

## **Appendix A – Conformance with Applicable Laws, Policies, and Plans**

### **National Environmental Policy Act of 1969**

This Environmental Analysis (EA) has been prepared in conformance with the National Environmental Policy Act (NEPA) and contains a site-specific analysis of potential impacts that could result with the implementation of a range of reasonable alternatives. Based on this analysis, a Finding of No Significant Impact (FONSI) has been prepared which documents that implementation of the alternatives would not result in impacts that significantly affect the quality of the human environment.

### **Others Laws and Regulations**

The proposed management actions are authorized by the Wild Free-Roaming Horse and Burro Act of 1971 (as amended). The gathering and disposal (through adoption) of wild horses is in conformance with this act, as well as amendments contained within the Federal Land Policy and Management Act (FLPMA) of 1976 and the Public Rangelands Improvement Act (PRIA) of 1978.

The following are relevant excerpts from Title 43 Code of Federal Regulations (CFR) part 4700, which implement these authorities:

- Wild horses and burros shall be managed as self-sustaining populations of healthy animals in balance with other uses and the productive capability of their habitat (43 CFR 4700.0-6(a)).
- Healthy excess wild horses and burros for which an adoption demand by qualified individuals exists shall be made available at adoption centers for private maintenance and care (43 CFR 4700.0-6(e)).
- Management activities affecting wild horses..., shall be in accordance with approved land use plans prepared pursuant to Part 1600 of this title (43 CFR 4710.1).
- Management of wild horses and burros shall be undertaken with the objective of limiting the animals' distribution to herd areas. Management shall be at the minimum level necessary to attain the objectives identified in approved land use plans and herd management area (HMA) plans (43 CFR 4710.4).
- Upon examination of current information and a determination by the authorized officer that an excess of wild horses or burros exists, the authorized officer shall remove the excess animals immediately (43 CFR 4720.1).

### **FLPMA and Land Use Plans**

Section 302(a) of the FLPMA directs the Secretary to manage the public lands under the principles of multiple use and sustained yield, in accordance with the land use plans developed by him under Section 202 of the act. The FLPMA requires that all management activities conform with the approved resource management plan(s) (RMPs). 43 CFR 1610.5-3(a).

RMPs are designed to guide and control future management actions and the development of subsequent, more detailed and limited scope plans for resources and uses (43 CFR 1601.0-2).

Conformance is defined as a management action that is specifically provided for in the plan, or if not specifically mentioned, is clearly consistent with the terms, conditions, and decisions of the approved plan (43 CFR 1601.0-5c).

## **Lakeview RMP/ROD**

The *Lakeview RMP/ROD* (BLM 2003b, as maintained) is the primary land use plan for this area. The following summary highlights the appropriate goals, objectives, and management direction from this plan related to wild horse management.

**Desired Future Conditions for Wild Horses** – Rangeland vegetation and water sources support viable, healthy herds of wild horses through time. Individual herds have diverse age structures, good conformation, and are quality animals exhibiting the characteristics unique to each herd. Wild horse numbers are in balance with the rangelands that support them. Improvements in grass/shrubland steppe and riparian areas increase the health of the herd (p. 23).

**Wild Horse Management Goal** – Maintain and manage wild horse herds in established herd management areas at appropriate management levels (AMLs) to ensure a thriving natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values (p. 55).

### **Management Direction**

Wild horse population levels will be adjusted in accordance with the results of monitoring studies, allotment evaluations, and rangeland health assessments, when needed, in order to achieve and maintain objectives for a thriving natural ecological balance and multiple use relationships in each herd management area.

Gathering of wild horses will continue, as necessary, to adjust wild horse populations. During gathers, horses will normally be reduced to the low end of the AML range, then allowed to increase to the top end of AML.... Horses straying outside HMAs will be removed.

Horses released back into HMAs after gathers will be animals exhibiting the special and unique characteristics of that herd... Horses will be selected to maintain herd characteristics and to diversify genetic variability...

Research on fertility control will continue to be implemented on a case-by-case basis, as necessary to ... develop a safe, effective vaccine. The fertility control vaccine may be considered as an option to reduce the frequency of gathers and benefit the health of the wild horses and rangelands (p. 54-56, Table 7; Table R-2, p. 11; and p. A-99).

The AML range for Beaty Butte HMA will remain at 100-250 horses. The Beaty Butte HMA forage allocation will be 3,000 AUMs (p. 56; Tables R-1 and R-4, p. 8 and 16).

**Beaty Butte Allotment (00600) Specific Management Direction** (Appendix E-1, p. A-99, as maintained)

*Wild Horses:* Maintain/improve the condition of the wild horses in the herd management area. Implement wild horse herd management plan(s).

### **Plan Conformance**

The designation of wild horse HMA boundaries and forage allocations described above are RMP level decisions that are not subject to review or modification as part of the proposed gather plan. The designated Beaty Butte HMA boundary is shown on Map SMA-4. The AML range (100 to 250 horses) was re-affirmed as an appropriate, sustainable herd size through implementation

decisions made in the RMP (Table R-4, p. 16) and the most recent herd management area plan (BLM 2009, 2012b). This AML decision is also not subject to review or modification as part of the proposed gather plan.

Based on the analysis contained in the EA, the proposed action alternative (1) would best meet the primary wild horse management goal listed above. Annual population monitoring has been conducted and the results indicate horse numbers frequently exceed AML and a new gather strategy is needed. The proposed annual gathering activities would keep horse numbers within AML. The proposal to train gathered horses to make them more desirable for adoption would also be consistent with 43 CFR 4700. The use of fertility control and placement animals with desirable characteristics back out on the range after the gather would also be consistent with the RMP wild horse management direction listed above.

### **Oregon Greater Sage-Grouse Approved Resource Management Plan Amendment and Record of Decision**

The *Lakeview Resource Management Plan* was amended in 2015 by the *Oregon Greater Sage-Grouse Approved Resource Management Plan Amendment (ARMPA)* and associated *Record of Decision* (BLM 2015b). For this reason, proposed management actions must also conform with the appropriate goals, objectives, and management decisions in this plan amendment. The following is a list of the appropriate/applicable management goals, objectives, and decisions relevant to the proposed wild horse management actions:

#### **Management Goals**

**Goal SSS 1:** Conserve, enhance, and restore the sagebrush ecosystem upon which GRSG populations depend in an effort to maintain and/or increase their abundance and distribution, in cooperation with other conservation partners.

#### **Management Objectives**

**Objective WHB 1:** Manage wild horses and burros as components of BLM-administered lands in a manner that preserves and maintains a thriving natural ecological balance in a multiple use relationship.

**Objective WHB 2:** Manage wild horse and burro population levels within established appropriate management levels (AML).

#### **Management Decisions (MD)**

**MD WHB 1:** Manage herd management areas (HMAs) in GRSG habitat within established AML ranges to achieve and maintain GRSG habitat objectives.

**MD WHB 2:** Complete rangeland health assessments for HMAs containing GRSG habitat using an interdisciplinary team of specialists (e.g. range, wildlife, and riparian). The priorities for conducting assessments are:

1. HMAs containing SFA;
2. HMAs containing PHMA;
3. HMAs containing only GHMA;
4. HMAs containing sagebrush habitat outside of PHMA and GHMA mapped habitat;
5. HMAs without GRSG habitat.

**MD WHB 3:** Prioritize gathers and population growth suppression techniques in HMAs in GRSG habitat, unless removals are necessary in other areas to address higher priority environmental issues, including herd health impacts. Place higher priority on Herd Areas not allocated as Herd Management

Areas and occupied by wild horses and burros in SFA followed by PHMA.

**MD WHB 4:** In SFA and PHMA outside of SFA, assess and adjust AMLs through the NEPA process within HMAs when wild horses or burros are identified as a significant causal factor in not meeting land health standards, even if current AML is not being exceeded.

**MD WHB 5:** In SFA and PHMA outside of SFA, monitor the effects of WHB use in relation to GRSG seasonal habitat objectives on an annual basis to help determine future management actions.

**MD WHB 8:** When conducting NEPA analysis for wild horse/burro management activities, water developments, or other rangeland improvements for wild horses, address the direct and indirect effects on GRSG populations and habitat.

**MD WHB 9:** Coordinate with professionals from other federal and state agencies, researchers at universities, and others to utilize and evaluate new management tools (e.g., population growth suppression, inventory techniques, and telemetry) for implementing the WHB program.

**MD WHB 10:** When WHB are a factor in not meeting Greater Sage-grouse habitat objectives or influence declining Greater Sage-grouse populations in PHMA, Oregon's gather priority for consideration by the Washington Office is as follows:

1. Response to an emergency (e.g. fire, insect infestation, disease or other events of unanticipated nature).
2. Greater Sage-grouse habitat.
3. Maintain a thriving natural ecological balance.

### **Plan Conformance**

The entire Beaty Butte HMA falls within sage-grouse habitat. Most of the HMA falls within a sagebrush focal area (SFA), while the remainder is within priority and general habitat management areas (PHMA and GHMA) and, therefore, represents an area where horse management, including population control measures, are of high priority to meet sage-grouse habitat objectives. Gathering horses to keep numbers within AML under Alternatives 1, 2, 3, and 5 would be consistent with Goal SSS 1, Objectives WHB 1 and 2, as well as, MD WHB 1 and MD WHB 4. However, Alternatives 1, 2, and 5 would be more effective at achieving these goals and objectives than Alternative 3 (No Action – Continue Current Management). Alternative 4 (No Horse Gathers or Active Horse Management) would not conform with these goals and objectives.

AML has been assessed on multiple occasions (BLM 1982a, 1982b, 1983, 2003a, and 2003b) and monitoring data indicates that this number of animals is sustainable, is capable of ensuring a thriving natural ecological balance, and likely would continue to meet rangeland health standards (BLM 1997, 2001b, 2001c) over the long-term. However, when numbers rise above AML horses can get out of ecological balance with their surrounding environment and cause habitat/resource damage, particularly in riparian areas and around water sources (see impact analysis in Chapter 3).

An inter-disciplinary team completed a rangeland health assessment of the Beaty Butte Allotment (which completely contains the HMA) in 1998 (see Appendix 2 of BLM and USFWS 1998b). The results of this assessment are discussed under conformance with the *Rangeland Reform '94* planning effort (BLM 1994) below. Wild horses were not a causal factor in any rangeland health issues at that time. This assessment conformed with the requirements of MD WHB 2 and 4. While this assessment has not been updated, BLM has continued to conduct annual livestock utilization monitoring and annual wild horse censuses. This monitoring data has indicated that there is no justification for reducing either the horse forage allocation (AUMs) or herd numbers (AML), rather management needs to focus on keeping herd numbers within the designated AML. The proposed annual gather and training activities are part of pilot horse

adoption program that is currently a Washington Office priority (MD WHB 10) designed to keep horse numbers within AML, protect important Greater Sage-Grouse habitat, and provide horses that are more adoptable by the general public.

The effects of wild horse management actions on Greater Sage-Grouse habitat have been addressed within the wildlife section in Chapter 3 of the EA, in conformance with MD WHB 8. The proposed fertility control measures have been based on numerous recent scientific studies, and would be consistent with MD WHB 9.

### **Beaty Butte Wild Horse Herd Management Area Plan** (BLM 2012b)

#### **Applicable Management Objectives**

**Control Population Numbers** - Manage wild horse populations within the established AML range to protect the range from deterioration associated with overpopulation (p. 5).

**Selective Removal Criteria** - Maintain or improve animal conformation over the next twenty years (p. 5).

**Rangeland Health** – Monitor rangeland health (p. 5).

**Rangeland Health** – Limit utilization by all herbivores in a pasture to no more than 50% of the current year's above ground primary production for key grasses and 45% for key forbs and shrubs.

**Population Control** - Adjust the sex ratio of the breeding population slightly in favor of males following future gathers (p. 7).

**Population Control** - Gather to the low-range of the AML and apply fertility control to mares released back to the range following future gathers (p. 7).

#### **Plan Conformance**

The proposed action would conform with all of these management objectives.

### **Oregon Wilderness Final Environmental Impact Statement and Record of Decision**

This planning effort designated four wilderness study areas (WSAs) within the HMA (BLM 1989a, Volume II, pp. 243 to 318 and Volume III pp. 395 to 426; 1991a) (see Map 2).

Wild horse management within WSAs is governed by the management objectives, non-impairment standard, and wild horse management policy set within the *Management of Wilderness Study Areas Manual* (BLM 2012a, pp. 1-2, 1-10 to 1-13, and 1-36 to 1-37).

#### **WSA Management Objectives**

- Consistent with relevant law, manage and protect WSAs to preserve wilderness characteristics so as not to impair the suitability of such areas for designation by Congress as wilderness.
- Provide policy guidance for prolonged stewardship of WSAs until Congress makes a final determination on the management of WSAs.

While WSAs are under consideration for wilderness designation by Congress, they are managed to preserve their wilderness character under the *Wilderness Study Area Management Manual* (BLM 2012a).

Under this manual, wild horses are managed to remain in balance with the productive capacity of the habitat; this includes managing herds so as not to impair wilderness characteristics.

Wild horse management falls under the “other legal requirements” exception to the non-impairment standard (BLM 2012a, p. 1-13). Under this specific portion of the policy, temporary horse traps may be located within WSAs if these locations provide for the effective removal of animals in excess of the AML and practical alternatives do not exist to locating traps outside of WSAs. In addition, vehicles necessary for set up and take down of traps and for transporting excess wild horses away from the area may be driven off existing primitive routes or boundary roads on routes specified through NEPA analysis.

### **Plan Conformance**

New horse trap facilities are to be located outside of WSAs when possible. Some historic trap sites have been located within WSAs during past gather activities (Map 2) and the potential impacts have been analyzed under previous NEPA analyses. Using these sites again for trap locations would be consistent with the wild horse management direction in the *Wilderness Study Area Management Manual* (BLM 2012a, p. 1-36).

Given that pre-determined horse trap locations are not always practical, the preferred alternative includes a process for identifying new trap locations on an annual basis and conducting the necessary clearances prior to approving their use. This process would be followed regardless of whether a proposed trap site fell inside or outside of a WSA boundary. When practical alternative sites do not exist, new temporary traps may be located within WSAs, where they provide for the effective removal of animals in excess of AML (BLM 2012a, p. 1-36).

Motorized travel within these four WSAs is currently limited to open, designated routes (see Maps SMA-15, SMA-29, and SMA-31 in the *Lakeview RMP/ROD Map Packet*). The environmental analyses contained within this EA has addressed the potential impacts of driving short distances off of existing, open, designated routes within the WSAs to set up/remove traps and transport animals out of the area, but no new routes would be constructed or created.

### **Rangeland Reform '94/Standards for Rangeland Health and Guidelines for Livestock Management for Public Lands Administered by the BLM in the States of Oregon and Washington**

#### **Management Direction**

The ROD from the *Rangeland Reform '94* process required BLM to adopt regional rangeland health standards and complete an assessment of rangeland health on all grazing allotments within a ten-year timeline (BLM 1994).

### **Plan Conformance**

The rangeland health standards for Oregon/Washington BLM were adopted in 1997. These standards and guidelines were developed with public participation and included the formation of and review by, a number of regional resource advisory committees (RACs) (BLM 1997). The Lakeview Resource Area has completed rangeland health assessments for all of the grazing allotments under its management jurisdiction, thus fulfilling both requirements of this ROD.

More specifically, a BLM ID team completed a rangeland health assessment of the entire Beaty Butte Allotment. The assessment found that Standards 1, 3, and 5 were being met. While Standards 2 (riparian) and 4 (water quality) were not met, neither livestock grazing practices or wild horse use were found to be causal factors at that time (see Appendix 2, BLM and USFWS 1998b). Though this assessment has not been updated, recent monitoring found increased horse numbers congregating around riparian areas was

causing damage to riparian areas that would likely result in Standard 2 not being met during the 2013-2015 timeframe (see BLM 2015a).

### **Integrated Invasive Plant Management for the Lakeview Resource Area**

This plan and environmental analysis (BLM 2015b) is tiered to the analyses contained within the *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States EIS* (BLM 2007a) and *Vegetation Treatments Using Herbicides on BLM Lands in Oregon EIS* (BLM 2010a; 2010b) and addresses the impacts of inventorying, treating, and monitoring noxious weeds and non-native invasive species sites on other resources and uses, including wild horses.

### **Plan Conformance**

The proposed action (Alternative 1) would complement this on-going invasive plant management plan. Keeping wild horse numbers within AML would reduce horse concentration impacts around water developments and riparian areas. This would reduce bare ground and opportunities for weed invasion in these locations. It would also reduce the potential for spread of weed seeds on horse's hooves as they move across the area.

Temporary trap site locations would be inventoried/monitored for weeds/invasive species before and after trapping activities. Any weeds/invasive species located would be treated in accordance with the approved methods detailed in this plan. Trap sites would be reseeded, if necessary (see Chapter 2 of EA).

### **Other Related Wild Horse Management Plans and Projects**

*Beaty Butte Horse Training Facility* (BLM 2016a) – This proposal addressed the development and use of a wild horse training facility on private lands in the Warner Valley prior to making horses available for adoption.

*Beaty Butte Wild Horse Population Control and Gather Environmental Assessment* (BLM 2015a) – This proposal addressed the removal of a large number of excess horses from the HMA using trap and helicopter gathering methods. The proposal also addressed the use of fertility control methods.

*Beaty Butte Herd Management Area Wild Horse Population Control and Gather Environmental Assessment* (BLM 2009a) - This proposal addressed conducting multiple gathers of excess horses from the HMA over time, using a variety of gathering methods. The proposal also addressed the use of fertility control methods.

*Temporary Wild Horse Traps and Holding Facilities within Wilderness Study Areas Environmental Assessment* (BLM 2004) - This proposal addressed the use of temporary wild horse traps and holding facilities within WSAs in the HMA.

*Lakeview District Programmatic Wild Horse Fertility Control Environmental Assessment* (BLM 2000) - This proposal addressed the use of fertility control methods within all three HMAs in the Lakeview District.

*Beaty Butte Wild Horse Gather Decision Record* (BLM 1999) - This decision authorized the gathering of excess wild horses from the HMA based on the analysis contained in the *Lakeview District Programmatic Wild Horse Gather Environmental Assessment* (BLM 1995) described below.

*Beaty Butte Allotment Management Plan and Record of Decision* (BLM and USFWS 1998b) – addressed the management of livestock grazing within the Beaty Butte Allotment (00600) and included a list of range improvement and prescribed burning projects. The associated Final EIS addressed the impacts of livestock grazing management on wild horses within the HMA.

*Lakeview District Programmatic Wild Horse Gather Environmental Assessment* (BLM 1995) - This proposal addressed conducting multiple gathers of excess horses from all three HMAs in the Lakeview District over time, using a variety of gathering methods.

## Appendix B – Bait Trap Population Model

### 100% Capture Rate

Year	Beginning Population (Pre- Foaling)	Year 1 Population (Post Foal)	Gather Formula	Year 1 Maximum Gather Number	Population After Gather
1	100	120	15%	18	102
2	102	122	15%	18	104
3	104	125	15%	19	106
4	106	127	15%	19	108
5	108	130	15%	19	110
6	110	132	15%	20	113
7	113	135	15%	20	115
8	115	138	15%	21	117
9	117	141	15%	21	120
10	120	143	15%	22	122
11	122	146	15%	22	124
12	124	149	15%	22	127
13	127	152	25%	38	114
14	114	137	15%	21	116
15	116	140	15%	21	119
16	119	143	15%	21	121
17	121	145	15%	22	124
18	124	148	15%	22	126
19	126	151	25%	38	113
20	113	136	15%	20	116
21	116	139	15%	21	118
22	118	142	15%	21	120
23	120	144	15%	22	123
24	123	147	15%	22	125
25	125	150	25%	38	113
<b>ASSUMPTIONS</b>					

- 1      *No Immigration from outside HMA*
- 2      *20% Reproduction Rate (no PZP)*
- 3      *We can capture 100% of Max Number of Horses*

## 75% Capture Rate

Year	Beginning Population (Pre Foaling)	Year 1 Population (Post Foal)	Gather Formula	Year 1 Maximum Gather Number	Population After Gather
1	100	120	15%	18	107
2	107	128	15%	19	113
3	113	136	15%	20	121
4	121	145	15%	22	129
5	129	154	25%	39	125
6	125	151	25%	38	122
7	122	147	15%	22	130
8	130	156	25%	39	127
9	127	152	25%	38	124
10	124	149	15%	22	132
11	132	158	25%	40	129
12	129	154	25%	39	125
13	125	150	25%	38	122
14	122	147	15%	22	130
15	130	156	25%	39	127
16	127	152	25%	38	124
17	124	148	15%	22	132
18	132	158	25%	40	128
19	128	154	25%	39	125
20	125	150	25%	38	122
21	122	147	15%	22	130
22	130	156	25%	39	127
23	127	152	25%	38	124
24	124	148	15%	22	132
25	132	158	25%	40	128
<b>ASSUMPTIONS</b>					

- 1      *No Immigration from outside HMA*
- 2      *20% Reproduction Rate (no PZP)*
- 3      *We can capture 75% of Max Number of Horses*

## 50% Capture Rate

Year	Beginning Population (Pre-Foaling)	Year 1 Population (Post-Foal)	Gather Formula	Year 1 Maximum Gather Number	Population After Gather
1	100	120	15%	18	111
2	111	133	15%	20	123
3	123	148	15%	22	137
4	137	164	25%	41	144
5	144	172	25%	43	151
6	151	181	25%	45	158
7	158	190	25%	47	166
8	166	199	25%	50	175
9	175	209	35%	73	173
10	173	207	35%	73	171
11	171	205	35%	72	169
12	169	203	35%	71	168
13	168	201	35%	70	166
14	166	199	25%	50	174
15	174	209	35%	73	173
16	173	207	35%	72	171
17	171	205	35%	72	169
18	169	203	35%	71	167
19	167	201	35%	70	166
20	166	199	25%	50	174
21	174	209	35%	73	172
22	172	207	35%	72	171
23	171	205	35%	72	169
24	169	203	35%	71	167
25	167	201	35%	70	166
<b>ASSUMPTIONS</b>					

- 1      *No Immigration from outside HMA*
- 2      *20% Reproduction Rate (no PZP)*
- 3      *We can capture 50% of Max Number of Horses*

## Appendix C – WIN EQUUS Population Modeling

These population models were run based on the June 2016 simultaneous double count aerial inventory of 168 wild horses plus a 20% population growth rate to account for the 2017 foal crop. Therefore, at the time these models were run there is an estimated 200 horses in Beaty Butte HMA.

### Current Management

Average Growth Rate in 10 Years		Population Sizes in 11 Years*			
		Minimum	Average	Maximum	
Lowest Trial	12.6	Lowest Trial	98	263	490
10th Percentile	14.0	10th Percentile	106	279	574
25th Percentile	15.2	25th Percentile	110	287	598
<b>Median Trial</b>	<b>17.1</b>	<b>Median Trial</b>	<b>118</b>	<b>299</b>	<b>654</b>
75th Percentile	18.6	75th Percentile	123	314	714
90th Percentile	20.0	90th Percentile	128	330	756
Highest Trial	21.4	Highest Trial	135	382	955
* 0 to 20+ year-old horses					

	Gathered	Removed	Treated with PZP
Lowest Trial	626	370	17
10th Percentile	678	444	28
25th Percentile	710	468	43
<b>Median Trial</b>	<b>770</b>	<b>546</b>	<b>56</b>
75th Percentile	818	628	62
90th Percentile	856	691	66
Highest Trial	1027	791	80
* 0 to 20+ year-old horses			

## **No Management**

Average Growth Rate in 10 Years		Population Sizes in 11 Years*			
		Minimum	Average	Maximum	
Lowest Trial	15.2	Lowest Trial	306	761	1540
10th Percentile	17.0	10th Percentile	355	915	1790
25th Percentile	18.2	25th Percentile	366	993	2028
<b>Median Trial</b>	<b>19.6</b>	<b>Median Trial</b>	<b>374</b>	<b>1084</b>	<b>2309</b>
75th Percentile	21.0	75th Percentile	397	1200	2588
90th Percentile	22.0	90th Percentile	414	1295	2896
Highest Trial	24.3	Highest Trial	520	1432	3274
		* 0 to 20+ year-old horses			

## **Appendix D - Standard Operating Procedures for Population-Level Fertility Control Treatments (OneYear Liquid Vaccine)**

The following implementation and monitoring requirements are part of the Proposed Action:

1. PZP vaccine would be administered through darting by trained BLM personnel or collaborating partners only. For any darting operation, the designated personnel must have successfully completed a nationally recognized wildlife darting course and who have documented and successful experience darting wildlife under field conditions.
2. All mares targeted for treatment will be clearly identifiable through photographs to enable darters and HMA managers to positively identify the animals during the project and at the time of removal during subsequent gathers.
3. Mares that have never been treated would receive 0.5 cc of PZP vaccine emulsified with 0.5 cc of Freund's Modified Adjuvant (FMA) and loaded into darts at the time a decision has been made to dart a specific mare. Mares identified for re-treatment receive 0.5 cc of the PZP vaccine emulsified with 0.5 cc of Freund's Incomplete Adjuvant (FIA).
4. The liquid dose of PZP vaccine is administered using 1.0 cc Pneu-Darts with 1.5" barbless needles fired from either Dan Inject® or Pneu-Dart® capture gun.
5. Only designated darters would mix the vaccine/adjuvant and prepare the emulsion. Vaccineadjuvant emulsion would be loaded into darts at the darting site and delivered by means of a capture gun.
6. Delivery of the vaccine would be by intramuscular injection into the left or right hip/gluteal muscles while the mare is standing still.
7. Safety for both humans and the horse is the foremost consideration in deciding to dart a mare. The Dan Inject® gun would not be used at ranges in excess of 30 m while the PneuDart® capture gun would not be used over 50 m, and no attempt would be taken when other persons are within a 30-m radius of the target animal.
8. No attempts would be taken in high wind (greater than 15 mph) or when the horse is standing at an angle where the dart could miss the hip/gluteal region and hit the rib cage. The ideal is when the dart would strike the skin of the horse at a perfect 90° angle.
9. If a loaded dart is not used within two hours of the time of loading, the contents would be transferred to a new dart before attempting another horse. If the dart is not used before the end of the day, it would be stored under refrigeration and the contents transferred to another dart the next day. Refrigerated darts would not be used in the field.
10. No more than two people should be present at the time of a darting. The second person is responsible for locating fired darts. The second person should also be responsible for identifying the horse and keeping onlookers at a safe distance.
11. To the extent possible, all darting would be carried out in a discrete manner. However, if darting is to be done within view of non-participants or members of the public, an explanation of the nature of the project would be carried out either immediately before or after the darting.
12. Attempts will be made to recover all darts. To the extent possible, all darts which are discharged and drop from the horse at the darting site would be recovered before another darting occurs. In exceptional situations, the site of a lost dart may be noted and marked, and recovery efforts made at a later time. All discharged darts would be examined after recovery in order to determine if the charge fired and the plunger fully expelled the vaccine. Personnel conducting darting operations should be equipped with a two-way radio or cell phone to provide a communications link with the Project

Veterinarian for advice and/or assistance. In the event of a veterinary emergency, darting personnel would immediately contact the Project Veterinarian, providing all available information concerning the nature and location of the incident.

13. In the event that a dart strikes a bone or imbeds in soft tissue and does not dislodge, the darter would follow the affected horse until the dart falls out or the horse can no longer be found. The darter would be responsible for daily observation of the horse until the situation is resolved.

### **Monitoring and Tracking of Treatments**

1. At a minimum, estimation of population growth rates using helicopter or fixed-wing surveys will be conducted before any subsequent gather. During these surveys it is not necessary to identify which foals were born to which mares; only an estimate of population growth is needed (i.e. # of foals to # of adults).
2. Population growth rates of herds selected for intensive monitoring will be estimated every year post-treatment using helicopter or fixed-wing surveys. During these surveys it is not necessary to identify which foals were born to which mares, only an estimate of population growth is needed (i.e. # of foals to # of adults). If, during routine HMA field monitoring (on-the-ground), data describing mare to foal ratios can be collected, these data should also be shared with the NPO for possible analysis by the USGS.
3. A PZP Application Data sheet will be used by field applicators to record all pertinent data relating to identification of the mare (including photographs if mares are not freeze-marked) and date of treatment. Each applicator will submit a PZP Application Report and accompanying narrative and data sheets will be forwarded to the NPO (Reno, Nevada). A copy of the form and data sheets and any photos taken will be maintained at the field office.
4. A tracking system will be maintained by NPO detailing the quantity of PZP issued, the quantity used, disposition of any unused PZP, the number of treated mares by HMA, field office, and State along with the freeze-mark(s) applied by HMA and date.

## Appendix E – Wildlife Data

**Table E-1. Special Status Species and Species with Special Management Designations**

Species	Habitat Summary	Special Status	BLM Strategic Species	Species of Concern	Birds of Conservation Concern	Birds of Management Concern	Focal Species	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
<b>Terrestrial Avian Species</b>												
Bald Eagle ( <i>Haliaeetus leucocephalus</i> )	Associated with large bodies of water, forested areas near the ocean, along rivers, and at estuaries, lakes and reservoirs.	SEN Delisted			X	X	X	*	*	*	*	*
Bobolink ( <i>Dolichonyx oryzivorus</i> )	Edges of cropland / pastures; lake/pond shorelines	OR-SSV				X	X	*	*	*	*	*
Brewer's Sparrow ( <i>Spizella breweri</i> )	Sagebrush steppe; salt desert scrub; lodgepole pine forest				X			(+)	(+)	(-)	(-)	(+)
Burrowing Owl ( <i>Athene cunicularia</i> )	Sagebrush steppe, grasslands, pastures, roadsides where vegetation is sparse and terrain is level.	OR-SSV		X		X	X	(+)	(+)	(-)	(-)	(+)
Ferruginous Hawk ( <i>Buteo regalis</i> )	Occupy habitats with low tree densities and topographic relief in sagebrush plains of the high desert.	OR-SSV		X	X			*	*	*	*	*
Golden Eagle ( <i>Aquila chrysaetos</i> )	Inhabits shrub-steppe, grassland, juniper and open ponderosa pine and mixed conifer/deciduous habitats preferring areas with open shrub component for foraging.				X	X	X	*	*	*	*	*
Greater Sage-Grouse ( <i>Centrocercus urophasianus</i> )	Sagebrush obligate, found east of the Cascades. Require large expanses of sagebrush with healthy native understories of forbs.	SEN OR-SSV						(+)	(+)	(-)	(-)	(+)
Loggerhead Shrike ( <i>Lanius ludovicianus</i> )	Inhabits grasslands, pastures with fence rows, agricultural fields, sagebrush with scattered juniper, and open woodlands. Requires elevated perches throughout for hunting and nesting.	OR-SSV			X			(+)	(+)	(-)	(-)	(+)
Peregrine Falcon ( <i>Falco peregrinus</i> )	Wide range of habitats; nests on cliff ledges, bridges, quarries, and tall buildings.	SEN OR-SSV			X			*	*	*	*	*
Sage Sparrow ( <i>Amphispiza belli</i> )	Sagebrush steppe; Bitterbrush – big sagebrush shrubland				X			(+)	(+)	(-)	(-)	(+)

Species	Habitat Summary	Special Status	BLM Strategic Species	Species of Concern	Birds of Conservation Concern	Birds of Management Concern	Focal Species	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Sage Thrasher ( <i>Oreoscoptes montanus</i> )	Sage Steppe; salt desert scrub; seasonally wet playas.				X			(+)	(+)	(-)	(-)	(+)
(Canadian) Sandhill Crane ( <i>Grus Canadensis rowani</i> )	Shallow lakes or rivers at night and irrigated croplands, pastures, grasslands, or wetlands during the day		X	X				*	*	*	*	*
(Greater) Sandhill Crane ( <i>Grus Canadensis tabida</i> )	Shallow lakes or rivers at night and irrigated croplands, pastures, grasslands, or wetlands during the day	OR-SSV						*	*	*	*	*
<b>Aquatic Avian Species</b>												
Long-billed Curlew ( <i>Numenius americanus</i> )	Mixed grasslands and agricultural fields	OR-SSV			X	X	X	*	*	*	*	*
<b>Mammals</b>												
California Myotis ( <i>Myotis californicus</i> )	Shrub steppe and juniper - shrub	OR-SSV						(+)	(+)	(-)	(-)	(+)
Gray Wolf ( <i>Canis Lupus</i> )	Woodlands, forests, grasslands, and deserts	FE SEN OR-SS						*	*	*	*	*
Hoary Bat ( <i>Lasiurus cinereus</i> )	Shrub steppe during migration	OR-SSV		X				(+)	(+)	(-)	(-)	(+)
Kit Fox ( <i>Vulpes macrotis</i> )	Desert scrub and grassland communities	SEN						*	*	*	*	*
Long-Eared Myotis ( <i>Myotis evotis</i> )	Willow bordered creeks in shrub steppe and coniferous forests			X				(+)	(+)	(-)	(-)	(+)
Long-Legged Myotis ( <i>Myotis volans</i> )	Desert riparian areas, rock outcrops, and coniferous forests	OR-SSV		X				(+)	(+)	(-)	(-)	(+)
Pallid Bat ( <i>Antrozous pallidus</i> )	Arid regions/rocky outcroppings	SEN OR-		X				(+)	(+)	(-)	(-)	(+)
Preble's Shrew ( <i>Sorex preblei</i> )	Sagebrush, bitterbrush, aspen, marshes, riparian			X				(+)	(+)	(-)	(-)	(+)
Pygmy Rabbit ( <i>Brachylagus idahoensis</i> )	Sagebrush with deep friable soils.	SEN OR-SSV		X				(+)	(+)	(-)	(-)	(+)
Townsend's Big-eared Bat ( <i>Corynorhinus townsendii</i> )	Lava fields/rocky cliffs /abandoned structures	SEN OR-SSC		X				(+)	(+)	(-)	(-)	(+)

Species	Habitat Summary	Special Status	BLM Strategic Species	Species of Concern	Birds of Conservation Concern	Birds of Management Concern	Focal Species	Alternative 1	Alternative 2	Alternative 3	Alternative 4	Alternative 5
Spotted Bat ( <i>Euderma maculatum</i> )	Cliff habitat	SEN		X				(+)	(+)	(-)	(-)	(+)
White-tailed jackrabbit ( <i>Lepus townsendii</i> )	Bunchgrass habitats	OR-SSV						(+)	(+)	(-)	(-)	(+)
Yuma Myotis ( <i>Myotis yumanensis</i> )	Close association with water, perhaps fast flowing streams with willow/alder			X				(+)	(+)	(-)	(-)	(+)
<b>Reptiles</b>												
Northern Sagebrush Lizard ( <i>Sceloporus graciosus graciosus</i> )	Sagebrush; juniper stands			X				(+)	(+)	(-)	(-)	(+)

#### **LEGEND**

**FC** – Candidate for listing under the Endangered Species Act

**FE** – Federal Endangered Species

**FT** – Federal Threatened Species

**Delisted** – formerly federally listed species

**\*\*Suspected on LRA**

**SEN** – BLM Sensitive

**OR-SSC** – State of Oregon Sensitive Species – Critical

**OR-SSV** – State of Oregon Sensitive Species – Vulnerable

(+) – Positively affected

(-) – Negatively affected

\* – Negligible or no identified impacts

**Table E-2. Status of Greater Sage-Grouse Leks within Beaty Butte HMA<sup>1</sup>**

<b>Lek Name/Number</b>	<b>2018 Status</b>
BLOCK'S CANYON #2 (LA1169-02)	Pending
BUCKAROO #8 (HA0020-08)	Pending
SAGEHEN #8 (LA1144-01)	Pending
BLOCK'S CANYON (LA1169-01)	Occupied
BUCKAROO #1 (HA0021-01)	Pending
BUCKAROO #7 (HA0021-07)	Pending
BUCKAROO #5 (HA0021-05)	Pending
BUCKAROO #2 (HA0021-02)	Pending
JUNIPER (HA0023-01)	Pending
HIGHLAND SPRING #1 (HA1017-04)	Pending
EAST CORRAL (HA0104-01)	Pending
BENCH TOP (HA0103-01)	Pending
BALD MOUNTAIN #5 (HA0107-05)	Occupied
BASQUE HILLS (HA0101-01)	Pending
ANTELOPE BUTTE LAKEVIEW (LA1222-01)	Pending
NORTH LONE GRAVE BUTTE (LA1168-01)	Pending
ROCKY CANYON #1 (LA1197-01)	Pending
ROCKY CANYON #2 (LA1224-01)	Pending
ROCKY CANYON #3 (LA1133-01)	Pending
SPALDING RANCH EAST (LA1198-01)	Pending
GUANO RESERVOIR (LA1201-01)	Pending
POTHOLES (LA1228-01)	Pending
NORTH BUCKAROO PASS (HA0020-01)	Pending
BUCKAROO #3 (HA0021-03)	Pending
SOUTHEAST SPALDING RESERVOIR (HA1011-01)	Pending
BUCKAROO #6 (HA0021-06)	Pending
NORTH HIGHLAND SPRING #1 (HA1017-01)	Pending
MAHOGANY #1 (HA1017-03)	Pending
BEATY (HA0102-01)	Pending
WEST SOUTH CORRAL SPRING (HA1028-01)	Pending
NORTH HIGHLAND SPRING #2 (HA1017-02)	Pending
EAST PARADISE (HA1025-01)	Pending
EAST SAGEHEN SPRING (HA1026-01)	Pending
BALD MOUNTAIN #1 (HA0107-01)	Occupied
BALD MOUNTAIN #2 (HA0107-02)	Pending
BALD MOUNTAIN #6 (HA0107-06)	Pending
BALD MOUNTAIN #3 (HA0107-03)	Unoccupied
BALD MOUNTAIN #4 (HA0107-04)	Unoccupied
BUCKAROO #4 (HA0021-04)	Unoccupied

<sup>1</sup> Source: ODFW Lek database.

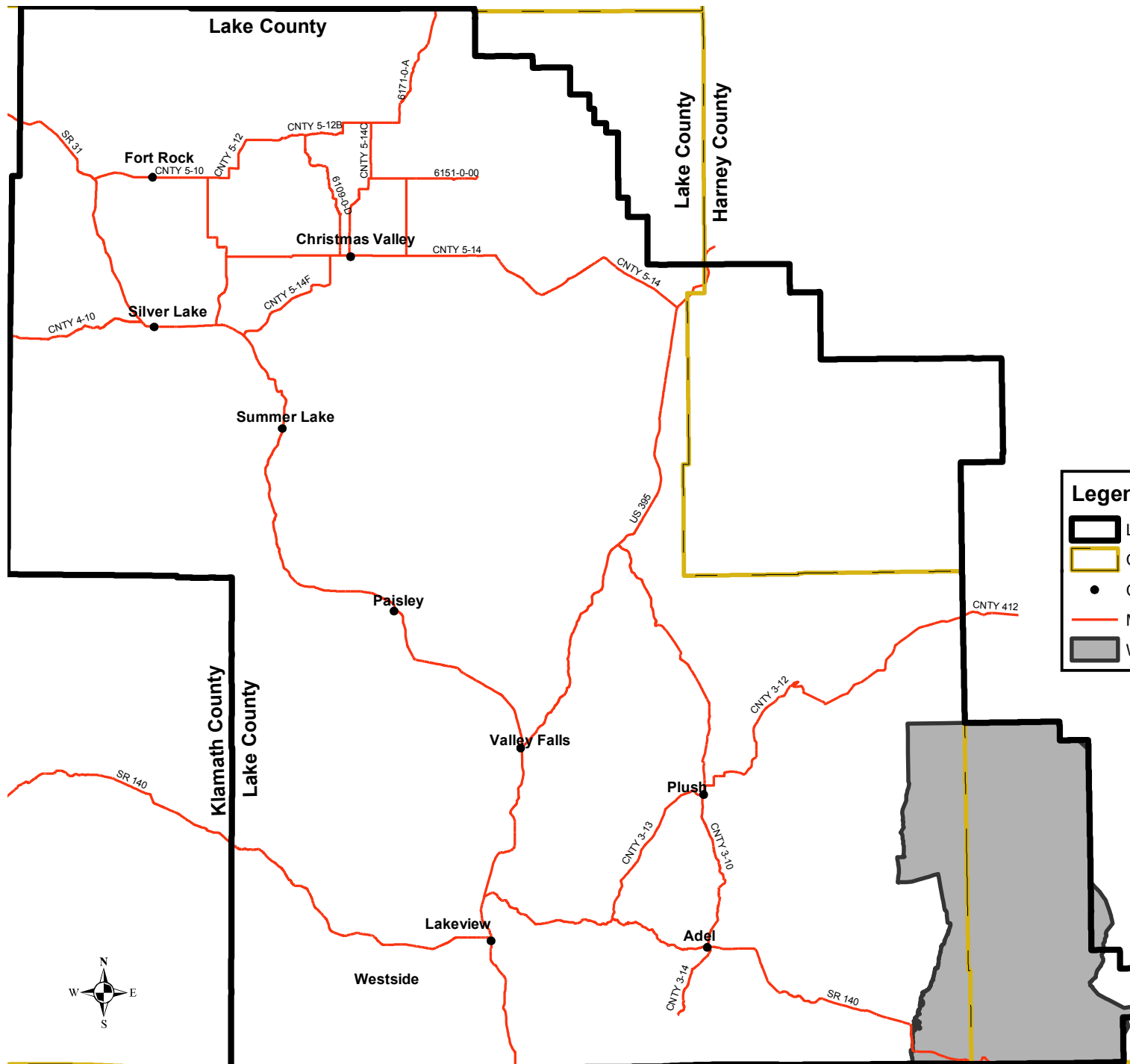
## **Appendix F – Maps**

Map 1 – General Location of Beaty Butte Herd Management Area

Map 2 – Historic Wild Horse Management Sites

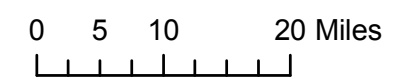
Map 3 – Existing Dominant Vegetation and Fire History

Map 4 – Greater Sage-Grouse Habitat in the Beaty Butte Herd Management Area



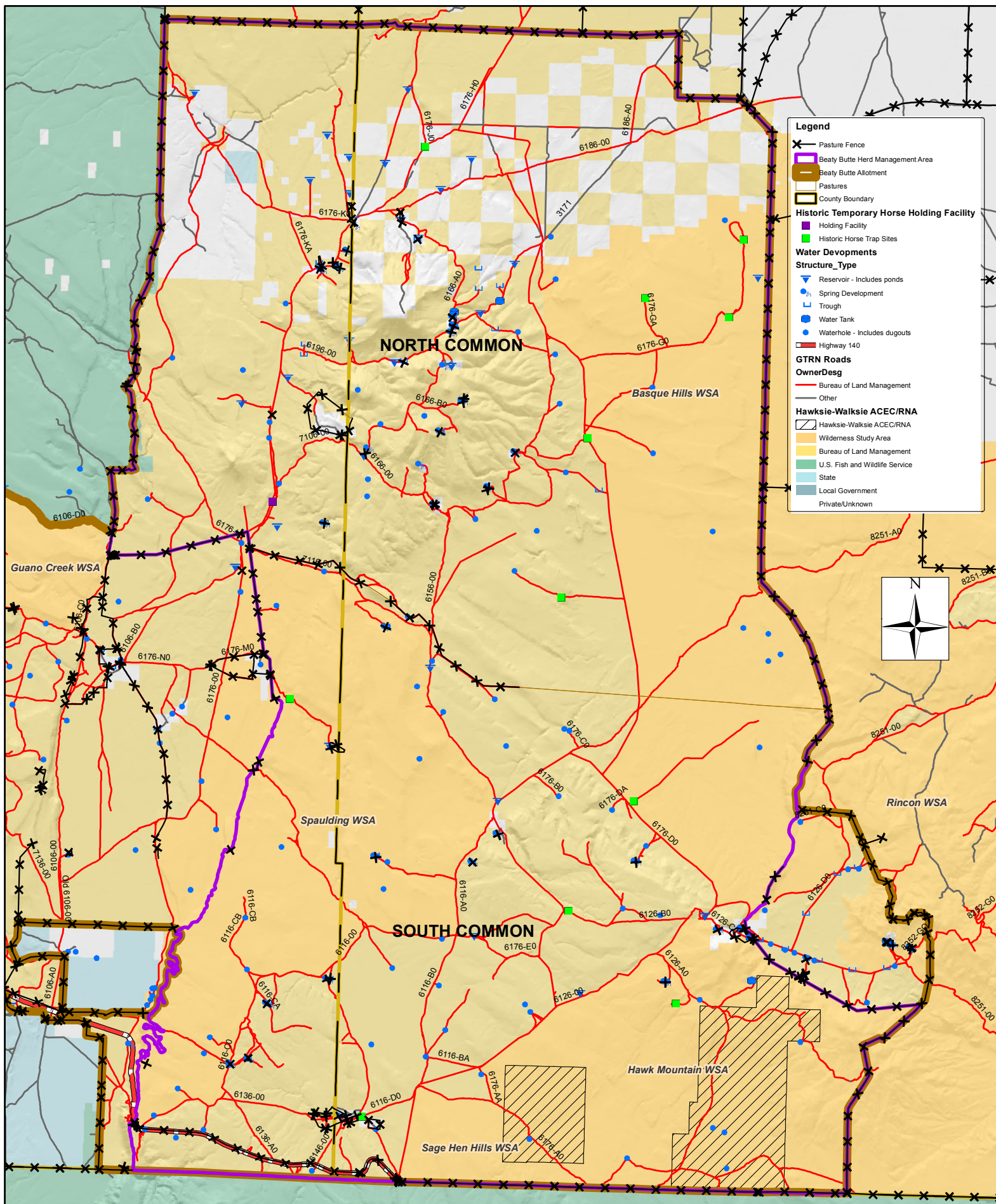
**Legend**

- Lakeview Resource Area
- County Boundary
- Cities
- Major Roads
- Wild Horse Herd Management Area



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**Map 1 - Location of Beaty Butte Herd Management Area**

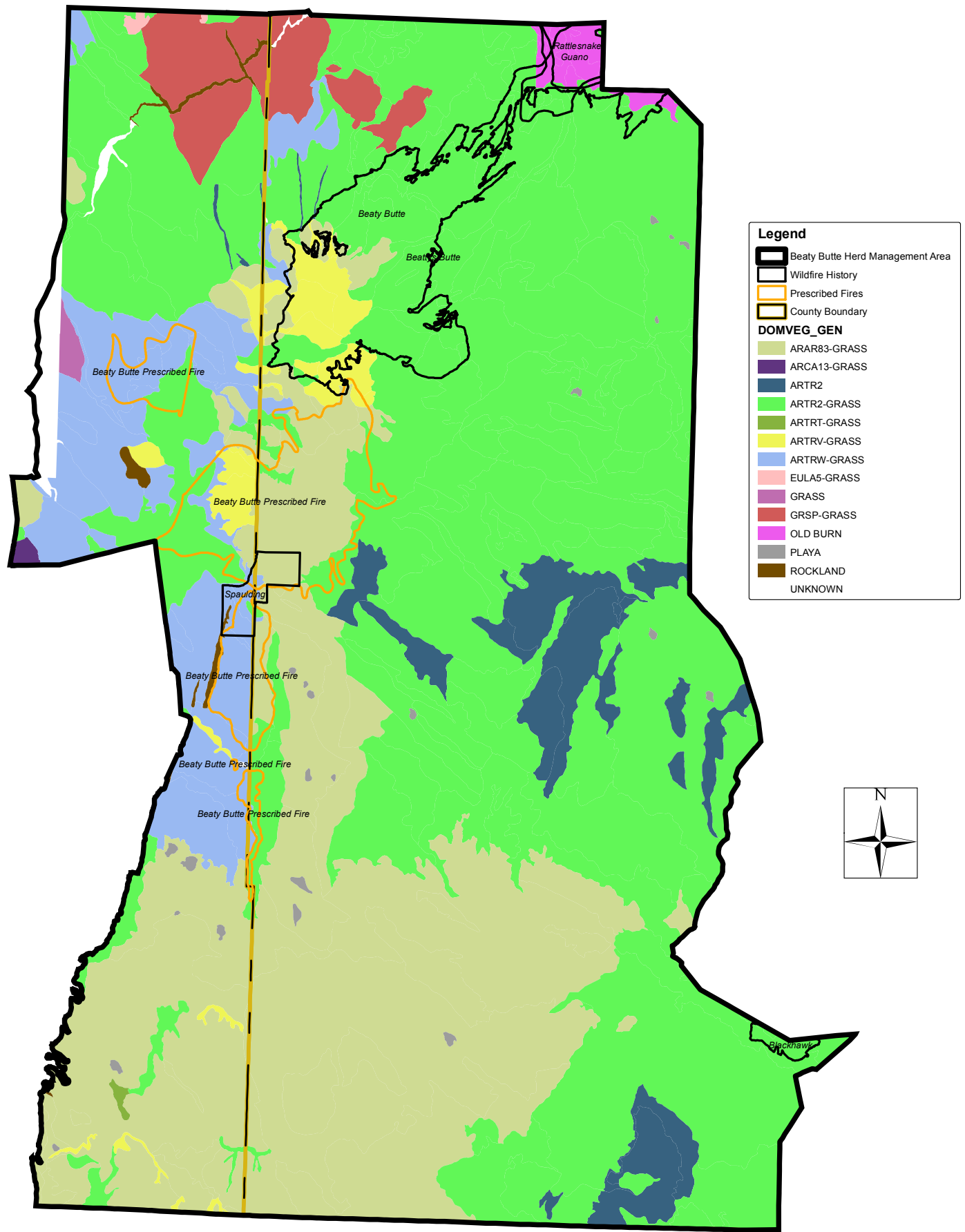


0 2.75 5.5 11 Miles



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**Map 2 - Historic Wild Horse Management Sites**



0 2.75 5.5 11 Miles



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**Map 3 - Existing Dominant Vegetation and Fire History**



## Appendix G – Wilderness Characteristics Inventory Update Summary

Unit Name/ Number	Size or Exception to Size Criteria	Natural Condition	Outstanding Opportunity for Solitude?	Outstanding Opportunity for Primitive Recreation?	Supplemental Values
Murphy Waterholes/ OR-015-115	100,793	Y	Y	Y	Y
Murphy Waterholes Southeast/ OR-015-115F	5,383	Y	N	N	Y
Lone Grave Butte/ OR-015-134B	19,608	Y	Y	Y	Y
Lone Grave Butte South/ OR-015-134C	11,831	Y	N	N	NA
Guano Lake/ OR-015-135	15,035	Y	N	N	NA
Beaty Butte/ OR-015-136	8,459	Y	Y	Y	Y
Mahogany Mountain/ OR-015-137	7,566	Y	Y	Y	Y
Buckaroo Pass/ OR-015-138	13,340	Y	Y	Y	Y
Wilson Spring/ OR-015-142	16,479	Y	Y	Y	Y
Spaulding Reservoir East/ OR-015-139A	5,410	Y	N	N	NA
Sagehen Spring South/ OR-015-140A	N	NA	NA	NA	NA
Sagehen Spring North/ OR-015-140B	9,593	Y	N	N	NA
Ryegrass/ OR-015-143B	31,804	Y	Y	Y	Y
Bald Mountain/ OR-015-144	13,758	Y	Y	Y	Y
Sagehen Flat East/ OR-015-145A	7,605	Y	N	N	NA
Sagehen Flat West/ OR-015-145B	8,510	Y	N	N	NA
Sagehen Flat South/ OR-015-145C	N	NA	NA	NA	NA
Hawk Mountain North/ OR-015-146C	57	Y	Y	Y	N
Hawk Mountain Northeast/ OR-015-146D	3,122	Y	Y	Y	Y
Guano Rim/ OR-015-158	4,787	Y	Y	Y	Y
Guano Slough/ OR-026-091	18,791	Y	N	N	Y
Rincon Southwest Addition/ OR-015-082P	2,739	Y	Y	Y	N
Basque Hills Northwest Addition/ OR-015-084F	370	Y	Y	Y	Y
Basque Hills Southeast Addition/ OR-015-084G	1,374	Y	Y	N	Y
Northeast Beaty Butte Checkerboard/ OR-015-0000	multiple units less than 5,000	NA	NA	NA	NA

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## Appendix I – Comments and Responses

### Introduction

During the public comment period BLM received a total of 9 letters from other agencies, wild horse groups, permittees, and public. All letters were reviewed and substantive comments were identified. Comments were categorized as follows:

***Substantive comments*** are those that raise issues or concerns, or suggest (and provide rationale) that the analysis is flawed in a specific way. Generally they raise an issue that may need to be addressed, challenge the accuracy of information presented, challenge the adequacy of the analysis (with supporting rationale), or present reasonable alternatives (including mitigation) other than those presented in the document. There may be many or no substantive comments in a given letter.

***Non-substantive comments*** are those that express opinions, general comments, or positions statements (not about effects, but about their likes and dislikes), vote for a position or alternative, suggest things or ask questions outside the scope, suggest things that exceed Agency authority, are the wrong scale, or otherwise are not relevant to the decision at hand.

Five of the letters expressed general support of active wild horse management activities within the HMA and/or a preference for Alternative 1. These comments were not substantive in nature and do not require a response.

The other four letters contained a combination of substantive and non-substantive comments. The comments were categorized into similar topics/issues, where possible. The following represents a summary of the substantive comments along with BLM's response.

### Comments and Responses

#### Horse Population Estimates

**Comment:** The wild horses likely migrate out as well as in. However, BLM seizes upon this natural occurrence, which causes temporary blips in population, and mischaracterizes it as a permanent problem that must be solved via intensive, costly management.

**Response:** Migration between HMAs was discussed in the EA (p. 3, 6, 10, 11, 45, 50) as one known cause of horse population fluctuations within the Beaty Butte HMA. However, it is not the only reason, nor does it negate the need to conduct periodic gathers to prevent resource damage from high horse numbers within the HMA. Annual increases in horse numbers within the HMA have been documented repeatedly in the HMA over the last 20 years (see EA, Table 4) and do not represent a "temporary blip" in population numbers.

In addition, the Sheldon-Hart Mountain National Wildlife Refuge complex is the only area bordering the Beaty Butte HMA with horses. The refuge has removed the majority of their horses bringing the number down to below 50 horses. As a result, the potential for high numbers of horses migrating into the HMA from the refuge has been decreased substantially.

**Comment:** BLM often attributes high herd-growth figures to improved inventory methods. But as has been pointed out on many occasions, the "mark-resight," "direct-count," and "simultaneous double-count" methods, conducted by flyovers, over count the population. Indeed, as the report by the specialty-

contractor who conducted the census of the Red Desert Complex (in Wyoming) emphasized, there are assumptions and caveats that must be considered when evaluating the numbers, including the potential for having double-counted due to "horse activity (moving)." The method exaggerates the numbers.

*Response:* While the commenter points out potential flaws in various survey methods, they fail to suggest a scientifically valid alternative. Employing aerial survey methodologies that apply statistical sampling techniques is critical to addressing many of the negative biases incorporated in the direct count method and has been scientifically proven to be a valid method for estimating wild horse populations (see Lubowl and Ransom 2016). In addition to considering the statistical and/or scientific validity of the counts there are the on-the-ground impacts (e.g., damage to riparian areas) that drive the purpose and need for managing the population of the herd/HMA. That is, even if the estimates/counts are slightly over there is still damage occurring on the ground.

*Comment:* BLM has been misusing the birth rate as a proxy for the herd-growth rate. BLM incorrectly equates births with population-growth. BLM wrongly assumes that virtually all foals survive and that all adult wild horses never die. Independent studies found the birth rate among wild-horse herds not contracepted averages 17% to 20%; however, within a year, between 32% and 50% of new foals vanish (McCort 1984, citing NRC 1980; Gregg *et al.* 2016). Thus, the birth rate is also just a temporary blip in the data. The net-sustained population-gain from new foals averages 10% to 11.6%. BLM officially cites 20% as the average population-growth rate; but 20% is actually the high end of the unadjusted birth rate. Please note that 20% is 10 times the expected growth rate. Further, the Win Equus modeling program also assumes a 20% annual growth rate; so, it produces invalid projections.

*Response:* The June 2016 simultaneous double-observer survey conducted at Beaty Butte HMA provided the estimated wild horse population of 168 adults and 25 foals (USGS unpublished data, 2016). The EA (Chapter 1 - Purpose and Need) discusses the new calculated population growth rate of the Beaty Butte HMA at 20% from 2016 to 2018; this is based on population estimates from the 2016 simultaneous double-observer surveys of the HMA and Win Equus Population Modeling. Several peer reviewed publications in the scientific literature have found foaling rates and survival rates that are consistent with a 20% annual growth rate (Ransom *et al.* 2016). The self-published work by Gregg and others (2014) does not represent peer-reviewed science; it was not published in any scientific literature outlet, nor does it provide any information specific to conditions in the Beaty Butte HMA. The Gregg *et al.* (2014) document does not meet the BLM's principle and practice to "use the best available scientific knowledge relevant to the problem or decision being addressed, relying on peer-reviewed literature when it exists" (Kitchell *et al.* 2015). BLM considered the Gregg *et al.* (2014) information, but there is more applicable information available for use in this case.

#### Determining When to Gather

*Comment:* BLM proposes to initially roundup 100% of the wild horses, and permanently remove all except 100 of the horses. Based on a June 2016 inventory which showed 168 adults and 25 foals, BLM estimates that the current number of wild horses is approximately 242 adults and 48 foals. Notably, this means that the adult population is within the appropriate management level (AML) of 100 to 250 horses. Therefore, this proposed roundup is not necessary at this time.

*Response:* The BLM currently has a 10-year management plan allowing for the removal of excess horses within the Beaty Butte HMA (*Beaty's Butte Herd Management Area Wild Horse Population Control and Gather Environmental Assessment DOI-BLM-OR-L050-2009-0065-EA*). The reason for developing the current horse gather and fertility control EA is to give BLM more flexibility to manage the wild horse population in the HMA within the AML before resource damage issues arise.

Due to continued population growth, horse numbers are expected to exceed AML before the next gather can actually be scheduled on the ground. As discussed in Chapter II of the EA, the proposed action (Alternative 1) includes monitoring to determine the current population level before a gather can occur. The decision to remove horses will be based on the current population and the population model (Appendix E3) that was developed. The model will help determine how many horses to remove during future gathers to ensure horse numbers within the HMA stay within AML while still allowing for population growth and reducing or eliminating resource damages.

#### Multi-Year Management Planning/Decision Making

Comment: BLM does not have, and cannot have, information that removal is necessary throughout the next ten to twenty years. Range conditions, wild horse numbers, and the appropriate management level can change each year. As such, both the WHBA, BLM's implementing regulations, and its own guidelines require site-specific analysis and continued monitoring prior to removing excess wild horses. There is no authority for BLM to authorize removal and harassment in such a vast area for ten to twenty years, as it proposes to do in the Draft EA at issue here.

*Response:* BLM routinely makes resource management decisions based on both long-term land use and project-level plans. This wild horse gather and fertility control EA represents a site-specific, project-level analysis that steps-down and implements other existing long-term land use and wild horse management plans. While BLM agrees that range conditions and horse numbers can vary each year, the AML has been set through previous decisions which are not being revisited (EA, p. 3-4) and therefore, AML will not change from year to year.

Alternatives 1, 2, 4, and 5 in the EA represent adaptive management approaches to wild horse management. The descriptions of these alternatives have been revised to clarify this (see Chapter 2 of EA). BLM has the authority to use such an adaptive management approach in making resource management decisions. This approach requires monitoring to determine when to conduct horse gathers, or adjust management actions over time. Monitoring is common to all of the action alternatives as described in Chapter 2 of the EA (p. 8) and in the Decision Record.

In particular, the proposed action (Alternative 1) requires conducting an annual population inventory to estimate the number of horses within the HMA, the annual foaling rate, and the number of excess horses to remove, as well as the number of horses to leave in the HMA (EA, p. 4-5). The decision to remove any horses will be based on the current population and the population model (Appendix E3) that was developed. The model will help determine how many horses to remove to ensure the HMA stays within AML while still allowing for future population growth. Additional monitoring (forage conditions, utilization, water availability, aerial population surveys, genetics, and fertility control) will occur under all alternatives (EA, p. 8).

In addition, the analysis of potential environmental effects throughout Chapter III of the EA assumed horses would be gathered when horse numbers and other resource condition trigger points occur. Future implementation actions, e.g. gathers, will be considered in light of the EA analysis and a determination that a given gather is consistent with the approved management actions and range of impacts analyzed in the EA.

#### BLM Should Prepare an EIS

Comment: Several commenters collectively suggest that the BLM must prepare an EIS for a variety of reasons including:

- a) the proposed action and alternatives would result in major environmental impacts;
- b) the intensity of the proposed action;
- c) the effects of the proposed action and alternatives are highly controversial and/or involve unique or unknown risks;
- d) the proposal represents a ten to twenty-year plan;
- e) the breadth and scope of the project;
- f) the action may establish a precedent for future actions with significant effects;
- g) the action threatens a violation of Federal, State, or local law or requirement imposed for the protection of the environment.

*Response:* The determination of whether or not to prepare an EIS is based on whether a proposed major federal action will have a *significant effect* on the quality of the human environment (see 42 U.S.C. 4332(2)(C)). In this case BLM has determined that there are no significant effects to the quality of the human environment and, therefore the preparation of an EIS is not necessary. This is documented within the Finding of No Significant Impact (FONSI), which is based on the analysis contained in the EA.

The fact that the plan covers a ten to twenty-year timeframe does not, in and of itself, equate to an automatic determination of impact significance. The determination of a significant impact under NEPA requires consideration of both context and intensity. As stated in the FONSI, the context of the proposed action is the geographic extent of the Beaty Butte HMA. For this reason, the analysis of impacts in the EA is focused at this scale. The CEQ regulations describe ten criteria for evaluating the intensity (ie. severity) of impacts (see 40 CFR 1508.27). These criteria are addressed individually in the FONSI.

The degree to which the effects are likely to be highly uncertain, or to involve unique or unknown risks, is one factor in BLM's analysis of the intensity of potential impacts (see 40 CFR 1508.27(b)). BLM addressed this under the discussion of intensity factor 5 in the FONSI. NEPA does not require absolute certainty, even in an EA, only a 'hard look' at the possible environmental impacts (see *Potomac Alliance v. U.S. Nuclear Regulatory Comm'n*, 682 F.2d 1030, 1037 (D.C. Cir. 1982)). Courts have determined that an agency has taken a requisite "hard look" when the NEPA document contains a "reasonably thorough" discussion of an action's potential environmental consequences, and the agency can make an informed decision about whether there are any significant environmental impacts (see *Nat'l Parks and Conservation Ass'n. v. BLM*, 606 F.3d 1058, 1072 (9th Cir. 2010) (citing *State of California v. Block*, 690 F.3d 753, 761 (9th Cir. 1982)); *Biodiversity Conservation Alliance, et al.*, 171 IBLA 218, 226 (2007)). Stated another way, a finding to not prepare an EIS will be upheld if the agency demonstrates that it has taken a 'hard look' at the potential impacts and demonstrates that no significant impact will result (see *Monsanto Co. v. Geertson Seed Farms*, 561 U.S., 130 S. Ct. 2743, 2750 (2010); *American Bird Conservancy, Inc. v. F.C.C.*, 516 F.3d 1027, 1034 (D.C. Cir. 2008); *Cabinet Mountains Wilderness v. Peterson*, 685 F.2d 678, 681-82 (D.C. Cir. 1982); *Umpqua Watersheds, Inc.*, 158 IBLA 62, 67 (2002); *In Re North Murphy Timber Sale*, 146 IBLA 305, 310 (1998) n. 8; *Nez Perce Tribal Executive Committee*, 120 IBLA 34, 37-38 (1991)).

In this case, BLM has taken the 'hard look' that NEPA requires by adequately describing the potential environmental effects of wild horse gather and fertility control alternatives on soils, upland vegetation, weeds and non-native vegetation, special status plants, water quality, riparian and aquatic habitat, special status aquatic species, terrestrial wildlife species and habitats, special status wildlife species, wild horses (including population, use of contraceptives (PZP), behavior, genetic diversity, transport, holding, adoption, and long-term care), livestock grazing, cultural resource, native American traditional uses, recreation, visual, ACEC/RNAs, WSAs, other areas with wilderness characteristics, and social and economic values within the HMA (see EA, Chapter III).

In addition, the BLM has determined that preparation of an EIS is not necessary to address potential highly controversial effects. The degree to which the effects are likely to be highly controversial is another factor that is considered when addressing the intensity of potential impacts and making a determination of significance (see 40 CFR 1508.27(b)). BLM addressed this under the discussion of intensity factor 4 in the FONSI. With respect to scientific controversy, the agency must first be aware of a “substantial dispute about the size, nature, or effect” (and not mere opposition to a proposed project) (see *Blue Mountain Biodiversity Project v. Blackwood*, 161 F.3d 1208, 1212 (9th Cir. 1998)), and then must consider the dispute and address the concerns in the final decision (see *Indiana Forest Alliance v. U.S. Forest Service*, 325 F.3d 851, 858 (7th Cir. 2003)). A substantial dispute exists when evidence casts serious doubt upon the reasonableness of an agency’s conclusions (see *Nat’l Parks & Conservation Ass’n v. Babbitt*, 241 F.3d 722, 736 (9th Cir. 2001) (abrogated on other grounds by *Monsanto Co. v. Geertson Seed Farms*, 130 S. Ct. 2743, 2757 (2010))). The BLM is not required in an EA to explain every possible scientific uncertainty (see *Lands Council v. McNair*, 537 F.3d 981, 988 (9th Cir. 2010) (en banc)). Even the fact that the record may contain some evidence supporting a different scientific opinion does not invalidate an agency’s decision, so long as the above test is met (see *Indiana Forest Alliance*, 325 F.3d at 861 (citing *Wetlands Action Network v. U.S. Army Corps of Engineers*, 222 F.3d 1105, 1120-21 (9th Cir. 2000) (abrogated on other grounds by *Wilderness Soc’y v. U.S. Forest Service*, 630 F.3d 1173 (9th Cir. 2011))); *Powder River Basin Resource Council, et al.*, 180 IBLA 32, 48 (2010)).

The BLM NEPA Handbook (H-1790-1, p. 71) further explains that “controversy in this context means disagreement about the *nature of the effects*, not expressions of opposition to the proposed action or preference among the alternatives.” One commenter felt “high public interest” in wild horse management met the “highly controversial” standard. However, high public interest does not represent a scientific controversy over the nature of effects, as defined in 40 CFR 1508.27(b), that would trigger the need to prepare an EIS.

The alternatives analyzed in the EA would not establish a precedent for future similar actions with significant effects. The BLM addressed this in the FONSI under intensity factor 6, which states that “the proposed action and action alternatives represent a pilot study that, if successful, would provide more efficient and less-costly approaches to the management of wild horse numbers within the Beaty Butte HMA compared to current management (No Action Alternative). While these management approaches could potentially be applied to other HMAs across the west, neither the analysis nor the proposed decision would legally bind the BLM to apply these approaches elsewhere. For this reason, none of the alternatives would represent a horse management action that would establish a precedent for future similar actions with potentially significant effects”.

The FONSI also addresses compliance with applicable Federal, State, or local laws under intensity factor 10. The comment that the proposed action threatens a violation of Federal, State, or local law did not provide sufficient rationale to support this claim. Much of this claim hinged on a related comment that an EIS needs to be prepared to comply with NEPA. BLM has provided a response to this issue in the previous response section above.

#### Analysis Fails to Take a Hard Look at Potential Impacts

Comment: The EA does not take a hard look at the impacts of the proposed actions....

Comment: The BLM must take the requisite ‘hard look’ at the environmental impacts of its action, which will result in short-term and long-term effects to federally protected wild horses left on the range, the family bands of wild horses that reside in these areas, the genetic diversity of these wild horse populations, and potential measures that could mitigate the impacts resulting from the BLM's action.

*Response:* The BLM must make a comprehensive consideration of a proposed action, to evaluate different courses of action (take a “hard look” at the environmental consequences) (see *Kleppe v. Sierra Club*, 427 U.S. 390, 410 (1976), n. 21; *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 350 (1989)). The purpose of an EA is to “[b]riefly provide sufficient evidence and analysis for determining whether to prepare an EIS or a finding of no significant impact.” (see 40 CFR 1508.9(a)(1)). The BLM takes a ‘hard look’ when the NEPA document contains a ‘reasonably thorough’ discussion of an action’s environmental consequences, and the agency can make an informed decision about whether there are any significant environmental impacts (see *Nat’l Parks and Conservation Ass’n. v. BLM*, 606 F.3d 1058, 1072 (9th Cir. 2010) (citing *State of California v. Block*, 690 F.3d 753, 761 (9th Cir. 1982)); *Biodiversity Conservation Alliance, et al.*, 171 IBLA 218, 226 (2007)).

As described in the previous response above, the BLM has taken the ‘hard look’ that NEPA requires by adequately describing the potential environmental effects of wild horse gather and fertility control alternatives on a variety of resources and uses within the HMA, including effects to wild horses (see EA, Chapter III). More specifically, the EA addresses potential impacts to wild horse numbers (population), social behaviors, and genetic diversity, as well as potential effects of stress and injury to individual animals. Additional discussion of genetic diversity was added to the EA, see pg.45 of the environmental assessment. In addition, appropriate project design features (PDFs) have been incorporated into the alternatives to mitigate (reduce or avoid) impacts to horses and other resources (EA, Chapter II, p. 6-8).

#### EA Should Address a Range of Reasonable Alternatives

A number of comments collectively suggested that the EA should address a broader or different range of alternatives. The following paragraph serves as an initial component of BLM’s response to these collection of comments. A more specific response follows each specific comment.

*Response:* The BLM addressed a reasonable range of alternatives in the EA. The BLM is required to include a discussion of a range of reasonable alternatives to the proposed action, alternatives which are technically and economically feasible and which meet the purpose and need, and which may have a lesser environmental impact (see 42 U.S.C 4332(2)(C); 40 C.F.R. 1502.14; 40 C.F.R. 1508.9(b); 43 C.F.R 46.420(b); *Western Exploration Inc. & Doby George LLC*, 169 IBLA 388, 406 (2006)). A “rule of reason” standard guides the range of alternatives, and does not require the BLM to include or evaluate every conceivable possible alternative (see *Dep’t of Transp. v. Public Citizen*, 541 U.S. 752, 767 (2004); *Vermont Yankee Corp. v. NRDC, Inc.*, 435 U.S. 519, 551 (1978); *Pac. Coast Fed’n of Fishermen’s Ass’ns. v. Blank*, 693 F.3d 1084, 1099 (9th Cir. 2012); *Headwaters, Inc. v. BLM*, 914 F.2d 1174, 1181 (9th Cir. 1990); *Southern Utah Wilderness Alliance*, 182 IBLA 377, 390-391 (2012)). BLM is not required to consider a range of alternatives that extends beyond those reasonably related to the purpose of the project (see *City of Angoon v. Hodel*, 803 F.2d 1016, 1021 (9th Cir. 1986); *Southern Utah Wilderness Alliance*, 182 IBLA 377, 391 (2012)). The EA analyzed 5 alternatives in detail and considered another 5 alternatives (see Chapter II).

#### AML or Wild Horse Forage Allocations Increase Alternative

*Comment:* The BLM must analyze an alternative that adjusts AML to give wild horses an equitable share of resources on the public rangelands designated as their habitat.

*Response:* Increasing the appropriate management level (AML) and/or the forage allocation for wild horses within the HMA is outside of the scope of the purpose and need for action. AML and forage allocations represent existing decisions that are not subject to modification as part of this proposed herd gather plan and fertility control plan (EA, p. 3-4).

However, BLM did consider an alternative that removed livestock from the Beaty Butte Allotment and re-allocated all available forage for wild horses. This alternative was eliminated from detailed analysis because it would not be consistent with existing law, regulation, or policy, existing land use plan direction, nor would it be effective in meeting the purpose and need for action (EA, p. 13).

#### *Livestock Grazing Reduction or Elimination Alternative*

Comment: The BLM must analyze an alternative that reduces or eliminates livestock grazing.

Comment: The BLM must consider and adequately analyze how reduction or elimination of livestock grazing, instead of mass removal of wild horses, could help meet long-term goals to protect the habitats in this HMA. While the BLM has authorized approximately 19,000 Animal AUMs for livestock within the HMA, it has only designated 3,000 AUMs for wild horse use (p. 46). An in-depth analysis of reducing or removing livestock will support a more detailed consideration of wild horse and livestock effects on range conditions within the HMA.

*Response:* BLM considered an alternative that would remove (eliminate) livestock grazing from the HMA. This alternative was not analyzed in detail because it would not be consistent with existing law, regulation, or policy, existing land use plan direction, nor would it be effective in meeting the purpose and need for action (EA, p. 10).

#### *High AML Alternative*

Comment: The BLM must further analyze the alternative of managing the horses at high AML. This alternative should include details concerning management of this population at the high AML of 250 horses rather than reducing it to the low or near low AML of approximately 100 horses. The BLM must consider all information it has available about the need to keep horse herds at certain population levels in order to prevent adverse genetic harm to the population, including inbreeding.

*Response:* Alternative 5 proposes managing the horse population at the high end of AML (see EA Chapter II, p. 12). The effects of this alternative are analyzed throughout Chapter III of the EA. A discussion on the potential effects to genetics has been added to the Wild Horse Environmental Consequences section of the EA.

#### *PZP Control Alternative*

Comment: The BLM must analyze an alternative that manages wild horses on the range exclusively with PZP fertility control.

*Response:* BLM considered an alternative that would use fertility control only. This alternative was not analyzed in detail because it would not be an effective or practical method as the sole method to maintain a consistent wild horse population within the appropriate management level. To effectively administer fertility control the horses would still be required to be trapped. The remote and rugged terrain make any delivery method of fertility control other than capture ineffective at best and unfeasible at worst. In addition, the effects of capture and the delivery of fertility control were analyzed fully within the scope of Alternatives 1, 2 and 5 (EA, p. 11, 12).

### Natural Control Alternative

Comment: Nature provides its own population-control for wild horses by means of large predators. There can be no "thriving natural ecological balance" without apex predators. Mountain lions, bears, wolves, coyotes, and bobcats effectively control wild-horse populations.

*Response:* BLM has no data, documentation, or anecdotal observations indicating that large predators control horse populations specifically within the Beaty Butte HMA. However, this issue has been adequately addressed under the design and impact analysis for Alternative 4. Under the analysis of Alternative 4, the EA states that natural controls would regulate wild horse numbers through predation, disease, and forage and water availability. Historically, predation and disease have not substantially regulated horse numbers in the Beaty Butte HMA.

Bears and wolves do not have a substantial presence within the HMA. BLM disagrees that coyotes or bobcats could effectively regulate horse populations. Coyotes and bobcats are and have been in the HMA area and have not in the past shown an ability to control the population growth (e.g. see the EA Table 4 numbers). Both species are too small to take down larger more mobile horses except the smallest immobile newborn foal or weak and hurt animals. For these reasons, the analysis of Alternative 4 properly concludes that large predators and other natural factors would not effectively control horse populations within the HMA. In addition, such an alternative would not comply with the WFRHBA, which mandates the BLM prevent the range from deterioration associated with horse over-population and preserve and maintain a thriving natural ecological balance and multiple use relationships in that area (EA, p. 51).

Comment: Wild horses are supposed to be molded by Natural Selection, not by human manipulation or personal preference. BLM needs to stand down and allow nature to choose the horses best-suited for survival.

*Response:* The horses selected to be returned to the HMA were gathered from the Beaty Butte HMA. Therefore, they are genetically adapted for survival within the HMA. Evaluating the degree of correctness of a horse's bone structure, musculature, and its body proportions helps to ensure the health and survival of the horse. Undesirable conformation can limit the ability to perform a specific task and can lead to disabilities, such as club footedness, that are not conducive to a quality life on the range.

Comment: Wild horses maintain their genetic and adaptive strength through natural selection. Human selection is really just breeding. The BLM must be careful to balance maintaining genetic diversity and a strong gene pool, which is achieved not through fad-driven selection of human-desired traits, but through breeding of the least related individuals (UC Davis genetics seminar, March 2018, Dr. Emily Latch, Associate Professor at Department of Biological Sciences, University of Wisconsin-Milwaukee). This field office should collect enough data to understand how these selected horses are related.

*Response:* This comment suggests BLM needs to conduct more genetic research prior to selecting individuals for release back to the range. BLM is not a research agency. The EA has been revised to include a discussion of potential effects on herd genetic diversity, as well as steps to ensure genetic diversity is maintained should monitoring identify an issue over time. It is notable that this herd has undergone a number of gathers to low AML, but still had higher than average heterozygosity measures in 2009. Since the 2009 genetic sampling, the herd increased in size exponentially: such population growth tends to preserve genetic diversity. The EA also includes a project design feature (PDF) in Chapter II that states "Hair samples would be collected to assess genetic variability of the herd, as outlined in [Washington Office] WO IM 2009-062." This policy states that genetic analysis does not need to be conducted at every gather, but should be collected every 10-15 years. The BLM plans to collect hair

samples following the fall 2019 gather. The proposed action and decision would implement a wild horse gather and fertility control measures that step-down or tier to existing management decisions contained in land use and wild horse management plans.

### Reserve Design Alternative

*Comment:* BLM should implement Reserve Design. This method conforms to the Wild-Horse Act. It maximizes the many benefits imparted to the range by wild horses. It minimizes the need for culls, contraceptives, and corralling. Thus, Reserve Design is cost-effective.

*Response:* The “reserve design” concept from Downer (2014) was based on a review of other studies. There are many scientific, peer-reviewed studies available that document the impacts of wild horses on western rangelands. The article by Downer (2014) does not meet the BLM’s standard for “best available science” on which to base decisions (Kitchell *et al.* 2015), because its publisher (Science Publishing Group) does not engage in credible peer review (Bohannon 2013). The “reserve design” concept suggests that populations of wild horses will self-regulate herd growth and also relies on predation as a key component of the concept. BLM has no data, documentation, or anecdotal observations indicating that large predators control horse populations specifically within the Beaty Butte HMA. However, this issue has been adequately addressed under the design and impact analysis for Alternative 4. Under the analysis of Alternative 4, the EA states that “natural controls would regulate wild horse numbers through predation, disease, and forage and water availability. Historically, predation and disease have not substantially regulated horse numbers in the Beaty Butte HMA. There has been documented population growth/trends as well as documented resource damage from overpopulation that would argue against the Downer (2014) approach in the Beaty Butte HMA.

Bears and wolves do not have a substantial presence within the HMA. BLM disagrees that coyotes or bobcats could effectively regulate horse populations. Coyotes and bobcats are and have been in the HMA area and have not in the past shown an ability to control the population growth (e.g. see the EA Table 4 numbers). Both species are too small to take down larger more mobile horses except the smallest immobile newborn foal or weak and hurt animals. For these reasons, the analysis of Alternative 4 properly concludes that large predators and other natural factors would not effectively control horse populations within the HMA. In addition, such an alternative would not comply with the WFRHBA, which mandates the BLM prevent the range from deterioration associated with horse over-population and preserve and maintain a thriving natural ecological balance and multiple use relationships in that area (EA, p. 51).

### Range Improvement Alternative

*Comment:* The BLM must analyze an alternative that accommodates current wild horse numbers with range improvements.

*Comment:* The BLM must analyze the implementation of range improvements, such as the development of additional water sources and removal of fencing, to enhance the ability of wild horses to utilize the entire the Beaty Butte HMA instead of forcing them to concentrate in certain areas or move off the HMA. The BLM cannot simply wait for the horses to come into bad health or wander off the HMA. The BLM must adequately analyze actions that will actively manage the range for the benefit of these federally protected animals.

*Response:* The HMA is comprised of two large pastures (North and South Common Pastures) within the Beaty Butte Allotment. The boundary between these two pastures is not completely fenced, so horses are able to readily move around the HMA in response to forage and water availability. However, the pasture

drift fence, in combination with herding and other management tools, does serve a purpose in helping permittees manage livestock use in these two pastures. Removing this fence would not substantially change the ability for horses to move across the HMA, but would negatively impact livestock management. Such a management action would only be appropriate if livestock grazing was completely removed from these two pastures. Most of the outer boundary of the HMA is also fenced to prevent both livestock and wild horses from moving outside these pastures. However, horses do manage to find gaps in rimrock or holes in these fences and move in and out of the HMA. This is why BLM actively manages horses that move outside the HMA.

The HMA currently contains many existing water developments (see revised Map 2). All of the existing perennial springs (most of which are on private land) have water developments associated with them. Most of the intermittent drainages and playa lake bottoms already have one or more small constructed waterholes. All of these existing developments are available for both livestock and wild horse use. BLM acknowledges that, on a conceptual level, additional water developments would help distribute both livestock and wild horse use more evenly across the landscape and could reduce congregating around some existing water developments and riparian areas. However, most feasible water collection sites within the HMA have already been developed. In addition, having more water developments would not necessarily help during periods of extended drought because there is no surface water available to collect and store, regardless of how many waterholes or troughs sit on the landscape. Ground water wells have also proved infeasible or prohibitively expensive due to the great depth to the ground water table in the HMA. In addition, about half of the HMA consists of wilderness study areas (WSAs) or private land. New range improvements are extremely difficult to justify and construct within WSAs due to the management restrictions contained within BLM's 2012 *Wilderness Study Area Management Manual*. That is why there is not currently a complete pasture boundary fence in the middle of the HMA crossing the Basque Hills WSA (see revised Map 2). Even if it was feasible to provide more water sources within the HMA, such actions would not keep horse numbers within AML or otherwise meet the purpose and need for action. For these reasons, BLM has not analyzed in detail an alternative that would manage wild horses solely through the development of additional water sources.

#### Alternative Horse Removal Methods

Comment: The EA must analyze alternative methodologies for wild horse removal, including the exclusive use of bait/water trapping.

*Response:* BLM considered an alternative that would use bait and water traps only. This alternative was not analyzed in detail because it would not be effective or practical as the sole method of capture. In addition, the effects of this capture method were analyzed fully in the EA within the scope of Alternatives 1 and 2 (EA, p. 11).

#### Horses Outside the HMA

Comment: Horses outside the Beaty Butte HMA should be relocated within the boundaries of the HMA, back inside their federally designated range. The BLM must consider this action as an alternative to simply removing any horses that are found outside of the HMA."

*Response:* The BLM has the option of putting horses back inside the HMA when they have wandered outside and that is typically the method employed. Horses found outside the HMA are only removed in instances when a helicopter gather (typically every 4-5 years) is being conducted inside the HMA.

### EA Should Address Additional Issues or Effects

Comment: The EA has failed to adequately analyze the impacts of sex ratio skewing on individual wild horses and populations as a whole. Proper analysis requires that this aspect of the management plan be eliminated from consideration.

*Response:* The Wild Horses Environmental Consequences section of the EA has been revised to include a discussion of the National Academy of Science (2013) report which states that skewing sex ratios in favor of males can help in population control without substantial risk, unless you skew it higher than the proposed 40 male to 60 mare ratio (p. 47).

Comment: The EA provided no information on actual use (billed use) of the range by livestock. There was no breakdown of cattle versus sheep.

*Response:* Forage allocations for livestock (cattle), wild horses, and wildlife for the entire Beaty Butte Allotment (which encompasses the Beaty Butte HMA) are described in the Livestock Grazing section of the EA (p. 51). There is no domestic sheep grazing or associated forage allocation for sheep within the Beaty Butte Allotment or HMA. Actual livestock use specifically within the HMA (North and South Common Pastures of the Beaty Butte Allotment) varies annually depending on precipitation and forage production. Between 2008 and 2017 actual use has varied from 2,350 to 13,119 AUMs.

Comment: BLM needs to conduct an Ecological Site Inventory (ESI) to determine actual use, including trespass use. An ESI pro-rates actual use by each animal-species present to reveal the extent of their respective forage-consumption.

*Response:* An ecological site inventory (ESI) was conducted in the Beaty Butte area in 1988 – 1989. This methodology has nothing to do with estimating actual use of forage. ESI collects soils information, existing vegetation information, and potential vegetation communities (based on soils and average precipitation). The ESI data are summarized in the Soils and Upland Vegetation sections of the EA, including Table 2 and Map 3 (p. 14-17, Appendix F). ESI is a *baseline survey* methodology. It is not used to collect annual actual use (utilization) data. That represents a different *monitoring* methodology. Actual use monitoring and billing for livestock forage occurs annually (see response to previous comment).

Comment: The EA cites there being more than 45,000 wild horses in ORPs. However, Wild Horse Freedom Federation completed a five-year investigation of the number of such horses. They compared billing records to confirmed numbers on the ground. They found there were fewer than half the number of horses present versus the number for which BLM paid. Thus, the taxpayers were overcharged.

*Response:* The data for off-range horse numbers utilized in this EA were from the BLM Washington Office. These data were cited to demonstrate that there is a substantial cost of managing excess horses in off-range (private) holding pastures. Verification of any claims of misrepresentation or fraud are outside the scope of this environmental assessment and are not relevant to this specific analysis.

Comment: Genetic viability is not achieved by 100 horses, especially with most mares having been contracepted or, due to the repeated injections, sterilized. Historical numbers evidence that Beaty Butte can easily accommodate 2,500 wild horses, which is the minimum-viable population (MVP) per the International Union for the Conservation of Nature. I further note that, per page 33 of the EA, DNA analysis has not been conducted since 2009, and that fewer than 10% of the horses were tested.

*Response:* While it is true that historic horse numbers in the Beaty Butte area were higher at one point in the distant past that does not mean the range can support such high numbers on a sustainable basis today without causing damage to other resources. The Wild Free-Roaming Horse and Burro Act requires BLM manage horses to maintain a thriving natural ecological balance, not maximize horse numbers (EA, p. 2; Appendix A). Increasing the appropriate management level (AML) and/or the forage allocation for wild horses is outside of the scope of the purpose and need for action and is not subject to modification as part of this proposed herd gather plan (EA, p. 3-4).

A "Genetic Effects" discussion has been added to the Wild Horse Environmental Consequences portion of the EA (p. 48-49) that discusses potential genetic effects, a rationale for maintaining genetic diversity and viability within the population, as well as steps to ensure it is maintained if monitoring identifies an issue in the future. It is notable that this herd has undergone a number of gathers since 1997 to the low end of AML, but still had higher than average heterozygosity measures in 2009. Since the 2009 genetic sampling, the herd increased in size exponentially: such population growth tends to preserve genetic diversity. In addition, the Project Design Features (EA, p. 8) states "Hair samples would be collected to assess genetic variability of the herd, as outlined in [Washington Office] WO IM 2009-062." This policy does states that genetic analysis be conducted every 10-15 years. The BLM plans to collect hair samples following the fall 2019 gather.

*Comment:* Wild horses utilize coarse, old-growth forage. They are like lawn mowers. They take off the top growth — the dry, unpalatable layer. This grazing method enables the plants to put down deeper roots, and it prevents weeds from maturing to produce seeds. Grasses are encouraged by the horses' frequent "mowing."

*Response:* There is no scientific evidence that wild horses prefer dry grass over green grass. The BLM has been unable to find any literature supporting this statement. After reviewing the reference provided, [https://extension.msstate.edu/sites/default/files/topic-files/cattle-business-mississippi-articles/cattle-business-mississippi-articles-landing-page/stocker\\_apr2011.pdf](https://extension.msstate.edu/sites/default/files/topic-files/cattle-business-mississippi-articles/cattle-business-mississippi-articles-landing-page/stocker_apr2011.pdf), it states that cattle will consume young tender leaves before eating more mature leaves or stems but there is no reference to forage preference of wild horses.

*Comment:* When livestock and horses share, or rotate among pastures, parasites are reduced. That is because, with one insignificant exception, horses and livestock ruminants are not afflicted by the same parasites. Pasture-sharing is a holistic way to control parasites.

*Response:* BLM is not aware of any scientific studies that support the idea that livestock and horses mutually benefit from parasite reduction as a result of sharing the same pastures. However, all of the alternatives analyzed in the EA include wild horses and cattle sharing the same pasture, at least for half of the year, so such benefits, if they occur, would be common across all alternatives.

*Comment:* The BLM must analyze the economic and social impacts of the Proposed Action. The BLM's decision to roundup and permanently remove 230 horses from this HMA in 2018 and potentially hundreds more in subsequent years vs. the more cost-effective options of reducing livestock grazing and managing herds on the range with fertility control is irresponsible.

*Response:* The BLM has adequately analyzed the potential social and economic effects in the EA. CEQ NEPA regulations include social and economic effects as part of a broad list of potential effects that may need to be addressed in an environmental analysis (see 40 CFR 1508.8). These regulations also state that when an agency prepares an EIS, the weighing of the merits and drawbacks of the various alternatives need not be displayed in a monetary cost-benefit analysis and should not be when there are important qualitative considerations (see 40 CFR 1502.23). However, the preparation of an EA is not held to this

same standard (see 43 CFR 1508.9). As long as the NEPA document is sufficiently detailed to aid the decision maker in making a reasoned choice between alternatives and to aid the public in evaluating the project, then the document is sufficient under NEPA (*Knowles v. U.S. Coast Guard* (1997) citing *Trout Unlimited v. Morton*, 509 F.2d 1276, 1286 (9th Cir. 1974)). In addition, an agency is not required to adopt the most cost-effective management option as its decision.

In fact, the EA discusses the potential social and economic effects of the proposed action and the alternatives (p. 64). In particular, the EA acknowledges that the American public have wide ranging social views on wild horse management and the need for wild horse gathers. The EA also compares the costs of various horse management actions. The effects of the alternative management actions on wild horse viewing opportunities are addressed in the Recreation section of the EA.

The comment indirectly implies that BLM should address what the commenter considers to be more cost-effective options for managing wild horses such as livestock grazing reduction or fertility control. BLM considered these alternatives in the EA (Chapter II, p.13). BLM's response to this issue is addressed under the Livestock Grazing Reduction or Elimination Alternative and the PZP Only Alternative sections above. It is also worth noting that reducing or removing livestock grazing from the HMA would have substantial social and economic effects to both the livestock grazing permittees and the Lake County economy that would need to be factored into the analysis, if this alternative were fully analyzed in the EA.

#### *Impacts Due to Horses*

Comment: The EA ... erroneously attributes a disproportionate share of range deterioration in the HMA to wild horses.

Comment: BLM would have us believe that the 438,140 acres (685 square miles) that compose the Beaty Butte habitat can sustain only 100 to 250 wild horses. BLM further alleges that when the arbitrary management level (AML) is exceeded, the range suffers. But how could so few horses on such a vast expanse of range have so great an impact? Who else is on the range? Livestock and locusts are the problem.

*Response:* The EA identifies specifically locations where high horse numbers have, based on recent monitoring, caused heavy to severe utilization levels (ie. resource damage) on riparian areas and upland areas immediately surrounding riparian areas and water developments, even in years when livestock were not grazing in these areas. The EA also analyzed how the alternative strategies would either continue or reduce these impacts (p. 3, 15, 16, 19, 21, 23-24, 30-34, 51-59, 61-63) over time.

BLM does not agree nor have evidence that locusts or grasshoppers are a significant competitor for forage or otherwise causing significant resource damage across the HMA, particularly around water sites and riparian areas where horses have been repeatedly documented in high numbers. It is also important to note that BLM lacks the authority to manage or control these insect species. That authority rests with the Animal and Plant Health Inspection Service (APHIS) of the USDA. BLM does not need to analyze in detail an alternative that would manage these species because APHIS is responsible for carrying out this program. Such an alternative would not be effective in meeting the purpose and need for action.

#### *Helicopter Use*

Comment: BLM did not publicize or conduct an annual hearing regarding the use of helicopters and other motorized equipment.

*Response:* BLM Oregon conducts one annual hearing for use of helicopters and other motorized equipment for the following calendar year for all BLM Districts. This hearing is typically held in December each year in Burns, Oregon. The hearing for 2018 was held December 2017 in Burns, Oregon.

*Comment:* One commenter provided twelve pages information, references to newspaper articles, and other reports in support of a concern that the use of airplanes and helicopters for horse management activities would be dangerous to humans.

*Response:* While BLM appreciates the concern expressed by this commenter, this issue is outside the scope of purpose and need of this proposal. A NEPA document must briefly specify the underlying purpose and need to which the agency is responding (see 40 CFR 1502.13). The analysis of alternatives is guided by the agency's purpose and need. *League of Wilderness Defenders et al.*, IBLA 2012-190, \*6, 2012 WL 6726358 (2012). Helicopters are a necessary tool in the management of wild horses (periodic gathers and monitoring) and other resources within the HMA. While this could be viewed as a potential social issue for analysis within the EA, the potential risks/impacts would be minimized in a similar fashion under all alternatives, as all aviation safety protocols will be followed when using aircraft, including a project aviation safety plan being completed before any flights are conducted. For these reasons, this is not an issue that requires analysis within the EA.

*Comment:* Helicopters have adverse effects on wilderness and wildlife. The noise and pollution emitted by a helicopter when stampeding wild horses disrupt what should be a peaceful, quiet environment. Meanwhile, on the ground disturbances resulting from the use of helicopters for roundups include ... blowing of soils, damage to plants, stress and possible injury to wildlife.

*Response:* The effects to these resources are analyzed in the Environmental Consequences section of Chapter III of the EA. A helicopter would be used for short periods of time to gather horses (e.g. for a two-week period, once every 4-5 years) or conduct annual herd monitoring surveys. During aerial surveys, the helicopter typically flies several hundred feet above ground and does not raise much soil into the atmosphere, except during landing or take-off. During gathers, the helicopter flies closer to the ground and may raise soil particles into the atmosphere. However, this is a temporary, localized impact. Most of the soil particles quickly settle back to the ground after the helicopter has passed through an area. The *Soils* section of the EA has been revised to address this impact (p. 15-16).

BLM is not aware of any scientific literature that suggests occasional helicopter fly-overs cause damage to vegetation. However, the *Terrestrial Wildlife and Special Status Wildlife* sections have been updated to address the potential for temporary stress impacts to occur to wildlife (EA, p. 30).

In addition, helicopter use is allowable within WSAs for aerial surveys and horse gathers under BLM's 2012 *Wilderness Study Area Management Manual* (p. 1-37).

*Comment:* Helicopter-stampedes can result in wild horses trampling riparian areas and in so doing, creating stagnant water puddles, conditions ideal for mosquito-breeding. Mosquitoes are vectors of West Nile Virus (WNV). The prospect of a helicopter-gather increasing the likelihood of WNV outbreaks among wildlife was raised by BLM-Idaho itself in the 2012 Black Mountain and Hard trigger EA.

*Response:* The EA has documented that increased horse numbers have, based on recent monitoring, congregated in high numbers around water sources and have caused heavy to severe utilization of vegetation (i.e. resource damage) on and surrounding riparian areas, causing the very type of compaction/trampling effects the commenter is concerned about (p. 3, 15, 16, 19, 21, 23-24, 30-34, 51-59, 61-63). The BLM is not aware of any scientific studies or anecdotal information available that indicates helicopter "stampedes" cause severe impacts to riparian areas. Even if such effects were to occur during

a once every 4-5 year helicopter gather, such impacts would be far less damaging than horses congregating in these same riparian areas year-round.

Further, it is the presence of water rather than horses that creates potential mosquito habitat in riparian areas. Removing horses from these areas would not substantially alter potential mosquito habitat. While WNV is transmitted by mosquitos and is recognized as a potential threat to Greater sage-grouse, there has been no documented outbreak in eastern Oregon to date. This issue was previously analyzed in the 2015 *Oregon Greater Sage-Grouse Proposed Resource Management Plan/Final Environmental Impact Statement*. For these reasons, WNV and its potential effects on sage-grouse, is not an issue that needs to be addressed in the EA.