United States Department of the Interior Bureau of Land Management

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Challis Herd Management Area Management Plan

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CHAPTER 1- INTRODUCTION

The Bureau of Land Management (BLM) Challis Field Office (CFO) is proposing to gather and remove excess wild horses if determined by the Authorized Officer (AO), and implement population control measures on wild horse mares from the Challis Herd Management Area (CHMA). The primary use of population growth suppression will be to maintain the wild horse population within the Appropriate Management Level (AML) range and achieve a thriving natural ecological balance (TNEB). It is anticipated that the management planned for in this Environmental Assessment (EA) would continue until a change in policy and management objectives occurs or the affected environment changes significantly enough that additional analysis is required.

This EA is a site-specific analysis of the potential impacts that could result from the implementation of the Proposed Action or alternatives. The EA assists the CFO in project planning, ensuring compliance with the National Environmental Policy Act (NEPA), and in making a determination as to whether any "significant" impacts would result from the analyzed actions. An EA provides analysis for determining whether to prepare an Environmental Impact Statement (EIS) or a statement of "Finding of No Significant Impact" (FONSI).

1.1 Background

The CHMA is located in Custer County, Idaho and consists of 168,720 total acres (154,150 BLM, 9,454 acres of State of Idaho lands, and 1,116 acres private lands near the East Fork of the Salmon River). The CHMA begins about five miles south of the town Challis, ID. The CHMA is bordered on the north by the Salmon River, on the west by the East Fork of the Salmon River, on the south by the ridgeline between Herd Creek and Road Creek and on the east by U.S. Highway 93 and the watershed boundary between the Salmon River drainage and the Lost River drainage (see Figure 1). The CHMA overlaps with approximately 9,766 acres of the Jim McClure- Jerry Peak Wilderness, designated in August 2015. After this designation, two Wilderness Study Areas (WSAs) within the CHMA, Corral- Horse Basin and Jerry Peak, were released by Congress and were no longer to be considered as wilderness.

The AML range for wild horses within the CHMA is 185-253. The AML was established in the October 1999 Challis Resource Management Plan/Record of Decision (RMP/ROD) following an in-depth analysis of habitat suitability, resource monitoring, and population inventory data, with public involvement. The AML also considered the 1983 court ordered Consent Judgment by United States District Judge Charles R. Richey. The judgment allowed for the BLM to manage at minimum 185 horses and to do periodic gathers to maintain those numbers. The Challis RMP recognized that between gathers the population would range up to 253. Thus, the AML range is identified a 185-253 horses within the CHMA. The upper limit of an AML should be below the number of adult horses that would cause rangeland damage (BLM 2010). The AML lower limit will normally be established at a number that allows the population to grow (at the annual population growth rate) to the upper limit over a 4-5 year period, without any interim gathers to remove excess wild horses (BLM 2010). Two hundred and fifty-three (253) is the maximum number of wild horses to be maintained in a TNEB and multiple use relationship on the public lands in the area. To date, the CHMA has been gathered 16 times with the most recent being a bait gather completed in 2017.

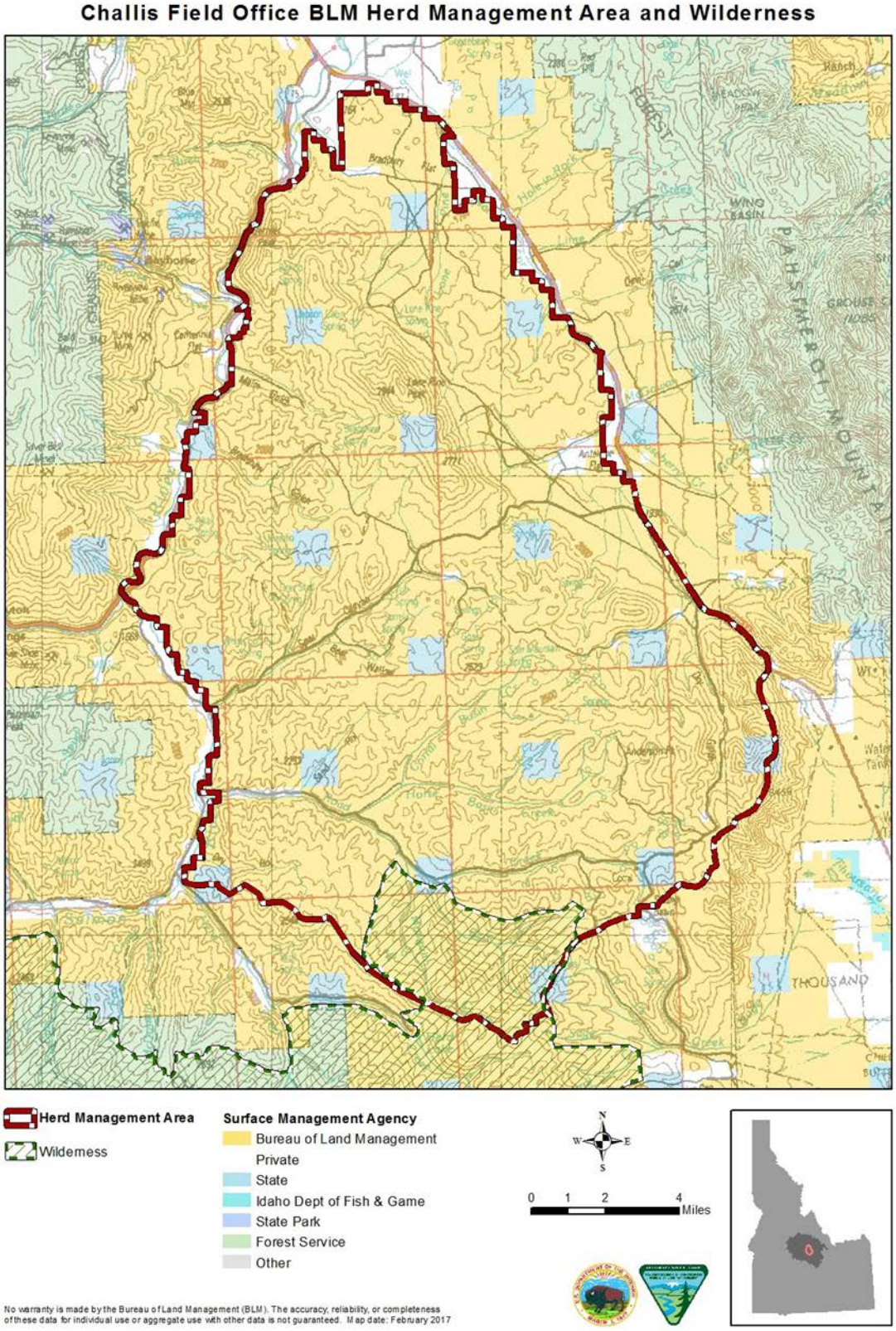
In February 2018, an aerial population inventory, using the simultaneous double count method, in which experienced observers in an aircraft independently observe and record groups of wild horses. During the survey, 296 individual horses were observed, but that number does not account for animals that were present, but not seen. Sighting rates are estimated by comparing sighting records of the observers. Sighting probabilities for the observers is then computed from the information collected and population estimates generated. Results of this inventory estimated a population of 313 horses (out of that estimated number, 298 are adults) after statistical correction by the United States Geological Service (USGS) which did not include the 2018 foal crop. By the time of the first proposed gather in the fall of 2019 there will be an estimated 429 horses (366 adult horses and 63 foals) based on the CHMA average annual population increase of 17%.

1.2 Purpose and Need for Action

The purpose of the Proposed Action is to manage wild horses to achieve and maintain the established AML range for the CHMA, by removing excess wild horses and to reduce the wild horse population growth rate in order to prevent undue or unnecessary degradation of the public lands by protecting rangeland resources from deterioration associated with an overpopulation excess wild horses within and outside the HMA and to restore a TNEB within the CHMA and multiple use relationship on the public lands consistent with the provisions of Section 1333 (a) of the Wild Free-Roaming Horses and Burros Act of 1971.

The need for the Proposed Action is to protect rangeland resources and to prevent unnecessary or undue degradation, maintain and restore TNEB, and multiple use relationship on the public lands consistent with the provisions of Section 1333 (a) of the Wild Free-Roaming Horses and Burros Act of 1971.

Figure 1. Challis Herd Management Area



1.3 Conformance with the Applicable Land Use Plan

The Proposed Action is in conformance with the Challis Resource Management Plan (RMP) (USDI- BLM, 1999a) under Wild Horses and Burros. The Challis RMP lists Goals and Decisions for the management of Wild Horses in the CHMA.

Goal 1 lists the following Decisions:

Decision #1 "Manage the wild horse herd for an AML of 185 animals in accordance with the 1983 U.S. District Court Consent Judgment and the current activity plan for the wild horse CHMA"

Decision #3 "Monitor wild horse use of the Malm Gulch and Sand Hollow areas, and remove wild horses as necessary to protect fragile watersheds";

Decision #7 "Adjust wild horse management to ensure progress toward the riparian and aquatic habitat conditions described in Attachment 1."

The Challis RMP was amended in 2015 and 2019 to address management of sage-grouse habitat. The Approved Resource Management Plan Amendment (ARMPA) identifies and incorporates measures to conserve, enhance, and restore GRSG habitat by avoiding, minimizing, and compensating for unavoidable impacts of threats to GRSG habitat while bringing the Challis RMP into better alignment with the State of Idaho's Sage-grouse Plan. The ARMPA addresses threats to GRSG and its habitat identified by the GRSG National Technical Team (NTT), by the USFWS in the March 2010 listing decision, as well as those threats described in the USFWS's 2013 COT report. The ARMPA establishes Objectives, Management Decisions, Buffers, and Required Design Features to protect and restore sage-grouse habitat. Idaho uses a conformance review form to document how each project proposal conforms to the ARMPA. The completed conformance review is located in Appendix J. The conformance review determined that by adherence to dates and buffers described in the ARMPA that GRSG will benefit from a reduced population of wild horses while effects would be inconsequential.

The Proposed Action is in conformance with the 2015 ARMPA as amended in 2019 and will provide beneficial habitat improvements throughout the CHMA by reducing wild horse numbers to AML and treating with the fertility control to manage wild horse numbers over time. The Idaho and Southwestern Montana Greater Sage Grouse (GRSG) **ARMPA Management Decisions applicable to the project are as follows**:

WHB-1: Manage herd management areas (HMAs) in GRSG habitat within established AML ranges to achieve and maintain GRSG habitat objectives (Table 2-2).

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 HMAs and occupied by wild horses and burros in SFA followed by PHMA. (Section 2.2.5 ARMPA P. 2-26)

1.4 Relationship to Statutes, Regulations or Other Plans

The Proposed Action and all action alternatives have been designed to conform to Federal regulations, consultation requirements, and other authorities that direct and provide the framework and official guidance for management of BLM lands within the CFO.

1. The Proposed Action is in conformance with the Wild Free-Roaming Horse and Burro Act (WFRHBA) of 1971 Public Law 92-195, as amended.

2. Wild Free-Roaming Horse and Burro Management (43 CFR 4700). Applicable excerpts are as follows:
4720.1 - Removal of excess animals from public lands. *"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…."*
4710.3-1 – Herd Management Areas. "*Herd Management Areas shall be established for the maintenance of wild horse and burro herds*."
4740.1 Use of motor vehicles or aircraft.

3. BLM Wild Horses and Burros Management Handbook, H-4700-1 (June 2010):

4. Section 302 (a) and (b) of the Federal Land Policy and Management Act (FLPMA) of 1976, the Public Rangelands Improvement Act of 1978 (Pub. L. 95-514, Sec. 4).
PRIA directs the continued *"policy of protecting wild free-roaming horses and burros from capture, branding, harassment, or death, while at the same time facilitating the removal and disposal of excess wild free-roaming horses and burros which pose a threat to themselves and their habitat and to other rangeland values.*

5. The National Historic Preservation Act of 1966, as amended (NHPA; with regulations under 36 CFR 800) established the federal government's policy and programs on historic preservation. Section 106 of NHPA requires agencies to consider the effects of their actions on historic properties (defined as cultural resources determined to be eligible for listing on the National Register of Historic Places) prior to project implementation. The NHPA specifically requires federal agencies to identify and manage historic properties on federally owned and administered lands. Consultation under NHPA for this project has been conducted in accordance with BLM's National Programmatic Agreement and the 2014 implementing Protocol Agreement between Idaho BLM and the Idaho State Historic Preservation Office.

The Fort Bridger Treaty of 1868 (15 Stat. 673) specifically reserves the rights of the Shoshone and Bannock Tribes to hunt, fish, gather, and exercise other traditional uses and practices on unoccupied federal lands, including public lands administered by the BLM CFO. The federal government has a federal trust responsibility to manage public lands to provide for the continued exercise of tribal treaty rights, consistent with management policies, on all unoccupied lands within their jurisdiction. Part of the federal trust responsibility entails conducting government to-government consultation with Indian groups when a proposed project has the potential to impact the exercise of treaty-reserved rights.

The Bureau of Land Management has a Federal trust responsibility to honor treaty rights and to

make land management decisions that do not directly or indirectly harm or abrogate treaty rights, treaty resources, or other tribal interests. The Fort Bridger Treaty of 1868 (15 Stat. 673) reserves the rights of the Shoshone and Bannock people to hunt, fish and gather natural resources located on "unoccupied lands," now understood to include public lands. Part of the BLM's trust responsibility entails conducting government-to-government consultation with Indian tribal entities when proposed actions have the potential to impact access to or exercise of treaty reserved interests (clarified in Executive Order 13175, November 6, 2000).

Under this treaty the federal government has a unique trust relationship with the Shoshone-Bannock Tribes. BLM has a responsibility and obligation to consider and consult on potential effects to natural resources related to the Tribes treaty rights or cultural use.

Compliance with the Fort Bridger Treaty and other Tribal Consultation requirements were fulfilled during staff to staff coordination meetings conducted on October 16, 2018 and through an informational letter sent February 15, 2019. Members of the Shoshone-Bannock tribe expressed support for this project. Compliance with the National Historic Preservation Act requirements were fulfilled through consultation with the Idaho State Historic Preservation Officer. A finding of no effect was received on March 1, 2018 for the Gather Plan and December 12, 2018 for the spring exclosures.

6. NMFS and the National Oceanic and Atmospheric Administration (NOAA) have designated the upper Salmon River basin and its tributaries, as critical habitat for Snake River spring/summer Chinook salmon (*Oncorhynchus tshawytscha*) and Snake River steelhead trout (*Oncorhynchus mykiss*).

Pursuant to section 305(b)(2) of the Magnuson-Stevens Act, federal agencies must consult with National Marine Fisheries Services (NMFS) regarding any of their actions authorized, funded, or undertaken, or proposed to be authorized, funded, or undertaken that may adversely affect Essential Fish Habitat (EFH). The Magnuson-Stevens Act, section 3, defines EFH as "those waters and substrate necessary for fish for spawning, breeding, feeding, or growth to maturity."

The BLM complied with Section 7 of the ESA and the Magnuson-Stevens Act by conducting an evaluation for potential impacts to <u>unoccupied</u> designated critical habitat for Snake River Chinook salmon located in the Road creek subwatershed determining that no impacts would occur due to this action. There are no known occupied waterbodies and or designated critical habitat for Snake River steelhead in the subwatershed; therefore, a determination of "No Effect" was made for ESA listed fish and their designated critical habitat located within the identified CHMA gather operations found within the Road Creek subwatershed (Appendix F. BLM-NEBE 2018).

In 1995, BLM adopted the Interim Strategy for Managing Anadromous Fish-Producing Watersheds in Eastern Oregon, Washington, Idaho, and Portions of California, commonly referred to as PACFISH (USDI - USDA 1995a). PACFISH provides Riparian Management Objectives and Standards and Guidelines for managing riparian resources. Also in 1995, BLM implemented the Bull Trout Habitat Conservation Strategy known as INFISH (USDI – USDA 1995b). INFISH is virtually identical to PACFISH except that it applies to land management activities that influence bull trout habitats rather than anadromous fisheries habitats. There are no known occupied waterbodies or designated critical habitat for bull trout located with the bounds of the CHMA.

Westslope cutthroat trout, a Bureau "Sensitive" species is found within the upper headwater reach segments of the Road Creek subwatershed, and well outside of any identified gather locations (Appendix F. BLM-NEBE 2018).

7. Pursuant to Secretarial Order 3356, the Proposed Action will not affect public access to lands and waters administered by the BLM. The Proposed Action will also be in accordance with Secretarial Order 3362 by potentially enhancing big-game habitat and hunting opportunities through the maintenance of the CFO wild horse herd. By keeping the wild horse herd at the AML, effects to soil, water, vegetation, wildlife and aesthetic qualities of the CHMA will be alleviated. Additionally, protecting spring and water resources in the area could also help enhance big-game habitat. This could potentially expand opportunities for big-game hunting by improving priority habitats in the area. The Proposed Action will also support Secretarial Order 3366 in that there will be no effect to the public's access to lands and waters managed by the BLM for recreational pursuits by all Americans and visitors to the United States.

Relevant Statutes, Regulations, or Other Plans:

- American Indian Religious Freedom Act of 1978
- Archaeological Resource Protection Act of 1979Code of Federal Regulations (CFR); Title 40; Part 1500 – Council on Environmental Quality 2009
- CFR; Title 43; Part 4100 – Grazing Administration – Exclusive of Alaska 2006
- Coordinated Implementation Plan for Bird Conservation in Idaho
- Endangered Species Act (ESA) of 1973, Section 7, as amended
- Idaho Comprehensive Wildlife Conservation Strategy 2005
- National Environmental Policy Act of 1969 (as amended)
- Fundamentals of Rangeland Health (43 CFR 4180)
- Idaho Standards for Rangeland Health and Guidelines for Livestock Grazing Management

1.5 Scoping, Issues, and Decision to be Made

Scoping

Scoping occurred internally through an Interdisciplinary Team made up of specialists within the CFO and externally which included: On February 15, 2019, the CFO Field Manager issued the scoping document for this CHMA EA (#DOI-BLM-ID-I030- 2019-0001-EA, CFO Challis Wild Horse Population Management EA) to all affected grazing permittees, wild horse interested publics, and wilderness interested public, and other State and local governments regarding the proposed removal of excess horses and population management in the CHMA. Additionally, the scoping document was presented to the Shoshone-Bannock Tribes and posted to the BLM's ePlanning website. The public comment period remained open until March 18, 2019 (32 days).

The issues identified in the letters and emails from the public, along with the issues identified during the BLM CFO ID team meetings and through contact with other agencies, are listed below. Comments were received from Friends of Animals, American Wild Horse Campaign, Gary and

Jackie Ingram and Custer County Commissioners. Comments can be found in Appendix N.

Issues

Through internal review, public scoping and previous gather documents (16) in Challis, the following issues were identified:

Wild Horses
What would be direct effects of the alternatives on wild horses?
What would be the effects of the population suppression methods being considered in the alternatives have on wild horse behavior?
Riparian Areas, Wetlands and Water Quality
What would be the effects of the alternatives on riparian areas and water quality?
Upland Vegetation
What would be the effects of the alternatives on upland vegetation?
Wildlife
What would be the effects of the alternatives on GRSG and their habitat?
What would be the effects of the alternatives on big game species and species of concern?
Livestock Grazing Management and Rangelands
What would be the effects of the alternatives on livestock grazing management and associated ranch operations?

Issues not analyzed in detail are described further in Appendix D the Impacts Analysis Table.

1.6 Decision to be Made

Based on the analysis presented in this EA, the authorized officer (AO) will select an alternative that meets the purpose and need for the action. The Challis Field Manager is the AO responsible for the decision regarding management of wild horses in the CHMA. The BLM's AO will determine if excess wild horses exist on the CHMA, what methods would be used to gather and remove excess wild horses, which alternative would help achieve and maintain AML, whether to implement/maintain population control measures such as fertility control vaccines, and whether or not to build the three spring protection fences. There will be two decisions to be made; one concerning the management of wild horses on the CHMA and a second to determine building three spring protection exclosures. The BLM's AO's decisions would not set or adjust AML, nor would it adjust livestock use, as these were set through previous decisions.

CHAPTER 2 –ALTERNATIVES

This section of the EA describes the Proposed Action and Alternatives considered in detail:

Alternative A: No Action – Defer gathers and removals

Alternative B: Proposed Action -- Selective Removal Gathers to the low end or range of AML range of 185 Using Helicopter Drive gather, Horseback Drive Trapping, Bait/water Trapping, Apply Temporary Fertility Treatment, Maintain Sex Ratio in Favor of Males 60:40, Return Existing Geldings to the CHMA and Build Three Protective Spring Exclosures

Alternative C: Selective Gathers and Removals to low AML (185) without Applying Temporary Fertility Treatment

Alternative D: Gate Cut Gathers and Removal to low AML (185)

The Proposed Action and Alternatives were developed to respond to the identified resource issues and the Purpose and Need. The No Action Alternative is analyzed in this EA to provide a basis for comparison with the proposed action and alternatives, and to assess the effects of not conducting gathers at this time. The No Action Alternative is in violation of the WFRHBA which requires the BLM to immediately remove excess wild horses. Alternatives considered but eliminated are found in Appendix E.

Table 1. Explanation of Alternatives for the Management of Wild Horses

Alternative's	Gather Method	Number of Mares Receiving Fertility Control Treatment*	Number of Horses Gathered*	Number of Horses Removed*	Sex Ratio of 60% Males (Including Geldings) and 40% Females	Build 3 Riparian Exclosures to Protect Spring Habitat.
Alternative A No Action	None	Remote Darting in the CHMA would continue as part of the 2012 EA. Average of 10-15 mares treated annually.	0	0	No	No
Alternative B Proposed Action	Helicopter Drive, Horseback Drive and Bait/water trapping	48 As part of the initial gather	365	244	Yes	Yes
Alternative C Selective Removal Without Fertility Control	Helicopter Drive	0	365	244	Yes	No
Alternative D Gate Cut Removal	Helicopter Drive	0	244	244	No	No

*All gather numbers are based on the initial gather occurring in 2019 with current estimates. All future gathers will be adjusted according to obtaining the low AML of 185 based on the current population estimate.

2.1 Alternative A - No Action

Under the no action alternative, no gathers would occur at this time. Management actions prescribed by the 2012 Challis Gather Plan would continue. This includes a 60:40 Male/Female sex ratio, remote application of the fertility control vaccine PZP and leaving the approximately 26 geldings released in 2009 on the range. Using a 17% population growth rate as prescribed in the Challis RMP (1999a), within one normal gather cycle (4 Years) wild horse numbers would increase to approximately 645 adult horses by fall 2023 under the no action alternative. By fall of 2029, the wild horse population would be over 1,900 adult horses. Over time the 60:40 male to female sex ratio would return to the typical 50:50 ratio. The CFO would be in violation of the WFRHBA by not addressing excess wild horses when they are determined to occur by the AO on the CHMA. In addition, no exclosures would be built allowing degradation of spring habitat relied upon by wild horses, wildlife, and livestock. Although the No Action Alternative does not comply with the WFRHBA of 1971, does not comply with the BLM's regulations implementing the WFRHBA of 1971, and does not meet the purpose and need for this action in this EA, it is included as a basis for comparison with the Proposed Action.

2.2 Project Design Features Common to All Action Alternatives (B, C, and D)

Implementation of management actions would begin in the fall of 2019 and would continue until environmental conditions or policy and management objective changes require new analysis of additional management actions. Additional design features are described in Appendix A (Wild Horse Gather SOPs).

Each helicopter gather would take approximately one week to complete, between the annual timeframe of July 1 to February 28. Additionally, helicopters would be used to conduct population inventory flights as needed.

Gather operations would be conducted by either the national gather contract or by BLM personnel. Contract gathers will be overseen by the BLM Contracting Officer's Representative (COR) and Project Inspectors (PI) assigned to the gather. The CORs and PIs would be responsible for ensuring contract personnel abide by the contract specifications in the Comprehensive Animal Welfare Program (Appendix C - IM No. 2015-151). Annual monitoring of forage condition and utilization, forage availability, and animal health, as well as aerial population surveys every 2-3 years, would continue on the CHMA. Population estimates for CHMA will be updated as inventories are conducted in the future. Genetic monitoring (following IM 2009-062 or future updated policy guidance) would also continue following gathers and/or trapping. If future genetic monitoring indicates a loss of genetic diversity, the BLM would consider introduction of horses from HMAs in similar environments to maintain the projected genetic diversity. Fertility control monitoring would be conducted in accordance with the population-level fertility control treatment SOPs in Appendix B and IM 2009-090 Population Level Fertility Control Field Trials: Herd Management Area Selection, Vaccine Application, Monitoring.

A BLM contract Doctor of Veterinary Medicine (DVM), Animal and Plant Health Inspection Service (APHIS) Veterinarian or other licensed DVM may be on call or on site for the duration of the helicopter gather to examine animals and make recommendations to the BLM for the care and treatment of wild horses, and ensure humane treatment. Additionally, animals transported to a BLM wild horse facility are inspected by facility staff and the BLM contract Veterinarian, to observe health and ensure the animals have been cared for humanely.

Data including sex and age distribution, condition class information (using the Henneke rating system), color, size and other information may also be recorded, along with the disposition of the animal (removed or released).

The CHMA has been gathered 16 times since October 1979. Approximately 2,250 horses have been gathered with 1,775 horses being removed. The proposed gathers could occur between July 1 to February 28 for helicopter gathers and in winter months for bait trapping when conditions are conducive to gather due to horses' responsiveness to hay. Approximately 30-40% of the CHMA is accessible during winter months when conditions are conducive for conducting a bait gather. Water trap gathers are infeasible on the CHMA due to the availability of running water in the form of springs and streams. Bait gathers would conclude by April 14 in order to avoid sage grouse nesting. Helicopter-drive gather may occur between July 1 and February 28th. It is likely that most helicopter gathers would occur during the period of August to November with weather conditions limiting access and the ability to successfully conduct a helicopter gather on much of the CHMA

throughout the gather timeframe outside foaling period. Gathers would be conducted in accordance with the Wild Horse Gather Standard Operating Procedures (SOPs) and Wild Horse Fertility Control SOPs located in Appendices A and B. An example, based on current population inventories in the CHMA would remove 244 from a population of 429 in 2019. The numbers may vary slightly with each gather, but typically about 70 horses would be removed when the population reaches 253. While the numbers of wild horses gathered from the CHMA may vary in each gather event, as may the number of horses permanently removed, the BLM CFO will gather to the low AML (185) during helicopter-drive gathers.

Prior to any gather activities a Determination of NEPA Adequacy (DNA) Worksheet would be completed to determine if policy, the Affected Environment, or anticipated effects have changed significantly to warrant additional analysis. The public would be notified through the BLM Press Releases webpage.

Temporary Holding Facilities During Gathers

Wild horses gathered would be transported from the capture sites to a temporary sorting/holding facility within the CHMA, primarily in goose-neck trailers, however straight deck semi-trailers may be used. At the temporary sorting/holding facility wild horses would be aged and sorted into different pens based on sex, age, health, and other variables. The horses would be fed certified weed free quality hay and fresh water while in the sorting/holding facility. Mares and their dependent foals (if encountered) would be kept in pens together and marked similarly for identification.

Horses identified for retention in the CHMA and for fertility control treatment would be maintained in these temporary corrals until the fertility control treatment could be implemented and then be released back into the CHMA.

Transport, Short Term Holding, and Adoption Preparation

Wild horses removed from the range would be transported to the Challis Preparation Facility or other off-range corrals (ORC) in a goose-neck stock trailer or straight-deck semi-tractor trailer. Trucks and trailers used to haul wild horses would be inspected prior to use to ensure they can be safely transported. Wild horses would be segregated by age and sex when possible and loaded into separate compartments. Mares and their un-weaned foals may be shipped together. Transportation of recently captured wild horses is limited to a maximum of 8 hours. During transport, potential impacts to individual horses can include stress, slipping, falling, kicking, biting, or being stepped on by another animal.

Unless wild horses are in extremely poor condition, it is rare for an animal to die during transport.

Upon arrival at the ORC, recently captured wild horses would be off-loaded by compartment and placed in holding pens where they would be provided good quality hay and water. Most wild horses begin to eat and drink immediately and adjust rapidly to their new situation. At the short-term holding facility a veterinarian would assess animal condition and provide recommendations to the BLM regarding care, treatment, and if necessary, euthanasia of recently captured horses. Any animals affected by a chronic or incurable disease, injury, lameness or serious physical defect (such as severe tooth loss or wear, club foot, and other severe congenital abnormalities) would be humanely euthanized using methods acceptable to the AVMA. Wild horses in very thin condition

or animals with injuries would be sorted and placed in hospital pens, fed separately and/or treated for their injuries. Similarly, some mares may lose their fetuses. Every effort is taken to help the mare make a quiet, low-stress transition to captivity and domestic feed to minimize the risk of miscarriage or death.

Recently captured horses, generally mares, in very thin condition may have difficulty transitioning to feed. A small percentage of animals can die during this transition; however, some of these animals are in such poor condition that it is unlikely they would have survived if left on the range.

After the recently captured horses have transitioned to their new environment, they are prepared for adoption, sale, or transport to an off-range pasture (ORP). Preparation involves freeze-marking the animals with a unique identification number, vaccination against common equine diseases, castration, and de-worming. During the preparation process, potential impacts to wild horses are similar to those that can occur during transport. Injury or mortality during the preparation process is rare, but can occur.

ORCs require a minimum of 700 square feet per animal. Mortality at ORCs average approximately 0.5% (GAO 2013). This includes animals euthanized due to a pre-existing condition, animals in extremely poor condition, animals that are injured and would not recover, animals which are unable to transition to feed, and animals which die accidentally during sorting, handling, or preparation. Approximately 12,000 excess wild horses are currently being maintained within BLM's ORC.

Adoption or Sale with Limitations and Off-Range Pastures

Adoption applicants are required to have at least a 400 square foot corral with panels that are at least six feet tall. Applicants are required to provide adequate shelter, feed and water. The BLM retains title to the horse for one year and the horse and facilities are inspected. After one year, the applicant may take title to the horse at which point the horse becomes the property of the applicant. Adoptions are conducted in accordance with 43 CFR § Subpart 4750.

Buyers must fill out an application and be pre-approved before they may buy a wild horse. A sale-eligible wild horse is any animal that is more than 10 years old or has been offered unsuccessfully for adoption at least 3 times. The application also specifies that all buyers are not to sell to slaughter buyers or anyone who would sell the animals to a commercial processing plant. Sale of wild horses are conducted in accordance with the 1971 WFRHBA and Congressional limitations that are presently in place. Sales of wild horses are conducted in accordance with Bureau policy. When shipping wild horses for adoption, sale or ORPs, animals may be transported for up to a maximum of 24 hours. Immediately prior to transportation, and after every 24 hours of transportation, animals are offloaded and provided a minimum of 8 hours on the ground rest. During the rest period, each animal is provided access to unlimited amounts of clean water and two pounds of good quality hay per 100 pounds of body weight with adequate bunk space to allow all animals to eat at one time. The rest period may be waived in situations where the anticipated travel time exceeds the 24-hour limit but the stress of offloading and reloading is likely to be greater than the stress involved in the additional period of uninterrupted travel.

ORPs are designed to provide excess wild horses with humane, and in some cases life-long care in

a natural setting off the public rangelands. There, wild horses are maintained in grassland pastures large enough to allow free-roaming behavior and with the forage, water, and shelter necessary to sustain them in good condition. Over 36,000 wild horses that are in excess of the current adoption or sale demand (because of age or other factors such as economic recession) are currently located on private land pastures in Oklahoma, Kansas, South Dakota, Iowa, Missouri, Wyoming, Montana, Nebraska, and Utah. Establishment of ORPs was subject to a separate NEPA and decision-making process. Located in mid or tall grass prairie regions of the United States, these ORPs are highly productive grasslands compared to more arid western rangelands. These pastures comprise about 256,000 acres (an average of about 10-11 acres per animal). Of the animals currently located in ORP, less than one percent is age 0-4 years, 49 percent are age 5-10 years, and about 51 percent are age 11+ years.

Mares and sterilized stallions (geldings) are segregated into separate pastures except at one facility where geldings and mares coexist. Although the animals are placed in ORPs, they remain available for adoption or sale to qualified individuals; and foals born to pregnant mares in ORPs are gathered and weaned when they reach about 8-12 months of age and are also made available for adoption. BLM does not promote or desire reproduction on the ORPs which is the reason for segregation of the sexes as much as possible. The ORP contracts specify the care that wild horses must receive to ensure they remain healthy and well-cared for. Handling by humans is minimized to the extent possible although regular on-the-ground observation by the ORP contractor and periodic counts of the wild horses to ascertain their well-being and safety are conducted by BLM personnel and/or veterinarians. A small percentage of the animals may be humanely euthanized if they are in very poor condition due to age or other factors. Horses residing on ORP facilities live longer, on the average, than wild horses residing on public rangelands, and the natural mortality of wild horses in ORP averages approximately 8% per year, but can be higher or lower depending on the average age of the horses pastured there (GAO 2013).

2.3 Alternative B – Proposed Action

The Proposed Action is designed to manage wild horse populations over a period that would allow for long-term management of wild horse population in the CHMA. Implementation of the Proposed Action would begin no sooner than fall of 2019. Continuation of actions are: 60:40 sex ratio in favor of males and returning the approximately 26 geldings to the range (implemented in 2009) and remote delivery of fertility control treatments of mares (implemented in 2014). The Proposed Action would continue until policy changes occur, or the affected environment changes significantly enough that additional analysis is required. An example of this would be when the Jim McClure-Jerry Peak Wilderness was designated in August of 2015, in the southern portion of the CHMA, which changed the Affected Environment to a point, which requires additional analysis.

Under the Proposed Action, BLM would initially gather as many horses as possible. Past experience conducting gathers within the CHMA has shown that approximately 85% of the horses will be gathered in CHMA. The remaining 15% move into inaccessible locations such as the timbered areas where they cannot be seen and gathered by helicopter. Release numbers will be calculated based on the estimated number of horses remaining on the CHMA to achieve low AML (185). By gathering 85% of the herd, BLM is able to: (1) select horses to return to the CHMA to achieve the low AML; (2) maintain a 60:40 sex ratio of males to females that was established in

2009; and (3) continue fertility control treatments and/or boosters. All excess wild horses that are removed would be prepared for the adoption or sale program. If the initial gather is completed in the fall of 2019, approximately 365 horses, or roughly 85% of the estimated population expected at that time, would be gathered using the helicopter-drive method. Approximately, 244 excess horses would be removed from the CHMA. In addition to the horses not gathered (approximately 64), roughly 121 horses would be returned to the CHMA to re-establish the herd size at low AML. These released horses would be composed of 73 male horses including stallions and geldings and 48 mares. Thus, the sex ratio of returned horses will be 60% male and 40% female. The sex ratio of the 15% of the herd that is not gathered is unknown. There may be as many as 26 geldings that will remain on the range as a non-breeding component. All mares returned to the CHMA would be treated or boostered with a fertility control vaccine: either PZP-22 (or most current formulation) or GonaCon. A complete description of fertility control application and literature review is found in Appendix B. By following the selective removal process the BLM can select for healthy animals to return to the range while removing the most adoptable horses. This results in healthier and better conditioned horses in the CHMA and higher numbers of horses being adopted by the public and fewer being placed on ORPs. Mares that have been previously treated with a fertility control vaccine would be selected to stay on the range.

There are three spring sources within the CHMA (Horse Basin Spring No. 1 and 3 and Gossi Spring) that receive substantial use by wild horses. A diverse mix of wildlife, including GRSG, relies upon these springs. To protect these spring sources and the habitat they provide for wildlife, wild horses, and livestock, an exclosure fence would be constructed around each of the springs. Fencing will be a wildlife friendly jack and rail type fence no taller than 40 inches (preferably 38") to minimize perching by raptors. Water would continue to be available to wild horses, wildlife and livestock below the spring source through continuous spring flow (Horse Basin Spring No. 1 and 3) or provided in an existing trough via a pipeline (Gossi Spring). No additional troughs or pipelines would be constructed as part of this project.

Bait or Water Trapping

Bait trapping operations would be conducted as needed; and as conditions are conducive between normal helicopter-drive gather cycles. For example one to three bait traps would be constructed annually in the winter when feed is less available and wild horses are most responsive to hay. This would allow the CFO to gather wild horses, removing the adoptable horses and treating the mares with temporary fertility control and releasing them back to the CHMA. Typically approximately 30-40% of the CHMA is accessible during winter months when bait trapping is affective. This is also true to the distribution of wild horses with approximately 30-40% of the horses being found in accessible areas where they can be bait trapped. These trapping methods would be used as tools to remove excess wild horses in areas where concentrations of wild horses are detrimental to habitat conditions or other resources within the CHMA, to selectively remove a portion of excess horses for placement into the adoption and sale program, or capture, treat, and release horses for application of fertility treatment. Bait and horseback-drive could take anywhere from one week to several months depending on the amount of animals to trap, weather conditions, or other considerations.

Bait trapping involves setting up portable panels around an existing water source or in an active wild horse area, or around a pre-set water or bait source. The portable panels would be set up to allow wild horses to go freely in and out of the corral until they have adjusted to it. When the wild

horses fully adapt to the corral, it is fitted with a gate system. The acclimation of the horses creates a low stress trapping method. During this acclimation period the horses would experience some stress due to the panels being setup and perceived access restriction to the water/bait source.

Water trapping would occur rarely in the CHMA. Water in the CHMA is highly accessible in the form of free-flowing streams and springs. There may be some opportunity in limited areas in the northern 1/3 of the CHMA where conditions are somewhat drier.

When actively trapping wild horses, the trap would be staffed or checked on a daily basis by either BLM personnel or authorized contractor staff. Horses would be either removed immediately or fed and watered for up to several days prior to transport to a holding facility. Existing roads would be used to access the trap sites. See Appendix A for specific details and standard operating procedures of a bait/water trap gather.

Horseback Drive-Trapping

Horseback Drive-Trapping would occur on a limited basis for specific activities. These activities include: moving horses closer to bait sites during bait gathers, moving horses from outside the CHMA to within the boundaries of the CHMA and removing wild horses from private land adjacent to the CHMA.

Remote Darting with Fertility Control Vaccine

Remote darting with fertility control vaccines would continue when conditions are conducive. This includes access into the CHMA when roads are passable, proximity of wild horses to accessible areas, and approachable mares. Use of fertility control vaccines would follow the guidelines described in Appendix B Standard Operating Procedures (SOPs) for Administering Population Level Fertility Control.

Selective removal of animals would follow the selective removal strategy set forth in BLM Manual Sec. 4720.33., and as described in Appendix A, (SOPs for Wild Horse Gathers).

All mares selected for release would be treated with two-year PZP-22 or GonaCon and released back to the range. Immuno-contraceptive treatments would be conducted in accordance with the approved standard operating and post-treatment monitoring procedures (Appendix A SOPs, and Appendix B Fertility Control SOPs). Mares would be selected to maintain a diverse age structure, herd characteristics and conformation (body type).

Stallions would be selected to maintain a diverse age structure, herd characteristics and body type (conformation). Stallions selected for release would be released to maintain the post-gathers sex ratio to approximately 60% males in the CHMA Alternatives B and C. All geldings that were initially released in 2009 that are gathered would be returned to the CHMA as part of the male percentage. Stallions would be selected to maintain a diverse age structure, herd characteristics and body type (conformation).

Wild horses are usually very fit and in good health when not stressed by lack of food and water and are able to endure the physical requirements of gathers. However, the environmental conditions and the overall health and well-being of the wild horses are continually monitored through both summer and winter gathers to adjust gather operations as necessary to protect the

wild horses from gather-related health issues. For these reasons, flexibility in gather operations is an inherent part of all gathers.

Wild horses in the CHMA often use snow instead of water when available during fall, winter, and spring months. Wild horses in the CHMA have relatively easy access to water so horses are well hydrated when moving to capture sites. Temperature related issues during gathers can be mitigated by adjusting daily gather times to avoid the extreme hot or cold periods of the day.

Except in emergencies, BLM does not gather wild horses with a helicopter during the six weeks before or after the peak foaling period (mid-May) which correlates to the 3 month period between April 1 and June 30 when a majority of foals are born. It is not uncommon for a very small number of foals to be encountered during any month of the year. If newborn foals or foals too young to wean are gathered, they are matched up with their mares after being gathered. Fall and winter time-frames are less stressful to foals than summer gathers due to them being older and more self-sufficient. Young foals in summer months may be more prone to dehydration and complications from heat stress. Additionally, handling, sorting and transport can be a stress to young animals however, BLM staff on site takes every precaution to assure that horses are handled and maintained to mitigate impacts.

Population Growth Controls (Fertility Control treatments and sex ratio adjustments)
Under Alternative B the objective for gathers would include the application of fertility control to approximately 48 mares which would be released. All mares selected for release would be treated with a single dose of pelleted PZP-22 vaccine, GonaCon, or similar vaccine/fertility control. Immunocontraceptive (fertility control) treatments would be conducted in accordance with the approved standard operating procedures (SOPs, Appendix B). Mares selected for release would be selected to maintain a diverse age structure, herd characteristics and conformation (body type). Mares previously treated with fertility control would be prioritized higher for release than mares that were previously untreated.

Fertility Control Vaccines

Fertility control vaccines (also known as (immunocontraceptives) meet BLM requirements for safety to mares and the environment (EPA 2009a, 2012). Because they work by causing an immune response in treated animals, there is no risk of hormones or toxins being taken into the food chain when a treated mare dies. The BLM and other land managers have mainly used three fertility control vaccine formulations for fertility control of wild horse mares on the range: ZonaStat-H, PZP-22, and GonaCon-Equine. As other formulations become available they may be applied in the future.

In any vaccine, the antigen is the stimulant to which the body responds by making antigen-specific antibodies. Those antibodies then signal to the body that a foreign molecule is present, initiating an immune response that removes the molecule or cell. Adjuvants are additional substances that are included in vaccines to elevate the level of immune response. Adjuvants help to incite recruitment of lymphocytes and other immune cells which foster a long-lasting immune response that is specific to the antigen.

Liquid emulsion vaccines can be injected by hand or remotely administered in the field using a

pneumatic dart (Roelle and Ransom 2009, Rutberg et al. 2017, McCann et al. 2017) in cases where mares are relatively approachable. Use of remotely delivered (dart-delivered) vaccine is generally limited to populations where individual animals can be accurately identified and repeatedly approached within 50 m (BLM 2010). Booster doses can be safely administered by hand or by dart. Even with repeated booster treatments of the vaccines, it is expected that most mares would eventually return to fertility, though some individual mares treated repeatedly may remain infertile. Once the herd size in a project area is at AML and population growth seems to be stabilized, BLM can make adaptive determinations as to the required frequency of new and booster treatments.

BLM has followed SOPs for fertility control vaccine application (BLM IM 2009-090, Appendix D). Herds selected for fertility control vaccine use should have annual growth rates over 5%, have a herd size over 50 animals, and have a target rate of treatment of between 50% and 90% of female wild horses or burros. The IM requires that treated mares be identifiable via a visible freeze brand or individual color markings, so that their vaccination history can be known. The IM calls for follow-up population surveys to determine the realized annual growth rate in herds treated with fertility control vaccines.

Porcine Zona Pellucida (PZP) Vaccine

PZP may be applied to mares prior to their release back into the CHMA. PZP vaccines meet most of the criteria that the National Research Council (2013) used to identify promising fertility control methods, in terms of delivery method, availability, efficacy, and side effects. PZP is relatively inexpensive, meets BLM requirements for safety to mares and the environment, and is produced as the liquid PZP vaccine ZonaStat-H, an EPA-registered commercial product (EPA 2012, SCC 2015), or as PZP-22, which is a formulation of PZP in polymer pellets that may lead to a longer immune response (Turner et al. 2002, Rutberg et al. 2017).

For the PZP-22 vaccine pellet formulation administered during gathers, each released mare would receive a single dose of the PZP contraceptive vaccine pellets at the same time as a dose of the liquid PZP vaccine with modified Freund's "Complete" adjuvant. Most mares recover from the stress of capture and handling quickly once released back into the CHMA and none are expected to suffer serious long term effects from the injections, other than the direct consequence of becoming temporarily infertile. Injection site reactions associated with fertility control treatments are possible in treated mares (Roelle and Ransom 2009, Bechert et al. 2013, French et al. 2017), but swelling or local reactions at the injection site are expected to be minor in nature.

In subsequent years, Native PZP (or currently most effective formulation) would be administered as a booster dose using the one year liquid PZP vaccine by field or remote darting. The dart-delivered formulation produced injection-site reactions of varying intensity, though none of the observed reactions appeared debilitating to the animals (Roelle and Ransom 2009). Joonè et al. (2017a) found that injection site reactions had healed in most mares within 3 months after the booster dose, and that they did not affect movement or cause fever. Darting can be implemented opportunistically by applicators near water sources or along main trails out on the range. Blinds may be used to camouflage applicators to allow efficient treatment of as many mares as possible. Native PZP (or currently most effective formulation) would be administered by PZP certified and trained applicators in the one year liquid dose inoculations by field darting the mares. Prior to

actually darting, an inventory of the wild horses would be conducted. This would include a list of marked horses and / or a photo catalog with descriptions of the animals to assist in identifying which animals have been treated and which need to be treated. Application of fertility control treatment would be conducted in accordance with the approved standard operating and post-treatment monitoring procedures (SOPs, Appendix D).

The historically accepted hypothesis explaining PZP vaccine effectiveness posits that when injected as an antigen in vaccines, PZP causes the mare's immune system to produce antibodies that are specific to zona pellucida proteins on the surface of that mare's eggs. The antibodies bind to the mare's eggs surface proteins (Liu et al. 1989), and effectively block sperm binding and fertilization (Zoo Montana, 2000). Because treated mares do not become pregnant but other ovarian functions remain generally unchanged, PZP can cause a mare to continue having regular estrus cycles throughout the breeding season. Other research has shown, though, that there may be changes in ovarian structure and function due to PZP vaccine treatments (e.g., Joonè et al.2017b, 2017c). Research has demonstrated that contraceptive efficacy of an injected liquid PZP vaccine, such as ZonaStat-H, is approximately 90% or more for mares treated twice in one year (Turner and Kirkpatrick 2002, Turner et al. 2008). The highest success for fertility control has been reported when the vaccine has been applied November through February. High contraceptive rates of 90% or more can be maintained in horses that are boostered annually with liquid PZP (Kirkpatrick et al. 1992). Approximately 60% to 85% of mares are successfully contracepted for one year when treated simultaneously with a liquid primer and PZP-22 pellets (Rutberg et al. 2017). Application of PZP for fertility control would reduce fertility in a large percentage of mares for at least one year (Ransom et al. 2011). In depth literature review on the effects of PZP is included in Appendix B.

GonaCon Vaccine

GonaCon may be applied to mares prior to their release back into the CHMA. Taking into consideration available literature on the subject, the National Research Council concluded in their 2013 report that GonaCon-B (which is produced under the trade name GonaCon-Equine for use in feral horses and burros) was one of the most preferable methods available for contraception in wild horses and burros (NRC 2013), in terms of delivery method, availability, efficacy, and side effects. GonaCon-Equine is approved for use by authorized federal, state, tribal, public and private personnel, for application to wild and feral equids in the United States (EPA 2013, 2015).

GonaCon is an immunecontraceptive vaccine that has been shown to provide multiple years of infertility in several wild ungulate species, including horses (Killian et al., 2008; Gray et al., 2010). GonaCon uses the gonadotropin-releasing hormone (GnRH), a small neuropeptide that performs an obligatory role in mammalian reproduction, as the vaccine antigen. When combined with an adjuvant, the GnRH vaccine stimulates a persistent immune response resulting in prolonged antibody production against GnRH, the carrier protein, and the adjuvant (Miller et al., 2008). The most direct result of successful GnRH vaccination is that it has the effect of decreasing the level of GnRH signaling in the body, as evidenced by a drop in luteinizing hormone levels, and a cessation of ovulation. The lack of estrus cycling that results from successful GonaCon vaccination is similar to the typical winter period of anoestrus in open mares. As anti-GnRH antibodies decline over time, concentrations of available endogenous GnRH increase and treated animals usually regain fertility (Power et al., 2011). Baker et al. (2017) observed horses treated with GonaCon return to fertility after they were treated with a singles primer dose: after four years, the fertility rate was indistinguishable between treated and control mares.

Changes in hormones associated with anti-GnRH vaccination lead to measurable changes in ovarian structure and function. The volume of ovaries reduced in response to treatment (Garza et al. 1986, Dalin et al. 2002, Imboden et al. 2006, Elhay et al. 2007, Botha et al. 2008, Gionfriddo 2011a, Dalmau et al. 2015). Treatment with an anti-GnRH vaccine changes follicle development (Garza et al. 1986, Stout et al. 2003, Imboden et al. 2006, Elhay et al. 2007, Donovan et al. 2013, Powers et al. 2011, Balet et al. 2014), with the result that ovulation does not occur.

BLM may apply GonaCon-Equine to captured mares, and would return to the CHMA as needed to re-apply GonaCon-Equine by field or remote darting. GonaCon-Equine can safely be reapplied as necessary to control the population growth rate. Even with one booster treatment of GonaCon-Equine, it is expected that most, if not all, mares would return to fertility at some point, although the average duration of effect after booster doses has not yet been quantified.
Although it is unknown what would be the expected rate for the return to fertility rate in mares boosted more than once with GonaCon-Equine, a prolonged return to fertility would be consistent with the desired effect of using GonaCon (e.g., effective contraception). Once the herd size in the project area is at AML and population growth seems to be stabilized, BLM could make a determination as to the required frequency of new mare treatments and mare re- treatments with GonaCon, to maintain the number of horses within AML

Injection site reactions associated with immune-contraceptive treatments are possible in treated mares (Roelle and Ransom 2009). Whether injection is by hand or via darting, GonaCon-Equine is associated with some degree of inflammation, swelling, and the potential for abscesses at the injection site (Baker et al. 2018). Detailed effects of GonaCon are located in Appendix B

PZP and GonaCon Indirect Effects

One expected long-term, indirect effect on wild horses treated with fertility control, such as PZP or GonaCon would be an improvement in their overall health (Turner and Kirkpatrick 2002).

Many treated mares would not experience the biological stress of reproduction, foaling and lactation as frequently as untreated mares. The observable measure of improved health is higher body condition scores (Nuñez et al. 2010). After a treated mare returns to fertility, her future foals would be expected to be healthier overall, and would benefit from improved nutritional quality in the mare's milk. This is particularly to be expected if there is an improvement in rangeland forage quality at the same time, due to reduced wild horse population size. Past application of fertility control has shown that mares' overall health and body condition remains improved even after fertility resumes. Fertility control vaccine treatment may increase mare survival rates, leading to longer potential lifespan (Turner and Kirkpatrick 2002, Ransom et al. 2014a). To the extent that this happens, changes in lifespan and decreased foaling rates could combine to cause changes in overall age structure in a treated herd (i.e., Turner and Kirkpatrick 2002, Roelle et al. 2010), with a greater prevalence of older mares in the herd (Gross 2000).

Sex Ratio Manipulation

Skewing the sex ratio of a herd so that there are more males than females is an established BLM management technique for reducing population growth rates. By reducing the proportion of breeding females in a population (as a fraction of the total number of animals present), the technique leads to fewer foals being born, and relative to the total herd size. Sex ratio manipulation to a 60:40 sex ratio can temporarily reduce population growth rates from approximately 20% to approximately 15% (Bartholow 2004). While such a decrease in growth rate may not appear to be

large or long-lasting, the net result can be that fewer foals being born, at least for a few years – this can extend the time between gathers, and reduce impacts on-range, and costs off-range. Any impacts of sex ratio manipulation are expected to be temporary because the sex ratio of wild horse and burro foals at birth is approximately equal between males and females (NAS 2013), and it is common for female foals to reproduce by their second year (NAS 2013). Thus, within a few years after a gather and selective removal that leads to more males than females, the sex ratio of reproducing wild horses and burros will be returning toward a 50:50 ratio.

2.4 Alternative C – Removal without Fertility Control

Alternative C would follow the same actions proposed in Alternative B, with the exception of applying fertility vaccine treatment. None of the animals returned to the CHMA would have fertility treatments applied to them. Compared to Alternative B, herd size would grow faster under Alternative C, requiring more frequent gathers and a greater number of horses removed from the CHMA over time.

2.5 Alternative D – Gate Cut

A "gate cut" removal means that during a gather, once enough horses are captured to leave 185 horses (low AML) remaining in the CHMA, all operations will cease. A gate cut removal is generally conducted to limit any additional stress on the wild horses within a defined gather area and reduce gather costs. In this situation, wild horses would be gathered and removed regardless of age class, sex ratio, color, or conformation to reach the post gathers target number. No selection for desirable characteristics to remain on the range would occur. All horses captured would be transported to the Challis Wild Horse Preparation Facility. There would be no additional management of the wild horses including fertility control and sex ratio adjustments.

CHAPTER 3 - AFFECTED ENVIRONMENT and ENVIRONMENTAL CONSEQUENCES

This section provides a description of the general environmental setting and resources within that setting that could be affected by the proposed action and alternative(s). In addition, the section presents an analysis of the direct, indirect, and cumulative environmental impacts likely to result from the implementation of the various alternatives.

3.1 General Setting

The CHMA encompasses 154,150 acres of land managed by BLM, 9,454 acres of State of Idaho land and 1,116 acres of private lands near the East Fork of the Salmon River. The CHMA is bordered on the north by the Salmon River, on the west by the East Fork of the Salmon River, on the south by the ridgeline between Herd Creek and Road Creek and on the east by U.S. Highway 93 and the watershed boundary between the Salmon River drainage and the Lost River drainage.

The climate of the region is semi-arid high desert typical of the Rocky Mountains in central Idaho. This climate is characterized by cold winters and hot dry summers which are affected by the Pacific Ocean maritime masses. Elevations, topography and aspect result in high variability in microclimates throughout the CHMA. Precipitation averages range from 8 inches in the low elevation to 14 inches at higher elevation. Most of the precipitation comes in the form of snow in winter months with episodic events in the form of rain other times of the year.

The upland vegetation of the East Fork Watershed is dominated by coniferous forests with deciduous wooded areas interspersed along the watercourses. Highly productive mixed conifer

stands at low to middle elevations consisting mainly of Douglas-fir, and lodgepole pine. At higher elevations, the moderately productive conifer species are Engleman spruce, subalpine fir, and lodgepole pine. Understory vegetation in the forested areas consists of various shrubs, forbs and grasses. Drier areas support grassland vegetation on sites where trees are scattered or absent. These lower elevation lands consist of a sagebrush/grass complex. Varieties of sagebrush (Artemesia spp.) dominate the watershed below 16 inches of annual precipitation. Mixed salt shrub types (Atriplex spp) are also present below 10 inches of annual precipitation. Herbaceous understory generally includes bluebunch wheatgrass, blue grasses, Idaho fescue, needle grasses, squirreltail, and a variety of perennial and annual forbs.

3.2 Affected Environment – Wild Horses

Wild horses are introduced species within North America and have few natural predators. Few natural controls act upon wild horse herds making them very competitive with native wildlife and other living resources managed by the BLM. Population inventory flights (every 2-3 years) have provided information pertaining to population numbers, foaling rates, distribution, and herd health. The most recent CHMA population inventory was conducted in February 2018 using a Simultaneous Double Count Method. The current estimated wild horse population of 429 wild horses is approximately 2.5 times above the low range of AML.

Wild horses in the CHMA are descendants of domestic horses that were released into the wild in the 1800s and early 1900s. For many years, local residents captured the wild horses and bred them with a variety of stock. Presently, the Challis wild horses show mixed breeding of draft and various riding breeds. There are a variety of colors and coat patterns, including grey, bay, sorrel, black, appaloosa, and pinto. Adult horses in the CHMA weigh an average of 1,000 pounds and stand between 14.2 and 15.2 hands, with some individuals standing 16 hands and weigh over 1,200 pounds. The herd is healthy, with good genetic diversity. Herd size has varied over the years, primarily as a result of horses being gathered from the range.

Wild horses have a long life-span (20-30 years), adapt well to a variety of habitats, and have few natural predators. They also reproduce at a prolific rate; 15-22% (approximately 17% in the CHMA) annual herd growth rates are not unusual. Consequently, it is very difficult to maintain AML without some actively engaged human management. Over the years, the BLM has attempted a variety of management techniques to control wild horse populations. The most common method is removal of excess horses through helicopter-drive gather. However, other methods include bait/water trapping and horseback-drive trapping. Slowing population growth utilizing fertility control vaccines such as PZP or GonaCon is also a helpful management tool to reduce the number of excess animals. Interest in adoptions has increased in recent years, but cannot place all of the animals removed from the range into private care. Therefore, horses and burros that are removed from the range are often transported to holding facilities, where they are cared for until they are adopted, sold, or die. Currently, there are approximately 49,000 horses in ORCs (approximately 12,000) and ORPs (over 36,000) nationwide.

Off-range holding of excess wild horses is consuming over 60% of BLM's WH&B Program's annual budget. In response to rapidly increasing costs and public sentiment, the BLM has focused on other methods of population control, including the injection of contraceptives in mares, and adjusting male-female ratios. The most common equine contraceptive used, PZP, is effective for one to two years depending on the formulation (ZonaStat-H or PZP-22), and must be re-applied to maintain effectiveness. Similarly, male- female ratios change over time. Thus, while contraceptive

use and manipulation of the male- female ratio tends to reduce the reproductive rate, it does not preclude the need to periodically remove excess horses from the CHMA.

All gathers prior to 2004 within the CHMA were a “gate cut” action whereby the removal of animals stopped when the target number was reached. In 2004 BLM’s selective removal criteria was implemented and has been followed in all subsequent gathers. In 2004, 26 mares were treated with the fertility control PZP. There were 43 and 47 mares treated with PZP and released as part of the 2009 and 2012 gathers respectively. An additional 5 mares were treated as part of the bait gather in 2017. A total of 1,775 horses have been removed since 1979 as part of 16 previous gathers. Past gather results are listed in Appendix L and includes numbers gathered and the years gathers were conducted. Remote darting with fertility control vaccine has occurred in the CHMA since 2014 in conjunction with the volunteer group Wild Love Preserve. Six to twenty mares are treated annually through the remote darting program.

Wild horses selected for removal from the range are transported to the Challis Preparation Facility or other ORCs by straight deck semi-trailers or gooseneck stock trailers. Vehicles are inspected by the BLM COR or PI prior to use to ensure wild horses can be safely transported and the interiors of the vehicles are in sanitary and safe condition. Wild horses are segregated by age and sex and loaded into separate compartments.

At the Challis Preparation Facility or other ORCs, horses will be prepared for adoptions and sales. Preparation involves freeze marking the animals with a unique identification number, drawing a blood sample to test for equine infection anemia, vaccinating against common diseases, castration (of male horses) as necessary, and deworming as described in Appendix A.

Forage is allocated for 185 horses or 2,220 Animal Unit Months (AUMs) in the CHMA. Monitoring data indicate that when the total horse population begins to reach the upper limit of 253 animals (3,036 AUMs), resource conditions begin to decline, especially in riparian areas. Winter Range is the limiting factor for the CHMA so AUMs are based on available forage accessible during winter months.

Although horses and cattle are often compared as grazers, horses can be more destructive to the range than cattle due to their differing digestive systems and grazing habits. The dietary overlap between wild horses and cattle is much higher than with wildlife, and averages between 60 and 80% (Hubbard and Hansen 1976, Hansen et al. 1977, Hanley 1982, Krysl et al. 1984, McInnis and Vavra 1987). Horses are cecal digesters while most other ungulates including cattle, pronghorn, and others are ruminants (Hanley and Hanley 1982, Beever 2003). Cecal digesters do not ruminate, or have to regurgitate and repeat the cycle of chewing until edible particles of plant fiber are small enough for their digestive system. Ruminants, especially cattle, must graze selectively, searching out digestible tissue (Olsen and Hansen 1977). Horses, however, are one of the least selective grazers in the West because they can consume high fiber foods and digest larger food fragments (Hanley and Hanley 1982, Beever 2003).

Wild horses can exploit the high cellulose of graminoids, or grasses, which have been observed to make up over 88% of their diet (McInnis and Vavra 1987, Hanley 1982). However, this lower quality diet requires that horses consume 20-65% more forage than a cow of equal body mass (Hanley 1982, Menard et al. 2002). With more flexible lips and upper front incisors, both features

that cattle do not have, wild horses trim vegetation more closely to the ground (Symanski 1994, Menard et al. 2002, Beever 2003). As a result, areas grazed by horses may retain fewer plant species and may be subject to higher utilization levels than areas grazed by cattle or other ungulates. A potential benefit of a horse's digestive system may come from seeds passing through system without being digested but the benefit is likely minimal when compared to the overall impact wild horse grazing has on vegetation in general.

The first BLM population survey flight in 1971 counted 150 horses in the CHMA which established the original AML of 150 wild horses. In 1979 the final grazing EIS and the Challis Herd Management Area Plan (CHMAP) were completed. These decisions called for the "horse population to average 162 animals with a sex ratio of 60% males to females to allow for no greater than 15% annual population increase." On March 2, 1983 a Court Consent Judgment allowed the AML to fluctuate between 185-340 animals but allowed that "levels may be adjusted, based on either monitoring evaluations, studies, any applicable land use plans or amendments, or upon the advice and recommendation of the Challis Experimental Stewardship Program (ESP) Steering committee. The 340 was based on maximum amount of winter forage available." (USDI-BLM 1989). On July 1, 1987 the ESP steering group concerned about heavy winter snows and spring range not being ready to be grazed by large numbers of animals, determined to manage the herd numbers at a level of 185 horses. The 1989 CHMAP Revision and the 1999 Challis RMP upheld the AML of 185-253.

Considering the mixed origins and the high levels of heterozygosity, the most recently available genetic monitoring results indicated no cause for concern about levels of genetic diversity in this herd. Based on the geography of the HMA and the lack of any significant barriers to interbreeding over the time scale of horse generation time, the Challis herd appears to be a single interbreeding group. Baseline genetic monitoring samples were gathered in 2002. A total of 46 blood samples were taken during the 2002 gather to create baseline data that reflected the level of genetic diversity for the CHMA at that time. A second set of genetic monitoring samples was collected and analyzed in 2012 (Cothran 2012). CHMA Horses sampled in 2012 had similarity coefficients that indicated past genetic contributions associated with all of the following breeds: new world Iberian breeds, old world Iberian breeds, light racing and riding breeds, oriental and Arabian breeds, and North American gaited breeds, followed by a lesser apparent association with pony breeds or heavy draft breeds. A dendrogram of similarity to different domestic breeds had CHMA horses most closely placed with Shetland Ponies, and within a cluster that also included breeds such as Arabians, Caspian Ponies, Lusitanos, and Andalusians. These results and others in Cothran (2012) indicate that the CHMA herd derives from a mixture of breeds. Levels of observed heterozygosity (Ho) were above the mean value that has been noted in other wild horse herds. The total number of genetic variants (total number of unique microsatellite alleles) was above average for wild horse herds. Mean allelic diversity per locus was about average for wild horse herds.

Population Modeling Summary

The WinEquus version 1.4 was developed by Dr. Steve Jenkins at the University of Nevada at Reno, was designed to assist Wild Horse and Burro Specialists in modeling various management options and projecting possible outcomes for management of wild horses. Population modeling was completed to analyze possible differences that could occur to the wild horse population within the CHMA between Alternatives. Scenarios were put through the model (simulated) to assess

potential effects to the population by implementation of Alternatives. Graphic and tabular results are displayed in detail in Appendix L.

3.3 Impacts Common to All Action Alternatives (B, C, and D)

All action alternatives initiate with helicopter gathers to remove excess animals and slow the population growth before additional damage to the range occurs. Impacts to wild horses would occur on either the individual or the population as a whole. Direct impacts include stress or injuries associated with gathering, sorting, and handling of animals. Indirect impacts include changes in herd dynamics or population numbers.

The BLM has been conducting wild horse gathers since the mid 1970's. During this time, methods and procedures have been identified and refined to minimize stress and effects to wild horses during gather operations. The procedures outlined in the Comprehensive Animal Welfare Plan (CAWP) IM-2015-151 (Appendices A and C) would be implemented to ensure safe and humane gathers, which would minimize potential stress and injury to wild horses.

In wild horse gathers that utilize helicopters, gather-related mortality for the BLM, averages about one half of one percent (0.5%), which is very low when handling wild animals according to the Government Accountability Office (GAO) (GAO 2008). Another six-tenths of one percent (0.6%) of the captured animals were humanely euthanized in accordance with BLM policy (IM 2015-151) for pre-existing injuries or body condition (GAO 2008). Through the capture and sorting process, wild horses are examined for health, injury and other defects. Decisions to humanely euthanize animals in field situations would be made in conformance with BLM policy. BLM Euthanasia Policy IM-2015-070 is used as a guide to determine if animals meet the criteria and should be euthanized. Animals that are euthanized for non-gather related reasons include those with old injuries (broken or deformed limbs) that cause lameness or prevent the animal from being able to maintain an acceptable body condition (greater than or equal to BCS 3); old animals that have serious dental abnormalities or severely worn teeth and are not expected to maintain an acceptable body condition, and wild horses that have serious physical defects such as club feet, severe limb deformities, or sway back. Some of these conditions have a causal genetic component and the animals should not be returned to the range to prevent suffering, as well as to avoid amplifying the incidence of the problem in the population. For comparison, of the 267 horses gathered during the 2012 CHMA gather, zero died of injuries sustained during the gather process. According to GAO (GAO 2013) in Appendix C, these data affirm that the use of helicopters and motorized vehicles has proven to be a safe, humane, effective, and practical means for gathers and removal of excess wild horses from the range. The BLM, except in case of emergency, avoids gathering wild horses by helicopter during the 6 weeks prior to and following the peak foaling season to reduce stress on heavily pregnant mares and newborn foals (i.e., March 1 through June 30).

Both helicopter gathers and bait/water trapping can be stressful to wild horses. There is policy in place for gathers (both helicopter and bait) to enable efficient and successful gather operations while ensuring humane care and treatment of the animals gathered (IM 2015-151). This policy includes SOPs such as time of year and temperature ranges for helicopter gathers to reduce physical stress to the horses while being herded toward a trap; maximum distances to herd horses based on climatic conditions, topography, and condition of horses; and handling procedures once the animals are in the trap. American Association of Equine Practitioners (AAEP 2011) was

invited by the BLM to visit the BLM operations and facilities, spend time on WH&B gathers and evaluate the management of the wild equids. In their report (AAEP 2011), the task force concluded "that the care, handling and management practices utilized by the agency are appropriate for this population of horses and generally support the safety, health status and welfare of the animals."

In June 2010 BLM invited independent observers organized by American Horse Protection Association (AHPA) to observe BLM gathers and document their findings. AHPA engaged four independent credentialed professionals who are academia-based equine veterinarians or equine specialists. Each observer served on a team of two, and was tasked specifically to observe the care and handling of the animals for a 3-4 day period during the gather process, and submit their findings to AHPA. An Evaluation Checklist was provided to each of the observers that included four sections: Gather Activities; Horse Handling during Gather; Horse Description; and Temporary Holding Facility. The independent group visited 3 separate gather operations and found that "BLM and contractors are responsible and concerned about the welfare of the horses before, during and after the gather process" and that they were "gentle and knowledgeable, used acceptable methods for moving horses… demonstrated the ability to review, assess and adapt procedures to ensure the care and well-being of the animals" (Greene et al. 2013). A thorough review of gather practices and their effects on wild horses and burros can be found in a 2008 report from the GAO. The report found that the BLM had controls in place to help ensure the humane treatment of wild horses and burros (GAO 2008).

When injuries do occur, it is generally once the animal is in the confined space of the trap. When capture and handling of wild animals is required to achieve management objectives, it is the responsibility of the management professionals to plan and execute operations that minimize the animals' risks of injury and death; however, when capturing any type of large, wild animal one must expect a certain percentage of injury or death. Multiple studies in the wildlife research and management field have worked to improve understanding of the margins of safe capture and handling and have documented their findings of capture-related mortality. Delgiudice et al. (2005) reported 984 captures and recaptures of white-tailed deer (Odocoileus virginianus), primarily by Clover trap, under a wide range of winter weather conditions. Their results showed the incidence of capture accidents (e.g. trauma-induced paralysis or death) was 2.9 percent. This example shows how the capture of wild horses compares to the capture of other wild animals by number of incidences and how few wild horses are injured comparably.

Individual effects to wild horses include handling stress associated with the roundup, capture, sorting, handling, and transportation of the animals. The intensity of these effects varies by individual, and is indicated by behaviors ranging from nervous agitation to physical distress. When being herded to trap site corrals by the helicopter, injuries sustained by wild horses may include bruises, scrapes, or cuts to feet, legs, face, or body from rocks and brush. Rarely, because of their experience with the locations of fences in the CHMA, wild horses encounter barbed wire fences and receive wire cuts. These injuries are treated onsite until a veterinarian can examine the animal and determine if additional treatment is required. Other injuries may occur after a horse has been captured and is within the trap site corral, temporary holding facility, during transport between facilities, or during sorting and handling.

These injuries are generally not fatal and are treated at the sorting/holding facility until a veterinarian can examine the animal. The CFO will account for climatic and horse conditions when making gather decisions. This may include limiting the distance to traps and adjusting gather times and seasons.

To minimize potential for injuries from fighting, animals are transported from the trap site to the temporary (or short-term) holding facility where stallions are sorted from mares and foals as quickly and safely as possible, then moved into large holding pens where they are provided with hay and water. Many gathers have been completed where no horses sustained injuries or died, as in the 2012 CHMA gather. On some gathers, due to the temperaments of the horses, they are not as calm and injuries are more frequent.

Indirect individual effects are those that occur to individual wild horses after the initial event. These may include miscarriages in mares, increased social displacement, and conflict between dominant stallions. These effects, like direct individual effects, are known to occur intermittently during wild horse gather operations. An example of an indirect individual impact would be the brief 1- to 2-minute skirmish between older stallions that ends when one stallion retreats. Injuries typically involve a bite or kick with bruises that do not break the skin. Like direct individual effects, the frequency of these effects varies with the population and the individuals.

Observations following capture indicate the rate of miscarriage varies, but can occur in about 1 to 5 percent of the captured mares, particularly if the mares are in very poor body condition or health. A few foals may be orphaned during gathers. This can occur if the mare rejects the foal, the foal becomes separated from its mother and cannot be matched up following sorting, the mare dies or must be humanely euthanized during the gathers, the foal is ill or weak and needs immediate care that requires removal from the mother, or the mother does not produce enough milk to support the foal. On occasion, foals are gathered that were previously orphaned on the range (prior to gathers) because mothers rejected them or died. These foals are usually in poor, unthrifty condition. Every effort is made to provide appropriate care to orphan foals.

Electrolyte solutions may be administered or orphan foals may be fed milk replacer as needed to support their nutritional needs. Orphan foals may be placed in foster homes in order to receive additional care. Additional care may be given by a licensed DVM in addition to the efforts made by BLM personnel and/or BLM contractors. Despite these efforts, some orphan foals may die or be humanely euthanized as an act of mercy if the prognosis for survival is poor.

During summer gathers, foals are smaller compared to the size of foals during gathers conducted in winter months. Water requirements are greater in summer than in the winter due to heat. If forage or water is limiting, animals may need to travel long distances between water and forage, and may become more easily dehydrated. To minimize potential for distress during summer gathers, capture operations are often limited to early morning hours when temperatures are cooler. The distance animals must travel to the trap is also shortened to minimize potential stress. The BLM and gather contractor make sure there is plenty of clean water for the animals to drink once captured. A supply of electrolytes is kept on hand to apply to the drinking water if necessary. Electrolytes may help to replace the body fluids that may be lost during capture and handling.

Through the capture and sorting process, wild horses are examined for health, presence of injuries, and other defects. Decisions to humanely euthanize animals in field situations would be made in conformance with BLM policy. IM 2015-151 is used as a guide to determine if animals meet the criteria and should be humanely euthanized. Wild horses not captured may be temporarily disturbed and moved into another area during gather operations. With the exception of changes to herd demographics from removals, direct population effects have proven to be temporary in nature with most, if not all, effects disappearing within hours to several days of release. Hansen and Mosely (2000) monitored wild horse behaviors before and after a gather event, and compared the behavioral and reproductive outcomes for animals that were gathered by helicopter against those outcomes for animals that were not. This comparison led to the conclusion that gather activities used at that time had no effect on observed wild horse foraging or social behaviors, in terms of time spent resting, feeding, vigilant, traveling, or engaged in agonistic encounters. Ashley and Holcomb (2001) did not find any statistically significant difference in foaling rates in the year after the gather in comparisons between horses that were captured, those that were chased by a helicopter but evaded capture, or those that were not chased by a helicopter. The authors concluded that the gathers had no deleterious effects on behavior or reproduction.

It is not expected that genetic health would be negatively impacted by the Action Alternatives. The low AML of 185 should provide for acceptable genetic diversity, based on 2012 genetic sampling (Cothran).

By maintaining wild horse population size within the AML, there would be a lower density of wild horses across the CHMA, reducing competition for resources and allowing wild horses to utilize their preferred habitat. Maintaining population size within the established AML would be expected to improve forage quantity and quality and promote healthy populations of wild horses in a TNEB and multiple-use relationship on the public lands in the area. Deterioration of the range associated with wild horse overpopulation would be avoided.

Managing wild horse populations in balance with available habitat and other multiple uses would lessen potential for individual animals or the herd to be affected by climatic fluctuations causing drought and reductions in available forage. Population management would lead to avoidance of or minimize the need for emergency gathers and increase success of the herd over the long term. In its 2013 report, the National Academy of Science (NAS), National Research Council concluded that “free-ranging horse populations are growing at high rates because their numbers are held below levels affected by food limitation and density dependence. Regularly removing horses holds population levels below food limited carrying capacity. Thus, population growth rate could be increased by removals through compensatory population growth from decreased competition for forage” (NAS 2013). This report also concluded that animal responses to density dependence, due to food limitation, will increase the number of animals that are in poor body condition and dying from starvation (NAS 2013). The report further indicates rangeland health, as well as food and water resources for other animals which share the range, would be affected by resource limited horse populations, which could be in conflict with the legislative mandate that BLM maintain a TNEB (NAS 2013).

During the preparation process, potential effects to wild horses are similar to those that can occur

during handling and transportation. Serious injuries and deaths from injuries during the preparation process can occur. From there, they would be made available for adoption or sale to qualified individuals or sent to ORPs. Implementation of management actions, the disposition of removed excess horses would follow existing or updated policies.

Potential effects to wild horses from transport to adoption, sale, or ORP are similar to those previously described. One difference is when shipping wild horses for adoption, sale, or ORP, animals may be transported for a maximum of 24 hours. Immediately prior to transportation, and after every 18 to 24 hours of transportation, animals are offloaded and provided a minimum of 8 hours on-the-ground rest. During the rest period, each animal is provided access to unlimited amounts of clean water and 25 pounds of good quality hay per horse with adequate bunk space to allow all animals to eat at one time. Most animals are not shipped more than 18 hours before they are rested. The rest period may be waived in situations where the travel time exceeds the 24- hour limit by just a few hours and stress of offloading and reloading is likely to be greater than the stress involved in the additional period of uninterrupted travel.

ORP's are designed to provide excess wild horses with humane, lifelong care in a natural setting off public rangelands. Wild horses are maintained in grassland pastures large enough to allow free-roaming behavior and with forage, water, and shelter necessary to sustain them in good condition.

Over 36,000 wild horses, in excess of the existing adoption or sale demand (because of age or other factors), are currently being held in ORPs. These animals are generally more than 10 years of age. Located in mid or tall grass prairie regions of the United States, these long-term holding pastures are highly productive grasslands as compared to more arid western rangelands. Generally, mares and castrated stallions (geldings) are segregated into separate pastures. No reproduction occurs in the ORP, but foals born to pregnant mares are gathered and weaned when they reach about 8 to 10 months of age and are then shipped to ORC's like the Challis Facility where they are made available for adoption.

Handling by humans is minimized to the extent possible, although regular on-the ground observation and weekly counts of wild horses to ascertain their numbers, well-being, and safety are conducted. A very small percentage of the animals may be humanely euthanized if they are in underweight condition and are not expected to improve to a BCS of 3 or greater due to age or other factors. Natural mortality of wild horses in ORP's average approximately 8 percent per year, but can be higher or lower depending on the average age of the horses' pastured (GAO 2013).

While humane euthanasia and sale without limitation of healthy horses for which there is no adoption demand is authorized under the WFRHBA, it has been restricted either by a moratorium instituted by the director of BLM or by the annual Congressional appropriations bill for the Department of the Interior in most years.

3.3.1 Alternative A - No Action

Under this alternative, the risks to horses due to gathering, handling, and transport would not exist. Based on the 17 percent annual population growth rate for the CHMA, the no action alternative (no gathers or removal but continued remote darting of fertility control vaccine) would result in the

population growing to 429 horses by the fall of 2019. Based on the 2019 population of 366 horses, and using the 17% increase annually, the population would increase to 1,760 animals by 2029, not including current year's foals.

As the population of horses exceeds the carrying capacity of a limited area with finite resources, some horses will disperse into less populated areas, including private land outside the CHMA. Movement of wild horses into populated areas and on Highways 75 and 93 creating a public safety hazard. Auto/horse collisions would increase due to this dispersal. Over the long-term, the health and sustainability of the wild horse population is dependent upon achieving a TNEB and sustaining healthy rangelands. Rangeland damage as a result from wild horse overpopulation would also be contrary to the WFRHBA which requires the BLM to protect the range from the deterioration associated with overpopulation, remove excess animals from the range so as to achieve appropriate management levels, and to preserve and maintain a TNEB and multiple-use relationship in that area §WFRHBA 1333 (2) (iv).

3.3.2 Alternative B – Proposed Action

Removal of excess wild horses would improve herd health. Decreased competition for forage resources would reduce stress and promote healthier animals. Implementation of the Proposed Action would allow for healthy range conditions and animals over the long term. Reduced population growth rates would be expected to: extend the time until AML is exceeded; increase the intervals between gathers; reduce disturbance to individual animals and herd social structure over the foreseeable future. Modeling suggests that average population growth rates under the median trial for the Proposed Action would be 6.4% (GonaCon) and 8.2% (PZP-22). Under this alternative the population of wild horses in the CHMA would be between 681 and 805 horses compared to the no action alternative population of 1,760. Remote darting of fertility control vaccines and bait/water gathers when conditions are conducive would extend the period between needing helicopter drive-gather. While fertility control slows population growth, it does not remove any animals, so the population remains the same, requiring gathers for removal and reduced population levels. Gathers would occur periodically, in order to remove excess horses and re-apply fertility control.

Individual animals would experience moderate levels of physical and psychological stress for short periods of time during gather operations. Heart rates would be elevated, especially during the final move into a capture site. However, animals would be moving at a walk/trot during most of the gather and would not be moving more than 8-10 miles with the majority traveling 5-6 miles. While wild horses in the CHMA are habituated to low levels of human activity (recreation and livestock management) higher levels of disturbance related to gather operations could cause anxiety in individuals. Because all phases of the process would be carried out according to BLM policy, individual stress would be minimized. These policies include Gather SOPs (Appendix A) and the CAWP (Appendix C) which describe parameters and practices to ensure the health and well-being of wild horses in the capture process through adoption. These practices and parameters have been developed with guidance from Licensed DVMs specializing in equine health. Past gathers in the CHMA have shown that wild horses settle down and resume eating and drinking within 24 hours of entering the capture site. Skirmishes between horses become rare after 24 hours as the hierarchy among horses are established.

Helicopter pilots allow wild horses to travel at their own pace for most of the distance to the gather location. The pilots are very experienced and do not excessively pressure wild horses until the horses enter the wings of the capture site. Additional pressure is required to move the horses safely

into the capture site and prevent them from turning back or trying to disband at the last minute. This is to avoid the need to re-gather or to rope the horses from horseback which could expose them to additional stress or injury. Foals separated during the gather process are safely grouped and transported to the sorting/holding facility to be reunited with their mother.

Indirect individual impacts are those impacts which occur to individual horses after the initial stress event, and may include spontaneous abortions in mares, and increased social displacement and conflict in stallions. These impacts, like direct individual impacts, are known to occur intermittently during wild horse gather operations. An example of an indirect individual impact would be the brief skirmish which occurs amongst older stallions following sorting and release into the stud pen. Traumatic injuries usually do not result from these conflicts.

Having a larger number of males than females is expected to lead to several demographic and behavioral changes as noted in the NAS report (2013), including the following. Having more fertile males than females should not alter the fecundity of fertile females. Wild mares may be distributed in a larger number of smaller harems. Competition and aggression between males may cause a decline in male body condition. Female foraging may be somewhat disrupted by elevated male-male aggression. With a greater number of males available to choose from, females may have opportunities to select more genetically fit sires. There would also be an increase the genetic effective population size because more stallions would be breeding and existing females would be distributed among many more small harems. This last beneficial impact is one reason that skewing the sex ratio to favor males is listed in the BLM wild horse and burro handbook (BLM 2010). With the 26 geldings as a non-reproducing component, the actual breeding population would be closer to 50:50. This allows the CHMA to realize the benefits of fewer foals being born extending time between gathers, without possible negative impacts of increased male/male aggression.

The BLM wild horse and burro management handbook (BLM 2010) includes guidelines for when the method should be applied, specifying that this method should be considered where the low end of the AML is 150 animals or greater, and with the result that males comprise 60-70 percent of the herd. Having more than 70 percent males may result in unacceptable impacts in terms of elevated male-male aggression. In NEPA analyses, BLM has abided by these guidelines, for example:

- In the 2015 Cold Springs HMA Population Management Plan EA (DOI-BLM-V040-2015-022), the low end of AML was 75. Under the preferred alternative, 37 mares and 38 stallions would remain on the HMA. This is well below the 150 head threshold noted above.
- In the 2017 Hog Creek HMA Population Management Plan EA (DOI-BLM-ORWA-V000-2017-0026-EA), BLM clearly identified that maintaining a 50:50 sex ratio was appropriate because the herd size at the low end of AML was only 30 animals.

The CHMAs population at low AML (185) is above the threshold of 150 described in the handbook.

Wild Horses Remaining or Released into the CHMA following Gathers

The post-gather goal would be for 185 (low AML) wild horses to remain within the CHMA. Approximately 244 excess wild horses would be removed during the gather in 2019. Wild horses that are not captured may be temporarily disturbed and move into other areas during gather

operations. The CHMA is small compared to other HMAs in the west, when coupled with wild horses exhibiting high site fidelity, wild horses will return to areas where they were present prior to gather activities. The small size of the CHMA allows wild horses to return to their home ranges easily, because they are familiar with the topography and water sources. With the exception of changes to herd demographics, direct population wide impacts have proven, over the last 39 years, to be temporary in nature and with most if not all impacts to individual wild horses disappearing within hours to several days of release. Observations from previous gathers have shown no observable effects associated with these impacts and do not show lasting impacts from gather activities. Impacts from gathers have not been observed outside of one month of release except a heightened awareness of human presence. BLM has made changes to reduce the stress that horses experience as a result of gather and removal activities: these measures have been formalized as policy in the CAWP (BLM IM 2015-151). A thorough review of gather practices and their effects on wild horses can be found in a 2008 report from the GAO. The report found that the BLM had controls in place to help ensure the humane treatment of wild horses and burros (GAO 2008).

Achieving the AML and improving the overall health and fitness of wild horses could also increase foaling rates and foaling survival rates over the current conditions.

The primary effects to the wild horse population that would be directly related to the proposed gathers would be to herd population dynamics, age structure or sex ratio, and subsequently to the growth rates and population size over time.

The remaining wild horses not captured would maintain their social structure and herd demographics (age and sex ratios). No observable effects to the remaining population associated with the gather impacts would be expected except a heightened shyness toward human contact. Injuries and death to all age classes of animals would also be expected to be reduced as competition for limited forage resources is decreased.

The National Selective Removal Criteria (Appendix A) would be followed to the extent possible, however it is expected that the majority of released and non-gathered animals would consist of all age groups greater than 5 years of age.

The effects of successive removals on populations causing shifts in herd demographics favoring horses (5 to 15 years) would also have direct effects on the population. These impacts are not adverse to a population. They include development of a population that is generally more biologically fit, more reproductively viable, and more capable of enduring stresses associated with traumatic natural and artificial events.

The genetic effective population size (Ne) is a measure of the total number of mares and stallions that contribute genetically to the next generation. A population with an age structure involving high numbers of young animals (<5 years of age) will have a lower value of Ne than a similar sized population with a larger component of older breeding-age animals (>5 years of age). Through implementation of the BLM selective removal policy, the wild horses aged 5-10 years of age would be the first priority for release back to the range. Most or all wild horses under five years of age would be removed, thus resulting in a potential increase to the Ne in the CHMA, compared to a hypothetical scenario where primarily older animals are removed.

Spontaneous abortion events among pregnant mares following capture is rare, though poor body

condition can increase the incidence of such spontaneous abortions.

A few foals may be orphaned during gathers. This may occur due to:

- The mare rejects the foal. This occurs most often with young mothers or very young foals,
- The foal and mother become separated during sorting, and cannot be matched,
- The mare dies or must be humanely euthanized during gathers,
- The foal is ill, weak, or needs immediate special care that requires removal from the mother,
- The mother does not produce enough milk to support the foal.

Oftentimes, foals are gathered that were already orphans on the range (prior to the gather) because the mother rejected them or died. These foals are usually in poor condition. Orphans encountered during gathers are cared for promptly and rarely die or have to be euthanized.

Most foals that would be gathered would be over four months of age and some would be ready for weaning from their mothers. In private industry, domestic horses are normally weaned between four and six months of age. By this age foals are able to forage on their own, exhibit good appetite and show independence from their dam. Wild horse foals will be weaned based on these same qualifications.

3.3.3 Alternative C: Removal without Fertility Control

Gather methods associated with Alternative C are described in Common to Alternatives B-D. Alternative C would not involve fertility control. Implementation of Alternative C would result in capturing between 73 (GonaCon) and 87 (PZP) more wild horses in a three year gather cycle than would be captured in Alternative B without the benefits of reduced population growth caused by fertility control treatments. Mares would not undergo the additional stress of receiving fertility control injections or freeze-marking and would foal at normal rates until the next gather is conducted. Over the long term more horses would need to be gathered more frequently because there would be no implementation of fertility control vaccines to slow population growth. As a result, AML would be exceeded in a shorter period of time. The post-gather sex ratios would be about 60:40 stallions to mares with a small percentage of geldings from the 2009 gather. All other aspects of the wild horse gathers and associated impacts would be the same as those described for Alternative B.

3.3.4 Alternative D: Gate Cut

Gather methods associated with Alternative D are described in Common to Alternatives B-D. In Alternative D only enough wild horses would be gathered to achieve AML. Once AML has been achieved all gather operations would cease. Selective removal standards and gathering additional mares to treat with fertility control would not occur. The effects would be less than alternatives B and C because fewer horses would need to be gathered initially. All horses gathered would be removed. Individual stress caused by sorting, freeze marking and injecting with fertility control would not occur. Over time the 60:40 sex ratio would return to a natural state of 50:50 males to females. The frequency of helicopter and bait/water gathers would increase without fertility control and sex ratio measures in place. Initially, costs would be reduced with fewer animals being gathered, but would eventually exceed alternatives B and C over time with increased frequency of gathers. Over the long term more horses would need to be gathered more frequently, because there

would be no implementation of fertility control vaccines to slow population growth. As a result, the AML would be exceeded in a shorter period of time. Older horses not suitable for adoption would be removed and placed in ORP's because they are much less adoptable, rather than transferring younger adoptable horses to private care due to the ability in Alternative B to selectively remove wild horses from gathering approximately 85% of the HMA. The CFO would lose the ability to maintain the historical characteristics and healthy attributes of the wild horses on the CHMA.

3.4 Affected Environment - Riparian Areas, Wetlands and Water Quality

Healthy riparian ecosystems possess the following indicators: 1) adequate riparian-wetland vegetative cover present to protect banks and dissipate energy during high flows; 2) streambank vegetation, often called the "greenline" is comprised of those plant communities that have root masses capable to stabilize streambanks; and 3) age class and structural diversity of riparian/wetland vegetation. Riparian-wetland vegetation is important for the ecosystem functions it serves, such as floodplain and ground-water storage, providing shade, filtering sediment, water transport, improved water quality, and providing fish/wildlife habitat. The majority of the drainage network located within the CHMA consists of dry channels receiving water only during periods of high snow melt and/or intense precipitation with highest flows occurring in July (870 CFS mean monthly discharge on East Fork Salmon River at USGS Gauge) and lowest flows occurring in January and February (79 CFS mean monthly discharge). Relatively few stream miles (5% within the CHMA) convey water perennially; the stream miles by stream type are given in in Appendix I. Perennial reaches in the CHMA are monitored by the BLM and partners through Multiple Indicator Monitoring MIM, Proper Functioning Condition PFC, PacFish InFish Biological Opinion and historically greenline analysis. Summary tables of monitoring data, miles of stream by stream type and 303D listed streams can be found in Appendix I Tables 1, 2, 3 and 4.

The CHMA is divided between the East Fork Salmon River and the Warms Spring Creek sub-watersheds. The underlying geologic units are predominantly limestone and dolostone formations (Fisher and Johnson, 1995) which favor infiltration over stream runoff, resulting in the presence of springs with consistent perennial flow where portions of this infiltrated water re- emerges. Riparian habitats involve not only riverine ecosystems, but also include vegetation associated with seeps, springs, lakes, and ponds. The riparian areas in the CHMA commonly support woody plant species including black cottonwood, quaking aspen, Douglas fir, mountain maple, wood's rose, willow species, red-osier dogwood, chokecherry, gooseberry, currant; as well as mesic forbs, grasses and desirable hydric species like Nebraska sedge and Baltic rush.

The Spar Canyon sub-watershed is the first major drainage on the east side of the East Fork Salmon River traveling upstream from its mouth. Spar Canyon has no perennial tributary streams. Spar Canyon itself is 10 miles of deeply incised ephemeral stream channel that only conveys water during spring runoff and during occasional summer thunderstorms, and does not support riparian vegetation corridors. Spar Canyon has a number of ephemeral tributaries and springs including Bear Wallow, Tub Spring, Gossi Spring, White Colt Spring, Grey Stud Spring, and Sorrel Spring (IDEQ, 2003). This watershed is predominantly wintering habitat for horses.

The entirety of the Road Creek Watershed is located in the CHMA and is a tributary of the East Fork of the Salmon River. Road Creek has three perennial tributaries; Mosquito Creek, Horse Basin Creek and Bear Creek as well as multiple unnamed ephemeral dry washes. Wild horse use

in Horse and Corral Basin drainages is widely distributed and often season long; whereas use along Road Creek is seasonally focused in winter and apparent at localized areas. Horse use has not been apparent along Bear and Mosquito Creeks above their confluences into Road Creek. In those portions of the CHMA where surface water predominately occurs as upland springs (outside of the Road Creek Watershed) wild horse use of riparian areas/wetlands is focused at springs such as Horse Basin Springs 1 & 2.

Lone Pine Creek is located in the northeastern portion of the CHMA located on Bradbury Flat. The upper reaches of Lone Pine Creek are known to be perennial, but surface water is discontinuous and the channel becomes dry typically more than 1 mile before its confluence with Warm Springs Creek with xeric species growing within the conveyance. Other water sources in the vicinity of Bradbury Flat are associated with ephemeral water courses; and springs which create spring brooks which flow for short distances before sinking. Population inventories and field observations indicate wild horses routinely use this area year round.

Broken Wagon Creek is located in the southeastern portion of the CHMA. Water distribution proximal to Broken Wagon Creek consists of the creek drainage including tributaries as well as upland seeps and springs, most of which do not convey surface water to the creek. There are multiple unnamed upland springs forming the headwaters of Broken Wagon Creek. The creek consists of approximately 1.3 miles of perennial reaches with the remainder classified as intermittent to ephemeral (see Appendix I). Population inventories and field observations indicate wild horses routinely use this area year round.

The 0.2 miles of the East Fork of the Salmon River is located along the southwestern margin of the CHMA at the mouth of Dry Hollow and is bounded to the west by steep topography which is prohibitive to horse access. Horse access is further limited by an east-west drift fence located at the northern margin of the mouth of Dry Hollow. Wild horses have not been observed in Dry Hollow during recent population inventories in 2016 and 2018.

The majority of the springs within the CHMA were surveyed (1993-1994) for the Snake River Basin Adjudication of water rights. This survey found there are 12 ponds, 252 seeps and 26 spring brooks. This survey found that use by wild horses, cattle and big game was common throughout the CHMA, though some receive more relatively focused wild horse use. The large majority of these springs have been unassessed, but reveal impacts of animal use by observation.

Approximately 220 stream miles were assessed within the CHMA by the IDEQ (Idaho Department of Environmental Quality) pursuant to section 305(b) of the CWA (Clean Water Act 33 U.S.C. §1251 et seq. 1972). Streams which are assessed pursuant to this section but do not meet the IDWQS (Idaho Water Quality Standards) are 303(d) listed. The 305(b) water bodies assessed included perennial, intermittent and ephemeral stream reaches (see Appendix I). Of these, ~65 stream miles were listed as impaired because they did not meet one or more of the IDWQS (IDEQ, 2014). The statuses of streams which are located upon the CHMA are given in Appendix I.

Due to the large scope of assessing all of the water bodies in Idaho the IDEQ has divided these bodies into lumped assessment units. Many of these assessment units have multiple monitoring sites for conducting assessments, if any of the assessment sites do not meet the criteria for being fully functioning the entire assessment unit is typically considered impaired and consequently 303(d) listed. The majority of unnamed stream miles which were listed were lumped into the Warm Springs and Broken Wagon units which also includes areas east of Highway 93 outside of the CHMA. Details of a listed stream’s status can be found in the 2016 Upper Salmon Basin

Assessment (IDEQ, 2016).

3.5 Environmental Consequences - Riparian Areas, Wetlands and Water Quality.

3.5.1 Alternative A – No Action

Under this alternative no direct effects related to horse gather activities would occur. Rather than a short term reduction of horse population (as described under alternatives B-D), the horse population would continue increasing at ~17% annually, resulting in an estimated population of 1,760 by 2029. Monitoring data indicates that when the upper range of AML of 253 horses is exceeded, wild horse effects (trampling, vegetation utilization, defection etc.) can intensify at riparian areas and upland springs and has resulted in exceedance of livestock grazing standards. For example, in 2003 there were 203 horses counted during the census conducted that year and livestock grazed from June 16 to July 11. When livestock were done grazing at Horse Basin Creek Key Area 2 the stubble height was 4 inches, on October 23 the stubble height was at 2 inches (the standard is 3 inches pursuant to the Challis RMP) and the bank shears were 26% (the Standard is less than 10% pursuant to the Challis RMP [USDI-BLM, 1999a]). In 2006 Horse Basin was rested from cattle grazing and 231 horses were counted during the population inventory that year, stubble height was measured at Horse Basin Creek Key Area 2 at 2 inches. In both of these cases the exceedance of the grazing use criteria was attributable to horse use. Photos in Appendix J show resource damage by wild horses in photos. This is most apparent at Horse Basin Creek Key Area 1 and 2 (HBC-KA-01) (riparian pasture not typically grazed by livestock and Lower Horse Basin Creek Key Area 1 (LHB-KA-01) where livestock do not graze. LHB-KA-01 has exceeded the prescribed 20% alterations three out of five years. HBC-KA-01 has exceeded prescribed use levels one out of three years for alterations. LHB-KA-01 has failed to meet the prescribed six inches of herbaceous grasslike plant stubble height three of five years. Ungulate use is differentiated when possible by timing of monitoring (Pre or Post livestock use dates), year's livestock are rested on a pasture or by other sign such as tracks or scat. While substantial use of riparian areas in winter by wild horses is known to occur but has been difficult to quantify because of early season access.

As a result of this alternative it is likely that the springs and stream riparian areas in the CHMA would receive increased intensity and frequency of wild horse use. This has a potential to result in altered vegetation communities typically resulting in a lower seral stage. Lower seral stages have less recruitment of woody species reducing shade and stability of the site because binding roots associated with hydric herbaceous and mature trees/shrubs are not as prevalent. Impacts of population, wild horse use and management controls are described in Kaweck's 2018 publication (Appendix H). Kaweck's study area included study sites in the CHMA. This study concluded the following:

- "Grazing by cattle and wild free-roaming horses can negatively impact riparian ecosystems if not properly managed.
- Population levels and grazing patterns of wild free-roaming horses limit management options, potentially leading to rangeland and riparian degradation.
- Grazing by wild free-roaming horses and cattle in riparian areas caused streambank disturbance and reductions in stubble height and herbaceous biomass.
- Wild horses had a greater negative impact than did cattle when examined on an

individual animal basis.

- Both wild free-roaming horses and cattle affected riparian attributes while wildlife had little effect."

Kaweck concluded that "wild horses caused more streambank disturbance than did livestock or wildlife. For vegetation stubble height a horse had 1.4 times greater effect compared with a cow occurrence". Similarly the biomass indicator showed that a wild horses had about "3 times greater impact on biomass than a cow occurrence". "Riparian management is difficult in areas with wild horses because these animals generally have year-long access to riparian areas, and levels of use or population levels are difficult to restrict." The use levels described will increase as the population increases creating greater disturbance to riparian areas.

Indirect outcomes to riparian areas within the CHMA are increased vulnerability to future disturbances, an increase in water temperatures and sedimentation and increased fecal loading. The cessation of gathering wild horses would affect water quality such that more water bodies would likely not meet the IDWQS and thereby increase the miles of 303(d) listed streams on the CHMA.

3.5.2 Alternative B-Proposed Action

The gathering of horses near riparian areas has the potential to result in short-term, localized effects such as sedimentation, siltation and bank alterations as a result of riparian areas/wetlands being traversed by horses. The effects of wild horses crossing riparian areas/wetlands during gathers are not anticipated to be discernible from the number of crossings horses would make if gathers were not occurring because the horses cross the streams in the CHMA regularly.

Under this alternative, the wild horse population would undergo a short-term (3-5 years) reduction following each gather and fertility control application. Maintaining AML would likely result in a short-term reduction in the effects of horses to riparian areas and wetlands allowing for streams within the CHMA to continue to maintain or progress towards Potential Natural Community (PNC). These effects are a reduction in 1) foraging which allows for canopy (shade) maintenance/recovery which influences water temperature, 2) defecation which leads to fecal coliform presence in surface waters and 3) bank destabilization which can result in sedimentation/siltation. Where wild horses affect upland springs a short-term reduction in the intensity and frequency of wild horse use would occur.

Impacts of population, wild horse use, and management controls are described in Kaweck's 2018 publication (Appendix H).The study found that "an increase of 1,000 [individual] horse occurrences in an area over a month was estimated to decrease [herbaceous] biomass by 32.7%." The modeled wild horse population of 988 in the No Action Alternative would have a similar biomass reduction. In comparison, using Kaweck's estimation, maintaining an AML of 185 would only result in decreasing biomass by 6.1%. The indicator for biomass was -0.033 +/- 0.013 using Kaweck's model.

There is a non-uniform spatial distribution of wild horse use on the upland springs within the CHMA. Three of the springs that receive wild horse use would be exclosed under this alternative while others are anticipated to continue to receive relatively focused use. The exclosures are

expected to mitigate degradation of spring sources from wild horses and livestock by reducing trampling and allowing for natural revegetation in previously disturbed areas. Impacts to water resources due to construction of exclosures will be negligible. The high-use springs proposed for exclusion are Horse Basin Spring 1, Horse Basin Spring 3 and Gossi Spring (see MAP 2).

3.5.3 Alternative C- Removal without Fertility Control

The environmental effects to riparian and wetlands result from population size and the extent of gather operations (e.g. number of trucks on roads, number of captures sites etc.). Under this alternative riparian vegetation at spring sites and along streams would benefit from the removal of wild horses. Benefits would be for a shorter duration without fertility control treatments. These treatments slow reproduction, and therefore population growth. Wild horses in the CHMA would reproduce at normal rates (17%), reaching the high end of AML (253) in a shorter period of time (two years). Data described in the no action alternative shows that the removal of wild horses to low AML (185) would be beneficial to riparian habitat. Without the benefit of fertility control population numbers would increase at a higher rate. The beneficial period of fewer horses would be for a shorter duration. The modeled average population of wild horses in a three year gather cycle would result between 73 (GonaCon) and 87 (PZP) animals higher than Alternative B, due to lack of fertility control. The spatial and temporal extent of the gather operations relative to riparian and wetland resources would be the same under this alternative as Alternative B. This alternative does not include the construction of three spring exclosures, which would allow for continued use by wild horses and livestock. Currently, no monitoring data is present at these sites, but field observations and photographs show degradation of vegetation and soils due to hoof action (Appendix G). The three springs would not progress toward potential natural communities under this alternative.

3.5.4 Alternative D – Gate Cut

The environmental effects to riparian and wetlands result from population size and the extent of gather operations (e.g. number of trucks on roads, number of captures sites etc.). The modeled average population of wild horses in a three year gather cycle would result between 73 (GonaCon) and 87 (PZP) animals higher than Alternative B, due to lack of fertility control. The spatial and temporal extent of the gather operations relative to riparian and wetland resources would be the same under this alternative as Alternative B. This alternative does include the construction of the three spring enclosures which is discussed under Alternative B.

3.6 Affected Environment - Vegetation

The CFO consists of forty-three types of upland native vegetative communities. All but four of the forty-three vegetative communities are found within the CHMA. The most dominant vegetation found within the CHMA is comprised of a native sagebrush, such as Wyoming Big Sagebrush (*Artemisia tridentata Wyomingensis),* and native grass, such as Bluebunch wheatgrass (*Pseudoroegneria spicata*). A more detailed list of dominant native vegetation communities found within the CHMA is located in (Appendix J), (Paragraph 1).

Excess wild horses exceed the amount of allocated AUM’s established in the 1999 Challis RMP for the CHMA. Bluebunch wheatgrass is effected significantly by excess wild horses. Bluebunch

wheatgrass is considered a key forage species because of its preference by large ungulates. “Population levels and grazing patterns of wild free-roaming horses limit management options, potentially leading to rangeland and riparian degradation” (Kaweck et al 2018, see Appendix H). Ungulate use is differentiated when possible by timing of monitoring (Pre or Post livestock turnout) or by other sign such as tracks or scat.

There are 13 wild horse long term trend sites within the CHMA that were located in areas frequented by wild horses, but used infrequently by livestock due primarily to topography and/or distance to water. Nine of the Upland Trend study sites have been monitored in the last 10 years and have applicable data. There are also 21 trend sites in Mountain Springs Allotment within the CHMA, 4 on Bradbury Flat, 2 on Bradshaw Basin, 5 on Road Creek, 2 on Split Hoof, 5 on Warm Springs, and 1 in the Sand Hollow ACEC. For more information about the Trend study sites refer to (Appendix G Table 1). There are 31 Nested Frequency trend sites in the CHMA, 15 with a downward trend, 10 with static trend and 6 with upward trend. The upland vegetative communities are generally in a healthy state, with appropriate vegetation densities, vigor, productivity, cover, reproduction, composition, and relatively little invasion of noxious or invasive plants.

To protect the fragile soils the Challis RMP (RMP 1999a) prescribed “two areas that are closed to wild horse and livestock use due to fragile soils. The Malm Gulch/Germer Basin area has been closed to all livestock and wild horse grazing since 1969. This area has been fenced to exclude livestock, and any wild horses found within the area are gathered during scheduled roundups. The Sand Hollow area has been closed to all wild horse and livestock grazing since 1979. Livestock access is controlled by drift fencing, but the area is too large to economically fence all of it. Any horses found in the area are gathered during regularly scheduled roundups.” (RMP 1999a) pg. 311-312

Sand Hollow ACEC is approximately 3,332 acres and Malm Gulch/Germer Basin is approximately 9,136 acres in size. Wild Horse Goal 1, Rationale 3 from the Challis RMP states the BLM will “monitor wild horse use of the Malm Gulch and Sand Hollow areas, and remove wild horses as necessary to protect fragile watersheds” (RMP 1999a) pg. 93

Livestock grazing and wild horse use are also closed in the Malm Gulch area for the special status plants that are endemic only to Challis and grow in the fragile soils. The Challis RMP states “Malm Gulch and Summit CK are currently designated as Areas of Critical Environmental Concern in order to protect their unique plant values (RMP 1999a) pg. 287. These areas are closed to livestock grazing and wild horses because of the highly erosive tuftaceous volcanic soils and the sensitive endemic plants that grow in those areas.

Wild horses are currently using the Malm Gulch and Sand Hollow ACECs as observed by CFO personnel. Wild horses were also documented in the ACECs during the 2016 and 2018 Population Inventory Flights. While impacts are difficult to quantify, it is known that the presence of wild horses in the area can increase erosion and poses possible threats to sensitive endemic plant species through trampling and removal of plant biomass through herbivory.

3.7 Environmental Consequences - Vegetation

3.7.1 Alternative A - No Action

Under Alternative A, No Action Alternative, excess wild horses would not be gathered from the CHMA. Alternative A, would allow for the increase in the wild horse population above the established AML. By fall of 2019, the estimated wild horse population would be 366 plus 63 foals. Use by wild horses would exceed the forage allocated to their use (3,036 AUMS at high AML) by approximately 1,216 AUMS. By 2029 the population is estimated to be 1,760 wild horses exceeding the allocated AUMS for high AML by approximately 18,084 AUMS. This would lead to vegetation trends not following RMP guidance directly related to the management of wild horses and would not be sustainable. As stated in the RMP there are 2 identified effects from excess horses on vegetation. They are: (1) to monitor wild horse use in Malm Gulch and Sand Hollow areas, and (2) remove wild horses as necessary to protect fragile watersheds and to adjust wild horse management to ensure progress toward the riparian and aquatic habitat conditions described on page 149 of the RMP. Utilization levels would be expected to rise annually to heavy and severe levels. Palatable plants would diminish in vigor and density while invasive or less palatable/desirable plants would increase. This would likely lower the seral status of the range. The most desirable range plants would likely decrease, possibly crossing a threshold where rehabilitation such seeding would need to take place. This would likely be compounded if livestock operators were grazing full permitted AUMs instead of 50%-60%.

Wild horses are currently using the ACECs as observed by CFO personnel. Wild horses were also documented within the ACECs during the 2016 and 2018 Population Inventory Flights. While impacts are difficult to quantify, it is known that the presence of wild horses in the area can increase erosion and poses possible threats through trampling and mechanical removal of plant matter through herbivory.

3.7.2 Impacts Common to All Action Alternatives (B, C, and D)

Alternatives B, C, and D gather activities are not going to have significant impacts on native forage vegetation resources. An insignificant percent of vegetation would be affected by gather activities. Each capture site would disturb approximately 0.5 acre of surface vegetation an average based on previous capture sites used in the CHMA, having minimal effect. Concentration areas of wild horses may extend out to < 5 acres. The sorting/holding facility may disturb an additional 2 acres as determined by the 2012 sorting facility, which is proposed to be in the same location. There are typically 3-5 capture sites used during a gather. The direct and indirect effects of such disturbance would be short term and minimal. Impacts to vegetation with implementation of alternative B would include disturbance of native forage immediately in and around temporary capture sites, and holding facilities. Impacts would be by vehicle traffic and the hoof action of penned horses, and would be in the immediate vicinity of the capture sites or holding facilities. Keeping gather sites in previously used areas or areas previously disturbed would minimize or reduce potential new effects to upland vegetation since vegetation would already have been impacted.

Disturbance areas (e.g., trailing routes including territory perimeters, dung posts or stud piles, dusting, and watering sites [Beever 2003]) in the wild horse home range area would be reduced because fewer horses are present. Reductions in horse numbers would result in decreased demand for forage thus providing opportunity for some plants in use areas to have a full growing season of no use to restore vigor and complete a reproductive cycle.

If BLM relies on contractors to conduct the gathers, BLM staff would coordinate with the contractor on a daily basis to determine animal locations in proximity to gather sites, and to discuss terrain, animal health, gather distances and other gather logistics to ensure animal health and safety. If gathers are conducted by BLM team all of the same conditions and logistics would be discussed daily. Injuries would be examined and treated if needed by a veterinarian at the sorting/holding corrals. BLM staff is on- site at all times to observe gathers, monitor animal health, and coordinate the gather activities by BLM gather teams or contractors. Both the BLM Wild Horse and Burro Specialists, and the Gather Contractor and crew are attentive to the needs of all wild horses captured during gathers, ensuring their health and safety.

3.7.3 Alternative B – Proposed Action

Removal of excess wild horses and implementation of this alternative would reduce stress on vegetative communities. The results from this alternative will be reduced grazing pressure and healthier native vegetation communities. Maintaining AML of the wild horse population in the CHMA, over the long-term will help to maintain forage vegetation resources that are vital for wild horses, wildlife, and livestock

Applying fertility control vaccines would slow down the reproductive rate reducing the grazing pressure over a longer period of time and give native vegetation a greater stronghold. Healthy, diverse and productive plant communities promote improved resiliency, reducing the threat of noxious weed establishment and spread.

This alternative will decrease the frequency of required gathers to remove excess wild horses and reduce the impacts associated to vegetation disturbance with gather activities.

3.7.4 Alternative C - Removal without Fertility Control

Vegetation would have less time to recover and reproduce with wild horse numbers increasing at a higher percentage, resulting in reaching the high range of AML (253) sooner than the proposed action since there would be no use of fertility control. The modeled average population of wild horses in a three year gather cycle would result between 73 (GonaCon) and 87 (PZP) animals higher than Alternative B, due to lack of fertility control. This alternative would require more frequent gathers with increased horse numbers on the range, through normal reproduction without the benefit of the fertility control. The short term results of this action to native forage vegetation communities would likely be similar to alternative B but more frequent as more gathers would be required to maintain AML.

3.7.5 Alternative D – Gate Cut

The results of this alternative would be similar to those described in Alternative C.

3.8 Affected Environment - Livestock Grazing

Cattle grazing occurs on 88% of the CHMA; there are seven cow/calf grazing allotments within the CHMA currently under deferred or deferred/rest rotation grazing systems with use periods of spring, summer and fall. Warm Springs, Mountain Springs, Road Creek, Split Hoof, Bradbury Flat and Bradshaw Basin are allotments within the CHMA. The pastures within these allotments are relatively large and allow for a broad range of movement while livestock are present.

In 2018, 59% of the allotted AUMs in the CHMA were used. Conversely, 41% of the available AUMs in the CHMA were either not authorized by the CFO or voluntarily rested by the permittees for various reasons such as rangeland resource conservation, resource protection, and to provide forage for wild horses and wildlife. For the CHMA permitted livestock AUMs for the 2018 billing cycle refer to (Appendix J, Table 2). For permitted livestock numbers and AUMs per Allotment that fall within the CHMA refer to (Appendix J, Table 3). Due to the size and complexity of the Mountain Springs Allotment grazing schedule, it is located in a separate table in (Appendix J, Table 4).

The CHMA has relatively few fences; most are "open ended" or have drift fences that allow movement around the ends. There are some pasture fences that could limit travel. This is mitigated by gates being open except when livestock are present during the grazing season.

3.9 Environmental Consequences - Livestock Grazing

3.9.1 Alternative A - No Action

Livestock would not be disturbed or displaced due to the absence of gather operations under the No Action Alternative. Damage to rangeland improvements, such as troughs and spring head boxes, would continue as the population of wild horses increases. Similarly, there could be increasing conflicts, including competition for forage, between livestock grazing and wild horses as the wild horse numbers increase.

Competition for forage would result in vegetation utilization rates that would exceed the capacity of the area, degrading the forage resource and deteriorating the habitat. As the productivity and composition of desirable forage species decreases, an increase in the invasion of undesirable species would occur. Increased wild horse numbers have been shown in monitoring data to cause impacts to vegetation. This is especially true of riparian areas. While livestock grazing permittees graze conservatively below allowable permitted AUMs. This decline would continue to the point that there would be both insufficient plant cover for range site protection and insufficient forage for all rangeland users, which in turn would reduce stocking rates and possible closure of the allotments to livestock grazing. Livestock stocking rates may have to be reduced as wild horse population increases. Photos and monitoring data in Appendix G show areas rested by livestock permittees but heavily grazed by wild horses.

3.9.2 Alternatives B, C, and D

Past experience has shown that wild horse gather operations have few direct impacts to livestock grazing. Livestock located near gather activities would be temporarily disturbed or displaced by the traps and the increased vehicle traffic during the gather operation. The BLM would work with livestock operators to set up traps at locations in the allotment that livestock are not currently utilizing. Livestock may be moved to different pastures to avoid trapping operations. Typically livestock would move back into the area once gather operations cease. During wild horse gather activities gates between allotments will be opened to facilitate movement of wild horses to capture sites, livestock could move to other areas and or allotments during this time. Additional burdens to the livestock operators may include being asked to ensure their cattle are out of the gather area.

Damage to rangeland improvements by wild horses may continue, although at a much lower rate, as

the horses. However, damage to range improvements would be expected to be minimal due to the relatively low number of horses present. Similarly, there would be minimal conflicts, including competition for forage, between livestock grazing and wild horses due to the reduced population of wild horses.

3.10 Affected Environment - Soil Resources

72 soil units as described from the USDA-NRCS 2002 occur within the CHMA. The soils within the CHMA are shallow to very deep, gravelly to stony loams to clay loams derived from extrusive igneous rocks; some of these soils contain calcic horizons due to limestone deposits.

Soils occurring at the higher elevations have a thick surface horizon (mollic); however, most are dry for at least half the growing season (aridic) (USDA-NRCS 2002).

The erosion hazard across most of the CHMA (not including Malm Gulch and Sand Hollow ACECs) is slight to moderate (USDA-NRCS 2002); this indicates soils in the CHMA area are able to capture store and safely release nearly all precipitation, except during occasional high intensity thunderstorms or intense short-duration (1- 2 days) spring snowmelt. Biological soil crusts do occur within the CHMA, however the extent to which they are present is fairly limited and highly dispersed. Biological crusts are soil particles bound together by organic materials and are formed by living organisms and their by- products (USDA-NRCS 1997). In cool desert environments biological crusts generally increase water infiltration by acting as holding structures for water (USDI- BLM/USGS 2001).

Ground cover is vital for soil protection to reduce erosion and is affected by the timing, duration, frequency, and intensity of grazing use. Additional soils information found within the CHMA is located in Appendix J, Table 1.

Areas of concentrated use occur around existing water sources such as springs, troughs, water gaps, salting locations, and areas providing cover or shade. The soils within and closely surrounding these areas receive heightened use as compared to surrounding areas and may, in some instances (e.g. areas of low soil moisture) show signs of soil compaction, erosion, and reduced productivity. These areas of decreased vegetation and litter cover are generally more susceptible to soil erosion and increased runoff. Conversely, congregation areas with high soil moisture that undergo several freeze-thaw cycles each year are less likely to remain compacted. Freeze-thaw action promotes soil stability by decreasing compaction and increasing surface area and sites for seed germination and vegetative establishment.

3.11 Environmental Consequences - Soils

3.11.1 Alternative A - No Action

Under the no action, alternative BLM would not conduct wild horse gather activities that would result in impacts to soil resources. However, the no action alternative would allow the wild horse population to increase which would lead to increased soil compaction, reduction in soil stability, and top soil loss from wind and water erosion within the CHMA. Highly erosive soils found within the Malm Gulch and Sand Hollow ACECs would continue to be impacted by wild horses. Horses cause disturbance allowing for increased erosion. Effects are described above in the wild

horse effects analysis.

3.11.2 Common to All Action Alternatives

Under Alternatives B, C, and D gather activities are not going to have significant impacts on soil resources. The short-term impacts associated with gather operations will be minimal. The soil resources will have the greatest opportunity to improve under these alternatives by reducing the amount of soil disturbance caused by excess wild horses. These alternatives provide the ability for soil conditions to improve and allow progress towards maintaining a (TNEB).

3.11.3 Impacts Common to All Action Alternatives (B, C and D)

Soil disturbance will occur at trap sites and the temporary holding facility. Average size of a trap is 1.5 to 2 acres including parking and jute wings. The corral footprint where the most activity takes place is approximately 0.3 to 0.5 acres. Temporary holding would also be 1.5 to 2 acres in size including parking and staging areas. Activities at these sites have the potential to remove vegetation and compact soil. Activities would be short term in nature lasting 7-10 days. Impacts would be mitigated through seeding a native seed mix following gather activities. Bait traps range between 0.3 and 0.5 acres in size and may be present for several months. Bait traps are typically conducted in late fall and winter when ground is frozen. Due to the timing when bait/water trapping occurs and the amount of the activity that occurs at trap sites ground and vegetation disturbance is minimal. All hay used at gather sites would be certified weed free. Gather sites would be monitored and treated for weeds as described under invasive species in the Impacts Analysis Table in Appendix D.

3.11.4 Impacts Associated to Alternative B

Spring exclosures would be built of jack-leg fence and would not require ground disturbance. Some compaction may occur around the outside of the exclosures due to animals trailing around the fence. These would be small scale in nature 0.75 miles of fence. These exclosures are needed to protect spring sources from degradation from wild horses. By building small protective fences around the spring source the source will be protected. This ensures that water sources will continue to flow and provide quality water via continuous flow outside the exclosure or into existing pipeline and associated trough. If exclosures are not built the spring source may be damaged from excessive horse use, reducing the quantity and quality of the flow from the spring source. Wild horses, wildlife and livestock would all have access to water. Additionally, cultural resources would be protected by placing fencing to avoid sites or including them inside the exclosure.

3.12 Affected Environment - Terrestrial Wildlife

Threatened, Endangered, Candidate Species

There are three terrestrial wildlife species identified by USFWS as “Threatened” or “Proposed Threatened” under the Endangered Species Act (ESA) documented or have the potential to occur in the CFO.

Canada lynx (*Lynx Canadensis*, Threatened) prefer coniferous forests with adequate lower and mid-level canopy to support robust populations of their primary prey, the snowshoe hare (*Lepus americanus*). Although there are lynx analysis units within the CFO, none occurs within the

project area, nor are any known to be occupied by lynx. North American Wolverine (*Coccyzus americanus,* Proposed Threatened) also prefer coniferous forests, but they also prefer much more alpine regions capable of retaining snowpack well into the spring annually. Conversely, Yellow-billed cuckoos (*Coccyzus americanus*, Threatened) need at least 15 acres of cottonwood-willow dominated riparian areas composed of mature cottonwoods and an intact mid-story. However, there is little historical evidence cuckoos breeding in Idaho in any large numbers (<20 pairs) according to Reynolds and Hinkley (2015).

Due to lack of suitable habitat or any designated Critical Habitat, these species are not expected to be present within the project area or the larger area of potential effect. Therefore, the Canada lynx, wolverine, and yellow-billed cuckoo will not be discussed further in this document, for a more detailed analysis, please see the terrestrial wildlife Biological Evaluation (BE) completed for this proposal (Appendix M).

BLM Sensitive Species

Greater sage-grouse

The *Idaho Greater Sage-Grouse Record of Decision and Approved Resource Management Plan Amendment* (ARMPA, BLM 2019) divided occupied sage-grouse habitat within the planning area into three separate categories. These categories consist of Priority Habitat Management Areas (PHMA), Important Habitat Management Areas (IHMA), and General Habitat Management Areas (GHMA).

The majority of the HMA is identified PHMA (~112,364 ac) by the ARMPA. The remainder of the HMA is considered IHMA (~55,349 ac), except for an additional 300 acres identified as GHMA (see Map 7). For PHMA and IHMA BLM has agreed to "Prioritize activities and mitigation to conserve, enhance and restore GRSG habitats" (BLM 2015). Specifics to wild horse and burro management from the policies and procedures include "Manage wild horse and burro population levels within established Appropriate Management Levels (AML)."

Beever and Aldridge (2011) noted, that "Past research elaborated that free-roaming horses can exert notable influences in sagebrush (*Artemisia spp.)* communities, on structure and composition of vegetation and soils, as well as indirect influences on numerous animal groups whose abundance collectively may indicate the ecological integrity of such communities." Sage- grouse movements are not well understood, but site fidelity has been documented in sage-grouse. Males have been documented showing site fidelity to lekking sites and females showing fidelity for nesting areas (Connelly et al. 2004). Livestock grazing prior to the passage of the Taylor Grazing Act and pre-European settlement native ungulate grazing intensities are not well known. After passage of the Taylor Grazing Act in 1934 livestock have been present throughout the CIAA in different forms, seasons, and rates.

Pygmy rabbit

Pygmy rabbits (*Brachylagus idahoensis*) are known to be distributed historically (Green 1980) and presently (BLM files) throughout southern and eastern Idaho where preferred habitat conditions exist. IDFG has identified approximately 5,395 ac. of potential habitat in the CHMA and more than 8,800 ac. within the CIAA, with recorded observations of 53 and 76 respectively. Pygmy rabbits are sagebrush obligates found in landscapes with tall, dense stands of sagebrush and deep soils for construction of burrow systems (Green 1980). On September 20, 2010, the USFWS 12-

month finding on the petition to list found pygmy rabbits “not warranted at this time” for the populations found outside the Columbia River distinct populations segment.

Migratory birds

Migratory birds have the potential to exist throughout the CHMA on all habitat types. Eighteen different birds with the potential to occur in the CFO are listed as Idaho BLM Sensitive Species (see office files for survey data); all but the trumpeter swan (*Cygnus buccinator*) have the potential to occur in the CHMA. The majority of wild horse use takes place in shrub steppe habitat and along narrow riparian corridors, habitat upon which many of these species depend**.**

Bats

Several species of bats may be found within the CFO management area and are managed as Sensitive Species under BLM’s guidelines including: pallid bats (*Antrozous pallidus*), silver-haired bats (*Lasionycteris noctivagans*), Townsend’s big-eared bats (*Corynorhinus townsendii*), big brown bats (*Eptesicus fuscus*), hoary bats (*Lasiurus cinereus*), little brown bats (*Myotis lucifugus*), long-eared myotis (*Myotis evotis*), long-legged myotis (*Myotis volans*), western small-footed myotis (*Myotis ciliolabrum*), and Yuma myotis (*Myotis yumanensis*). All of Idaho’s bats are invertivores and nectarivores that seek riparian areas, wetlands, and other water resources as well as forested and xeric areas to forage. Bat distribution is further defined by the availability of roost habitat. Caves, mines, cliffs, and trees all provide suitable bat roost habitat. Roosting areas in the form of cliffs and trees are scattered throughout the CHMA. Existing riparian areas, springs and range improvements provide potential water and foraging habitat for migrating and resident bats.

Gray wolf

On May 5, 2011, the USFWS, as directed by legislative language in the fiscal year 2011 appropriations bill, reinstated the 2009 rule removing gray wolves in the Northern Rocky Mountains Distinct Population Segment, which included the state of Idaho, from the endangered species list. Recreational hunting began in 2011 in the hunting unit on and around the CHMA with a quota limit that could be taken by recreationists to meet the management goals in IDFG’s Idaho Wolf Population Management Plan. The Castle Peak Pack territory overlaps with the CHMA. Individuals not associated with a pack can be present throughout the CHMA. Potential impacts to gray wolf would be through direct disturbance and indirectly through removal of a potential food source.

Other wildlife

Big game

The CFO RMP designates habitat for antelope, bighorn sheep, elk and mule deer within the CHMA. These species will be referred to collectively as Big Game in this section. Of most concern are areas considered for winter use, especially those that have been designated as “crucial winter range.” Crucial winter range areas are those that are the most readily accessible to big game and utilized most often in a severe winter. Potential impacts to big game would be displacement and vegetation removal.

Table 2 represents the currently designated big game winter ranges within the CHMA:

Acres of Winter or Crucial winter Range by big game species:

Species	Winter Range	Crucial Winter Range
Mule deer (*Odocoileus hemionus*)	67,565	15,907
Elk (*Cervus elaphus*)	54,279	3,360
Pronghorn Antelope (*Antilocapra americana*)	24,314	11,101
Bighorn Sheep (*Ovis canadensis*)	61	51

*Acreages Assessed in GIS

3.13 Environmental Consequences – Wildlife

3.13.1 Alternative A. No Action BLM Sensitive Species

Greater sage-grouse

Impacts from ungulate grazing occur in the form of altering the sagebrush and herbaceous cover needed for sage-grouse habitat, and nest trampling. The AML would continue to be exceeded, if horses were not gathered under Alternative A. "Long-term conservation objectives should consider the appropriate management levels of horses and burros that can be maintained, because free-roaming equids can influence the structure and function of sagebrush ecosystems" (Conelly, et al. 2011). Whether or not the horse herd could grow to a size to have a measurable impact on nest success within the CHMA during life of this document is unclear. Because the horse herd has exceeded AML and is consuming more AUM's than is identified for them within the Challis RMP, nesting and brood rearing habitat could be degraded and negatively impact breeding success for sage-grouse through reduced nesting cover. This could increase predation because of the lack of cover or cause grouse to relocate to areas less disturbed or outside the CHMA. Riparian areas within the CHMA are important to sage-grouse brood rearing. Ungulate utilization combined with wild horse use beyond that allocated within the RMP could lead to a decrease of available forage. This could lead to de-vegetation and compaction of riparian areas, as well as, increased potential for invasive weed infestations in these areas of focused foraging.

Pygmy rabbit

Increased forage consumption by a larger horse herd could lead to a decrease in competition of grasses and forbs with sagebrush. Whether or not the horse herd could grow to a size to have a measurable impact within the CHMA during life of this document is unclear. An increase in sagebrush would favor pygmy rabbits in areas where burrow construction is possible. However, incidences of this would be scattered and small in scope of the CHMA. If horse herd numbers were to grow to the point of damaging mature sagebrush, individual pygmy rabbits could be impacted. The population of wild horses within the CHMA would need to have consumed nearly all other forage to resort to eating sagebrush or it may be the only forage available such as in winter with deep crusty snow. Wild horse herd numbers in a magnitude to have an impact on sagebrush and indirectly on the pygmy rabbit population throughout the majority of the CHMA is

not likely within the scope of Alternative A. This alternative would be in compliance with BLM Manual 6840 and would not lead to the listing of pygmy rabbits.

Migratory birds

An increased horse herd has a higher potential for impacts to nesting migratory birds. Whether or not the horse herd could grow to a size to have a measurable impact on nest success within the CHMA during life of this document is unclear. If wild horse herd size were to increase to the point of having measurable impacts to migratory birds, they would be sporadic, both spatially and temporally, within the CHMA. The impacts would not exclude migratory bird use within the CHMA. CFO lands outside of the CHMA would be available for use by migratory birds without the wild horse herd being present. For these reasons, Alternative A, would be in compliance with BLM Manual 6840 and would not lead to the listing of migratory birds.

Bats

Indirect effects from wild horse impacts on range health would continue to occur at higher levels than if the CHMA wild horse population were maintained at levels prescribed under the RMP. Bat species in the CFO are insectivores relying on moths, beetles, flies and other invertebrates. As plant communities and riparian areas become degraded by overutilization, these foraging areas have the potential to become less productive for flowering plants and, therefore, insects including pollinators. A decrease in insects equates to a decrease in forage for bats. Although this alternative would be less beneficial for bats, it is unlikely to impact bats at a population scale and would therefore comply with BLM Manual 6840.

Gray wolf

Greater forage consumption by horses in the CHMA would lead to greater competition with native ungulates, the wolves' primary prey. This could lead to a decreased native prey species (through competition for forage) while seeing an increase in another potential prey species wild horses. Horses could replace native ungulates as a prey species of wolves who utilize the CHMA as a territory. This alternative would comply with BLM Manual 6840 and would not lead to the re-listing of wolves.

Other Wildlife

Big game

Under Alternative A, horse herd numbers would increase and lead to greater consumption of forage and a greater potential for disturbances to wildlife. The AML would continue to be exceeded and this would lead to an increase in utilization for forage and potential for disturbance of wildlife, as well as a decrease in cover for certain wildlife. A decrease in forage would cause wildlife to leave the CHMA to seek forage elsewhere.

3.13.2 Alternatives B, C, and D

BLM Sensitive Species

Greater sage-grouse

BLM has identified 300 acres of the CIAA as GHMA, over 77,100 acres of IHMA and more than 145,800 acres of PHMA. PHMA covers the majority of the CIAA, with GHMA only being present around the periphery of unsuitable sage-grouse habitat. Gathers would be scheduled outside of the lekking and nesting period.

Potential impacts to sage-grouse would be disturbance of individuals by gathering activities and vegetation removal at capture sites. Disturbances by gathering activities would be short term and would be confined to small portions of the CHMA leaving the rest of the CHMA available for use without such disturbances. Capture sites would be temporary, limiting the time that horses would be present within them. Vegetation removal at capture sites is rarely entire and the percent of vegetation removal is dependent on time and intensity of activity at each site.

Vegetation damage is likely, but is limited to a very small area (<0.01%) within the CHMA. Gathers would be performed at a time when there would be no lekking or nesting and young of the year chicks would already be capable of flight, thereby avoiding disturbing activities during these life stages as outlined in the ARMPA (2015).

Fences associated with spring exclosures have to potential to provide perches for avian predators. Impacts associated with avian predators would be mitigated through more cover provided by horses staying within AML and not consuming more than the AUM's allotted to them and riparian area vegetation recovering.

Pygmy rabbit

Potential impacts to pygmy rabbits would be vegetation removal at occupied burrows. SOP's for capture site placement is that it will be placed as to cause "as little damage to the natural resources of the area, as possible" and would have to be approved by an AO. The AO and resource specialists should be familiar with pygmy rabbit sign to select capture locations that avoid pygmy rabbit habitat.

Migratory birds

Horse gather activities would take place after the migratory bird breeding season; and, based on this and other design features, negative impacts to migratory birds would be minimal or nonexistent. Adult and healthy young of the year should be capable of flight. Gather activities will be short term and limited to a portion of the CHMA. Gathering activities would still have the possibility of disturbing individuals but the surrounding landscape would be available for use by individuals that might be disturbed. Any disturbances to vegetation would be limited to capture and staging sites. SOP's would be used to limit vegetation disturbance by gather activities to previously disturbed sites or locate new sites in areas to cause as little resource damage as possible. Individual birds that might be using activity sites would have the surrounding habitat to relocate.

Bats

Direct impacts to bats from horse gather activities under these alternatives would be minimal and temporary in nature. Bats within the planning area are crepuscular and/or nocturnal species, and are not expected to be impacted by temporary disturbance caused by gather activities. Vegetation removal would be minimized to the extent possible by utilizing previously disturbed areas such as roads limiting size of traps and parking on road edges rather than vegetation, and any temporary holding structures shall be limited to previously disturbed sites. Under this alternative, vegetative communities would improve thereby benefiting bat foraging opportunities and ecology.

Gray wolf

Gray Wolves are a highly mobile species capable of using habitat at a landscape scale. Wolves that might be present in the CHMA could be disturbed by gather activities. This would be short term

and habitat impacted by gather activities would be available to wolves following those activities. Effective horse management would reduce herd size and remove potential prey for wolves, although wolf predation on horses within the CHMA is undocumented. Alternatives B, C, and D would be in compliance with BLM Manual 6840 and would not lead to the re-listing of the species. Potential impacts to gray wolf would be through direct disturbance and indirectly through removal of a potential food source.

Other Wildlife

Big game

Impacts from gather activities would take place outside of the crucial winter period for big game eliminating the potential for disturbances during this sensitive time. Disturbances to big game present within the CHMA during gathers would be short term and limited to isolated areas. Vegetation disturbances would be limited to capture and staging sites. Capture sites would be located outside of antelope, elk and bighorn sheep winter range to the extent possible and no traps sites would be located in crucial winter range for any of the big game species. Negative impacts on vegetation from these alternatives would be minimal and have no detrimental effects on big game herd health.

CHAPTER 4 – CUMULATIVE IMPACTS

NEPA regulations define cumulative impacts as impacts on the environment that result from the incremental impact of the Proposed Action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such actions (40 CFR 1508.7). Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.

The Cumulative Impacts Analysis Area (CIAA) for the purposes of evaluating cumulative impacts is the CHMA (See Figure 1). According to the 1994 BLM *Guidelines for Assessing and Documenting Cumulative Impacts*, the cumulative analysis should be focused on those issues and resource values identified during scoping that are of major importance. In this case, the issues of major importance to be analyzed are the proper management of wild horses and maintaining rangeland health in riparian corridors and on upland vegetation.

Surface management and land status determine how and where management actions occur. Land status acreages are within the CIAA are illustrated in Table 3 below.

Table 3. Surface Management Status within the CIAA

Ownership	Acres
Bureau of Land Management	200,428
Private Property	5,243
State of Idaho	12,945
US Forest Service	11,958
Total	230,631

4.1 Past, Present, and Reasonably Foreseeable Future Actions

The public lands within the CIAA contain a variety of resources and support a variety of uses. Any alternative course of wild horse management has the opportunity to affect and be affected by other authorized activities ongoing and adjacent to the area. Past, present, and reasonably foreseeable activities that would be expected to contribute to cumulative impacts of implementing the proposed action include wild horse management (including gathers and fertility control treatments), livestock grazing in the associated allotments, rangeland improvements, continued native wildlife populations and recreational activities.

Any future proposed projects within the HMA would be analyzed in an appropriate environmental document following site specific planning and public involvement.

4.2.1 Past Actions

Past actions include establishment of the HMA, establishment of AML for wild horses, wild horse gathers, livestock grazing, and recreational activities throughout the CIAA. The past actions in the CIAA have created the current wild horse population with its associated structure and composition, and have shaped the patterns of use found today within the HMA. Gathers within the HMA have been conducted 16 times and has resulted in the capture and removal of 1,775 wild horses (see Appendix K). Adjustments in livestock season of use, livestock numbers, and grazing systems have occurred through the allotments evaluation and decision process.

4.2.2 Present Actions

Today the CHMA has an estimated population of 366 wild horses (not including foals). Current BLM policy is to achieve the Challis RMP ROD and Approved RMP (July 1999) **Rationale: #1, 3 and 7 as required by the WFRHBA** Rationale #1 “Manage the wild horse herd for appropriate management level of 185 animals in accordance with the 1985 U. S. District Court Consent Judgement and the current activity plan for the wild horse Herd Management Area. The herd would vary from 185 to about 253 animals between roundups. Adjust horse numbers to a lower level if monitoring data show that the current appropriate management level is causing unacceptable levels of resource degradation.” The maximum number of wild horses to be maintained is 253 in a TNEB and multiple use relationship on the public lands with the provisions of §WFRHBA 1333 (2) (IV) in the HMA. Rationale: #3 “Monitor wild horse use of the Malm Gulch and Sand Hollow areas, and remove wild horses as necessary to protect fragile watersheds” and Rationale: #7 “Adjust wild horse management to ensure progress toward the riparian and aquatic habitat conditions described in attachment 15.

Present actions include the remote darting of the fertility control vaccine Native PZP. This has been conducted annually in the CHMA since 2014 in cooperation with Wild Love Preserve through a Cooperative Agreement that will remain in effect until 2022. The BLM is continuing to administer grazing permits and authorize grazing within the CIAA. Within the proposed herd management plan area livestock grazing occurs on a yearly basis. Wildlife use by large ungulates such as antelope, elk, and mule deer are also currently common in the CIAA. Recreation, primarily in the form of dispersed recreation continues and is most apparent during hunting seasons for the various game species present in the CIAA.

Currently there are 13 cattle grazing operators on 7 allotments (Appendix J Map 6) and are permitted to graze 15,794 AUMs on BLM-administered lands within the CIAA. In support of these operations, 43 miles of pipeline, 157 miles of fence, 170 troughs, and 35 stock ponds have been constructed.

4.2.3 Reasonably Foreseeable Future Actions

In the future the BLM would manage wild horses within the HMA in accordance with the Challis RMP ROD, Approved RMP (October 1999) and Consent Judgement No. 76-1455 as agreed upon by BLM and Humane Society of the United States and the American Horse Protection Association, Inc. which established AML as a range, with a low AML of 185 and addressed horse management on a programmatic basis. Specifically it states in #2 "Defendants (BLM) will be permitted to conduct gathering operations to bring and maintain the number of wild horses in the Challis Planning Unit within the terms specified in paragraph 1." It is anticipated that future wild horse management would include helicopter-drive gathers, bait/water trapping, horseback-drive trapping and fertility control treatments, including remote field darting.

While there is not anticipation for amendments to the WFRHBA that would change the way wild horses could be managed on BLM public lands, the Act has been amended three times since 1971. Therefore, there is potential for an amendment as a reasonably foreseeable action. Any changes could affect wild horse and burro management.

Improvements to rangeland management associated with livestock grazing are also expected to continue within the CIAA. These improvements could include installation of fences, water locations, and spring exclosures. Range allotments undergo a review of grazing permits and practices every 10 years through which the health of the range is assessed to determine what, if any, improvements are to be made in order to meet rangeland health standards.

4.2 Cumulative Impacts Analysis

The Proposed Action would contribute to the cumulative impacts of the past, present, and reasonably foreseeable future actions by maintaining the HMA at AML, continued improvement of riparian and upland vegetation conditions, which would in turn benefit permitted livestock, native wildlife, and wild horse population as forage (habitat) quality and quantity improved over the current level. Benefits from a reduced wild horse population would include fewer animals competing for forage and water resources. Cumulatively, there should be a more stable wild horse population and healthier wild horses in the CIAA over the short and long-term. Over the next 15-20 years, continuing to manage wild horses within the established AML range would achieve a TNEB and multiple use relationship on within the HMA. By removing excess wild horses, the BLM would be able to gather a higher percentage of the total wild population in the future for fertility control and sex ratio adjustments in an effort to slow population growth and to reduce the need to remove excess wild horses from the HMA.

Cumulative impacts of the No Action alternative coupled with the impacts from past, present, and reasonably foreseeable future actions would result in the foregoing of an opportunity to improve conditions to manage wild horses on healthy rangelands within the CIAA which would result in non-attainment of the RMP or address excess wild horses. Livestock grazing would continue to

cause minor impacts to wild horse forage and their habitat. Diet overlap exists, however, past and present competition of forage and habitat have been low.

Cumulative impacts from wild horses in the No Action alternative would incrementally increase damage to rangeland ecosystems. With unchecked population growth and no planned gathers, rangeland resources would become degraded at an accelerated rate. Impacts to livestock grazing under the No Action alternative would be substantial as time (through ten years and beyond) progresses and wild horse populations continue to grow. Cumulative impacts to livestock grazing from wild horses in the Proposed Action alternative would be negligible. Temporary and occasional (every few years) disturbance and displacement of livestock could occur, causing livestock to utilize different pastures or different areas depending on what water troughs/pipelines are used to conduct bait/water trap gathers from.

As detailed in the effects analysis, the Proposed Action would overall have neutral to positive effects on the vegetation communities in the project area; the effects of these alternatives would mitigate to a limited extent the impacts of past and future wild horse management, but no cumulative effect would occur. Impacts are expected to be beneficial for wildlife and their habitats including immediate benefit to wildlife through less competition for forage and water and gradual improvement of upland health. The cumulative impacts from the No Action Alternative would not see beneficial impacts to habitats and wild horse numbers in excess of AML would result in continuing decline of habitat conditions.

The combination of the past, present, and reasonably foreseeable future actions, along with the implementation of the Proposed Action, would result in healthier rangelands, healthier wild horse populations reduced competition for forage, water and space between all resources. Overall, cumulative effects from past, present, and foreseeable future actions are minimal and not expected to result in any meaningful disturbance to wild horses.

CHAPTER 5 - CONSULTATION AND COORDINATION

Persons and Agencies Consulted

On February 15, 2019 a scoping letter was mailed to 47 interested parties to notify them of BLM's intent to manage wild horses within AML, specifically the need to address the excess horses above AML. At this time, the project was uploaded to the BLM E-Planning site. Additional letters were sent to the Shoshone-Bannock Tribes on the same day. The Shoshone-Bannock Tribes had previously been consulted through staff to staff coordination meetings conducted October 16, 2018.

In September 2018, the Challis Field Office began consulting with the National Oceanic and Atmospheric Administration Fisheries Service and the USFWS.

Further information was then placed in the CFO Website on February 15, 2019, again asking for comments by March 18, 2019.

List of Preparers

Section of EA (this list may change depending on whether or not it is included in the EA)	Specialist (who wrote the section of the EA)
Wild Horses/Monitoring/Sensitive Plants/ACECs	Kevin Lloyd, Wild Horse Specialist/Natural Resource Specialist
Rangeland Resources/Vegetation types, Communities; Permits and Sales/Soils	Anthony Bartlett, Rangeland Management Specialist
Farm Lands (prime or unique)/Access/ Economic Feasibility of Ag Entry/Existing and Potential Land Uses/Economic and Social Values/Environ. Justice	Kevin Lloyd, Wild Horse Specialist/Natural Resource Specialist
Geology/Minerals/Soils	Jon Kaminsky, Geologist
Forestry/Fuels	Kasey Hill, Fuels Specialist
Riparian/Hydrology	Hannah Branz, Natural Resource Specialist
Cultural Resources/Native American Religious Concerns/Indian Trust Resources/Tribal Treaty Rights/Paleo. Resources	Julie Rodman, Archaeologist
Recreation/Wilderness/Wild and Scenic Rivers/Visual Resources	Katy Kuhnel, Recreation Specialist
Wastes, Hazardous or Solid/Superfund Sites	Jon Kaminsky, Geologist
Invasive, Non-native Species	Daniel Munk, Invasive Species
Fisheries/TES Fisheries/Wetlands-Riparian Zones/Floodplains/Water Quality	Laura Hardin, Fisheries Biologist
Wildlife/TES Animals/Migratory Birds	Mark Howell, Wildlife Biologist

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