



DIRECTOR AND SECRETARY
TO THE COMMISSION
Michael B. Sloane

STATE OF NEW MEXICO DEPARTMENT OF GAME & FISH

One Wildlife Way, Santa Fe, NM 87507
Post Office Box 25112, Santa Fe, NM 87504
Tel: (505) 476-8000 | Fax: (505) 476-8123
For information call: (888) 248-6866

www.wildlife.state.nm.us

STATE GAME COMMISSION
SHARON SALAZAR HICKEY
Chair
Santa Fe
ROBERTA SALAZAR-HENRY
Vice-Chair
Las Cruces
JIMMY RAY BATES, SR.
Albuquerque
GAIL CRAMER
Mayhill
TIRZIO J. LOPEZ
Cebolla
DAVID SOULES
Las Cruces
JEREMY VESBACH
Placitas

2 December 2020

Aurora Roemmich
Integrated Non-Native Invasive Plant Management Project
Lincoln National Forest
3462 La Palomas Road
Alamogordo, NM 88310

**Re: Lincoln National Forest Integrated Non-Native Invasive Plant Management Draft
Environmental Impact Statement; NMERT 893**

Dear Ms. Roemmich:

The Department of Game and Fish (Department) has reviewed the Lincoln National Forest Integrated Non-Native Invasive Plant Management Draft Environmental Impact Statement (DEIS). The DEIS proposes to implement a management strategy that uses an integrated suite of techniques designed to prevent the introduction of and control the spread of non-native invasive plants (NNIP).

Page 21 states:

Controlled grazing, also known as targeted grazing, is the practice of using grazing animals (generally cattle, sheep or goats) as a tool to control NNIP. It is generally more effective on large infestations where the application can be repeated or used in conjunction with other treatment methods. The availability of herds managed for this type of control may be limiting. This method is primarily proposed as a minor, incidental treatment method. Where appropriate, grazing would be integrated with other treatment methods to achieve more effective NNIP control.

This NNIP control method would be conducted in accordance with Forest Service grazing regulations and regional policy. A site-specific project operation plan would be developed for the treatment area that would consider factors such as target NNIP species, type of livestock to be used, forage preference, planned grazing intensity, herding characteristics, topography, water availability, and season of use, existing grazing operations, and a monitoring program.

The DEIS contains additional language regarding controlled grazing using domestic sheep and goats, but there is no mention of bighorn sheep (*Ovis canadensis*), nor does it contain an analysis of the potential for disease transmission from domestic sheep or goats to bighorn sheep.

In 2018, with Lincoln National Forest support and concurrence, the Department introduced desert bighorn sheep (*Ovis canadensis mexicana*) to the western escarpment of the Sacramento Mountains, Sacramento Ranger District. An additional augmentation occurred in October 2020, and we estimate the current population to be 55 to 65 desert bighorn sheep. We expect this population to continue to grow in the coming years. Individuals have been documented conducting forays up to 10 miles away from their general reintroduction area along the Sacramento Escarpment. Bighorn sheep are known to routinely disperse away from reintroduction areas and home ranges, which increases the potential for wild sheep to come into contact with domestic sheep or goats.

Research has determined that domestic sheep and goats can directly transmit pathogens, such as pneumonia, to wild sheep (Besser et al. 2012; Lawrence et al. 2010). Domestic sheep and goats are known to be common carriers of this disease. Wild sheep have no immunity to some of these pathogens so the entire Sacramento Mountains population of desert bighorn sheep could be at risk if there is direct contact with domestic sheep or goats.

The DEIS should be revised to analyze the potential effects of disease transmission from domestic sheep and goats, used for controlled NNIP removal, to bighorn sheep, and how domestic sheep and goats will be separated from bighorn herds.

In response to the conclusive research regarding the transmission of pneumonia from domestic to bighorn sheep, a memorandum from Abigail Kimball, Chief of the Forest Service, and Mark Rey, Under Secretary of Natural Resources and Environment for the Department of Agriculture, directed the Forest Service "...to provide effective separation between domestic sheep and goats and wild sheep to minimize the likelihood of disease transmission to wild sheep."

It is the Department's understanding that the Forest Service requires National Forests with native bighorn sheep populations to conduct risk of contact analyses using a statistical model that predicts the risk of wild bighorn populations contacting domestic sheep or goats. The analyses are based on criteria such as locations of bighorn home ranges, frequencies and distance of bighorn forays outside of their home range, location of domestics, and other parameters. For example, during development of the Carson National Forest revised forest plan, the Carson developed a qualitative assessment to determine the risk to Rocky Mountain bighorn sheep from domestic sheep based on domestic sheep allotment locations. This assessment addresses the likelihood of contact (low, moderate, or high) based on spatial and temporal overlap between domestic sheep or goat allotments and occupied bighorn sheep habitat.

We recommend that the Lincoln National Forest implement a risk of contact analysis for the Sacramento Mountains Escarpment desert bighorn herd before finalizing a decision to use domestic sheep or goats for NNIP plant control. This assessment should be included in the DEIS to guide where domestic sheep and goats may be safely used on the Forest. Domestic sheep or goats should only be used to reduce NNIP where there are no- to low-risk determinations of impact to bighorn sheep.

As an official cooperator in the development of the revised Carson National Forest Plan, we are also aware that the Carson National Forest developed a plan component (FW-NIS-S 3) for bighorn sheep conservation that states: "Domestic goats and sheep shall not be used to control invasive plants in native bighorn sheep occupied habitat. (As defined by New Mexico Department of Game and Fish or best available science)". The Department requests that the Lincoln National Forest adopt this same plan component when revising the Lincoln National Forest Plan.

We appreciate the opportunity to comment on this DEIS. Should you have any questions regarding our comments, please contact Mark Watson, Terrestrial Habitat Specialist at (505) 476-8115 (office), [REDACTED] (mobile), or mark.watson@state.nm.us.

Sincerely,



Matt Wunder, Ph.D.
Chief, Ecological and Environmental Planning Division

CC: NMESFO, USFWS
Elise Goldstein, Wildlife Management Division Assistant Chief, NMDGF
Nicole Tatman, Big Game Program Manager, NMDGF
Eric Rominger, Bighorn Biologist, NMDGF
Caitlin Ruhl, Bighorn Biologist, NMDGF
Austin Teague, SE Regional Wildlife Biologist, NMDGF

Literature Cited

Besser, T.E., M. Highland, K. Baker, E. Cassirer, N. Anderson, J. Ramsey, K. Mansfield, D. Bruning, P. Wolff, J. Smith, and J. Jenks. 2012. Causes of pneumonia epizootics among bighorn sheep, Western United States, 2008–2010e. 2012. Emerging Infectious Diseases 18(3): 406–414. www.cdc.gov/eid

P.K. Lawrence, S. Shanthalingam, R. Dassanayake, R. Subramaniam, C. Herndon, D. Knowles, F. Rurangirwa, W. Foreyt, G. Wayman, A. Marciel, S. Highlander, and S. Srikumaran. 2010. Transmission of *Mannheimia haemolytica* from domestic sheep (*Ovis aries*) to bighorn sheep (*Ovis canadensis*): Unequivocal demonstration with green fluorescent protein-tagged organisms. 2010. Journal of Wildlife Diseases, 46(3):706–717.