Table of Contents

Contents

Chapter 1 Introduction

This Environmental Assessment (EA) has been prepared to disclose and analyze the environmental effects of the Proposed Action for the Mountain Lion Prey Selection Study in Southeastern Nevada proposed by Nevada Department of Wildlife (NDOW) within designated Wilderness managed by the Bureau of Land Management (BLM), Ely District Office (EYDO). This EA would assist the BLM EYDO in project planning and ensuring compliance with the National Environmental Policy Act (NEPA), and the Wilderness Act of 1964 (as amended), and in making a determination as to whether any significant effects could result from the analyzed actions. Following the requirements of NEPA (40 CFR 1508.9 (a)), this EA describes the potential impacts of a No Action Alternative and the Proposed Action for potential wildlife research activities. If the BLM determines that the Proposed Action is not expected to have major effects and is the minimum action necessary to preserve wilderness character, a Finding of No Significant Impact (FONSI) would be issued and a Decision Record prepared. If significant effects are anticipated, the BLM would prepare an Environmental Impact Statement.

SECTION 1.1 Proposed Project Information

1.1.1 Type of Project, EA Number, and Case File Number

Type of Project: Wildlife management activities within designated Wilderness.

- EA Number: DOI-BLM-NV-L030-2022-0002-EA
- Case File Number: N/A

1.1.3 Location of the Proposed Action

The proposed action includes two designated Wilderness Areas administered by the BLM located in southeastern Nevada. The Clover Wilderness is located 6 miles south of the town of Caliente and the Delamar Wilderness is located 10 miles southwest of Caliente. The Mountain Lion Prey Selection study is being conducted in a 3,158km^2 (780,359 acre) region of Lincoln County Nevada, and encompass both wilderness areas which have thus far been excluded from the study.

These areas include:

- Delamar Mountains Wilderness
- Clover Mountains Wilderness

SECTION 1.2 Background

Wilderness provides important habitat for Nevada's native wildlife, particularly providing habitat with fewer anthropogenic influences and disturbances as compared to habitat in other areas. To preserve the qualities of these natural areas within Nevada, the United States Congress designated many areas as Wilderness, per the National Wilderness Preservation System and Wilderness Act of 1964, which are managed by the BLM.

Consistent with the mission "to protect, conserve, manage, and restore wildlife and its habitat for the aesthetic, scientific, educational, recreational, and economic benefits to the citizens of Nevada and the United States," the Nevada Department of Wildlife (NDOW) conducts research and wildlife management activities in Nevada to maintain or restore wildlife populations and the habitats that support those populations. From year to year, the NDOW proposes to conduct some of their research and management activities in Wilderness areas in the state administered by the BLM. These research projects and management activities provide data to fill knowledge gaps and perform management actions that are critical to maintaining healthy, viable, and more naturally distributed wildlife populations, not only in BLM-administered Wilderness, but across Nevada.

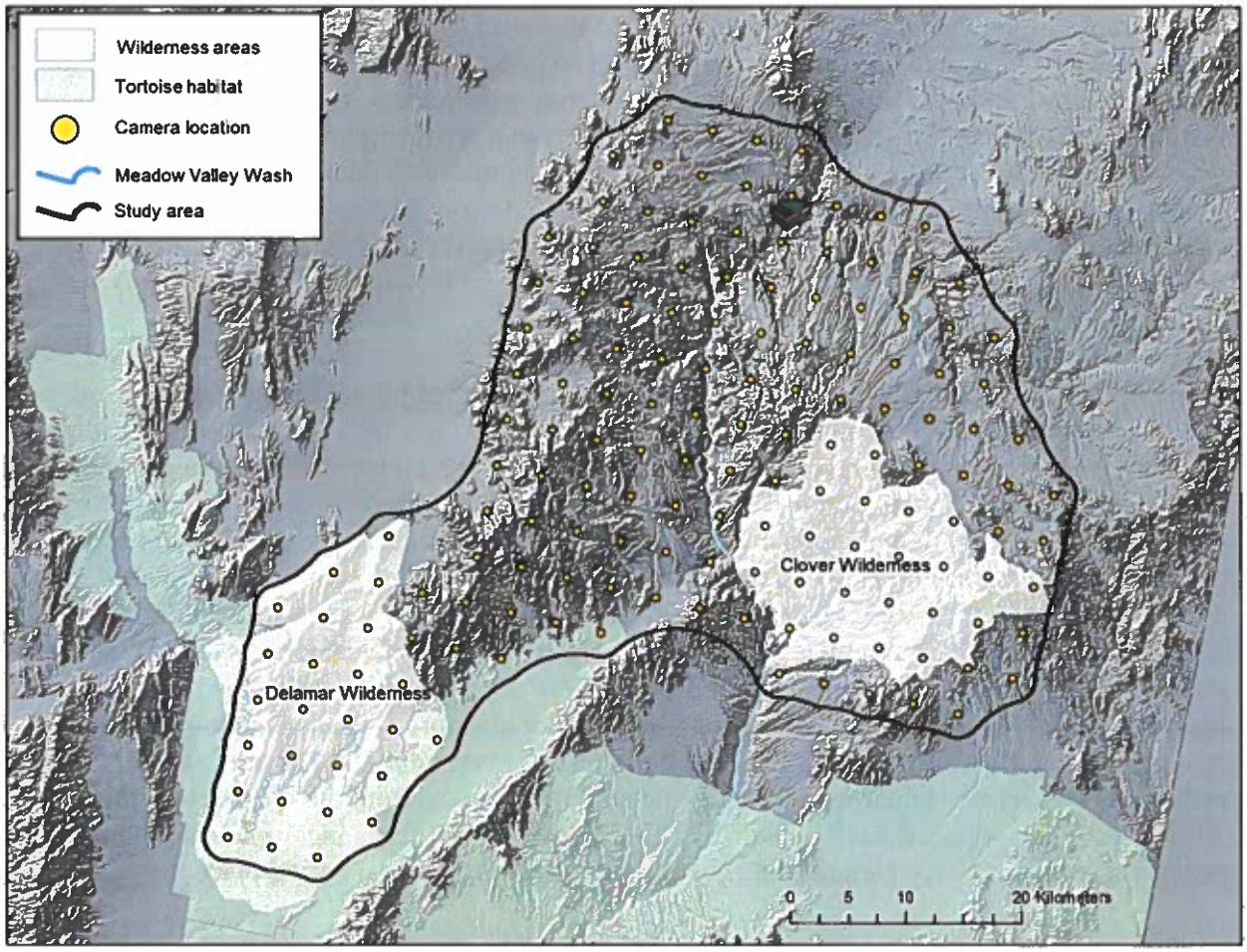
Across the state, mountain lions (*Puma concolor*) generally reside in higher elevations and mountainous regions, however, they can reside in most areas throughout the state. As one of the State's only major predators, their presence (or lack thereof) can lead to broad impacts on population and behavior of larger prey species. Major prey species for mountain lions include mule deer, elk, desert bighorn sheep, and feral horses. To get a better understanding of these predator-prey relationships NDOW, in partnership with Utah State University (USU) and the U.S. Geological Survey (USGS), is proposing to monitor mountain lion prey selection, habitat use, and kitten production, in two feral horse herd management areas (HAs) that are within and adjacent to designated Wilderness in southeastern Nevada. Given that mountain lions exhibit extensive overlap with horses, mule deer, and other ungulate species in Nevada and across the West, and that feral horses are distributed across vast spatial extents in all habitat types, resource managers need better information about how horses interact with local mountain lion populations. Additionally, these interactions often occur within designated Wilderness areas across the western U.S. and Federal land managers have little understanding of how these interactions impact the natural quality of Wilderness character.

The Mountain Lion Prey Selection Study aims to examine mountain lion productivity, and movement in addition to prey selection in a Before-After Control-Impact (BACI) study design, in which one horse HMA/population serves as a reference or 'control' (Clover HMA) and the other as the treatment (Delamar HMA) (Figure 1). Relative prey abundance, a key variable for determining prey selection in mountain lions, is currently being measured using a temporary remote camera grid within the Delamar and Clover Mountain HMAs, but currently excludes the Wilderness areas as such installations are generally prohibited under 1964 Wilderness Act. The proposed camera instillation would complete the camera grid originally installed in 2018 by the Mountain Lion Prey Selection Study. The two Wilderness Areas comprise a significant amount of the designated study area and the proposed cameras would allow researchers and managers to fill two large information gaps, reducing statistical uncertainty and facilitating wholistic evaluation and management of the area, all while maintain the integrity of the wilderness areas as determined by the Minimum Requirements Analysis conducted by BLM. The results of this analysis can be read in full in the Minimum Requirements Decision Guide (MRDG) attached in appendix D of this document.

Domestic horses were introduced to Nevada during the 1800s by early European explorers and fur trappers. During this time feral horses became part of indigenous cultures in productive regions such as the Pacific Northwest, but it is believed that feral horses were looked at as more of a source of sustenance for the indigenous cultures in the harsh Nevada environment. (J.A.

Young 1989) Although technically a non-native species, these feral horses and burros are protected and managed under special direction through The Wild and Free-Roaming Horses and Burros Act of 1971 (Public Law 92-195) (WHBA). Management of feral horses require that their populations reside within the established boundaries of herd areas (HA) that were identified at the time of the passage of the Wild and Free-Roaming Horses and Burros Act). Herd areas identified for long-term management were established through land use planning as herd management areas (HAs) and are to be maintained within a specific population range that prevent degradation of the ecosystem. The two HAs (Clover Mountain and Delamar Mountain HAs) identified for this proposed research are not identified for long-term management due to the limiting factors of the habitat (water and climate) and are to be managed for zero (0) feral horses. To achieve desired population levels, feral horses are "gathered" as necessary to reduce populations down to the HA's management numbers. Gathers involve the capture of horses and their removal from the range. Depending on the area, gathers can remove large numbers of horses from the HA (typically 50-1000 individuals).

Figure 1. Study Location.



Because these two HAs are managed for zero feral horses, gathers could occur anytime horses are detected within the areas. However, because administering a gather requires administrative approval as well as the necessary funding and space to accommodate the horses that are removed, gathers generally only occur every few years and often under emergency conditions. Past removals have left a gap in knowledge regarding the ecological process that occur in areas occupied by feral horses and inhabited by mountain lions. As feral horses are removed from the ecosystem, little is known about how mountain lion prey selection adapts to such a disturbance. Thus, it is hypothesized that when the population of feral horses in an area rapidly decreases (due to gathers or other types of disturbances such as drought), that predation habits of mountain lions will change, and they will shift toward native species. However, because so little is known about these relationships, the bigger questions are how do they change, how will these changes impact mountain lions, and how will these changes impact native prey species? To answer these questions, researchers and technicians working with the Nevada Department of Wildlife (NDOW) and Utah State University (USU) would like to study the relationship(s) between mountain lions in Nevada and their prey.

The study area is located within the Delamar and Clover Mountains. The goal is to provide a clearer image of the natural ecological process that take place within these two mountain ranges, which can also be applied broadly across similar locations in the state of Nevada. Gaining knowledge of how mountain lion prey selection changes based on the availability of feral horses in their range would help NDOW and the BLM to make informed decisions regarding the management of big game and predator populations in conjunction with federal management of feral horses. Additionally, the project would allow agencies to learn if there are healthy, sustainable predator/prey populations and interactions that are resilient to current and future management actions (or lack thereof) within and adjacent to the Wilderness. In summary, data from this study would allow both the BLM and NDOW to cooperatively support "healthy, viable, and more naturally-distributed wildlife populations" (Lincoln County Conservation, Recreation, and Development Act of 2004 – Title II, Sec. 209 B – Public Law 108-424) within the areas they manage.

Beginning in 2018, researchers began observing the behavior of mountain lions in areas outside of Wilderness. These mountain lions were captured, fitted with a GPS tracking collar, and then released. The GPS data obtained is allowing researchers to track movements of the animal(s) and determine when a mountain lion has killed another animal. Researchers then go to the site and determine the prey selection habits of the specific mountain lion. In 2020, researchers began placing game cameras on land outside of the Wilderness. The game cameras were placed across the landscape so that they created a 7-km grid and would begin to observe any wildlife (or non-wildlife) that moved through their field of view. The purpose of the cameras is to aid researchers in determining density and abundance of prey species. A cursory analysis of the data obtained so far has led researchers to believe that feral horses make up approximately 25% of the diet of mountain lions. However, there is likelihood mountain lion predation behavior may be influenced by factors including anthropogenic activities, and without the inclusion of the Wilderness, data obtained from outside the Wilderness boundaries is incomplete and fails to provide a comprehensive picture of the actual ecological process(es) taking place.

There are several large ungulate species (e.g., mule deer, elk,) and large predator species (e.g., mountain lions) that are native to all of Nevada and whose populations and habitat are intertwined. These animals are integral parts of the natural ecosystems of Nevada and healthy populations are critical elements of the natural quality of Wilderness character. Predators such as mountain lions have often been seen as "noxious" with control or eradication efforts in place to control populations that may prey on domestic livestock. While some predator control programs are still in place, predator populations are now recognized as a critical component of a naturally functioning ecosystem and managed as such.

Ungulate and predator species have been greatly impacted by anthropogenic factors over the last two centuries in North America, as well as other stressors such as disease. To understand, monitor and maintain the health, viability, and natural distribution of ungulate and predator populations and to determine the effectiveness of management actions, the NDOW must conduct research and monitoring on these animals across their habitat in Nevada. The NDOW's primary goals with this research and monitoring are to understand what contributes to healthy populations successful and causal factors, such as predator-prey relationships, leading to impacts to populations experiencing decline. This can include understanding seasonal habitat use, use of water sources, migration patterns and corridors, and predator-prey relationships so that this information can be applied across all populations to create ecological opportunities for populations to remain viable. This informed management leads to healthy, viable, and naturally distributed populations that would overall preserve Wilderness character.

SECTION 1.3 Purpose and Need for Action

The purpose of the Federal action is to respond to NDOW's request to conduct the Mountain lion prey selection study. The need for the action is established by BLM's responsibility under the Wilderness Act of 1964, BLM Wilderness Policy Manual 6340, under Section 302 of the Federal Land Policy and Management Act of 1976 (FLPMA). The study aims to determine what species mountain lions are depredating in the absence of anthropogenic influences and in the presence of high densities of non-natural prey species (horses), if mountain lions switch to naturally occurring prey species when horse densities are reduced; whether mountain lions expand home ranges in response to reductions in horse density; whether changes in horse density result in food stress impacting fecundity; and other effects to mountain lion populations. The action would aim to better understand ungulate abundance and density, while also monitoring mountain lion diet and movements. Monitoring large mammals in Nevada is often time-intensive and can be less effective, often requiring intrusive methods that only offer a snapshot of the representative mammals in the landscape. New methods and technologies increase the quality and overall yield of data collected, while minimizing the number of man-hours, and presence and disturbances in the environment. The ability to more thoroughly examine predator-prey dynamics would provide state and Federal resource managers with a better understanding the ecosystems health and functionality as it pertains to the interactions between a native predator (mountain lion) and a non-native prey species (feral horse) and allow NDOW and BLM to make effective management decisions. Without reliable data, understanding the density and interactions of these various species within the Clover and Delamar Mountain Wilderness Areas is impossible. Federal land managers need the completed picture this data would provide to determine how the Wilderness character is impacted by

wildlife, wild horse, and other Wilderness management activities, and to better understand how to maintain, preserve, and protect Wilderness character into the future.

Decision to Be Made:
It is the BLM's decision whether to approve the Proposed Action or the No Action Alternative; and to decide if the selected action would be approved in whole or in part. The BLM would investigate all the alternatives to determine which action, if any, results in no significant impacts while fulfilling the purpose and need for action.

SECTION 1.4 Conformance Summary

Conformance with BLM Land Use Plans

The Proposed Action is in conformance with the Goals and Objectives of the Ely District Record of Decision and Approved Resource Management Plan (BLM 2008, the Ely District RMP), as amended, 2015.

Objectives – Fish and Wildlife:
"To manage suitable habitat for aquatic species, priority wildlife species, and migratory birds in a manner that will benefit wildlife species directly or indirectly and minimize conflicts among species and wildlife or habitat losses from permitted activities. Priority species for terrestrial wildlife habitat management are elk, mule deer, pronghorn antelope, Rocky Mountain bighorn sheep, desert bighorn sheep, and migratory birds; because these species cover the entire Ely RMP planning area..." (page 34)

> Monitoring – Fish and Wildlife:
> "*Baseline wildlife use patterns and estimated population levels will be calculated using information collected annually by the Nevada Department of Wildlife...Annual livestock and wild horse utilization records gathered by Ely District Office staff and wildlife observations reported by the Nevada Department of Wildlife and Ely District Office will be used to determine possible conflicts. Conflicts between livestock, wild horses, and wildlife will be resolved during the assessments and subsequent management actions including appropriate management level adjustments in herd management areas, cooperative habitat management actions with Nevada Department of Wildlife, and grazing permit renewals. Impacts to wildlife populations will take into account changes in herd management objectives as set by the Nevada Department of Wildlife.*" (Page 37)

Objectives – Special Status Species
"*To manage suitable habitat for special status species in a manner that will benefit these species directly orindirectly and minimize loss of individuals or habitat from permitted activities.*" (Page 38)

> SS-33:
> • All projects in desert tortoise habitat would be reviewed by the BLM's wildlife staff to ensure that appropriate measures have been incorporated into the BLM authorization (e.g., material site, land sale, or off-highway vehicle event) to minimize the potential take of desert tortoise and loss of habitat. (Page 44)

• A BLM representative(s) would be designated and would be responsible for overseeing compliance with terms and conditions of all permitted activities and reporting requirements. The designated
representative would provide coordination among the permittee, project proponent, the BLM, and the U.S. Fish and Wildlife Service. (Page 44)

Objectives – Wild Horses
"*Herds will consist of healthy animals that exhibit diverse age structure, good conformation, and any characteristics unique to the specific herd.*" (Page 46)

Monitoring – Wild Horses
"*Aerial and ground census information periodically will be gathered to determine the number of adults and foals, colors, special characteristics, and overall health of each wild horse herd... Data collected in other studies, such as watershed analyses, monitoring of vegetation treatments, special status plants and animals, microbiotic crusts, wildlife, water resources, weeds, riparian, and wetland sources may be used to determine the effects of wild horses on these resources.*" (Page 49)

Objectives – Special Designations Management
"*To ensure that multiple use activities within the planning area are consistent with the management plans developed for special designation areas such as ACECs.*" (Page 112)

- Delamar Mountains, Meadow Valley Range, Mormon Mountains Wilderness, Wilderness Management Plan and Environmental Assessment (2009).
- Clover Mountains Wilderness & Tunnel Spring Wilderness, Wilderness Management Plan and Environmental Assessment (2010).

SD-5: Manage 22 designated wilderness areas in accordance with the Wilderness Act of 1964; the Nevada Wilderness Protection Act of 1989; the Lincoln County Conservation, Recreation, and Development Act of 2004; the White Pine County Conservation, Recreation and Development Act of 2006. (Page 119)

Monitoring – Special Designations Management
"*Areas managed as a special designation (such as ACECs, back country byways, and designated wilderness) will be monitored annually to determine if the resource values for which the area was designated are stable. Monitoring will focus on threats to resource values and the effectiveness of management provisions in protecting and preserving those resource values. Monitoring will assist the BLM in tracking resource conditions and making effective decisions to improve conditions for the special resource over time. Where necessary, the monitoring strategy for special designation areas will be refined during activity level planning, e.g., development of ACEC management plans and designated wilderness management plans.*" (Page 121)

Conformance with Wilderness Management Plans

The Proposed Action and Alternative action are in compliance with the following management plans

- Delamar Mountains Wilderness, Meadow Valley Range Wilderness, Mormon Mountains Wilderness: wilderness management plan and environmental assessment
- Clover Mountains Wilderness & Tunnel Spring Wilderness: [final] wilderness management plan and environmental assessment: United States. Bureau of Land Management. Ely District Office

The following passages are included to demonstrate compliance with both management plans and the selected can be found verbatim in both documents

Goal 1
Provide for the long-term protection and preservation of the areas' wilderness character under a principle of non-degradation. The areas' natural condition, opportunities for solitude, opportunities for primitive and unconfined types of recreation, and any ecological, geological, or other features of scientific, educational, scenic, or historic value present will be managed so that they would remain unimpaired.

Goal 3
To manage the wilderness areas using the minimum tool, equipment, or structure necessary to successfully and safely accomplish the objective. The chosen tool, equipment, or structure should be the one that least degrades wilderness values temporarily or permanently. Management would seek to preserve spontaneity of use and freedom from regulation to the greatest extent possible.

Wildlife Management
Over the life of this plan, it may be necessary to implement wildlife management activities within the two wilderness areas: 1) to mitigate loss of natural water sources, 2) to mitigate for wildlife habitat loss or fragmentation, 3) to reduce competition among wildlife, livestock, and wild horses, and 4) to reduce competition among wildlife species. Wildlife management activities within these designated wilderness areas will be conducted in conformance with the current (2003) and subsequent BLM-NDOW Memoranda of Understanding and guided by the LCCRDA (2004), which may include, on a case-by-case basis, the occasional and temporary use of motorized vehicles or tools. The following pertain to wildlife management activities.

Compliance with Laws, Statutes, and Regulations

The Proposed Action and alternative action are in compliance with the following laws:

- The Wilderness Act of 1964 (16 U.S.C. §§ 1131-1136, September 3, 1964, as amended 1978).
- The Federal Land Policy and Management Act of 1976 (43 U.S.C. §§ 1701-1782, October 21, 1976, as amended 1978, 1984, 1986, 1988, 1990-1992, 1994 and 1996).
- Lincoln County Conservation, Recreation and Development Act of 2004.

- The National Environmental Policy Act of 1969 (42 U.S.C. §§ 4321-4347, January 1, 1970, as amended 1975 and 1994).
- Endangered Species Act (1973) as amended.
- National Historic Preservation Act (1966) as amended and the associated regulations at 36 CFR Part 800
- Management of Designated Wilderness Areas (43 CFR Part 6300).
- Executive Order 13443: Facilitation of Hunting Heritage and Wildlife Conservation (2007).

Relationship to Policies and Guidelines

The Proposed Action and alternative action are in conformance with the following guidelines and manuals:

- Congressional Wildlife Management Guidelines (House Report No. 101-405, Appendix B).
- Management of Designated Wilderness Areas (BLM Manual Section 6340).
- Memorandum of Understanding between the Bureau of Land Management and the Nevada Department of Wildlife, Wildlife Management in Nevada BLM Wilderness Areas (BLM MOU 6300-NV930-0402).

SECTION 1.5 Scoping, Public Involvement, and Issues

The BLM EYDO issued a Notice of Proposed Action for Lands in Wilderness on 2/10/2022 (see Appendix C). The notice was distributed to the EYDO mailing list of interested parties.

SECTION 1.5.1 Internal scoping (Interdisciplinary staff)

Internal scoping was conducted on 11/30/2021 and 7/12/2022 where an Interdisciplinary Team (IDT) made up of Caliente Field Office resource specialists and management, discussed the potential consequences of the Proposed Action.

The BLM Caliente Field Office resource specialists reviewed the Proposed Action (see Table 1: Resources Considered) and found the following resources to be present with potential for impact, these resources would be carried forward in this EA for analysis:

- Threatened, Endangered, or Candidate Animal Species
- Wilderness

Chapter 2 Proposed Action and Alternatives

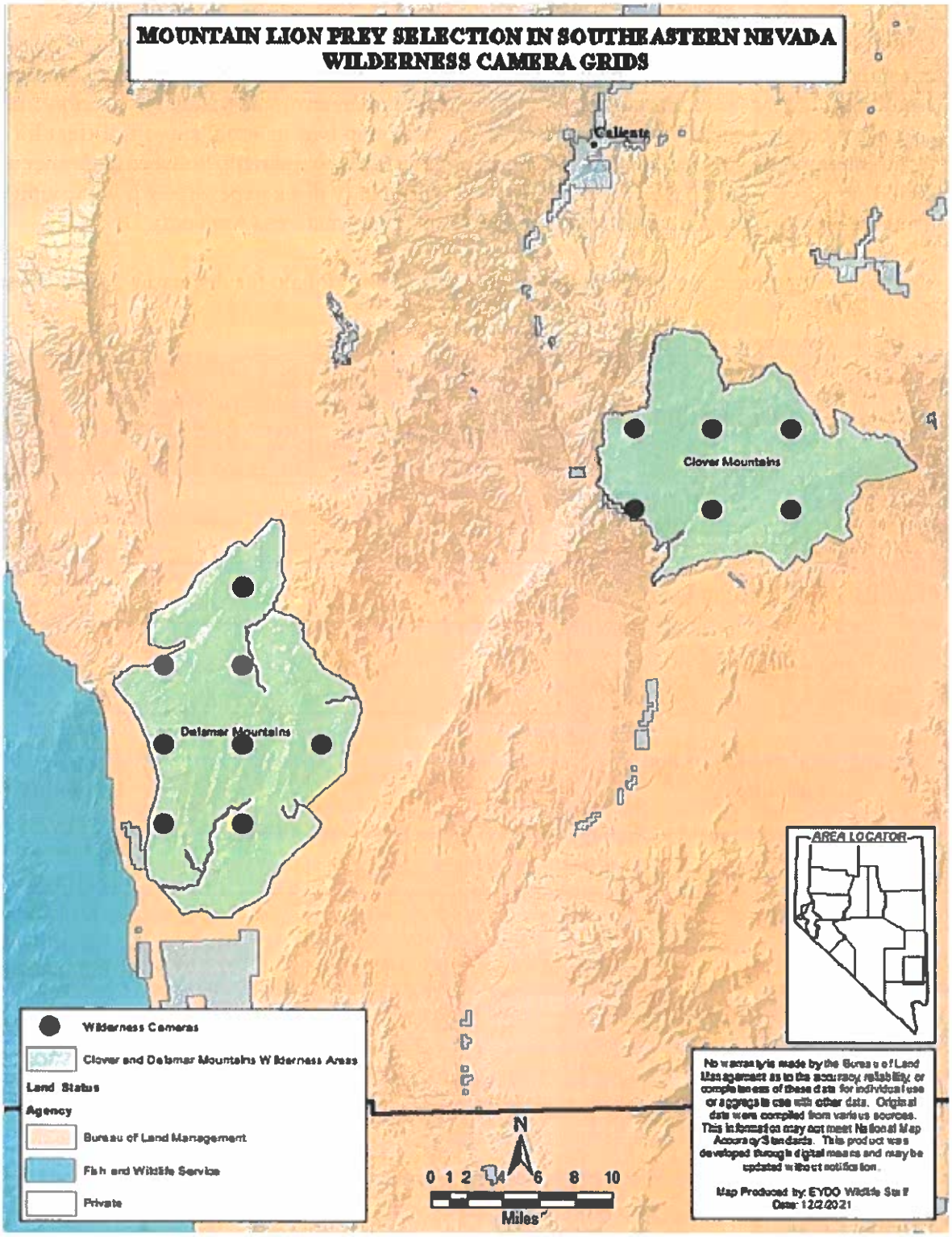
SECTION 2.1 Description of the Proposed Action

It has been proposed to place game cameras within the two Wilderness Areas for approximately five (5) years, where they would be fixed to existing vegetation and camouflaged to blend into the surrounding landscape. Cameras would be installed in a grid pattern with approximately 7-kilometers spacing between each camera to fit with the existing grid surrounding the Wilderness areas. A total of 14 cameras would be installed between both Wilderness areas, six (6) in the Clover Mountains and eight (8) in the Delamar Mountains (Figure 1.). Sites would be accessed by driving a 4x4 vehicle on existing dirt roads and trails to locations outside of the Wilderness boundary where one or two crew members would then continue into Wilderness on foot to a camera site. Individual cameras would be revisited on a rotational basis every three (3) to four (4) months for maintenance (e.g., replacing batteries and memory cards, or checking function). No ground or vegetation disturbance is anticipated from this project.

SECTION 2.2 Description of the No Action Alternative

Under this alternative NDOW and its partners would not be authorized to install a remote camera grid within designated Wilderness. The remote camera grid would be limited to areas outside of designated Wilderness and no data on relative prey abundance data could be determined for the Delamar Mountains and Clover Mountains Wilderness Areas using this method.

Figure 2. Study area containing Proposed Action 7-km^2 remote camera grid.



SECTION 2.3 Alternatives Considered but Eliminated from Detailed Analysis

Using aerial surveys to estimate relative abundance of mule deer, bighorn sheep, and horses was considered. However, this alternative was determined to cause greater disturbance to wildlife and would provide far less accurate data resulting from human error and visual obstruction from ungulates hiding behind vegetation. In addition, detection bias in aerial surveys differs for different ungulate species, so results would not have been comparable between prey species. This alternative would have also proved to be significantly more expensive while providing less accurate prey abundance results. See MRDG Step 2: Alternatives (Appendix D)

The following table documents the issues evaluation or rationale for dismissal from analysis:

Table 1. Resources Considered

Resource/ Concerns Considered	Not Present	Present/Not Affected	Present/May be Affected	Rationale
*Air Quality		x		No Impact
*Water Quality, Surface and Ground		x		No impacts anticipated
*Farmlands, Prime and Unique	x			No resources in project area, no impacts
*Forest Health[1]		x		There will be no modifications to the forest
*Rangeland Standards and Guidelines[2]		x		No impact to vegetation resources with the temporary installation of trail cameras
*Wetlands/ Riparian Zones		x		No resources in project area, no impacts
Fish and Wildlife, Special Status Species (excluding T&E)		x		Project would not significantly impact habitat for Fish and Wildlife and Special Status Species, nor cause population level impacts.

Cont. on next page.

[1] Healthy Forests Restoration Act projects only

[2] Usually not an issue unless the action is a grazing, ESR, or habitat/vegetation restoration projects

Resource/ Concerns Considered	Not Present	Present/Not Affected	Present/May be Affected	Rationale
*Migratory Birds and Sensitive Avian species, (except for sage grouse).		x		Project would not significantly impact habitat for Migratory Birds and Sensitive Avian Species, nor cause population level impacts.
*FWS Threatened & Endangered Species or critical habitat.[3] Also, ACECs designated to protect habitat of listed species. *FWS Threatened & Endangered Species or critical habitat.[4] Also, ACECs designated to protect habitat of listed species. CONT.		x		Project would have no effect on the Southwestern Willow Flycatcher and Western Yellow-billed Cuckoo, or their habitat. It was determined the project may affect, is not likely to adversely affect the Mojave desert tortoise. USFWS has concurred with this determination (see informal consultation) and minimization measures have been included into the project design. Project would have no significant impacts to ACECs designated to protect habitat of listed species.
Sensitive Plant Species, Also, ACECs designated to protect special status plant species.		x		Project would not significantly impact Sensitive Plant Species nor their habitat. There are no ACECs designated within the project area to protect Sensitive Plant Species.
Wild Horses		x		No Impacts

[3] Consultation required unless a "not present" or "no effect" finding is made

[4] Consultation required unless a "not present" or "no effect" finding is made

Resource/ Concerns Considered	Not Present	Present/Not Affected	Present/May be Affected	Rationale
Cont. on next page. *Cultural Resources		x		State Protocol Agreement between NV BLM and the NV SHPO (2014) exempts from inventory non-ground-disturbing data collection activity (A:3). Project is under-threshold for SHPO consultation (Part 1 B.1.d.(2)(a).
*ACEC's designated for important Historic and Cultural areas.	x			Not Present
Archaeological Areas and Districts)	x			Not Present
Paleontological Resources	x			No known significant paleontological resources in project areas
Visual Resources		x		The Proposed Action is located within VRM Class I which allows for very low levels of change to the landscape. According to the Proposed Action, no new disturbance would be created and visual impacts would be temporary in nature. No long-term visual impacts are expected. The Proposed Action meets visual resource management objectives.
Cont. on next page.				

Resource/ Concerns Considered	Not Present	Present/Not Affected	Present/May be Affected	Rationale
Land Uses (existing/pending ROW; disposal areas; land status; etc.)[5]	x			The selected study areas are in designated *Wilderness* (LCCRDA - P.L. 108-424, 2004). The RMP established designated Wilderness as exclusion areas. There are no affected ROWs or lands issues in either study area.
Travel Transportation Management (access; Travel Management Plan	x			There are no Travel Management Plans within the project area
Recreation Uses		x		No impacts to non-Wilderness recreational uses would occur. The Proposed Action would have a temporary impact on the visitors' Wilderness experience as stated in the Wilderness section.
Grazing Uses/Forage		x		No impact to livestock grazing operations on public land with the temporary installation of trail cameras. Please be aware that if the cameras are installed on posts, livestock may rub on the post and dislodge/damage the camera.
Vegetative Resources (Forest or Seed Products)		x		No impact to vegetative resources from the temporary installation

[5] Rights of Way, and other realty actions including Lands identified for Disposal.

Resource/ Concerns Considered	Not Present	Present/Not Affected	Present/May be Affected	Rationale
				of trail cameras.
Mineral Resources	x			No known exploration/mining activity within the study area.
Watershed Management (soil and vegetation conditions)		x		No impact to vegetative or soil resources from the temporary installation of trail cameras.
*Floodplains		x		Risk to floodplains does not exist
Fire Management	x			No impact to fire management from the temporary installation of trail cameras.
ES&R [i.e. restoration]	x			No impact to ES&R from the temporary installation of trail cameras.
*Invasive Non-native Species		x		No impact to noxious and invasive weeds from the temporary installation of trail cameras.
*Wilderness/ WSA			x	The Proposed Action location would be located within designated Wilderness areas and may have impacts to Wilderness characteristics of natural, untrammeled, solitude or primitive and unconfined recreation, and supplemental values. A minimum activity/minimum tool (MRDG) analysis conducted. Impacts assessed in EA.

Resource/ Concerns Considered	Not Present	Present/Not Affected	Present/May be Affected	Rationale
LWC	x			Proposed Action is Wilderness. LWC Wilderness may be present only on general BLM-administered lands.
*Wild and Scenic Rivers	x			NA
Public Safety[6]	x			NA
*Human Health and Safety[7]	x			NA
*Wastes, Hazardous or Solid	x			NA
*Native American Religious and other Concerns		x		Scoping project with Goshute Tribe, send letters to tribes. Consultation with the tribes is ongoing.
*Environmental Justice	x			The Proposed Action would not have disproportionately high or adverse effects on low income or minority populations. Health and environmental statues would not be compromised.
Other**	x			NA

[6] Analyzed if the project could cause issues with law enforcement, traffic hazards, excessive noise that could affect the public, etc.

[7] Herbicide Projects

Chapter 3 Affected Environment and Environmental Effects

SECTION 3.1 Introduction

This chapter presents the existing environment (i.e., the physical, biological, social, and economic values, and resources) of the impact area, the issues analyzed, the impacts to the analyzed resources, and project design features that would be carried forward into the Decision Record as conditions of approval of the proposal. While potential issues may arise during scoping, not all of them warrant analysis. Issues raised through scoping are analyzed if:

- Analysis of the issue is necessary to make a reasoned choice between alternatives;
- The issue is significant (e.g. an issue associated with a significant impact, such as a potential violation of a law imposed to protect the environment); and/or
- Analysis of the issue is necessary to determine if the impacts are significant, which includes impacts that are later in time or farther removed in distance.

Potential impacts to the following resources/concerns were evaluated in accordance with criteria listed above to determine if detailed analysis was required. Consideration of some of these items is to ensure compliance with laws, statutes or Executive Orders that impose certain requirements upon all Federal actions. Other items are relevant to the management of public lands in general, and to the Ely District BLM in particular.

Many times, a project would have some degree of effect upon a resource or concern, but that effect doesn't approach a threshold of significance after consideration of short and long-term effects, beneficial and adverse effects, effects on public health and safety, and effects that would violate Federal, State, Tribal, or local law protecting the environment. Such effects are described as "negligible" in the rationale for dismissal from analysis.

SECTION 3.2. General Setting

The two Wilderness areas are contained in the southeastern corner of Lincoln County, Nevada. The Delamar Mountains Wilderness Area was designated in 2004 under the Lincoln County Conservation, Recreation and Development Act of 2004 (P.L. 108-424) and is managed by the BLM. The Wilderness Area is made up of 111,328 acres and features several deep, twisting canyons that issue from the central core region and into the southern bajada. The eastern mountainous region holds hills, peaks, washes and draws. Many of the canyon areas and some of the boundary zones have spectacular cliffs. Elevations within the Wilderness boundaries range from approximately 2,600 to 6,200 feet. The Clover Mountains Wilderness Area was designated in 2004 under the Lincoln County Conservation, Recreation and Development Act of 2004 (P.L. 108-424) and is managed by the BLM. The Wilderness Area is made up of 85,748 acres and features rolling hills, rugged peaks, and jagged rock outcrops of rhyolite in natural hues of pink, yellow, red, orange and brown as well as twisting canyons and perennial waters. The volcanic peaks of the Clover Mountains Wilderness rise from about 2,900 feet to 7,600 feet above sea level.

SECTION 3.3. Resources

The following sections evaluate resources for the potential for significant impacts to occur due to implementation of the Proposed Action. Potential impacts were evaluated to determine if detailed analyses were required. Consideration of some of these items is to ensure compliance with laws, statutes or Executive Orders that impose certain requirements upon all federal actions. Other items are relevant to the management of public lands in general, and to the Ely District in particular. Table 3.1 lists any resources and rationale for not being carried forward for analysis as well as those that are carried forward.

SECTION 3.3.1 Threatened, Endangered, or Candidate Animal Species

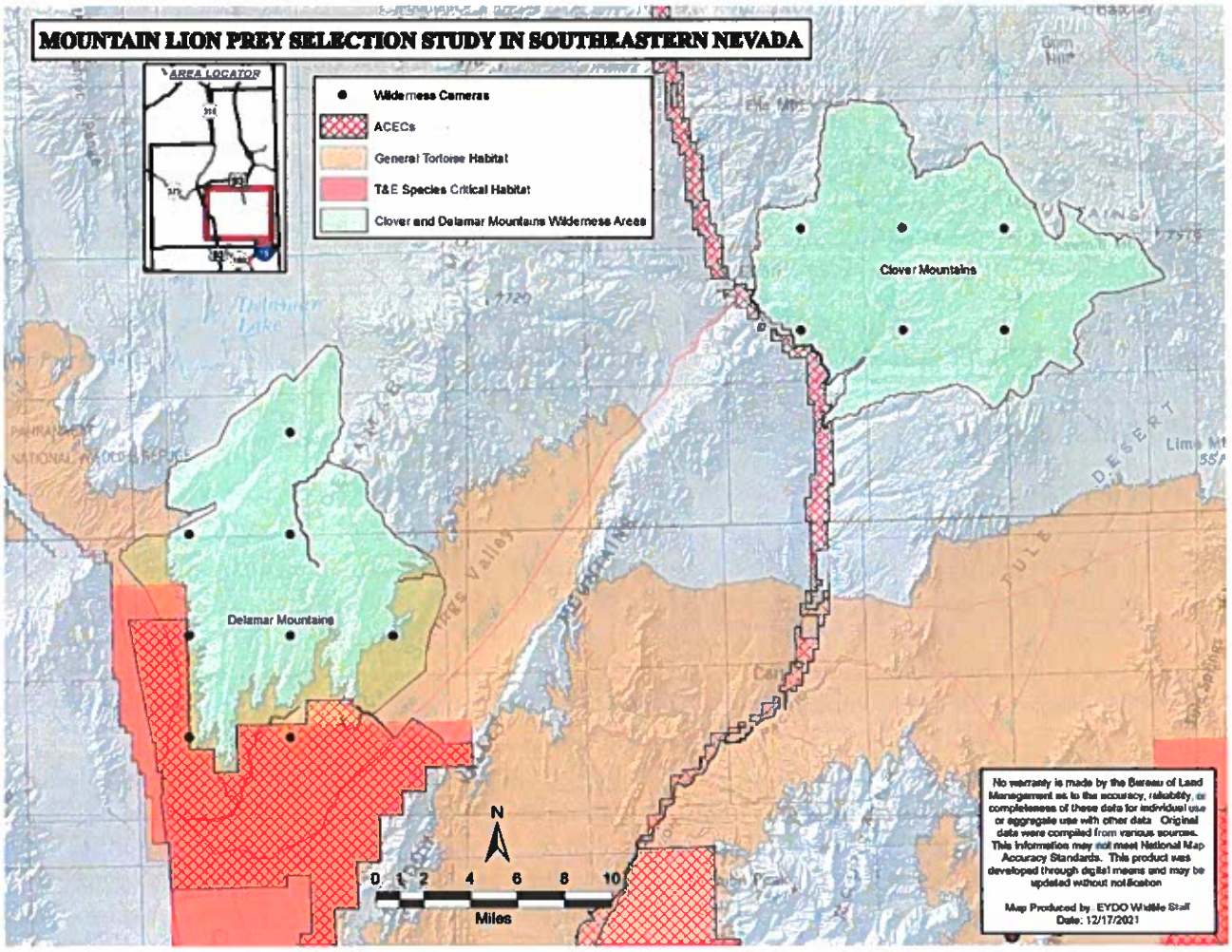
Desert Tortoise

Affected Environment

The southern portion of the Delamar Mountains Wilderness is identified as desert tortoise habitat by the 4,000-foot habitat model used in the 2008 Ely District Resource Management Plan. Much of the same area is also part of the Mormon Mesa Critical Habitat Unit and the Kane Springs Area of Critical Environmental Concern (ACEC). This portion of the Wilderness area in desert tortoise habitat is at the lower elevations of the Delamar Mountain Range where it borders Coyote Springs Valley and Kane Springs Valley (Figure 3.). The habitat in this area is transitional in nature with the creosote and white bursage vegetation type occurring near the valley floors and climbing the bases of slopes and up drainages where it then transitions into black-brush dominated sites as the elevation increases. Wyoming big sagebrush communities can also be expected at the higher elevations in the center of the Wilderness. Many of the higher elevation areas in the Delamar Mountains Wilderness were burned in 2005 and have become part of the annual grass fire cycle.

Triangular transect surveys conducted in the early 1990s indicated that much of the area had very low to moderate densities of tortoise. Only one area between the southwestern boundary of the Wilderness and Highway 93 had high densities of tortoise. A report generated from the Mojave Desert Tortoise Occupancy Tool indicates that the occupancy trend in much of the southern portion of the Delamar Mountains Wilderness Area has been increasing between 2001 and 2018.

Figure 4. Map of the Mountain Lion Prey Selection Study in Southeastern Nevada (Proposed Action) and Mojave desert tortoise habitat.



SECTION 3.3.1.1 Environmental Effects

Proposed Action

The BLM has determined the Proposed Action (the instillation of cameras in the wilderness area) is not likely to adversely affect the Mojave Desert tortoise. On 12/17/2021 the BLM initiated informal consultation (Service File # 2022-0022681-S7) with the U.S. Fish and Wildlife Service (USFWS) and received concurrence on this determination on 4/7/2022. The informal consultation can be found in Appendix B

Effects to individual desert tortoises would result from crew members traveling through tortoise habitat to reach camera sites. However, minimization measures would be in place to avoid and mitigate effects to desert tortoises; therefore, the action would result in minimal effects to the desert tortoise and its habitat (see Appendix B). Vehicle travel through desert tortoise habitat would be limited to existing roads and trails and is prohibited within the Wilderness areas. The project would have a 25-mph speed limit in tortoise habitat. Crew members would also be instructed on proper procedure if a tortoise is encountered on a road or trail. Proper procedure for

this action would be to leave any tortoises encountered, or encountered in harm's way, alone and allow them to move from harm's way on their own. The crew would be instructed to inspect beneath vehicles parked in habitat prior to moving the vehicle(s). Once crew members begin to travel on foot, they could encounter a tortoise or burrow. Crew members would again be instructed on the proper procedures if a tortoise is encountered, as well as how to identify and avoid tortoise burrows. No effects to desert tortoise habitat are anticipated. No new ground disturbance would occur as a result of the action. Cameras would be fixed to existing vegetation and camouflaged to blend into the surrounding landscape. Cameras would be installed in a grid pattern with approximately 7-kilometers spacing between each camera. A total of 14 cameras would be installed between both Wilderness areas, six (6) in the Clover Mountains and eight (8) in the Delamar Mountains..

No Action Alternative

There would be No Effect to Mojave Desert tortoise and designated Critical Habitat resulting from the project under the No Action Alternative. Crew members would not be traveling through desert tortoise habitat by vehicle or on foot, removing any chance a desert tortoise would be encountered.

SECTION 3.3.2 Wilderness

Affected Environment

The United States Congress established the National Wilderness Preservation System to assure that an increasing population, accompanied by expanding settlement and growing mechanization, does not occupy and modify all areas within the United States. Wilderness designation is intended to preserve and protect certain lands in their natural state. Only Congress, with Presidential approval, may designate public lands as Wilderness. The Wilderness Act of 1964 identifies Wilderness uses and prohibited activities. Except as otherwise provided in the Wilderness Act, each agency administering any area designated as wilderness shall be responsible for preserving the wilderness character of the area. Although Wilderness character is a complex idea and is not explicitly defined in the Wilderness Act, qualities of Wilderness character are commonly described as:

- Untrammeled – area is unhindered and free from modern human control or manipulation.
- Natural – area appears to have been primarily affected by the forces of nature.
- Undeveloped – area is essentially without permanent improvements or human occupation and retains its primeval character.
- Outstanding opportunities for solitude or a primitive and unconfined type of recreation – area provides outstanding opportunities for people to experience solitude or primeval and unrestricted recreation, including the values associated with physical and mental inspiration and challenge.
- Supplemental values – complementary features of scientific, educational, scenic or historic values.

The current condition for each Wilderness is described below in terms of the condition of its Wilderness character.

Delamar Mountains Wilderness

One of the main goals of the study is to understand the actual impact that mountain lion predation has upon populations of desert bighorn sheep. Although the range of desert big horn theoretically can extend into all areas of the study, we know that in the Delamar Mountains the range of the bighorn sheep is primarily within the boundaries of the Delamar Mountains Wilderness. Thus, inclusion of the Delmar Mountains Wilderness is vital because it encompasses the primary range of a species important to the study.

The limited trammeling activities that have occurred in Delamar Mountains Wilderness include various measures in the management of wildland fire, weeds, and removal of vegetation via livestock grazing. Additional obstructions are present in the form of authorized allotment fences, pipelines, water troughs, and wildlife water developments. The natural character of the Wilderness is mostly preserved, however changes to the native vegetation composition have occurred, including the introduction of the non-native invasive annuals such as red brome, cheatgrass, Tamarisk, and Sahara mustard. Non-native chukar partridge and feral horses may also be present. The Wilderness area has few permanent improvements or other evidence of modern human presence or occupation. Structures which occur include range developments such as fence lines, pipelines, water troughs and reservoirs, corrals, as well as wildlife water developments, abandoned mining claims, and unauthorized vehicle routes. Opportunities for solitude are outstanding throughout the Wilderness, as are recreation opportunities for hiking, camping, climbing, caving, hunting, horseback riding, and nature study. Only the 14-day stay limit for camping confines recreation opportunities.

Clover Mountains Wilderness

Trammeling activities that have occurred in Clover Mountains Wilderness include various measures in the management of wildland fire, weeds, emergency stabilization and rehabilitation treatments, and removal of vegetation due to livestock grazing activities and the ponderosa pine restoration projects. Additional trammeling activities are present in the form of authorized allotment fences and two corrals. The natural character of the Wilderness is mostly preserved, however changes to the native vegetation composition have occurred, including the introduction of the non-native invasive species such as cheatgrass (*Bromus tectorum*), red brome (*Bromus rubens*), tamarisk (*Tamarix ramosissima*), and Russian olive (*Elaeagnus angustifolia*). Non-native chukar (*Alectoris chukar*), wild turkeys (*Meleagris gallopavo*), and wild (feral) horses (*Equus ferus caballus*) may also be present. The Wilderness area has few permanent improvements or other evidence of modern human presence or occupation. Structures that are found are range developments such as fence lines and corrals, as well as a few former vehicle routes. Opportunities for solitude are outstanding throughout the Wilderness, as are recreation opportunities for hiking, camping, climbing, wildlife viewing, hunting, horseback riding, and nature study. Only the 14-day stay limit for camping may confine recreation opportunities for some visitors.

The Clover Mountains, and consequently the Clover Mountains Wilderness (per the information provided in point 1), are important to the study because the area acts as a control in the experimental design. The Delamar Mountains HA recently underwent a gather that significantly reduced the number of feral horses. Thus, observations obtained within that area allow researchers to see what type of interactions will occur in an area post-gather. On the other hand,

the Clover Mountains HA has not undergone a recent gather and is not slated to experience one in the next few years. Thus, observations made within this area provide researchers with a picture of the types of interactions that will occur if larger numbers of horses are present. The comparison of the data provided from these two areas will enable researchers to provide a clear picture of ecological processes that occur in the region.

SECTION 3.3.2.1 Environmental Effects

Proposed Action

The qualities of Wilderness character of untrammeled, natural, undeveloped, solitude or primitive and unconfined recreation, as described below would be affected within the areas described above by the proposal to install remote cameras on a 7-km grid.

Untrammeled
This monitors all actions that manipulate or control ecological systems in Wilderness. Research methods and modes of access implementing data collection through the use of a remote camera trap grid does not constitute human control or manipulation and thus would not affect the untrammeled quality of wilderness character

Undeveloped
The undeveloped quality of Wilderness could be negatively impacted by presence of game cameras for the duration of the 5-year study. Per the definition provided in the BLM Manual MS-6340 an Instillation is defined as "Anything made by humans that is not intended for human occupation and is left behind when the installer leaves the wilderness." The addition of these camera installations may therefore visually impact the undeveloped quality of wilderness character for the duration of the study though functionally the undeveloped character would remain the same. Based on the provided definition of an Instillation, the undeveloped qualify of the wilderness character would be restored to current levels when the cameras and stakes are removed at the conclusion of the study and the end of the 5th year. Additionally, trail cameras are designed to be discreate, this feature combined with the established necessity of action (see MRDG: Appendix D) will mitigate any effects on the undeveloped character of the Wilderness.

Natural
The proposed action could prevent the degradation of the natural quality of Wilderness character as the insight obtained from the observational data would inform the understanding of predator-prey relationships before and after controlled removal. This information would be used to preserve the natural range of mountain lions in the southeastern Nevada region and maintain natural relative prey abundance. The data collected will also enhance BLM and NDOW's understanding of horse immigration dynamics following a gather, which will inform best practices for wildlife management activities seeking to maintain natural characteristics of Wilderness.

A clear and complete understanding of natural ecological process are considered a necessary tool for land management agencies. Without this knowledge, BLM and NDOW are not able to fulfill the mandated obligations to preserve or enhance the natural quality of Wilderness Character in the Delamar and Clover Mountains Wilderness areas.

The BLM currently manages the populations of wild horses per the Wild Horse and Burro Act of 1971 (WHBA). The two Herd Areas (HA) found within the study are both managed for zero population. This means there should be no horses within these areas, and that scheduled gathers will aim to remove as many individuals as possible. However, because it's difficult to gather all the horses, the remaining population continues to grow and will eventually require additional gathers in response to emergency situations (drought or fire) that are likely to develop. Even though current management decisions support the removal of horses from these areas, nothing is known about how their removal impacts the local ecosystem of which the Wilderness areas are a crucial component.

Analysis of the images collected by the game cameras within the 7-km grid would help provide a more accurate picture of the predator/prey relationships occurring inside the wilderness areas. This information will provide NDOW and the BLM with the tools to work towards, healthy, viable and more naturally distributed wildlife populations that will be more compatible with the habitat ecological processes. The 14 cameras in the wilderness, in concert with 49 other cameras in the surrounding grid will provide information that may have broad applications to wilderness and non-wilderness areas across the state of Nevada, thus information obtained from the study has the potential to improve the character, not just of the Delamar and Clover Wilderness areas, but any other Wilderness that shares similar ecological characteristics.

Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation
While the proposed action would not have negative impacts to opportunities for primitive and unconfined recreation, it would have temporary, minor, negative impacts to outstanding opportunities for solitude. While the installations would be temporary and unobtrusive by nature, the presence of a remote camera grid in the Delamar Mountains and Clover Mountains Wilderness Areas HA could potentially disrupt the sense of outstanding solitude, their presence reminding Wilderness visitors of the visual evidence of civilization.

If a recreational wilderness visitor were to encounter researchers or technicians in wilderness areas, their solitude may be somewhat negatively impacted for the brief duration of their encounter. The action of installing the cameras and the presence of the cameras within wilderness over the 5 years of the research would be a reminder to wilderness visitors that human influence exists in the wilderness ecosystem.

Any potential negative impact to opportunities for solitude would be low in intensity, and overall opportunities for solitude in both wilderness areas would remain outstanding. Wilderness visitors may have the opportunity to learn about the researchers' work during an encounter. Additionally, opportunities for primitive and unconfined recreation would not be impacted.

Supplemental Values
No Effects are anticipated to Supplemental Values.

No Action Alternative
Under the no action alternative, NDOW would not be permitted to install temporary remote cameras to monitor relative prey abundance in the Delamar Mountains and Clover Mountains Wilderness Areas.

Untrammeled
There would be no impacts to the untrammeled quality of wilderness character as a result of taking no action and conducting no research.

Undeveloped
There would be no impacts to the undeveloped quality of wilderness character as a result of taking no action and conducting no research.

Natural
Performing no action may have a negative impact on the natural qualities of wilderness character. NDOW and BLM would not be able to obtain additional from the wilderness areas and would continue to operate with a limited understanding of ecological functions both inside the Wilderness and the surrounding area.

Outstanding Opportunities for Solitude or Primitive and Unconfined Recreation
There would be no impacts to opportunities for solitude or primitive and unconfined recreation as a result of taking no action and conducting no research.

Supplemental Values

There would be no impacts to supplemental values as a result of taking no action and conducting no research **as outlined in the MRDG included in the supplemental materials of this document.**

Chapter 4 Cumulative Impacts

SECTION 4.1 General Setting

The following sections evaluate the cumulative impacts that may occur due to implementation of the Proposed Action. The cumulative impacts consider all the Proposed Actions in a past, present, and future sense in order determine the best action possible.

As required under the NEPA and the regulations implementing the NEPA, this section analyzes potential cumulative impacts from past, present, and reasonably foreseeable future actions combined with the Proposed Action within the area analyzed for impacts in Chapter 3 specific to the resources for which cumulative impacts may be anticipated.

A cumulative impact is defined as "the impact which results from the incremental impact of the action, decision, or project when added to other past, present, and reasonably foreseeable future actions, regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time" (40 Code of Federal Regulations (CFR) 1508.7).

SECTION 4.2 Past, Present and Reasonably Foreseeable Future Actions

Past Actions

The BLM Ely District contains parts, or all, of 16 designated Wilderness areas. Due to the small population of the area and thus the lack of need for substantial development, the present Wilderness areas have experienced minimal disturbance in the past. The actions impacting wilderness character that have taken place within the Wilderness areas are limited to the residual effects of wild horse gathers, livestock grazing prior to designation and associated range improvements, wildlife guzzler installation prior to designation (Delamar Wilderness only) and wildfire suppression activities.

Present Actions

The present ongoing actions within the two Wilderness areas are comprised, continued livestock grazing and maintenance of range improvements, occasional wildlife guzzler maintenance (Delamar Wilderness only), primitive recreation, and wildfire suppression activities, all of which are anticipated to continue into the future.

Reasonably Foreseeable Future Actions

Reasonably foreseeable future actions may include proposals for additional camera trap studies, however such proposals would need to be accompanied by their own environmental assessment therefore this study would not inherently trigger any future actions that would not be independently evaluated. There may be residual environmental effects in the Wilderness if the collected data dictates changes in management practices but as the proposal states these would be designed to benefit the Wilderness and would not result in any direct actions within designated Wilderness.

SECTION 4.3 Wilderness

Proposed Action

The Proposed Action plan to install, maintain, and remove 14 game cameras (eight in the Delamar Wilderness and six in the Clover Wilderness) over a 5-year period may impact qualities of wilderness characteristic including: untrammeled, undeveloped, natural, solitude or primitive and unconfined recreation within the two Wilderness Areas. Although the Proposed Action plan could impact the undeveloped quality and opportunities for solitude in the Wilderness, these effects will be temporary and will not compound with impacts from the past, present, and reasonably foreseeable future actions regarding Wilderness.

Untrammeled

The action of traveling to camera sites on foot to setup, maintain, or remove game cameras would leave the Wilderness Areas untrammeled and is anticipated to have no direct impacts beyond the 5-year lifespan of the study. Due to the restrictive nature of Wilderness, trammeling within the study area should be minimal and in theory, even with previous trammeling activities occurring prior to designation in 2004. With designation, trammeling is not allowable, and so should not be occurring in the future. Therefore, it is unlikely there would be compounding impacts from past, present, and reasonably foreseeable future actions regarding Wilderness.

Undeveloped

Although the placement of the cameras within the Wilderness boundaries, as well as any stakes used to mount the cameras where trees are not available, would only be for 5 years, and as such would be considered temporary, they would still constitute an installation per the definition provided in BLM Manual MS-6340. It states that an installation is "Anything made by humans that is not intended for human occupation and is left behind when the installer leaves the Wilderness." The addition of these installations would therefore impact the undeveloped quality of Wilderness character for the duration of the study. The undeveloped quality of Wilderness character would revert back to current levels when the cameras, and any stakes to support the cameras, are removed at the study's conclusion.

Natural

The Proposed Action plan would not adversely affect the natural quality of the Wilderness areas and would specifically provide NDOW and the BLM the greatest ability to understand and/or preserve wildlife populations that utilize the Wilderness in way that is more in line with natural rhythms as well as the knowledge to preserve and/or manage ecological processes and habitat in a way that is more in line with what would be considered natural. In addition to the benefit to the two respective Wilderness areas, the knowledge obtained would also have a broad application to Wilderness and non-Wilderness areas across the state of Nevada. Thus, information obtained from the study has the potential to benefit the character of any Wilderness area that shares similar ecological characteristics. Impacts to the natural quality are anticipated to occur but will be positive and long-term. This quality is not anticipated to compound other past, present, or reasonably foreseeable future actions, unless to enhance continued preservation of the Wilderness areas.

Solitude or Primitive and Unconfined Recreation
Any potential negative impact to opportunities for solitude would be low in intensity, and overall opportunities for solitude in both Wilderness areas would remain outstanding. Wilderness visitors may have the opportunity to learn about the researchers' work during an encounter. Additionally, opportunities for primitive and unconfined recreation would not be impacted. The solitude or primitive and unconfined quality of Wilderness character would improve back to current levels when the cameras, and any stakes to support the cameras, are removed at the study's conclusion. As such, it is not anticipated that there would be compounding impacts from past, present, and reasonably foreseeable future actions regarding Wilderness.

Supplemental Values
It is not anticipated that there would be compounding impacts to supplemental values from past, present, and reasonably foreseeable future actions regarding Wilderness.

No Action Alternative

Under the No Action Alternative, NDOW would not be permitted to install temporary game cameras to monitor relative prey abundance in the Delamar and Clover Wilderness. The No Action Alternative in conjunction with past, present and reasonably foreseeable actions will not have cumulative impacts to untrammeled, undeveloped, solitude or primitive and unconfined recreation, and supplemental values and the absence from the Wilderness will insure that impacts from past, present, and reasonably foreseeable future actions in regard to Wilderness are not compounded. The No Action Alternative may have impact to the natural quality of Wilderness Characteristic in the loss of beneficial impacts to this quality resulting from the research. The lack of benefits could influence future actions.

SECITION 4.4 Threatened, Endangered, or Candidate Animal Species

No negative cumulative effects are anticipated from the instillation or presence of game cameras in the wilderness area for the proposed five-year study. As previously stated, most human activity related to this research will be conducted on foot and any travel on established roads will be done in strict adherence to the 25mph speed limit. Additionally, all crew members will have been trained on the proper protocols for a desert tortoise encounter and will abide by that training. Everything stated in this passage and in section 3.3.1.1 earlier in this document is corroborated in Appendix B (Service File # 2022-0022681-S7) which is the summary of our informal consultation with the U.S. Fish and Wildlife Service specifically relating to the possible effects on desert tortoise.

Chapter 5 Consultation and Coordination

SECTION 5.1 Consultation

- Endangered Species Act, section 7 Informal Consultation was completed on 4/7/2022. See Appendix B
- Tribal Consultation

SECTION 5.2 Public Participation

Public participation will take place in the form of public comment. The comment period began when this document was released on November 15, 2023, and will end on December 15, 2023, at which point any comments will be reviewed and necessary changed made before official conclusion of the assessment.

Chapter 6 List of Preparers

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BLM and NDOW MOU Regarding Wildlife Management in Wilderness

MEMORANDUM OF UNDERSTANDING

Between

THE BUREAU OF LAND MANAGEMENT

AND

THE NEVADA DEPARTMENT OF WILDLIFE

Supplement No. 9

Wildlife Management in Nevada BLM Wilderness Areas

I. Purpose.

The purpose of this Memorandum of Understanding (MOU) is to provide guidance and procedures for coordination and cooperation between the Bureau of Land Management (BLM) and the Nevada Division of Wildlife (NDOW) regarding the management of wildlife in designated BLM Wilderness Areas within the State of Nevada.

II. Objective.

The BLM and the NDOW are committed to the maintenance and restoration of fish and wildlife populations and habitats in Nevada within the jurisdictions of their respective agencies. Coordination and cooperation between the BLM and the NDOW, where jurisdictions involve designated Wilderness, is essential in order that BLM and NDOW

may accomplish their respective missions relating to management of fish and wildlife and their habitats as well as the Congressional mandate to manage Wilderness Areas under the Wilderness Act of 1964.

III. Authorities.

A. Section 307(b) of the *Federal Land Policy and Management Act of 1976,* 43 U.S.C. 1737.

B. Nevada Revised Statutes 501.181.

C. *The Wilderness Act of 1964* (P.L. 88-577), 16 U.S.C. 1131-1136.

D. *Nevada Wilderness Protection Act of 1989* (P.L. 101-195).

E. *Black Rock Desert – High Rock Canyon Emigrant Trails National Conservation Act of 2000* (P.L. 106-554) as amended by P.L. 107-63 of 2001.

F. *Clark County Conservation of Public Land and Natural Resources Act of 2002* (P.L. 107-282).

G. *Sikes Act of 1960*, as amended, (P.L. 86-797), 16 U.S.C. 670g-6701, 670o.

H. Congressional Wildlife Management Guidelines agreed to by the International Association of Fish and Wildlife Agencies, the Wildlife Management Institute, the BLM, and the USFS, approved by the House Committee on Interior and Insular Affairs, and adopted as policy by the BLM on August 25, 1986 in Instruction Memorandum 86-665 and by the USFS in Forest Service Manual 2323.32.

I. Resolution of the Nevada Board of Wildlife Commissioners concerning Wilderness Designations in Nevada adopted February 7, 2003.

IV. Definitions.

A. *Exotic Species*: For purposes of this MOU, all species of mammals, birds, fish, reptiles or their progeny or eggs, not naturally occurring either presently or historically in any ecosystem of the United States.

B. *Endemic or Indigenous Species*: For purposes of this MOU, those species presently or historically occurring naturally within a specific geographical area.

C. *Native Species*: For purposes of this MOU, all species of animals naturally occurring, either presently or historically, in any ecosystem of the United States.

D. *Naturalized Species*: For purposes of this MOU, those exotic species which were already occurring in a self-sustaining wild state before the date of Wilderness designation.

V. The BLM and NDOW Agree to the Following.

Fish and wildlife are recognized as an important wilderness value. Fish and wildlife management activities in Nevada's BLM Wilderness Areas will be planned and carried out in conformance with the Wilderness Act's purpose of securing an "enduring resource of wilderness" for the American people. BLM Wilderness Areas in Nevada will be managed in such a manner that ecosystems are unaffected by human manipulation, and human influence does not impede the free play of natural forces or interfere with natural ecological succession.

Site-specific, time-sensitive, on-the-ground conditions will dictate slightly different applications and perhaps even dissimilar decisions in BLM Wilderness Areas in Nevada. These different applications and decisions are both appropriate and proper, if we are to allow nature to play the dominant role in wilderness management. The emphasis is on management of BLM Wilderness Areas and wilderness values as opposed to the management of a particular resource. Where there are competing resource alternatives, wilderness values take precedence and priority.

Italicized paragraphs in this section of the MOU contain language and guidance that is exclusive to the *Clark County Conservation of Public Land and Natural Resources Act of 2002*.

A. Use of Motorized Equipment

The language in the Wilderness Act is viewed as direction that all management activities within BLM Wilderness in Nevada be done without motor vehicles, landing of aircraft, motorized equipment, or mechanical transport, unless truly necessary to administer the area as Wilderness. With regard to landing of aircraft, it is also against BLM regulation to drop or pick up materials, supplies, or persons from aircraft. Where the use of aircraft and motorboats have already become established prior to wilderness designation, they may be permitted to continue subject to such restrictions as the BLM deems desirable. The language in the Wilderness Act means that any such use should be rare and temporary, that no roads can be built, and that wilderness managers must determine such use is the minimum

necessary to accomplish the task. Any on-the-ground use of motorized equipment or mechanical transport requires advance approval by the BLM.

In Clark County, the BLM, in consultation with the NDOW, must determine if the use of motor vehicles, motorized equipment, or mechanical transport in the development and /or implementation of a project would promote healthy, viable, and more naturally distributed wildlife populations that would enhance wilderness values and accomplish those purposes with the minimum impact to wilderness values necessary to reasonably accomplish the task.

B. Fish and Wildlife Research and Management Surveys

Research on fish and wildlife, their habitats and the recreational users of these resources is a legitimate activity in Nevada BLM Wilderness Areas when conducted in a manner compatible with the preservation of the wilderness environment. Methods that temporarily infringe on the wilderness environment may be approved by the BLM if alternative methods or locations outside wilderness are not available. Methods that involve dropping or picking up of any materials, supplies, or persons by means of aircraft require BLM approval. Methods that involve the use of aircraft that fly over but do not touch down in Wilderness, such as aerial surveillance and aerial wildlife population counts, do not require BLM approval. Aircraft must be used in a manner that minimizes disturbance of other users, including humans and wildlife. Consider time of day, season of the year, route, appropriate maximum altitude of flight, and location of landing areas outside BLM Wilderness Areas.

All fish and wildlife studies within and over Nevada BLM Wilderness Areas must be conducted so as to preserve the natural character of the Wilderness. Capturing and marking of animals, radio telemetry, and occasional temporary installations may be permitted, if they are essential to studies that cannot be accomplished elsewhere. Installation of permanent base stations within BLM Wilderness is not permitted for monitoring of radio-instrumented animals.

The NDOW must obtain specific written approval or permits from the BLM before erecting any temporary installation. The BLM should only approve capture methods that minimize the impact on the wilderness environment.

C. Facility Development and Habitat Alteration

In rare instances, facility development and habitat alteration may be necessary to alleviate adverse impacts caused by human activities on fish and wildlife. Give first priority to locating facilities or habitat alterations outside BLM Wilderness Areas.

Flow-maintenance dams, water developments, water diversion devices, ditches and associated structures, and other fish and wildlife habitat developments necessary for fish and wildlife management, which were in existence before wilderness designation, may be permitted to remain in operation. These developments may be maintained, repaired, or replaced as long as the designed capacity and/or dimensions of the existing development are not exceeded. The BLM and the NDOW will jointly make decisions to remove existing water-related developments.

Clearing of debris that impedes the migratory movements of fish on primary spawning streams may be permitted, but only in a manner compatible with the wilderness resource. Use only nonmotorized equipment to clear debris and use explosives only when the use of hand tools is not practical. Limit clearing of debris from spawning streams to those identified as being critical to the propagation of fish. If it is necessary to restore essential food plants after human disturbance, use only indigenous plant species.

Development of new or additional water supplies may be permitted, but only when essential to preserve the wilderness resource and to correct unnatural conditions resulting from human influence. Proposals for new structures or habitat alterations must be submitted to the BLM for approval.

In Clark County, the BLM shall authorize structures and facilities if: (1) the structures and facilities will, as determined by the BLM, enhance wilderness values by promoting healthy, viable and more naturally distributed wildlife populations; and (2) the visual impacts of the structures and facilities on the BLM Wilderness Areas can reasonably be minimized.

D. Threatened and Endangered Species

Actions necessary to protect or recover Federally listed threatened or endangered species, including habitat manipulation and special protection measures as identified in threatened and endangered species recovery plans or other management agreements, may be implemented in Nevada BLM Wilderness Areas in previously occupied habitat, provided it is demonstrated that the actions cannot be done more effectively outside Wilderness. To prevent Federal listing, protect indigenous species that could become threatened or endangered or are listed as such by the State of Nevada. All transplants or habitat improvement projects require approval by the BLM.

E. Angling, Hunting, and Trapping

Angling, hunting, and trapping are legitimate wilderness activities subject to applicable State and Federal laws and regulations.

In Clark County, the BLM may, in coordination and consultation with the NDOW, designate by regulation, areas and periods during which no hunting, fishing, or trapping will be permitted in BLM Wilderness Areas for reasons of public safety, administration, or compliance with applicable laws.

F. Population Sampling

Scientific sampling of fish and wildlife populations is an essential procedure in the protection of natural populations in Nevada's BLM Wilderness Areas. Gill netting, battery-operated electrofishing, and other standard techniques of population sampling may be used. Closely coordinate sampling activities with the BLM and schedule them to avoid heavy public-use periods.

G. Chemical Treatment

Chemical treatment may be necessary to prepare waters for reestablishment of indigenous fish species, to protect or recover Federally listed threatened or endangered species, or to correct undesirable conditions resulting from the influence of man. Species of fish traditionally stocked before wilderness designation may be considered indigenous if the species is likely to survive. Use only registered piscicides, in consultation with the BLM, and according to label directions. Give preference to those piscicides that will have the least impact on non-target species and on the wilderness environment. NDOW will comply with Environmental Protection Agency processes delegated to the Nevada Division of Environmental Protection in attainment of permits and certifications of personnel applying chemicals to Nevada's waters within BLM Wilderness Areas. Schedule chemical treatments during periods of low human use and immediately dispose of fish in a manner agreed to by the BLM and the NDOW.

H. Spawn-Taking

The collection of fish spawn shall be permitted in Nevada BLM Wilderness Areas when alternative sources outside Wilderness Areas are unavailable or unreliable, or where spawn-taking was an established practice before wilderness designation. Use of techniques and facilities necessary to take and remove spawn, which were in existence before wilderness designation, may continue, except that motorized equipment will not be used. Facilities for spawn-taking stations approved by the BLM after wilderness designation must be removed after the termination of each season's operation. Decisions to prohibit spawn-taking, where it was an established practice

before wilderness designation, will be made jointly by the BLM and the NDOW.

I. Fish Stocking

Fish stocking may be conducted by the NDOW in coordination with the BLM, using means appropriate for wilderness, when either of the following criteria is met: (1) to reestablish or maintain an indigenous species adversely affected by human influence; or (2) to perpetuate or recover a threatened or endangered species. NDOW, in consultation with the BLM, will select the indigenous or naturalized fish species for stocking. Species of fish traditionally stocked before wilderness designation may be considered indigenous if the species is likely to survive. Exotic species of fish shall not be stocked. Numbers and size of fish and time of stocking will be determined by the NDOW. Barren lakes and streams may be considered for stocking, if there is mutual agreement that no appreciable loss of scientific values or adverse effects on wilderness resources will occur. The BLM and NDOW will inventory barren lakes, streams and other suitable waters prior to proposing such stocking projects.

J. Aerial Fish Stocking

Aerial stocking of fish shall be allowed for those waters in Nevada BLM Wilderness Areas where this was an established practice before wilderness designation or where other practical means are not available. Aerial stocking requires consultation with the BLM. The NDOW will supply the BLM a list of those waters where stocking with aircraft was an established practice before wilderness designation. To stock waters that had not been aerially stocked before wilderness designation, the NDOW will demonstrate to the BLM the need for using aircraft.

K. Transplanting Wildlife

Transplants (i.e., removal or reintroduction of terrestrial wildlife species in Nevada BLM Wilderness Areas) may be permitted if necessary: (1) to perpetuate or recover a threatened or endangered species; or (2) to restore the population of indigenous species eliminated or reduced by human influence. Investigate the possibility of utilizing sites and locations outside BLM Wilderness Areas first. If sites and locations outside BLM Wilderness Areas are not available, transplants shall be made in a manner compatible with the wilderness character of the area. Transplant projects, including follow-up monitoring, require advance written approval from the BLM, if the action requires ground disturbing activities, motorized methods, and/or temporary holding and handling facilities.

L. Wildlife Damage Control

Wildlife damage control in Nevada BLM Wilderness Areas may be necessary to protect Federally listed threatened or endangered species, to prevent transmission of diseases or parasites affecting other wildlife and humans, for the management of reintroduced indigenous wildlife species, or to prevent serious losses of domestic livestock. Control of nonindigenous species also may be necessary to reduce conflicts with indigenous species. Acceptable control measures include lethal and nonlethal methods, depending upon need, justification, location, conditions, efficiency and applicability of State and Federal laws. These control measures must be consistent with Section 4(c) of the Wilderness Act of 1964 to insure that prohibited uses are avoided. Use only the minimum amount of control necessary to resolve wildlife damage problems. The Animal and Plant Health Inspection Service, the BLM, the NDOW, or other approved State agency will implement control measures pursuant to cooperative agreements or memoranda of understanding. Wildlife damage control measures involving the use of motorized vehicles, motorized equipment, and/or mechanical transport must be approved by the BLM on a case-by-case basis.

M. Visitor Management to Protect Wilderness Wildlife Resources

When necessary to reduce human disturbance to wildlife populations or habitat, the BLM, in coordination and consultation with the NDOW, may take direct or indirect management actions to control visitor use. If and when it becomes apparent that public use is significantly degrading the wilderness wildlife resources, limitations on visitor use may be imposed and enforced by the appropriate agency.

VI. Annual Operations and Maintenance Schedule.

By January 15th of each year, the NDOW will submit to the appropriate BLM Field Office Manager(s) an annual Operations and Maintenance Schedule of proposed fish and wildlife management activities, projects and developments planned within BLM Wilderness Areas for the subsequent twelve-month period beginning July 1st and ending on June 30th of the following year. Activities, projects and developments must be submitted, with the exception of specifically identified actions in this MOU, if they: (1) involve one or more of the prohibited uses identified in Section 4(c) of the Wilderness Act (i.e., commercial uses, permanent roads, temporary roads, use of motor vehicles, use of motorized equipment, use of motorboats, landing of aircraft, mechanical transportation, structures, installations); (2) may be potentially surface-disturbing (i.e., any new disruption of the soil or vegetation); (3) involve the use of pesticides or other chemical or toxic substances; (4) involve manipulation of fish and wildlife habitat; and/or (5) involve mechanized and/or motorized control measures for predators or problem fish or wildlife species.

Annual Operations and Maintenance Schedules must be site-specific, time-sensitive, and be as definitive as reasonably possible. The Schedules will: (1) specify when proposed activities, projects and developments are planned for accomplishment, (2) describe the proposed activities, projects and developments in sufficient detail to allow for the assessment of the environmental consequences of such actions, (3) estimate the number of people involved, the amount of time for completion, the number of vehicles (if any) to be used, the equipment to be utilized, and (4) identify planned camping sites, material and equipment repositories, landing areas, and associated locations for support services and facilities. The BLM may request clarification of proposals and additional information.

The NDOW agrees to notify the BLM of any changes, additions or deletions to proposed activities, projects and developments. The notification will allow sufficient time for the BLM to complete necessary administrative requirements, such as public notification and environmental review. The BLM recognizes that accomplishment of the proposed fish and wildlife management activities, projects, and developments depends on factors which the NDOW may not control or that are uncertain and subject to change. Among these are the weather, availability of volunteers and agents, funding, etc., which may not permit the NDOW to complete activities, projects and developments according to the annual Operations and Maintenance Schedule.

VII. Immediate Actions and Procedures.

Actions requiring immediate attention due to unanticipated natural or human-caused circumstances (e.g., flood, vandalism, sick animal), that directly and immediately jeopardize the survival of fish and wildlife under the NDOW's jurisdiction, may be permitted if the following procedure is adhered to: (1) The NDOW agrees to notify the appropriate BLM Field Office Manager as soon as practicable after the problem is known; (2) The NDOW agrees to use no more than the "minimum tool" level of motorized vehicle, mechanical transport and/or motorized equipment necessary and practical to rectify the situation; and (3) The NDOW agrees to submit to the wilderness management agency a written assessment of the action requiring immediate attention within two weeks after resolution of the situation.

To the extent feasible, the NDOW will submit as part of their annual Operations and Maintenance Schedule, immediate action scenarios that may be possible or probable in connection with a given proposed activity, project or development. In doing so, the wilderness management agencies will then be in a position to analyze potential impacts to wilderness resources in advance of occurrence.

VIII. Process for Analyzing Proposed Projects/Activities and Approval Authorities.

Proposed fish and wildlife management activities, projects and developments submitted in the annual Operations and Maintenance Plan require permissions, approvals, and/or

permits from the BLM and will be processed and approved in accordance with the following procedure:

A. NDOW Annual Operations and Maintenance Schedule

1. Site-specific, time-sensitive, written proposals for wildlife management projects, developments and activities within BLM Wilderness Areas shall be developed in consultation with Field Managers and their staffs before they are proposed in the Annual Operations and Maintenance Schedule.

2. The NDOW Regional Habitat Supervisors are responsible for the development, coordination and submission of the Annual Operations and Maintenance Schedules to the BLM.

B. BLM Analysis of Projects and Approval Authorities

1. Site-specific, time-sensitive, written proposals for wildlife management projects, developments and activities within BLM Wilderness Areas shall be submitted in the annual Operations and Maintenance Plan to the appropriate Field Office Manager for consideration.

2. The BLM will provide written notification of proposals to interested and affected publics and allow these publics at least 30 days to offer comments, questions, concerns and alternatives. Public responses will be sent to the Field Office Manager.

3. Field Office Managers and their staffs will then complete and document "minimum requirement decision" and "minimum tool" analyses and appropriate National Environmental Policy Act compliance, before making a final decision.

4. Once the Field Office Area Manager makes a final decision, copies of the decision are mailed to all interested and affected parties. Decisions to allow a wildlife management project, development, or activity within a BLM Wilderness Area require permissions, approvals, and/or permits from the Field Office Manager. If the NDOW disagrees with a decision of the Field Office Manager, the decision may be reviewed by the Nevada State Director. All decisions can be appealed to the Interior Board of Land Appeals.

IX. Administration.

A. Nothing in this MOU will be construed as affecting the authorities of the BLM or the NDOW or as binding beyond their respective authorities, or

to require the BLM or the NDOW to obligate or expend funds in excess of available funds.

B. Conflicts among the BLM and the NDOW concerning processes or procedures under this MOU that cannot be resolved at the operational level will be referred to successively higher levels, as necessary, for resolution.

C. The BLM and the NDOW will review this MOU at least every five years to determine its adequacy, effectiveness and appropriateness.

D. The terms of this MOU may be renegotiated at any time at the initiative of the BLM or the NDOW, following at least 30 days notice to the other agency.

E. The BLM or the NDOW may cancel this MOU at any time, following at least 30 days notice to the other agency.

F. The BLM or NDOW may propose changes to this MOU during its term. Such changes will be in the form of an amendment and will become effective upon signature by both agencies.

G. Before this MOU is due to expire, if the BLM and NDOW agree that there is a continuing need, it may be extended or renewed.

H. This MOU will become effective upon signature of both agencies.

APPROVED:

Robert V. Abbey, Nevada State Director
Bureau of Land Management

On 12·1·03
Date

Terry R. Crawforth, Director
Nevada Department of Wildlife

On 11-25-03
Date

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Southern Nevada Fish and Wildlife Office
4701 North Torrey Pines Drive
Las Vegas, Nevada 89130

IN REPLY REFER TO:
2022-0022681-S7

April 7, 2022
Sent electronically

Memorandum

To: Field Manager
Bureau of Land Management
Caliente Field Office
Caliente, Nevada

From: Field Supervisor
Southern Nevada Fish and Wildlife Office
Las Vegas, Nevada

Subject: Informal Consultation for the Mountain Lion Prey Selection Study in Southeastern Nevada, Lincoln County, Nevada

This transmits the U.S. Fish and Wildlife Service's (Service) concurrence in response to your memorandum, received January 25, 2022, requesting informal consultation for authorization of the Mountain Lion Prey Selection Study in Southeastern Nevada in Lincoln County. You determined that the project may affect but is not likely to adversely affect the federally threatened Mojave desert tortoise (*Gopherus agassizii*) and its designated critical habitat. This informal consultation addresses potential effects to the species and its designated critical habitat in accordance with section 7 of the Endangered Species Act of 1973 (Act), as amended (16 U.S.C. 1531 *et seq*.) and 50 CFR § 402 of our interagency regulations governing section 7 of the Act.

This concurrence is based on information provided in your memorandum, completed consultation forms, correspondence between the Service and the Bureau of Land Management (BLM), and our files. A complete project file of this consultation is available in the Southern Nevada Fish and Wildlife Office in Las Vegas. If we can be of further assistance regarding this consultation, please contact Jessica Zehr at (702) 515-5232 or by e-mail at Jessica_Zehr@fws.gov. Please reference File No. 2022-0022681-S7 in future correspondence concerning this consultation.

cc: Supervisory Biologist - Habitat, Nevada Department of Wildlife, Las Vegas, Nevada

U.S. FISH AND WILDLIFE SERVICE

Endangered Species Act - Section 7
Informal Consultation Form

(Pages 1-3 to be completed by Federal Agency, except Service File No. field)

Date: 12/17/2021

Service File No.: 2022-0022681-S7 **Agency/Case Project No.:** DOI-BLM-NV-L030-2022-0002-EA

Species: Mojave Desert Tortoise (*Gopherus agassizii*)

Project Name: Mountain Lion Prey Selection in Southeastern Nevada

County/State: Lincoln County, NV

Jurisdictional landmanagers: Bureau of Land Management (BLM)

Federal Agency

Name: Bureau of Land Management – Caliente Field Office

Address: 1400 South Front Street/ P.O. Box 237

City/State/Zip: Caliente, NV 89008

Contact/Title: Andre Delcalzo, Wildlife Biologist

Phone/Fax: (775) 726-8173

Project Proponent

Name: Nevada Department of Wildlife and U.S. Geological Survey

Address: pjackson@ndow.org or schoeneckerk@usgs.gov

City/State/Zip:

Contact/Title: Pat Jackson (NDOW) or Kathryn Schoenecker (USGS)

Phone/Fax: Kathryn Schoenecker (970) 226-9329

U.S. FISH AND WILDLIFE SERVICE

Endangered Species Act - Section 7
Informal Consultation Form

Brief Project Description:
(exact location, size, prior site disturbance, starting date, and duration; attach photos of site if available.)

This project is a study of mountain lion prey selection in the Delamar and Clover Mountains Ranges. The Bureau of Land Management (BLM) is analyzing a proposal by the project proponents to install game cameras in the Delamar and Clover Mountains Wilderness Areas for the purpose of gathering data on prey species density. Cameras would be installed in a grid pattern with approximately 7-kilometers spacing between each camera. A total of 14 cameras would be installed between both wilderness areas, six in the Clover Mountains and eight in the Delamar Mountains. None of the six cameras proposed for the Clover Mountains Wilderness Area are in tortoise habitat. Of the eight camera sites proposed in the Delamar Mountains, five are outside of desert tortoise habitat but may require access through habitat. The remaining three sites would be located in habitat suitable for the desert tortoise and would require access through habitat (see Figure 1 in the Appendix). The two southern-most points with cameras are located in the Mormon Mesa Critical Habitat Unit. The eastern-most point in the Delamar Mountains Wilderness is located in non-critical habitat. Cameras would be installed for approximately three years and would be fixed to existing vegetation. Sites would be accessed by driving a 4x4 vehicle on existing dirt roads and trails to the wilderness boundary where one or two crew members would then continue on foot to a camera site. Individual cameras would be revisited on a rotational basis every few months for maintenance (e.g., replacing batteries and memory cards, or checking function). No ground or vegetation disturbance is anticipated from this project.

Habitat Description (including surveys conducted and results)**:**
The southern portion of the Delamar Mountains Wilderness is identified as desert tortoise habitat by the 4,000 foot habitat model used in the 2008 Ely District Resource Management Plan. Much of the same area is also part of the Mormon Mesa Critical Habitat Unit and the Kane Springs Area of Critical Environmental Concern (ACEC). This portion of the wilderness area in desert tortoise habitat is at the lower elevations of the Delamar Mountains Range where it borders Coyote Springs Valley and Kane Springs Valley. The habitat in this area is transitional in nature with the creosote and white bursage vegetation type occurring near the valley floors and climbing the bases of slopes and up drainages where it then transitions into black-brush dominated sites as the elevation increases. Wyoming big sagebrush communities can also be expected at the higher elevations in the center of the wilderness. Many of the higher elevation areas in the Delamar Mountains Wilderness were burned in 2005 and have become part of the annual grass fire cycle.

Triangular transect surveys conducted in the early 1990s indicated that much of the area had very low to moderate densities of tortoise. Only one area between the southwestern boundary of the wilderness and Highway 93 had high densities of tortoise. A report generated from the Mojave Desert Tortoise Occupancy Tool indicates that the occupancy trend in much of the southern portion of the Delamar Mountains Wilderness area has been increasing between 2001 and 2018.

Effects of the Action
Effects to individual desert tortoises would result from crew members traveling through tortoise habitat to reach camera sites. However, minimization measures will be in place to avoid and minimize effects to desert tortoises; therefore, the action would result in minimal effects to the desert tortoise and its habitat. Vehicle travel through desert tortoise habitat would be limited to existing roads and trails and is prohibited within the wilderness areas. The project would have a 25-mph speed limit in tortoise habitat. Crew members would also be instructed on proper procedure if a tortoise is encountered on a road or trail. Proper procedure for this action would be to leave any tortoises encountered, or encountered in harms way, alone and allow them to move from harms way on their own. The crew would be instructed to inspect beneath vehicles parked in habitat prior to moving the vehicle(s). Once crew members begin to travel on foot, they could encounter a tortoise or burrow. Crew members would again be instructed on the proper procedures if a tortoise is encountered, as well as how to identify and avoid tortoise burrows. No effects to desert tortoise habitat are anticipated. No new ground disturbance would occur as a result of the action. Cameras would be fixed to existing vegetation in a manner that prevents damage to the plants. Aside from the proposed camera installations, the wilderness designation of the action area requires that strict *Leave No Trace* principles be practiced to minimize the effects to wilderness character.

Minimization Measures
BLM will implement the following minimization and avoidance measures from the Reasonable and Prudent Measures with Terms and Conditions found in the Programmatic Biological Opinion (PBO) for the Bureau of Land Management's Ely District Resource Management Plan (Service File No. 84320-2008-F-0078). For ease of reference, the same numbers used to identify each of the measures within the PBO and the Resource Management Plan are also used below.

2.a. Prior to initiation of an activity within desert tortoise habitat, a desert tortoise awareness program shall be presented to all personnel who will be onsite, including but not limited to contractors, contractors' employees, supervisors, inspectors, and subcontractors. This program will contain information concerning the biology and distribution of the desert tortoise and other sensitive species, their legal status and occurrence in the project area; the definition of "take" and associated penalties; speed limits; the terms and conditions of this biological opinion including speed limits; the means by which employees can help facilitate this process; responsibilities of workers, monitors, biologists, etc.; and reporting procedures to be implemented in case of desert tortoise encounters or noncompliance with this biological opinion.

2.e. A litter-control program shall be implemented by the responsible federal agency or their contractor to minimize predation on tortoises by ravens and other predators drawn to the project site(s). This program will include the use of covered, raven-proof trash receptacles, removal of trash from project areas to the trash receptacles following the close of each work day, and the proper disposal of trash in a designated solid waste disposal facility. Appropriate precautions must be taken to prevent litter from blowing out along the road when trash is removed from the site.

BLM will also implement the following measures from the approved 2008 Ely District Resource Management Plan.

SS-33: Implement the following management actions for desert tortoise habitat:

- All projects in desert tortoise habitat will be reviewed by the BLM'S wildlife staff to ensure that appropriate measure have been incorporated in the BLM authorization to minimize the potential take of desert tortoise and loss of habitat; and
- A BLM representative(s) will be designated and will be responsible for overseeing compliance with term and conditions of all permitted activities and reporting requirements. The designated representative will provide coordination among the permittee, project proponent, the BLM and the Service.

TM-5: Limit motorized traffic to designated routes within desert tortoise habitat outside of designated wilderness.

Additional Measures

- All project personnel will be informed of the potential occurrence of tortoises on access roads in and around the project area;
- BLM shall ensure that vehicles do not exceed 25 mph on the access roads;
- Vehicle use will be restricted to existing roads and trails outside of wilderness areas and project personnel will only travel on foot within the wilderness area;
- Project personnel will be instructed to inspect for tortoises under vehicles parked in tortoise habitat prior to moving vehicles; and
- Any tortoise found in harms way will be allowed to move out of harms way on its own.

Additional Comments

Although travel through desert tortoise habitat may occur during the tortoise active season, it is the BLM's determination that implementation of the project with the above minimization measures will not result in take of a desert tortoise in the form of harm or injury.

U.S. FISH AND WILDLIFE SERVICE

Endangered Species Act - Section 7
Informal Consultation Form

Listed Species: Mojave Desert Tortoise (*Gopherus agassizii*)

Determination:

____ No effect (for informational purposes only; no Service response required)

X Not likely to adversely affect

If determination is *likely to adversely affect*, initiate formal consultation.

Critical Habitat: **X** Yes ____ No

If yes, determination X Not likely to adversely modify

If determination is *likely to adversely modify*, initiate formal consultation.

Signature: SHIRLEY JOHNSON Digitally signed by SHIRLEY JOHNSON Date: 2022.01.24 17:04:12 -08'00'

(Agency Representative)

Title: Field Manager, Caliente Field Office, BLM

U.S. FISH AND WILDLIFE SERVICE

Endangered Species Act - Section 7
Informal Consultation Form
(This page to be completed by the U.S. Fish and Wildlife Service)

Service File No.: 2022-0022681-S7

Agency/Case Project No.: DOI-BLM-NV-L030-2022-0002-EA

Service Response:
Based on the information provided, the agency has determined that the action, as proposed and analyzed, *is not likely to adversely affect* listed species. The U.S. Fish and Wildlife Service ___**X**___ concurs _____ does not concur with this determination (see alternatives below).

Justification for Response:
Based on the project description, project implementation would occur over the next three years within and adjacent to desert tortoise critical habitat and non-critical habitat. However, cameras would be fixed to existing vegetation in a manner that prevents damage to the plants, no vegetation disturbance would occur, and no ground disturbance would take place as a result of the action. Vehicle travel through desert tortoise habitat would be limited to existing roads and trails and is prohibited within wilderness areas; therefore, in these wilderness areas, project personnel will travel by foot. The Service does not anticipate adverse effects to the desert tortoise or adverse modification to the designated critical habitat unit based on the fact that no ground disturbance would occur as a result of this project and based on the minimization measures required to implement the proposed project. Measures include those taken from the Reasonable and Prudent Measures in the PBO for the BLM's Ely District Resource Management Plan (RMP, Service File No. 84320-2008-F-0078) and measures from the RMP. Measures include (1) informing project personnel of the potential occurrence of tortoises on access roads in and around the project area; (2) ensuring that vehicles do not exceed 25 mph on the access roads; (3) project personnel will be instructed to inspect for tortoises under vehicles parked in tortoise habitat prior to moving vehicles; (4) vehicles, where vehicle use is allowed, are restricted to existing roads and trails; and (5) any tortoise found in harms way will be allowed to move out of harms way on its own.

Conclusion:
Based on the project description, site description, and proposed minimization measures, the Service concurs that the proposed project may affect but is not likely to adversely affect the Mojave desert tortoise or its designated critical habitat. Should project plans change, or if additional information on the distribution of listed or proposed species becomes available, this determination may be reconsidered. Even with this concurrence, participants will be informed to report all observations of desert tortoises on the project to the Service at (702) 515-5232 within the next business day. This concludes informal consultation pursuant to the regulations implementing the Act, promulgated under 50 CFR § 402.13. This informal consultation does not authorize any take of Mojave desert tortoise, which includes their capture, handling, or removal.

Signature: _____ _____

Glen Knowles, Field Supervisor — Date
Southern Nevada Fish and Wildlife Office

Appendix

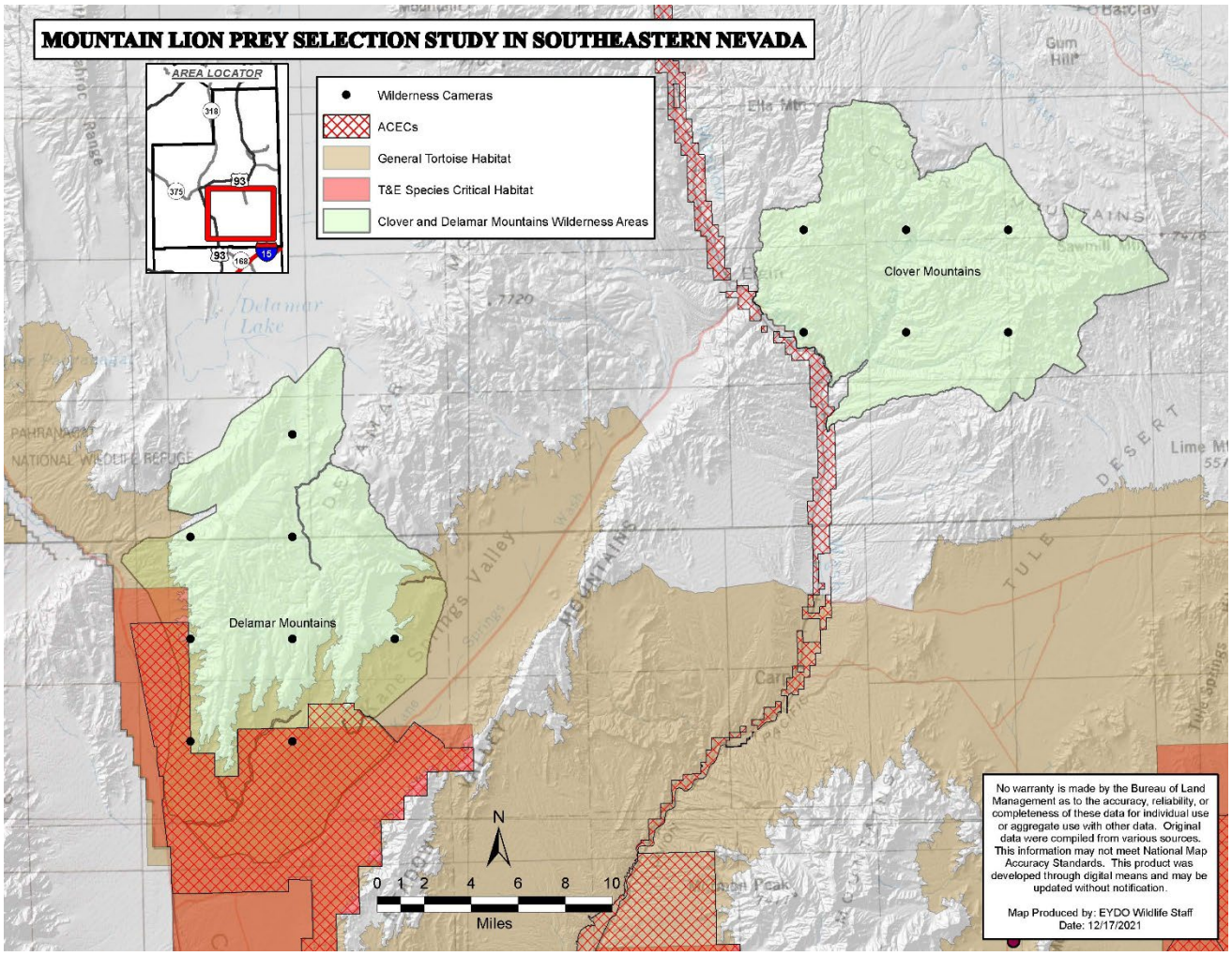


Figure 1. Map of the Mountain Lion Prey Selection Study in southeastern Nevada area and desert tortoise habitat.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Ely District Office
702 North Industrial Way
Ely, Nevada 89301
https://www.blm.gov/nevada

FEB 10 2022

NOTICE OF PROPOSED ACTION
LANDS IN WILDERNESS

STATE:	Nevada
COUNTIES:	Lincoln
FIELD OFFICE(S):	Caliente
WILDERNESS AREAS:	Clover Mountains and Delamar Mountains
PROPOSED ACTION:	Installation of Game Cameras for Wildlife Research

Description of the Proposed Action

The Nevada Department of Wildlife and the U.S. Geological Survey are conducting a study of mountain lion prey selection in southeastern Nevada and are proposing to install game cameras (a.k.a. trail cameras or camera traps) in the wilderness areas listed above. The purpose for the proposed action is driven by a lack of understanding of the current predator-prey relationship of mountain lions, as well as the impacts current wildlife and land management activities may have on those relationships throughout their range which often overlaps Federally designated wilderness areas. The study would provide the Bureau of Land Management (BLM) with data that would inform the management needs of wildlife in wilderness.

In this proposal, cameras would be used to gather data on the density of mountain lion prey species including desert bighorn sheep, wild horses, mule deer, and elk. A total of fourteen cameras are proposed to be installed in the wilderness areas for a period of approximately three years. Exact locations of the proposed cameras will not be identified; however, they would be placed in a grid pattern with approximately seven kilometers spacing as illustrated in the enclosed map of the proposed action area. The proposed action, and any reasonable alternative actions, will be analyzed in accordance with all applicable laws, regulations, and policies, including the Wilderness Act. BLM Manual 6340, *Management of Designated Wilderness Areas,* section 1.6.C.14.c.iii states: "Research, or any component action of research, that must employ a prohibited use and must be done in wilderness may be permitted if the use meets the minimum necessary test and the benefits to wilderness character outweigh the impacts".

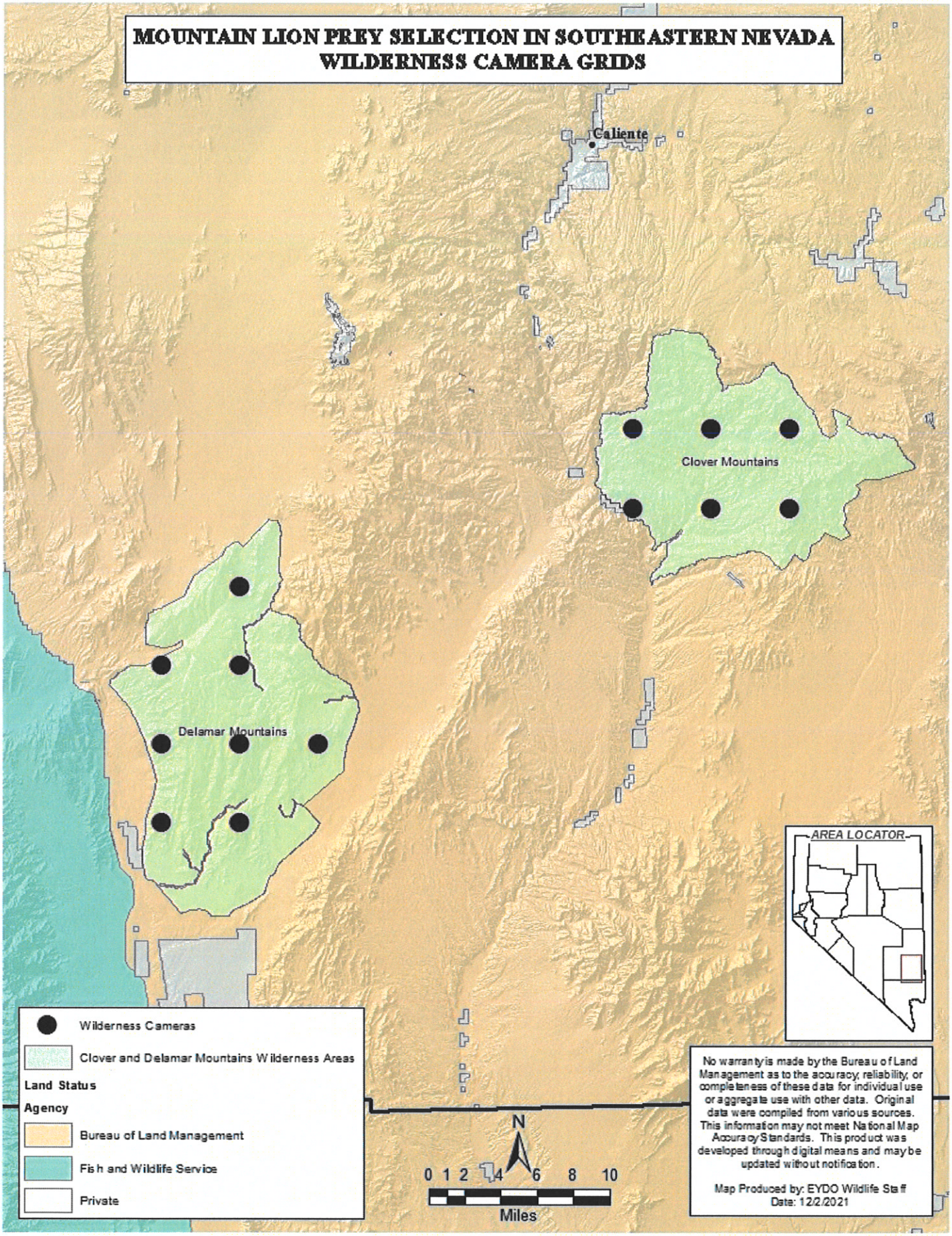
Expected Decision

It is expected that the Ely District Manager will make a decision on the proposed action once the Environmental Assessment (EA) is completed in spring 2022 and has completed the public review process. Recipients of this notice will also be notified once the EA has been published to the BLM National NEPA Register. For more information about this proposed action, please contact Cameron Boyce, Assistant Field Manager at 775-726-8130 or at cboycy@blm.gov.

ROBBIE MCABOY Digitally signed by ROBBIE MCABOY Date: 2022.02.09 08:35:31 -08'00'

Robbie McAboy
District Manager
Ely District

02/09/2022
Date


MOUNTAIN LION PREY SELECTION IN SOUTHEASTERN NEVADA
WILDERNESS CAMERA GRIDS
Caliente
Clover Mountains
Delamar Mountains
AREA LOCATOR
Wilderness Cameras
Clover and Delamar Mountains Wilderness Areas
Land Status
Agency
Bureau of Land Management
Fish and Wildlife Service
Private
N
0 1 2 4 6 8 10
Miles
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual use or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.
Map Produced by: EYDO Wildlife Staff
Date: 12/2/2021

ARTHUR CARHART NATIONAL WILDERNESS TRAINING CENTER

MINIMUM REQUIREMENTS DECISION GUIDE

WORKBOOK

"…except as necessary to meet minimum requirements for the administration of the area for the purpose of this Act…"

-- The Wilderness Act of 1964

Project Title: Mountain lion Prey Selection in the Delamar Mountains and Clover Mountains Wilderness Areas

MRDG Step 1: Determination

*Determine if Administrative Action is **Necessary***

Description of the Situation
What is the situation that may prompt administrative action?

Within the state of Nevada mountains lions generally reside in higher elevations and mountainous regions, however, they can reside in most areas throughout the state. As one of the State's only major predators, their presence (or lack thereof) can lead to broad impacts on population and behavior of larger prey species. Major prey species for mountain lions include mule deer, elk, desert bighorn sheep, and wild horses.

Wild horses fill a unique place in the ecosystems of Nevada. Although technically a non-native species, these wild horses and burros are protected and managed under special direction through The Wild and Free-Roaming Horses and Burros Act of 1971 (Public Law 92-195) (WHBA). Management of wild horses require that their populations reside within the established boundaries of herd areas (HA) that were identified at the time of the passage of the Wild and Free-Roaming Horses and Burros Act). Herd areas identified for long-term management were established through land use planning as herd management areas (HMAs) and are to be maintained at specific numbers. The two HAs (Clover Mountain and Delamar Mountain HAs) identified for this proposed research are not identified for long-term management and are to be managed for zero (0) wild horses. To achieve desired population levels, wild horses are "gathered" as necessary to reduce populations down to the HA's management numbers. Gathers involve the capture of horses and their removal from the range. Depending on the area, gathers can remove large numbers of horses from the HA (sometimes upward of 2000 individuals).

Because these two HA's are managed for zero wild horses, gathers could occur anytime horses are detected within the areas. However, because administering a gather requires administrative approval as well as the necessary funding and space to accommodate the horses that are removed, gathers generally only occur every few years. Past removals have left a gap in knowledge regarding the ecological process that occur in areas occupied by wild horses and inhabited by mountain lions. As wild horses are removed from the ecosystem, little is known about how mountain lion prey selection adapts to such a disturbance. Thus, it is hypothesized that when the population of wild horses in an area rapidly decreases (due to gathers or other types of disturbances), that predation habits of mountain lions will change, and they will shift toward native species. However, because so little is known about these relationships, the bigger questions are how do they change, how will these changes impact mountain lions, and how will these changes impact native prey species?

To answer these questions, researchers and technicians working with the Nevada Department of Wildlife (NDOW) and Utah State University (USU) would like to study the relationship(s) between mountain lions in Nevada and their prey. The study area is located within the Delamar and Clover Mountains. The goal is to provide a clearer image of the natural ecological process that take place within these two mountain ranges, which can also be applied broadly across similar locations in the state of Nevada. Gaining knowledge of how mountain lion prey selection changes based on the availability of wild horses in their range would help NDOW and the BLM to make informed decisions regarding the management of big game and predator populations in conjunction with federal management of wild horses. Additionally, the project will allow agencies to learn if there are healthy, sustainable predator/prey populations and interactions that are resilient to current and future management actions (or lack thereof) within and adjacent to the wilderness. In summary, data from this study would allow both the BLM and NDOW to cooperatively support "healthy, viable, and more naturally-distributed wildlife populations" (Lincoln County Conservation, Recreation, and Development Act of 2004 – Title II, Sec. 209 B – Public Law 108-424) within the areas they manage.

Beginning in 2018, researchers started observing the behavior of mountain lions. In areas outside of wilderness, mountain lions were captured, fitted with a GPS tracking collar, and then released. The GPS data obtained allows researchers to track movements of the animal and determine when a mountain lion has killed another animal. Researchers can then go to the site and determine the prey selection habits of the specific mountain lion. In 2020, researchers began placing game cameras on land outside of the wilderness. The game cameras were placed across the landscape so that they created a 7-km grid and would begin to observe any wildlife (or non-wildlife) that moved through their field of view. The purpose of the cameras is to aid researchers in determining density and abundance of prey species. A cursory analysis of the data obtained so far has led researchers to believe that wild horses make up approximately 25% of the diet of mountain lions. However, without the inclusion of the wilderness, data obtained from outside the wilderness boundaries will be incomplete and won't provide a complete picture of the actual ecological process taking place.

Options Outside of Wilderness
Can action be taken outside of wilderness that adequately addresses the situation?

☐ YES **STOP – DO NOT TAKE ACTION IN WILDERNESS**

☒ NO **EXPLAIN AND COMPLETE STEP 1 OF THE MRDG**

Explain:

Action solely outside of the wilderness is not possible if researchers want to realize the full goals of the study. For this reason, expansion of the research to inside the boundaries of the Delamar Mountains and Clover Mountains Wilderness Areas is needed. There are few reasons that action outside of the wilderness is not sufficient.

1. The two wilderness areas represent significant geographic spaces in the areas of study. Performing research only outside of the wilderness boundaries means that results obtained from the study may only provide a partial picture of the natural ecological process. The partial picture has the potential to provide incomplete data and may lead to management strategies that are not beneficial to the protection and promotion of the natural processes found in the areas both inside and outside of the wilderness. Geographic "holes" occur because mountain lions and their prey don't recognize wilderness boundaries, so it is possible that interactions that that occur inside the two wilderness areas are different than what is observed by the cameras outside of the wilderness.

2. The Clover Mountains, and consequently the Clover Mountains Wilderness (per the information provided in point 1), are important to the study because the area acts as a control in the experimental design. The Delamar Mountains HA recently underwent a gather that significantly reduced the number of wild horses. Thus, observations obtained within that area allow researchers to see what type of interactions will occur in an area post-gather. On the other hand, the Clover Mountains HA has not undergone a recent gather and is not slated to experience one in the next few years. Thus, observations made within this area provide researchers a picture of the types of interactions that will occur if larger numbers of horses are present. The comparison of the data provided from these two areas will enable researchers to provide a clear picture of ecological processes that occur in the region.

3. One of the main goals of the study is to understand the actual impact that mountain lion predation has upon populations of desert bighorn sheep. Although the range of desert big horn theoretically can extend into all areas of the study, we know that in the Delamar Mountains the range of the bighorn sheep is primarily within the boundaries of the Delamar Mountains Wilderness. Thus, inclusion of the Delmar Mountains Wilderness is vital because it encompasses the primary range of a species important to the study.

Criteria for Determining Necessity
Is action necessary to meet any of the criteria below?

A. Valid Existing Rights or Special Provisions of Wilderness Legislation

*Is action necessary to satisfy valid existing rights or a special provision in wilderness legislation (the Wilderness Act of 1964 or subsequent wilderness laws) that **requires** action? Cite law and section.*

☐ YES ☒ NO

Explain:

There are no valid existing rights or special provisions in legislation that require action.

B. Requirements of Other Legislation

*Is action necessary to meet the requirements of **other federal laws**? Cite law and section.*

☐ YES ☒ NO

Explain:

There are no other requirements that necessitate action.

C. Wilderness Character

Is action necessary to preserve one or more of the five qualities of wilderness character?

UNTRAMMELED

☐ YES ☒ NO

Explain:

Action is not necessary to preserve this quality of wilderness character.

UNDEVELOPED

☐ YES ☒ NO

Explain:

Action is not necessary to preserve this quality of wilderness character.

NATURAL

☒ YES ☐ NO

Explain:

Management of resources within the areas of the Delamar Mountains and Clover Mountains Wilderness is currently being administered by the BLM and NDOW. The BLM manages the wilderness areas based on the Lincoln County Conservation, Recreation, and Development Act of 2004 (LCCRDA) and The Wilderness Act of 1964. It is through the framework of these pieces of legislation which management decisions are filtered. However, in this specific case, the BLM must also consider the WHBA due to the presence and management of wild horses, whose range overlaps the wilderness boundaries. Additionally, when it comes to wildlife, both the BLM and NDOW share the responsibility of management. Directed by their mission, NDOW is required "*To protect, conserve, manage, and restore wildlife and its habitat for the aesthetic, scientific, educational, recreational, and economic benefits to citizens of Nevada and the United States*" (NDOW Mission Statement). The BLM receives its mandate to manage wildlife through The Federal Land Policy and Management Act of 1976 (FLPMA), which directs the agency to manage both wildlife directly, as well as the habitat and lands which they occupy.

All management actions that occur inside of a wilderness should preserve or benefit the area's natural character to some degree. As it currently stands, the BLM and NDOW don't fully understand how current management actions for wild horses impacts the natural character of a wilderness. There is evidence that indicates that wild horses, and their associated management actions, could be directly impacting the relationships between mountain lions and their main prey (elk, deer, wild horses, desert big horn sheep).

Additionally, the requirement to preserve wilderness character looks back to the date the wilderness area was designated. Thus, the mandate to preserve the natural qualities of wilderness character within the Delamar Mountains and Clover Mountains Wilderness is based on the conditions of the wilderness at the time that it was designated in 2004. Because wild horses were part of the natural landscape in 2004, in this case they are legally considered part of the natural landscape. However, because ecologically wild horses are a non-native species, an understanding of how their removal from the HA impacts ecological processes will provide the BLM and NDOW the knowledge to not only be able to preserve the natural quality of wilderness character, but also to potentially enhance it.

The data proposed to be collected (under any of the alternatives) would benefit the natural quality of wilderness by helping the BLM and NDOW determine if current or proposed management actions for wildlife, habitat, or wild horses are also supporting the directives from The Wilderness Act and LCCRDA. In short, the BLM and NDOW need to know how their actions are impacting the natural character if we want to say that we are preserving the natural character.

SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

☐ YES ☒ NO

Explain:

Action is not necessary to preserve this quality of wilderness character.

OTHER FEATURES OF VALUE

☐ YES ☒ NO

Explain:

Action is not necessary to preserve this quality of wilderness character.

Step 1 Determination
*Is administrative action **necessary** in wilderness?*

Criteria for Determining Necessity

A.	Existing Rights or Special Provisions	☐ YES ☒ NO
B.	Requirements of Other Legislation	☐ YES ☒ NO
C.	Wilderness Character	
	Untrammeled	☐ YES ☒ NO
	Undeveloped	☐ YES ☒ NO
	Natural	☒ YES ☐ NO
	Solitude/Primitive/Unconfined	☐ YES ☒ NO
	Other Features of Value	☐ YES ☒ NO

Is administrative action **necessary** in wilderness?

☒ YES **EXPLAIN AND COMPLETE STEP 1 OF THE MRDG**

☐ NO **STOP – DO NOT TAKE ACTION IN WILDERNESS**

Explain:

Administrative action within the wilderness is necessary for a couple of reasons…

1. Currently, the BLM and NDOW have little knowledge regarding the natural ecological processes and information surrounding the wildlife that live on the lands which they manage. Partnerships with universities and other organizations allow government agencies to obtain high quality data and analysis about the resources they manage. In this specific case the partnership with USU and NDOW will allow the BLM to create a baseline understanding of natural processes within the respective wilderness areas. This knowledge and understanding can have far reaching impacts to natural character through the development of management plans and actions based on credible scientific data.

2. The study is currently taking place outside of the respective wilderness areas and although the researchers are able to gather data, the information which they receive is ultimately incomplete without the data that could be gathered inside of the wilderness. Both the Clover Mountains and the Delamar Mountains Wilderness areas serve an important role in the study by not only providing access to unique and necessary research features (see Step 1: Options Outside of Wilderness for more details), but the inclusion of the wilderness areas would fill geographic holes that fall within the boundaries of the study.

MRDG Step 2

*Determine the **Minimum** Activity*

Other Direction

*Is there "special provisions" language in legislation (or other Congressional direction) that explicitly **allows** consideration of a use otherwise prohibited by Section 4(c)?*

AND/OR

Has the issue been addressed in agency policy, management plans, species recovery plans, or agreements with other agencies or partners?

☒ YES **DESCRIBE OTHER DIRECTION**

☐ NO **SKIP AHEAD TO TIME CONSTRAINTS BELOW**

Describe Other Direction:

1. The Wilderness Act itself states that one of the intended uses of Wilderness is scientific.
   - Section 2(c) states that wilderness may "contain ecological, geological, or other features of *scientific*, or educational…value."

   - Section 4(b) states, "wilderness areas shall be devoted to the public purposes of … *scientific*, [and] educational … use."

2. Congressional Wildlife Management Guidelines (House Report NO. 101-405 Appendix B – 21 February 1990) (CWMG) reinforces the ideas found in the Wilderness Act. Below are a number of points taken from the Guidelines.

   - Appendix B. – Wildlife Management Guidelines states that activities which support wildlife populations but degrade wilderness characteristics may be appropriate if they are consistent with wilderness management plans. The report says,

     > "Subsection 2(h) of H.R. 2570 explicitly provides that, in furtherance of the purposes and principles of the Wilderness Act, management *activities to maintain or restore fish and wildlife populations and the habitats that support those populations may be carried out in wilderness areas, where consistent with relevant wilderness management plans, in accordance with appropriate policies and guidelines*. (emphasis added).

- Appendix B. (A. Purpose) – This statement lays out the shared responsibility for wildlife management. It says, “Both State and Federal agencies are responsible for fostering mutual understanding and cooperation in the management of fish and wildlife in wilderness.”

- Appendix B. (B. General Policy – Like the Wilderness Act, this statement highlights the need for activities to focus on the protection of natural processes. - “Fish and wildlife management activities will emphasize the protection of natural processes.”

- Appendix B. (B. 2. Fish and wildlife research and management surveys) – This section is important for understanding how special provisions of The Wilderness Act may be allowed.

  > “Research on fish and wildlife, their habitats and the recreational users of these resources is a legitimate activity in wilderness when conducted “in a manner compatible with the preservation of the wilderness environment”. *Methods that temporarily infringe on the wilderness environment may be approved if alternative methods or other locations are not available.* (emphasis added).

- Appendix B. (B. 2.) – This statement further supports the statement above regarding infringement into wilderness.

  > “Capturing and marking of animals, radio telemetry, and occasional temporary installations (such as shelters for cameras and scientific apparatus and enclosures and enclosures essential for wildlife research or management surveys) may be permitted, if they are essential to studies that cannot be accomplished elsewhere.”

- Appendix B.B.2. Guidelines b. & c. – Lastly this statement provides guidance for construction of an installation if it is approved. - “Locate and construct all structures so as to make them unobtrusive on the landscape.” And “Construct structures of native materials or camouflage to make them blend with their natural surroundings.

3. Lincoln County Conservation, Recreation, and Development Act of 2004 (LCCRDA)

   - Sec. 209. Wildlife Management (b) MANAGEMENT ACTIVITIES. – This statement provides further support to the idea that prohibited activities may occur under certain circumstances.

     > “In furtherance of the purposes and principles of the Wilderness Act, management activities to maintain or restore fish and wildlife populations and the habitats to support such populations may be

> carried out within wilderness areas designated by this title where consistent with relevant wilderness management plans, in accordance with appropriate policies such as those set forth in Appendix B of House Report 101–405, including the occasional and temporary use of motorized vehicles, *if such use, as determined by the Secretary, would promote healthy, viable, and more naturally distributed wildlife populations that would enhance wilderness values and accomplish those purposes with the minimum impact necessary to reasonably accomplish the task."* (emphasis added)

4. This idea is also supported in BLM Manual 6340 – Management of Designated Wilderness Areas (Public)
   - Section 1.6 (C)14(a) states, "Wilderness offers important and unique opportunities for biophysical and social science research in areas that are relatively unmodified by modern people; these studies may improve wilderness stewardship and benefit both science and society."

   - Section 1.6 (C)14(c) takes it a step further by allowing for the consideration of prohibited 4(c) actions, it states,

     > "Section 4(c) of the Act [Wilderness Act] prohibits an array of uses and activities, including erecting structures and installations; using motor vehicles, motorized equipment, non-motorized mechanical transportation; and landing aircraft…Exceptions to these prohibitions can be made 'as necessary to meet minimum requirements for the administration of the area' as wilderness. Administrative purposes include research that will enhance knowledge and effective protection of wilderness resources."

   - Additionally, in Section 1.6 (C)14 (c)(iii) we read,

     > "Research, or any component action of research, that must employ a prohibited use and must be done in wilderness may be permitted if the use meets the minimum necessary test and the benefits to wilderness character outweigh the impacts."

   - Both the Clover Mountains and Tunnel Spring Wilderness Management Plan and Environmental Assessment (2010) (CWMP) and Delamar Mountains Meadow Valley Range and Mormon Mountains Wilderness, Final Wilderness Management Plan and environmental Assessment (2009) (DWMP) provide guidance for how to evaluate research proposals that occur within their boundaries.

     > "Proposals must contribute to the enhancement of wilderness character or the improvement of wilderness management…Research proposals

that do not contribute to the improved management of the areas wilderness will not be permitted if they can be accomplished outside of wilderness and/or cannot be conducted in a manner compatible with the preservation of the wilderness environment. Research and other studies must be conducted without use of motorized equipment or construction of temporary or permanent structures. Exceptions may be approved for projects that are essential to managing the specific wilderness areas when no other feasible alternatives exist."

Time Constraints
What, if any, are the time constraints that may affect the action?

The project's only time constraint is that access to the wilderness areas can be difficult during the winter months due to weather and ground conditions

Components of the Action
What are the discrete components or phases of the action?

Component X:	*Example: Transportation of personnel to the project site*
Component 1:	Travel to and from research sites
Component 2:	Research Equipment
Component 3:	Research Methods
Component 4:	Research Results
Component 5:	
Component 6:	
Component 7:	
Component 8:	

Proceed to the alternatives.

Refer to the **MRDG Instructions** regarding alternatives and the effects to each of the comparison criteria.

MRDG Step 2: Alternatives

Alternative 1: Install trail cameras in a grid pattern at four-kilometer intervals

Description of the Alternative
What are the details of this alternative? When, where, and how will the action occur? What mitigation measures will be taken?

In this alternative, camera installations would be placed at intervals of 4-Kilometers creating a grid across each of the wilderness areas. This placement would require the use of 49 cameras (26 in the Delmar Mountains Wilderness and 23 in the Clover Mountains Wilderness). Cameras are an effective method of obtaining information regarding prey density and abundance because it allows regular and consistent observations to be made with little to no impact on wildlife behavior.

Travel

In order to reach each site a maximum of 2 technicians would drive, using existing roads, to a close and convenient location outside of the wilderness boundary. From that point, travel by technicians and transportation of equipment would be conducted on foot into the wilderness area. Similar travel plans would be used for installation, maintenance, and removal of camera equipment.

Installation/Maintenance/Removal

Each installation would consist only of one game camera attached to a tree or to a temporary stake if the area doesn't have an option for a tree. The camera would be fixed to the tree or stake using adjustable straps that could be lengthened to accommodate tree growth. Additionally, this setup allows for minimal vegetation disturbance as the installation has little to no footprint. The installation, maintenance, and removal processes would generally take ½ to 1 day per camera. Technicians would only be in the field during the day and would not be required to spend the night. Each camera would be serviced as necessary. Servicing would entail, collecting the old SD card and inserting a new one, replacing batteries, and if necessary, replacing the camera. Camera sites that see a significant amount of traffic will need to be serviced sooner. It is anticipated that busy sites will likely need to be serviced every 2 months, with less

busy sites being serviced less frequently. So, at most, over the course of the proposed 5 years of the study, two technicians would be in the field for 1470* days, though it is anticipated that actual numbers will be less than this amount since it is likely that technicians would be able to service more than one site per day.

*This number is based on sites being serviced every two months and technicians only servicing one site per day.

Research Methods and Timelines

The 4-km grid distribution of cameras would provide researchers with a high-level data integrity while also keeping costs and maintenance low and within practical limits. The cameras will be in place for approximately 5 years from the date of approval. So hypothetically, if this alternative were approved this year, then the cameras would be in place from 2022 to 2027. Based on research methods, a 5-year timeline would provide enough depth and breadth of data that robust and significant results could be obtained.

Cameras would capture images of anything that occurs within its field of vision. However, researchers hope to obtain images of prey species that will help them determine their density and abundance within the study areas. This data combined with data obtained from the use of GPS collars on mountain lions will yield a clear image of mountain lion prey selection and their impact on prey species. Obtaining data from the cameras would be accomplished by technicians visiting each site and downloading the images from the camera. Additionally, as the technicians visit each site, they will also perform any necessary maintenance (replacing cameras or batteries). The grid placement of the cameras and their standardized orientation (each camera is fixed facing north) both serve to decrease bias within the obtained data. According to researchers, a 4-km grid provides a high level of data accuracy but places more cameras in the field than other alternatives.

Research Results

Data obtained from the cameras will serve to paint a more complete image of the prey selection habits of Mountain lions in an area that sees a dramatic reduction of wild horses (Delmar Mountains Wilderness) compared to an area that doesn't (Clover Mountains Wilderness). Understanding prey selection habits of mountain lions, and the associated impacts, will allow NDOW and the BLM to better manage both predator/prey species and their associated ecosystems in these areas in a more natural way.

Component Activities
How will each of the components of the action be performed under this alternative?

Comp #	Component of the Action	Activity for this Alternative
X	*Example: Transportation of personnel to the project site*	*Example: Personnel will travel by horseback*
1	Travel to and from research sites	Technicians will travel to camera sites on foot.
2	Research Equipment	Technicians will either setup, maintain, or remove equipment in 4-km grid
3	Research Methods	Data collected will be analyzed
4	Research Results	Results and raw data will be disseminated by researchers to both USU and NDOW.
5		
6		

Wilderness Character
What is the effect of each component activity on the qualities of wilderness character? What mitigation measures will be taken?

UNTRAMMELED

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☒
1	Technicians will travel to camera sites on foot.	☐	☐	☒
2	Technicians will either setup, maintain, or remove equipment in 4-km grid	☐	☐	☒
3	Data collected will be analyzed	☐	☐	☒
4	Results and raw data will be disseminated by researchers to both USU and NDOW.	☐	☐	☒
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		0	0	NE

Untrammeled Total Rating	0

Explain:

This alternative would not affect the untrammeled quality of wilderness character.

UNDEVELOPED

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☒
1	Technicians will travel to camera sites on foot.	☐	☐	☒
2	Technicians will either setup, maintain, or remove equipment in 4-km grid	☐	☒	☐
3	Data collected will be analyzed	☐	☐	☒
4	Results and raw data will be disseminated by researchers to both USU and NDOW.	☐	☐	☒
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		0	-1	NE

Undeveloped Total Rating	-1

Explain:

Although the placement of the 49 cameras within the wilderness boundaries, as well as any stakes used to mount the cameras where trees are not available, would only be for 5 years, and as such would be considered temporary, they would still constitute an installation per the definition provided in BLM Manual MS-6340. It states that wilderness is “Anything made by humans that is not intended for human occupation and is left behind when the installer leaves the wilderness.” The addition of these 49 camera installations would therefore impact the undeveloped quality of wilderness character for the duration of the study. The undeveloped quality of wilderness character would improve back to current levels when the cameras, and any stakes to support the cameras, are removed at the study’s conclusion..

NATURAL

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☒
1	Technicians will travel to camera sites on foot.	☐	☐	☒

2	Technicians will either setup, maintain, or remove equipment in 4-km grid	☐	☐	☒
3	Data collected will be analyzed	☐	☐	☒
4	Results and raw data will be disseminated by researchers to both USU and NDOW.	☒	☐	☐
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		1	0	NE

Natural Total Rating	1

Explain:

The knowledge of how systems within the natural world function is considered a necessary tool for land and wildlife management agencies. Without this knowledge, land and wildlife managers have limited power to manage the resources under their care. In the case of the Delamar Mountains and Clover Mountains Wilderness, without a clear understanding of natural ecological processes, the BLM and NDOW are not able to fulfill the mandated obligations to preserve or enhance the natural quality of wilderness character.

The Bureau of Land Management currently manages the populations of wild horses per the WHBA. The two HA's found within the study are both managed for zero population. This means that whenever horses are discovered within an area, a gather is planned and initiated, and most of the population is removed. However, because it's difficult to gather all the horses, any remaining population starts growing and will eventually another gather is required. This practice essentially mandates that large scale ecosystem disturbances happen regularly. However, even though current management decisions mandate the removal of horses from these areas, nothing is known about how their removal impacts the local ecosystem.

When compared to the Alternative 2 (7-km grid), analysis of the images collected by the game cameras within the Alternative 1 (4-km grid) will help provide a more accurate picture of the predator/prey relationships as well as prey abundance and density that is occurring inside of the wilderness areas. This information will specifically provide NDOW and the BLM the greatest ability to manage wildlife populations that utilize the wilderness in way that is more in line with natural rhythms as well as the knowledge to manage ecological processes and habitat in a way that is more in line with what would be considered natural. In addition to the direct benefit to the two respective wilderness areas, the knowledge obtained will also have a broad application to wilderness and non-wilderness areas across the state of Nevada. Thus, information obtained from the study has the potential to benefit the character of any wilderness area that

shares similar ecological characteristics.

SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☒
1	Technicians will travel to camera sites on foot.	☐	☒	☐
2	Technicians will either setup, maintain, or remove equipment in 4-km grid	☐	☒	☐
3	Data collected will be analyzed	☐	☐	☒
4	Results and raw data will be disseminated by researchers to both USU and NDOW.	☐	☐	☒
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		0	-2	NE

Solitude or Primitive & Unconfined Rec. Total Rating	-2

Explain:

If a recreational wilderness visitor were to encounter researchers or technicians in wilderness areas, their solitude may be somewhat negatively impacted for the brief duration of their encounter. The action of installing the game cameras and the presence of the cameras within wilderness over the 5 years of the research would be a reminder to wilderness visitors that human influence exists in the wilderness ecosystem. While still low due to the size and distribution of the cameras, the probability that a wilderness visitor would encounter a camera in wilderness under Alternative 1 is roughly 3.5 times greater than what would be found in Alternative 2.

Any potential negative impact to opportunities for solitude would be low in intensity, and overall opportunities for solitude in both wilderness areas would remain outstanding. Wilderness visitors may have the opportunity to learn about the researchers' work during an encounter. Additionally, opportunities for primitive and unconfined recreation would not be impacted.

OTHER FEATURES OF VALUE

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☒
1	Technicians will travel to camera sites on foot.	☐	☐	☒
2	Technicians will either setup, maintain, or remove equipment in 4-km grid	☐	☐	☒
3	Data collected will be analyzed	☐	☐	☒
4	Results and raw data will be disseminated by researchers to both USU and NDOW.	☐	☐	☒
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects				NE

Other Features of Value Total Rating	0

Explain:

This alternative would not affect other features of value.

Summary Ratings for Alternative 1

Wilderness Character	**Rating Summary**
Untrammeled	0
Undeveloped	-1
Natural	1
Solitude or Primitive & Unconfined Recreation	-2
Other Features of Value	0
Wilderness Character Summary Rating	**-2**

MRDG Step 2: Alternatives

Alternative 2: Install trail cameras in a grid pattern at seven-kilometer intervals

Description of the Alternative
What are the details of this alternative? When, where, and how will the action occur? What mitigation measures will be taken?

In this alternative, camera installations would be placed at intervals of 7-Kilometers creating a grid across each of the wilderness areas. This placement would require the use of 14 cameras (eight in Delmar Mountains Wilderness and six in Clover Mountains Wilderness).

Travel

In order to reach each site a maximum of 2 technicians would drive, using existing roads, to a close and convenient location outside of the wilderness boundary. From that point, travel by technicians and transportation of equipment would be conducted on foot into the wilderness area. Similar travel plans would be used for installation, maintenance, and removal of camera equipment.

Installation/Maintenance/Removal

Each installation would consist only of one game camera attached to a tree or to a temporary stake if the area doesn't have an option for a tree. The camera would be fixed to the tree or stake using adjustable straps that could be lengthened to accommodate tree growth. Additionally, this setup allows for minimal vegetation disturbance as the installation has little to no footprint. The installation, maintenance, and removal processes would generally take ½ to 1 day per camera. Technicians would only be in the field during the day and would not be required to spend the night. Each camera would be serviced as necessary. Servicing would entail, collecting the old SD card and inserting a new one, replacing batteries, and if necessary, replacing the camera. Camera sites that see a significant amount of traffic will need to be serviced sooner. It is anticipated that busy sites will likely need to be serviced every 2 months, with less busy sites being serviced less frequently. So, at most, over the course of the proposed 5 years of the study, two technicians would be in the field for 420* days, though it is anticipated that actual numbers will be less than this amount, since it is likely that technicians will be able to service more than one camera in a day.

*This number is based on sites being serviced every two months and technicians only servicing

one site per day.

Research Methods and Timelines

The 7-km grid distribution of cameras would still provide researchers with a high-level of data integrity and would provide lower costs when compared with Alternative 1. The cameras will be in place for approximately 5 years from the date of approval. So hypothetically, if this alternative were approved this year, then the cameras would be in place from 2022 to 2027. Researchers feel that a 5-year timeline would provide enough data that robust and statistically valid results could be obtained.

Cameras would capture images of anything that occurs within its field of vision. However, researchers hope to obtain images of prey species and their abundance within the study areas. This data combined with data obtained from the use of GPS collars on mountain lions will yield a clear image of mountain lion prey selection and their impact on prey species. Cameras are an effective method of obtaining information regarding prey density and abundance because it allows regular and consistent observations to be made with little to no impact on wildlife behavior. Obtaining data from the cameras would be accomplished by technicians visiting each site and downloading the images from the camera. Additionally, as the technicians visit each site, they will also perform any necessary maintenance (replacing cameras or batteries). The grid placement of the cameras and their standardized orientation (each camera is fixed facing north) both serve to decrease bias within the obtained data. Based on research design and sampling procedures, a 7-km grid is the largest grid that would still produce statistically viable results.

Research Results

Data obtained from the cameras will serve to paint a more complete image of the prey selection habits of Mountain lions in an area that sees a dramatic reduction of wild horses (Delmar Mountains Wilderness) compared to an area that doesn't (Clover Mountains Wilderness). Understanding prey selection habits of mountain lions, and the associated impacts, will allow NDOW and the BLM to better manage both predator/prey species and their associated ecosystems in these areas in a more natural way.

Component Activities
How will each of the components of the action be performed under this alternative?

Comp #	Component of the Action	Activity for this Alternative
X	*Example: Transportation of personnel to the project site*	*Example: Personnel will travel by horseback*
1	Travel to and from research sites	Technicians will travel to camera sites on foot.

2	Research Equipment	Technicians will either setup, maintain, or remove equipment in 7-km grid
3	Research Methods	Data collected will be analyzed
4	Research Results	Results and raw data will be disseminated by researchers to both USU and NDOW.
5		
6		
7		
8		

Wilderness Character

What is the effect of each component activity on the qualities of wilderness character? What mitigation measures will be taken?

UNTRAMMELED

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☒
1	Technicians will travel to camera sites on foot.	☐	☐	☒
2	Technicians will either setup, maintain, or remove equipment in 7-km grid	☐	☐	☒
3	Data collected will be analyzed	☐	☐	☒
4	Results and raw data will be disseminated by researchers to both USU and NDOW.	☐	☐	☒
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		0	0	NE

Untrammeled Total Rating	0

Explain:

No Effect

UNDEVELOPED

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☒
1	Technicians will travel to camera sites on foot.	☐	☐	☒
2	Technicians will either setup, maintain, or remove equipment in 7-km grid	☐	☒	☐
3	Data collected will be analyzed	☐	☐	☒
4	Results and raw data will be disseminated by researchers to both USU and NDOW.	☐	☐	☒
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		0	-1	NE

Undeveloped Total Rating	-1

Explain:

Although the placement of the 14 cameras within the wilderness boundaries, as well as any stakes used to mount the cameras where trees are not available, would only be for 5 years, and as such would be considered temporary, they would still constitute an installation per the definition provided in BLM Manual MS-6340. It states that wilderness is “Anything made by humans that is not intended for human occupation and is left behind when the installer leaves the wilderness.” The addition of these installations would therefore impact the undeveloped quality of wilderness character for the duration of the study. The undeveloped quality of wilderness character would improve back to current levels when the cameras, and any stakes to support the cameras, are removed at the study’s conclusion..

NATURAL

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☒
1	Technicians will travel to camera sites on foot.	☐	☐	☒
2	Technicians will either setup, maintain, or remove equipment in 7-km grid	☐	☐	☒
3	Data collected will be analyzed	☐	☐	☒

4	Results and raw data will be disseminated by researchers to both USU and NDOW.	☒	☐	☐
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		1	0	NE

Natural Total Rating	1

Explain:

The knowledge of how systems within the natural world function is considered a necessary tool for land management agencies. Without this knowledge, land and wildlife managers have limited power to manage the resources under their care. In the case of the Delamar Mountains and Clover Mountains Wilderness, without a clear understanding of natural ecological processes, the BLM and NDOW are not able to fulfill the mandated obligations to preserve or enhance the natural quality of wilderness character.

The Bureau of Land Management currently manages the populations of wild horses per the WHBA. The two HA's found within the study are both managed for zero population. This means that whenever horse populations within the areas reaches a threshold, a gather occurs, and most of the population is removed. However, because it's difficult to gather all the horses, the remaining population starts growing and will eventually reach a state where a gather will again be necessary. This practice essentially mandates that large scale ecosystem disturbances happen regularly. However, even though current management decisions mandate the removal of horses from these areas, nothing is known about how their removal impacts the local ecosystem.

When compared to the 4-km grid, analysis of the images collected by the game cameras within the 7-km grid will help provide a reduced but still accurate picture of the predator/prey relationships that are occurring inside of the wilderness areas. This information will still provide NDOW and the BLM the power to manage the wildlife populations that utilize the wilderness in way that is more in line with natural rhythms as well as the knowledge to manage ecological processes and habitat in a way that is more in line with what would be considered natural. In addition to the direct benefit to the two respective wilderness areas. In addition to the direct benefit to the two respective wilderness areas, the knowledge obtained will also have a broad application to wilderness and non-wilderness areas across the state of Nevada. Thus, information obtained from the study has the potential to impact the character of any wilderness area that shares similar ecological characteristics.

SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☒
1	Technicians will travel to camera sites on foot.	☐	☒	☐
2	Technicians will either setup, maintain, or remove equipment in 7-km grid	☐	☒	☐
3	Data collected will be analyzed	☐	☐	☒
4	Results and raw data will be disseminated by researchers to both USU and NDOW.	☐	☐	☒
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		0	-2	NE

Solitude or Primitive & Unconfined Rec. Total Rating	-2

Explain:

If a recreational wilderness visitor were to encounter researchers in the wilderness, their solitude may be somewhat negatively impacted for the brief duration of their encounter. The action of installing the game cameras and the presence of the cameras within wilderness over the 5 years of the research would be a reminder to wilderness visitors that human influence exists in the wilderness ecosystem. While still low due to the size and distribution of the cameras, the probability that a wilderness visitor would encounter a camera in wilderness under Alternative Two is roughly 3.5 times less than what would be found under Alternative One (based on number of cameras present within the wilderness).

Any potential negative impact to opportunities for solitude would be low in intensity, and overall opportunities for solitude in both wilderness areas would remain outstanding. Wilderness visitors may have the opportunity to learn about the researchers' work during an encounter. Additionally, opportunities for primitive and unconfined recreation would not be impacted.

OTHER FEATURES OF VALUE

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☒
1	Technicians will travel to camera sites on foot.	☐	☐	☒

2	Technicians will either setup, maintain, or remove equipment in 7-km grid	☐	☐	☒
3	Data collected will be analyzed	☐	☐	☒
4	Results and raw data will be disseminated by researchers to both USU and NDOW.	☐	☐	☒
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		0	0	NE

Other Features of Value Total Rating	**0**

Explain:

No Effect

Summary Ratings for Alternative 2

Wilderness Character	Rating Summary
Untrammeled	0
Undeveloped	-1
Natural	1
Solitude or Primitive & Unconfined Recreation	-2
Other Features of Value	0
Wilderness Character Summary Rating	**-2**

MRDG Step 2: Alternatives

Alternative 3: NO ACTION

Description of the Alternative
What are the details of this alternative? When, where, and how will the action occur? What mitigation measures will be taken?

NO ACTION WILL BE TAKEN

Component Activities
How will each of the components of the action be performed under this alternative?

Comp #	Component of the Action	Activity for this Alternative
X	*Example: Transportation of personnel to the project site*	*Example: Personnel will travel by horseback*
1	Travel to and from research sites	No Action
2	Research Equipment	No Action
3	Research Methods	No Action
4	Research Results	No Action
5		
6		
7		
8		
9		

Wilderness Character
What is the effect of each component activity on the qualities of wilderness character? What mitigation measures will be taken?

UNTRAMMELED

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☐

1	No Action	☐	☐	☒
2	No Action	☐	☐	☒
3	No Action	☐	☐	☒
4	No Action	☐	☐	☒
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		0	0	NE

Untrammeled Total Rating	0

Explain:

There would be no impacts to the untrammeled quality of wilderness character as a result of taking no action and conducting no research.

UNDEVELOPED

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☐
1	No Action	☐	☐	☒
2	No Action	☐	☐	☒
3	No Action	☐	☐	☒
4	No Action	☐	☐	☒
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		0	0	NE

Undeveloped Total Rating	0

Explain:

There would be no impacts to the untrammeled quality of wilderness character as a result of taking no action and conducting no research.

NATURAL

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☐
1	No Action	☐	☐	☒
2	No Action	☐	☐	☒
3	No Action	☐	☐	☒
4	No Action	☐	☒	☐
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		0	-1	NE

Natural Total Rating	-1

Explain:

Performing no action will have a negative impact natural qualities of wilderness character. Under the no action alternative, the BLM and NDOW won't be able to obtain the data and subsequent analysis from the study that will allow them to increase their understanding of the natural ecological functions both inside and outside of the respective wilderness areas. Understanding predator/prey interactions will allow land managers to gain a greater understanding of how mountain lions impact populations of large ungulates.

The Bureau of Land Management currently manages the populations of wild horses per the WHBA. The two HA's found within the study are both managed for zero population. This means that whenever horse populations within the areas reaches a threshold, a gather occurs, and most of the population is removed. However, because it's difficult to gather all of the horses, the remaining population starts growing and will eventually reach a state where a gather will again be necessary. This practice essentially mandates that large scale ecosystem disturbances happen regularly. However, even though current management decisions mandate the removal of horses from these areas, nothing is known about how their removal impacts the local ecosystem.

Additionally, it is important to note that without credible data it is impossible to tell if current management practices and/or policy have a beneficial, detrimental, or neutral impact to the ecosystem. We know that mountain lion predation upon large prey species occurs. However, we don't know to what extent that is occurring and how those relationships impact the overall ecosystem. Simply put, we are lacking knowledge about how our current management practices impact the respective wilderness areas.

….

SOLITUDE OR PRIMITIVE & UNCONFINED RECREATION

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☒
1	No Action	☐	☐	☒
2	No Action	☐	☐	☒
3	No Action	☐	☐	☒
4	No Action	☐	☐	☒
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		0	0	NE

Solitude or Primitive & Unconfined Rec. Total Rating	0

Explain:

There would be no impacts to the untrammeled quality of wilderness character as a result of taking no action and conducting no research.

OTHER FEATURES OF VALUE

Activity #	Component Activity for this Alternative	Positive	Negative	No Effect
X	*Example: Personnel will travel by horseback*	☐	☐	☐
1	No Action	☐	☐	☒
2	No Action	☐	☐	☒
3	No Action	☐	☐	☒
4	No Action	☐	☐	☒
5		☐	☐	☐
6		☐	☐	☐
7		☐	☐	☐
8		☐	☐	☐
9		☐	☐	☐
Total Number of Effects		0	0	NE

Other Features of Value Total Rating	0

Explain:

There would be no impacts to the untrammeled quality of wilderness character as a result of taking no action and conducting no research.

Summary Ratings for Alternative 3

Wilderness Character	Rating Summary
Untrammeled	0
Undeveloped	0
Natural	-1

Solitude or Primitive & Unconfined Recreation	0
Other Features of Value	0
Wilderness Character Summary Rating	**-1**

MRDG Step 2: Alternatives Not Analyzed

Alternatives Not Analyzed
What alternatives were considered but not analyzed? Why were they not analyzed?

Four alternative options were not analyzed.

1. On-the-ground in-person observation - Conducting the research through real-time, visual observations by personnel stationed within wilderness throughout the time span of the study (5 years from date of approval) was considered, but not fully analyzed. This method of study would not be feasible for numerous reasons. First, the extensive presence of humans inside the wilderness areas to perform these observations would likely have a greater impact on behavior of both predator and prey species than if game cameras were used thus compromising the accuracy of the obtained data. Next the amount and frequency of researchers present in the wilderness areas to obtain data would have detrimental impacts to solitude Next the number of researchers and the time that they would have to spend in the wilderness to obtain accurate data would be prohibitively high, and simply not practical. Lastly, utilizing the necessary researchers for 5 years would be prohibitive as far as resource allocation and cost.

2. Cameras placed at intervals greater than 7km - Placing cameras in a grid at distances greater than 7-km was also not analyzed. As the distance between each camera increases, the quality and accuracy of the data and observations decreases. Researchers have determined that having a grid size with spacing larger than 7-km would not provide the accuracy necessary to obtain statistically significant results.

3. Aerial real-time observations – The use of fly-overs by both fixed wing aircraft and helicopters were also not analyzed. Although utilization of these methods would be a rapid way to observe the wildlife within the wilderness areas, the disadvantages far outweigh any small benefits. In order to provide accurate data, fly-overs would have to occur regularly and as such would require a large financial investment. Compound this with the length of the study and the use of aircraft becomes impractical. It is also important to note the increased risk that observers would incur while flying.

   More importantly, fly-over data collection would not provide the type of data necessary for the efficacy of this study. Fly-overs would allow researchers to estimate population numbers but would be insufficient in providing estimates of density. Next, the detectability of different species from the air can vary based on vegetation cover, terrain, size of the animal, and behavior.

MRDG Step 2: Alternative Comparison

Alternative 1:	Install trail cameras in a grid pattern at four-kilometer intervals
Alternative 2:	Install trail cameras in a grid pattern at seven-kilometer intervals
Alternative 3:	No Action
Alternative 4:	

	Alternative 1	Alternative 1	Alternative 2	Alternative 2	Alternative 3	Alternative 3	Alternative 4	Alternative 4
Wilderness Character	+	-	+	-	+	-	+	-
Untrammeled	0	0	0	0	0	0		
Undeveloped	0	-1	0	-1	0	0		
Natural	1	0	1	0	0	-1		
Solitude/Primitive/Unconfined	0	-2	0	-2	0	0		
Other Features of Value	0	0	0	0	0	0		
Total Number of Effects	1	-3	1	-3	0	-1		
Wilderness Character Rating	-2		-2		-1			

MRDG Step 2: Determination

Refer to the **MRDG Instructions** before identifying the selected alternative and explaining the rationale for the selection.

Selected Alternative

☐ Alternative 1:

Install trail cameras in a grid pattern at four-kilometer intervals

☒ Alternative 2:

Install trail cameras in a grid pattern at seven-kilometer intervals

☐ Alternative 3:

No Action

Explain Rationale for Selection:

After examining the 3 alternatives, Alternative 2 (7-km grid) provides the greatest overall benefit to wilderness character. Alternative 2 produces fewer negative impacts to the undeveloped quality of wilderness character and to opportunities for solitude than Alternative 1 (4-km grid). Additionally, although Alternative 3 (No Action) does provide the fewest negative impacts to the undeveloped quality of wilderness character (according to numbers above), the temporary nature of the negative impacts to solitude and the undeveloped character in Alternative 2 combine with the long-term qualitative benefits of an increased understanding of the natural processes within the wilderness, makes Alternative 2 the best decision for the long-term preservation of wilderness character.

Describe Monitoring & Reporting Requirements:

A few reporting requirements with be mandated if approval of the project is granted.

1. NDOW and USU will be required to submit to the Caliente Field Office all finalized data and analysis from study.
2. Maps showing specific locations (Lat/Long or UTM Coordinates) of all cameras placed in the wilderness will be provided to the Caliente Field Office.
3. A specific schedule of installation and removal times, along with a rough schedule of maintenance times will be required.
4. The Wilderness Ranger from the Caliente Field Office will perform spot checks of camera locations while performing monitoring duties associated with the respective wilderness areas.

Approvals

Which of the prohibited uses found in Section 4(c) of the Wilderness Act are approved in the selected alternative and for what quantity?

Approved?	Prohibited Use	Quantity
☐	Mechanical Transport:	
☐	Motorized Equipment:	
☐	Motor Vehicles:	
☐	Motorboats:	
☐	Landing of Aircraft:	
☐	Temporary Roads:	
☐	Structures:	
☒	Installations:	Cameras x 14 Stakes x 14 (Maximum number)

Record and report any authorizations of Wilderness Act Section 4(c) prohibited uses according to agency policies or guidance.

Refer to agency policies for the following signature authorities:

Prepared:

Name: Michael Irving

Position: Outdoor Recreation Planner, Caliente Field Office

Signature _____ Date _____

Recommended:

Name Jamie Fields Position Nevada State Wilderness Program Lead

Signature _____ Date _____

Recommended:

Name Alicia Styles Position Acting Caliente Field Manager

Signature _____ Date _____

Approved:

Name Robbie McAboy Position Ely District Manager

Signature _____ Date _____