National Park Service
US Department of the Interior
Mesa Verde National Park
Colorado

FINDING OF NO SIGNIFICANT IMPACT

Livestock Removal Environmental Assessment

Recommended:

March 5, 2019

Cliff Spencer
Superintendent, Mesa Verde National Park

Date

Approved:

March 12, 2019

Kate Hammond
Acting Regional Director, Intermountain Region, National Park Service

Date

INTRODUCTION

In compliance with the National Environmental Policy Act (NEPA), the National Park Service (NPS) prepared an environmental assessment (EA). The purpose was to examine alternative actions and environmental impacts associated with the proposed project to remove livestock from Mesa Verde National Park (MVNP). Livestock need to be removed because the NPS does not have the legal authority under 36 Code of Federal Regulations (CFR), Subpart 2.60, to allow livestock use in the MVNP.

The statements and conclusions reached in this finding of no significant impact (FONSI) are based on documentation and analysis provided in the EA and associated decision file. To the extent necessary, relevant sections of the EA are incorporated by reference below.

SELECTED ALTERNATIVE AND RATIONALE FOR THE DECISION

Based on the analysis presented in the EA, NPS selected Alternative B, a program to capture and remove trespass livestock from MVNP (the NPS preferred alternative, page 2-10 to 2-16 in the EA). The selected alternative will capture and remove trespass livestock from MVNP. It will include a two-phased approach through a short-term (1 to 2 years) and long-term removal process, followed by disposal. Disposal methods for unclaimed livestock would include public or private sale, auction, adoption, or donation on-site, with the National Park Service issuing a bill of sale.

The MVNP target period is 5 years to remove existing livestock. Short-term removal will occur during the first and second year, while long-term removal will occur during the third, fourth, and fifth year, with the intent of removing all trespass livestock currently in the park. If additional livestock enters the park after this 5-year period, MVNP will remove them; however, this is not expected to be a frequent occurrence, because MVNP will replace and maintain boundary fences that are highly effective at excluding livestock. Fence replacement and maintenance will be prioritized to maximize livestock exclusion. Replacing and maintaining the fences will take approximately 10 years at the current replacement rate.

Short-term removal will target reducing livestock by at least 50% in Year 1 and at least 80% (total) in Year 2, using a variety of capture techniques. Livestock may be removed via baited pen trapping, chemical immobilization, wrangler roundup and capture, or restraint via lariats, ropes, and chutes. If the 80% removal objective is not met after the second year, the NPS would consider using helicopters to round up the remaining trespass livestock and lethal reduction for long-term removal. These techniques will be in addition to those used during the first 2 years of removal. Long-term exclusion will include fence replacement and maintenance and hazing.[1]

[1] Hazing, or aversive conditioning, is a nonlethal technique used to alter an animal's behavior by presenting noxious stimuli. An example is shouting at the animal when it is engaged in an undesirable behavior or is in an undesirable location. In Mesa Verde National Park, this technique would continue to be used to protect humans and facilities or to protect cultural and natural resources from trespassing livestock.

Once captured, livestock will be placed in a holding facility (see Appendix A, Photos 7 and 8 of the EA), as opposed to keeping them in the baited pen trap sites. Holding all of the trespass livestock in a single holding facility will open up the trap sites for repeated use. A veterinarian will examine the animals, administer vaccinations and care for wounded or young livestock as needed.

MVNP will collaborate with interested livestock advocacy groups during the capture and disposal process when and where appropriate. Collaboration opportunities may include assisting with capture, providing care while livestock are in the holding facility, identifying potential buyers and homes for captured, unclaimed livestock, and aiding in the transfer of livestock to recipients. The livestock will be held in the park for up to 30 days. If after 30 days the partnering organization has not found a home placement for an animal, MVNP will use disposal methods in accordance with 36 CFR 2.60.

In addition, the project will implement a number of resource protection measures to minimize the degree and severity of adverse effects on cultural and natural resources, as described in pages 2-16 to 2-19 of the EA.

MITIGATION

Mitigation measures are found in Appendix A of this FONSI. Mitigation measures that were not included in the EA are detailed in Appendix A and Attachment 1 for the selected alternative.

RATIONALE

Alternative B was selected because it best meets the project purpose to remove livestock from MVNP and prevent more from reentering.

PUBLIC INVOLVEMENT/AGENCY CONSULTATION

Initial public scoping for the project occurred from December 7, 2015, through January 8, 2016. The EA was made available for public review and comment for 30 days, from April 13 through May 13, 2018.

A total of 156 pieces of correspondence were received during the public review period. Most comments were related to visitor experience, vegetation and riparian areas, purpose and need, and alternatives that were considered but eliminated. Substantive comments are addressed in the Errata and Response to Public Comments.

MVNP initiated National Historic Preservation Act (NHPA) consultation with the Colorado State Historic Preservation Office (SHPO) in a letter dated December 7, 2015. In accordance with 36 CFR 800.8(c), MVNP used the process and documentation required for the EA to comply with NHPA, Section 106, in lieu of the procedures set forth in 36 CFR 800.3. MVNP notified the SHPO that public comment opportunities for this project would be used to fulfill both the NEPA and NHPA requirements of public consultation. On March 5, 2018, MVNP notified the Advisory Council on

Historic Preservation (ACHP) of the undertaking's potential adverse effect and invited representatives to participate in consultation. The ACHP declined to participate in consultation by not responding to the invitation within the required time frame.

The 26 American Indian tribes that Mesa Verde National Park consults with were sent an official consultation letter on December 7, 2015. MVNP received comments from the following tribes: Hopi Tribe of Arizona; Pueblo of San Felipe, New Mexico; Pueblo of Santa Ana, New Mexico; Pueblo of Santa Clara, New Mexico; Ute Mountain Ute Tribe, Colorado; and Ysleta del Sur Pueblo, Texas.

Additional in-person, telephone, or email consultation took place between the NPS, the Ute Mountain Ute Tribe, the Hopi Tribe, and the Pueblo of Santa Clara. The Preferred Alternative was also discussed at the annual tribal consultation meetings that took place on April 6, 2016, in Aztec, New Mexico, and April 5, 2017, in Albuquerque, New Mexico, and on April 5, 2018, in MVNP.

Comments from Tribes included a desire to see the horses treated humanely, interest in participating in roundups, and support for maintaining the boundary fence so that trespass livestock could not damage archeological sites and springs. Tribes did not identify any ethnographic properties that could be affected by the project.

Project goals and the resulting adverse impacts on unidentified historic properties have been explicitly addressed and mitigated in a programmatic agreement (PA) between the SHPO, the Ute Mountain Ute Tribe, and MVNP. The PA is needed because the effects of the undertaking will be similar and repetitive, and the effects on historic properties cannot be fully determined before the undertaking is approved (CFR 800.14(b)(1)(i and ii)). The PA was developed pursuant to Section 106 of the National Historic Preservation Act (54 USC 306108) and its implementing regulations 36 CFR Part 800. This PA was executed on February 19, 2019. MVNP filed the PA with the ACHP on March 1, 2019, as required.

In a letter submitted to the US Fish and Wildlife Service (USFWS) on January 30, 2017, the NPS sought a "no effect" concurrence, in accordance with Section 7 of the Endangered Species Act. The USFWS responded via email on March 17, 2017, that the actions proposed may affect listed and candidate species in the park.

Based on consultation with the USFWS and further analysis, the NPS determined that actions may flush out the Mexican spotted owl (*Strix occidentalis lucida*), if present. While there have been no known occurrences of this species in MVNP since 2009, it still contains large areas of suitable habitat and there may be effects on the species. Also, one baited pen trap site is proposed to be located within occupied Chapin Mesa milkvetch (*Astragalus schmolliae*) habitat. Therefore, the NPS prepared a biological assessment to analyze possible impacts on the Mexican spotted owl and the Chapin Mesa milkvetch.

On March 8, 2018, the NPS submitted the biological assessment seeking USFWS concurrence with a determination that the preferred alternative may affect, not likely to adversely affect, Mexican spotted owl and may affect, likely to adversely affect, Chapin Mesa milkvetch. In a letter dated April 6, 2018, the USFWS concurred with the NPS determination for the Mexican spotted owl and concurred that there would be a short-term impact on Chapin Mesa milkvetch, especially at the Chapin Mesa Quarry Road baited pen trap, where the Chapin Mesa milkvetch is known to occur;

however, the USFWS agreed that, over the long-term, removal or at least reduction of the livestock would likely benefit the Chapin Mesa milkvetch.

To conserve Chapin Mesa milkvetch, the USFWS recommended that the NPS monitor the pen traps and holding facility for introduced nonnative plant species. It further recommended that the nonnative species be removed, using the least environmentally damaging methods. The USFWS agreed with the NPS that the pen traps and holding facilities be removed when no longer needed and also encouraged restoration of these areas with native species, perhaps including the Chapin Mesa milkvetch, where appropriate.

FINDING OF NO SIGNIFICANT IMPACT

CEQ regulations at 40 CFR 1508.27 identify ten criteria for determining whether the Selected Action would have a significant effect on the human environment. The NPS reviewed each of these criteria, given the environmental impacts described in the EA. Impact topics that were dismissed because they did not warrant a full analysis or were found to have no potential for significant impacts include Indian Trust Resources, Indian sacred sites, ethnographic resources, environmental justice, soils, vegetation, water quality, wildlife, soundscapes, human health and safety, and aquatic, wetland, and riparian communities.

As described in the EA and briefly summarized below, the selected alternative has the potential for beneficial and adverse impacts on special status plant species, special status wildlife species, visitor use and experience, and cultural resources (archeological resources only); however, the NPS identified no potential for significant adverse impacts.

Special status plant species will be adversely affected by the selected alternative by livestock trampling and browsing on Chapin Mesa milkvetch, Cliff Palace milkvetch (*Astragalus deterior*), and alkali pepperweed (*Lepidium crenatum*) as livestock are removed. Adverse effects will also be caused by wrangler round-ups or off-trail OHV use during long-term removal. The proposed holding pen and drift fences at Upper Morefield Canyon will overlap approximately 1 acre of alkali pepperweed habitat. However, impacts would not be significant because the location of the holding facility is disturbed and in poor condition.

The Wetherill water tank, baited pen trap site would overlap 0.1 acres of Cliff Palace milkvetch habitat. This could lead to adverse impacts; however, Impacts would be localized and temporary until the next growing season.

Implementing mitigation measures identified in Appendix A for Chapin Mesa milkvetch and alkali pepperweed would reduce adverse impacts. For example, impacts would be reduced because the National Park Service would avoid these special status plants by conducting a survey in advance of baited pen placement and marking special status plants. Workers would be taught how to identify special status plants to ensure that they avoid these species. Similarly, workers would avoid special status plants during construction and repair of the boundary fence.

Roundups (by wranglers on horseback or using off-trail OHVs) would occur anywhere within the 30,310 acres of current livestock trespass range, so the potential for impacts would be widespread;

however, given the localized nature of most special status plant populations, the likelihood for impacts is low. If they were to occur, impacts would be temporarily limited to the areas where livestock and wranglers are conducting the roundup.

The selected alternative will also have beneficial impacts on Chapin Mesa milkvetch, alkali pepperweed, and Cliff Palace milkvetch populations. This will be due to the overall reduction and removal of trespassing livestock and the recovery of native vegetation.

Special status wildlife species will be adversely affected by the selected alternative from wrangler roundups, fence construction, and horse surveys. These activities could disturb nesting, roosting, or foraging Mexican spotted owls; however, these indirect effects will be avoided or minimized by avoiding proposed Mexican spotted owl protected activity center (PACs) by following the mitigations listed in **Appendix A.** For example, Wrangler roundups will be done outside proposed protected activity centers during the breeding season unless surveys show that there are no active breeding Mexican spotted owls in the project area and therefore not potential for adverse impacts.

Helicopters that are involved in livestock roundups may fly over proposed PACs, but they will stay above the 300-foot aboveground level recommended buffer for occupied Mexican spotted owl nest territories. Helicopters will not be used to round up livestock in the proposed PACs; only wrangler roundups may occur in proposed PACs. As a result, potential impacts on PACs would be mitigated.

The selected alternative will also have beneficial impacts on the Mexican spotted owl by reducing livestock trespass. The USFWS service concurred with "may affect but not likely to adversely affect" for the Mexican Spotted Owl as there have not been owls detected in the park since 2009, and mitigations associated with this species would minimize the effects on this species.

Visitor use and experience will be adversely affected by the selected alternative at specific capture locations, roadways, and trails because visitor access to these areas will be temporarily restricted for the duration of the removal activities. This could be hours, days or worst case a week since none of the pen trap sites are actually located in visitor use areas. Local impacts will be reduced and eventually eliminated over the long term throughout the 30,310 acres of current livestock trespass range; however, they would be more noticeable in such areas as the Far View lodge, roads, and trails, where livestock trespass and visitors are present.

Treatment methods during control and capture operations could have short-term impacts on the visitor experience; however, this would be the case only in limited areas, where control is underway, such as the 0.07 acres of capture facilities in visitor use buffer areas. These facilities provide a barrier between the proposed control activities and visitor use. Over the long term, the impacts on visitor experience will be eliminated under the selected alternative.

Additionally, the use of vehicles and helicopters to transport supplies to staging areas on the Mesa Verde National Park side of the boundary could have minimal, short-term impacts on visitors from associated noise and visual disturbance along access roads and trails or underneath helicopter flight paths. Setting up portable corrals to gather trespassing livestock and using helicopters to locate and herd livestock would in some locations likely require some access limitations or closures to ensure visitor safety and minimize adverse impacts on the visitor experience. Visitation patterns would be a key consideration in determining the timing of such control activities. Mitigation measures, such as

locating trap sites and central holding sites away from roads and public view when feasible, would mitigate the significance of these impacts. Control actions would also be designed to minimize the diminishment of visitor experience by avoiding areas of high visitor use.

The selected alternative will also have beneficial impacts on visitor use and experience by eliminating the potential for impacts from livestock encounters. This is because the overall removal of trespassing livestock under the selected alternative will increase visitor safety but not significantly since livestock and visitor encounters are limited.

Archeological resources may be adversely affected by the fence construction. Installation of new T and U-channel posts could impact unidentified archeological resources. The exact impacts to the archeological sites would never be known but after consultation with the Ute Mountain Ute Tribe, the NPS determined that this is an adverse effect under the NHPA, and the SHPO concurred. However, the impacts of T or U channel posts penetrating an archeological site to a depth of 18" would not be significant enough to diminish the characteristics that make that archeological site eligible for the NRHP under criterion D. To minimize and mitigate the adverse effect, the NPS will use an alternative fence construction technique that re-uses the existing T-posts and requires no ground disturbance. The fence construction may impact some unidentified sites along the boundary line; however, these potential impacts will be mitigated by surveys and monitoring. The new fence will have an overall beneficial impact for the over 4700 archeological sites within the park by preventing livestock from entering the park where they trample artifacts or features, rub or lean against structures, and contribute to erosion.

The effects of surface disturbance and potential alterations to a cultural property's setting in the vicinity of the traps may be concentrated in these locations during capture operations; however, the proposed locations for traps, holding areas, and other facilities were selected to avoid impacts on cultural resources. Mitigation, discovery procedures, and cultural resource compliance would minimize that potential; thus, no adverse effects on historic properties from capture operations are anticipated from removing trespassing livestock.

There will be no significant impacts on public health, public safety, or unique characteristics of the region. No highly uncertain or controversial impacts, unique or unknown risks, significant cumulative effects, or elements of precedence were identified. Implementing the NPS's selected alternative will not violate any federal, state, or local environmental protection law.

CONCLUSION

As described above, the selected alternative does not constitute an action meeting the criteria that normally requires preparation of an environmental impact statement. The selected alternative will not have a significant effect on the human environment, in accordance with Section 102(2)(c) of NEPA.

Based on the foregoing, the NPS has determined that an environmental impact statement is not required for this project; thus, one will not be prepared.

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- Appendix A: Mitigation Measures
- Attachment 1: Errata indicating text changes to the EA; errata with response to substantive public comments
- Attachment 2: Nonimpairment determination

APPENDIX A: MITIGATION MEASURES

The mitigation measures below will minimize the degree of and extent of adverse impacts. These measures will be implemented during the project.

Cultural and Natural Resources

- An MVNP archeologist, ecologist, and biologist will advise on identifying, avoiding, or minimizing potential physical impacts on cultural and natural resources. This will transpire before livestock are removed, temporary traps or central holding facilities are sited, or fences are installed or repaired. This will happen if any of these actions will affect archeological, historic, or natural resources or will adversely affect archeological, vegetation, or wildlife resources.
- Siting temporary corrals and central holding facilities would avoid archeological sites and historic resources eligible for listing on or listed on the National Register of Historic Places. In the event of an inadvertent archeological discovery, work will stop in the area, and an archeologist will be contacted to assess the site. When livestock removal is completed, trap sites will be restored by reseeding and treatment of invasive species, as appropriate to prevent further invasive plant species infestation.
- Livestock removal and fencing crews will receive training on protecting any cultural resources and sensitive natural resources they encounter. Contracted crews working alone in the backcountry will be required to attend MVNP's backcountry training.
- Baited trap pens and the central holding facility will be located to reduce the likelihood of injury and stress to the animals and to minimize potential damage to the natural and cultural resources of the area. These sites will be on or near existing roads and away from public view, when feasible.

Chapin Mesa milkvetch (*Astragalus schmolliae*)

- To minimize impacts on the Chapin Mesa milkvetch (*Astragalus schmolliae*) from project activities, the MVNP will implement the following mitigation measures:
  - Before removing livestock from potentially suitable habitat, survey for the presence of Chapin Mesa milkvetch
  - Remove livestock in occupied and potentially suitable Chapin Mesa milkvetch habitat after August 31 and before March 15 to prevent impacts on growing plants
  - Flag Chapin Mesa milkvetch plants and place baited pen traps and gates away from them as much as possible
  - Control invasive exotic plants in the baited pen trap and within 300 feet of the surrounding area. Nonnative plant species will be monitored and controlled at capture

pens and holding facility. If disturbance is unavoidable, the NPS will implement the mitigation measures developed with the appropriate consulting agencies – USFWS & SHPO.

- Plant 50 juniper trees in burned but suitable habitat in an area equal to the size of the baited pen trap, with a buffer of 100 feet within the northern range of the species; this is to accelerate tree recovery and improve habitat conditions for the species
- Collect Chapin Mesa milkvetch seeds and plant them with the revegetation seed mixes after project completion; no rhizomatous grasses will be included in the seed mix for revegetation
- Monitor for the introduction of nonnative plant species at the pens and holding facility; remove nonnative species, using the least environmentally damaging methods
- Roundups that occur off-road in Chapin Mesa milkvetch habitat will be done on foot or by helicopter. If wranglers on horseback or utility terrain vehicles (UTVs) need to enter Chapin Mesa milkvetch habitat off established roads, then they will coordinate with the park plant ecologist to minimize the extent and effect of trampling on plants and sensitive soils.

Alkali pepperweed (*Lepidium crenatum*)

- To minimize impacts on alkali pepperweed, MVNP will collect its seeds and sow them at the holding facility once livestock capture and removal activities have completely ceased.

Mexican Spotted Owl (*Strix occidentalis lucida*)

- To minimize impacts on Mexican spotted owl from project activities, MVNP will implement the following mitigation measures:
  - *Roundup (Herding)*—Wrangler and possibly aerial roundups will be done outside proposed protected activity centers during the March 15 to August 31 breeding season. Livestock may be rounded up in the protected activity centers during the breeding season if surveys show that there are no active breeding Mexican spotted owls in the project area. If helicopters are used for roundups outside the proposed protected activity centers when owls are present, helicopter pilots would remain 300 feet above ground level while traveling over the proposed protected activity centers.
  - *Fence Replacement*—Fence replacement involving any mechanical activities in proposed protected activity centers—such as helicopters, chainsaws or trimmers, pounding equipment or UTVs—would be used outside the Mexican spotted owl breeding season of March 15 to August 31, or when surveys conclude that there are no Mexican spotted owls in the protected activity centers.
  - *Lethal Reduction*—Firearms would be used only for lethal reduction in the protected activity centers outside the March 15 to August 31 breeding season or when surveys show that there are no Mexican spotted owls in the protected activity centers.

Archeological Resources

MVNP will take precautions to ensure that archeological resources are not inadvertently damaged during fence installation. Fence replacement will require minor surface disturbance for fence posts, which could adversely affect historic properties. MVNP will enter into a programmatic agreement with the SHPO for phased identification and mitigation of any adverse effects that may be associated with fence repair or replacement. An MVNP cultural resource specialist will monitor fence replacement to identify, avoid, or minimize potential physical impacts on cultural resources. MVNP will implement the appropriate discovery and mitigation measures, as required.

MVNP will implement the following mitigations for this project:

- Before fence construction begins:
  - During construction, flags will be installed around cultural and natural avoidance areas to keep UTV operators off these sites.
  - UTV routes that are clear of cultural or natural resources will be flagged so contractors will know the acceptable routes.
  - MVNP cultural resource staff will meet with the contractor's staff to inform them of federal laws that protect archeological resources and the consequences of damaging sites or taking artifacts.
  - MVNP will not allow the contractor to install H-braces within the boundaries of an archeological site.
  - MVNP will not allow the contractor to remove or install T-posts within an archeological site. MVNP will ensure that existing T-posts will be reused by sleeving them with 66-inch-tall U-channel posts or reinforcing the woven wire fencing with a cable, spanning the top of the fence. This is to minimize or avoid ground disturbance.
  - MVNP will not allow the contractor to dig out any braces that are in an archeological area; instead the braces will be reused to support the new woven wire fencing, or they will be cut flush with the ground and left in place. The purpose of this is to minimize ground disturbance.
  - MVNP will provide an archeological monitor when the contractor is working near known cultural sites.

In the event of an inadvertent archeological discovery, construction will cease at the site of discovery until MVNP has fulfilled the requirements of 36 CFR 800.13. This includes consulting with the Ute Mountain Ute Tribal Historic Preservation Officer, the SHPO, and interested Native American Tribes.

Attachment 1

Errata and Response to Public Comments

ATTACHMENT 1: ERRATA AND RESPONSE TO PUBLIC COMMENTS
LIVESTOCK REMOVAL
ENVIRONMENTAL ASSESSMENT

MESA VERDE NATIONAL PARK
DECEMBER 2018

The following errata and responses to substantive public comments, together with the FONSI and the EA, describe the final decision of the NPS for removing livestock in MVNP.

ERRATA

These errata are to be attached to the Livestock Removal EA, dated April 2018, and are intended to correct or clarify statements in the EA other than typographical and minor editorial errors and to address substantive comments on these documents received during the public review period.

A) Chapter 2: Alternatives- Mandatory Temporary Holding (Page 2-8): Add text

The NPS would not target mares with foals under 4 months old for removal when using any of the proposed capture methods. Despite not being targeted, if a mare with a foal less than 4 months old were inadvertently captured during the normal course of capture operations, the pair would remain together and segregated from other horses in the pen trap until after the sale/donation process. Foals 4 months or older may be separated from their mothers during capture and in the pen trap.

B) Chapter 2: Alternatives-Alternative B-Preferred Alternative, Short-term Removal (Year 0 to Year 2): (Page 2-10): Revise text

A veterinarian will examine the animals *and* administer vaccinations *and care for wounded or young livestock* as needed.

C) Chapter 2: Mandatory Temporary Holding: (Page 2-14): Add text

The NPS would not target mares with foals under 4 months old for removal when using any of the proposed capture methods. Despite not being targeted, if a mare with a foal less than 4 months old were inadvertently captured during the normal course of capture operations, the pair would remain together and segregated from other horses in the holding facility until after the sale/donation process. Alternate pens in the holding facility would be used to separate young animals and their mothers, sick and injured animals, and other animals determined to need separate pens. Foals 4 months or older may be separated from their mothers during capture and in the holding facility.

D) Chapter 2, Section 2.2 Mitigation Measures (Page 2-16): Revise Text

- When livestock removal is completed, trap sites will be restored by reseeding and treatment of invasive species, as appropriate to prevent *further* invasive plant species infestation.

- If disturbance is unavoidable, the NPS will implement the mitigation measures developed with *the appropriate consulting agencies – USFWS & SHPO.*

E) Chapter 2, Section 2.2 Mitigation Measures: (Page 2-17): Add mitigation measures for Chapin Mesa milkvetch

- No rhizomatous grasses would be included in seed mixes for revegetation.
- Roundups that occur off-road in Chapin Mesa milkvetch habitat will be done by wranglers on foot or using helicopters. If wranglers on horseback or UTVs need to enter Chapin Mesa milkvetch habitat off established roads, then they will coordinate with the park plant ecologist to minimize the extent and effect of trampling plants and sensitive soils.
- The establishment of nonnative plant species will be monitored at the capture pens and holding facility, and nonnative species will be removed, using the least environmentally damaging methods.

F) Chapter 2, Section 2.2 Mitigation Measures: (Page 2-17): Revise mitigation measure for Alkali pepperweed

- To minimize impacts on alkalai pepperweed, the park will collect seed from alkalai pepperweed and sow them at the holding facility once livestock capture and removal activities have been completed at the site.

G) Chapter 2, Section 2.2 Mitigation Measures: (Page 2-18): Add Heading

- Archeological Resources

H) Chapter 2, Section 2.2 Mitigation Measures: (Page 2-18): Revise mitigation measure for Archeological Resources

- MVNP will provide an archeological monitor when the contractor is working near known cultural sites.

I) Chapter 2, Section 2.2 Mitigation Measures: (Page 2-18): Add mitigation measures for Archeological Resources

- MVNP will not allow the contractor to install H-braces within the boundaries of an archeological site.
- MVNP will not allow the contractor to remove or install T-posts in an archeological site. MVNP will ensure that existing T-posts will be reused by placing them inside 66-inch-tall U-channel posts or reinforcing the woven wire fencing with a cable, spanning the top of the fence. This is to minimize or avoid ground disturbance.

- MVNP will not allow the contractor to dig out any braces that are in an archeological area; instead the braces will be reused to support the new woven wire fencing, or they will be cut flush with the ground and left in place. The purpose of this is to minimize ground disturbance.

J) Chapter 3-Section 3.3.2-Impacts of Alternative A (No-Action Alternative): Add text

Helicopters will not be used to round up livestock in the proposed PACs; only wrangler roundups *or off- trail OHV use* may occur in proposed PACs. As a result, potential impacts on PACs would be mitigated.

K) Chapter 3-Section 3.5.2, Page 3-14, fourth paragraph

Revised text to include "Archeological resources may be adversely impacted by the fence construction. Installation of new T and U-channel posts could impact unidentified archaeological resources. However, the impacts of T or U channel posts penetrating an archaeological site to a depth of 18" would not diminish the characteristics that make that archaeological site eligible for the NRHP under criterion D. To minimize and mitigate the adverse effect, the NPS will use an alternative fence construction technique that re-uses the existing T-posts and requires no ground disturbance. The fence construction may impact some unidentified sites along the boundary line; however, these potential impacts will be mitigated by surveys and monitoring prior to installation of the fence. The new fence will have an overall beneficial impact for over 4700 archaeological sites within the park by preventing livestock from entering the park where they trample artifacts or features, rub or lean against structures, and contribute to erosion."

L) Global Edit: Add fence maintenance language in addition to replacement of fences

- Page 1-5: Boundary fence replacement *and maintenance*
- Page 1-6: where fences would be replaced *and maintained*
- Page 1-7: Boundary fence replacement *and maintenance*
- Page 2-1: Boundary fence areas that have a history of or potential for livestock crossing into the park would continue to be replaced *and maintained.*
- Page 2-1: The National Park Service would replace *and maintain* additional fences
- Page 2-10: Fence replacement *and maintenance*
- Page 2-17: Fence Replacement *and Maintenance*—Fence replacement *and maintenance* involving any mechanical activities in proposed protected activity centers

M) Global Edit: Changed alkaline pepperweed to alkali pepperweed (*Lepidium crenatum*)

- Page 1-1, Section 1.2
- Page 1-12, table 1-1
- Page1-12, text beneath table 1-2
- Page 3-2, Section 3.2.1 text
- Page 3-3, Sections 3.2.2 and 3.2.3 text

- Page 3-4, Section 3.2.3 text
- Page 3-5, Section 3.2.4 text

RESPONSE TO PUBLIC COMMENTS

On April 13, 2018, the NPS released the Livestock Removal Environmental Assessment for Mesa Verde National Park to the public for review and comment. The EA was available for public review until May 13, 2018. The park accepted comments through the NPS's online Planning, Environment, and Public Comment (PEPC) system and by mail and email.

A total of 156 pieces of correspondence were received during the public scoping period. Most comments were related to visitor experience, vegetation and riparian areas, purpose and need, and alternatives that were considered but eliminated. All correspondence was captured and considered.

The public comments and responses are summarized as follows:

Alternatives Eliminated

1. COMMENT: The NPS should consider firearms as the primary method to remove trespass livestock.

   RESPONSE: In Section 2.3 of the EA (page 2-20), Alternatives Considered and Dismissed, the NPS dismissed this as the primary method from further consideration. The NPS would prioritize other methods of livestock removal over lethal reduction with a firearm; however, by not having the option to consider using a full range of available tools to remove livestock (including lethal reduction if necessary) the NPS would fail to meet the need for the action and would continue to fail to comply with 36 CFR 2.60. Directly reducing trespassing livestock by lethal means has been retained as a final resort option. It would be used when there is an imminent safety hazard to humans or if all other proposed capture and removal methods had failed.

2. COMMENT: The NPS should consider active management.

   RESPONSE: Mesa Verde National Park is prohibited by 36 CFR 2.60 from managing trespassing livestock. Livestock use on NPS-managed areas is prohibited except for (1) as specifically authorized by federal statutory law, (2) as required under a reservation of use rights arising from acquisition of a tract of land, or (3) as designated, when conducted as a necessary and integral part of a recreational activity or required in order to maintain a historic scene. These exceptions do not apply to livestock management in MVNP, so active management of livestock is prohibited.

3. COMMENT: The NPS should consider using trespass horses for mounted patrol or for range and fuels management.

   RESPONSE: The NPS has used a small number of trespassing horses for patrol activities in the past; however, using them for patrol or fuels management is not currently needed. MVNP used trespassing horses because 36 CFR 2.60 allows unclaimed, trespassing livestock to be "...converted to the use of the United States." This need no longer exists, and MVNP has the livestock necessary for the mounted patrol.

   Fuels management by livestock is most effective using a highly managed intensive or targeted grazing system (Briske et al. 2011; Diamond et al. 2012; Strand et al. 2014). The effects of managed grazing may be short lived and may increase soil disturbance and invasive nonnative plants, such as cheatgrass (*Bromus tectorum*) (Briske et al. 2011; Diamond et al. 2012; Freese et al. 2013; Strand et al. 2014).

4. COMMENT: The NPS should consider using porcine zona pellucida (PZP) to slow the population growth rate of trespass horses.

   RESPONSE: This suggestion was considered but dismissed from further consideration. PZP is considered a herd management tool and is not intended to be used to remove or eliminate a population by altering population growth rates. The NPS cannot manage livestock in the park, as discussed in Section 2.3 of the EA.

Alternatives: New Alternatives or Elements

1. COMMENT: The NPS should consider eliminating the use of helicopters for the roundup.

   RESPONSE: The NPS would use a variety of techniques to capture livestock, with baited pen trapping as the primary capture method. If, after the second year of baited pen trapping, the 80 percent removal objective is not met, only then would the NPS consider the use of helicopters among other capture methods presented in the EA; trespassing horses that are chemically immobilized would not be moved by helicopter (see page 2-14 of the EA).

2. COMMENT: The NPS should consider using volunteers throughout the removal process, including capture and holding.

   RESPONSE: Under Alternative B, the Partnership Option, the preferred alternative, the NPS could use park staff, contractors, park partners, and volunteers (see page 2-15 of the EA) when and where appropriate. MVNP could collaborate with interested livestock advocacy groups, who could advertise the sale or adoption of livestock through their networks of stakeholders and would identify potential buyers and homes for captured livestock. If after 30 days the partnering organization has not found a home placement for an animal, MVNP would follow procedures in 36 CFR 2.60.

3. COMMENT: The NPS should consider providing a water source for trespass livestock or construct a water source for trespass livestock outside of the park boundary.

   RESPONSE: Livestock would be excluded from natural water sources during trapping in order to persuade them to use water supplied in baited pen traps. Pen capture sites may be baited up to 6 months in advance with water, feed, or mineral supplement to habituate and restrict livestock to the capture area and pen. Providing water as a management tool would be considered managing livestock, which is contrary to the EA purpose and need. Additionally, MVNP does not have the legal authority to provide water outside of the park.

4. COMMENT: The NPS should consider adjusting the timing of foal capture.

   RESPONSE: The NPS would not target for removal mares with foals under 4 months old. Language has been included in the Errata in response to this concern. Alternate pens in the holding facility would be used to separate small foals, sick and injured animals, or other animals determined to need pens separate from the other animals. Despite not being targeted, if a mare with a foal less than 4 months old were inadvertently captured during trapping, the pair, if unclaimed, would remain together and segregated from other horses in the holding facility until the sale/donation process. Foals 4 months or older may be separated from their mothers during capture and in the holding facility.

5. COMMENT: The NPS should consider alternative ways to prevent trespass livestock from entering MVNP.

   RESPONSE: Under both alternatives, fences would be replaced or constructed. The NPS would maintain boundary fences for long-term exclusion. Fences that have a history or potential for allowing livestock to cross into the park would continue to be replaced (see page 2-1 of the EA) and subsequently maintained. The current fence design and installation has been effective at keeping trespassing livestock out of the park.

6. COMMENT: The NPS should consider longer capture periods.

   RESPONSE: The proposed capture period is 5 years, with a target of 80 percent removal within 2 years. The NPS would use a variety of techniques to capture livestock, consistent with federal laws and regulations. Baited pen trapping would be the primary capture method for the first 2 years. Five years was considered a reasonable length of time to remove the livestock in the park, given the proposed capture and disposal methods and recruitment rate of the trespassing livestock. Extending this period would be considered management of livestock rather than removal, contrary to federal regulations and NPS policy.

7. COMMENT: The NPS should consider longer holding periods.

   RESPONSE: The NPS would hold trespassing livestock at the central holding facility for 30 days, which is beyond the minimum of 15 days as specified in regulation (36 CFR 2.60). This holding period is reasonable in order to coordinate with advocacy groups to place trespassing livestock.

8. COMMENT: The NPS should consider sale stipulations.

   RESPONSE: MVNP considered sale stipulations but found that these stipulations were not legally enforceable. The NPS would issue the bill of sale before the livestock leave MVNP.

Cultural Resources: Impact of Proposal and Alternatives

1. COMMENT: Commenters were concerned about impacts on cultural resources in MVNP from trespass livestock while in the park and during removal.

   RESPONSE: Mitigation measures, as described in Section 2.2 of the EA, would prevent impacts from removing livestock during capture. An MVNP archeologist would advise on identifying, avoiding, or minimizing potential impacts on cultural resources.

Impact Analysis: Impact Analyses

1. COMMENT: Commenters identified economic impacts from trespass livestock removal.

   RESPONSE: The purpose of Mesa Verde National Park, the experience visitors seek in coming to it, and the local economic contributions associated with park visitation are predominantly derived from the ethno-archeological legacy of the ancestral Puebloan culture. Commenters have not provided any objective data that would suggest that removing trespassing livestock from the park would have a measurable adverse effect on park visitation levels and local economic activity. Retaining livestock herds in Mesa Verde National Park would be a management choice that is prohibited by 36 CFR 2.60.

Miscellaneous Topics: General Comments

1. COMMENT: Commenters debated the definition of horses as livestock vs. wildlife and whether trespass livestock were historical or trespass.

   RESPONSE: The NPS does not manage livestock under the Wild Free-Roaming Horses and Burro Act, whether livestock were historically in MVNP or trespassing. Congress established MVNP in 1906 to "provide specifically for the preservation from injury or spoliation of the ruins and other works and relics of prehistoric or primitive man within said park." These resources were the basis for listing MVNP on the National Register of Historic Places in 1966. Horses are not required to maintain a historic scene. For the NPS to retain horse herds in Mesa Verde National Park would be a management choice that is prohibited by 36 CFR 2.60.

   Livestock are not a "property type," according to 36 CFR 800, but for certain historic districts or cultural landscapes, the presence of livestock could contribute to the integrity of setting or feeling; however, a review of the historic context demonstrates that livestock are

not historically significant to the MVNP. Their presence does not contribute to the integrity of setting or feeling for any historic district or cultural landscape within the park.

References

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Diamond, J.M., C.A. Call, and N. Devoe 2012. Effects of targeted grazing and prescribed burning on community and seed dynamics of a downy brome (Bromus tectorum) dominated landscape. Invasive Plant Science and Management 5:259-269

Freese, E., T. Stringham, G. Simonds, and E. Sant 2013 Grazing for Fuels Management and Sage Grouse Habitat Maintenance and Recovery: A Case Study From Squaw Valley Ranch, Rangelands,Volume 35, Issue 4; 13-17

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Attachment 2

Non-Impairment Determination

ATTACHMENT 2: NON-IMPAIRMENT DETERMINATION
LIVESTOCK REMOVAL
ENVIRONMENTAL ASSESSMENT

MESA VERDE NATIONAL PARK
DECEMBER 2018

By enacting the NPS Organic Act of 1916 (Organic Act), Congress directed the US Department of the Interior and the National Park Service (NPS) to manage units "to conserve the scenery, natural and historic objects, and wild life in the System units and to provide for the enjoyment of the scenery, natural and historic objects, and wild life in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (54 USC 100101). NPS Management Policies 2006, Section 1.4.4, below, explains the prohibition on impairing park resources and values:

> While Congress has given the Service the management discretion to allow impacts within parks, that discretion is limited by the statutory requirement (generally enforceable by the federal courts) that the Park Service must leave park resources and values unimpaired unless a particular law directly and specifically provides otherwise. This, the cornerstone of the Organic Act, establishes the primary responsibility of the National Park Service. It ensures that park resources and values will continue to exist in a condition that will allow the American people to have present and future opportunities for enjoyment of them.

An action constitutes impairment when its impacts "harm the integrity of park resources or values, including the opportunities that otherwise will be present for the enjoyment of those resources or values" (NPS 2006, Section 1.4.5). To determine impairment, the NPS must evaluate the particular resources and values that will be affected; the severity, duration, and timing of the impact; the direct and indirect effects of the impact; and the cumulative effects of the impact in question and other impacts. An impact on any park resource or value may constitute impairment, but an impact would be more likely to constitute an impairment to the extent that it affects a resource or value whose conservation is:

- Necessary to fulfill specific purposes identified in the establishing legislation or proclamation of the park
- Key to the natural or cultural integrity of the park or to opportunities for enjoyment of the park
- Identified in the park's general management plan or other relevant NPS planning documents as being of significance (NPS 2006, Section 1.4.5)

Fundamental resources and values for Mesa Verde National Park are identified in its enabling legislation, the Foundation for Planning and Management Statement, and the Long-Range Interpretive Plan. Based on a review of these documents, the fundamental resources and values for Mesa Verde National Park are its prehistoric resources, the 11,000-year-old continuum of human

history, and that it provides for the benefit, enjoyment, education, and inspiration of this and future generations.

Cultural resources (archeological resources) that were carried forward for detailed analysis in the EA are considered necessary to fulfill specific purposes in the enabling legislation or proclamation for MVNP. Such resources also are key to its natural or cultural integrity or are identified as a goal in relevant NPS planning documents.

Nonimpairment determinations are not necessary for human health and safety or visitor use and experience. This is because impairment findings relate to park resources and values; these impact topics are not generally considered park resources or values, according to the Organic Act.

This nonimpairment determination has been prepared for the selected alternative, as described in the Finding of No Significant Impact for the Mesa Verde National Park Environmental Assessment.

CULTURAL RESOURCES (ARCHEOLOGICAL RESOURCES)

MVNP will ensure that cultural resources (archeological resources) are not inadvertently damaged during fence installation. Fence replacement will require minor surface disturbance when installing the fence posts, which inadvertently could adversely affect historic properties. The NPS will sign a programmatic agreement with the SHPO for phased identification and mitigation of any adverse effects that could be associated with fence repair and replacement. A MVNP cultural resource specialist will monitor fence replacement to identify, avoid, or minimize potential impacts on cultural resources. Appropriate discovery and mitigation measures will be implemented, as required.

BIOLOGICAL RESOURCES

MVNP will take precautions to avoid impacts on the Mexican spotted owl (*Strix occidentalis lucida*) and the Chapin Mesa milkvetch (*Astragalus schmolliae*). To avoid or minimize the potential for impacts on the Mexican spotted owl from project activities, mitigative measures would take place during roundup, fence replacement, and lethal reduction as detailed in Appendix A, Mitigation Measures. There will be a short-term impact on Chapin Mesa milkvetch, especially at the Chapin Mesa Quarry Road capture pen, where the milkvetch is known to occur; however, over the long term, removal of the livestock will likely benefit the milkvetch. Monitoring and mitigation will prevent the introduction of nonnative plant species at the capture pens and holding facility; nonnative species will be removed using the least environmentally damaging methods. On April 6, 2018, the USFWS concurred with MVNP's determination. Additional monitoring and mitigation measures will be implemented, as required.

CONCLUSION

This analysis was guided by good science and scholarship, advice from subject matter experts and others who have relevant knowledge and experience, and the results of public involvement activities; therefore, it is the Superintendent's professional judgment that there will be no impairment of park

resources and values from implementing the selected alternative. The NPS has determined that implementing the selected alternative will not impair the resources or values of Mesa Verde National Park. This conclusion is based on the park's purpose and significance, a thorough analysis of the environmental impacts described in the EA, comments provided by the public and others, and the professional judgment of the decision-maker, guided by the direction of *NPS Management Policies 2006*.

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