

Record of Decision
for the
Hart Mountain National Antelope Refuge
Final Bighorn Sheep Management Plan and Environmental Impact Statement
Lake County, Oregon

Through this record of decision (ROD), the U.S. Fish and Wildlife Service (Service) selects Alternative D, the Comprehensive Integrated Management Alternative, for managing California bighorn sheep (*Ovis canadensis ssp. californiana*) and their habitat at the Hart Mountain National Antelope Refuge (Hart Mountain NAR, Refuge). This ROD includes brief summaries of the alternatives considered, the public review process, and the rationale for selecting Alternative D, as described in the final environmental impact statement (EIS). The final bighorn sheep management plan (management plan) will provide guidance and a set of tools to manage the bighorn sheep herd and improve its habitat at the Refuge.

Hart Mountain NAR California bighorn sheep are on the verge of extirpation and the plight of the herd compels us to take urgent action in a measured and focused manner. Since 2017, the herd has declined by almost 70 percent and the continued downward trend of the population necessitates immediate management intervention. This EIS analyzes the foreseeable effects on the human environment related to four management alternatives. Because the Service initiated this EIS prior to the CEQ-revised NEPA regulations effective September 14, 2020, this EIS was developed following the 1978 NEPA implementing regulations.

The California bighorn sheep herd on the Refuge in southeastern Oregon has declined from approximately 150 animals in 2017 to as few as 48 in 2020. Consequently, the herd is at risk of extirpation in the next few years without prompt management intervention. The purpose of the proposed actions analyzed in the EIS is to restore the herd of bighorn sheep on the Refuge to a sustainable level. The California bighorn sheep, an iconic species native to Oregon and the Refuge, was extirpated from the state by 1912. The species was successfully reintroduced in 1954 when 20 bighorn sheep were translocated to the Refuge. After reintroduction, the Refuge herd was robust enough to be used as a source for translocating bighorn sheep to other areas in and around Oregon.

Action is needed to address the rapidly declining bighorn sheep numbers that place the herd in significant risk of extirpation from the Refuge in the next few years. The loss of the Refuge bighorn sheep population would represent a disturbance to historical ecological interactions between other species, as well as the loss of a species native to the Refuge. It would also be a significant loss to the natural quality of the Poker Jim Ridge Proposed Wilderness Area and ultimately would be detrimental to associated predator populations over the long term.

Alternatives Considered

In response to the decline, the Service developed a draft bighorn sheep management plan and EIS to analyze existing data and identify alternatives and actions needed to restore the herd to a

sustainable population level. The alternatives reflect the urgency to implement short-term management actions that are based on the best available science in combination with mid- to long-term management and monitoring. In the draft management plan and EIS, the Service evaluated four alternatives, including a No Action Alternative (Alternative A) as required under Council on Environmental Quality's regulations (40 Code of Federal Regulations [CFR] 1500-1508). The draft management plan and EIS also analyzed a habitat improvement alternative (Alternative B); a predator control alternative (Alternative C); and the preferred comprehensive integrated management alternative (Alternative D), which is a combination of habitat management and predator control.

Under Alternative A, the No Action Alternative, the bighorn sheep herd would continue to be managed as it has been in the past (i.e., without an integrated comprehensive bighorn sheep management plan). Aerial surveys would continue to monitor population numbers but no direct action would be taken regarding bighorn sheep habitat or predation. This is considered the baseline, or status quo. The range and numbers of bighorn sheep on the Refuge would be driven by recruitment and mortality factors and could rise or fall above or below management criteria, and extirpation could occur.

Alternative B, the Bighorn Sheep Habitat Improvement Alternative, would entail continuing actions listed under Alternative A, although with increased and more targeted habitat management activities that would be specifically intended to benefit bighorn sheep in order to support a sustainable bighorn herd. Actions would increase habitat quality by reducing encroaching western juniper (*Juniperus occidentalis*) in shrubland cover types within bighorn sheep habitats, as well using fire, integrated pest management strategies, and concepts of resistance and resilience to address areas of late-stage successional changes and other quality degradations (such as reduced horizontal sight distance and increased predator-hiding cover). Water sources within bighorn sheep habitats would be assessed and rehabilitation or improvements would be made as necessary.

Alternative C, the Population Management Only Alternative, focuses on direct management of the bighorn sheep population by addressing predation mortality, risks associated with small population size (e.g., inbreeding depression), low resilience to environmental stressors, and high probability of extirpation. Under Alternative C, the Service would take immediate action to protect the bighorn sheep herd from both direct and indirect impacts from cougars (*Puma concolor*) by temporarily and strategically conducting administrative lethal removal of cougars to allow the herd size to recover to a sustainable level as defined by bighorn sheep population performance criteria. The intent of cougar removal would be to decrease bighorn sheep adult mortality and increase lamb survival and recruitment. The precarious status of the herd means that any losses are likely an existential threat.

Alternative D, the Comprehensive Integrated Management Alternative, is the Service's preferred alternative. It is a combination of management actions proposed in Alternatives B and C. An integrated management approach is preferred considering complex interactions between habitat features and demographic factors that ultimately determine sustainability.

Environmentally Preferable Alternative

The definition of the “environmentally preferable alternative” (40 CFR 1505.2(b)) is different from that of the preferred alternative. The environmentally preferable alternative generally causes the least damage to the biological and physical environment and best protects, preserves, and enhances natural and cultural resources. For this management plan and EIS, Alternative D is the environmentally preferred alternative, and it is also the Service’s preferred alternative. Alternative D directly addresses what is thought to be the proximate (or immediate) cause of the decline in the bighorn sheep population on the Refuge (i.e., loss of adult bighorn to cougar predation at a rate higher than can be sustained by recruitment), as well as the concurrent and distal (or ultimate) cause for the population decline (i.e., habitat degradation and late-stage successional changes/dominance within bighorn habitats). Focusing on just habitat improvements or predator control would likely not be successful at both retaining and sustaining bighorn sheep on the Refuge. Rather, the Service believes that a focus on both is needed to retain and sustain bighorn sheep populations on the Refuge in the near term and over time. Cougar control efforts in bighorn sheep habitats on the Refuge are unlikely to impact cougar populations as a whole but should benefit bighorn in these areas and ultimately benefit predator-prey relationships on the Refuge. Additionally, the habitat management efforts emphasize restoration, rehabilitation, and maintenance of historical vegetative covers and native fire regimes in bighorn sheep habitat areas under controlled variables and situations while also protecting and maintaining valuable key features, such as native shrublands, juniper woodlands, old growth juniper, and mountain mahogany (*Cercocarpus* spp.) stands.

Public, Agency, and Tribal Government Involvement

The Service completed the initial scoping phase of the EIS, which is the first formal step in engaging and soliciting public, agency, and tribal participation in the EIS process. The purposes of scoping are to notify the affected public of the opportunity to participate in the preparation of the EIS and encourage them to comment on preliminary vision and goals and to help identify potential issues, management actions and concerns, significant problems or impacts, and opportunities or alternatives to resolve them. The Service published a notice of intent to prepare a bighorn sheep management plan and EIS in the *Federal Register* (FR) on May 8, 2020 (85 FR 27430-27431). The notice of intent initiated the public scoping period, which extended to June 8, 2020.

Additional outreach efforts included a news release that was sent to local Oregon media contacts in Portland, Salem, Eugene, Bend, Klamath Falls, Lakeview, and Medford. It was also posted on the Refuge’s website. The news release and associated follow up resulted in a May 8, 2020, article being published in the *Herald and News*.

Because of the COVID-19 pandemic, two planned public meetings could not be held; however, virtual meetings were held with those organizations that made a request and information that would have been presented at the public meetings was posted on the Refuge website. In addition, letters and emails were sent (and in some cases personal telephone calls were made) to notify and

invite comments from 24 nongovernmental organizations that have been interested in the Refuge, bighorn sheep, and predators in the past; all surrounding landowners; state and local elected officials, including county commissioners; 20 other national organizations; and eight federally recognized tribes.

The Service published a notice of availability of the draft management plan and EIS in the FR on April 30, 2021, which initiated a 45-day public review and comment period. The Service received 205 comment letters during the public comment period. The letters were documented, organized, and labeled with a unique letter identification number as they were received. Each letter was reviewed for substantive comments. Each substantive comment was given a unique comment number, recorded, and categorized by topic. Similar comments were combined or grouped to be addressed together. The Service and subject matter experts then reviewed and responded to these individual comments. Comment responses addressed concerns brought up by the commenter and referenced changes to the plan where necessary. The comment summaries and responses are recorded in Appendix N of the final EIS.

A Notice of Availability (NOA) of the Final EIS was published in the Federal Register on December 3, 2021 (86 FR 68661). Pursuant to 40 C.F.R. § 1506.11(b)(2), the Service can issue a Record of Decision no sooner than 30 days following publication of the NOA. Although public comments are not solicited during this 30-day period, the Service received letters from the Center for Biological Diversity, co-signed by Animal Wellness Action, Cascadia Wildlands, Center for Humane Economy, The Humane Society of the United States, Mountain Lion Foundation, Northwest Environmental Defense Center, Oregon Natural Desert Association, and Predator Defense. The Mountain Lion Foundation and the Oregon Natural Desert Association also submitted individual letters. For the most part, these letters reiterated comments made during the 45-day public comment period following publication of the draft management plan and EIS. Wilderness Watch submitted a letter during this timeframe but did not comment during the draft EIS 45-day public comment period. None of the letters provided new information sufficient to revisit the alternatives and analysis of the final EIS.

Decision

The Service has selected Alternative D as described in the final management plan and EIS for implementation on the Refuge. Alternative D is the most effective alternative for addressing both short- and long-term issues related to bighorn sheep management on the Refuge and will best achieve the purposes and goals of the proposed action. All practical means to avoid or minimize environmental harm from the selected alternative have been adopted.

Factors Considered in Making the Decision

In reaching this decision, the Service reviewed and considered the following: impacts identified in Chapter 4 of the draft and final management plans and EISs; whether and how well the purpose and need defined in the final management plan and EIS are met; relevant issues, concerns, and opportunities presented by agencies, organizations, and individuals throughout the planning process; comments received during the scoping period and on the draft and final

management plans and EISs; and other regulatory factors, including the purposes for which the Refuge was established, and statutory and regulatory guidance.

Alternative D, the Comprehensive Integrated Management Alternative, was selected for implementation for the following reasons:

- Alternative D will best achieve the Refuge's purposes and fulfill the Service's mission and is consistent with the principles of sound wildlife management.
- Alternative D addresses the complex interactions between habitat features and demographic factors that ultimately determine bighorn sheep sustainability on the Refuge.
- Alternative D provides a full range of strategies to adaptively manage the bighorn sheep herd over time that would address the need to take action in a timely manner while providing time to identify and correct habitat issues that may take decades to resolve.
- An integrated approach is best suited to achieve the purpose for the plan—to return bighorn sheep to a sustainable population.

Alternative A, the No Action Alternative, was not selected for the following reasons:

- Alternative A does not meet the need for the proposed action, addressing the decline of the bighorn sheep herd at the Refuge.
- Although bighorn sheep population surveys and health screening would continue and some vegetation work—primarily to benefit greater sage-grouse (*Centrocercus urophasianus*)—would occur in bighorn sheep habitat and benefit bighorn (mostly within the general ewe and ram water limits), neither the immediate nor the distal causes of the declining population would be addressed, and the herd would continue to face the prospect of extirpation.

Alternative B, the Bighorn Sheep Habitat Improvement Alternative, was not selected for the following reasons:

- Alternative B would not address the significant predation pressures the herd is now experiencing, and the herd would continue to suffer poor demographics and face the prospect of extirpation.
- The habitat improvements outlined in Alternative B would likely take years to complete before positively impacting the bighorn sheep herd, even if assessment, planning, and implementation began immediately after the management plan and EIS were finalized. This delay would likely lead to further population decline and potential extirpation while habitat management is conducted.

Alternative C, the Population Management Only Alternative, was not selected for the following reasons:

- Although Alternative C would address the immediate predation pressures facing bighorn sheep, predation risk is determined not only by the number of predators present, but also by their efficiency at successful hunting, which is directly related to the structure of the habitat insofar as it provides ambush cover for the predator or visibility and escape opportunity for the prey. Alternative C would not address this predation factor.

Measures to Minimize Environmental Harm

Public concerns, potential impacts, and measures to mitigate impacts are addressed in the final management plan and EIS. Practicable measures to avoid or minimize environmental harm that could result from implementing Alternative D have been incorporated into Chapter 2 (Alternatives, Goals, Objectives, and Strategies), Chapter 4 (Environmental Consequences), Appendix D (Hart Mountain National Antelope Refuge Integrated Pest Management Program), Appendix E (Practices to Minimize the Introduction of Invasive Species by Service Activities), Appendix F (Minimum Requirements Analysis for Management Actions within Proposed Poker Jim Ridge Wilderness), Appendix K (Procedures for Inadvertent Archaeological Discoveries for the Hart Mountain National Antelope Refuge Bighorn Sheep Management Plan, U.S. Fish and Wildlife Service), and Appendix L (Wild Sheep Capture Guidelines). The mitigation measures identified in these chapters and appendices are adopted by the Service in this ROD and will be implemented by Refuge and Service staff members and agents.

Findings Required by Other Laws and Executive Orders

The proposed action complies with all federal laws and executive orders related to the National Wildlife Refuge management. A compliance statement has been prepared that explains how the selected alternative complies with the requirements of the National Wildlife Refuge Administration Act, as amended (16 United States Code [USC] 688dd-688ee); The National Environmental Policy Act (42 USC 4321 et seq.); the Endangered Species Act (16 USC 1531-1544, 87 Stat. 844); the National Historic Preservation Act of 1964; Executive Order 11988, Floodplain Management; Executive Order 11990, Protection of Wetlands; Executive Order 12372, Intergovernmental Review; Executive Order 13186 Protection of Migratory Birds; and Executive Order 12898, Environmental Justice.

For Further Information

Questions about the final management plan and EIS may be directed to Shannon Ludwig, Project Leader, Sheldon-Hart Mountain National Wildlife Refuge Complex, Post Office Box 111, Lakeview, Oregon, 97630, phone number (541) 947-3315, fax number (541) 947-4414, and email Sheldon-Hart@fws.gov.

Regional Director,
Columbia-Pacific Northwest and Pacific Islands,
U.S. Fish and Wildlife Service

Date

Supporting References

U.S. Fish and Wildlife Service. 2021a. *Hart Mountain National Antelope Refuge Draft Bighorn Sheep Management Plan and Environmental Impact Statement*. U.S. Fish and Wildlife Service, Sheldon-Hart National Wildlife Refuge Complex. Lakeview, Oregon.

———. 2021b. *Hart Mountain National Antelope Refuge Final Bighorn Sheep Management Plan and Environmental Impact Statement*. U.S. Fish and Wildlife Service, Sheldon-Hart National Wildlife Refuge Complex. Lakeview, Oregon.

Note: This ROD and supporting references are available for public review at the Sheldon-Hart National Wildlife Refuge Complex, 20995 Rabbit Hill Road, Lakeview, Oregon, 97630. The documents can also be found on the internet at https://www.fws.gov/refuge/Hart_Mountain/.