

Response to F-4:

Evaluate mitigation measures submitted by Objectors, but use the following parameters; pack goats are not under constant control and may be asymptomatic and are still a viable threat to wild sheep populations.

An evaluation of potential mitigation measures discussed in the pack goat objector's letters was conducted and was added to the Project Record.

Mitigation measures submitted by objectors include:

1. Use of a permit system for pack goats.
2. Limiting the number of pack goats per party.
3. Requiring that pack goats be leashed or in direct control by their owners on the trail.
4. Requiring that pack goats be high-lined or restrained in campsites.
5. Prohibiting pack goats from drainages where bighorn sheep have the highest populations.
6. Requiring disease testing of pack goats before entering public lands and having a certification of the testing.

Domestic sheep and goats (including pack goats) are known disease carriers (even without symptoms) and even minimal contact with wild sheep is believed to contribute to the death of individual wild sheep, herds of wild sheep and entire populations (Risk Analysis of Disease Transmission Between Domestic Sheep and Goats and Rocky Mountain Bighorn Sheep, Shoshone National Forest, 2013, pp. 3-7).

The above mentioned mitigation measures focus on requiring the control of pack goats by their users. Pack goat movements may be controllable by most pack goat users but free ranging bighorn sheep are not. 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. This/these mitigation measure(s) carries a risk of introducing *Pasterella* spp. and other disease causing organisms through interaction of free-ranging bighorn sheep with pack goats. This *Pasterella* spp. is a common cause for pneumonia, a disease to which free ranging bighorn sheep are very susceptible.

Proposed mitigation measures rely heavily on agency inspections for 100% compliance such as certification of disease testing. This mitigation measure could require the SNF to "person" trailheads at all times as backcountry users get late starts due to unforeseen delays. Pack goat users unaware of a certification requirement upon leaving the trailhead late in the day, could unknowingly contribute to the risk of contact between their domestic goats and wild sheep. This is a risk the Forest is trying to eliminate as provided in the Land Management Plan.

Four of the five ranger districts on the SNF have habitat supporting 4,000 of the estimated 6,000 bighorn sheep in Wyoming; the largest number of bighorn sheep of any national forest in the National Forest System lands. Therefore, proposed mitigation measure 5. (Prohibiting pack goats from drainages where bighorn sheep have the highest populations) would prohibit pack goat use at the same level as proposed in the Land Management Plan and ROD.

While the SNF supports the need for rigorous scientific investigations focused on transmission of diseases between domestic goats and wild sheep, the SNF at this time is not pursuing a pilot program to test mitigation measures due to the national importance of the SNF bighorn sheep population and the

concern over even one transmission of disease between domestic goats, including pack goats, to free ranging wild sheep.

Given the limitations of today's tools, the most practical approaches identified thus far for minimizing the risk of disease involve simply preventing interspecies interactions (i.e. temporal or spatial separation) that could result in respiratory pathogen transmission between domestic sheep and goats and wild sheep (Risk Analysis of Disease Transmission Between Domestic Sheep and Goats and Rocky Mountain Bighorn Sheep, Shoshone National Forest, 2013, p. 7).

This approach is unanimously endorsed by the Western Association of Fish and Wildlife Agencies (WAFWA), which state:

- It is WAFWA's collective opinion that enough is known about potential pathogen transmission from domestic sheep or goats to wild sheep that efforts toward achieving effective separation are necessary and warranted.
- The higher the conservation value of a wild sheep population (e.g. "sensitive species" status, core native herds), the more aggressive and comprehensive wild sheep and domestic sheep or goat separation management strategies should be.

(Land Management) Plans should identify general areas of public land where domestic sheep or goats cannot be permitted for weed control, commercial grazing, and recreational packing.

Land management agencies that regulate or are responsible for domestic sheep or goat grazing allotments, trailing routes, vegetation management, use as pack stock, or any other uses involving domestic sheep or goats should only authorize such use(s) outside of occupied wild sheep range.

Specifically, land management agencies, such as the Forest Service should:

- Prohibit the use of domestic sheep or goats as pack animals by persons that travel in identified wild sheep habitat (WAFWA specifically cites the "Shoshone National Forest Supervisor's Office Order 02-14- 00-12-01. Temporary Area Closure to Domestic Goat Use" for this recommendation).

(Wild Sheep Working Group. 2012. Recommendations for Domestic Sheep and Goat Management in Wild Sheep Habitat. Western Association of Fish and Wildlife Agencies)