

**Petition to List a North American Distinct Population Segment of
Wild Horse (*Equus caballus*) under the U.S. Endangered Species Act**



Photograph: Bureau of Land Management Available from
http://www.blm.gov/pgdata/etc/medialib/blm/ut/natural_resources/wild_horses_and_burros/conger.Par.36662.Image-1-1.1.gif

**Petition Submitted to the U.S. Secretary of the Interior
and the U.S. Fish and Wildlife Service**

June 10, 2014

Petitioners

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June 10, 2014

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

Daniel M. Ashe, Director
U.S. Fish & Wildlife Service
1849 C Street, NW
Washington, D.C. 20240

Re: North American Wild Horses on U.S. Public Lands

Dear Secretary Jewell and Director Ashe

Friends of Animals (“FoA”) and The Cloud Foundation hereby petition the Department of the Interior (“Secretary”), acting through the U.S. Fish and Wildlife Service (“FWS”), to list North American wild horses on all U.S. federal public lands,¹ as threatened or endangered under the Endangered Species Act (“ESA”), 16 U.S.C. §§ 1531-1544. Wild horses on U.S. federal public lands in North America, sometimes referred to as feral horses or Mustangs, warrant ESA protections as a distinct population segment of horses, the continued existence of which is imperiled.²

The primary threats to wild horses on federal public land are habitat loss, inadequate regulation, and excessive round-ups and removals. Overall, wild horses on federal public lands face the threat of extinction due to at least four factors identified in the

¹ For purposes of this Petition, the terms “U.S. federal public lands” and “federal public lands” are intended to encompass those lands owned or administered by the United States by any of the following agencies: the Bureau of Land Management, the U.S. Fish and Wildlife Service, the National Park Service, and the U.S. Forest Service. This term does not include state owned or tribal land.

² Although this petition is for wild horses, Petitioners in no way intend to imply that wild burros are not also endangered or threatened and in need of legal protection under the ESA.

ESA. First, habitat loss, particularly from cattle grazing, mining, energy exploration, and urban expansion, endangers the distinct population segment (“DPS”). Second, human utilization threatens the species, specifically removal and sterilization to reduce the population and allow commercial grazing. Third, existing regulatory mechanisms are inadequate to manage the threats that face wild horses and may, in fact, constitute an independent threat to their survival. Finally, other natural and manmade factors also threaten the continued existence of wild horses in the United States, including their artificially fragmented range and small population size. Thus, it is vital to the survival of this population segment of wild horses that it becomes federally protected under the ESA.

The petition, filed pursuant to 5 U.S.C. § 553(e) and 50 C.F.R. § 424.14, consists of this cover letter and the attached petition, as well as all documents cited within which are hereby specifically incorporated by reference.

Please do not hesitate to contact me at (720) 949-7791 if you need more information. My address appears below and on the cover sheet of the petition.

Sincerely,

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TABLE OF CONTENTS

ABBREVIATIONS.....	3
PETITIONERS.....	3
THE ENDANGERED SPECIES ACT.....	3
A. The Listing Process.....	3
B. Authority to List Distinct Population Segments of a Species.....	4
SPECIES DESCRIPTION.....	5
A. Taxonomy of the Petitioned Species.....	5
B. History of Wild Horses in North America.....	6
C. Physical Description.....	8
D. Diet.....	8
E. Reproduction.....	9
F. Habitat and Range.....	9
G. Population Estimates and Trends.....	11
H. North American Wild Horses as Native Species.....	13
QUALIFICATION AS A DISTINCT POPULATION SEGMENT.....	15
A. The Proposed Wild Horse DPS is Discrete.....	15
1. Physical, Ecological, and Physiological Separation.....	15
2. Behavioral Differences.....	17
3. Distinct Legal Status.....	18
B. The Proposed Wild Horse DPS is Significant.....	19
1. Proposed Wild Horse DPS Occupies an Unusual or Unique Ecological Setting..	19
2. Loss of Wild Horses Would Result in a Significant Gap in the Range of the Taxo.	19
IDENTIFIED THREATS TO WILD HORSES: CRITERIA FOR LISTING.....	21
A. The Wild Horse is Endangered by the Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range.....	21

B. Existing Regulatory Mechanisms are Inadequate to Prevent the Extinction of Wild Horses. 24

C. The Wild Horse is Endangered by other Natural or Manmade Factors Affecting its Continued Existence..... 27

 1. Excessive Management and Small Population Size. 27

 2. Pressure from Commercial Cattle Interest..... 28

 3. Round-ups..... 29

 4. Sterilization 29

 5. Cumulative Effects. 30

REQUESTED DESIGNATION..... 30

REFERENCES 32

ABBREVIATIONS

AML – Appropriate Management Level
BLM – Bureau of Land Management
DPS – Distinct Population Segment
ESA – Endangered Species Act
FWS – U.S. Fish and Wildlife Service
FoA – Friends of Animals
HA – Herd Area
HMA – Herd Management Area
WHBA or the Act – Wild Free Roaming Horses and Burros Act

PETITIONERS

Friends of Animals. Friends of Animals (“FoA”) is a nonprofit, international animal advocacy organization incorporated in the state of New York in 1957. FoA has nearly 200,000 members worldwide. FoA and its members seek to free animals from cruelty and exploitation around the world, and to promote a respectful view of non-human, free-living and domestic animals. FoA engages in a variety of advocacy programs in support of these goals. FoA informs its members about animal advocacy issues as well as the organization’s progress in addressing these issues through its magazine called Act’ionLine, its website, and other reports. FoA regularly advocates for the rights of wild horses and has published articles and information advocating for the protection of wild horses so that they can live unfettered by human intrusion.

The Cloud Foundation. The Cloud Foundation is a Colorado 501(c)3 non-profit corporation, that grew out of Ginger Kathrens' knowledge and fear for not only Cloud's herd but other wild horses in the West. "I began to realize that we were losing America's wild horses," Ginger says. "They are rounded up by the thousand, losing in an instant what they value most—freedom and family. I realized that even Cloud and his family were in danger." The Cloud Foundation is dedicated to preventing the extinction of Cloud's herd and all wild horses and burros on our public lands through education, media events and programming, and public involvement.

THE ENDANGERED SPECIES ACT

A. The Listing Process.

The ESA was enacted by Congress in 1973 to “provide a means whereby ecosystems upon which endangered species and threatened species depend may be conserved, [and] to provide a program for the conservation of such endangered species and threatened species.” 16 U.S.C. § 1531(b). The ESA requires the Secretary of the Interior—through her delegate, the U.S. Fish and Wildlife Service—to identify and list species that are endangered or threatened. *See id.* § 1533. FWS may list a species, on its own initiative, through notice and comment rulemaking. *Id.* § 1533(b)(5). Alternatively, a species may become listed through the petition process provided for in the Administrative Procedure Act (“APA”), 5 U.S.C. § 553(e). Any interested person may petition FWS to add or remove a species from the list. 16 U.S.C. § 1533(b)(3)(A). Upon receiving a listing petition, FWS must promptly

determine whether the petition is supported by “substantial scientific or commercial information.” *Id.*; see also *Northwest Ecosystem Alliance v. U.S. Fish and Wildlife Service*, 475 F.3d 1136 (9th Cir. 2006). If so, FWS is required to make a finding on the status of the petitioned species within 12 months, and publish such finding in the Federal Register. 16 U.S.C. § 1533(b)(3)(B). In making its finding as to the status of a listed species, Congress has directed FWS to determine whether any species is an endangered species or a threatened species because of any of the following factors:

- (A) the present or threatened destruction, modification, or curtailment of its habitat or range;
- (B) overutilization for commercial, recreational, scientific, or educational purposes;
- (C) disease or predation;
- (D) the inadequacy of existing regulatory mechanisms; or
- (E) other natural or manmade factors affecting its continued existence.

Id. § 1533(a)(1). Further, in evaluating the status of the petitioned species, FWS must make its decision “solely on the basis of best scientific and commercial data available.” *Id.* § 1533(b)(1)(A). Again, if FWS finds that listing of the petitioned species is warranted, it must promptly publish such finding along with a proposed regulation to implement the finding. *Id.* § 1533(b)(3)(B)(ii).

B. Authority to List Distinct Population Segments of a Species.

Congress defined species in the ESA to include “any subspecies of fish or wildlife, and any **distinct population segment** of vertebrate fish or wildlife that interbreeds when mature.” 16 U.S.C § 1532(16) (emphasis added). Thus, a population of wildlife that may not constitute a taxonomic species may still qualify for listing as a DPS. As courts have recognized, the purpose of a DPS designation is to “enable protection and recovery of declining organisms in a more timely and less costly manner, and on a smaller scale, than would be required for an entire species or subspecies.” *Ctr. for Biological Diversity v. Salazar (In re Polar Bear Endangered Species Act Listing)*, 794 F.Supp.2d 65, 97 (D.D.C. 2011).

The ESA, however, does not expressly define the term “distinct population segment.” FWS, along with the National Marine Fisheries Service, which has jurisdiction to implement the ESA for marine species, jointly adopted a policy statement to guide its evaluation of whether a population group should be treated as a DPS. *Policy Regarding the Recognition of Distinct Vertebrate Population Segments Under the Endangered Species Act*, 61 Fed. Reg. 4722 (Feb. 7, 1996). The Joint DPS Policy sets forth two factors for consideration: (1) the “discreteness of the population segment in relation to the remainder of the species to which it belongs;” and (2) the “significance of the population segment to the species to which it belongs.” *Id.* at 4725. These terms are defined as follows:

- Discreteness:** A population segment of a vertebrate species may be considered discrete if it satisfies either one of the following conditions:
- (1) It is markedly separated from other populations of the same taxon

as a consequence of physical, physiological, ecological, or behavioral factors. Quantitative measures of genetic or morphological discontinuity may provide evidence of this separation; or (2) It is delimited by international governmental boundaries within which differences in control of exploitation, management of habitat, conservation status, or regulatory mechanisms exist that are significant in light of section 4(a)(1)(D)¹ of the [Endangered Species] Act.

Significance: If a population segment is considered discrete under one or more of the above conditions, its biological and ecological significance will then be considered in light of Congressional guidance. FWS will consider available scientific evidence of the discrete population segment's importance to the taxon to which it belongs. This consideration may include, but is not limited to, the following: (1) persistence of the discrete population segment in an ecological setting unusual or unique for the taxon; (2) evidence that loss of the discrete population segment would result in a significant gap in the range of a taxon, (3) evidence that the discrete population segment represents the only surviving natural occurrence of a taxon that may be more abundant elsewhere as an introduced population outside its historic range; or (4) evidence that the discrete population segment differs markedly from other populations of the species in its genetic characteristics.

Id.

SPECIES DESCRIPTION

A. Taxonomy of the Petitioned Species.

The petitioned species is a population of North American, free-roaming member of the species *Equus caballus* found on U.S. public lands. This population is commonly referred to as a feral horse, mustang, or wild horse (Jenkins & Ashley, 2003). This petition refers to the population segment as wild horse(s). The full taxonomic classification is shown in Figure 1.²

¹ Section 4(a)(1)(D) mandates that the Secretary shall determine whether a species is endangered or threatened because of the "the inadequacy of existing regulatory mechanisms." 16 USCS § 1533 (a)(1)(D).

² Scientists have concluded that wild horses in America are related to the wild Przewalski's horse (*E. c. przewalskii*) (Harrington, 2002). The Przewalski horse is native to the steppes of central Asia, specifically Mongolia and is listed as endangered by the International Union for Conservation of Nature ("IUCN") (Boyd & King, 2008).

Figure 1. Taxonomy of *Equus caballus*³

Kingdom	Animalia – Animal, animaux, animals
Subkingdom	Bilateria
Infrakingdom	Deuterostomia
Phylum	Chordata – cordés, cordado, chordates
Subphylum	Vertebrata – vertebrado, vertébrés, vertebrates
Infraphylum	Gnathostomata
Superclass	Tetrapoda
Class	Mammalia Linnaeus, 1758 – mammifères, mamífero, mammals
Subclass	Theria Parker and Haswell, 1897
Infraclass	Eutheria Gill, 1872
Order	Perissodactyla Owen, 1848 – antas, Odd-toed Ungulates
Family	Equidae Gray, 1821 – Asses, Horses, Zebras
Genus	<i>Equus</i> Linnaeus, 1758 – Horses
Subgenus	<i>Equus (Equus)</i> Linnaeus, 1758 – Horses
Species	<i>Equus caballus</i> Linnaeus, 1758 – feral horse, Horse

B. History of Wild Horses in North America

1. Pre-regulation History up to 1959.

Modern horses, zebras, and asses belong to the genus *Equus*, the only surviving genus in a once diverse family, Equidae. (Kirkpatrick & Fazio, 2010). The equid family evolved in North America for about 26 million years (Jenkins & Ashley, 2003). Based on fossil records, the genus *Equus* originated in North America about three to four million years ago and spread to Eurasia by crossing the Bering land bridge two to three million years ago. A great deal of paleontological data has lead experts to place the origin of the modern horse, *E. caballus*, at about two million years ago in North America (Kirkpatrick & Fazio, 2010). The last North American extinction probably occurred between 13,000 and 11,000 years ago (Kirkpatrick & Fazio, 2010), although more recent extinctions for horses has been suggested (Haile, et al., 2009). Perhaps exploitation by early humans in this pre-domestication period played a role in the horse's demise in North America (Harrington 2002). Climate change and changes in North American vegetation likely also played a role (Hulbert, 1993; Martin & Klien, 1984; Sharp & Cerling, 1998; MacFadden & Ceding, 2001). Had it not been for previous westward migration into northwest Russia and Asia, the horse would have faced complete extinction. *Equus* did survive and spread worldwide except for Australia and Antarctica (Kirkpatrick & Fazio, 2010).

³ ITIS Report, retrieved from <http://www.itis.gov>. The Integrated Taxonomic Information System (ITIS) is a coalition of federal agencies formed to create scientifically credible taxonomic information for scientific use and the American public.

In the mid-1500s, Spanish conquistadors returned horses to North America, and some horses escaped or were released from captivity onto western rangelands (Garrott & Oli, 2013). These now wild horses developed distinct behaviors from their domestic counterparts. The fact that horses were domesticated before they were reintroduced matters little, from a biological or behavioral viewpoint, to the determination of them as a once-native species. (Kirpatrick & Fazio, 2010; “Managed to Extinction”, 2011).

By 1900, there were two to seven million wild horses in the United States (Ryden, 1999; Thomas, 1979). However, the population started to decrease in the early 1900s due to human exploitation. In 1920s, well over a hundred thousand horses were slaughtered and sold for chicken-feed, pet food, and human consumption (McKnight, 1959). Furthermore, hunters and ranchers started killing wild horses and driving them off the land based on the belief that wild horses would compete with the commercial livestock or damage the land (Ryden 1999).

It was not clear that there were too many horses, or that the land was incurring damage due to the presence of the horses. Nonetheless, the United States Forest Service and the United States Grazing Service (the predecessor to the BLM) responded to pressure from ranchers by removing tens of thousands of wild horses from federal property and allowing people to poison water holes and slaughter them without limit (Cruise and Griffiths, 2010). As part of the plan to clear the range of wild horses, the government collaborated with rendering plants that paid hunters six cents a pound to remove horses (Cruise and Griffiths, 2010). According to one BLM official, “within a period of four years [1946 to 1950] [BLM] removed over 100,000 abandoned and unclaimed horses from Nevada ranges.” (Cruise and Griffiths 2010 p. 59). Officials estimated that fewer than 4,000 horses remained in Nevada by 1950 (Cruise and Griffiths, 2010 p. 60).

2. Regulatory History post-1959.

Many people, outraged at the practice of extinguishing wild horses, encouraged Congress to pass the Hunting Wild Horses and Burros on Public Lands Act in 1959 (Ryden, 1999). The Act banned the hunting of wild horses on federal land from aircraft or motorized vehicles. 86 P.L. 234, 73 Stat. 470. After passage of this law, however, ranchers and others continued to sell and slaughter wild horses (Cruise & Griffiths, 2010).

In 1971, upon finding that “these horses and burros are fast disappearing from the American scene” and that they “contribute to the diversity of life forms within the Nation and enrich the lives of the American people,” Congress passed the Wild Free-Roaming Horse and Burro Act (“WHBA”), 16 U.S.C. §§ 1331 et seq.

Under the WHBA, the Secretary of the Interior is vested with authority to protect wild horses and burros on public land. Specifically:

All wild free-roaming horses and burros are hereby declared to be under the jurisdiction of the Secretary for the purpose of management and protection in accordance with the provisions of this Act. The Secretary is authorized and directed to protect and manage wild free-roaming horses and burros as components of the public lands, and

[s]he may designate and maintain specific ranges on public lands as sanctuaries for their protection and preservation . . .

16 U.S.C. § 1331

Since passage of the WHBA, wild horses have lost an additional 41% of their habitat (BLM, 2014). In addition the population has barely changed in size since Congress found that they were in need of protection in 1971 (BLM, 2014).

C. Physical Description.

Wild horses are medium to large mammals; the size varies within and among populations (Jenkins & Ashley, 2003). A study of a population in northwest Nevada found males weighed 444 ± 40 kg, and females weighed 413 ± 54 kg (Jenkins & Ashley, 2003, p. 1150). Wild horses exhibit a wide range of patterns and colors, including, appaloosas, bays, black, browns, buckskins, chestnuts, grays, palominos, and pintos. Some also exhibit patterns from Spanish decent, such as striped legs, a dorsal stripe, and slightly convex nasal bone structure (Jenkins & Ashley, 2003). They are adapted to generally open terrain, from plains and savannas to mountains or deserts (Downer, 2014).



Wild Horses

D. Diet.

Wild horses are herbivores and feed predominantly on grasses and grass-like plants or shrubs (National Research Council, 1982). Wild horses have a caecal digestive system, meaning they do not decompose the vegetation they ingest as thoroughly as ruminant grazers, such as cattle or sheep. This allows the seeds of many plant species to pass through their digestive tract intact into the soil, which in turn gradually releases nutrients into the soil over all seasons to the benefit of the soil, plants, animals, and entire food web (Downer, 2014; Duncan 1992). Unlike ruminant grazers, which often rip up plants from their roots exposing soil to destructive wind and rain erosion, wild horses have upper and lower incisors that permit them to selectively nip pieces of vegetation without tearing out the root of the plant (Downer, 2014; Berger 1986). Additionally, wild horses are able to

consume dry, parched and flammable vegetation, and thus may help prevent catastrophic wildfires. Wild horses' consumption of the dry and withered foliage also exposes many other species to more sun, air, and water allowing them to grow and flourish (Downer, 2014; Berger 1986).

Wild horses generally visit a water hole once per day, and may dig to water in dry riverbeds (Slade & Godfrey, 1982). In the winter, horses are able to break through the ice to expose the water. These behaviors open up water access to many species that would otherwise perish (Downer, 2014).

E. Reproduction.

In general, first reproduction by females occurs at 2 years, and the highest foaling rates occur among females 6-15 years old (Garrott, Eagle & Plotka, 1991, p. 738). The estrous cycle of a mare occurs roughly every 20–22 days, and gestation averages about 336 days (Jenkins & Ashley, 2003, p. 1152). Wild horses typically produce, at most, 1 foal per season (Ashley, 2004, p. 611). Studies have concluded that forage availability can affect foaling rates (National Research Council, 2013).

Given adequate habitat, wild horses “will limit their own reproductive capacities, either socially or biologically, when resources, including food, water, and space, become limiting. This involves stress and hormonal factors.” (Downer, 2014, p. 18). For example, both lead stallion and mare, aware of resources in their range, will inhibit reproduction among younger members of their band (Downer, 2014, p. 18). Although BLM estimates 20% annual population growth rate, a review of the available data by Gregg, LeBlanc & Johnston (2014), indicated a 10% population growth rate based on yearling survival rates.

F. Habitat and Range.

Fossil records indicate that modern wild horses had a large geographic distribution across North America, originating there about 1.7 million years ago (Jenkins & Ashley 2003; MacFadden, 1994). Wild horses can thrive in North American plains and prairies, and further west to the Rockies in the Great Basin and west of the Sierra Nevada Mountains in California (Downer, 2014). People have discovered petroglyphs of wild horses in Eastern California; Carbon County, Montana; Converse County, Wyoming; Wolf Spider Cave, Colorado; Spencer and Laatch Archeological Mount, Wisconsin; Truman Reservoir, Missouri; the Hopewell Burial Mound, Ohio; the prehistorical Indian kitchen middens of Arizona; and Winnemucca Lake Flats, Nevada (Downer, 2014).

If given adequate habitat, wild horse bands establish ranges according to their survival needs. Each band forms a range that may overlap with the ranges of other bands. Given time to work out their individual and collective differences, wild horses reach a stable state in relation to their bounded habitat and do not overpopulate but achieve a balance with the natural resources in their territory (Downer, 2014).

Today, wild horses and burros in North America are found primarily on public lands⁴ in government-designated Herd Management Areas (HMAs) in ten western states: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah and Wyoming (National Research Council, 2013). Prior to 1900, wild horses were present across America; however six states where wild horses were found before 1900 have already lost their entire wild horse populations: Missouri, Iowa, and Arkansas, Texas, Oklahoma, and Kansas (De Steiguer, 2011; National Research Council, 2013).

When Congress passed the WHBA, wild horses and burros roamed across approximately 53.8 million acres known as “Herd Areas,” of which 42.4 million acres were under BLM's jurisdiction (BLM, 2014a). Today, wild horses can only be found in 179 subsets of these Herd Areas that comprise 31.6 million acres, of which 26.9 million acres are under BLM management. Thus, since the passage of the WHBA, wild horses have lost 22.2 million acres (BLM, 2011), over 40% of their 1971 habitat. Figure 2 shows current Herd Management Areas.

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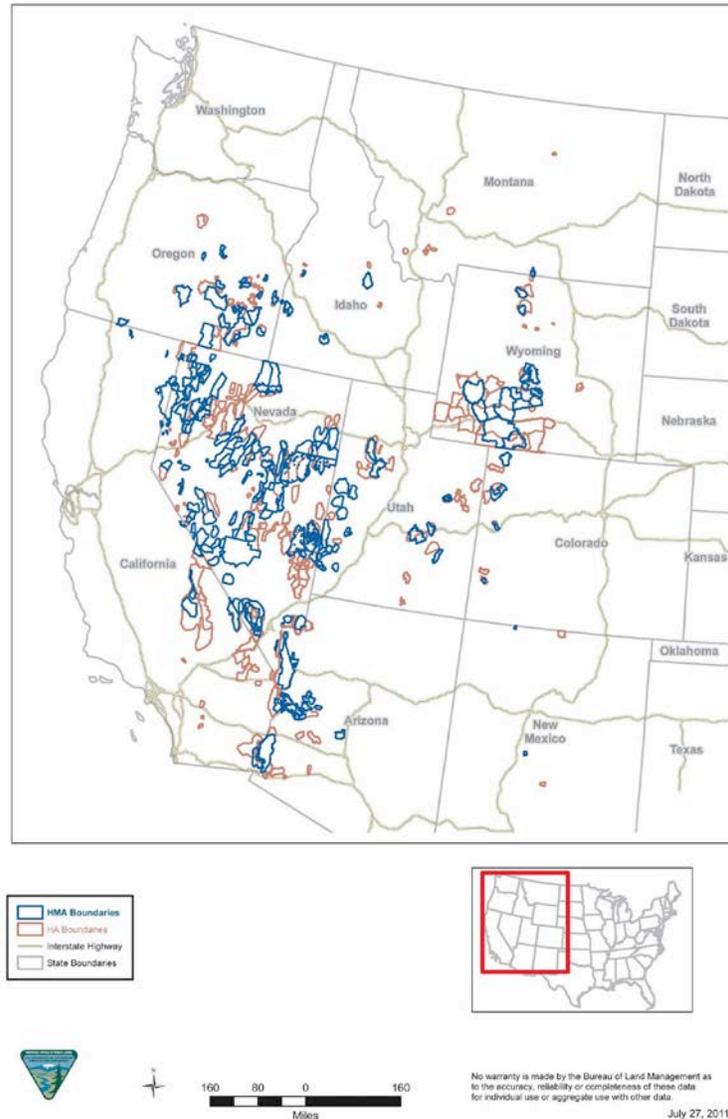
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⁴Some herds can also be found on tribal lands in the United States. These herds are not under the jurisdiction of the Secretary of the Interior. For reasons discussed below, these herds fill only a very small portion of the population’s historic range and are subject to management by tribal governments. Accordingly, the Petitioners are not seeking to include these herds in the DPS.

Figure 2. Herd Management Areas⁵

Herd Areas and Herd Management Areas



G. Population Estimates and Trends.

Wild horses populations have drastically decreased from between two to seven million in the 1900's (Ryden, 1999, Thomas, 1979), to fewer than 34,000 today on public lands

⁵ Available at http://www.blm.gov/wo/st/en/prog/whbprogram/herd_management/HMA_and_HA_Maps.html

(BLM, 2014a).⁶ BLM set the “appropriate management level” for all wild horses in America at about 26,677 horses, signifying that there will be active efforts to further reduce the population (BLM, “Wild Horse and Burro Quick Facts”).

Moreover, the wild horse population is fragmented to isolated and small herds that threaten the species’ survival. The Equid Specialist Group of IUCN Species Survival Commission recommends minimum populations of 2,500 individuals for the conservation of genetic diversity (Duncan 5). Others have warned that populations managed with a target size of fewer than 500 horses are at some risk of losing more than 90% of selective neutral genetic variation over a long period of 200 years (Glover 1119 n.74). A loss of genetic variability can lead to a reduction in fertility or viability of the population (Cothran 1).

BLM asserts that wild horse populations on public lands are increasing by some 20% or more each year. However, these estimates are not based on sound scientific methodology (Gregg, LeBlanc and Johnston 1-3). A recent National Academy of Science (“NAS”) report on the Wild Horse and Burro Program determined that BLM has no evidence of excess wild horses and burros, primarily because BLM has failed to use scientifically sound methods to estimate the populations (National Research Council, “Using Science to Improve BLM”). NAS cited two chief criticisms of the Wild Horse and Burro Program: unsubstantiated population estimates in herd management areas (“HMAS”), and management decisions that are not based in science (National Research Council, “Using Science to Improve BLM”). As independent researchers recently noted:

Effective wild horse and burro management is dependent on accurate population counts and defensible assumptions. The Bureau of Land Management (BLM) routinely uses the assumption that wild horse and burro herds increase annually at an average rate of 20%. However, our review of available scientific literature combined with an analysis of BLM data for 5,859 wild horses found that approximately 50% of the foals survived to the age of 1 year, which indicates a 10% population growth rate based on yearling survival rates.

(Gregg, LeBlanc & Johnston, 2014, p. 1).

Although the current practice of removing wild horses from the range to keep numbers artificially low may promote population growth (National Research Council, 2013, p. 81-87), it harms population’s genetic viability and could lead to extinction. There are no herds that have a large enough population to meet the recommendation of the IUCN Species Survival Commission – 2,500 animals (Duncan, 1992; Downer, 2014). Of the remaining HMAs throughout the West, 130 (72%) have Appropriate Management Levels (“AMLs”) of less than 150,

⁶ This petition focuses on free roaming wild horses on designated public lands because there is no data for wild horses on private lands, nor are there any protections to indicate that those animals present viable populations to prevent extinction of the species.

and many of these are much less than 100, even numbering in the teens (BLM, 2013). “Of the 180 greatly-reduced HMAs throughout the West, 130, or 72%, have AMLs of less than 150, and many of these are much less than 100, even numbering in the teens. According to the BLM’s own substandard standard of 150, in California 19 out of 22 HMAs have non-viable AMLs; in Utah, 17 out of 21; in Idaho, 5 out of 6; in Montana, 1 out of 1 (6 of the original 7 HAs having been zeroed out); and in Nevada, 67 out of 90 of the remaining herds are similarly non-viable.” (Downer, 2014, p. 16).

Experts have warned that the “majority of wild equid populations managed by the BLM are kept at population sizes that are small enough for the loss of genetic variation to be a real concern” (Cothran, 2000, p. 1). Keeping these herds at non-viable population puts them at serious risk for extinction in the foreseeable future.

H. North American Wild Horses as Native Species.

Critics of the proposition that modern wild horses are reintroduced native species in North America selectively use the paleontological data to assert that the species, *E. caballus*, which was introduced in 1519, is a different species from which disappeared between 13,000 to 7,000 years ago. However, “neither paleontological opinion nor modern molecular genetics support the contention that the modern horse in North America is non-native” (Kirkpatrick & Fazio, 2010, p. 2).

There is no dispute that *E. caballus* originated in North America, and evolved with the habitat here (Kirkpatrick & Fazio, 2010, 5-6; Downer, 2014). According to research based on fossil records, mitochondrial-DNA, and microsatellite data, the modern horse species, *E. caballus*, originated in North America approximately one- two million years (Kirkpatrick & Fazio, 2010). Moreover, the last species of *Equus* believed to be in North America before extinction, *E. lambei*, is not genetically distinct from the modern *E. caballus* (Kirkpatrick & Fazio, 2010).

Carbon-14 dating of mitochondrial DNA (passed along the maternal line) have been meticulously analyzed by Dr. Ann Forsten and have substantiated the origin of the modern horse in North America at 1.7 MYA (million years ago) (Downer, 2014). According to Forsten: “[t]he early branching-off time indicated by *mtDNA* supports an origin of the caballoids [the horse branch of the horse family: Equidae] in the New World, and the fossil record suggests an even rather late dispersal to [the] Old World.” (Forsten, 1992, p. 306)

Additional evidence of this is the discovery of the remains of the “Yukon horse” in the 1990s, whose Latin name is *Equus lambei* (Harrington, 2002). The original researchers concluded:

The well-preserved state of *E. lambei* remains, and PCR technology have provided for the opportunity for initial assessment of the evolutionary relationship between *E. lambei* and modern horses. These studies demonstrated a high degree of conservation between *E. lambei* and *E. caballus* at the microsatellite loci tested. Allele sizes vary slightly

or not at all between the two species; in contrast non-caballoid Equidea species possess fewer alleles or alleles of markedly different sizes.

(Harrington & Eggleston-Stott, 1996)

Moreover, wild horse evolution within North American habitat is described as follows:

Wild horses and burros are perfectly suited to life in the remote, semi-arid regions of the West. One reason is obvious: their great mobility. With their long limbs and sturdy, single-unit (soliped) hooves, they are made for movement. In such semi-arid or arid regions as they inhabit, this extensive movement is vital for survival. In order to obtain enough forage, a wild horse must often roam over several square miles each day, selecting appropriate plants to prune; reaching a water hole may involve traveling over one hundred miles round trip in a grazing circuit of two or three days.

(Downer, 2014, p. 13).⁷

The argument against the native status of wild horses is largely political. In a legal forum assessing WHBA hosted by New York University, Dr. Ross MacPhee, the Curator of Mammalogy/Vertebrate Zoology at the American Museum of Natural History responded to a “myth” posted on BLM’s website that horses are native species. Dr. MacPhee, states:

[E]very clause, every sentence about the foreignness of horses in the passages I just read is palpably wrong, demonstrably wrong, not only according to people like me but also to anybody who has any intimate understanding of the history of horses on this continent.

Now let me just put this in a nutshell. The family Equidae evolved on this continent; it is as American as anything you could possibly imagine. That was 55 million years ago. Progressive evolution occurred thereafter, eventually culminating 1.8 million years ago when a horse very like modern horses evolved. With a very high statistical probability, domestic horses, The Horse, evolved from that precursor and spread throughout North America and then across land bridges to Eurasia and South America.

⁷ Notably, the U.S. Ninth Circuit Court of Appeals also recognized wild horses as native species, explaining that BLM “establishes Appropriate Management Levels (“AMLs”) for populations of **native species - including wild horses**, burros, and other wildlife - and introduced animals, such as livestock.” *In Defense of Animals, et al. v. U.S. Dept. Interior, et al.*, No. 12-17804, *6 (9th Cir. May 12, 2014) (emphasis added).

Scientifically, the BLM's comment that The Horse did not biologically evolve on the North American continent is wrong, and therefore the additional comments about The Horse being foreign to the Western ecosystem is completely irrelevant.

It is additionally irrelevant to say that today's ecosystem in which today's mustangs and feral horses survive is somehow completely different from what was here 10,000 years ago. That is simply not true.

("Managed to Extinction" 2).

MacPhee concluded that, "if nothing else happens out of this discussion, what I want you to take home is the idea that scientifically, the idea that horses are an invasive species is utterly wrong." ("Managed to Extinction" 3). Indeed, scientists have found that, "[t]he non-native, feral, and exotic designations given by agencies are not merely reflections of their failure to understand modern science but also a reflection of their desire to preserve old ways of thinking to keep alive the conflict between a species (wild horses and the economic value of commercial livestock." (Kirkpatrick & Fazio, 2010 p. 6). "[F]rom a genetic, evolutionary, and ecological perspective, horses are native to North America." (Donlan & Martin, 2004, p. 268). The wild horses in North America now "are the same species that originated here, and whether or not they were domesticated is quite irrelevant." (Kirkpatrick & Fazio, 2010 p. 5).

QUALIFICATION AS A DISTINCT POPULATION SEGMENT

The North American free roaming population of *Equus caballus* is "markedly separated from other populations of the same taxon as a consequence of physical, physiological, ecological, or behavioral factors." 61 Fed. Reg. 4725. Additionally, the law and regulatory mechanisms intended to protect wild horses distinguish this population as discrete, while working as a threats to the continued survival of wild horses. This petition focuses on wild horses on federal public lands for several reasons. First of all, there is little data available for horses on private or tribal land (National Research Council, 2013). Second, public lands represent areas where the wild horse population is significant and distinct. Lastly, the protections for wild horses on federal public land are inadequate to preserve viable herds.

A. The Proposed Wild Horse DPS is Discrete.

1. Physical, Ecological, and Physiological Separation.

First of all, wild horses are physically isolated from other populations. The herds on public lands were restricted to Herd Areas ("HAs") where they were found in 1971. Then, BLM further reduced the area designated to wild horses with Herd Management Areas ("HMAs"), those areas within HAs that BLM determined met criteria to support a wild horse population and could be managed for populations of wild horses through Land Use Plans. Today, wild horses on public lands are constrained to these limited designated areas on public lands (National Research Council, 2013; Singer and Zeigenfuss, 1).

Wild horses are often restricted to these HMA's by fences or other physical barriers (*See e.g.*, BLM 2009, p. 30-32). On the other hand, domestic horses are maintained on private property, accustomed to human contact, and physically separated from bands of wild horses (Christensen, 2002). Likewise, there is no information available that wild horses on public lands regularly interact and comingle with wild horses on tribal lands.

Second, wild horses occupy and are evolving in a unique ecological setting. Today wild horses are largely found on federal public lands in the west. Their range consists primarily of arid lands (National Research Council, 2013). These lands can be extremely harsh with very hot summers, cold winters, sparse vegetation (De Steiguer, 2011). Wild horses can travel over a hundred miles round trip over two to three days to reach watering holes (Downer, 2014). On the other hand, domesticated horses live on private properties throughout the world, and are generally well taken care of, with both food, water and suitable living conditions provided for by humans (Oke, 2012; Equiculture, n.d.). While there is no doubt that some domestic animals suffer abuse at the hands of humans, for the most part domestic horses live in peace with very little of the hardship faced by wild horses. The selective pressures that horses endure in the wild likely effect their genetic make-up and may serve as a useful genetic resource for the survival of wild horses (Duncan, 1992; Downer, 2014).

Under such conditions, wild horses live and behave far differently than do domesticated horses. Most notably, to survive in their ecological setting, natural selection among wild horses increases the chance of the populations survival by ensuring that those traits best suited for living in the arid, harsh American west are passed on to future generations (Downer, 2014; Duncan, 1992). In other words, wild horses better mirror their prehistoric ancestors' natural tendency, as Darwin identified, in that animals that are able to survive and reproduce in the wild will pass their genes to surviving offspring, which can improve the fitness of the population. Breeding of domesticated horses, on the other hand, is generally controlled through human-directed, selective breeding (De Steiguer, 2011). From the time humans domesticated horses some 5,000-6,000 years ago, horses have been subject to many forms of artificial selection that has resulted in gradual genetic changes (Árnason & Van Vleck, 2000). Today there remains a growing interest in the application of scientific animal breeding theory to accomplish further genetic "improvement" of valuable traits in existing domesticated horse populations (Árnason & Van Vleck, 2000, p. 473-74). However, such selection of desired traits is not intended to improve Darwinian fitness. Instead, the breeding objectives for domesticated horses "are expressed in monetary terms as economic weights to be applied to each trait of commercial importance." (Árnason & Van Vleck, 2000, p. 473-74.).

Third, again consistent with Darwinian Theory, wild horses are more physiologically suited for living in the wild than domestic horses. For example, some believe wild horses have the ability to last for longer periods without water than domestic horse breeds which allows them to survive in the wild and travel long distances to water (Beever, 2003). Additionally, in comparison to domestic horses, wild horses have a relatively short hoof capsule, and the walls go straight down, without flare or convexity (Jackson, 2008). The

long limbs and single-unit soliped hooves of wild horses allows them to move long distance to obtain forage and water and to live in the semi-arid and arid areas (Downer, 2014).

2. Behavioral Differences.

The behaviors of wild horses differ dramatically from those of their domestic counterparts (Ryden, 1999; Berger 1986). Wild horses live in highly structured, hard-won family groups and are acutely attuned to dangers in their environment, and wary of humans (Fuller, 2009; Berger, 1986). These family groups, called bands, generally consist of several females (mares) protected by a dominant male (stallion) (Natureserve, 2013). Some bands include of multiple subordinate stallions, while other will have only one stallion.

Both sexes disperse from their natal bands at around 1-3 years of age (Jenkins & Ashley, 2003). Generally, a female will not go unaccompanied for more than several days before being discovered by a bachelor or band stallion. Existing bands integrate females fairly quickly, and bachelors will capture females to form a new band. Dispersing males join a bachelor band until they form a new band by acquiring a female, either through stealing a her from an established band, taking over an existing band by force, or gaining a dispersing female. Additionally, an existing band may integrate a bachelor into the band as a subordinate stallion.

Once a band is formed, the lead stallion usually watches out for and defends the band and does most of the breeding. The band stallion is protective over the mares and will defend against intrusion, takeover, or theft of females by outside males. In multiple male bands, the subordinate stallion is often the first to defend the band from outside males and the dominant stallion herds the mares and young away, but will join if encounters persist or escalate (Downer, 2014).

Wild horses communicate through a range of vocalizations including neighs, grunts and squeals. Pair-bonded animals that have been separated will neigh to locate each other at a distance. Both sexes snort in response to threats. Stallions will also use vocal signals to resolve dominance contests before they escalate to extreme physical contact (Jenkins & Ashley, 2003).

Aggressive encounters are usually centered on defending or fighting for mares. These encounters are often displaced through threatening postures, with necks arched and ears back, or squeals and screams. However, aggressive encounters that do escalate to fighting can lead to injury or death. One study noted that 95% of adult males bore combat scars and as many as 3% of males died from combat related injuries (Berger, 1986, p. 170). These behaviors are unique to wild horses.

Finally, wild horses roam freely in the wilderness, and are often unable to survive the stress of being captured and held in captivity (Ryden, 1999). Indeed, wild horses have a highly refined fight or flight reaction—bodily changes that enhance a horse's chances of surviving a frightening situation by increasing his/her alertness, capacity for physical exertion and ability to withstand injury (Nock, 2010).

On the other hand, domestic horses are accustomed to and dependent on human contact. Although domestic horses may exhibit social stratification, they do not exhibit the full complement of associations (e.g., harem bands, multiple male and female bands, and bachelor groups) observed in free-roaming horses. It has been recognized by researchers that domestication “has resulted in diverse phenotypic and behavioral changes to wild animals, including decreased flight responses, increased sociality, earlier reproduction, and modification of endocrine and metabolic systems.” (Marshall, Dobney, Denham & Capriles, 2014, p. 6153).

3. Distinct Legal Status.

Another indicator that wild horses found on federal public lands are a discrete population deserving consideration under the ESA is that fact that the law already distinguishes the wild horse population from other horse populations. Congress passed the Wild Free Roaming Horse and Burro Act (“WHBA” or “Act”), in recognition that “wild free-roaming horses and burros are living symbols of the historic and pioneer spirit of the West; that they contribute to the diversity of life forms within the Nation and enrich the lives of the American people; and that these horses and burros are fast disappearing from the American scene.” 16 U.S.C. § 1331. The Act defines “wild free-roaming horses and burros” as “all unbranded and unclaimed horses and burros on public lands of the United States.” 16 USCS § 1332. Under this law, special regulations apply to wild horses, and wild horses are managed differently than other populations. The WHBA does not protect horses on private or tribal lands. *See id.*

This separation is important in light of section 4(a)(1)(D), “the inadequacy of existing regulatory mechanisms,” because it is often their distinct status under the WHBA that threatens wild horses’ continued survival. First of all WHBA, only considers horses in areas where they were found at the time the Act was passed in 1971. *See* 16 U.S. C. § 1331. Additionally, the WHBA gives the Secretary of the Interior discretion to determine if an “overpopulation” exists and directs her to remove “excess animals from the range so as to achieve appropriate management levels.” 16 U.S.C. § 1333(b)(2).

In 1971, the wild horse population on federal public lands was already in danger, and people had eradicated it from large portions of its habitat. Additionally, the population was drastically lower than previous numbers. A study by the National Academy of Sciences in 1982 found BLM’s official estimate of horses in 1971 was “undoubtedly low to an unknown, but perhaps substantial, degree” (National Research Council, 1982, p.44). Nonetheless, BLM attempts to keep horses at a low number, setting the maximum appropriate management level at 26,277 wild horses (BLM, 2014a). The WHBA also specifies that if wild horses go onto privately owned land, the owners may inform the nearest Federal Marshall or agent of the Secretary to have the animals removed. 16 U.S.C. § 1334. Thus, the wild horse’s distinct status under the law in many ways leads to its persecution and decline.

B. The Proposed Wild Horse DPS is Significant.

1. The Proposed Wild Horse DPS Occupies an Unusual or Unique Ecological Setting.

For reasons already discussed with regards to the distinctiveness of wild horses, the proposed wild horse DPS clearly occupies an unusual or unique ecological setting. It is unusual because by far the vast majority of horses, in the United States and elsewhere, live in captivity and are denied the status of free roaming. It is unique because the marked separation between living in captivity and living in the harsh conditions found within the HMAs that make up the last of the habitat allowed to be occupied by wild horses has created significant physiological and behavioral characteristics in wild horses. Moreover, the unique ecological conditions have helped wild horses live in ways not possible in captivity, allowing them to express behaviors suppressed in their domestic counterparts. (Downer, 2014; Duncan, 1992). Scholars have long recognized that animal domestication “prioritize[s] the central roles of human intentionality, directed or controlled breeding of individuals, and genetic isolation of captive herds from wild relatives” (Marshall, et al., 2014, p. 6153). The ecological settings in which wild horses reside create a difference in how these animals (compared to their domestic counterparts) respond to environmental stressors, how they interact with humans, how they reproduce, and how their biological systems operate (Marshall, et al., 2014, p. 6153).

Indeed, Congress, in passing the WHBA, acknowledged that unusual or unique ecological setting that wild horses fill on federal public lands:

That Congress finds and declares that wild free-roaming horses and burros are living symbols of the historic and pioneer spirit of the West; that they contribute to the diversity of life forms within the Nation and enrich the lives of the American people; and that these horses and burros are fast disappearing from the American scene. It is the policy of Congress that wild free-roaming horses and burros shall be protected from capture, branding, harassment, or death; and to accomplish this they are to be considered in the area where presently found, as an integral part of the natural system of the public lands.

16 U.S.C. § 1333.

2. Loss of Wild Horses Would Result in a Significant Gap in the Range of the Taxon.

The genus *Equus* of today evolved in North America approximately three to four million years ago from the equid family, which evolved in North America for about 26 million years (Jenkins & Ashley, 2003). Two to three million years ago the genus *Equus* spread to Eurasia by crossing the Bering land bridge. During the Pleistocene, equids were the most abundant medium-sized grazing animals in Africa, Asia and the Americas (Moehlman, 2002). Today, most species in the equid family are at risk of extinction (Moehlman, 2002). The North American population of wild horses either went extinct or was significantly reduced approximately seven to fourteen thousand years ago due to hunting by prehistoric humans, climate change (and resulting vegetation shifts), or a

combination of the two (Beever, 2003; Harrington, 2002). The wild horses that roam on public lands today are genetically the same or very similar to the horses that evolved in North America (Kirkpatrick & Fazio, 2010; Harrington & Eggleston-Stott, 1996; MacPhee, et al., 2002).

Spaniards returned these horses to the United States near the end of the 16th Century (Beever, 2003). During the 19th Century the population ranged from around two to seven million animals (Beever, 2003). Today there are less than 35,000 wild horses on public lands in the United States (BLM, 2013). This historically small portion of horses remaining is of significant concern for multiple reasons.

First of all, there is a historically small number of equids and horses worldwide. “Most species of equid are endangered and, as integral parts of the ecosystems in which they live, their conservation is not only important for their own survival, but also for the species with which they interact.” (Moehlman, 2002, p. 111). The only other wild horse population, the Asian Przewalski's Horse (*Equus ferus przewalskii*) is listed as endangered by the IUCN (Boyd & King, 2008). There are only about 300 free-ranging native-born Przewalski's Horses in Mongolia, descended from only 13 or 14 individuals (Boyd & King, 2008).⁸

Second, North America is the birthplace of all horses (Jenkins & Ashley, 2003). Thus, the remaining population of wild horses in North America should be considered both native and significant. As noted above, weight of scientific evidence supports these species as native. A loss of these wild horses would once again create a significant gap in the range of this species in both North America and the world.

Finally, there is growing information that North American ecosystems would benefit from restoring large animal species that went extinct in the Pleistocene extinctions brought about by over-hunting by early humans, including both herbivores and predators (Dolan, 2007). The absence of these species—or in the case of the wild horse, the limiting of the species numbers and range—creates significant gaps in the natural biodiversity of North America. Such gaps negatively influence the overall distribution of flora and fauna, and place various North American ecosystems in jeopardy of collapse. Protecting wild horse so

⁸ In addition, there are several herds of free-roaming horses located outside of North America: the Brumby of Australia; the Cumberland Island Horse, on Cumberland Island off the coast of southern Georgia; Danube Delta horse, in and around Letea Forest, between the Sulina and Chilia branches of Danube; Garrano, a feral horse native to northern Portugal; Kaimanawa horse, New Zealand; Kondudo horse, in the Kondudo region, Ethiopia; Marismeño, present in the Doñana National Park in Huelva, Spain; Misaki horse, Japan; Namib desert horse, Namibia; Sorraia, a feral horse native to southern Portugal; Sable Island Pony found in Nova Scotia; Welsh Pony (mostly domesticated, but a feral population of about 180 animals roams the Carneddau hills of North Wales. Other populations roam the eastern parts of the Brecon Beacons National Par). However, none of the populations are considered significant or have the potential to ensure the survival of wild horses.

as to allow them to recover in number and expand their existing range will not immediately address the concerns of those scientists that advocate for Pleistocene rewilding, but it would put back into the ecological mix one species that has positive impact on the ecosystem it evolved from.

IDENTIFIED THREATS TO WILD HORSES: CRITERIA FOR LISTING

- A. The Wild Horse is Endangered by the Present or Threatened Destruction, Modification, or Curtailment of its Habitat or Range.

ESA section 4 provides that FWS shall list a species as threatened or endangered if it is facing “the present or threatened destruction, modification, or curtailment of its habitat or range.” 16 U.S.C. § 1533(a)(1)(A); 50 C.F.R. § 424.11(c)(1). In this case, the present curtailment of the range of wild horses justifies their listing. Today, only a fraction of habitat once used by wild horses in the western United States is still available to these animals. BLM has significantly curtailed the availability of habitat open to wild horses, and has artificially curtailed the historic range of wild horses.

In enacting the ESA, Congress specifically recognized that past losses of habitat and range are the most serious threats to species’ survival. For example, the House Report for H.R. 37 concluded:

Man can threaten the existence of species of plants and animals in any of a number of ways, by excessive use, by unrestricted trade, by pollution or by other destruction of their habitat or range. The most significant of those has proven also to be the most difficult to control: the destruction of critical habitat.

H.R. REP. NO. 93-412, at 144 (1973). Indeed, it is because “species of fish, wildlife, and plants have been so depleted in numbers that they are in danger of or threatened with extinction” that the ESA was enacted to “to provide a means whereby the ecosystems upon which endangered species and threatened species depend may be conserved.” 16 U.S.C. §§ 1531(a)(2); 1531(b).

FWS must consider the **present** destruction and curtailment of a species’ habitat or range. *Id.* § 1533(a)(1)(A). “Destruction” is defined as “[t]he act of destroying” and “[t]he condition of having **been destroyed**.” THE AMERICAN HERITAGE DICTIONARY OF THE ENGLISH LANGUAGE 493 (4th ed. 2000)(emphasis added). “Curtailment” is defined as “the state of being curtailed.” Merriam-Webster Dictionary Online, <http://www.merriamwebster.com/dictionary/curtailment> (last visited June 10, 2014). Thus, when the Secretary receives a petition to list a species, FWS must determine whether a species’ range is presently curtailed or destroyed, *i.e.*, whether a significant portion of its range no longer exists. The ESA mandates that FWS consider the present, not just the threatened, destruction, modification, and curtailment of current habitat or range.

Fossil records indicate that modern wild horses had a large geographic distribution across North America (Downer, 2014). People have discovered petroglyphs of wild horses (dating prior to the Spaniards’ re-introduction of the animal and after the Pleistocene

period) in Eastern California; Carbon County, Montana; Converse County, Wyoming; Wolf Spider Cave, Colorado; Spencer and Laatch Archeological Mount, Wisconsin; Truman Reservoir, Missouri; the Hopewell Burial Mound, Ohio; the prehistorical Indian kitchen middens of Arizona; and Winnemucca Lake Flats, Nevada (Downer, 2014 p. 7-9). Today, wild horses are only present on public lands in ten western states: Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah and Wyoming (National Research Council, 2013).

Even after passage of WHBA in 1971, the amount of habitat available for wild horses continued, and continues, to dwindle, as land is being altered to use for energy development, urbanization, and for commercial ranchers to graze livestock. Indeed, the WHBA prevented the expansion of wild horse habitat by stipulating that “nothing in this Act shall be construed to authorize the Secretary [of the Interior] to relocate wild free-roaming horses or burros to areas of the public lands where they do not presently exist.” 16 USCS § 1339. After passage of the WHBA, BLM was given a transitional period from 1971-1974 to take an inventory and assess boundary lines for wild horses.

During this time the “public” was given opportunity to claim “private property” from the ranges. There have been interviews given where individuals claim personal knowledge of horses being moved or shot prior to assessments of the land “where presently found” as a tool to keep horses from being “found” on certain allotments. Range boundary lines were drawn that did not follow any scientific method. Boundaries were drawn where animals stood at the time of the assessment without any comprehension of seasonal movement in a population labeled as “free-roaming.” Note: All wildlife species on public land have seasonable habitat identified, wild horses and burros do not.

The result of such arbitrary boundaries has been a management nightmare. Wild horses and burros exist in areas that do not have seasonal waters, (with an area currently managed that has no real water source at any time of year). This creates a recurrent pattern in most areas where at one time or another horses cross the imaginary line and are “off-HMA” (Herd Management Area) occupying land “illegally.”

(Wild Horse Education, n.d.)

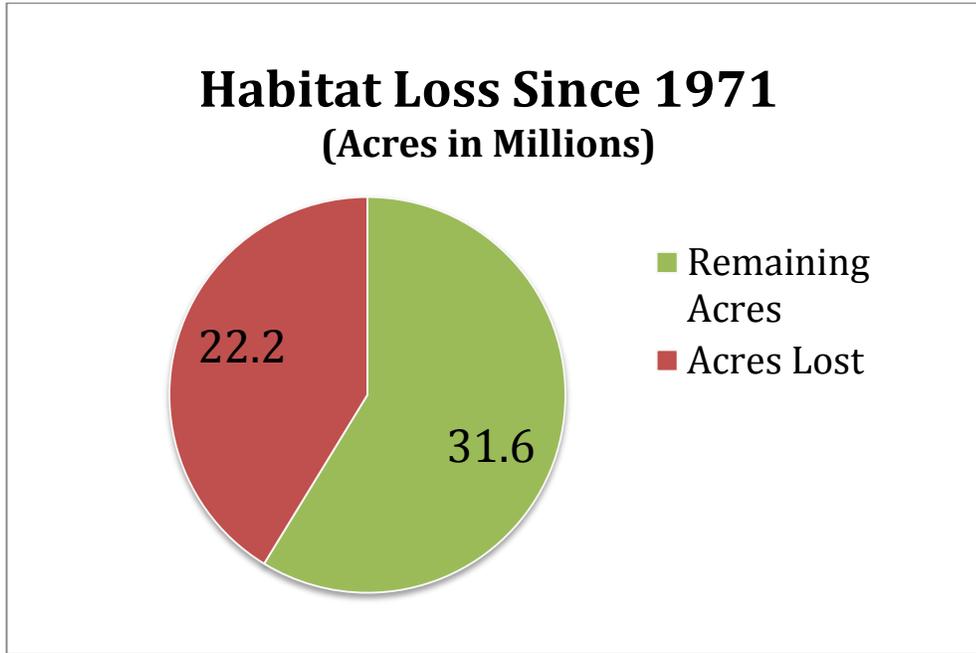
Since that time, the limited range of wild horse has not expanded. In fact, since Congress acknowledged that wild horses needed protection in 1971, they have lost over 20 million acres of land (BLM, 2014a).

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Figure 3. Wild Horse Habitat Loss Since Passage of WHBA in 1971



Habitat Area as Assed in 1971: 53.8 million acres
Remaining Habitat: 31.6 million acres
Acreage withdrawn: 22.2 million acres
Data from BLM (2014) "Wild Horse and Burro Quick Facts"

Additionally, the amount of herd areas considered "managed" by the BLM containing wild horses has drastically declined. After passing the WHBA, there were 339 Herd Areas being "managed" for wild horses. Now, there are only 179 Herd Management Areas that actually have wild horses on the land (BLM, 2014a).

There have been recent attempts to further reduce the range of horses within the remaining Herd Management Areas. In August 2013, the Forest Service authorized a decision to eliminate more than 25,000 acres of designated wild horse territory in California's Modoc National Forest (Backus, 2014). On December 30, 2013, Nevada Farm Bureau Federation joined the Nevada Association of Counties in a lawsuit filed against the U.S. Department of the Interior and BLM requesting that the Government Defendants "promptly and without delay, proceed to auction, sell and otherwise properly dispose of such animals in accordance with the [Wild Free Roaming Horses and Burros] Act's provision establishing the actions and their priorities;" and to "recognize that free-roaming horses and burros have no water right in Nevada." *Nevada Assoc. of Counties v. US Dept. of the interior*, Civ. No. 13-712, Complaint at 49 (D. Nev. 2013). Additionally, Rock Springs Grazing Association filed a lawsuit requesting that the Court order BLM to remove wild horses from private grazing lands adjacent to federal herd management areas within a roughly 2 million-acre patchwork of federal and private lands in Wyoming, which resulted

in an agreement with BLM to remove the maximum amount of horses from designated herd management areas and keep the number of animals at the low end of the already low AML. *See Rock Springs Grazing Assoc. v. Salazar*, No. 11-cv-263 (D. Wyo. Apr. 3, 2013). In March 2014, a County Commission Chairman and the County Sheriff in Iron County, Utah wrote a letter to BLM directors that if action was taken to confiscate private cattle that were illegally trespassing on BLM land without removing wild horses then “appropriate management level orders will be given to Iron County Sheriff, deputies and other authorized agents to take necessary means to reduce number of feral horses . . .” (Miller, 2014, p. 2).

B. Existing Regulatory Mechanisms are Inadequate to Prevent the Extinction of Wild Horses.

In theory, WHBA, which requires BLM to “protect and manage wild free-roaming horses and burros as components of the public lands . . . in a manner that is designed to achieve and maintain a thriving, natural ecological balance on the public lands,” could be considered a regulatory mechanism intended to protect wild horses. However, that law clearly states that BLM is only obligated to manage wild horse herds at “the minimal feasible level.” 16 U.S.C. § 1331. Unlike the ESA, the WHBA does not establish mechanisms to ensure adequate habitat for wild horses, to protect wild horses, or to ensure the viability of wild horses as a population.

In practice, over 40 years of regulation of wild horses under the WHBA has shown that the law and its implementing regulations are inadequate to ensure that wild horses are not pushed to extinction.⁹ First off, as already discussed, since passage of the Act the availability of habitat continues to be curtailed, and along with it the range of wild horses in the West has been artificially curtailed as well. Second, the current regulatory focus of the

⁹ WHBA does not protect horses on private or tribal lands. *See* 16 U.S.C. § 1332 (b). Horses on private lands are largely not in need of legal protection under the ESA. The question is less clear on tribal lands, where there have been efforts to reduce or eliminate horse populations. In 2013, the National Congress of American Indians passed a resolution that supported horse processing facilities in their jurisdiction because it was “a viable means of reducing the size of feral herds damaging reservation environments and would further assist reservation horse producers who need to sustain their livestock operation, in the productive utilization of tribal and allotted lands.” (National Congress of American Indians, 2013, p.2). Wild horse advocates have pressured the tribes to change this policy. In May 2014, an agreement was reached with the Navajo, who have one of the largest herds on non-public lands (some 70,000 wild horses) to better protect those horses. It is too soon to know if the agreement will result in increased protections for these animals, or if other tribes will follow suit. (*The Daily Times*, May 4, 2014, available at http://www.daily-times.com/four_corners-news/ci_25680432/navajo-nation-and-foundation-protect-new-mexico-wildlife). Instead of including them as part of the DPS asked for in this petition, Petitioners wish to wait to see if wild horses on tribal lands can receive protection under private agreements, which cannot be achieved for horses regulated under the WHBA.

BLM under the WHBA **is to further reduce the number of remaining wild horses in North America**. BLM currently estimates that there are around 33,780 wild horses (BLM, 2014a). However, BLM's current goal is to reduce this population by approximately 30%, to around 26,600 horses (BLM, 2014a). BLM is able to do so by placing primary emphasis of its regulatory duties under the WHBA on removing "excess" animals.

Third, the result of management of wild horse under the WHBA has been that existing herds are of inadequate size to ensure viable genetic herds. Only a small fraction of HMA complexes contain more than 1,000 horses (BLM, 2013), and no single HMA has a minimal viable population size for the long term—2,500 animals (BLM, 2013; Duncan, 1992). Only fourteen herd areas have an estimated population of over 500, and only seven herd areas have an appropriate management level set to 500 or more (BLM, 2013). Twenty-two of the HMA's have been zeroed out (BLM, 2013).

The biggest regulatory failure stems from the authority issued to BLM to label wild horses on public lands as "excess,"¹⁰ opening the door to their removal and/or slaughter. This authority, however, is being used abused, as BLM routinely makes such determinations with little scientific support. As noted above, a recent National Research Council report on the Wild Horse and Burro Program determined that BLM has no evidence of excess wild horses and burros, primarily because BLM has failed to use scientifically sound methods to estimate the population sizes (2013). The National Research Council cited two chief criticisms of the Wild Horse and Burro Program: unsubstantiated population estimates in herd management areas (HMA), and management decisions that are not based in science (2013). Despite this scientific critique, BLM continues to propose further reductions in wild horse populations. Indeed, on May 28, 2014, the Humboldt River Field Office ("HRFO") has issued a Decision on the Proposed Action from the Humboldt Herd Area Wild Horse Round-up Plan Final Environmental Assessment (BLM, 2014b).

Additionally, U.S. Courts defer to the government agency's determination of what constitutes excess regardless of the effect that this determination has on the genetic viability or continued survival of wild horses.¹¹ However, it is clear that BLM's calculation of "excess" is not based on protecting the wild horses, but instead is designed to protect the health of the range (which again is artificially limited) to ensure that both cattle grazing and some minimal number of wild horses can co-exist. Of the 245 million acres of public land managed by the BLM, 155 million (virtually all BLM land outside of Alaska) is open to

¹⁰ See *Cloud Found. v. United States BLM*, No. 3:11-cv-00459 (D. Nev. Mar. 26, 2013) (finding that BLM's interpretation that its duty to devote the range "principally" to the welfare or wild horses only applied to non-excess horses).

¹¹ See *Fund for Animals v. U.S. BLM*, 460 F.3d 13, 16 (D.C. 2006) ("local BLM offices have significant discretion to determine their own methods of computing AML for the herds they manage"); *Cloud Found., Inc. v. Salazar*, 2013 WL 6083927, *12 (D.D.C. Nov. 19, 2013) ("BLM officials receive significant discretion to choose the wild horse and burro populations the range can support. This BLM discretion extends to choosing the target wild horse and burro populations"); *Cloud Found. v. United States BLM*, 2013 WL 1249814, *19 (D. Nev. Mar. 26, 2013) ("BLM has 'significant discretion' in establishing AMLs").

livestock grazing. By contrast, wild horses are restricted to just 26.9 million acres, which they must share with livestock. Even though wild horses are restricted to a small fraction (11%) of BLM and USFS land, the agency routinely allocates the vast majority of forage on this land to privately-owned livestock instead of wild horses. A survey of 50 wild horse herd management areas showed that approximately 82.5% of forage was reserved for livestock grazing, while just 17.5% of the forage was allocated to the horses themselves (American Horse Preservation 2013).

Although the WHBA is intended to prohibit commercial exploitation of wild horses,¹² it has also been ineffective at eliminating this threat. First of all, the current regulatory mechanism allows wild horses to be adopted or sold. 16 U.S.C. § 1333(b)(2)(B) and (C). The adoption program takes healthy horses from the range, raising concerns that the program could be harming the wild population (Glover, 2000, p. 1124 n. 104). More importantly, there is overwhelming evidence that people abuse the program to make a profit from selling wild horses to be slaughtered for commercial products. A 1997 memorandum by the Department of Justice revealed extensive abuse in the wild horse adoption program. For example, the memo stated that employees “freely admit that everyone ‘knows’ as a general proposition that most of the horses adopted out go to slaughter eventually, the agency tries to avoid finding out that this will happen in any given adoption” (McInnis, 1997). Although disputed by the BLM, an investigation by the Associate Press found that more than 200 BLM employees adopted more than 600 wild horses and that ninety percent of horses rounded up by the agency were eventually slaughtered (Glover, 2000, p. 1115 n. 52). An internal BLM report found that 571 formerly wild horses were slaughtered at four U.S. plants between March 1998 and September 1999 (Glover, 2000, p. 1115 n. 52).

In response to a lawsuit, BLM now requires prospective adopters to sign a private agreement that they will “not knowingly sell or transfer ownership of any listed wild horse(s) and/or burro(s) to any person or organization with an intention to resell, trade, or give away the animal(s) for processing into commercial products.” *See Fund for Animals v. Babbitt*, Case No. CV-R-85-365-HDM (D. Nev. settlement approved, Oct. 14, 1997); (BLM, “Bill of Sale for Wild Horse(s) and Burro(s)”). However, there is no oversight or enforcement to ensure people are not buying wild horses to exploit them. The Burns Amendment, passed as a rider to an appropriations bill, authorized the government to sell excess wild horses that are “more than 10 years of age; or ... [which have] been offered unsuccessfully for adoption at least 3 times.” 16 U.S.C. §1333. There is evidence indicating that the majority of wild horses bought from the BLM are being sold and slaughtered for commercial use (Phillips, 2012).

Furthermore, BLM procedures do not ban the export of wild horses for sale and

¹² In the 1930’s, thirty million pounds of horseflesh was canned as chicken flesh (Glover 1108 n. 2). Horses were also processed into fertilizer and by ranchers seeking to eliminate grazing competition (Glover, 2000, p. 1108 n. 2). In the decades prior to passage WHBA, untold numbers of wild horses in Washington, Idaho, and Oregon were rounded up and killed for dog food and sausage by canning factories (Ryden, 1999).

slaughter outside the United States (Government Accountability Office, 2008, p. 55). The Department of Agriculture, which certifies the inspections of horses and other livestock exported to other countries, is not required to and does not report how many of the horses exported to other countries are wild horses (Government Accountability Office, 2008, p. 56).

The United States has already recognized the importance of wild horses and their need for protection. However, it has failed to prevent continued habitat degradation and allowed, or even instigated, the removal of wild horses from suitable habitat. There is no indication that sufficient habitat will be set aside for the continued existence of wild horses. In fact, current regulatory mechanisms practically prohibit that result. Thus, without additional protection from the ESA, wild horses will likely be extinct in the foreseeable future.¹³

C. The Wild Horse is Endangered by other Natural or Manmade Factors Affecting its Continued Existence.

1. Excessive Management and Small Population Size.

Since 1971, BLM has removed nearly 230,000 animals from their habitat, and completely eradicated wild horses from over 20 million acres of public land designated by Congress as habitat for these animals (BLM, 2014). BLM manages wild horses in the United States in Herd Management Areas that divide wild horse populations into arbitrary boundaries with unviable population size limits.

As a result of BLM management, the small number of individuals left in the wild may have a negative effect on genetic diversity and could be limiting genetic variation among the population. As reported by the National Research Council, “isolation and small population size, in combination with the effects of genetic drift, may reduce genetic diversity to the point where herds suffer from the reduced fitness often associated with inbreeding. That would compromise the ability of herds to persist under changing environmental conditions.” (2013, p. 145). Studies suggest that population size of 5,000 may be necessary to ensure maintenance of fitness (National Research Council, 2013, p. 149). The Equid Specialist Group of IUCN Species Survival Commission recommends

¹³ The ineffectiveness of the regulations is further highlighted by the multiple lawsuits that organizations have brought in an attempt to challenge the practices threatening wild horses. Courts have noted that the law grants wide authority to agencies charged with implementing the WHBA and often does not provide an opportunity for judicial review. *See e.g., Colorado Wild Horse & Burro Coalition v. Salazar*, 890 F. Supp. 2d 99 (D.D.C. 2012) (decision to remove all horses from a Herd Area was not ripe for review because it would be preceded by a gather plan and excess determination); *Fund for Animals v. U.S. BLM*, 460 F.3d 13, 19-23 (D.D.C. 2006) (claims regarding specific gathers were moot); *Habitat for Horses v. Salazar*, 2011 WL 4343306, *19-20 (S.D.N.Y. Sept. 7, 2011) (BLM’s plan to remove all horses from a Herd Area was not challengeable as final agency action).

minimum populations of 2,500 individuals for the conservation of genetic diversity (Duncan, 1992, p. 5).

In determining the threat of extinction, it is necessary to consider individual herd sizes rather than the just the total population number because the current populations of wild horses exist in many smaller fragmented units, and “unless there is gene flow between HMAs, inbreeding in individual HMAs is inevitable and will result in lower genetic diversity and individual fitness.” (National Research Council, 2013, p. 161). It has been known for a long time that inbreed depression in small, isolated populations could lead to loss of fitness and increased risk of extinction (National Research Council, 2013). Scientists have warned that a loss of genetic variability in wild horse populations can lead to a reduction in fertility or viability of individuals in a population (Cothran, 2000, p. 1). “Population size matters; small populations are more likely to go extinct as a result of chance effects (known as the small population paradigm)” (Brook, Sodhi & Bradshaw, 2008, p. 455). It is highly possible that a change in environment or one stochastic event could cause extinction of wild horse herds given their small fragmented population.

Only a small fraction of HMA complexes contain more than 1,000 horses (BLM, “Herd Area and Herd Management”), and no single HMA has a minimal viable population size for the long term- 2,500 animals (BLM, 2013; Duncan 1992). Only fourteen herd areas have an estimated population of over 500, and only seven herd areas have an appropriate management level set to 500 or more (BLM, 2013). Twenty-two of the herd areas managed for wild horses have removed all wild horses from the area (BLM, 2013).

2. Pressure from Commercial Cattle Interest.

Although polls show support for wild horses and waning interest in allowing livestock, there remains a dedicated force of people that pressure BLM to keep wild horses at low AMLs which threatens the continued survival of wild horses.¹⁴ On December 30, 2013, Nevada Farm Bureau Federation joined the Nevada Association of Counties in a lawsuit filed against the U.S. Department of the Interior and BLM requesting that the Government Defendants “promptly and without delay, proceed to auction, sell and otherwise properly dispose of such animals in accordance with the Act’s provision establishing the actions and their priorities;” and to “recognize that free-roaming horses and burros have no water right in Nevada.” *Nevada Assoc. of Counties v. US Dept. of the interior*, Civ. No. 13-712, Complaint at 49 (D. Nev. 2013).

Additionally, Rock Springs Grazing Association filed a lawsuit requesting that the Court order BLM to remove wild horses from private grazing lands adjacent to federal herd

¹⁴ In a Public Policy Polling survey released in January 2014, 72% of respondents supported protecting wild horses and burros as “living symbols of the history and pioneer spirit of the West.” (Prettyman, 2014, p. 2). Comparatively, in a poll from Center for American Progress only 29% of respondents supported ensuring lands are available for livestock grazing. (Hart Research Associates, 2013, p. 1).

management areas within a roughly 2 million-acre patchwork of federal and private lands in Wyoming, which resulted in an agreement with BLM to remove the maximum amount of horses from designated herd management areas and keep the number of animals at the low end of the already low AML. *See Rock Springs Grazing Assoc. v. Salazar*, No. 11-cv-263 (D. Wyo. Apr. 3, 2013).

Most recently in Iron County, Utah, the County Commission Chairman and the County Sheriff wrote a letter to BLM directors that if action was taken to confiscate private cattle that was illegally trespassing on BLM land without removing wild horses then “appropriate management level orders will be given to Iron County Sheriff, deputies and other authorized agents to take necessary means to reduce number of feral horses. . . .” (Miller, 2014, p. 2).

3. Round-ups.

In order to keep wild horse population at low and unstable numbers (in large part to appease cattle interests), BLM round-ups horses from the range. Round-up operations generally include helicopter drive trapping, which uses a low flying helicopter to herd horses into a trap. Round-ups are stressful for wild horses, and are “truly disturbing for a species that depends on familiarity for safety and comfort” (Nock, 2010, p. 10). Not only is it difficult for the horses to run long distances from the helicopter in a state of fear, but on top of that the round-ups cause social unrest due to the confinement in close quarters with unfamiliar horses once trapped, and the loss of or separation from lifelong herd mates (Nock 9). Round-ups and subsequent captivity can have long term negative effects on the horses and the herd; the dramatic event can compromise a wild horse’s ability to deal with natural stressors, such a severe weather conditions (Nock, 2010, p. 10). Stress from round-ups can also “have dramatic effects on how an animal functions, behaves and even looks. The intense effects of stress can last a lifetime. Epigenetic modification may even be inheritable.” (Nock, 2010, p. 15). Effects of inbreeding depression are likely to be more severe in a stressful environment, and slightly deleterious mutations may accumulate in smaller populations and lead to a decline in fitness (National Research Council, 2013, p. 149). Overcrowding is also stressful for wild horses and can facilitate the spread of disease among them. (Glover, 2000, p. 1112 n. 31). Executive Director of The Cloud Foundation, Ginger Kathrens, described helicopter roundups as “inherently cruel under the best of circumstances” and “nothing more than taxpayer funded animal abuse.” (Cloud Foundation, 2013).

4. Sterilization

There are also efforts to permanently stop wild horses from breeding. The National Wild Horse and Burro Advisory Board (“Advisory Board”)¹⁵ recommended permanently sterilizing horses, using ovariectomy as a population growth suppression tool (2013). BLM

¹⁵ The Secretaries of the Interior and Agriculture appoint people to the Advisory Board, which meets to discuss issues and to advise the BLM on issues involving wild horses and burros.

responded to the recommendation and stated that it should begin research on this “tool” and work with the advisory board to develop a multi-step plan (Advisory Board, 2013 p. 5).

Sterilizing wild horses in the field is dangerous to the individual animals and population. Manipulating the reproduction of wildlife can have “profound effects on the population ecology of wildlife species . . . changes in births, may compromise the ability of population to recover after catastrophic stochastic events and threaten the viability of small refugia populations.” (Ransom, Hobbes & Bruemmer, 2013, p. 1-2). BLM has already started experimental ovariectomies and vasectomies on wild horses (National Research Council, 2013). The experimental surgical ovariectomy procedure was tested on wild mares in Nevada's Sheldon National Wildlife Refuge with a 10% mortality rate, and recovery taking at least a month. While the precise effect that ovariectomies have on wild horses' behavior is unknown, it may be injurious to populations because wild horses need to act in concert together with designated roles for survival and these procedures could seriously damage herd dynamics (Leigh, 2013, p. 6).

5. Cumulative Effects.

FWS should consider whether the combination of above-mentioned threats intersect and act together to increase the likelihood of endangerment of the North American Wild Horse DPS. For example, mortalities from round-ups, when compounded by the small fragmented populations may have deleterious effects on the entire DPS. Recovery from any reduction in population may be complicated by habitat loss and degradation due to cattle grazing, oil and gas development, and urbanization. These are just examples of intersecting threats facing wild horses. Moreover, there is indication that BLM will develop new policies to take additional horses. For example, The Wild Horse and Burro Division Chief, Joan Guilfoyle, issued a memorandum, *State of the Wild Horse and Burro Program Strategic Direction FY14 and Beyond*, suggesting additional measures to reduce population sizes including capping the numbers of wild horses in holding facilities, and euthanizing on-range animals (2013).

REQUESTED DESIGNATION

Friends of Animals and The Cloud Foundation respectfully request that the U.S. Fish and Wildlife Service list the North American distinct population segment of wild horses found on federal public lands as “endangered” or “threatened” under the ESA. This listing action is warranted because current laws are inadequate to protect wild horses, and they are being managed in small fragmented groups that could cause them to go extinct in the foreseeable future. Wild horses are threatened by at least three of the factors that require FWS to list a species as endangered under the ESA. Those three factors are: (1) the present or threatened destruction, modification, or curtailment of habitat or range; (2) the inadequacy of existing regulatory mechanisms; and (3) other natural or manmade factors affecting continued existence, including excessive management and removal, and small fragmented populations.

As such, FoA and The Cloud Foundation request expeditious listing of the North

American distinct population segment of wild horses as “threatened” or “endangered” species under the ESA. Listing this DPS would protect the species from extinction by prohibiting unauthorized takes, prohibiting the sale and transport of the animals to slaughterhouses overseas, and providing critical habitat necessary for the survival of wild horses.

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(All citations to Journal and News Articles are provided electronically as pdf- files with this petition.)

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