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Department of
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Forest
Service

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Supplemental Draft Environmental Impact Statement

Use of Domestic Sheep, Goats, and Pack Goats

**Shoshone National Forest
Wyoming**

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**Shoshone National Forest Land Management Plan Revision
Supplemental Draft Environmental Impact Statement
Fremont, Hot Springs, Park, Sublette, and Teton Counties, Wyoming**

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Cooperating Agencies: Wyoming Game and Fish Department

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Abstract: This Supplemental Draft Environmental Impact Statement (SDEIS) documents the analysis of three alternatives developed for managing the potential risk of disease transmission to bighorn sheep from domestic sheep and goats, and pack goats. The Forest Service has identified alternative 2 as the preferred alternative.

The announcement of the release of this SDEIS will be published in the Federal Register. This will be followed by a 90-day comment period. To qualify for “standing,” comments must be substantive and have been submitted during the comment period.

Reviewers should provide the Forest Service with their comments during the review period of the SDEIS. This will enable the Forest Service to analyze and respond to the comments at one time and to use information acquired in the preparation of the Final Environmental Impact Statement, thus avoiding undue delay in the decision-making process. Reviewers have an obligation to structure their participation in the National Environmental Policy Act process so that it is meaningful and alerts the agency to the reviewers’ position and contentions. *Vermont Yankee Nuclear Power Corp. v. NRDC*, 435 U.S. 519, 553 (1978). Environmental objections that could have been raised at the draft stage may be waived if not raised until after completion of the Final Environmental Impact Statement. *City of Angoon v. Hodel* (9th Circuit, 1986) and *Wisconsin Heritages, Inc. v. Harris*, 490 F. Supp. 1334, 1338 (E.D. Wis. 1980). Comments on the SDEIS should be specific and should address the adequacy of the statement and the merits of the alternatives discussed (40 CFR 1503.3).

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Date Comments Must Be Received:

**Close of Business 90 days from the date of
publication in the Denver Post.**

Summary

The Shoshone National Forest proposes to limit areas where domestic sheep allotments are stocked and restrict the use of domestic goats and pack goats on the Forest to reduce the risk of disease transmission to bighorn sheep. The area affected by the proposal includes core native bighorn sheep habitat across the Shoshone. This action is needed because of the potential impacts to core native sheep herds.

On May 6, 2015, the Rocky Mountain Regional Forester signed the Record of Decision (ROD) revising the Shoshone National Forest Land Management Plan (LMP). The May 6, 2015 Revised LMP included standards and guidelines restricting the use of recreational pack goats, and domestic sheep and goat grazing, where it was determined that there was unacceptable risk of disease transmission from the pack goats or domestic sheep and goats to bighorn sheep. Bighorn sheep are a sensitive species for the Shoshone National Forest.

In June 2015, the North American Packgoat Association joined with the Idaho Wool Growers Association and filed a Motion for Contempt with the U.S. District Court for the District of Idaho. Plaintiff's alleged the Forest Service improperly relied on a report that the Court had previously found to be in violation of the Federal Advisory Committee Act (FACA) when the Shoshone National Forest prepared its 2012 and 2013 Risk Assessment of Disease Transmission (RADT) report, which the Forest relied upon for revising the LMP.

In February 2016, the District Court granted the plaintiffs motion for contempt. On July 9, 2016, the parties agreed to a stipulated settlement. In accordance with the July 2016 Stipulated Settlement Agreement, the Regional Forester has prepared a [new RADT report](#) and Supplemental Draft Environmental Impact Statement consistent with the National Environmental Policy Act and all applicable laws and regulations that analyze the potential for disease transmission between domestic sheep, domestic goats and pack goats, and wild bighorn sheep on the Shoshone National Forest.

These issues led the agency to develop three alternatives to the proposed action:

- Alternative 1, No Action: There would be no change in domestic sheep management and pack goat use would be allowed on the Shoshone.
- Alternative 2, Proposed Action: domestic sheep and domestic goat grazing would be allowed on the current allotment allocated for sheep and goats. Pack goat use would be prohibited from core native bighorn sheep ranges.
- Alternative 3: Domestic sheep and domestic goat grazing would be allowed on the current allotment allocated for sheep and goats. Pack goat use would be prohibited from core native bighorn sheep ranges and approved through a permit process once a scientifically proven and viable mitigation is developed and approved.

Major conclusions:

Based upon the effects of the alternatives, the responsible official will decide how to address the potential risk of disease transmission from domestic sheep and goats, and pack goats, to bighorn sheep.

Acronyms and Abbreviations

AUM – Animal Unit Month
BLM – Bureau of Land Management
CEQ – Council on Environmental Quality
CFR – Code of Federal Regulations
SDEIS – Supplemental Draft Environmental Impact Statement
EIS – Environmental Impact Statement
FACA – Federal Advisory Committee Act
FEIS – Final Environmental Impact Statement
LMP – Land Management Plan
NEPA – National Environmental Policy Act
RADT – Risk Assessment of Disease Transmission
ROD – Record of Decision
SEIS – Supplemental Environmental Impact Statement
WGFD – Wyoming Game and Fish Department

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Chapter 1. Purpose of and Need for Action

Document Structure

The Forest Service has prepared this Environmental Impact Statement (EIS) in compliance with the National Environmental Policy Act (NEPA) and other relevant Federal and State laws and regulations. This EIS discloses the direct, indirect, and cumulative environmental impacts that would result from the proposed action and alternatives. The document is organized into four chapters:

- *Chapter 1. Purpose and Need for Action:* The chapter includes information on the history of the project proposal, the purpose of and need for the project, and the agency's proposal for achieving that purpose and need. This section also details how the Forest Service informed the public of the proposal and how the public responded.
- *Chapter 2. Alternatives, including the Proposed Action:* This chapter provides a more detailed description of the agency's proposed action as well as alternative methods for achieving the stated purpose. These alternatives were developed based on significant issues raised by the public and other agencies. This discussion also includes mitigation measures. Finally, this section provides a summary table of the environmental consequences associated with each alternative.
- *Chapter 3. Affected Environment and Environmental Consequences:* This chapter describes the environmental effects of implementing the proposed action and other alternatives. This analysis is organized by [insert topic (i.e., resource area, significant issues, environmental component)].
- *Chapter 4. Consultation and Coordination:* This chapter provides a list of preparers and agencies consulted during the development of the EIS.

Additional documentation may be found in the project planning record located at Shoshone National Forest Supervisor's Office in Cody, Wyoming.

Background

On May 6, 2015, the Rocky Mountain Regional Forester signed the Record of Decision (ROD) revising the Shoshone National Forest Land Management Plan (LMP). The May 6, 2015 Revised LMP included standards and guidelines restricting the use of recreational pack goats, and domestic sheep and goat grazing, where it was determined that there was unacceptable risk of disease transmission from the pack goats or domestic sheep to bighorn sheep. Bighorn sheep are a sensitive species for the Shoshone National Forest.

In June 2015, the North American Packgoat Association joined with the Idaho Wool Growers Association and filed a Motion for Contempt with the U.S. District Court for the District of Idaho, alleging the Forest Service improperly relied on a report that the Court had previously found to be in violation of the Federal Advisory Committee Act (FACA) when the Shoshone National Forest prepared its 2012 and 2013 Risk Assessment of Disease Transmission (RADT) report, which the Forest relied upon in revising the LMP. The Idaho District Court's 2009 Decision prohibited the Forest Service from relying on

the findings and conclusions of two Payette National Forest reports that pertained to disease transmission between domestic sheep and bighorn sheep on the Payette.

In February 2016, the District Court granted plaintiffs motion for contempt. On July 9, 2016, the parties agreed to a stipulated settlement, including the following:

- Defendants shall retract the Shoshone 2012 and 2013 RADT reports that were prepared for the 2015 Shoshone LMP revision and all references to the Shoshone RADT reports in the administrative record for the Shoshone LMP revision.
- Defendants shall retract the findings and conclusions concerning disease transmission between domestic sheep, domestic goats, and pack goats and wild bighorn sheep that relied on the Shoshone 2012 or 2013 RADT reports, the Payette National Forest's 2006 RADT report, and the Payette Principles report from the 2015 revised Shoshone LMP, the ROD for the Shoshone LMP revision, and the final EIS for the Shoshone LMP revision and the administrative record for the Shoshone LMP revision.
- Defendants shall prepare a Supplement to the EIS (Supplemental EIS, or SEIS) and new RADT report consistent with NEPA and all applicable laws and regulations for the revision of the Shoshone LMP that analyzes the potential for disease transmission between domestic sheep, domestic goats, and pack goats, and wild bighorn sheep on the Shoshone National Forest. The SEIS shall consider whether there are differences in the potential for disease transmission by domestic sheep, domestic goats, and pack goats to wild bighorn sheep. On the basis of the SEIS and new RADT report, Defendants shall issue a Supplemental ROD addressing the potential for disease transmission between domestic sheep, domestic goats, and pack goats, and wild bighorn sheep on the Shoshone National Forest.
- Defendants shall initiate the SEIS and new RADT report by June 30, 2016, and shall use their best efforts to complete the SEIS within fourteen (14) months, by August 30, 2017.
- Nothing in this Agreement shall be construed to prohibit the Forest Service from banning domestic sheep, domestic goats, and pack goats on the Wapiti, Clarks Fork, Greybull, and Wind River Ranger Districts located on the Shoshone National Forest, consistent with previously issued closure orders, pending completion of the SEIS and Supplemental ROD.

Purpose and Need for Action

In accordance with the July 2016 Stipulated Settlement Agreement, the direction restricting pack goat use contained in the May 2015 Revised Forest Plan has been retracted. Accordingly, the Forest Service must consider whether the revised Forest Plan should include direction regarding management of domestic sheep and goats to limit potential for disease transmission to bighorn sheep, and, if so, whether there are differences in the potential for disease transmission from domestic sheep, domestic goats, or pack goats, to wild bighorn sheep that warrant different management approaches.

Therefore, the purpose of and need for the proposed Federal action being considered here is to determine what, if any, use by domestic sheep, domestic goats, or pack goats is appropriate within the Shoshone National Forest by analyzing the risk of disease

transmission from domestic sheep, domestic goats, and pack goats to bighorn sheep, and to determine what, if any, direction should be included in the revised Forest Plan.

This draft SEIS (SDEIS) was prepared independently and did not rely on the 2009 Payette reports or the 2012 or 2013 Shoshone RADT reports. This SEIS relies on the best available science regarding the risk of disease transmission between domestic sheep, domestic goats and pack goats, and bighorn sheep.

This analysis is supplemental to and part of the analysis for the 2015 Revised Forest Plan decision, which was governed by the transition language of the planning regulations at 36 CFR 219.17(b)(3), which permitted use of a previous version of the regulations, issued in 1982, for forest plan revisions initiated prior to 2012. The 1982 version of the planning regulations is available on the Forest Service website.

Proposed Action

The Rocky Mountain Regional Forester proposes to limit areas where domestic sheep allotments are stocked and restrict the use of domestic goats and pack goats on the Shoshone National Forest in order to reduce the risk of disease transmission to bighorn sheep. These restrictions would be incorporated into the LMP through the following plan components:

Desired Condition – Maintain healthy core native bighorn sheep herds by minimizing the risk of potential disease transmission from domestic sheep, domestic goats, and pack goats.

SENS-Goal-03 – Maintain low risk of disease transmission from domestic sheep and domestic goats to wild bighorn sheep within core bighorn sheep ranges.

SENS-Standard-05 – Domestic sheep and goat allotments shall not overlap with core native bighorn sheep ranges.

SENS-Standard-06 – Do not allow recreational pack goat use in core native bighorn sheep ranges.

SENS-Guideline-12 – Outfitter and guide authorizations for recreational goat packing in core bighorn sheep ranges will not be issued.

Management Approach – A wildlife program emphasis for bighorn sheep is to reduce the risk of disease transmission from domestic sheep and goats to bighorn sheep. There is a concern about the risk of disease transmission to bighorn sheep from domestic goats used for packing. To minimize that risk, guidelines are applied for domestic pack goats within the Shoshone National Forest; domestic sheep and goat grazing has been removed from core native bighorn sheep ranges. Authorizations for pack goat use in core bighorn sheep ranges will not be issued.

Decision Framework

Given the purpose and need, the deciding official reviews the proposed action, the other alternatives, and the environmental consequences in order to make the following decisions:

Whether to restrict the use of domestic sheep, domestic goats, and pack goats in bighorn sheep habitat on the Shoshone National Forest and what plan components to include in

the revised LMP based on what is necessary and appropriate to minimize the risk of contact and disease transmission from domestic sheep, domestic goats, and pack goats to bighorn sheep.

Public Involvement

A Notice of Intent to prepare a supplemental EIS in the Federal Register on March 31, 2017. No additional public meetings have been held during the preparation of this SDEIS due to the extensive public participation process that occurred with the development of the May 2015 Forest Plan. During the 90-day comment period on the Draft Forest Plan and DEIS that occurred in 2012, the Forest received about 23,480 letters, including letters for and against the limitations on recreational pack goat use.

Issues

The Forest Service separated the issues into two groups: significant and non-significant issues. Significant issues were defined as those directly or indirectly caused by implementing the proposed action. Non-significant issues were identified as those: 1) outside the scope of the proposed action; 2) already decided by law, regulation, Forest Plan, or other higher level decision; 3) irrelevant to the decision to be made; or 4) conjectural and not supported by scientific or factual evidence. The Council on Environmental Quality (CEQ) NEPA regulations explain this delineation in Sec. 1501.7, "...identify and eliminate from detailed study the issues which are not significant or which have been covered by prior environmental review (Sec. 1506.3)..." As for significant issues, the Forest Service identified the following issues:

1. There is potential for disease transmission from domestic sheep, domestic goats, and pack goats to wild bighorn sheep.
2. There are differences in the potential for disease transmission by domestic sheep, domestic goats, or pack goats to bighorn sheep.
3. There are minimal options for reducing potential for contact and disease transmission.
4. Contact between bighorn sheep and domestic sheep, domestic goats, and pack goats increases the risk of disease transmission to bighorn sheep.

Chapter 2. Alternatives, including the Proposed Action

Introduction

This chapter describes and compares the alternatives considered for the management of domestic sheep, domestic goats, and pack goats to minimize the potential risk of disease transmission to bighorn sheep on the Shoshone National Forest. It includes a description and map of each alternative considered. This section also presents the alternatives in comparative form, sharply defining the differences between each alternative and providing a clear basis for choice among options by the decision maker and the public. Some of the information used to compare the alternatives is based upon the design of the alternative (i.e., prohibition on pack goat use versus permitted use of pack goats based on implementation of mitigation measures) and some of the information is based upon the environmental, social, and economic effects of implementing each alternative (i.e., the risk of disease transmission under a prohibition on pack goat use versus permitted use).

Alternatives Considered in Detail

The Forest Service developed three alternatives, including the No Action, the Proposed Action, and an Adaptive Management alternative.

1. No Action: There would be no change to the Forest Plan regarding domestic sheep management, and pack goat use would be allowed on the Shoshone.
2. Proposed Action: Domestic sheep and domestic goat grazing would be allowed on the current allotments allocated for sheep and goats. Pack goat use would be prohibited from core native bighorn sheep ranges.
3. Alternative 3. Domestic sheep and domestic goat grazing would be allowed on the current allotments allocated for sheep and goats. Pack goat use would be prohibited from core native bighorn sheep ranges and authorized through a permit process once effective and viable mitigation is developed and approved by both the Wyoming Game and Fish Department and the Forest Service.

Alternative 1: No Action

Under the No Action alternative, current management plans would continue without additional restrictions on domestic sheep, domestic goats, and pack goats. There would be no restrictions contained in the forest plan regarding domestic sheep, domestic goats, and pack goats in native bighorn sheep habitat. Any existing closure orders regarding pack goat use would be rescinded.

Alternative 2: Proposed Action

The Shoshone National Forest proposes to limit areas where domestic sheep allotments are stocked and restrict the use of domestic goats and pack goats on the Shoshone National Forest in order to reduce the risk of disease transmission to bighorn sheep.

These restrictions would be incorporated into the LMP through the following plan components:

Desired Condition– Low risk of disease transmission from domestic sheep and/or goats within the Shoshone National Forest. Use by domestic sheep, domestic goats, and pack goats will not be authorized in areas that overlap with bighorn sheep so as to reduce the risk of disease transmission.

SENS-Goal-03 – Maintain lowest possible risk of disease transmission from domestic sheep and domestic goats to wild bighorn sheep within core bighorn sheep ranges.

SENS-Standard-05 – Domestic sheep and goat allotments shall not overlap with core native bighorn sheep ranges.

SENS-Standard-06 – Recreational pack goat use in core native bighorn sheep ranges is prohibited.

SENS-Guideline-12 – Outfitter and guide authorizations for recreational goat packing in core bighorn sheep ranges will not be issued.

Management Approach – A wildlife program emphasis for bighorn sheep is to reduce the risk of disease transmission from domestic sheep and goats to bighorn sheep. To minimize that risk, standards and guidelines are applied to restrict domestic pack goats within the Shoshone National Forest; domestic sheep and goat grazing has been removed from core native bighorn sheep ranges. Authorizations for pack goat use in core bighorn sheep ranges will not be issued.

There is no proposed change to domestic sheep and domestic goat grazing allotments.

Alternative 3: Pack Goat Use with Mitigations

This alternative would be similar to the Proposed Action alternative but includes an adaptive management measure to authorize the use of pack goats in the future, under certain conditions. This alternative also considered mitigation measures proposed by the North American Pack Goat Association to provide for separation between pack goats and bighorn sheep and reduce the risk of disease transmission (Jennings 2011). Those conditions would include:

1. Implementing a system that would require a permit for all pack goat use. Pack goat users would be informed on required and recommended actions for reducing the risk of contact between pack goats and bighorn sheep when obtaining their permit.
2. Requiring any observed contact between pack goats and bighorn sheep, as well as any lost pack goats, to be reported to the Forest Service as soon as possible as a condition of obtaining a pack goat use permit.
3. Limiting the number of pack goats per party.
4. Requiring pack goats to be leashed or in direct control by their owners.
5. Requiring pack goats to be high-lined or restrained in campsites.
6. Requiring pack goats to have bells attached to their collars at all times.

7. Requiring veterinary health inspection and disease testing of all pack goats before entering Shoshone National Forest lands, and requiring handlers to be in possession of a health and disease testing certificate for each pack goat.

Additional mitigation measures were provided by the North American Pack Goat Association but were not considered in this alternative because they were not feasible to implement. A discussion of these additional measures is available in the project record. The Forest Service and Wyoming Game and Fish Department would review emerging science and technologies on a biannual basis or when new information is provided by the public. Adoption of a permit system would be an adaptive management change as contemplated under 36 CFR §§ 220.3, 220.5(e)(2).

Alternatives Considered but Eliminated from Detailed Study

Federal agencies are required by NEPA to rigorously explore and objectively evaluate all reasonable alternatives and to briefly discuss the reasons for eliminating any alternatives that were not developed in detail (40 CFR 1502.14).

This analysis is narrowly focused on a single topic and is a supplement to the original EIS for the Shoshone National Forest Land Management Plan Revision. At this time, no additional alternatives have been identified that are not outside the scope of the decision to be made, duplicative of the alternatives considered in detail, or determined to be components that would cause unnecessary environmental harm.

Comparison of Alternatives

This section provides a summary of the effects of implementing each alternative. Activities and effects where different levels of effects or outputs can be distinguished quantitatively or qualitatively among alternatives are compared in Table 1.

Table 1. Comparison of alternatives

	Alternative 1	Alternative 2	Alternative 3
Management of permitted domestic sheep and goats and recreation pack goat use on bighorn sheep habitat.	Domestic goats (including pack goats) allowed on entire Shoshone National Forest. Livestock allotments closed to domestic sheep grazing in core native bighorn sheep habitat.	No domestic goats (including pack goats) allowed in core native bighorn sheep habitat. Livestock allotments closed to domestic sheep grazing in core native bighorn sheep habitat.	Domestic goats (including pack goats) allowed in core native bighorn sheep habitat under permit system. Livestock allotments closed to domestic sheep grazing in core native bighorn sheep habitat.
Number of core native bighorn sheep herds potentially at risk of disease transmission	6	0	6

Chapter 3. Affected Environment and Environmental Consequences

This chapter summarizes the physical, biological, social, and economic environments of the project area and the effects of implementing each alternative on that environment. It also presents the scientific and analytical basis for the comparison of alternatives presented in the alternatives chapter.

Rocky Mountain Bighorn Sheep

Affected Environment

Rocky Mountain bighorn sheep (*Ovis canadensis canadensis*) are scattered throughout the mountainous regions of western North America from British Columbia and Alberta south to New Mexico and Arizona (Beecham et al. 2007). In Wyoming, they primarily occur in the northwestern part of the state with re-introduced populations in the Bighorn Mountains and several mountain ranges in the southeast. They are considered a big game animal in Wyoming and have a natural heritage ranking of G4/S3 (Global rank assigned by NatureServe: 4 – Apparently secure / Subnational rank: 3 – vulnerable).

The Shoshone National Forest is occupied by six of the eight core native bighorn sheep herds in Wyoming. These are herds that have never been extirpated and re-populated with transplanted bighorn sheep (Wyoming State-wide Bighorn/Domestic Sheep Interaction Working Group 2004a). They are the largest and most robust bighorn sheep populations in Wyoming and are the highest priorities for bighorn sheep management in Wyoming (Wyoming State-wide Bighorn/Domestic Sheep Interaction Working Group 2004a). Core native herds on the Shoshone National Forest include: Clarks Fork, Trout Peak, Wapiti Ridge, Younts Peak, Francs Peak, and Whiskey Mountain (Figure 1). These core herds currently occupy 67% (1.65 million acres) of the Shoshone National Forest. Five of the six core native herds are connected to one another (Whiskey Mountain being the exception), and together form the Absaroka metapopulation.

A small portion of the Washakie Ranger District is occupied by the Temple Peak herd. This is not a core herd, but is classified as both a remnant and a transplant herd. It is managed within a “cooperative review area” (Wyoming State-wide Bighorn/Domestic Sheep Interaction Working Group 2004b), which consists of areas of suitable bighorn sheep range where proposed changes in bighorn sheep management or domestic sheep use will be cooperatively evaluated. An additional bighorn sheep herd occurs on the adjacent Wind River Indian Reservation in the South Fork Little Wind River watershed. This herd is connected to the Temple Peak herd (Figure 1), and the combined herd consists of about 100 sheep (McWhirter, WGFD, pers. comm., 2017).

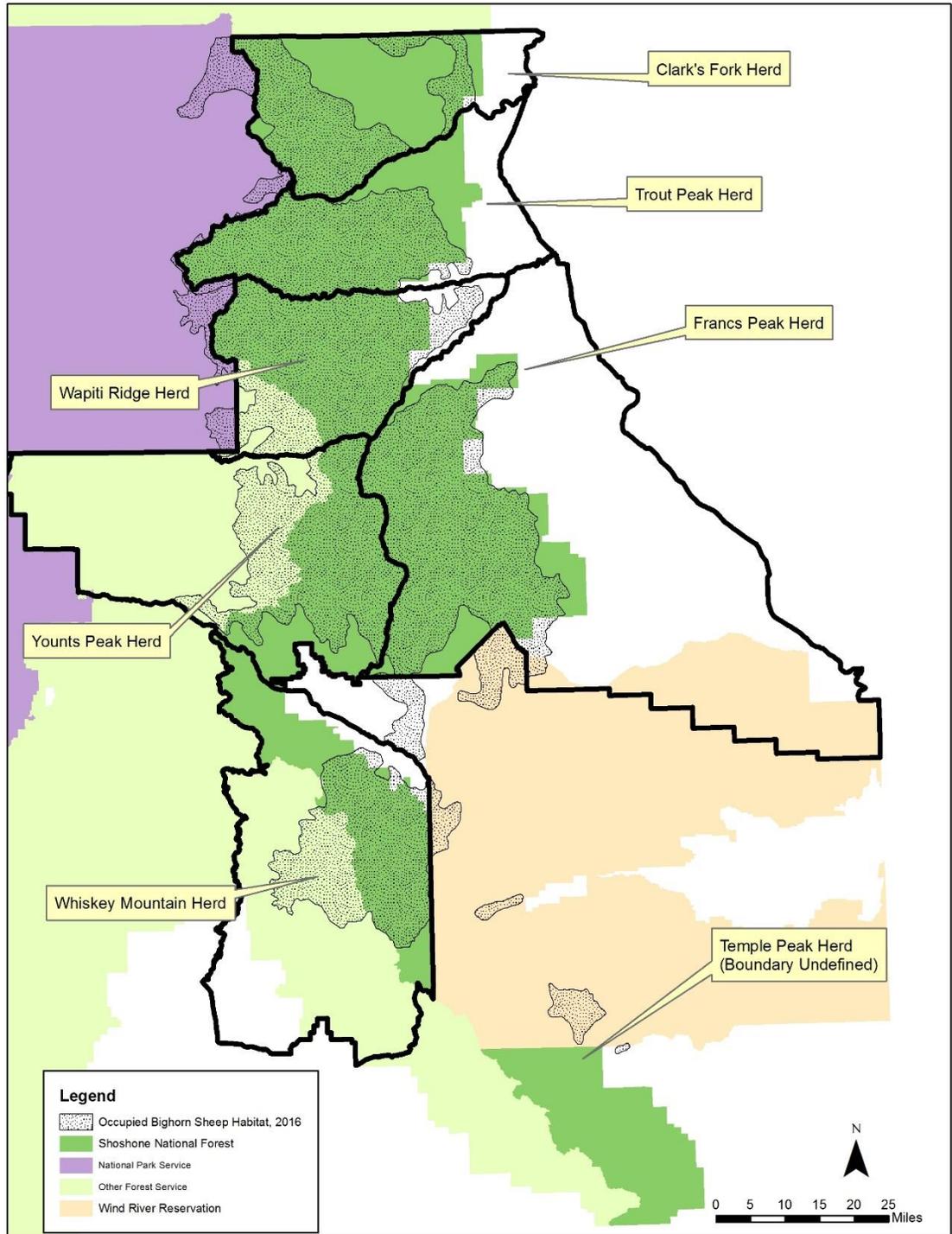


Figure 1. Bighorn sheep herds and occupied habitat on the Shoshone National Forest and adjacent lands.

Clarks Fork Bighorn Sheep Herd

This core native herd occupies portions of the Shoshone National Forest and Custer Gallatin National Forest and ranges across the Absaroka Range and the Beartooth Plateau. The population objective for the Clarks Fork herd is 500 with the present population at 600. The lamb:ewe ratio was 21:100 in 2015.

No domestic sheep grazing occurs within this herd unit. The closest domestic sheep/goat grazing to the Clarks Fork herd is about 2 km (1 mile) east on private lands. The closest domestic sheep/goat grazing on the Shoshone National Forest is about 240 km (150 miles) south of the Clarks Fork herd (Table 2). No pack goat use is known to occur within this core native herd range.

Table 2. Proximity of bighorn sheep herds on the Shoshone National Forest to closest domestic sheep herd by land ownership and herd status

[km, kilometer; BLM, Bureau of Land Management; >, greater than]

Bighorn Sheep Herd	Proximity to Domestic Sheep on Shoshone National Forest (km)	Proximity to Domestic Sheep on adjacent lands (km)	Land Ownership of Adjacent Lands	Herd Status
Clarks Fork	240	2	Private	Core native herd
Trout Peak	221	19	BLM	Core native herd
Wapiti Ridge	179	29	BLM	Core native herd
Younts Peak	137	42	BLM	Core native herd
Francs Peak	113	33	BLM, Private	Core native herd
Whiskey Mountain	81	>60	Bridger-Teton National Forest	Core native herd
Temple Peak	29	Unknown	Unknown	Cooperative review herd

Trout Peak Bighorn Sheep Herd

This core native herd occupies portions of the Shoshone National Forest within the Absaroka Range. The population objective for the Trout Peak herd is 750. The present population is estimated to be about 700 sheep. The lamb:ewe ratio for this herd in 2015 was 25:100. The ram:ewe ratio for this herd in 2015 was 24:100.

No domestic sheep grazing occurs within this herd unit. The closest potential domestic sheep/goat grazing on public lands to the Trout Peak herd is about 19 km (12 miles) east on Bureau of Land Management lands. However, those potential sheep grazing sites are separated from this herd by miles of unsuitable terrain as well as by Highway 120 (Minnick, BLM, pers. comm., 2017; McWhirter, WGFD, pers. comm., 2017). The closest domestic sheep/goat grazing on the Shoshone National Forest is about 221 km (138 miles) south of the Trout Peak herd (Table 2). No pack goat use is known to occur within this core native herd range.

Wapiti Ridge Bighorn Sheep Herd

This core native herd occupies portions of the Shoshone and Bridger-Teton National Forests within the Absaroka Range. The population objective for the Wapiti Ridge herd is 1,000 sheep with the present population estimated at 850. In 2015, the lamb:ewe ratio was 31:100 which is above the 2010–2014 average of 21:100. The ram:ewe ratio was 27:100 in 2015.

No domestic sheep grazing occurs within this herd unit. The closest potential domestic sheep/goat grazing on public lands to the Wapiti Ridge Herd is about 29 km (18 miles) east on Bureau of Land Management lands. However, those potential sheep grazing sites are separated from this herd by unsuitable terrain as well as by Highway 120 (Minnick, BLM, pers. comm., 2017; McWhirter, WGFD, pers. comm., 2017). The closest domestic sheep/goat grazing on the Shoshone National Forest is about 179 km (112 miles) south of the Wapiti Ridge herd (Table 2). No pack goat use is known to occur within this core native herd range.

Younts Peak Bighorn Sheep Herd

This core native herd occupies portions of the Shoshone and Bridger-Teton National Forests, primarily within the Absaroka Range. Younts Peak is the most remote bighorn sheep herd in Wyoming (Beecham et al. 2007). While much of the Younts Peak herd is non-migratory and resides year-round on high-elevation ridges, portions of this herd do migrate to low-elevation winter range in the South Fork of the Shoshone and Greybull Rivers (WGFD 2009a). The large number of sheep wintering at high elevations makes this herd prone to periodic high mortality losses from severe winter weather.

The population for this herd is estimated to be 900, which is at objective. The 2015 lamb:ewe ratio was 27:100, and ram:ewe ratio was 39:100. The lamb:ewe ratio was above the 5-year (2010–2014) average of 24:100 for this herd, while the ram:ewe ratio was near average (41:100) (WGFD 2016a).

No domestic sheep grazing occurs within this herd unit. The closest potential domestic sheep/goat grazing on public lands to the Younts Peak herd is about 42 km (26 miles) east on Bureau of Land Management lands (Table 2). However, those potential sheep grazing sites are separated from this herd by miles of unsuitable terrain (Minnick, BLM, pers. comm., 2017; McWhirter, WGFD, pers. comm., 2017). The closest domestic sheep/goat grazing on the Shoshone National Forest is about 137 km (85 miles) southeast of the Younts Peak Herd (Table 2). No pack goat use is known to occur within this core native herd range.

Francs Peak Bighorn Sheep Herd

This core native herd occupies portions of the Shoshone National Forest and the Wind River Indian Reservation within the Absaroka and Owl Creek mountain ranges. The population objective for this herd is 1,350 sheep. Current model estimates put the population at 841 sheep, well below objective (WGFD 2016a). Lamb:ewe ratios for the herd averaged 25:100 during 2010–2014. Over the past 10 years the number of sheep observed on average in this herd has declined by 40% (WGFD 2016a).

No domestic sheep grazing occurs within this herd unit. The closest potential domestic sheep/goat grazing to the Francs Peak herd is about 3 km (2 miles) to the east. However, the Wyoming Wild Sheep Foundation and the individual landowner in question have recently cooperated to develop water sources at lower elevations (33 km from occupied sheep habitat, Table 2) to reduce the need to graze domestic sheep in proximity to occupied bighorn sheep habitat (McWhirter, WGFD, pers. comm., 2017). The closest domestic sheep/goat grazing on the Shoshone National Forest is about 113 km (70 miles) south of the Francs Peak Herd (Table 2). No pack goat use is known to occur within this core native herd range.

Whiskey Mountain Bighorn Sheep Herd

This core native herd occupies portions of the Shoshone and Bridger-Teton National Forests and the Wind River Indian Reservation within the Wind River Range (Figure 1). The population objective for this herd is 1,350 sheep. The current population estimate is about 975 sheep (WGFD 2016b). This was once the largest herd in the United States, but after a catastrophic disease-related all-age die-off in 1991, the population has yet to recover and has been below objective for the past 20 years, though it appears to be slowly recovering. In 2015, the lamb:ewe ratio was 25:100. The ram:ewe ratio for this herd has been more stable. In 2015, the ratio was 47:100, above the 2010–2014 average of 46:100 (WGFD 2016b).

In 2010 WGFD personnel spent a significant amount of time observing sheep in early fall as they arrived on winter range. Many lambs were observed coughing violently and showing symptoms of pneumonia. Eleven sheep were euthanized throughout the fall and examined at the State veterinary lab to document the presence of disease. Examinations revealed *Mycoplasma ovipneumoniae* in all the sheep that had been seen coughing violently. It appears likely that persistent, low annual recruitment in this population can be traced to chronic bacterial infection resulting in significant lamb mortality as sheep migrate onto winter range in the fall. Despite low recruitment, the population is growing very slowly and it appears that a small increase in lamb recruitment will stabilize this population. Managers do not have any effective tools to mitigate the persistent presence of bacterial pneumonia in wild sheep; therefore, persistent chronic pneumonia continues to be a problem in this herd (Anderson, WGFD, pers. comm., 2017).

The Whiskey Mountain herd is isolated from other herds on the Shoshone National Forest. The Highway 26 corridor, which is the dividing line between the Whiskey Mountain herd and core native herds to the north, contains unsuitable bighorn sheep habitat, which limits interchange with the Absaroka metapopulation (Beecham et al. 2007). Furthermore, connectivity between the Whiskey Mountain and Temple Peak herds has not been demonstrated (McWhirter, WGFD, pers. comm., 2017).

No domestic sheep grazing occurs within this herd unit. In the recent past, the closest domestic sheep grazing on public lands to the Whiskey Mountain herd was about 10 km (6 miles) west on the Bridger-Teton National Forest. However, those allotments were recently closed to sheep grazing (USDA Forest Service 2016). As a result, no known domestic sheep grazing occurs within 35 km of this herd, either on the Shoshone or Bridger-Teton National Forests. The closest sheep grazing on lands outside of the Shoshone National Forest to this herd is now more than 60 km away on the Bridger-Teton National Forest (Table 2). Domestic sheep or goats are not known to be present on the

Wind River Reservation within this herd's home range (BIA, pers. comm., 2017). The closest domestic sheep grazing on the Shoshone National Forest is about 81 km southeast of the Whiskey Mountain Herd (Table 2).

In the past, pack goat use occurred on the Shoshone National Forest within the occupied habitat of this core native herd (Figure 1), and it still occurs on adjacent lands on the Bridger-Teton National Forest. The only pack goat outfitter to operate in this area on the Shoshone National Forest relinquished his permit in 2007, and pack goat use is currently prohibited within most of this herd's range by forest order. However, as currently written, the closure order still allows pack goat use in the Fitzpatrick Wilderness on the Washakie Ranger District, which encompasses the southern portion of the Whiskey Mountain herd's home range (Figure 1).

Temple Peak Bighorn Sheep Herd

The Temple Peak herd occupies a small portion of the Washakie Ranger District along the Lander Front in the southern end of the Wind River Range. The distribution of bighorn sheep within this unit is scattered, with known wintering areas in the North Fork of the Popo Agie River. This herd no longer has a hunt area assigned to it and is not discussed in the Wyoming Game and Fish Department 2016 Annual Big Game Herd Unit reports.

The Temple Peak herd is not a core native herd; rather, it is a transplanted herd and is designated a "Cooperative Review Area" (Wyoming State-wide Bighorn/Domestic Sheep Interaction Working Group 2004a). Cooperative Review Areas contain suitable bighorn sheep range where proposed changes in bighorn sheep management or domestic sheep use will be cooperatively evaluated.

This herd experienced an all-age pneumonia die-off in 1992 and has never recovered (WGFD 2006). Following the all age die-off it existed as a remnant herd for many years, although it appears to have increased slightly in recent years. Together with the South Fork Little Wind River herd, to which it is connected, the Temple Peak herd consists of about 100 sheep (McWhirter, WGFD, pers. comm., 2017). Cassaigne et al. (2010) suggest a minimum population of 188 bighorn sheep is required to ensure long-term persistence in the presence of epizootic disease. Therefore, this herd may eventually go extinct. The WGFD is not currently considering supplementations into this herd (McWhirter, WGFD, pers. comm., 2017).

Domestic sheep grazing has occurred on both the Shoshone and Bridger-Teton National Forests within this herd's historic summer range, but not within currently occupied range. Suitable bighorn sheep habitat within the domestic sheep allotments on the Shoshone National Forest is very limited due to its forested nature. In addition, a large portion of the land between the allotments and the Temple Peak herd's occupied habitat is forested, which essentially precludes bighorn sheep forays to these allotments.

This herd's current occupied range is very confined, suggesting that the herd is no longer a migratory herd or has little, if any interchange with bighorn sheep in the Whiskey Mountain population (Beecham et al. 2007). Furthermore, past telemetry data from both the Whiskey Mountain and Temple Peak herds show more of an east-west migration rather than a north-south migration. This makes the likelihood of movement between the Temple Peak and Whiskey Mountain herds unlikely. Connectivity between the two has not been demonstrated (McWhirter, WGFD, pers. comm., 2017). The Wyoming Game

and Fish Department is currently collecting data on the Temple Peak herd to examine distribution and movements (McWhirter, WGFD, pers. comm., 2017).

In the recent past, domestic sheep grazing occurred on the Wind River Reservation in proximity to this herd's winter range (BIA pers. comm., 2017). The closest domestic sheep grazing on the Shoshone National Forest is about 29 km (18 miles) southeast of the Temple Peak herd (Table 2). Currently, pack goat use does occur within the occupied habitat of this cooperative review herd. This pack goat use is consistent across all alternatives.

Risk Factor: Disease Transmission from Contact with Domestic Sheep and Goats

The susceptibility of bighorn sheep to population declines or extirpation due to respiratory diseases that can be transmitted from domestic sheep or goats (Besser et al. 2012, Cassirer et al. 2013) is the issue of greatest concern for bighorn sheep conservation. The *Risk Analysis of Disease Transmission between Domestic Sheep and Goats and Rocky Mountain Bighorn Sheep* (USDA Forest Service 2017) provides a detailed summary of the current literature regarding disease transmission between bighorn sheep and domestic sheep and goats.

A large body of scientific evidence documents the potential for transmission of disease pathogens from domestic sheep to bighorn sheep. This evidence includes both circumstantial evidence linking bighorn die-offs in the wild to contact with domestic animals, and controlled experiments where healthy bighorn sheep exposed to domestic sheep and goats subsequently displayed high mortality rates (e.g., Goodson 1982; Onderka et al. 1988; Onderka and Wishart 1988; Foreyt 1989, 1990, 1992a, 1992b, 1994; Foreyt et al. 1994; Garde et al. 2005; and Lawrence et al. 2010).

Although the body of literature linking disease transmission from domestic goats to bighorn sheep is not as extensive as that of domestic sheep, it does exist. The RADT summarized the best available scientific information regarding the potential for disease transmission from domestic goats to bighorn sheep, and concluded that there is an abundance of connected evidence leading to a reasonable conclusion that domestic goats can transmit disease to bighorn sheep. The RADT cited studies showing the isolation of pathogens from domestic and feral goats that are known to cause disease in bighorn sheep (Rudolph et al. 2003, Foreyt et al. 2009, Cassirer et al. 2016, Heinse et al. 2016) as well as cases where bighorn sheep disease outbreaks were believed to have originated from domestic goats (Cassirer et al. 2016, Jansen et al. 2006).

The causal factors and mechanisms of bighorn sheep die-offs and disease transmission between bighorn sheep and domestic sheep and goats, and the scientific literature on the risk of disease transmission between domestic sheep and goats (including pack goats) and bighorn sheep, is not complete. However, the central role of domestic sheep and goats in bighorn sheep exposure to pathogens is well documented, and pathogen transmission from domestic sheep and goats to bighorn sheep is the only hypothesis supported in experimental trials. Even minimal direct contact is believed to contribute to the death of individual wild sheep, herds of wild sheep, and entire populations (USDA Forest Service 2017).

Direct and Indirect Effects

Alternative 1: No Action

This alternative would continue to allocate allotments for domestic sheep grazing, which are currently set at 410 AUMs and 15,780 acres. There would be no overlap between domestic sheep allotments and core native bighorn sheep habitat. The risk of contact and disease transmission between domestic sheep from Shoshone National Forest allotments and bighorn sheep would be low for all core native bighorn sheep herds due to the considerable spatial separation (USDA Forest Service 2017).

Even though the Temple Peak herd is in closer proximity to the existing domestic sheep allotments on the Shoshone National Forest than the core native herds, there is about 29 km of spatial separation. Additionally, the domestic sheep allotments provide very limited bighorn sheep habitat because they are mostly forested. There is also a high amount of unsuitable forested landscape between currently occupied habitat for this herd and the domestic sheep allotments. For these reasons, the risk of contact and resultant disease transmission between this bighorn sheep herd and domestic sheep from Shoshone National Forest allotments would be low (USDA Forest Service 2017).

Under this alternative, the temporary prohibition on domestic sheep and goat use on the Clarks Fork, Wapiti, Greybull, and Wind River Ranger Districts would expire. There would be spatial and temporal overlap in pack goat use within habitat for the Whiskey Mountain herd. A portion of the trails used for goat-packing in the Fitzpatrick Wilderness are within and adjacent to areas consistently used by bighorn sheep, including rocky escape cover and open alpine meadows. These trails are in year-round bighorn sheep habitat. As a result, there would be spatial and temporal overlap between pack goats and bighorn sheep, and the risk of contact between pack goats and bighorn sheep in the Whiskey Mountain herd would be high (USDA Forest Service 2017). There would be a corresponding increased risk of disease transmission.

Pack goat use is not currently known to have occurred within any of the Absaroka meta-population core native bighorn sheep ranges. However, the Forest Service has had inquiries in recent years from people potentially interested in using pack goats in these areas. Under this alternative, it is reasonable to assume that some level of pack goat use would occur, and this could include situations resulting in spatial and temporal overlap between pack goats and bighorn sheep. As a result, there would be a “high” risk of contact between pack goats and bighorn sheep, and increased disease transmission risk (USDA Forest Service 2017). Domestic goat packing would continue to occur within occupied habitat of the Temple Peak cooperative review herd. Portions of trails used for goat packing are within and adjacent to habitat used by bighorn sheep. These trails are in year-long bighorn sheep habitat. Therefore there would be spatial and temporal overlap between goat packing and bighorn sheep. As a result of the overlap of pack goat use on the occupied range of the Temple Peak herd, the risk of contact between bighorn sheep and domestic sheep and goats would be high (USDA Forest Service 2017). There would be a corresponding increase in the risk of disease transmission to bighorn sheep in the Temple Peak herd.

Alternative 2: Proposed Action

This alternative would maintain the same allocation of domestic sheep grazing as the No Action alternative, and the effects of domestic sheep grazing on bighorn sheep would be the same as was described for that alternative.

This alternative would prohibit the use of domestic pack goats within core native bighorn sheep ranges. There would be no spatial and temporal overlap between domestic pack goats and bighorn sheep within core native herds. For all the core native herds, the risk of contact and corresponding disease transmission between domestic pack goats and bighorn sheep would be low (USDA Forest Service 2017).

Domestic goat packing would continue to occur within habitat for the Temple Peak herd, and the effects to this herd would be the same as those described for the No Action alternative.

Alternative 3: Pack Goat Use with Mitigations

This alternative would maintain the same allocation of domestic sheep grazing as the No Action alternative, and the effects of domestic sheep grazing on bighorn sheep would be the same as was described for that alternative.

Under this alternative, domestic pack goat use could be permitted Forestwide based on mitigation measures that would be imposed to limit contact with bighorn sheep and minimize the potential for disease transmission. Those mitigation measures would include:

1. Implementing a system that would require a permit for all pack goat use. Pack goat users would be informed on required and recommended actions for reducing the risk of contact between pack goats and bighorn sheep when obtaining their permit.
2. Requiring any observed contact between pack goats and bighorn sheep, as well as any lost pack goats, to be reported to the Forest Service as soon as possible as a condition of obtaining a pack goat use permit.
3. Limiting the number of pack goats per party.
4. Requiring pack goats to be leashed or in direct control by their owners.
5. Requiring pack goats to be high-lined or restrained in campsites.
6. Requiring pack goats to have bells attached to their collars at all times.
7. Requiring veterinary health inspection and disease testing of all pack goats before entering Shoshone National Forest lands, and requiring handlers to be in possession of a health and disease testing certificate for each pack goat.

These mitigation measures would help maintain spatial separation between pack goats and bighorn sheep. Mitigation measure 1 would ensure that pack goat users understood the required and recommended actions for preventing contact between their pack goats and bighorn sheep. It would also help track pack goat use on the Forest, and provide a mechanism to require reporting of any contact between pack goats and bighorn sheep. Reporting of any observed contact between pack goats and bighorn sheep would facilitate determination of disease transmission, especially if biological samples could be taken

from the pack goats that contacted bighorn sheep. Reporting of lost pack goats could facilitate recovery efforts before contact with bighorn sheep occurred, and would help track how often this occurred. However, pack goat users may be disinclined to report contact between their goats and bighorn sheep, or even lost goats, for fear of incurring additional restrictions on their use.

The use of domestic goats as pack animals causes different effects than grazing allotments due to the amount of control that could be exerted over pack goats, especially through implementation of mitigation measures 3, 4, and 5. Limiting the number of pack goats would allow greater control because fewer animals are easier to control. Requiring goats to be leashed together while traveling down the trail and high-lined in campsites would improve control of pack goats and reduce the risk of contact with bighorn sheep. Pack goats readily bond to their human handlers and have a strong desire to stay with them (Jennings 2011). The use of bells would allow users to track the movements of their goats and therefore keep them under close control.

However, users may not always be able to control their pack goats despite implementation of these techniques. Pack goat use occurs in remote, rugged settings where circumstances cannot always be controlled, and pack goats occasionally are lost on the Forest for a variety of reasons such as being scattered by predators or having too many tied on a high-line. Even conscientious pack goat users may not always be successful controlling their goats (J. Dirks, email conversation with J. Harper, Forest Service Wildlife Biologist, 2011). Additionally, it is perceived as dangerous to have goats tied together by leads when travelling through difficult terrain, and users typically disconnect them from each other in such settings (Jennings 2011). Uncontrolled or lost goats within bighorn sheep habitat have the potential to come into direct contact with bighorn sheep.

In addition, the movements of bighorn sheep cannot be controlled. Wild sheep are unpredictable in their movements and have been shown to travel great distances, which can bring them into contact with pack goats as well as other wild sheep (USDA Forest Service 2017). Bighorn sheep and domestic sheep and goats are attracted to each other, particularly during rut, which increases the probability that they will make the close contact necessary for disease transmission (Onderka et al. 1988, Foreyt 1989, Ward et al. 1997, Dubay et al. 2002, Borg et al. 2016). This could occur even under a scenario where pack goats were under close control as required by mitigations 4 and 5.

Requiring veterinary health inspection and disease testing of pack goats and handler possession of a health certificate for each pack goat entering the Forest would help limit the risk of disease transmission if contact with bighorn sheep were to occur. A veterinary inspection would detect disease in animals showing symptoms of respiratory disease or other infectious conditions such as pink eye and sore mouth. Disease testing using approved protocols could be conducted for pathogens commonly implicated in bighorn die-offs to identify potentially infectious but non-symptomatic animals. However, implementation of this requirement would be difficult. Veterinarians commonly conduct health inspections and disease testing for a variety of domestic animals using standardized protocols to conform to various state or federal regulations. However, disease testing of pack goats would involve specific sampling protocols for a suite of potential pathogens (H. Edwards, WGF, personal communication April 20, 2017). In contrast to the health inspections and testing normally done by veterinarians, these are not

standardized protocols and would be unfamiliar to most veterinarians used by pack goat enthusiasts. There is also the possibility that “certified” animals could come into contact with other livestock after being tested and inspected, and potentially contract pathogens that could be transmitted to bighorn sheep.

To be effective, these measures would depend on the diligence of the pack goat user. Pack goat users have stated that “the restrictive nature of these best management practices will act as a deterrent for those users not willing to submit to the extensive preparation and implementation of these practices” (Jennings 2011). If mitigation measures are perceived by pack goat users as restrictive and difficult to implement as implied by this statement, noncompliance with them could be substantial. Compliance checks by the Forest Service would be infrequent due to the very remote and rugged environments that goat packing takes place in. Implementation of the mitigation measures would reduce the risk of contact and subsequent disease transmission between pack goats and bighorn sheep. Direct spatial and temporal overlap would exist between pack goats and core native bighorn sheep herds (Figure 2). As described above, the mitigation measures would not be entirely effective. For these reasons, the risk of contact and subsequent disease transmission from pack goats to bighorn sheep would be moderate under this alternative.

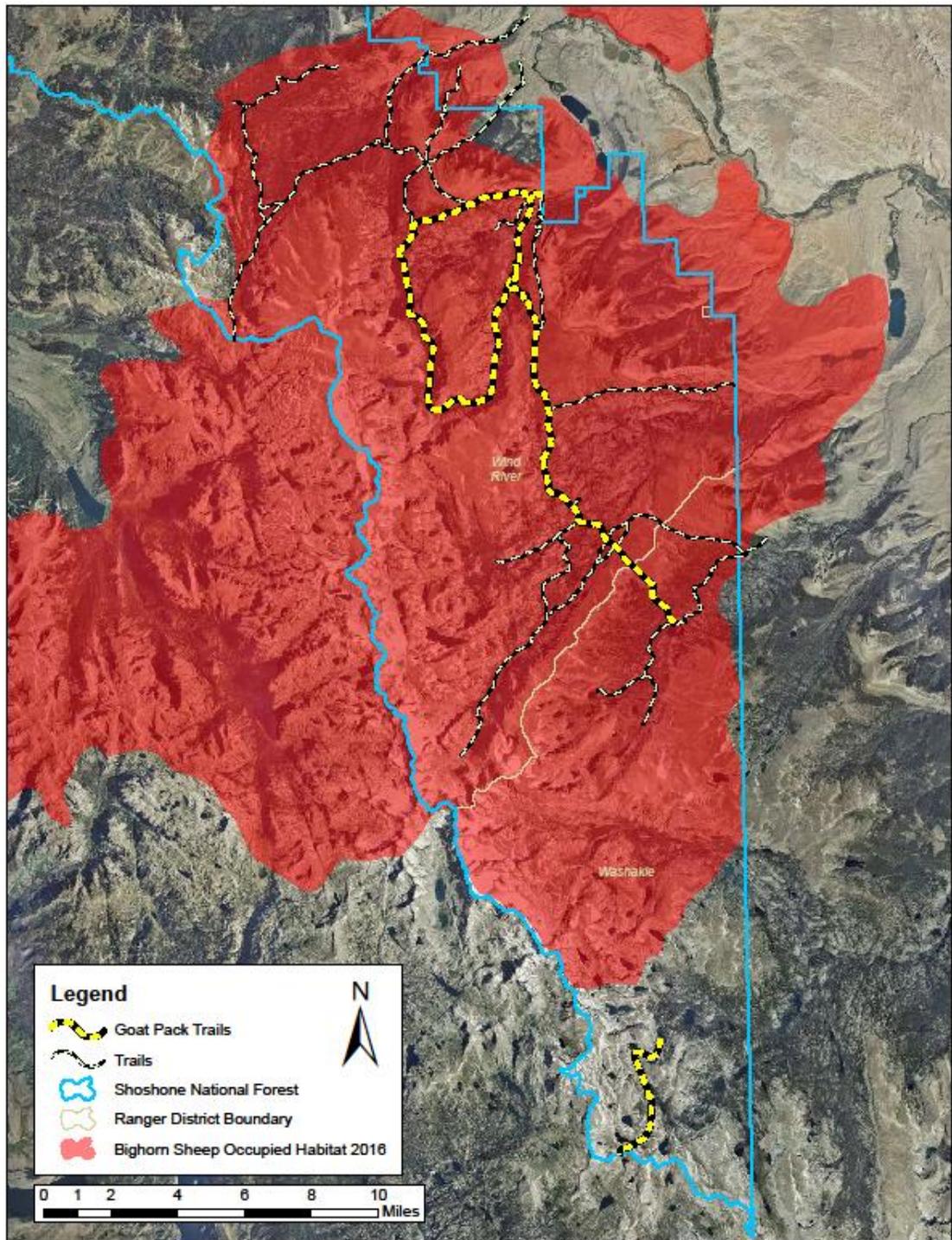


Figure 2. Trails used for goat packing prior to the 2011 and 2016 closure orders within the habitat occupied by the Whiskey Mountain bighorn sheep herd on the Wind River Ranger District.

Cumulative Effects

Management of bighorn sheep and domestic sheep and goats (including pack goats) to avoid physical interactions is complex. The Shoshone National Forest is working with other Federal, state, and local partners (Statewide Bighorn Sheep/Domestic Sheep Interaction Working Group) to better identify where bighorn sheep occur, where they wander, and how they might interact with other herds and domestics. This effort is expected to help reduce potential cumulative effects to bighorn sheep on the Forest.

Currently, there have been no documented cases of disease transmittals from domestic sheep or goats to bighorn sheep on the Shoshone National Forest. With the exception of the Temple Peak herd, domestic sheep herds are all outside the 35-km foray distance of any bighorn sheep herd on the Forest.

However, four of the six core native herds on the Shoshone National Forest are potentially within 35 km of domestic sheep that are on lands adjacent to the Forest (Table 2). The potential presence of domestic sheep on lands outside of the jurisdiction of the Shoshone National Forest, yet still within the 35-km foray distance of bighorn sheep, adds to the risk of contact between bighorn sheep on the Forest and domestic sheep. For example, in the past, domestic sheep from active domestic sheep allotments on the Bridger-Teton National Forest have wandered into occupied habitat of the Whiskey Mountain herd (however, those sheep allotments are now reportedly closed or vacant (USDA Forest Service 2016)). Such incidents originating from lands adjacent to, but outside the jurisdiction of, the Shoshone National Forest increase the likelihood of contact with domestic sheep and increase the risk of disease transmission to these herds.

Determination of Effects and Rationale for the Determination on Bighorn Sheep

Based on this analysis, it is determined that alternatives 1 and 3 “**may adversely impact individuals (bighorn sheep), but would not likely result in a loss of viability on the Planning Area, nor cause a trend to federal listing or a loss of species viability rangewide.**” Alternative 2 would provide a “**Beneficial Impact**” to the species. The rationale for this determination is as follows:

- There would be spatial and temporal overlap between domestic pack goats and bighorn sheep on Shoshone National Forest lands under alternative 1. There would be an increased risk of contact with and potential disease transmission from domestic pack goats to bighorn sheep as a result.
- Alternative 2 would include a prohibition on domestic pack goat use within core native bighorn sheep range, thereby minimizing the risk of contact and disease transmittal.
- Mitigation measures under Alternative 3 would reduce the risk of contact and subsequent disease transmission from pack goats to bighorn sheep. However, the analysis concluded that the risk of contact and subsequent disease transmission would still be moderate.

Recreational Pack Goat Use

Affected Environment

Pack goat use has typically occurred across wilderness areas of the United States in support of recreational activities to carry supplies or in the retrieval of big game. The Absaroka Range on the Wind River Ranger District and north across the remainder of the Shoshone National Forest have not been considered practicable areas for pack goat use because of large areas of core native bighorn sheep habitat and the potential for grizzly bear conflicts (C. Jennings, pers. comm., February 2, 2011). Use on the Shoshone National Forest has generally been on the Washakie Ranger District and portions of the Wind River Ranger District, overlapping with the Whiskey Mountain core native bighorn sheep herd and the Temple Peak cooperative review herd. Currently known use is by recreational pack goat enthusiasts and there is no authorized outfitter and guide use.

Direct and Indirect Effects

Alternative 1: No Action

Alternative 1 would have no prohibition on pack goat use across the Shoshone National Forest. If the No Action alternative was selected, the current forest order prohibiting pack goat use would expire. As result there would be no impacts to recreational pack goat use.

Alternative 2: Proposed Action

Alternative 2 would limit pack goat use to areas outside core native bighorn sheep habitat (Figure 1), limiting use to the portion of the Washakie Ranger District outside of the Fitzpatrick Wilderness, overlapping only the Temple Peak cooperative review herd. Impacts to outfitters would be minimal considering the only pack goat outfitter to operate in the area of the Whiskey Mountain and Temple Peak herds was bought out in 2007 and the associated pack goat use has since discontinued. Thus there is no impact to outfitter and guide use of pack goats. Recreational pack goat use within the area of the Whiskey Mountain herd would be prohibited under the proposed action. Pack goat use in other core native herd areas has not occurred since 2011 because of a previous forest order banning their use. Additionally, the Absaroka Range on the Wind River Ranger District and north across the remainder of the Shoshone National Forest have not been considered practicable areas for pack goat use because of large areas of core native bighorn sheep habitat and the potential for grizzly bear conflicts (email from Charles Jennings to Joe Harper of Shoshone National Forest: "Re: Maps for goatpacking in the Wind River Range" on February 28, 2011). Considering this, impacts to recreational pack goat use would likely be concentrated to those areas of core native bighorn sheep habitat on the Wind River and Washakie Ranger Districts.

Alternative 3: Pack Goat Use with Mitigations

Under this alternative, domestic pack goat use could be permitted based mitigation measures that would be imposed to limit contact with bighorn sheep and minimize the potential for disease transmission. Those mitigation measures would include:

1. Implementing a system that would require a permit for all pack goat use. Pack goat users would be informed on required and recommended actions for reducing the risk of contact between pack goats and bighorn sheep when obtaining their permit.
2. Requiring any observed contact between pack goats and bighorn sheep, as well as any lost pack goats, to be reported to the Forest Service as soon as possible as a condition of obtaining a pack goat use permit.
3. Limiting the number of pack goats per party.
4. Requiring that pack goats be leashed or in direct control by their owners.
5. Requiring that pack goats be high-lined or restrained in campsites.
6. Requiring pack goats to have bells attached to their collars at all times.
7. Requiring veterinary health inspection and disease testing of all pack goats before entering Shoshone National Forest lands, and requiring handlers to be in possession of a health and disease testing certificate for each pack goat.

Impacts to pack goat use would be minimal and associated with the mitigation measures outlined above.

Cumulative Effects

Because of previous prohibitions on pack goat use on most of the Shoshone National Forest for about 6 years and the relatively low level of usage in comparison to other stock, such as horses and mules, the cumulative impact of a prohibition on pack goats or conditional use based on mitigations to pack goat users and recreational users as a broader group would be anticipated to be minimal.

Pack goat use is prohibited within Yellowstone and Grand Teton National Parks as well as within the John D. Rockefeller Jr. Memorial Parkway, all administered by the National Park Service. Conversely, pack goats are allowed on the Bridger-Teton and Custer Gallatin National Forests. Additionally, the Absaroka Range on the Wind River Ranger District and north across the remainder of the Shoshone National Forest have not been considered practicable areas for pack goat use because of large areas of core native bighorn sheep habitat and the potential for grizzly bear conflicts (email from Charles Jennings to Joe Harper of Shoshone National Forest: "Re: Maps for goatpacking in the Wind River Range" on February 28, 2011). Considering that and those areas remaining open within the Greater Yellowstone Area, the cumulative impact to pack goat enthusiasts would be concentrated to the loss of pack goat access to the Fitzpatrick Wilderness and within those previously mentioned areas administered by the National Park Service. Because of the relatively low levels of use in comparison to other stock, such as horses and mules, the cumulative impact to recreational users as a broader group from either a prohibition on pack goat use or conditional use would be anticipated to be minimal.

Short-term Uses and Long-term Productivity

NEPA requires consideration of “the relationship between short-term uses of man’s environment and the maintenance and enhancement of long-term productivity” (40 CFR 1502.16). As declared by the Congress, this includes using all practicable means and

measures, including financial and technical assistance, in a manner calculated to foster and promote the general welfare, to create and maintain conditions under which man and nature can exist in productive harmony, and fulfill the social, economic, and other requirements of present and future generations of Americans (NEPA Section 101).

Considering the potential risk of disease transmission, domestic sheep and domestic goat grazing as well as pack goat use on the Shoshone National Forest has the potential to impact long-term bighorn sheep productivity in six of the eight core native bighorn sheep herds in Wyoming.

Unavoidable Adverse Effects

There are unavoidable effects to pack goat users under alternative 2 and alternative 3. Alternative 2 limits pack goat use to those areas outside core native bighorn sheep habitat, while alternative 3 requires pack goat users to go through a permitting process in order to use pack goats on the Shoshone.

Irreversible and Irretrievable Commitments of Resources

Irreversible commitments of resources are those that cannot be regained, such as the extinction of a species or the removal of mined ore. Irretrievable commitments are those that are lost for a period of time such as the temporary loss of timber productivity in forested areas that are kept clear for use as a power line rights-of-way or road.

Under the No Action alternative, there is a potential irreversible commitment of resources if bighorn sheep were extirpated from those core native habitat areas on the Shoshone National Forest by transmission of disease.

Alternative 2 and alternative 3 would not be anticipated to result in irreversible or irretrievable commitments because these would be administrative decisions that could be reversed at any time.

Other Required Disclosures

NEPA at 40 CFR 1502.25(a) directs “to the fullest extent possible, agencies shall prepare draft environmental impact statements concurrently with and integrated with ...other environmental review laws and executive orders.”

This document is a Supplement to the Final Environmental Impact Statement (FEIS) prepared for the Shoshone National Forest Plan Revision published in May 2015. There are no required disclosures other than those identified in Chapter 3 of the FEIS of May 2015. That section is hereby incorporated by reference and can be reviewed on the webpage for the [Shoshone National Forest Land Management Plan](#).

Chapter 4. Consultation and Coordination

Preparers and Contributors

The Forest Service consulted the following individuals, Federal, state, and local agencies, tribes, and non-Forest Service persons during the development of this environmental assessment:

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Federal, State, and Local Agencies

- Wyoming Game and Fish Department
- USDA Agricultural Research Service

Distribution of the Environmental Impact Statement

This EIS has been distributed to individuals who specifically requested a copy of the document. In addition, copies have been sent to Federal agencies, federally recognized tribes, state and local governments, and organizations representing a wide range of views. The “List of Agencies for Distribution of Draft and Final Environmental Impact Statements” is available for download as an Excel spreadsheet on the [Forest Service NEPA website](#).

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