
BIGHORN SHEEP: SUPPLEMENTAL ANALYSIS TO THE FOREST PLAN ENVIRONMENTAL IMPACT STATEMENT—COMBINED TEAM MEETING

Payette National Forest Supervisor's Office—McCall, Idaho

June 24, 2009

ATTENDEES

- Christine Bradbury, Clearwater/Nez Perce National Forests Tribal Liaison
- Tim Carpenter, U.C. Davis
- Vic Coggins, Oregon Department of Fish and Wildlife
- Henry Eichman, Forest Service Enterprise Team (on phone)
- Craig Ely, Oregon Department of Fish and Wildlife
- Stephen Goodson, Office of the Governor of Idaho
- Pete Grinde, Payette National Forest (afternoon only)
- Cal Groen, Director of the Idaho Department of Fish and Game (1:30–2:30 only)
- Keith Lawrence, Nez Perce Tribe
- Curt Mack, Nez Perce Tribe
- Chans O'Brien, Payette National Forest GIS Analyst
- Josh O'Brien, U.C. Davis
- Jay O'Laughlin, University of Idaho (1:30–2:30 only)
- Darcy Pederson, Nez Perce National Forest
- Steve Peterson, University of Idaho (by phone for afternoon only)
- Suzanne Rainville, Payette National Forest Supervisor
- Jeff Rohlman, Idaho Department of Fish and Game (1:30–2:30 only)
- Carl Scheeler, Confederated Tribes of the Umatilla Indian Reservation
- Tim Schommer, Wallowa-Whitman National Forest
- Pattie Soucek, Payette National Forest Planner/Interdisciplinary Team Leader
- Claire Thunes, U.C. Davis (phone)
- Dale Toweill, Idaho Department of Fish and Game
- Cheryl Vanderburg, Northern/Intermountain Region Office
- Paul Wik, Washington Department of Fish and Wildlife
- Darin Williams, Nez Perce Tribe (by phone for afternoon only)

PROCESS SUPPORT

- Susan Hayman, Facilitator, North Country Resources, Inc.
- Nikole Pearson, Documentation, Peak Science Communications

MEETING OBJECTIVES

1. Discuss and provide feedback on the substantive issues that will be addressed in the Final Supplemental Environmental Impact Statement, including the proposed approach for addressing them (i.e., new alternative, mitigation, forest plan direction, additional analysis, and effects disclosure).
2. Discuss and provide feedback on the modeling/analysis to date.
3. Receive and discuss a brief presentation on the status of implementation of Senate Bill 1232.

ACTION ITEMS

What	Who	When
Provide information on unique BMPs (not in Sierra Guidelines) to Dale Toweill.	Combined team	As soon as possible, but no later than July 15
Provide Henry a response to his economic data requests.	Tribes	As soon as possible, but no later than July 15
Provide feedback on economic assumptions to Henry Eichman.	Combined team	As soon as possible, but no later than July 15
Provide a copy of the Sierra Guidelines (BMPs) to the team.	Dale Toweill	June 25
Provide copies of sheep strategy to Pattie for Allison Berg and Partridge Creek allotments.	Pete Grinde	June 26
Conference call with managers who have disease data to discuss the driving factors on the model—Tim Carpenter, Vic Coggins, Josh O'Brien, Curt Mack, Paul Wik, Dale Toweill, Francis Cassirer, Mike Miller.	Claire Thunes	July 7 at 9:00 a.m. PDT
Provide final issues resolution strategy to the team.	Pattie Soucek	July 8
Conference call to discuss assumptions about which populations the isolated sightings come from—Josh O'Brien, Chans O'Brien, Curt, Mack, Vic Coggins, Dale Toweill.	Josh O'Brien	July 9 at 9:00 a.m. PDT
Provide information to Josh on distances that domestic sheep travel.	Combined team	July 26

OPENING

Welcome

Suzanne Rainville (Payette National Forest [NF]) welcomed participants and informed the combined team that additional meetings will be held in August and September to provide more time for the U.C. Davis contractors to complete the habitat and disease models. Rainville noted that Cal Groen, Director of the Idaho Department of Fish and Game, will be speaking to the combined team regarding Senate Bill 1232. Jay O'Laughlin, University of Idaho, will also be attending since he is writing a policy paper about the issue.

Susan Hayman, North Country Resources, asked participants to introduce themselves, reviewed the agenda, and explained the meeting structure.

SUBSTANTIVE ISSUES AND APPROACH FOR FSEIS—PART I

Pattie Soucek (Payette NF) distributed the final content analysis, *Summary of Public Comment*. This document summarizes comments received during the formal comment period only. Each comment can be referenced to the original letter using the identifying numbers in the parenthetical information. Appendix B of the document further explains the coding structure.

Soucek also distributed the “Issue Resolution Strategy Summary” that contains the comments sorted into three categories. As Soucek organized these comments, she did not detect any new significant issues. The summary also contains the following:

- Resource areas that drew the most concern
- Overall set of concerns developed by the IDT
- List of the seven most common concerns identified in the public comments
- Suggestions, submitted in the public comments, for new alternatives and changes to the draft SEIS and Forest Plan direction

Although the list of substantive issues raised by the public was similar to the list identified by the IDT, the Payette NF still needs to complete the modeling analysis to see how the suggestions could be incorporated into the process. Once the modeling is complete, the NF could run the new alternatives suggested through the initial modeling, but these alternatives may not be advanced for detailed analysis.

The following issues were discussed:

- Although no new significant issues were identified in the comments, the results of the modeling analysis may result in a need to develop a new alternative.
- Not every alternative has to address every significant issue—the range of alternatives should result in a range of effects.
- The Payette NF must analyze new information and address it in the record, even if the new information does not result in a new alternative.
- Participants asked clarifying questions regarding the significant issues that originally drove the creation of the draft SEIS.
- The final content analysis will be posted on a new website being developed for this project.
- The summary of public comments can be shared with colleagues who are not combined team members.
- Forest Plan direction still needs to be reanalyzed.
- The Salmon River sheep strategy for the Allison Berg Allotment and the sheep strategy for the Partridge Creek Allotment will be submitted to Soucek for information. Some participants remarked that the strategy for the BLM's Partridge Creek Allotment contains best management practices (BMPs) that were not effective at maintaining separation between domestics and bighorns during the current grazing season.
- The State of Idaho will be analyzing BMPs as part of Senate Bill 1232.
- At some point, the Payette NF must “freeze” the data in order to complete the modeling; however, new information can be submitted any time and will be considered.

MODELING/ANALYSIS APPROACH—PART I

Population Modeling/Analysis

Chans O'Brien, Payette NF, reviewed the home range analysis used in the draft SEIS and compared it to new modeling efforts. The new model used the Imnaha Herd because this herd had several unique characteristics. C. O'Brien highlighted the following differences between the two models:

- The new model determines the herd home range, then analyzes the sallies.
- The original model aggregated all observation points; the new model analyzes each point separately.

- The new model analyzes the observation points seasonally (winter: May–October; summer: November–April).
- The new model has been validated using uncollared observations.

C. O'Brien displayed sampling interval modeling from the Salmon River population. This population was distributed more broadly in winter than summer. A participant suggested that seasons could be defined several ways, including by breeding behavior.

Josh O'Brien, U.C. Davis, displayed data organized by gender. Ewes had more transmitters, more years of data, and more observations per year, resulting in more telemetry points for ewes (17,258 versus 3,674 for rams). Participants suggest that more data were available for ewes because ewes were easier to collar, collars were not replaced on rams subject to hunting, and ram data collection was truncated during hunting season. J. O'Brien asked for suggestions to correct the lack of ram data.

J. O'Brien displayed several distribution point graphs for ewes and for rams:

- Rams overwinter near ewes, and then move away from the herd in spring and summer.
- More sallies were seen in spring and November.
- As the alternatives are analyzed, the core home range could move.
- Ewes do not travel outside the home range as much as rams, so ewes may be less important to disease transmission.
- Summer sorties were analyzed using the summer home range and winter sorties were analyzed using the winter home range.
- When looking at all recorded movements outside the core home range, 25% of summer ram movements are ≥ 20 km. These data correlate well with literature.

J. O'Brien asked participants to provide feedback on the following:

- How should we estimate yearling male sortie behavior? How often and how far?
- Should the analysis be reduced to the herd level to justify applying it the Salmon River population?
- What differences would the team recommend to correct the distances from the home range?

Participants discussed the following issues:

- Summer range encompassed winter range and should be adequate for analysis.
- Because fewer rams were collared, the home range estimate is likely conservative. However, the bandwidth is broader than typically modeled and each point is represented equally.
- Young rams traveled the most when domestic sheep were grazing.

Economic Modeling/Analysis

Henry Eichman, Forest Service Enterprise Team, reviewed the economic analysis for the Final Supplemental Environmental Impact Statement (SEIS). Commenters stated the economic benefits that bighorn sheep hunting and viewing bring to the region were not adequately addressed in the Draft SEIS. The Final SEIS will incorporate the Environmental Justice Executive Order, which directs agencies to consider patterns of subsistence hunting and fishing when an agency may affect fish or wildlife.

Eichman asked the combined team for the following data:

- Tribes—Are there specific areas or populations the tribe would like examined separately? (While several tribes have indicated they want a general qualitative analysis, Eichman wanted to know if others wanted more specific concerns addressed.) Do the tribes have more detailed information concerning the relationship of bighorn sheep and intrinsic tribal values?
- State Departments of Fish and Game/Wildlife—Would raffle or auction of tags increase with a population increase?

Eichman reviewed the assumptions. The combined team provided the following feedback:

- Outfitter charges listed in the assumptions were probably too low.
- Affected counties should not be changed until the analysis is complete.
- Lemhi County was the only access point for some of the wilderness areas in Idaho County.
- State officials should be asked for management concerns besides disease that impacted tags. Also, Eichman may want to look at the historic number of tags issued relative to population size.

Steve Peterson, EMSI, will be adding the following to the economic analysis:

- A descriptive paragraph with some direct numbers about the overall importance of the sheep industry, relative to the four affected permittees, to the economy of the State of Idaho.
- A regional multi-county model that will use the multiplier(s) from the broader model to estimate the economic impacts of each of the grazing scenarios.
- An economic estimate of the impact of grazing fees on local governments.

A participant suggested analyzing the subsidized grazing fee paid by operators and the cost to the Payette NF to administer the livestock grazing program. Soucek noted that some of these issues were already included in the original model and warned that the analysis should be limited to bighorn sheep viability. The economic analysis will be a two-fold qualitative discussion: 1) job and income and 2) cost and benefits.

Disease Modeling/Analysis

Tim Carpenter, U.C. Davis, updated the combined team on the draft disease model/analysis. Modeling can be approached from the top down (decompose a major process until a sufficient level of detail is obtained in describing the process behavior) and bottom up (all lowest-level activities are defined first). This analysis will use a top-down approach given the available data. The population estimate will be decomposed into herd growth rate, herd carrying capacity, minimum viable population numbers, epidemic probability, herd-to-herd contact probability, epidemic impact, and endemic condition impact.

Carpenter displayed the simulated model results of two hypothetical herds—one with endemic pneumonia and one with good growth rates in the absence of disease—to exemplify data these models could output based on various inputs. Carpenter asked the combined team to provide feedback on the model parameters and any missing data. Carpenter noted that these estimates could include covariates.

The combined team provided the following feedback:

- The model should incorporate low recruitment for several years after an epidemic.
- The model should incorporate hunter and tribal harvest.
- The model underestimated population reductions after an outbreak. Carpenter requested detailed data regarding population loss from disease. Managers with disease data will hold a conference call to discuss driving factors (7+) for model.
- Management objectives could be used to calculate carrying capacity. Carpenter requested data to explain why populations were not reaching their carrying capacity.
- Carrying capacity fluctuates and viability is not a function of numbers but of maintaining genetic diversity.
- The model can include correlations between the parameters if the team provides the necessary data.

Soucek asked state representatives to think about what assumptions could be incorporated regarding hunter impact. Specifically, will the states increase the number of tags if the populations increase?

The team agreed to hold a conference call with managers who have data that affect population driving factors.

IMPLEMENTATION OF SENATE BILL 1232

Director Cal Groen, Idaho Department of Fish and Game (IDFG), reviewed Senate Bill 1232, which requires the IDFG to cooperatively develop BMPs with permittees to maintain separation between domestic and

bighorn sheep, and certify permittees by August 2009. Groen emphasized the IDFG is going to comply with the legislation and then continue with development of their bighorn sheep management plan.

Jay O’Laughlin, University of Idaho Poly Analysis Group, explained his role—to provide objective data and analysis on implementing public policy and how it affects natural resources.

The combined team expressed the following concerns:

- The 1997 letter has been misunderstood and the paper written by Tim Schommer, Wallowa Whitman NF, would be helpful in clarifying this.
- Information about where the sheep are located is incorrect.
- Implementing BMPs will be difficult in some geographic areas.
- The IDFG should implement and build on the BMPs already developed by the Forest Service.
- If the BMPs are implemented but not successful, the process needs to be reviewed and readjusted.
- Adequate funding must be available for developing the BMPs and for monitoring.
- The timeline for developing the BMPs and certifying the permittees is rigorous. Would the IDFG have time to evaluate the monitoring process before determining if the BMPs would be effective?
- The IDFG does not have definitions for viability or risk.
- Will the BMPs provide separation, ensure viability, or reduce risk?
- BMPs have proven to be problematic, so will the IDFG know they are going to reduce risk?
- Neighboring states would like to be included in the review process before implementing the BMPs.
- Examples where BMPs have not worked should be reviewed as learning opportunities.
- The Payette NF will review the BMPs as new information.
- Given the rigorous timeline, is review by neighboring states or other officials possible?
- The legislation makes transplanting very difficult so the FS must make a grazing decision knowing that they have to rely on natural recovery.

The IDFG is working from the Sierra Nevada guidelines. Team members should email recommendations not included in the Sierra Nevada guidelines to Toweill.

SUBSTANTIVE ISSUES AND APPROACH FOR FEIS—PART II

The combined team members provided the following feedback:

- State BMPs should be overlaid on the existing Alternatives rather than be used as significant issues to develop an additional alternative.
- The NF is on the same timeline; extra meetings were added to allow U.C. Davis more time to complete the disease modeling. These extra meetings were not tied to actions being taken by the State of Idaho.
- The NF would have to address certifications issued to permittees and any State of Idaho definition of viability as new information.
- The FS may not have the model finished in time for the State of Idaho to use.
- Can changes in predation affect the modeling—if domestic sheep are removed from the ground, will there be a shift to preying on bighorn sheep?
- The FS needs to consider the public comments when developing the Forest Plan direction.
- An updated “Issues Resolution Strategy” will be handed out to the team before the next meeting.

MODELING/ANALYSIS APPROACH—PART II

The following issues were discussed:

- J. O’Brien has been examining ways to include observations outside of the core home range.

- C. O'Brien is still developing the parameters for the cost surface buffer. Team members suggested basing parameters on what motivates movements and including habitat disturbances.
- Behavior contributes to bimodal distribution.
- The modeling team may want to take a simplistic approach by finding a buffer used by most sheep.
- Recreational impacts, including hunting, should be included in the disease model.
- Data from the Salmon River have not been analyzed yet.
- Data from other sources can be used to validate the model.
- The modelers need Salmon River data as soon as possible.
- The type of snow year should be incorporated since snow levels could affect ram use of the high country.
- Modelers are completing two analyses: one to define herd range and another to define sallies.
- The NF needs to choose a cut off distance for analyzing sallies or use the cost surface buffer.
- Resistance surfaces for sorties are more meaningful when they don't result in contact with other sheep.
- The reasons for bimodal distribution are important. Bimodality could be due to sample size, although more than one herd displayed bimodality.
- Modelers need to know how far a sheep might have travelled before being observed. A conference call will be held to discuss assumptions about which populations isolated sightings originate from.
- Herd home ranges were aggregated by adding the rasters together.
- Determination of the Salmon River geographic population range included input from an entire subcommittee as well as IDFG expert opinion.
- The Sierra Nevada model included a buffer around domestic sheep allotments. The combined team members will provide domestic sheep travelling data to J. O'Brien.

NEXT STEPS

Two additional meetings were scheduled:

- August 18–19 (1/2 day on the 18th, full day on the 19th)
- September 28–29 (1/2 day on the 28th, full day on the 29th)

CLOSING REMARKS

Soucek thanked everyone for attending and reminded participants to keep this information confidential. Rainville thanked everyone for their feedback, which has been invaluable for the modeling process.

WRAP UP

The meeting adjourned at 5:00 PM.

BIN ITEMS

BIN

- 1) Is the population model under-representing the home range by relying on ewe data (not as many rams collared)?
- 2) Are we going to try to model BMPs & new FP direction? This affects model development & timeline.
- 3) How will "outer line" (95%+) be used in the alternatives?
- 4) Discuss use of Salmon GPR originally developed from observations & professional judgment.

HANDOUTS

1. Agenda, 2 p.

2. *Summary of Public Comment*, 60 pp.
3. "Issue Resolution Strategy Summary: Bighorn Sheep Viability SEIS," 3 p.

APPENDIX 1—AGENDA

Bighorn Sheep: Supplemental Analysis to the Forest Plan Environmental Impact Statement

Combined Team Meeting

8:30 a.m. – 4:30 p.m., June 24, 2009

Payette National Forest Supervisor's Office Conference Room

800 W. Lakeside, McCall, Idaho

Meeting Objectives:

1. Discuss and provide feedback on the substantive issues that will be addressed in the Final Supplemental Environmental Impact Statement, including the proposed approach for addressing them (i.e. new alternative, mitigation, forest plan direction, additional analysis and effects disclosure).
2. Discuss and provide feedback on the modeling/analysis to date.
3. Receive and discuss a brief presentation on the status of implementation of Senate Bill 1232.

Time	Topic	Process / Product
8:00 a.m.	Refreshments available in meeting room	
8:30 a.m.	Opening <ul style="list-style-type: none">• Welcome, introductions and opening remarks – Suzanne Rainville, Payette Forest Supervisor• Meeting overview, group agreements – Susan Hayman, Facilitator	Information
8:45 a.m.	Substantive Issues and Approach for FSEIS – Part I (information) – Pattie Soucek, Payette National Forest Team Leader	Information; Discussion; Q&A
9:45 a.m.	BREAK	
10:00 a.m.	Modeling/Analysis Approach – Part I (information) <ul style="list-style-type: none">• Population modeling/analysis – Chans O'Brien, Payette National Forest; Josh O'Brien, UC-Davis;• Disease modeling/analysis – Tim Carpenter, UC-Davis• Economic modeling/analysis – Henry Eichman, Forest Service Enterprise Tea	Information; Discussion; Q&A
11:30 a.m.	LUNCH (on your own)	
1:00 p.m.	Implementation of Senate Bill 1232 – Cal Groen, Director, Idaho Department of Fish and Game	Information; Q&A

Time	Topic	Process / Product
2:00 p.m.	BREAK	
2:15 p.m.	Substantive Issues and Approach for FSEIS – Part II (feedback) – Susan Hayman	Discussion; Round-robin
3:00 p.m.	Modeling/Analysis Approach – Part II (feedback) – Susan Hayman	Discussion; Round-robin
4:00 p.m.	Next Steps – Susan Hayman <ul style="list-style-type: none"> • Meeting Schedule <ul style="list-style-type: none"> ○ Dates ○ Objectives 	Information; Discussion
4:15 p.m.	Closing remarks – Suzanne Rainville	Information
4:30 p.m.	Adjourn	

APPENDIX 2—FLIPCHART NOTES

Need Feedback for Population/Sallie Model

- 1) How should we estimate sortie behavior of yearling males?
- 2) Should analysis be broken down to herd level to justify application to Salmon River?
- 3) What different would you recommend to correct distance s from home range based on fact that telemetry points mostly ewes?

1

Need Feedback on Disease Model

- 1) On the parameters
 - Herd growth rate
 - Herd carrying capacity
 - min. viable population numbers
 - Probability of an epidemic
 - Probability of herd to herd contact
 - Impact of an epidemic (1+)
 - Impact of an endemic condition
- 2) What else are we missing?
 - Recruitment
 - Human hunting of BHS (states and tribal provide info)

2

Team Provided Feedback

- 1) May be underestimating degree of population loss due to disease in hypothetical models. Recovery may be much more limited.
- 2) Not the norm that populations bump up against carrying capacity.
 - Then what is limiting the growth?
 - reduced lamb recruitment
 - higher lamb mortality

3

Tem Provided Feedback (cont)

- 3) Carrying capacity fluctuates greatly.
- 4) Viability is more a function of maintaining genetics than numbers.

4

Issues/Approach

Other Considerations

- 1) Add reference to BMPs—
 - Consider as overlay to existing Alts
- 2) Changes in predation from wolves on DS—if you remove DS, more predation on BHS?
- 3) Need to look at comments related to FP direction, not just Alts.

5

BIN

- 1) Is the population model under representing the home range by relying on ewe data (not as many rams collared)?
- 2) Are we going to try to model BMPs & new FP direction—this affects model development & timeline.
- 3) How will “outer line” (95%+) be used in the alternatives.
- 4) Discuss use of Salmon GPR originally developed from observations & professional judgment.

6

Actions/Follow up

- 1) Provide copy of "SRSS" (Allison Berg) to Pattie. (Pete) (6/26)
- 2) Provide copy of "strategy"/BMPs to Pattie for Partridge Ck. (Pete) 6/26.
- 3) Economic data requests:
 - Tribal interests
 - way of aggregating or separation tribal analysis
 - Impacts from increasing auction/lottery opps for hunting tags(Tribal folks-Susan to confirm data, etc.)
- 4) Feedback on economic assumptions to Henry. (Henry will email assumptions to Chans, who will provide to Susan to distribute to Team (Date).

7

Actions/Follow up (cont)

- 5) Conf call w/ managers w/ disease data to discuss driving factors (7+) for model w/ Tim C. (Claire to schedule, July 7 @ 9 am PDT).
- 6) Provide info on BMPs to Jeff/Dale (unique approaches) –other than Sierra NV GC (ASAP or July 15).
- 7) Provide "Final" issues res strategy to team (Pattie 7/8).
- 8) Conf call to discuss assumptions about which populations isolated sightings come from. (Chans, **Josh**, Curt, Vic, Dale 7/9 9 am PDT).
- 9) Provide email info to Josh on distances stray DS travel (Vic, Dale 6/26).
- 10) Dale to send S.N. guidelines to team (6/25).

8