling, careful monitoring for hemorrhage, pain relief, and antibiotic treatment. The BLM must also be fully transparent about costs associated with carrying out these surgeries and whether it has enough veterinarians skilled in this relatively rare procedure to perform ovariectomies on wild horses en masse.

The proposed analysis must also analyze the current body of research available on the effects of spaying horses and the impacts they have on horse behaviors. The primary reason domestic mares are spayed is specifically to alter behaviors. Such alteration of behaviors would be in direct violation of the WFRHBA, which aims to protect wild, free-roaming horses. The BLM analysis must include available research on this subject that outlines how ovariectomies, or spaying, may result in problems pertaining to estrus-associated behaviors.

While reactions depend on the individual, this procedure will likely result in one of three behavioral changes: the mare will not experience estrus at all; she will continue to experience estrus irregularly; or she will “appear to be permanently in estrus.”¹² Any one of these changes are sure to change the dynamics of the herd, since the success of the stallion’s invitation to breed is dictated by the estrus-pattern of mares. If a mare shows no sign of estrus behavior, she will likely not be receptive to the stallion’s breeding invitation, possibly resulting in frustration of both the stallion and the mare. On the other hand, mares that end up sterilized, but in permanent estrus tend to be bred continuously by stallions. Repetitive breeding can lead to physical damage, re-opening the vaginal incision, and introducing infection, hemorrhage and/or evisceration – risks that would be exacerbated if mares are released back into the wild within a relatively short period after surgery.

To our knowledge the BLM has never intended to refrain from using ovariectomies on pregnant wild mares even though the agency admits ovariectomy via colpotomy has normally been limited to non-pregnant domestic mares (Appendix B pg. 19). In a particularly gruesome component of previous BLM proposals, the agency sought to quantify the number of aborted fetuses from testing the procedure on pregnant mares. Unfortunately, the risks to the welfare of pregnant mares and mares nursing foals has not been adequately considered in this EIS.

¹² University of Florida College of Veterinary Medicine, Large Animal Hospital. Available: <https://largeanimal.vethospitals.ufl.edu/hospital-services/surgery/ovariectomy/>. See also, “Can ovariectomy be justified on grounds of behaviour?” *Equine Veterinary Education*. 28 (1) 58-59, 2016.

Ultimately, the BLM should drop plans to surgically sterilize federally protected wild mares and focus instead on non-surgical methods of fertility control that preserve the natural behaviors that distinguish wild-free roaming horses from domestic horses. Should the BLM move forward with any surgical sterilization procedures, AWI requests that an independent veterinary observer be allowed to attend and observe the procedures. This individual should be able to document the procedures and provide timely reports to the public. As with roundups, we also request that small unobtrusive cameras be positioned to record the surgeries and the mares in recovery. Small unobtrusive cameras would help the public and veterinary professionals to better understand the procedures and assess whether such methods are appropriate for use on wild horses.

III. Conclusion

We sincerely hope that the BLM will provide a more comprehensive analysis and fully account for the key omissions outlined throughout these comments – such details are necessary for informed decision-making and sound management plans that appropriately consider public input, as well as the input of outside experts. As it stands, the agency’s preferred course of action for wild horses in the checkerboard has little, if anything, do with what is best for the animals themselves, let alone with following the BLM’s mandate under the WFRHBA. Indeed, The BLM’s proposed actions here are at odds with its obligations under the WFRHBA to preserve wild horses “as an integral part of the natural system of the public lands” 16 U.S.C. § 1331, to manage them in a manner that is “designed to achieve and maintain a thriving natural ecological balance” 16 U.S.C. § 1333(a), and to employ management activities “at the minimal feasible level[.]” *Id.*

As the BLM admits, these wild horses are in good health (pg. 41); this is not a situation where the agency could possibly justify its radical removal plan by citing drought, lack of forage, or other adverse conditions undermining the horses’ welfare. Instead, the BLM is seeking to appease specific stakeholders by eliminating several HMAs and drastically slashing the number of wild horses in the region. The various components of the proposal would push these wild horse populations to the brink, such that they may cease to exist as natural free-roaming and self-sustaining herds.

Thank you for your consideration of these comments.

Sincerely,



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202-446-2143
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Congress of the United States

House of Representatives

Washington, DC 20515

March 5, 2020

William Perry Pendley
Deputy Director, Policy and Programs
Bureau of Land Management
1849 C St NW # 5665
Washington, DC 20240

Dear Deputy Director Pendley,

We write regarding the Bureau of Land Management's (BLM) efforts to manage wild horse and burro populations on public lands. As supporters of reversible fertility control as an essential population management tool, we believe implementation of a large-scale reversible fertility control program is vital to the success of a long-term strategy for managing wild populations in a safe, effective, and cost-efficient manner for the animals and the rangeland.

In the FY 20 budget, Congress provided BLM with a \$21 million funding increase for the management of wild horses and burros. Part of that funding was restricted contingent upon BLM providing Congress a report on their management plan for wild horse and burro populations. As Congressional supporters of our free-roaming wild horses and burros, we hope to see this plan turned over expeditiously to the appropriate Congressional Committees. We also hope that BLM's management report will contain significant support for effective, reversible fertility control techniques, which are key scientifically proven tools for the management of equine populations.

BLM has supported research on contraceptive vaccines for wild horses since 1992. For example, BLM's research developed the Porcine Zona Pellucida (PZP) vaccine, which comes in two forms – one of which must be administered every year, Zonastat-H, and a longer lasting form, PZP-22, which could last up to two years. Further, GonaCon™ is a GnRH-based immunocontraception vaccine shown to induce infertility for two or more years with a single administration in wild horses, and the reimmunization of previously treated mares resulted in significant reduction in fertility for three or more consecutive years. More testing is needed to demonstrate long-term safety and efficacy in all of these areas. It is well known that to implement an effective fertility control program, the agency must administer vaccines to at least 80 percent of mares to see a population stabilize. Yet in FY 2018, the BLM reported administering only 580 doses of PZP and 110 doses of PZP-22, and only on 16 Herd Management Areas. This level of PZP administration will not help curb national population growth for the more than 80,000 animals currently on the range.

Long-term management of free-roaming wild horses on public lands as prescribed in the 1971 Free-Roaming Wild Horse and Burro Act requires a modern approach. While we support further research into reversible contraceptive vaccines that can be incorporated into BLM's long-term management plans, alternatives to ZonaStat-H, PZP-22 and GonaCon will require years of ongoing testing to be fully evaluated for management usage. Current practices of mass roundup and removal have resulted in compensatory reproduction year after year; BLM must instead start effectively producing and using current fertility control vaccines to better curb population growth.

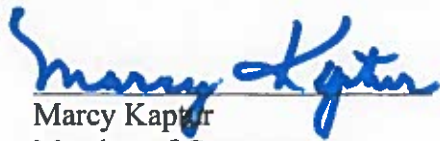
In order to better understand BLM's management approach for our wild horses and burros, we seek additional information on BLM's intentions for a population control strategy that involves contraceptive vaccines:

1. What was BLM's justification to stop execution and funding of ongoing contracts regarding production of reversible fertility control vaccines, such as the 2017 three-year PZP-22 production agreement with the University of Toledo?
2. What is BLM's justification to not approve funding for PZP-22 production, or ongoing projects associated with PZP-22, given its effectiveness?^[1]
3. What BLM initiatives exist to support research and development of other contraceptives such as GonaCon?
4. How much money, in the past five fiscal years, did BLM invest in studies of irreversible fertility control strategies such as sterilization?
5. How much money, in the past five fiscal years, did BLM spend on reversible fertility control tools such as PZP, PZP-22 and GonaCon?
6. Please provide a detailed plan of how BLM plans to use the \$101,555,000 appropriated for the Wild Horse and Burro Management program in the FY 2020 budget agreement to address the growing number of wild horses and burros on and off the range including details on planned spending for holding facilities and permanent sterilization if possible?

Our united goal, to curb population growth of wild horses and burros through large-scale fertility control program, is the humane approach to animal management and stewardship of our lands. It is imperative we work together to prevent further drastic spikes in populations, and mind common sense fiscal responsibility. Continuing the status quo is not acceptable.

Thank you in advance for your attention to this issue and your ongoing collaboration to find the best solutions to manage wild horse and burro populations moving forward.

^[1] United States Department of Interior, Bureau of Land Management. 2019. *Science and Research*. <https://www.blm.gov/programs/wild-horse-and-burro/herd-management/science-and-research>



Marcy Kaptur
Member of Congress



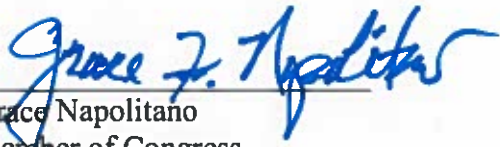
Dina Titus
Member of Congress



Chris Stewart
Member of Congress



Steve Cohen
Member of Congress



Grace Napolitano
Member of Congress



Congress of the United States
House of Representatives
Washington, DC 20515

June 21, 2019

The Honorable David Bernhardt
Secretary
U.S. Department of the Interior
1849 C Street, NW
Washington, D.C. 20240

Dear Secretary Bernhardt:

We write today to express our concern with the Bureau of Land Management's (BLM) proposed surgical sterilization experiment to be conducted on wild horses in the Warm Springs Herd Management Area in Oregon (DOI-BLM-ORWA-B 050-2019-0013-EA (Spay Feasibility and On-Range Outcomes Environmental Assessment)).

While we understand the BLM's need to manage populations of wild horses, we are concerned about the rationale behind the decision to employ the "ovariectomy via colpotomy" method as a means of mass sterilization and are seeking clarification as to whether the agency has taken into account some of the unusual circumstances and disconcerting factors surrounding this project. In light of the November 2018 federal court ruling against the BLM, effectively blocking the agency from conducting the prior iteration of these experiments due to concerns over potential First Amendment public observation rights violations and because certain changes to the experimental protocol appeared arbitrary and capricious^[1], we would urge the BLM to abandon plans to pursue these experiments.

In its comprehensive 2013 report outlining strategies for improving wild horse management in the United States, the National Academy of Sciences (NAS) explicitly warned against employing ovariectomy via colpotomy on wild horses, noting that the "possibility that ovariectomy may be followed by prolonged bleeding or peritoneal infection makes it inadvisable for field application."^[2] In 2015, a NAS panel charged with considering various research proposals recommended against funding an ovariectomy via colpotomy project, noting that the procedure did not warrant further research, while also indicating that complication rates may be higher than expected.

It is our understanding the current proposal is substantially similar to, and indeed attempts to revive portions of, the discarded 2016 (DOI-BLM-OR-B000-2015-0055-EA) and 2018 (DOI-

BLM-ORWA-B050-2018-0016-EA) proposals on which the BLM sought to partner first with Oregon State University (OSU) and then with Colorado State University (CSU) in conducting and overseeing surgical sterilization experiments on wild horses.

In 2016, OSU withdrew from this project, leading the BLM to find a new academic institution – Colorado State University – to partner with for the 2018 proposal. CSU’s experts were slated to monitor the procedure and provide follow-up welfare assessments of the horses that underwent the surgery. However, on August 8, 2018, CSU terminated its partnership with the BLM in conducting the ovariectomy research study such that the university would no longer be involved in any capacity. On August 22, 2018, the BLM announced it would move forward with the project regardless, dropping plans to partner with an academic institution to help oversee and carry out the experiment and issuing a revised Environmental Assessment without the CSU components. On November 13, 2018, a U.S. District Court granted a preliminary injunction halting the project for the aforementioned reasons, and later that month the Interior Board of Land Appeals formally vacated the Decision Record authorizing the experiments. Indeed, in a positive turn of events, the BLM announced in February of 2019 that it planned to return some of the rounded-up horses to the range and administer scientifically-proven immunocontraceptive vaccines to stabilize population growth.

We ask that you shed light on the BLM’s reversal and new decision to push forward with the ovariectomy project – after three failed attempts to undertake the surgical sterilization experiments – as well as the decision to forgo working closely with an academic institution for the purposes of conducting this type of research study. At what stage did the BLM decide that identifying an academic partner that would provide expertise in equine veterinary medicine and welfare was no longer necessary to the project?

It is especially perplexing that in the new 2019 EA, as well as in the 2018 revised EA, the BLM continues to rely on CSU’s Institutional Animal Care and Use Committee (IACUC) approval as a justification for continuing the project, despite CSU’s withdrawal. The IACUC’s approval was premised on CSU’s participation and ability to provide oversight; the proposed experiment fundamentally changed at the point where CSU removed itself (and its team of veterinary and behavioral experts) from the project – most notably, through the absence of the welfare observations, which formed a crux of the proposal published on June 29, 2018, but are no longer a component of the project the BLM is attempting to yet again undertake.

The BLM received thousands of comments in opposition to the experiment. However, the current and previous proposals do not appear to incorporate any substantive revisions based on public input. Again, we would ask that the agency refrain from implementing this controversial mass surgical sterilization project given the agency’s statutory mandate to uphold the welfare of these animals and the serious constitutional concerns that have been raised.

The BLM is charged with protecting wild horses under the landmark 1971 Wild and Free-Roaming Horses and Burros Act.^[3] From a welfare perspective, the “spay” experiment raises serious concerns. Ovariectomy via colpotomy (where a rod and chain is inserted blindly in order to sever the ovaries) carries risks of infection, trauma, hemorrhage, evisceration, and even death. Indeed, part of the stated experimental goal is to quantify morbidity and mortality (the 2018 EA

also considered factors such as the incidence of aborted foals resulting from ovariectomizing pregnant mares). It seems that the agency understands the risky nature of the procedure but is nevertheless aiming to quantify precisely how dangerous it is using federally-protected animals. This is especially disconcerting given the BLM's pronouncement that no post-operative antibiotics will be administered and that no veterinary interventions will be undertaken for any recovering horses returned to the range. The risk of infection or other complications is exacerbated by the fact that, by the agency's own admission, the surgeries will be conducted in an operating space that "may not be entirely sterile".[4]

At an absolute minimum, independent veterinary and welfare oversight (not unlike what we presume the BLM was hoping to achieve through partnerships with CSU and, before that, OSU) is necessary if a project of this type is to move forward in any respect. From a broader perspective, we would urge the BLM to drop this controversial plan and instead actively pursue humane and scientifically-supported fertility control projects (e.g., the Porcine Zona Pullucida vaccine) that enjoy broad support among key stakeholders and the public at large and that pose fewer harms to the welfare of federally protected wild horses.

Thank you for your consideration.

Sincerely,



Earl Blumenauer
Member of Congress



Ro Khanna
Member of Congress



Andy Levin
Member of Congress



Ann McLane Kuster
Member of Congress

[1] *Ginger Kathrens, et al. v. Ryan Zinke, et al.*, Case No. 18-cv-1691.

[2] National Research Council. 2013. *Using Science to Improve the BLM Wild Horse and Burro Program: A Way Forward*. Washington, DC: The National Academies Press. <https://doi.org/10.17226/13511>.

[3] The Wild Free-Roaming Horses and Burros Act of 1971 (Public Law 92-195). See "Section 1333. Powers and duties of the Secretary": "The Secretary is authorized and directed to protect and manage wild free-roaming horses and burros as components of the public lands ..."

[4] DOI-BLM-ORWA-B050-2019-0013-EA, "Spay Feasibility and On-Range Outcomes", Page 30.



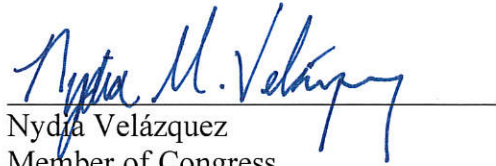
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Member of Congress



Lucille Roybal-Allard
Member of Congress



Steve Cohen
Member of Congress



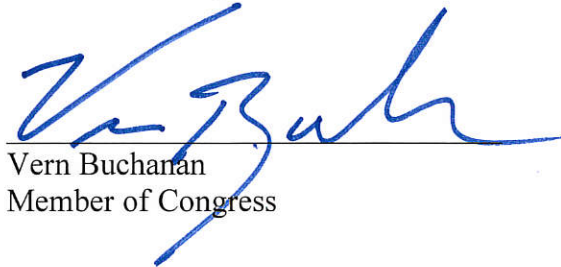
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Bonnie Watson Coleman
Member of Congress



John Katko
Member of Congress



Dina Titus
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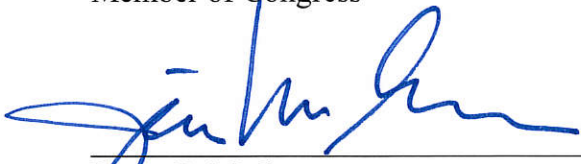
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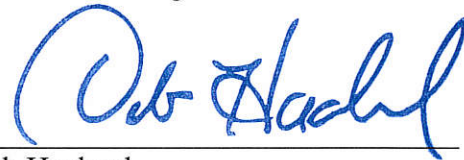
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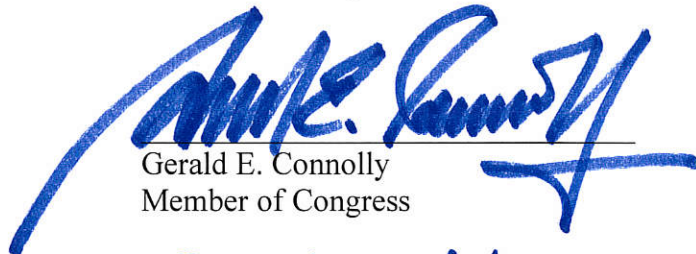
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Julia Brownley
Member of Congress



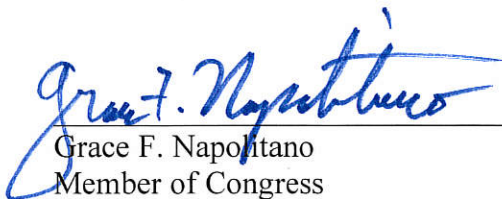
Gerald E. Connolly
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Joe Neguse
Member of Congress



Raúl M. Grijalva
Member of Congress



Grace F. Napolitano
Member of Congress



Matt Gaetz
Member of Congress

United States Senate

WASHINGTON, DC 20510

July 17, 2019

The Honorable David Bernhardt
Secretary, U.S. Department of the Interior
1849 C Street, N.W.
Washington, D.C. 20240

Dear Secretary Bernhardt:

We are writing to express our concern with the Bureau of Land Management's current proposal to test a controversial surgical sterilization method known as "ovariectomy via colpotomy" on federally protected horses in the Warm Springs Herd Management Area (DOI-BLM-ORWA-B 050-2019-0013-EA).

The proposal, which was released earlier this summer, marks the agency's fourth attempt to proceed with these surgical sterilization experiments, despite two major academic institutions withdrawing their support from previous iterations of the project, significant public opposition to implementing this plan, and a federal court ruling enjoining the BLM from conducting the experiments.¹

The specific surgical procedure in question involves the manual insertion of a metal rod to blindly locate and sever the ovaries of wild mares. The surgeries – with as many as 25 being performed per day – would be performed at a holding facility and corral, which by the BLM's own admission may not provide aseptic operating conditions (thus further exacerbating the potential for complications to arise). Horses would remain conscious during the procedure and would receive minimal post-operative care.

In the National Academy of Sciences' "Using Science to Improve the BLM Wild Horse and Burro Program" – the comprehensive report on management strategies commissioned by the BLM – experts directly advised against employing the "ovariectomy via colpotomy" method. As the NAS noted, "the possibility that ovariectomy may be followed by prolonged bleeding or Peritoneal infection makes it inadvisable for field application." Indeed, numerous equine veterinarians have criticized the procedure given the risks of pain to the horses subjected to these ovariectomies, the need for lengthy and careful post-operative monitoring, the possibility of severing other organs due to the blind nature of the insertion, and the subsequent risks of infection, trauma, or death.

To this last point, the BLM's stated experimental goal is to quantify the rate of mortality and morbidity from conducting these surgeries on wild horses – an apparent recognition of the significant welfare risks to these federally protected animals. The 2018 iteration of the

¹ *Ginger Kathrens, et al. v. Ryan Zinke, et al.*, Case No. 18-cv-1691.

experiments – which a federal court blocked from proceeding – also sought to quantify the incidence of aborted foals after performing ovariectomies on pregnant mares.

From a broader perspective, the rather troubling and usual history of the ovariectomy experiments raises serious questions about the validity and merit of pursuing this project. Both Oregon State University and Colorado State University terminated partnerships with the BLM in helping to conduct and oversee the experiments, thereby removing any outside and independent veterinary oversight. A federal court ruled against the BLM in the 2018 proposal in part because of the lack of meaningful independent observation. Once OSU and CSU dropped out, rather than seek another research institution with experts in equine behavior and veterinary care, the BLM unilaterally decided to proceed alone, essentially asking the public to take the agency's word for it that it would provide an unbiased assessment of the outcome.

The BLM has received thousands of comments opposing the surgical sterilization experiments – many of which have called for the agency to implement fertility control options that enjoy broad support. As recently as February of 2019, the BLM announced that it would implement an immunocontraceptive vaccine program to manage the Warm Springs HMA horses – an encouraging development given the scientific consensus that such vaccines are safe, appropriate, and practical. We would ask the BLM to explain its decision to backtrack on this decision to implement a far more widely supported and humane fertility control strategy.

Wild horses are of course protected under the landmark Wild and Free-Roaming Horses and Burros Act and the BLM must take seriously its charge to protect these icons from “harassment or death.” That the agency would attempt to expend taxpayer dollars pushing through a highly controversial project that could result in injuries and infections to, or even the death of, horses under its authority may ultimately contravene its mandate under the law.

We urge the BLM to drop this controversial plan and instead actively pursue humane and scientifically-supported fertility control projects, such as the Porcine Zona Pellucida vaccine, that enjoy broad support and pose significantly less risk of harm to the welfare of federally protected wild horses. At a minimum, independent veterinary and welfare oversight is necessary if this project is to move forward.

Thank you for your prompt attention to this matter and we look forward to your response.

Sincerely,



Cory A. Booker
United States Senator



Tom Udall
United States Senator

Kamala D. Harris
United States Senator

Edward J. Markey
United States Senator

Richard Blumenthal
United States Senator

Robert Menendez
United States Senator

Christopher A. Coons
United States Senator

Dianne Feinstein
United States Senator

October 28, 2019

The Honorable David Bernhardt
Secretary, U.S. Department of Interior
1849 C Street, NW
Washington, DC 20240

Dear Secretary Bernhardt,

We, the undersigned veterinarians, write today to express our concern with the Bureau of Land Management's (BLM) continued interest in pursuing the study of the surgical sterilization procedure known as "ovariectomy via colpotomy" on wild horses. While we understand the BLM's need to manage populations of wild horses, we are concerned about the agency's chosen method for study when more humane methods are already available. As such, we urge the BLM to abandon any future plans to pursue the experimental study of this procedure on wild mares.

Not only is ovariectomy via colpotomy far more invasive, inhumane, and risky than other non-surgical methods of fertility control, it is also more invasive and inhumane than the techniques that veterinarians use on domestic horses in the rare circumstances where some form of ovariectomy is clinically necessary.

The BLM's continued focus on conducting experiments studying ovariectomy via colpotomy raises serious concerns. Ovariectomy via colpotomy is a painful surgical procedure done blindly through an incision in the vagina, allowing access into the abdominal cavity for a rod-like tool, called an ecrasure, to sever and remove the ovaries. This procedure can be dangerous when performed on domestic horses, let alone wild horses whose response to sedatives and analgesics is much less predictable. Even in a controlled setting, this procedure can be accompanied by a high rate of complications, sometimes as high as 4 percent, including risks of infection, trauma, post-operative pain, hemorrhage, abdominal adhesions, evisceration, abscess formation, abortion, neuropathies, and even death. Indeed, part of BLM's own experimental goals include seeking to quantify morbidity and mortality.

The use of this procedure, in the manner that the BLM has proposed to study its efficacy and safety since 2016, is especially disconcerting given that the BLM does not intend to provide postoperative antibiotics and has stated that no veterinary interventions will be undertaken for any recovering horses once returned to the range. The associated risks are exacerbated by the fact that, by the agency's own admission, the surgeries will be conducted in an operating space that "may not be entirely sterile" at the agency's corrals. Following the experiments, the BLM intends to conduct the procedure on mares held in trap sites on the range, under conditions that are even less controlled and sterile than in the holding pens.

The National Academy of Sciences (NAS), in a 2013 report commissioned by the BLM, explicitly warned the agency against employing ovariectomy via colpotomy on wild horses. As stated in the report, "the possibility that ovariectomy may be followed by prolonged bleeding or

peritoneal infection makes it inadvisable for field application.” Similarly, in 2015, an NAS research review panel warned that conducting the procedure on wild (vs. domestic) horses could cause the “mortality rate to be higher than the 1% reported in the published literature” and stated that proposals for less invasive sterilization methods “would be safer – with less risk of hemorrhage and evisceration – and probably less painful.”

Further, the American College of Veterinary Surgeons (ACVS) describes laparoscopic surgery as the best method for ovariectomy, noting that “with the advent of laparoscopic (keyhole) surgery, all other techniques have become relatively dated.” The ACVS explains that laparoscopic surgery provides far greater “visualization and access” and is “minimally invasive,” especially in comparison to ovariectomy via colpotomy, which involves removing the ovaries “with a crushing-type instrument.” Put plainly, more humane surgical options exist (to say nothing of non-invasive immunocontraceptive vaccines or new research into intrauterine devices) that the BLM could consider for study.

Finally, two major academic institutions, Oregon State University (OSU) and Colorado State University (CSU), terminated partnerships with the BLM to provide veterinary observation and minimal welfare oversight for past iterations of the ovariectomy experiments. Yet, the BLM continues to pursue research proposals to study this procedure even in the absence of such outside veterinary and behavioral expertise. As federal lawmakers noted earlier this year when criticizing the BLM’s aggressive plan to move forward with the ovariectomy experiments, “at an absolute minimum, independent veterinary and welfare oversight (not unlike what we presume the BLM was hoping to achieve through partnerships with CSU, and before that, OSU) is necessary if a project of this type is to move forward in any respect.”

We hope the BLM will reconsider this misguided plan and ultimately stop any future pursuit of this archaic and inhumane procedure. As veterinarians, we swore an oath to uphold the welfare of all animals and work to prevent needless suffering. For the reasons discussed above, we call upon you to reevaluate the proposed surgery in light of the inability to provide wild horses with the required aftercare, pain management, and sterile conditions necessary to ensure their health and wellbeing. We urge you to direct the BLM to drop any further consideration of ovariectomy via colpotomy procedures for wild horses on the range.

Thank you for your consideration.

Sincerely,

Arlo Andersen, DVM
Massachusetts

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Illinois

Amy Marder, DVM
Massachusetts

Barbara Schmidt, DVM
Alaska

Arlo Bane, DVM
Illinois

Bernard Rollin, PhD
Colorado

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New Jersey

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November 13, 2019

The Honorable Richard Shelby
Chairman
U.S. Senate Committee on
Appropriations
Washington, DC 20510

The Honorable Patrick Leahy
Vice Chairman
U.S. Senate Committee on
Appropriations
Washington, DC 20510

The Honorable Nita Lowey
Chairwoman
U.S. House Committee on
Appropriations
Washington, DC 20510

The Honorable Kay Granger
Ranking Member
U.S. House Committee on
Appropriations
Washington, DC 20510

Dear Chairman Shelby, Chairwoman Lowey, Vice Chairman Leahy, and Ranking Member Granger:

On behalf of the undersigned veterinarian professionals, we encourage additional funds to be allocated in FY20 for the Bureau of Land Management (BLM) Wild Horse and Burro Program to implement a large-scale fertility control program based on technologies already available, instead of resources being squandered on research into surgical sterilization of mares.

We appreciate the BLM's interest in exploring non-lethal, on-range solutions for the management of wild horses and burros, but we are especially concerned about the agency's continued research into sterilization methods like ovariectomy via colpotomy. Ovariectomy via colpotomy, the surgical removal of both ovaries through incision in the vaginal canal, comes with potential complications including hemorrhage, shock, post-operative colic, peritonitis, intra-abdominal adhesions, accidental trauma to intestine or other soft tissues, abscessation or hematoma formation at the surgery site, and seroma formation at or dehiscence of incisional closures.¹ The procedure has been noted to be generally painful² with a high frequency of perioperative complications – some of which can be life-threatening.³ Furthermore, care requirements typically followed to lower such complication rates, such as tying the mare for several days post-procedure to prevent eventration through the incision, will not be feasible in free-ranging, wild mares. As such, fatality rates may be higher than what has been observed in domestic mares.⁴

Ovariectomy via colpotomy can result in serious complications specific to pregnant mares. Effects of ovary removal on a pregnancy at 90-120 days are

¹ Santschi EM, Troedsson MHT: How to perform bilateral ovariectomy in the mare through two paramedian incisions. AAEP Proceedings 47 (2001): 420-422; Rodgerson DH, Belknap JK, Wilson DA: Laparoscopic ovariectomy using sequential electrocoagulation and sharp transection of the equine mesovarium. Vet Surg 30 (2001): 572-579.

² See <https://thehorse.com/14853/ovariectomy/>

³ See <https://www.vetstream.com/treat/equis/technique/ovary-colpotomy>

⁴ Mare Sterilization Research Environmental Assessment, DOI-BLM-OR-B000-2015-0055-EA, January 5, 2016 ("2016 Oregon EA") 105.

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unpredictable and can include the reabsorption or abortion of the foal.⁵ Performing the procedure on mares late in gestation can be challenging due to lack of access to the ovaries.⁶ As many mares gathered from Herd Management Areas (HMAs) are pregnant when gathered, it makes little sense to pursue a tool that is inhumane and impractical in these on-range circumstances.

In addition to the high complication rates associated with the ovariectomy via colpotomy procedure, we have further concerns given that there are few veterinarians trained in the procedure on domestic, let alone wild, mares. Furthermore, in the past five years, two universities have pulled their support for this research, and the BLM has been unable to secure additional support from the academic community.

Instead of pouring resources into research of an inhumane, high-risk, inviable, and unsupported procedure, the BLM should focus on increased implementation of currently available, safe and humane fertility control. The Porcine Zona Pellucida (PZP) immunocontraceptive has a long history of field testing and efficacy on wild horse populations. The BLM currently uses PZP to manage wild horse populations on several HMAs and should continue this work by identifying other HMAs where ground darting programs can be used to stabilize and lower population growth rates. In addition to PZP, two long-acting contraceptives, PZP-22⁷ and the USDA vaccine GonaCon™⁸, are available now and have been shown to produce 5-7 years of reduced fertility in free-roaming wild horses with one initial treatment and a single booster two to three years later. While in many cases, these tools will necessarily be coupled with removals to achieve sufficient results to stabilize populations, these tools can and should be applied now on a large scale in accordance with the BLM's Comprehensive Animal Welfare Program.

As veterinarians and veterinary professionals, we have a vested interest in the wellbeing of animals, including America's wild horses and burros. We remain concerned about the BLM's research into surgical sterilization and we firmly believe that the agency must implement a large-scale program using currently available, proven and safe alternative – immunocontraception. The BLM should focus its efforts on scaling up the use of fertility control as a part of a long-term management plan in order to be able to manage wild horse and burro populations humanely and for the long-term. As the appropriations process moves forward, we encourage increase funding be given to the BLM to implement such a large-scale fertility control program using current

⁵ 2016 Oregon EA, pg 105.

⁶ Assessment at 3.

⁷ Rutberg Allen, Grams Kayla, Turner John W., Hopkins Heidi (2017) Contraceptive efficacy of priming and boosting doses of controlled-release PZP in wild horses. *Wildlife Research* **44**, 174-181.

⁸ Killian, G., Thain, D., Diehl, N. K., Rhyan, J., and Miller, L. (2008). Four-year contraception rates of mares treated with single-injection porcine zona pellucida and GnRH vaccines and intrauterine devices. *Wildlife Research* **35**, 531-539.

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technologies, instead of using resources to research surgical sterilization of mares.

Sincerely,

Katie Bahr, DVM, Oregon

Michael Blackwell, DVM, MPH, Tennessee

Gary Block, DVM, MS, DACVIM, Rhode Island

Holly Cheever, DVM, New York

Anna Delabar, DVM, Missouri

Nicholas Dodman, BVMS, DACVB, DACVAA, Massachusetts

Jon Geller, DVM, DABVP, Colorado

Nellie Goetz, DVM, MPH, Arizona

Lori Gossard, DVM, North Dakota

Pamela Greenwald, DVM, MS, Michigan

Gail Hansen, DVM, MPH, District of Columbia

Karen Hill Sheppard, DVM, Alabama

Barbara Hodges, DVM, MBA, California

Eric Jayne, DVM, Arkansas

Eileen Jefferson, DVM, New York

Barry Kellogg, DVM, Massachusetts

Paula Kislak, DVM, California

Joann Lindenmayer, DVM, MPH, Massachusetts

Gwendolen Reyes-Illg, DVM, Oregon

Josette Richmond, DVM, Virginia

Meredith Rives, DVM, Illinois

Christine Schlupf, DVM, Massachusetts

Lee Schrader, DVM, DACVIM, Ohio

Melissa Shapiro, DVM, Connecticut

David Stansfield, BVSc, MRCVS, North Carolina

Sy Woon, DVM, Florida

Patricia Zinna, DVM, New Jersey

February 1, 2016

To Whom It May Concern:

I graduated from Veterinary School at the University of California, Davis (UCD) in 1983 and completed a three-year Surgical Residency at UCD in 1997. I have spent 33 years in solo and joint practices in northern California. My Sonoma-based solo practice includes a mix of concentrated barn show horses (hunter jumper, eventing, western and endurance disciplines), rural ranch horses, ranches that have mustangs (adopted from BLM), quarter Horses used for trail riding and a varied group of owners with geriatric and mini horses.

In 2012, I became the attending veterinarian for Montgomery Creek Ranch (MCR), a 2000-acre sanctuary that is home to 245 wild horses and burros. Only 45 horses at the ranch are being gentled/trained with the majority of the herd remaining wild.

Over the last three years, I set up a deworming/vaccination protocol for MCR, managed many emergencies involving complex lacerations (some standing/ some under injectable anesthesia), colics/chokes (combining NGT/laxatives/ fluids and IV fluids when necessary), septic foal management/plasma transfusions, angular limb splinting and prolonged care, splint fracture/club foot referrals of young horses for surgery, internal abscess diagnosis/prolonged antibiotic care, respiratory issues, radiographic evaluation of limb trauma/bone sequestra, performed dental care, complex management of a pregnant mare with Purpura Hemorrhagica/Strangles that resulted in abortion of the foal (due to the necessary treatment) and repeated uterine flushes to remove the retained placenta (the mare did survive), Ocular injuries, sedation for complex foot trims on some of the wild foals with conformational abnormalities and unfortunately managing the occasional septic joint/tendon sheath, extensive small colon impaction requiring euthanasia (surgical referral would have been impossible). And of course, I have performed many castrations of wild colts, stallions and burros.

None of these procedures could have been performed without a hydraulic chute as all the procedures required IV sedation and safe accessibility to the horses. My varied and extensive experience working on wild horses in a hydraulic chute has helped me become acutely aware of the benefits but limitations of this apparatus which is similar to the versions used at BLM facilities.

Because of the above experiences and particularly considering the complex sedation or anesthetic requirements of the wild horses I have treated, I can say without hesitation the mare sterilization research plan proposed by the BLM poses significant risk to the welfare, health and survivability of the mares used in this study. The proposed BLM project includes 225 mares being sterilized with one of three interventional procedures, the most concerning of which (Standing Colpotomy) will render mares Ovariectomized.

In domestic mares, this standing procedure has widely recognized, significant risks and has been replaced by Laparoscopy (though Ovariectomies are not a common surgery in domesticated mares). The risks associated with Colpotomies performed in wild mares are likely to be magnified to potentially life-threatening levels for multiple reasons.

Colpotomies are rarely performed in horses today. (The last and only one I witnessed was 35 years ago at UCD performed by a reproduction specialist). In 33 years of practice, I have referred two domesticated mares for unilateral ovariectomies done as flank procedures. During my surgical residency at UCD ('94-'97), I never performed or witnessed Colpotomies despite UCD's extensive caseload in the surgery department.

Historically, Colpotomies were occasionally done in some practices to manage adverse behaviors of mares, small tumors or to produce "jump mares" for breeding programs. With less invasive surgical procedures currently available and pharmaceutical options for behavioral issues (Altrenogest and Regumate), surgical management via Colpotomy is rarely considered in domestic mares.

Currently, when ovariectomies need to be done (to manage granulosa cell tumors for example), Laparoscopy is the procedure of choice unless the tumor is too large, in which case a ventral midline or flank approach (Laparoscopy site could be enlarged for smaller tumors) would be chosen. Only the affected ovary would be removed unless concern with the other. Incisions with Laparoscopy are small and external. Compared to Colpotomies, surgical prep is much less complex, visualization of the procedure is constant (not blind), surgical ligation is much safer (with Colpotomies, the ecraseur hopefully crushes the ovarian pedicle vessels adequately) and the risk of complications/peritoneal contamination/bleeding are much lower with ligation of the pedicle.

My specific concerns regarding the safety of the BLM's research project, as described in the "Mare Sterilization Research EA" include:

- 1). Sedative levels required to perform a painful, standing surgical procedure vary greatly in wild horses (often requiring 2-3 times (or more) doses used in domesticated horses). With painful stimuli or over/under sedation levels, some wild horses sit or lay down in the chute (very dangerous if the procedure is underway). Other horses tend to "explode" in the chute regardless of the "squeeze" being implemented and heavy sedation on board. In either case, if the ecraseur was being "crimped" and the mare reacted adversely resulting in dislodgement of the ecraseur, excessive/life threatening hemorrhage could result. The operator's arm could also be at risk of serious injury if the mare's position within the chute cannot be maintained.

(Adding an abdominal strap to hold the mare up would potentially compress the abdominal contents/pregnancy and make surgical approach even more difficult/more risky that abdominal contents (bowel) would be forced up in abnormal positions.

2). The success and safety of Colpotomies is partially dependent on the extensive surgical experience of the operator. Every board certified surgeon I spoke with expressed concern over Colpotomies being performed on these wild mares and in the proposed setting (BLM facilities) instead of in a surgical facility. Each of these surgeons reported experience with or anecdotal reports of complications to mares during and after Colpotomies. Each questioned the validity of using this procedure when less invasive, less painful, safer procedures could be chosen for these mares in this study.

(The validity of sterilizing mares in wild herds is another concern altogether and will be dealt with below.)

3). The post operative care/management proposed for these mares is minimal compared to the significant post operative recommendations for domesticated mares. These recommendations include keeping mares tied in a tie stall/tie line to prevent them from laying down/rolling to reduce risk of post operative hemorrhage or herniation of bowel thru the vaginal incisions that must be left open for second intention healing. These measures are advised since excessive post-operative hemorrhage or herniation of bowel thru the vaginal incisions would not be survivable.

The study proposed by the BLM includes one dose of Excede and a tetanus vaccine. I have concerns this antibiotic choice/protocol may be very insufficient to protect these mares post-operatively with the level of potential contamination likely with this procedure. Domesticated mares would be treated with a more aggressive antibiotic choice for 7-10 days post operatively (monitoring daily for complications). Insufficient antimicrobials could result in peritonitis (also not likely survivable). NSAIDs post-op are used to a limited degree for pain management since they can influence clot formation initially (since NSAIDs affect platelet function). The wild mares will not be provided with post-surgical pain relief, according to the study description and presumably turned out in a communal paddock with no restraint.

4). According to the description, Colpotomies will be performed on 100 mares, 75 of whom will be at various stages of pregnancy.

I have consulted with Dr. Mary Scott (a Diplomate with the American College of Theriogenologists) who also expressed experienced concern with the safety, efficacy and need of this procedure proposed in this projected study and setting. She confirmed that ovariectomy performed before 50 days of gestation will cause pregnancy loss. If Ovariectomy occurs between days 50 and 70 of gestation, many mares will abort. By 100 + days of gestation, the fetoplacental unit is providing significant hormonal support of the pregnancy and by that stage the ovaries are not essential to maintain a pregnancy. Research mares ovariectomized at 140-210 days of gestation did not abort. However, in a wild mare, the stress of surgery (particularly a painful, standing procedure) and potential for post-op infection are significant risks to

the maintenance of the pregnancy. Either or both could precipitate an abortion. Abortion in later stages of pregnancy can have its own set of complications.

The BLM has not addressed this risk or considered how post-procedure abortions/retained placentas resulting in complex care complications from retained placenta (necessitating uterine lavages to remove retained placenta remnants) or the management of compromised foals born prematurely... would be cared for.

5). Lastly I am concerned about the use of this procedure in the wild, due to the concerning potential disruption of the normal social behaviors of post ovariectomized mares and how this will affect their role within the herd once they return to their families.

According to Dr. Mary Scott: As described in a recent article in the Journal Equine Veterinary Education: following ovariectomy, the majority of mares will show heat (receptivity to the stallion) for prolonged periods of time. Dr. Scott explained that this has been shown to be due to secretion of hormones from the adrenal gland. Importantly, removal of the ovaries takes away the primary tissue that is capable of producing enough progesterone to completely block receptive behavior. The degree of receptivity can vary and an ovariectomized mare might initiate the social contact but not allow mating and this could result in aggression, chasing and injury for either the mare(s) or the stallion. It is my understanding that in a typical wild herd, the mares are bred by the stallion, become pregnant and the stallion and his band of pregnant mares coexist without sexual tension. I would be concerned if many mares in the herd were showing persistent receptivity, it would cause social havoc, including the potential for the OVX mares to migrate to other bands... with a re-occurring issue resulting in subsequent bands they attempt to join.

To summarize: introduction of ovariectomized mares to wild herds could be very damaging to the normal behavioral socialization/structure and healthy interactions of the bands.

Dr Scott's additional thoughts were:

"My opinion is that the predominating concern with the proposed study is the significant risk of Colpotomy to the health/life of the mares during the surgery and post operatively, because they are wild animals and cannot be handled or treated in the same manner as domesticated mares. To reduce the risk of evisceration of bowel through the Colpotomy incision, it is recommended that mares should be maintained in a tie stall for up to 7 days and then restricted to a small paddock turn out for 2 weeks following the surgical procedure. These guidelines were developed because the risk of post operative hemorrhage or evisceration are real".

6) I (Dr. Kelly) seriously question the validity or need for this procedure, given its risks and associated concerns. I understand that this project has been proposed to manage "overpopulation" in the wild herds in the US. I believe (from what I have heard) the PZP immunocontraceptive vaccine is a much safer, more cost-effective tool for

achieving this goal. Whether done yearly, every other year or even annually on partial herds in the West, population growth reduction will be achieved through rendering vaccinated mares infertile for a period of time. A benefit of PZP is that it can be applied via remote darting or hand injection, and has minimal impacts on behavior - horses retain their female/mare behavioral status in the herds/families in which they live. If mares are "spayed" they likely will not.

In conclusion, I believe that the BLM's plan to conduct ovariectomy via in particular Colpotomy on wild mares is inappropriate and inhumane because: 1) the BLM is subjecting open and pregnant mares to a barbaric surgical procedure most DVM's prefer to no longer use (because of the significant risks of life threatening complications of the procedure intra-operatively and inherent post op complication risks; 2) the BLM cannot provide wild mares with the very necessary post-operative management, a fact that will place the mares at higher risk of fatality post operatively than domestic mares; 3) the majority of mares in the study will be pregnant and will be at risk of abortion due to severe stress and significant physical compromise they will experience during the procedure. For these reasons, I do not believe that the BLM should proceed with this experiment. Much safer and less invasive options are available that maintain the normal herd behaviors and social interaction.

While the other proposed procedures - tubal ligation and hysteroscopically-guided laser ablation - hold greater promise because they are less invasive and do not involve removal of the ovaries, issues regarding monitoring, post-operative care and inappropriateness for pregnant mares remain. In addition, these procedures have never been performed in wild horses previously. As a result, they should be attempted on domestic mares first in order to evaluate any adverse effects post-procedure. In addition, currently the BLM intends to utilize as many as 125 horses in these procedures, however, the BLM could assess the potential for these procedures with a much smaller number of horses and still gain valid scientific results.

Thank you for your consideration.

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BLM proposed Spay project: 2/19/20

I have been an equine dedicated Veterinarian for 36 years, had the opportunity to have additional Veterinary training with a 3-year surgical Residency program at UC Davis during these years and have had extensive experience (which most equine Veterinarians haven't) working with a large wild horse preserve (2000 + horses/burros) managing all the care needed for a number of years. Additionally, many of my clients over the years have also chosen to adopt BLM wild horses and burros (which also added to my experiential knowledge of the complexity of working with wild [not feral] horses).

I feel it is also very important to bring to the forefront some of the historical and potentially ethical issues of dealing with population growth and management of wild equine herds and would like to explain some of my concerns. In the late 1970's... in my early years as a young pre-vet, my "married" family owned a large ranch in Montana additionally leasing large sections of BLM land to graze their cattle. Many DVM's may not be aware what the historical issue has been generationally with the BLM "managing" wild horses. The BLM is also leasing land to ranchers who are limited contractually by the BLM in the number of cow/calf units per acre and therefore ranchers are obviously concerned with any competition for the coveted grass they need to forage their herds on this leased land. IT IS an obvious conflict of interest for the BLM to lease the land to ranchers and also be managing the habitat of the wild horses they (and the ranchers) feel are competitors for forage. This conflict is at the root of my concerns with "ethical management of the wild horse herds" proposed by the ... and should be of concern to the larger Veterinary community as well. Unfortunately, the wild horses have been the historical scapegoat.

To be clear, wild horses are not the only opportunistic competitors for grassland since many Elk, moose, deer (mule and white tailed), big horn sheep, pronghorn antelope, bison, wild rabbits and other herbivores are major competitors too (not to mention the fact the large cattle herds ranchers own and put out on the leased land are grazing too !) ... How does one determine which species is eating how much ?

It's difficult to logically assert that elk, deer, sheep or wild horses are over eating grass land with a large 5,000 cow/calf herd grazing for at least six months a year on the same 60,000 acre pasture.

Much of this leased land is fenced, often very mountainous range...and frankly the wild horse herds (with mothers/babies) don't have the jumping range elk and deer have... so in many cases... the claim that wild horse herds are a competitive issue for grazing in large ranch land well monitored by ranchers and the BLM is a myth.

Many of these issues have been raised for years generationally .. since many ranchers have maintained these BLM leases for decades. When my ex-husband and I checked the fences of the BLM land, I don't recall ever seeing or hearing about any wild horses on part of the 60,000 acres of the leased pasture. (The only concern I heard was that the elk were over grazing and also attacking the hay stacks on the hay fields below the mountain pastures.)So the labeling of any mammal competing for grassland as a threat (including wild horses at the top of the list) is a misnomer that has been passed on for generations by BLM and many ranchers. There has been a debate whether the wild horse or bison is the oldest evolutionarily... but likely the oldest fossil remains in North America are actually of an equine (preceding the BLM, ranchers and other competitor grazing mammals by millions of years).

Turning to the current project the BLM is proposing for population management of the wild horses...

In 2016, I provided an oppositional letter for the AWHC to provide to the BLM detailing the reasons pursuing a Colpotomy project in wild mares for population control was very concerning. I recruited Dr. Mary Scott's expertise (a board certified equine reproduction specialist) to provide her opinion of the post colpotomy medical complications and behavioral shifts that would result post colpotomy in mares that were pregnant (the original project design).

Between 2016 and 2018, the BLM had proposed working with several university Veterinary clinics to provide surgical guidance and oversight of this colpotomy project (OSU, CSU) who subsequently chose to decline involvement likely after they reviewed the project design, extensive objections provided by the AWHC (and other organizations).

Currently the BLM has abandoned the research aspect of this project and is currently analyzing it as a management tool for use in the Swasey HMA wild horse population in Utah ... and has enlisted the opinions of some reproductive specialists around the country on the viability of this plan. One group reported they had performed colopotomies successfully on a "feral herd" of mares.

However, experience in a "feral" herd is not akin to experience in truly wild horses. For example, a simple internet search of this herd at the University of Pennsylvania reveals that it has been the subject of various research projects over the years, meaning that the ponies are at least accustomed to some level of human presence and handling (for blood draws, etc.) Information on the colpotomy procedure performed in these ponies is not provided. Were they, for example performed in simple stocks (that don't compress or restrict the body of a horse in any way)?

Again, feral ponies are-not synonymous at all behaviorally to the wild horses I have worked extensively with and for whom I feel this spay project is very likely to result in potential post operative complications and the risk of loss of some of these wild mares... because of the difficulty of performing this procedure safely for a number of reasons noted below.

The project design states the horses will be colpotomized in either "stocks" or a squeeze chute. Having worked on thousands of wild horses over my 36 years as a Veterinarian, there is NO WAY a wild horse could be haltered and "lead" into a stock and made to voluntarily stand in the stock for all of the details of this complex and very painful procedure. I've had the experiential background of working on thousands of wild horses with a hydraulic squeeze chute.. which restrained the horses as they were squeezed from the sides and rolled over horizontally for foot trimming, X-rays or other procedures on at least distal limbs, when needed.

I performed many standing surgical procedures on wild horses in this hydraulic squeeze chute (mostly standing) and anesthesia initiated for castrations or other anesthetic needs (started in the chute....but the wild horses released into the corral for castration/other procedures once down). To be very clear... the complexity of sedating wild horses can require repeated sedative levels beyond what domesticated horses require. Sometimes these wild horses would start to "sink" in the hydraulic squeeze chute... and end up on the floor... so we would need to open up the sides of the chute to encourage the horse to get back up.

Sometimes this would take a bit of time to accomplish. These experiences taught me how critical it was to accurately get the sedative dose completely in the vein (impt with all horses of course !). Wild horses tend to tense their necks and the jugular is easily compressed.. so inexperienced people working with wild horses will require a "learning curve" to safely get catheters into these wild horses and determine the doses needed to not under or overdose wild horses. "Explosions" behaviorally of wild horses is the norm in these chutes (hydraulic or lesser chutes).

Additionally, the main concern I voiced in 2016 was that colpotomies performed in domesticated mares are usually done after a fasting period. This is a very important detail... because in order to make incisions in the cranial aspect of the vagina to enter the peritoneal cavity safely... will require their abdomens to be relatively empty (with the intestinal tract clearly ventral of the incisions, not near the locations, to avoid lacerating bowel.

The obvious problem with wild mares (as I said in 2016) is that sedation alone will not keep these mares standing and quiet (in fact they may sink in the chute) ... so intense abdominal compression (side chute compression) is necessary (along with likely a tail rope or sometimes a belly band too) to keep them standing. All of these measures of side restraint will make even performing a rectal a challenge. A belly band (to keep the mares standing) will incrementally increase the abdominal compression as well.

As an example: I cared for a wild pregnant mare who aborted after being treated for a very severe case of Purpura Hemorrhagica. After the abortion, attempting to empty her rectum, flush her uterus to remove the retained fetal membranes and perform repeated uterine lavages was extremely difficult considering the significant external abdominal compression from the squeeze chute ... ie: Everything abdominally was "squished" together. As I wrote in 2016, attempting to make incisions in the cranial vaginal vault with significant abdominal compression will make it very difficult to avoid lacerating bowel along with the peritoneum.

Additionally... attempting to enter those incisions into the peritoneal cavity with a syringe to block the ovarian pedicle is immensely difficult too. (When you depend on some "free space" in the dorsal abdomen to discern the appropriate structures to locate and "block" the pedicle.). I'm sure NO surgeon, reproductive specialists, or BLM DVM's would want to harm any of these mares... but unfortunately the project design in wild mares will result in some unfortunate complications: excessive bleeding, peritoneal contamination, bowel laceration-peritonitis all of which could result in excessive abdominal discomfort/colic symptoms/sepsis that will be very difficult to manage in wild horses. With all of

these complications.... loss of the mare is certainly possible.

Many years ago (1970's) when colpotomies were performed at times at the Veterinary School I graduated from, they were preferentially done by the reproductive specialists. These days, these procedures when occasionally done are often performed by surgeons laparoscopically since domesticated mares are often valued by their owners... and comfort vs cost is usually preferred by the surgeons and owners. The fact the panel reviewing the current BLM project stated in their view that reproductive specialists would be advised over surgeons to perform these colpotomies (since most surgeons have never done a colpotomy when more humane and safer surgical / laparoscopic procedures exist) also aligns with my 2016 concern when the BLM originally planned to have BLM field DVM's (very inexperienced with surgical procedures) perform these colpotomies. (This was the reason the BLM wanted several university veterinary oversight providers to assist with the original project oversight of the BLM veterinarians. As stated above, both Universities eventually chose to decline involvement.

Though the current design may utilize reproductively experienced reproductive experts or surgeons, they likely will lack real wild horse experience potentially and may not have the more sophisticated hydraulic squeeze chutes that are infinitely safer to manage wild horses. Though as noted above... utilizing squeeze chutes will make performing colpotomies immensely more difficult... and may result in dire consequences for some of these mares too.

Additionally, the original design of this BLM project also proposed performing colpotomies on pregnant mares. Abdominal compression in these mares (in squeeze/hydraulic chutes) would provide even more complexity to safely perform this procedure with a fetus in utero. Many of these mares will also have foals by their side... who would be separated.. and potentially weaned early (which the BLM tends to do)... which is also risky with wild horses.... when wild herds are used to having equine families stay together for prolonged periods of time. BLM gather yards are NOT safe places for young foals to be weaned in.

Putting wild mares through this BLM spay project, which is likely to be ethically inappropriate even in the hands of well-intentioned veterinarians, WILL result potentially in days of discomfort post operatively and the potential loss of some of these wild mares.

Some of the other surgical ovariectomy procedures raise similar concerns regarding ability to adequately sedate wild horses and the abdominal compression of squeeze chutes that will be always necessary when working with wild horses. Standing Laparotomy procedures through the flank to ovariectomize would still require complete draping of the wild horse's back end and the obvious issues of potential contamination of the surgical site would be easy to imagine since all hydraulic chutes are in outside dusty BLM gather yards or outside facilities at ranches. Hydraulic squeeze chutes are also only open on one side (usually on the L side). So it is only possible to access the L side and back end of the horse (the entire R side is not accessible). The presumption that these wild horses could be lead into a sterile Veterinary clinic and be brought to stand in a stock is also an impossibility when they have never been handled. (UC Davis has already set a firm boundary of not allowing completely wild horses to be brought to the large animal clinic because of obvious liability risks). Surgical procedures such as flank incisions also raise questions about the ability to provide sterile surgical fields, as do procedures that utilize general anesthesia to lay down horses to perform very invasive abdominal surgeries or flank incisions that would attempt to remove both ovaries from horses laying down on one side. The ONLY way any of these procedures could be done... would be by running all the mares through a chute and then individually into a squeeze chute... (for the initial sedatives to be administered). When I had to perform anesthesia with wild horses for castrations or joint taps/surgical debridement of wounds for example... I would get the horse initially sedated in the squeeze chute with Xylazine.... once I was comfortable the wild horse was adequately sedated... I would administer Ketamine... and we would immediately release the horse into the large paddock adjacent to the chute until they fell down... at which point we would commence with the procedure topping off anesthetics as needed thru a catheter. My concern with performing flank or abdominal incisions on wild horses in the open environment is that avoiding

contamination of the surgical site would be quite difficult to prevent. Obviously this was performed in outdoor conditions... so dust, wind and other contaminants were an obvious concern... so I would need to drape off the area to attempt to protect the wound/surgical site from contamination (which of course in the middle of nowhere... was quite difficult to do).

All of these surgical procedures are time consuming, expensive and carry high risks of contamination complications in wild horses. They impractical and inadvisable for use in wild horses, particularly when non-surgical safer alternatives such as immunocontraception, are available.