IDAHO WILD SHEEP foundation

June 15, 2018

Mr. Charles Mark
Supervisor, Salmon-Challis National Forest
Attn: Forest Plan Revision
1206 South Challis St
Salmon, ID 83467

Re: Justification for SCC Classification for Bighorn Sheep

Dear Mr. Mark;

Idaho Wild Sheep Foundation (IDWSF) has reviewed the analysis put forth by your agency in determining if Rocky Mountain Bighorn Sheep (RMBHS) meet the criteria to be classified as Species of Conservation Concern, (SCC) within your planning process. We respectfully disagree with some of the assessments and your overall decision, based upon the criteria guidelines as displayed on your website. Although it is difficult to include all the information in those assessments, we provide the following information and justification why bighorn sheep meet the threshold of criteria to be classified as SCC.

From a perspective to establish how long this species has occupied the lands in question on the Salmon-Challis, bighorn sheep witnessed the die-off of Wooly Mammoths and other late Pleistocene Period species over ten thousand years ago. Their existence predates that period by as much as 10,000 years, but is difficult to determine because they predated the settlement of Native Americans and the hunter/gather period +/- 12,000 years ago. Populations are seriously below that period predating European settlement of the late 1800's and are estimated to be 6% of the lowest estimate of that period. In concert with the depressed populations, RMBHS only occupy 34% of the identified Population Management Unit (PMU) habitat within the Salmon-Challis National Forest; considerably less if one considers those areas outside the PMU's.

The primary factor influencing bighorn populations is non-native disease pathogens that make this species particularly vulnerable to bacterial pneumonia all age die-offs. That process continues today and until disease transmission between domestic sheep and goats and RMBHS is controlled, the impacts will go unimpeded. That is exactly why IDWSF contends all criteria that benefit management of RMBHS be applied; in this case SCC.

Criteria #1: Distribution on the Salmon Challis National Forest.

As stated above, RMBHS only occupy 34% of the available habitat inside the identified PMU's on the Salmon-Challis and does not include that habitat not considered outside the primary PMU's. The IDFG Bighorn Management Plan (2010), indicates that the PMU's on the Salmon-Challis will support 9,500 bighorn sheep within those PMU's, not including habitats outside the PMU's. Exact estimates of bighorn populations are difficult, but basic trend data can readily be determined and continues to show a distressingly low population. Smith (1954) only estimated 1,000 bighorn in Idaho, most within the Salmon River drainage. Those populations on the North & South Lemhi, North Beaverhead, and Tower-Kriley were completely extirpated; only a very small population remaining in the Lost River Range. Despite translocation efforts in subsequent years, current populations on the Salmon-Challis are only 1,300 animals above that 1954 level (RMBHS). IDWSF does not believe these are robust, self-sustaining populations comprising one healthy interactive, larger meta-population. Rather, they consist of sub-populations vulnerable to continued die-offs with the ability of a single event outbreak to influence a number of those sub- populations. Recent history in the 1990's shows a 50% decrease in five of the PMUs (Main Salmon, Lower Panther, Middle Fork Salmon, East Fork Salmon and the Lost River Range). The distribution is aligned with the population levels and in continuous jeopardy of some of those populations being lost. The ability to have viable, self-sustaining populations meeting IDFG management goals is far from being achievable and/or guaranteed into the future! The impacts and intricacies of pneumonia outbreaks are well described and outlined (Cassirer et al. 2018). Historically, many of the disease outbreaks probably went unnoticed, undocumented, not understood and have influenced bighorn level for over 125 years.

Idaho WSF disagrees with the Salmon-Challis position that SCC is not warranted based on the criteria RMBHS are well distributed throughout the Salmon- Challis National Forest.

Criteria #2: Distribution in surrounding geographic areas.

Aside from bighorn populations along the Montana-Idaho state line in the Beaverhead and the Tower-Kriley populations, there is little influence from RMBHS populations outside the PMU's on the Salmon –Challis. Outside native populations in the Salmon drainage, translocations have been a management tool used to reestablish historically extirpated populations. Disease-free source stock and Idaho state laws impeding translocations or augmentations of bighorn have changed the ability for IDFG to reintroduce animals. Reintroductions after losses experienced

from the late 1800-and early 1900's was a viable management tool to reintroduce bighorn to former ranges. Currently, IDWSF questions why are we continuing to rely on that management tool as an option when those populations have been reestablished? Land management policies, within the guidelines of the USFS, should be or/or have been structured to safeguard and prevent continued losses of RMBHS populations. The Lost River Range has had two translocation projects over the years with the historical population and initial reintroduction attempts failing to retain self-sustaining populations. Proactive measures were taken to reduce the disease threat in that area by outside NGO's. A transplant of 62 RMBHS in 2005 has resulted in a growing population, with good recruitment. This PMU has contributed significantly to the overall population of the Salmon-Challis after the die off in the 90's. That PMU stands as one of the most successful recovery efforts within the Salmon-Challis.

IDWSF believes SCC classification is warranted; historical USFS management practices have not insulated the RMBHS. The geography and/or proximity of these populations have placed many of these PMU's in jeopardy in the past. Enhanced management applications need to be employed to prevent a repeat of history; SCC classification would be helpful. Specifically, the native RMBHS associated with the Salmon drainage, need all the safeguards that can be applied to protect the integrity of those populations.

Criteria #3; Dispersal Capability

In part Criteria 1 states; "These populations are *thought* to interact as one meta-population (IDFG 2010), but it is possible that barriers to dispersal *may* isolate populations but not others." Hardly a resounding assertion there is robust interactivity among the various populations. The Salmon populations have a high likelihood of interchange among those PMU's, but it is less plausible for the outlying populations. Dispersal capabilities are going to become more restrictive with time as anthropogenic features and activities impact the landscape. Analysis of genetic samples from the Carry Collection (ram horns from early 1900's) from two PMU's, Lower Salmon and Middle Main Salmon, found the following: "Our connectivity and gene flow analyses indicated that PMU's were genetically distinct, but here was evidence for gene flow between PMU's. We found evidence for higher connectivity between LS and MMF PMU's compared to current samples from these regions." (Miyasaki, H et al. 2018). The lower the populations within these PMU's, the less likelihood there will be pioneering or interchange. We counter that the depressed populations tend to not expand or seek new habitat. The statement in the FS analysis indicating "the earlier translocation projects failed to disperse due to poor location of relocation habitat" is a debatable. We counter that the failed first

translocation in the Lost River Range failed because those bighorns were exposed to disease pathogens. The failures were a mirror image of a scenario being repeated since the late 1800' due to lack of knowledge between IDFG and the USFS. However, we now better understand the interrelationships of how these pathogens work and what managers need to do to prevent exposure and a repeat in history. Viable, expanding populations are crucial to pioneering and expanding dispersal rates among bighorns in these PMU's.

IDWSF believes extra management efforts, such as SCC, are needed to help reverse the current and historic scenarios of populations experiencing die offs and becoming more isolated from other PMU's.

Criteria #4: Abundance on the Salmon-Challis National Forest

The abundance issue was addressed and interwoven with Criteria 1 and describes how low and vulnerable the populations across the Salmon-Challis remain. The losses of populations due to disease continues to be a continuing, real threat that can change the population base much like it did in the 1990's. How a disease event impacts the loss of bighorn can vary dramatically from one event to another with the potential for losses in excess of 50%. The percent of animals continuing to shed the bacteria over the subsequent years can have a direct, negative impact on recruitment and thus, ultimately control whether a population will be able to sustain itself. The same risk factors exist today that existed in the late 1800's and recent events have borne that out. Without enhanced protection and management criteria such as SCC status, history will be repeated and populations will easily become more depressed or lost.

Criteria #5; Population trend on the Salmon-Challis National Forest

See earlier discussions in Criteria 1. A population that is 6% of the lowest historical estimate, currently occupies only 34% of the habitat identified in PMU's, in which there is no use of the habitat identified outside the primary PMU's, and experiences sustained die offs is a population in trouble. Under current USFS management direction, additional die offs will, in all reality continue, plus there are more and more impacts to existing populations and habitat. In addition, only 20% of the potential population levels within the PMU's have been attained (IDFG 2010); those facts do not depict a bighorn population in an upward or stable trend.

Aside from hunting regulations, which have no bearing on a population's size, and without ewe hunts, increasing bighorn populations is dependent upon improved habitat conditions and

reduced domestic sheep operations. The Lost River Range augmentation, which helped improve population trend to pre 90's levels, is a recent example.

A significant contributor to the population trend growth, since the 90's die-off, was the reintroduction of bighorn into the Lost River Range in the early 2005 after the primary risk factor (domestic sheep) were removed. That population continues to see a growth trend.

Without additional enhanced management or prioritization, such as SCC, the future for bighorns will remain static. The population trend will continue to be maintained at a very low level and/or populations will decline without serious changes in management practices.

Criteria #6; Habitat Trend on the Salmon-Challis National Forest

A SCC classification would hopefully serve to enhance a more serious assessment and management of bighorn habitat, particularly winter and lambing habitats, in regards to vegetative composition that are important for bighorn. Fire suppression in sites will enhance the encroachment of conifer species and some browse species. Again, these are site specific issues that need a closer review to identify key sites in need of less fire suppression, sites in need of fire to open the sites up, exotic weed control, and post fire re-seeding, including aerial, that can help improve bighorn specific habitat. To retain or help convert key habitat and insure bighorn have ample viable habitat to improve their annual needs, beyond what is being done, IDWSF believes a higher level of management needs to be applied to bighorn habitat. Current management does not provide that level of scrutiny to insure viable habitat; SCC classification for bighorn would definitely help.

Regarding domestic sheep impacts to bighorn habitat, IDWSF is far less concerned about that aspect in comparison with domestic sheep proximity to bighorn habitat and the risk of disease transmission. Again, a SCC classification would help better identify that risk factor and how it would influence the ROC analysis.

Criteria #7: Vulnerability of Habitats on the Salmon-Challis National Forest

Again, IDWSF believes that SCC classification for bighorn would enhance how to address the challenges brought on by global warming. Change in plant composition, water distribution modifications in bighorn use areas are just a few all examples of why I WSF believes SCC classification will enhance FS assessments and adaptive management strategies to address

these associated issues. We would hope SCC classification will address viability of populations and habitat in a more focused manner to insure persistence and self- sustaining populations with the opportunity to disperse and grow.

Criteria 8: Life History and Demographics

The demographics of domestic sheep in proximity to bighorn and the use of pack goats is the 800 lb. gorilla in the room. How those situations are addressed by ROC modelling, conversions to livestock, permit retirement, forest planning, etc. will ultimately determine the viability of the bighorn across the Salmon-Challis.

We have a good understanding of the primary risk to bighorns and some current management practices have helped alleviate those risks, to a degree. Yet current management has not turned the situation around and translocations are not a viable option until the risk (s) are addressed. It is the contention of IDWSF that in order to navigate this problem, the USFS will need SCC classification for RMBHS to provide an additional layer of management to enhance population management.

Summary

Idaho WSF appreciates the opportunity to weigh in on this issue after our concerns were elevated after the webinar May 22 of this year. Up to that period, we expressed concerns about how SCC would be handled in the plan revision process and were lead to believe it would be listed. On May 22, we were informed that was not the case and the analysis was posted on the website. Idaho WSF expressed concern we had not been part of that discussion or process. Subsequent discussion indicated the final decision had not been made and we were encouraged to submit our comments and rationale as to why we disagreed with the FS analysis. As stated earlier, Idaho WSF is very appreciative of our opportunity to submit input on this very important issue. That being said, I want to summarize our key points as to why we believe SCC classification is necessary for bighorn recovery on the Salmon-Challis National Forest.

- Bighorn only occupy 34% of the identified PMU habitat and none of the habitat outside the PMU's.
- Populations are far below historic levels and only 20% of the 9,500 potential numbers identified in the IDFG Management Plan 2010.

- Smith (1954) indicated 1000 bighorn in Idaho (primarily in the Salmon drainage), increased to approximately 2000 by the 1990's and sustained a 50% loss due to a disease event.
- Including a large translocation into the Lost River Range in 2005 and positive growth trend, bighorn numbers have increased to the pre 1990's event level.
- The bighorn populations in the Salmon River drainage are the last vestige of native, genetically pure, bighorn in Idaho and need additional attention and protection.
- Historical land management policies and planning have had some positive influence, but not realized significant increase in bighorn numbers or distribution over the last several decades.
- Distribution and interaction between the PMU's, with low populations, is in question and not well established.
- A connectivity and gene flow study in a portion of the Salmon River drainage indicated there was more connectivity and gene flow historically than currently exists today.
- Habitat is sufficient, but is in constant flux impacting various seasonal use needs for bighorn. That aspect, coupled with global warming into the future, will necessitate a more focused look at bighorn habitat needs.
- Domestic sheep continue to be the primary risk factor for bighorn sheep in portions of the Salmon-Challis National Forest. Risk of Contact (ROC) modelling and subsequent land use decisions in key areas is needed to enhance the viability of bighorn on this forest.

Respectfully,

Jim Jeffress and Mike Schlegel
Idaho WSF Conservation Committee

Cassirer, E. F. et al. Pneumonia in Bighorn Sheep: Risk and Resilience. Journal of Wildlife Management 82(1): 32-45, 2018

Miyasaki, H. et al. Using Historic Specimens to Provide Insight into Native Bighorn Sheep Genetic Diversity and Connectivity in Idaho. Biennial Symposium Northern Wild Sheep and Goat Council, 2018