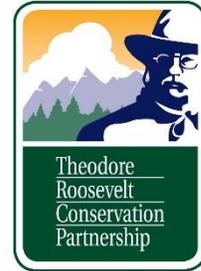


July 2, 2023

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**RE: DRAFT ASSESSMENT COMMENTS FOR THE LOLO NATIONAL FOREST PLAN REVISION**

The Theodore Roosevelt Conservation Partnership (TRCP) is a national conservation organization working to guarantee all Americans quality places to hunt and fish. The TRCP works with 63 formal partners and represents over 139,000 individual members nationally, including more than 3,500 throughout Montana. The conservation of fish and wildlife habitat and public access for outdoor recreation on our public lands are of great interest to us and our members. We appreciate the opportunity to submit draft assessment comments for the Lolo NF plan revision.

Now, a seemingly limitless demand for outdoor recreation opportunities, the growing presence of noxious weeds, and the impacts of decades of fire suppression combined with warming conditions are putting greater pressures on wildlife and habitat in western Montana. Simultaneously, incessant exurban development continues to fragment winter and transitional ranges for elk and deer on neighboring private lands.

To conserve the wildlife values of these public lands, we are pleased that the Lolo National Forest land-use plan is being updated to address modern challenges and opportunities. New information about wildlife migrations has been collected through years of research and should be used by the agency to set objectives, standards, and guidelines in the forest plans in order to conserve and enhance these important habitats for future decades. The Lolo National Forest is identified as a Tier 1 priority for plan revision by the U.S. Forest Service, and we support the ongoing planning efforts.

**NEIGHBORING LANDOWNERS**

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**CONFEDERATED SALISH AND KOOTENAI TRIBES**

The Flathead Indian Reservation, home to the Confederated Salish and Kootenai Tribes, spans 1.3 million acres and shares a 144-mile boundary with the Lolo and Flathead National Forests. The Tribes have a great interest in the lands in the Lolo NF as historically occupied lands with reserved treaty rights. Several successful cross boundary restoration projects have recently been completed CSKT and their federal and state partners by leveraging BIA funding authorized through the Tribal Forest Protection Act.<sup>1</sup>The Lolo NF should ensure the CSKT is meaningfully consulted and involved during the planning process

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<sup>1</sup> <http://fs.usda.gov/working> together/tribal relations.

to ensure that their treaty rights, land use plans, policies, priorities, and objectives are reflected throughout the Lolo plan revision.

#### **STATE OF MONTANA**

In 2010, Montana Fish, Wildlife and Parks (MTFWP) acquired and created the Fish Creek Wildlife Management Area. This WMA is adjacent to Fish Creek State Park, the largest state park in western Montana. Fish Creek contains important upland, riparian and recreational values. The upper reaches of the Fish Creek drainage are the gateway into the Lolo NF portion of the Hoodoo/Great Burn Roadless Area. MTFWP has hired the Center for Natural Resources and Environmental Policy at the University of Montana to help develop the Fish Creek Watershed Recreation Management Plan.<sup>2</sup> The state lands in the area possess exceptional fish, wildlife and recreational values and are surrounded on three sides by the Lolo NF. Part of the reason for this Recreation Management Plan is to address and accommodate increased recreational uses that will have impacts to wildlife and fisheries on these state lands and the surrounding Lolo NF. We encourage the Lolo NF to work closely with Montana Fish Wildlife and Parks and the University of Montana to align management objectives and minimize impacts to wildlife and other natural resources.

The 43,000-acre Blackfoot-Clearwater Game Range and the 18,000-acre Clearwater State Forest provide winter ranges and migration corridors for big game moving from summer habitats on the Lolo NF to winter on the lower elevation state and private lands in the Blackfoot Valley. Both the Game Range and the State Forest provide hunting, fishing and recreational opportunities, as well. During the plan revision, the Lolo NF should work closely with Montana Fish, Wildlife and Parks and DNRC to coordinate management objectives to ensure the protection of these important and heavily used habitats.

Thousands of acres of State Trust Lands, managed by Montana Department of Natural Resources and Conservation (DNRC), occur throughout and adjacent to the Lolo NF. These lands provide important connectivity and migration habitat throughout the forest. DNRC maintains a robust timber management program and continues to add staff and financial resources to that program. TRCP supports the continued efforts of the Lolo NF to partner with DNRC to implement the Good Neighbor Authority, Shared Stewardship, and other cooperative programs as well as the implementation of the State of Montana Forest Action Plan.<sup>3</sup>

#### **LOCAL AND COUNTY GOVERNMENT**

There are several properties that are adjacent to or traverse Lolo NF lands that are owned or managed by local or county governments. Included are recreation areas like Mt Dean Stone, Mt Sentinel and Jumbo, Seely Lake Trails, all in Missoula County and Murphy Creek Trails in Mineral County. These areas all have impacts to adjacent Lolo NF lands from recreational impacts, wildlife disturbance, noxious weeds, etc. We encourage the Lolo NF to be proactive in planning recreation settings and recreation interactions, and to mitigate wildlife impacts by considering trail densities and seasonal closures.

#### **BUREAU OF LAND MANAGEMENT**

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<sup>2</sup> <http://fwp.mt.gov/conservation/fish> creek watershed.

<sup>3</sup> <https://www.montanaforestactionplan.org>

The Missoula BLM Field Office has acquired approximately 40,000 acres since 2000 in the lower Blackfoot river watershed. These lands were formerly industrial timber lands, then sold to the Nature Conservancy. The BLM partnered with TNC to acquire these lands utilizing primarily LWCF funding, and some BLM holdings are within the Lolo NF congressionally designated boundary. BLM plans to purchase additional lands over the next three years.

The BLM is preparing an Ecosystem Analysis as the Watershed Scale (EAWS) covering these acquired lands which are situated within approximately 123,000-acre assessment area. The assessment area covers all lands in the lower Blackfoot River watershed from Johnsrud Park to Roundup including the Twin Creek, Gold Creek, and Belmont drainages, as well as the Game Ridge and Ninemile Prairie area. This assessment area includes thousands of acres adjacent to the Lolo NF. The purpose of the EAWS is to gather new information, inventories, and trends related to resources such as recreation, forest vegetation, riparian health, watershed function, wildlife habitats for Grizzly bear, Canada lynx, and important big game species, and more to guide future management of the area. Information assembled during the EAWS will lend itself to future management and projects, including travel and recreation management planning, as well as forest management and ecosystem restoration. The BLM will transition to project level planning once the EAWS process is complete, possibly in 2024. Project level planning for this area will include specific proposed actions and National Environmental Policy Act (NEPA) analysis with further opportunity to engage with members of the public who are interested in the management of these lands. As a cooperating agency in the revision process, the Lolo NF would benefit by utilizing the information gathered by the BLM during this process and by applying relevant information into planning for the surrounding national forest lands. The Lolo NF should engage with the BLM process now to ensure that management objectives of the two agencies are complimentary—and supportive of functional wildlife habitat and dispersed recreation—across jurisdictional boundaries.

#### **THE NATURE CONSERVANCY AND OTHER LAND TRUSTS**

Since 1998, TNC has acquired more than 100,000 acres of former corporate timber lands in the Blackfoot Valley. Since then, TNC has been slowly selling those lands to the USFS, BLM, State of Montana and private conservation buyers. TNC still retains considerable land holdings in the Valley. Additional land sales to the BLM are expected in the next 2-3 years. TNC has worked in close partnership private, state, federal and private partners on restoring thousands of acres of roads, streams, forests, and vegetation on these lands. The Lolo NF should continue to coordinate with TNC on future management recommendations and restoration projects and utilize this partnership to enhance the revised forest plan.

Additionally, Five Valleys Land Trust owns several parcels adjacent to Lolo NF lands, including the former Marshall Mountain Ski Area and lands at the mouth of Rock Creek. These lands could serve as a gateway to increased recreational pressure on the Lolo NF, and we encourage USFS to maintain habitat function on lands under its jurisdiction by considering trail densities and seasonal closures for wildlife.

#### **BIG GAME MIGRATION AND WINTER RANGE**

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The following section describes several important big game migrations and winter ranges on the Lolo National Forest and provide policy recommendations to be considered as part of the forest plan revisions to ensure the conservation of these migration routes, winter ranges, and Montana's renowned big game populations.

The Lolo National Forest encompasses approximately 2 million acres in Mineral, Missoula, and Sanders Counties, and provides habitat for widely celebrated elk, bighorn sheep, and mule deer populations. These public lands provide excellent hunting and fishing opportunities and generate significant economic activity, supporting rural businesses and communities as well as contributing to Montana's \$7.1-billion outdoor recreation industry.<sup>4</sup>

The forest contains documented and known migration routes used by elk and mule deer as they move between summer and winter ranges, as well as non-migratory habitats utilized by bighorn sheep populations. Below are descriptions of the more notable big game herds within and across the Lolo NF, their movement patterns, as well as the threats facing these herds.

### ***Elk***

*Blackfoot/Clearwater Herds:* Upwards of 2,000 elk inhabit an area that includes Montana Fish, Wildlife and Parks Hunting Districts 201, 285, and 292, which are popular HDs for both resident and non-resident hunters in western Montana. In addition, HDs 280, 281, 282, 290 and 298 provide critical elk winter range. These winter ranges are comprised of a mixture of intermountain sagebrush grasslands, agricultural fields, aspen, and cottonwood stands surrounded by mixed-conifer timberlands. Some of these hunting districts provide other seasonal or transitional habitats as well. For example, HD 280 also provides transitional and summer habitat due to its higher elevations. Large numbers of elk calve and summer in the adjacent Bob Marshall and Scapegoat Wilderness areas located in the Flathead National Forest, as well as on the northernmost extent of the Lolo NF. Of particular importance to these herds are the North Hills located on the Lolo NF's Seeley Ranger District just north of the Blackfoot Clearwater Game Range. These former corporate timber lands provide connectivity between summer and winter ranges. As winter snow accumulates, elk move south out of the high-elevation habitats found in the Lolo NF and adjacent Flathead NF, to lower-elevation, mixed-grassland sagebrush steppe habitats. These winter ranges are located largely on state and private lands in the Blackfoot River and Swan Valleys. Along Highway 200 in the upper Blackfoot Valley, wintering elk often cross the roadway to graze on both the north and south side of the highway. The quality of habitat on which these elk herds rely has been diminished over time by the spread of noxious weeds such as leafy spurge, spotted knapweed, and Dalmatian toadflax.<sup>5</sup> At the same time, habitat disturbance and loss due to unauthorized OHV use in places like Blanchard Flat and Lost Prairie<sup>6</sup>, and the fragmentation and development of low-elevation winter ranges in Findley Creek, Placid Creek, and other areas along the west side of the Swan Valley can disrupt seasonal movement.

Significant blocks of land on both sides of the Swan Valley as well as in the Gold Creek and Belmont Creek areas in the lower Blackfoot watershed were historically owned and operated by commercial timber companies, resulting in high-density road networks and a significant presence of noxious weeds. Many of these lands have been acquired by conservation interests and sold to the state of Montana, U.S. Forest Service, and Bureau of Land Management. Additional tracts will likely be transferred to the federal agencies in the future.

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<sup>4</sup> Montana Office of Outdoor Recreation, "Outdoor Recreation & Montana's Economy," Sept. 2018. <https://headwaterseconomics.org/wp-content/uploads/montana-outdoor-recreation-economy-report.pdf>.

<sup>5</sup> Blackfoot Challenge, Vegetation Report, <https://blackfootchallenge.org/vegetation/>

<sup>6</sup> Southwest Land Office Manager, Clearwater Unit DNRC, Greenough, MT, March 2022.

Open road densities have been shown to impact nutritional resources on elk summer range and elk also select areas away from motorized routes.<sup>7</sup> Poor security can lead to a decrease in hunter opportunity and the inability of wildlife managers to meet sex and age structure objectives in elk herds.<sup>8</sup> A critical and necessary component for defining functional security habitat for elk is the distance from the nearest road or trail that may displace elk and impact habitat use.<sup>9</sup> Based on known observed displacement distances for elk from motorized and non- motorized routes, security patches should be greater than 1,000 meters from the nearest motorized route and greater than 660 meters from the nearest non-motorized route (excluding administrative access only routes).<sup>10</sup>

Another significant factor for the quality of habitat in this area is wildfire. In 2017, the Rice Ridge Fire burned more than 160,000 acres of elk summer range primarily in the Lolo National Forest. The next year, a study by the University of Montana, USFS, and Montana Fish, Wildlife and Parks examined the fire's effect on vegetation quality as it related to elk nutrition.<sup>11</sup> The findings showed that burned areas produced a net gain in forage quality on elk summer range from the months of May to August as compared to non-burned summer habitat during these same months. As the frequency and size of fires increase on both elk summer and winter ranges, the vegetative response to these fires will significantly impact elk and other big game populations.

*Mission Mountains/Rattlesnake Herds:* Hundreds of elk calve and summer in the Rattlesnake Creek watershed and the high-elevation habitats of the Mission Mountains, which lie within the Lolo National Forest and the Flathead Indian Reservation, as well as HDs 201 and 285. As snow accumulates on the eastern and southern sides of the Mission Mountains, elk move out of the high country and migrate onto the lower-elevation open slopes and grasslands—both public and private land—of the Swan, Blackfoot, and Clark Fork River Valleys. The Rattlesnake herds move east into the Gold Creek drainage and south onto the open hillsides on the northern edge of the Missoula Valley, including slopes above Butler and Grant Creeks, Mount Jumbo, and Woody Mountain. Threats to these migration routes and winter ranges include invasive plants— especially in heavily roaded former corporate timber lands—the fragmentation and development of low-elevation winter ranges in the North Hills, and increased pressure from dispersed winter and summer recreation in the Marshall and Woody Mountain areas.

*Lower Clark Fork/ I-90 Corridor Herds:* Large numbers of elk calve and summer in the higher elevations of the Lolo National Forest on both sides of the Interstate 90 highway corridor that spans 30 miles from Rock Creek west to Missoula, as well as west of Missoula to the Idaho border. In the lower stretches of

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<sup>7</sup> McCorquodale, Scott M., Review of Literature on elk, roads, and Traffic, WDFW, March 2013.

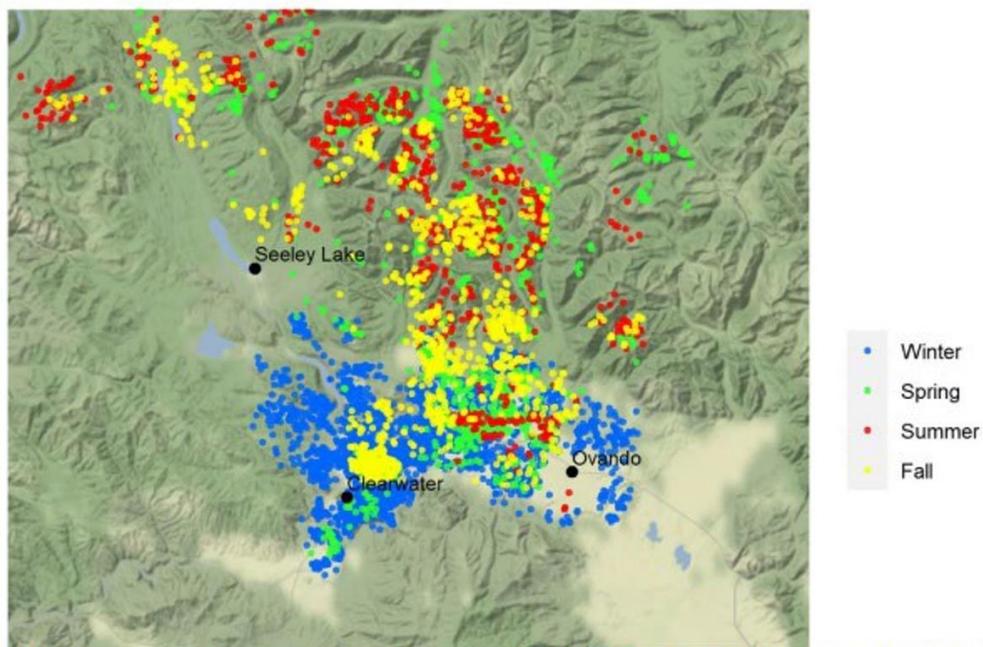
<sup>8</sup> Lonner, T.N., and J.D. Cada 1982. Some effects of forest management on elk hunting opportunity. Pages 119- 128 in: T. L. Britt and D. P. Theobald (eds.). Proceedings of the Western States Elk Workshop. 22-24 February 1982, Flagstaff, Arizona. Arizona Fish and Game Department, Phoenix, Arizona.

<sup>9</sup> Hillis, J. M., M. J. Thompson, J. E. Canfield, L. J. Lyon, and T. N. Lonner. 1991. Defining elk security: The Hillis paradigm. In Proceedings elk vulnerability symposium, eds. A. G. Christensen, L. J. Lyon, and T. N. Lonner, 3 8-43. Bozeman, Montana: Montana State University.

<sup>10</sup> Wisdom, M. J., H. K. Preisler, L.M. Naylor, R.G. Anthony, B.K. Johnson, M.M. Rowland. 2018. Elk response to trail-based recreation on public forests. *Forest Ecology and Management* 411 (2018) 223-233. <https://doi.org/10.1016/j.foreco.2018.01.032>

<sup>11</sup> Montana Fish, Wildlife and Parks, Montana State University, Evaluating Elk Summer Resource Selection and Application to Summer Range Habitat Management, February 2016, <https://arc.lib.montana.edu/ojs/index.php/IJS/article/view/716>

the Clark Fork Valley from Missoula to Lookout Pass, wintering elk in HDs 200, 201, and 202 migrate to lower-elevation winter ranges on national forest and private lands on both sides of Interstate 90. These important winter ranges—occurring primarily east of St. Regis and including Boyd Mountain, Henderson Hill, Coal Creek, Dry Creek, Tarkio, Fish Creek, and Ninemile—all provide low-elevation movement corridors and winter habitat. Threats to these migration routes and winter ranges include declining habitat quality due to fire suppression and invasive plants, wildlife-vehicle collisions, the physical barrier presented by I-90, unauthorized motorized recreation, and the fragmentation and residential development of low-elevation winter ranges. Examples of unauthorized OHV use occur on the Superior Ranger District in Mineral County. These areas include Mudd Creek Road east of St. Regis, important elk winter range around Ball Hill, and the Packer Creek area north of Haugan.<sup>12</sup>



**Figure 1. Seasonal locations of collared adult female elk in the Blackfoot-Clearwater study area in west-central Montana between December 2018 and May 2020. Seasons are defined as winter (December-February), spring (March-May), summer (June-August), and fall (September-November).**

### ***Mule Deer***

The Lolo National Forest provides extensive habitat for mule deer in western Montana. Typical habitats in the Lolo NF consists of mixed grassland, shrub land, sagebrush steppe, ponderosa/Douglas fir canopies, mid-elevation canyons, and rock outcroppings. Populations remain stable in some areas of the forest, while other parts of the forest have seen reductions in habitat quality with accompanied reductions in populations. Overall population estimates in Montana Fish, Wildlife and Parks Region 2—which includes most of the Lolo NF—have seen a 27-percent population decline in long-term averages

<sup>12</sup> Personal conversation, Acting District Ranger, Superior Ranger District, USFS, March 2022.

from 2011 to 2021, with an estimated region-wide population of just over 13,800 animals.<sup>13</sup> The cause of population decline can be complex, and there is usually more than one contributing factor. Threats to these migration routes and habitats that can also impact population numbers include poor forage conditions because of invasive plants and/or conifer encroachment, competition for limited forage, predation, and the fragmentation and development of winter ranges.<sup>14</sup>

According to Montana FWP's *The Economics of Big Game Hunting in Montana*, big game hunting in the three counties of the lower Clark Fork Valley (Missoula, Mineral and Sanders) generates over \$27 million annually in economic activity. Both elk and mule deer utilize migration routes to move between seasonal ranges and often inhabit overlapping winter ranges. For example, mule deer move out of the higher-elevation Rattlesnake Wilderness and National Recreation Area to lower-elevation winter ranges in the lower Rattlesnake Creek area within the NRA, and the Mount Jumbo and Woody Mountain areas. In the lower Clark Fork, deer similarly move down Deep Creek and Dry Creek to winter along the Clark Fork River. Critically important is the 35,000-acre Fish Creek Wildlife Management Area acquired by Montana FWP in 2010. Populations of mule deer that summer within the Hoodoo Roadless Area on the Lolo NF near the Idaho border utilize important grassland and shrubland winter ranges within the Fish Creek drainage, which also provides riparian habitats and connectivity between the Ninemile Valley and Bitterroot Mountains.

Prescribed fire and other vegetation treatment activities have been shown to increase both forage quality and quantity for mule deer. During 2020 and 2021, the Forest Service and numerous non-profit organizations funded vegetation management projects to improve mule deer habitat and other big game winter ranges. Prescribed fires were used to treat 1,500 acres on the Ninemile and Superior Ranger Districts to reduce conifer encroachment and stimulate the growth of browse and native grasses. These projects also included installing wildlife-friendly drop-down fencing to enhance deer and elk movement between private and public lands in the Frenchtown-Huson area west of Missoula.

### ***Bighorn Sheep***

Huntible populations of bighorn sheep provide some of the most coveted permits available, and the Lolo National Forest includes habitat for both stable and recovering bighorn sheep populations. In 2018, over 19,000 Montana residents applied for a ram license; only 111 of those applicants were successful.

Huntible populations of bighorn sheep in the Lolo NF occur in the Rock Creek, Paradise-Thompson Falls, and Petty Creek areas, while a recovering herd is found near Bonner Mountain. The Bonner herd, while considered non-migratory, moves between nearby seasonal ranges on Sheep Mountain, Wisherd Ridge, and Woody Mountain. They also cross Highway 200 to Bonner Mountain.

Two separate herds inhabit the Rock Creek drainage. The lower Rock Creek herd (HD 210) numbers around 150 animals. This population remains within the lower stretches of Rock Creek and will winter in the lower elevations near the creek bottom and move up into the timbered slopes and open grasslands in the summer. The upper Rock Creek herd numbers around 300 animals and inhabits the east side of upper Rock Creek, with some sheep moving east into upper Willow Creek in the winter months.

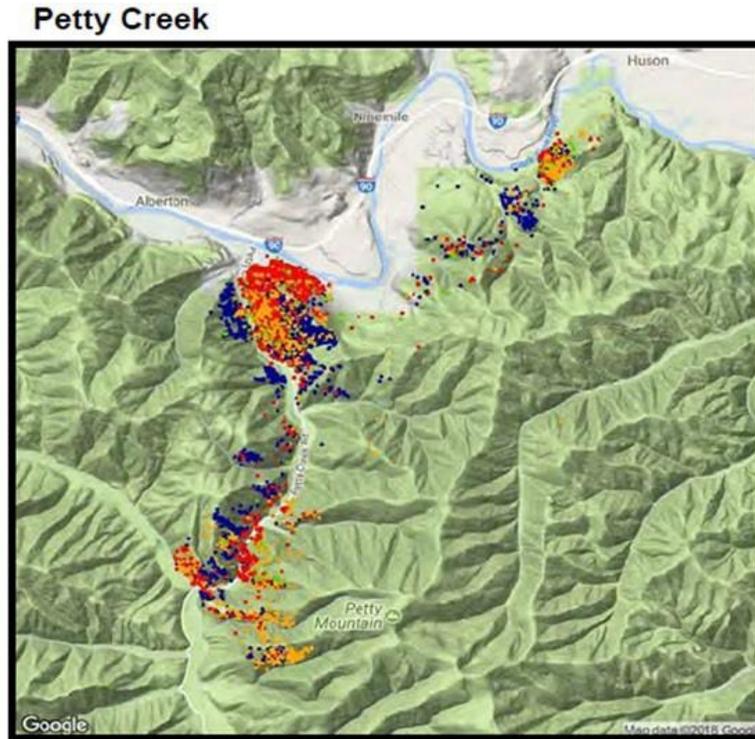
The Petty Creek Herd is considered non-migratory and is estimated to be 130 to 150 animals (Figure 2

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<sup>13</sup> Montana Fish Wildlife and Parks Region 2, Technical Bulletin, October 2021.

<sup>14</sup> Knight, Jim. Extension Wildlife Specialist, MSU, Mule Deer Management for Landowners.

map below). As of 2022, three either-sex licenses were available annually. One-hundred percent of these tags are typically filled each year, and many of the rams harvested are trophy-class. While the seasonal movements of bighorn sheep in these areas are not as extensive as elk or mule deer, they similarly utilize specific seasonal habitats to complete their lifecycle. Threats to bighorn sheep and their habitats include successional changes in vegetation, human development and disturbance, vehicle collisions, disease transmission from domestic livestock, and genetic bottlenecks.<sup>15</sup>



**Figure 2. Spring, summer, fall, and winter locations of collared ewes in the Petty Creek herd.**

One of the more notable examples of bighorn sheep mortality in Montana is the risk of motor vehicle collisions, including along the Montana Highway 200 corridor near Thompson Falls. The Paradise-Thompson Falls herd numbers around 150 to 200 animals, and they spend the winter months in the lower elevations along the Clark Fork River valley and move to higher elevations above the valley in the summer months.

Between 1985 to 2019, wildlife managers documented approximately 500 sheep killed by automobiles and trains, mostly within a two-mile stretch.<sup>16</sup> In 2013, the Montana Department of Transportation approved a project to construct fencing and crossing structures to reduce vehicle-wildlife collisions along Highway 200, east of Thompson Falls. The project resulted in significant reductions of vehicle-wildlife collisions.

The example of the U.S. 93 corridor, as it crosses the Flathead Indian Reservation, demonstrates the

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<sup>15</sup> Montana Big Horn Sheep Conservation Strategy, January 2010.

<sup>16</sup> Long, Ben. Outdoor Life Magazine, August 2019.

effectiveness of efforts to mitigate the threat of wildlife-vehicle collisions. At the time of its reconstruction, which began in 2010, this stretch of highway became one of the most extensive wildlife-friendly highway designs in North America.<sup>17</sup> Follow-up studies showed that the installation of over- and underpasses, road signs, and fences that funnel wildlife to safe crossings reduced wildlife-vehicle collisions by approximately 70 percent.<sup>18</sup> Statewide Big Horn Sheep population estimates, and threats to those populations are listed in **Table 1**.

**Attachments A and B** shows important big game migration routes, critical winter ranges, and priority watersheds in the Lolo National Forest.

#### **USFS PLANNING DIRECTIVES AND MIGRATION**

The 2012 National Forest System Land Management Planning Rule provides direction to the U.S. Forest Service to manage national forest system lands, provide for ecological sustainability, and contribute to economic and social sustainability. The conservation of big game migration corridors and seasonal habitats contributes to each of these goals. Intact habitat utilized by migrating big game supports multiple species and increases the resiliency of forests. Hunting of big game species within national forests contributes to the economic sustainability of many, mostly rural, communities and is important for quality of life and social sustainability in those communities.

There are a number of specific elements of the Rule that directly support the inclusion of management direction for the conservation of migrating big game. Specifically:

- The Rule sets expectations that new forest plan revisions will maintain or restore the ecological integrity of terrestrial and aquatic ecosystems and watershed within the plan area, including maintaining or restoring structure, function, composition, and connectivity (*§ 219.8*).
- The Rule requires taking into account how the plan area contributes to ecological conditions within the broader landscape (*§ 219.8(a)(ii)*), how conditions within the broader landscape may influence sustainability within the plan area (*§ 219.8(a)(iii)*), opportunities for landscape scale restoration (*§ 219.8(a)(vi)*), and opportunities to coordinate with neighboring landowners to link open spaces and consider joint management objectives (*§ 219.10(a)(4)*).
- The Rule requires that plans maintain the diversity of plant and animal communities and the persistence of native species in the plan area (*§ 219.9*). When the USFS cannot provide the conditions to maintain a viable population of a species of conservation concern within a plan area, the Rule requires contributing to maintaining the species within its range, in coordination with managers of other lands relevant to that population (*§ 219.9(b)(2)*).

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<sup>17</sup> Montana Department of Transportation US-93, 2015 <https://www.mdt.mt.gov/pubinvolve/us93info/wildlife-crossings.aspx>

<sup>18</sup> Montana Department of Transportation, Review of Proposal Bighorn Sheep Mitigation Measures Along Highway 200, Thompson Falls, MT, May 2013.

- The Rule requires consideration of habitat conditions for species used by the public for hunting, fishing, trapping, gathering, observing, subsistence, and other activities (§ 219.10(a)(5)). The Rule directs the USFS to collaborate with federally recognized Tribes, Alaska Native Corporations, other federal agencies, and state and local governments when developing plan components to provide for habitat for species used and enjoyed by the public (§ 219.10(a)(5)).
- The USFS is also directed in the Rule to consider the plan area’s role and contribution within a broader landscape (§ 219.7(f)(1(ii))), which is relevant for forests where migration corridors and seasonal habitats span multiple land ownerships and where the plan area plays an important role in the context of the broader landscape.
- On June 23, 2022, [Secretary of Agriculture Tom Vilsack issued Secretarial Memorandum 1077-044](#), directing the U.S. Forest Service to, among other things, develop policy recommendations to conserve wildlife migration corridors.
- Further, a letter signed by the USFS Deputy Chief [Deputy Chief’s letter](#) on August 19, 2022, specifically focused on big game migration. The letter directs Regions to consider “ecological connectivity and wildlife corridors during broad-scale planning associated with the land management planning process and implementation of land management plans through localized project planning and decision making.”

#### **ADDITIONAL POLICIES AND DATA FOCUSED ON WILDLIFE MIGRATION AND WINTER RANGE**

Over the course of the past five years, significant new state and federal policies, research and mapping have been completed on ungulate migrations and winter range that are relevant to, but not considered in the Lolo Forest Plan.

First, in 2018, The Secretary of Interior signed [SO 3362](#), which Directs DOI to work with western states, including Montana to enhance and improve big game winter range and migration corridors. This policy directive was further reinforced by the May 2021 [Conserving and Restoring America the Beautiful Report](#), where the Biden-Harris Administration committed to “Expand Collaborative Conservation of Fish and Wildlife Habitats and Corridors,” and continuing with the implementation of SO 3362. On November 15, 2022, the BLM [issued an Instruction Memorandum](#) (IM) directing staff to inventory areas important for habitat connectivity, including migration corridors, and to include that information in new land use planning processes—as well as project-level review and decisions—and to prioritize proactive conservation and restoration efforts that support habitat connectivity. The IM also set directives for updates to the 6500 fish and wildlife habitat manual.

SO 3362 includes requirements that the BLM:

- Minimize development that would fragment winter range and primary migration corridors.
- Limit disturbance of big game on winter range.

- Utilize other proven actions necessary to conserve and/or restore the vital big-game winter range and migration corridors across the West.
- Update all existing regulations, orders, guidance documents, policies, instructions, manuals, directives, notices, implementing actions, and any other similar actions to be consistent with the requirements in this Order.
- Collaborate with State, tribal, and territorial fish and wildlife agencies to attain or sustain State, tribal, and territorial wildlife population goals during the Department’s land management planning and implementation, including prioritizing active habitat management projects and funding that contributes to achieving wildlife population objectives.
- Consult with State wildlife agencies and bureaus to ensure land use plans are consistent and complementary to one another along the entire wildlife corridor in common instances where winter range or migration corridors span jurisdictional boundaries.

Second, in 2020, the Montana Department of Fish, Wildlife and Parks adopted a [Terrestrial Wildlife Movement and Migration Strategy](#) to focus on migration corridor conservation. The FWP strategy includes Action 5, which directs the agency to “Work collaboratively with local, multi-state, federal, and tribal governments to increase consideration and maintain functionality of wildlife movement and migration in land use, recreation, mining and energy, community and economic development, and transportation planning.” As required by FLPMA (Section 202(c)(9)), and as described in the BLM land use planning handbook, the BLM is required to coordinate with state, local and Tribal governments to “ensure that the BLM considers pertinent provisions of non-BLM plans in managing public lands; seeks to resolve inconsistencies between such plans; and provides ample opportunities for state, local, and Tribal government representatives to comment in the development of BLM’s RMPs.” It seems the alignment of these policies creates an opportunity for the Lolo NF to work with Montana FWP to include migration conservation in the forest plan revision.

Montana FWP has further identified multiple migration corridors and other crucial seasonal habitats in their most recent SO 3362 [State Action Plan](#). These migration routes were derived from FWP’s GPS collar data using a regular Brownian Bridge Movement Model which delineates low, medium, and high-use corridors to elucidate specific habitat types. Crucial stopover habitat for example is defined as the top 10 percent of the population utilization distribution. This new research indicates that stopovers play a key role in the migration strategy of mule deer by allowing individuals to migrate in concert with plant phenology and maximize energy intake rather than speed.<sup>19,20</sup> Additional migratory habitats and winter range that have been observed anecdotally by agency biologists are also known within the Dillon FO and are prioritized for conservation.

#### **BIG GAME MIGRATION AND WINTER RANGE CONSERVATION RECOMMENDATIONS**

Therefore, as the Lolo National Forest work through the Assessment and Plan Revision stages of the planning processes, we offer the following conservation recommendations for consideration and adoption:

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<sup>19</sup>[https://migrationinitiative.org/sites/migration.wygisc.org/themes/responsive\\_blog/images/Sawyer\\_et\\_al\\_2013\\_JAE.pdf](https://migrationinitiative.org/sites/migration.wygisc.org/themes/responsive_blog/images/Sawyer_et_al_2013_JAE.pdf)

<sup>20</sup> <https://www.usgs.gov/publications/stopover-ecology-migratory-ungulate>

- Utilize GPS collar data and credible anecdotal information about big game movement across the forests—including high-priority migration routes and winter ranges—and establish management areas to provide consistent management direction and conservation for these habitats across the planning area.
- Develop standards and guidelines to manage open road and trail densities at or below determined levels, maintain habitat function, manage invasive species, and require the addition of wildlife passages or wildlife-friendly design components for existing and new infrastructure. This includes establishing seasonal restrictions on certain uses to avoid impacts on big game at key stages in their lifecycles, as well as actively managing both motorized and nonmotorized recreation.
- Collaborate with other federal and state agencies, Tribes, and local governments when developing plan components for habitat used by big game species. Specifically, the USFS should work with the Montana Fish, Wildlife and Parks and reference the agency’s mule deer and sheep management plans, as well as its elk management plan currently under revision.
- Prioritize strategic land acquisitions that connect and conserve seasonal habitats, reduce habitat fragmentation, and consolidate management—in conjunction with private, county, state, and Tribal land conservation efforts—to protect important winter ranges that are threatened by development.
- Prioritize vegetation treatments to improve forage quality and reduce conifer encroachment on open grassland meadows, brush fields, and winter ranges. In addition, the plan should specify that livestock grazing in known bighorn sheep ranges should be managed to prioritize maintenance of overwinter forage for bighorn sheep.
- Establish management areas for backcountry conservation to protect habitat security for big game in large blocks of summer range and transitional ranges and to provide for semi-primitive nonmotorized recreation, including hunting and fishing. Incompatible development activities should be restricted and active habitat restoration should be directed, both to restore wildlife habitat and ecosystem function and to facilitate climate resilience and adaptation.

## **COLDWATER FISHERIES**

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The Lolo NF provides critical habitat for cold-water fisheries and provides some of the best native fish habitat in the nation. Larger rivers like the Clark Fork and Blackfoot provide world class recreation and fishing opportunities that support local economies. The headwaters to the Blackfoot River, such as Monture, North Fork Blackfoot, Marshall, Deer, and Belmont Creeks all provide spawning and rearing habitat for westslope cutthroat trout, which is designated as a “sensitive” species on the Lolo NF and bull trout which is listed as “threatened” under the Endangered Species Act. The same can be said for headwaters like Rock, Fish and Little Joe Creeks as they feed into the Clark Fork River.

The fish and aquatic plan components of the revised forest plan should be based on the Region 1 Aquatic and Riparian Conservation Strategy. This strategy considers best available science and adds

elements required in the 2012 planning rule, includes threatened and endangered species and species of conservation concern. The revised plan should identify key watersheds and develop management actions specific to these watersheds that meet obligations in recovery plans and conservation agreements for bull trout and westslope cutthroat trout, such as the Conservation Strategy for Bull Trout on USFS Lands in Western Montana and the MOU and Conservation Agreement for westslope cutthroat trout.<sup>2122</sup> There are serious challenges facing native coldwater fish and their habitats including hybridization with non-native fish and impacts from other invasive species, water quality issues, longer warm seasons and reduced snowpack.

The Rocky Mountain Research Station's [Climate Shield Cold-Water Refuge Streams for Native Trout](#) specifically highlights important refugia in the Pacific Northwest (Washington, Oregon, Idaho, and western Montana) for bull trout and cutthroat trout, species already constrained to high elevations and latitudes. They predict that, under moderate to extreme climate change scenarios, refugia with the highest likelihood of trout persistence will exist on public lands outside National Parks and wilderness areas.<sup>23</sup> They suggest that these areas represent the best options for climate smart watershed protections for bull trout and cutthroat trout, even more heavily underscoring the need for climate refugia to be recognized and protected.

## OUTDOOR RECREATION

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### PRIMITIVE RECREATION OPPORTUNITIES AND INTACT HABITATS ON THE LOLO NF

Inventoried Roadless Areas (IRA) and other unfragmented, backcountry lands occur in all five ranger districts on the Lolo NF (**Attachment D**). These lands offer a unique opportunity for primitive and semi-primitive recreation including hunting and fishing. These lands also provide important security for big game and other wildlife. Although these unfragmented backcountry lands often overlap with inventoried roadless areas, this isn't always the case. We appreciate the inclusion of these unfragmented backcountry lands that focus on providing quality hunting and fishing opportunities and we support efforts to maintain the unfragmented character of these lands. We recommend that the Lolo NF recognize the value of these lands that fall between wilderness and the roaded front country.

TRCP supports the conservation of Inventoried Roadless Areas on the Lolo NF. These areas provide important habitat security for deer, elk, and other species of big game and they supply clean and cold water to Montana's premier trout streams. We support objectives for IRAs that propose management that will maintain the roadless and undeveloped character of these backcountry lands, while simultaneously allowing for active habitat restoration projects that are consistent with the stipulations specified in the 2001 Roadless Area Conservation Rule. The recently revised Helena-Lewis and Clark National Forest Plan calls for 216,866 acres of additional primitive recreation areas that are mostly undeveloped. These areas provide additional recreation opportunities to help meet increasing demand,

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<sup>21</sup> USDA Conservation Strategy for Bull Trout on USFS lands in Western Montana. May 2013.

<sup>22</sup> MOU and Conservation Agreement for Cutthroat Trout. July 2007.

<sup>23</sup> Issak, Daniel J., et.al.,2015. Global Change Biology. 21:2540-2553.

require less maintenance, while maintaining intact habitats for aquatic and terrestrial wildlife. We encourage the Lolo NF to review this element of the Helena-Lewis and Clark forest plan and consider a similar approach in relevant areas.

#### **INCREASED RECREATIONAL USE AND PRESSURE ON WILDLIFE RESOURCES**

Montana's human population growth rate ranks sixth in the nation and second in the Mountain-West region.<sup>24</sup> Western Montana counties are seeing double digit population increases and surges in tourism and visitation. Two of the four Montana counties with the most outdoor industry jobs are in counties adjacent to the Lolo NF. Montana outdoor recreation activities appear to be at an all-time high. Especially camping, boating, hunting, hiking, mountain biking, and OHV use. The Center for Western Priorities recently reported that the estimated occupancy of reservable campsites in western Montana increased by 64% from 2014-2020.<sup>25</sup> According to Montana Fish, Wildlife and Parks, the volume of people recorded getting on and off the Blackfoot River had doubled since 2020.<sup>26</sup>

Further, the Lolo NF has received increased pressure for mountain bike, E-bikes, OHV and hiking trail expansion, demonstrating the continued increase of recreational demands in this area of the state.<sup>27</sup> Recent land acquisitions by federal, state and local governments have spurred increased requests for both motorized and non-motorized recreational opportunities. Examples include Deep Creek Lolo NF, Fish Creek Wildlife Management Area and State Park, and Marshall Mountain.

There is a growing body of scientific research on the impacts of trail-based recreation activities on big game, particularly elk populations. Wildlife researchers in Colorado have documented that unrestrained trail-based recreation during the summer calving season disturbs elk and can negatively impact elk calf survival, resulting in negative impacts to elk populations. There is also evidence that removal of recreation disturbance during summer calving can increase survival rates and bolster elk populations.

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The Lolo NF contains, or is adjacent to, several heavily used, urban interfacing, recreation areas which include the Rattlesnake National Recreation Area, Patty Canyon, Blue Mountain, Seeley Lake and its chain of Lakes, and the newly expanding Mount Dean Stone. Recent increases in recreational use are also occurring in Mineral County as visitation from the states of Washington and Idaho continues to increase.

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<sup>24</sup> [https://helenair.com/news/state-and-regional/govt-and-politics/montana-continues-trend-of-high-population-growth/article\\_c57b10c6-9cbc-5c45-b624-9016a657bc8e.html](https://helenair.com/news/state-and-regional/govt-and-politics/montana-continues-trend-of-high-population-growth/article_c57b10c6-9cbc-5c45-b624-9016a657bc8e.html)

<sup>25</sup> <https://bigskybusinessjournal.com>, November 17, 2021.

<sup>26</sup> <https://kpax.com/news/western-montana-news-committee-stumped-how-to-manage-blackfoot-recreation>.

<sup>27</sup> Personal conversation. Katy Knote, Recreation Manager, Lolo NF

<sup>28</sup> Hillis, J. M., M. J. Thompson, J. E. Canfield, L. J. Lyon, and T. N. Lonner. 1991. Defining elk security: The Hillis paradigm. In Proceedings elk vulnerability symposium, eds. A. G. Christensen, L. J. Lyon, and T. N. Lonner, 3 8-43. Bozeman, Montana: Montana State University.

<sup>29</sup> Wisdom, M. J., H. K. Preisler, L.M. Naylor, R.G. Anthony, B.K. Johnson, M.M. Rowland. 2018. Elk response to trail-based recreation on public forests. *Forest Ecology and Management* 411 (2018) 223-233. <https://doi.org/10.1016/j.foreco.2018.01.032>

The Lolo NF revision for recreation should ensure that surging recreation demands be managed to minimize impacts on wildlife and to not displace traditional recreational opportunities including hunting and fishing. It is important to note that moving away from a Management Prescription Emphasis and ROS of “Semi-Primitive Nonmotorized Recreation Opportunity” to one with higher road and trail densities and more motorized use will decrease quality hunting and wildlife viewing opportunities in these habitats.

Wildlife habitat fragmentation (impacting habitat function) and wildlife distribution (especially with species like elk) is greatly affected by other recreational uses on the Forest. This makes wildlife a key consideration for planning other recreational uses to avoid recreation conflicts and potential impacts to adjacent private landowners from game damage. For example, expanded winter recreation and development of a winter ROS in crucial big game winter ranges without spatial and temporal management standards designed specifically to avoid displacing wintering wildlife, could negatively impact big game populations and affect future hunting opportunities. MTFWP can assist with identification of crucial big game winter ranges and the development of a detailed spatial and temporal use analysis to coordinate winter recreation activities and the development of a winter ROS so that both recreational opportunities are maintained. Please add this information to your list of identified potential conflicts and ideas to address them. The Draft Grand Mesa, Uncampahgre and Gunnison National Forest Plan contains proposed language addressing habitat fragmentation, security habitat for wildlife, and road and trail density standards. We encourage the Lolo NF to review those proposed standards for possible inclusion in the revised Lolo Forest Plan.

#### **RECREATION RECOMMENDATIONS**

We encourage the Lolo NF to be proactive in planning recreation settings, recreation interactions, and to mitigate wildlife impacts from recreation, the Lolo NF should reevaluate OHV designations to consider if additional area closures—including seasonal closures—are necessary to protect sensitive habitats.

The Lolo NF should establish recreational trail density limits in areas where high densities of recreation could negatively impact wildlife habitat utilization by big game species. Based on current research, to be most effective, these trail densities (and potential seasonal area closures) should include both motorized and nonmotorized recreation. Woody Mountain and Mittower Gulch make up an area of valuable big game winter range where this should be considered.

Finally, the Lolo NF should evaluate if the motorized route designation and density principles to be specified in the forest plan revision, given increased recreation pressure, are adequate.

#### **GEOGRAPHIC AREAS, MANAGEMENT AREAS AND SPECIAL PLACES**

Geographic areas (GAs) and management areas (MAs) allow land managers to assign plan components to a subsection of a forest or grassland. GAs are spatially contiguous areas that are smaller than the plan area, and can be used to add, modify or prioritize plan components to reflect social, economic or ecologic conditions present in that area. MAs are non-contiguous areas within a forest or grassland that can provide consistent management direction for a particular resource that is present in multiple places across a plan area, like streams or big game habitat, or for a particular need, like fire management. Plans use GAs and MAs to apply a set of plan components to specific mapped parcels of land or to land with specific characteristics (e.g. streams, roads, wetlands). The Flathead National Forest final plan included

an integrated set of plan components that applied forest-wide, and in 6 geographic areas and 7 management areas (further subdivided into 16 management area categories). A few examples of special places for Lolo NF to consider for these areas include South Fork of Lolo Creek, recently acquired Lolo NF lands between Highway 12 and Petty Creek, Fish Creek, Fisher-Thompson drainages, and the winter range bench lands that wrap around the Scapegoat and Bob Marshall Wilderness Areas.

## **RECOMMENDED WILDERNESS**

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While TRCP doesn't heavily engage on wilderness issues we do recognize that the designation is appropriate for certain lands that have sizeable, natural, undeveloped, primitive characteristics, and have been vetted and supported by local collaborative efforts to be included in the Wilderness Preservation System. Below are lands where TRCP has formally supported new wilderness designations.

### **GREAT BURN PORTION OF THE LOLO NATIONAL FOREST**

The Great Burn/Hoodoo recommended wilderness encompasses about 250,000 acres of inventoried roadless area on both the Lolo and Nez Perce-Clearwater National Forests. The area is an important corridor linking Crown of the Continent-Cabinet Yaak ecosystems with the Yellowstone ecosystem. It is important habitat for big game, grizzly bears, wolverines, lynx, and native Mountain Goats. Its cold-water fisheries support important west slope cutthroat trout and bull trout populations and the significant number of accessible high mountain lakes provide exceptional recreation opportunities. The area also contains significant wetland habitats as well as important archaeological sites. The Great Burn has long been a destination of outfitters and do it yourself backcountry hunters and anglers, and TRCP supports a USFS recommendation that the Great Burn Roadless Area be wilderness.

### **SCAPEGOAT AND BOB MARSHALL WILDERNESS ADDITIONS**

These relatively intact forested habitats in Grizzly Basin of the Swan Range, the North Fork Blackfoot River, and Monture Creek are important migratory and transitional range for elk and other big game as well as important cold-water fisheries. They also provide unique big game backcountry hunting opportunities. Large numbers of elk calve and summer in the adjacent Bob Marshall, Scapegoat, and Mission Mountains Wilderness areas located on the northernmost extent of the Lolo NF. These areas have been examined through local collaborative efforts for their wilderness character and have broad public support for their inclusion into the National Wilderness Preservation System. These lands are also included in the [proposed Blackfoot Clearwater Stewardship Act](#) that has broad public support in Montana. These lands also provide an important buffer to the North Hills located on the Lolo NF's Seeley Ranger District just north of the Blackfoot Clearwater Game Range. During the forest plan revision process, the Lolo NF should consider for recommendation the lands proposed for wilderness in the Blackfoot Clearwater Stewardship Act.

## **FOREST HEALTH**

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### **CLIMATE CHANGE AND FIRE SUPPRESSION**

Climate change is complicating the ability of the nation's forests to "sustain the health and productivity" of forestlands (USFS mission) and secure "favorable conditions of water flows" (Organic Act of 1897) in the nation's headwaters. Challenges include the need for the USFS to shift from focusing on historic

conditions to anticipating and managing for an uncertain future and the need for more specific guidance on climate adaptation actions. With over 2 million acres of varied landscape providing diverse vegetation, wildlife habitat, water resources, and recreational opportunities, The Lolo NF should continue to proactively understand potential impacts from climate change to better manage its outstanding natural resources and maintain maximum ecosystem resiliency.

Global changes, both natural and human caused, have led to large-scale changes in the role of fire in forest management. Fire exclusion in forests with low amounts of rain and long, dry seasons have led to increased susceptibility to wildfire particularly when compounded by human activities like conversion of land to agriculture, domestic livestock grazing, horizontal construction (e.g. roads, railroads, highways, bridges, etc.), urbanization, and selective logging of larger, fire-resistant trees.<sup>30 31</sup> In addition to human impacts, the landscape of terrestrial plants has been altered by changes in climate resulting in ecosystem stressors such as extended periods of drought, more extreme temperatures, the spread of invasive plants, and changes in soil moisture. The collective consequences of climate change and fire suppression have increased forest density and fuel buildup in forests that have historically been characterized by frequent, low-severity and mixed-severity fires resulting in increased frequency, extent, and severity of wildfires.<sup>32</sup> According to the 2021 Lolo NF Annual Report, there were 167 wildfires burned on the Lolo NF<sup>33</sup> A slightly above average wildfire season for the Forest. Sixty-seven of those fires were lightning caused and 100 were human caused.

The benefits of prescribed fire include reducing hazardous fuels, the spread of disease and pest insects, and adverse impacts of invasive species. Prescribed fires also help soils recycle nutrients making them more available to actively growing vegetation which supports availability of forage for big game wildlife.<sup>34</sup> The framework of existing forest plans is shaped by land use allocations and global trends that should be revisited and modified to reflect contemporary assessments of ecosystem impacts associated with climate change and best management practices. Successfully prescribed fires reduce devastating wildfire risks. Burning at scheduled times, in designated areas, and under proper environmental conditions preserves habitats and protects natural resources. Prescribed burning is becoming more prevalent as a tool to mitigate the potentially damaging effects of increased fuel loads and to restore natural ecosystem processes.

#### **ACTIVE FOREST MANAGEMENT AND RESTORATION**

TRCP is supportive of active management on Lolo NF lands to restore and enhance wildlife habitat. Well-designed active management projects in the form of vegetative treatments can help to create early successional habitats on the landscape and improve big game forage conditions, while protecting priority watersheds. Recent federal legislation such as the Inflation Reduction Act, Bipartisan Infrastructure Law and the reauthorization of the Collaborative Forest Landscape Restoration Program will drive additional funding for management activities such as non-commercial thinning, prescribed

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<sup>30</sup> National Park Service, Retrieved April 5, 2023. <https://www.nps.gov/articles/000/plants-climateimpacts.htm>

<sup>31</sup> Agee, J.K. and Skinner, C.N. (2005). Basic Principles of Forest Fuel Reduction Treatments, *Forest Ecology and Management*, 211 (1-2), 83-96.

<sup>32</sup> Halofsky, J. E., Peterson, D.L., Harvey, B.J. (2020). Changing Wildfire, Changing Forests: Effects of Climate Change on Fire Regimes and Vegetation in the Pacific NW, USA. *Fire Ecology*, 16 (1), 1-26.

<sup>33</sup> Lolo NF, Retrieved April 6, 2023. [www.fs.usda.gov/detailfull/lolo/home/2021](http://www.fs.usda.gov/detailfull/lolo/home/2021) annual report.htm

<sup>34</sup> USDA. Prescribed Fire. U.S. Forest Service. Retrieved April 12, 2023, from <https://www.fs.usda.gov/managing-land/prescribed> fire.

fires, reforestation, weed treatments and other forest health activities. TRCP supports the continued efforts to implement the Good Neighbor Authority program to increase the pace and scale of restoration on forested lands by leveraging state resources and increased collaborative and partnership efforts. Additional programs like Shared Stewardship, Stewardship Contracting and the Tribal Forest Protection Act help increase partnerships, leverage funding, and expedite project initiation. We also encourage Lolo NF to increase the number and scale of active management projects that improve wildlife habitat and coordinate those efforts in accordance with the State of Montana Forest Action Plan. **(Attachment C).**

## CONCLUSION

Land-use plans written 35 years ago cannot adequately provide for the conservation of big game and fisheries habitats on the rapidly changing landscape of western Montana. A seemingly limitless demand for outdoor recreation opportunities, the growing presence of noxious weeds, and the impact of decades of fire suppression and warming conditions on forest health are putting new pressures on wildlife and habitat. Simultaneously, exploding exurban development continues to fragment winter and transitional ranges for elk and deer on private lands.

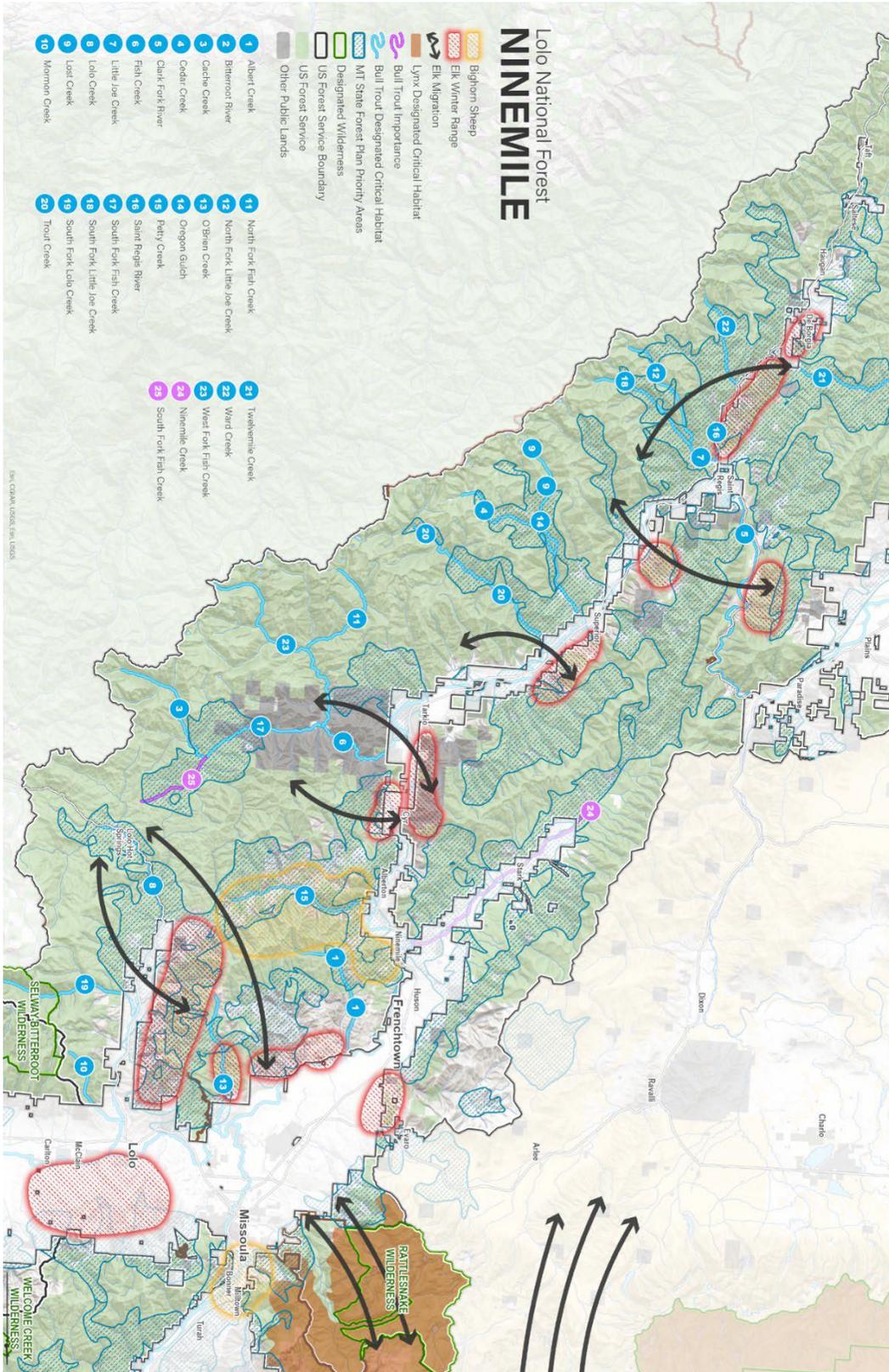
Fortunately, new research on migration corridors and winter ranges, a greater understanding of wildlife habitat needs, and policies have been created that provide meaningful opportunities to conserve and restore these habitats. The TRCP hopes that these recommendations will serve as a resource that can be utilized by the Lolo NF to inform the planning assessment processes and help the agency set meaningful planning objectives, standards, and guidelines that conserve and restore these important migratory, winter range, and other intact habitats, exploding recreational demands, and active forest management for decades to come.

For more information, contact:

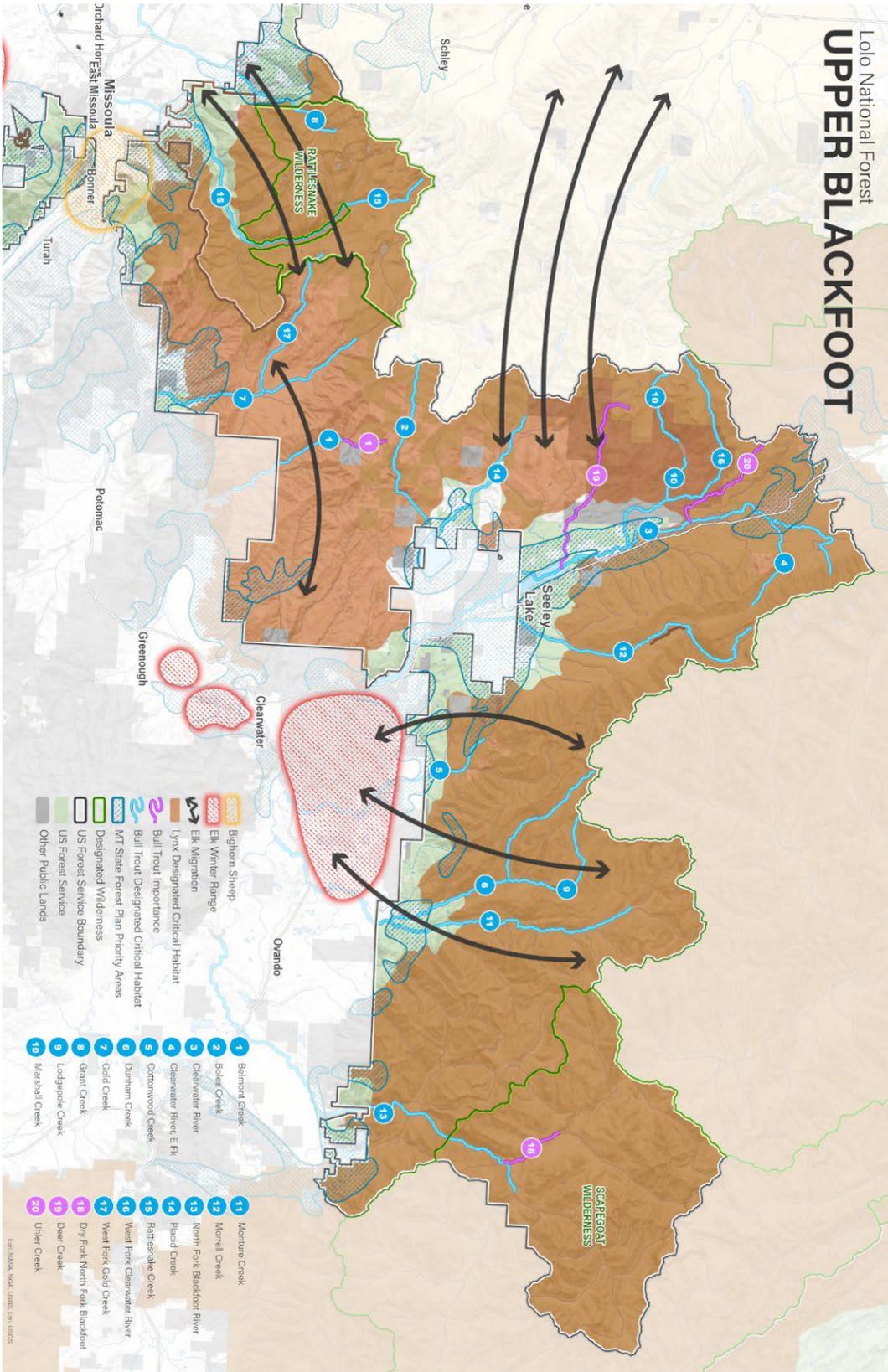


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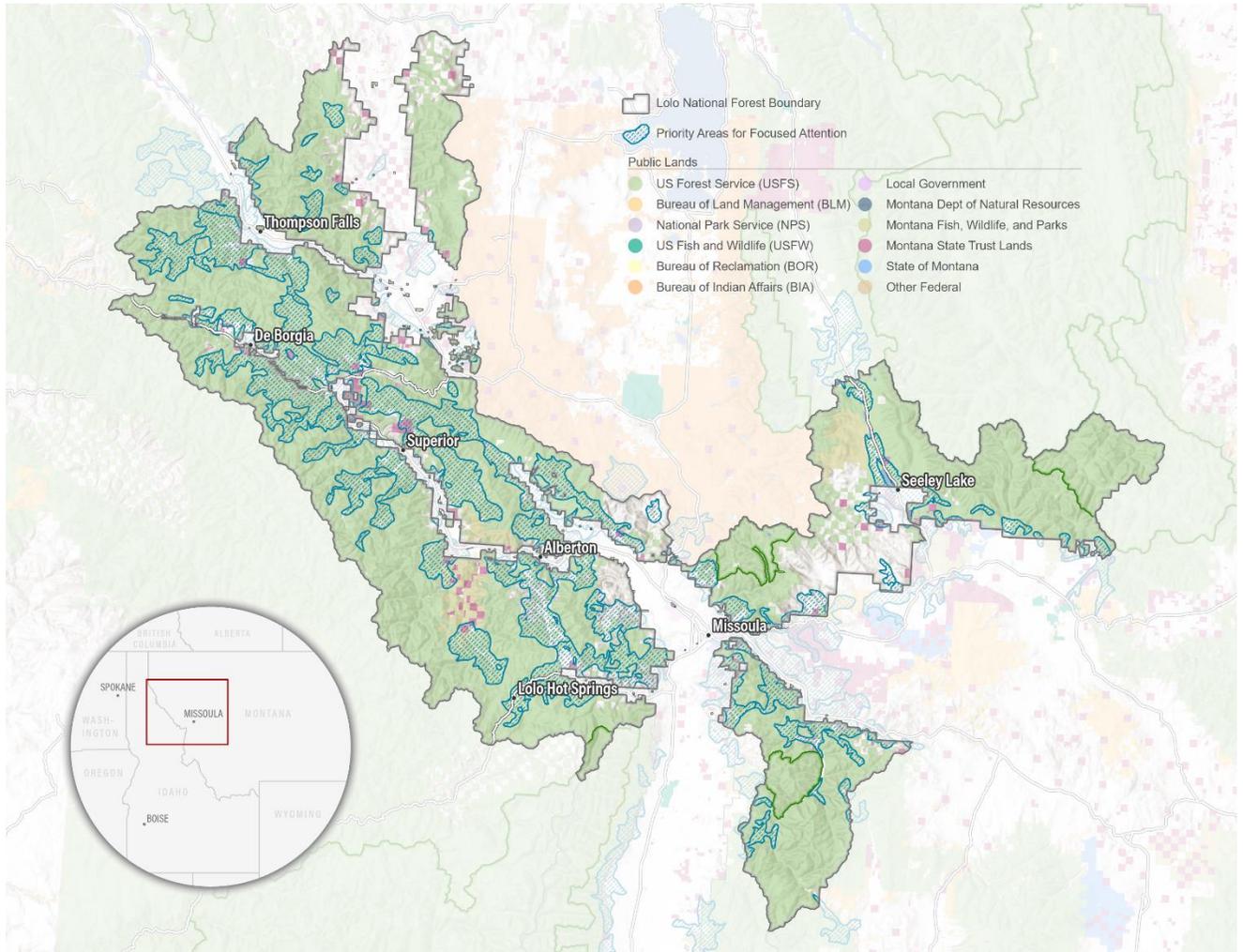
Attachment A. Ninemile map



Attachment B. Upper Blackfoot map



Attachment C. Lolo NF Priority Attention Area



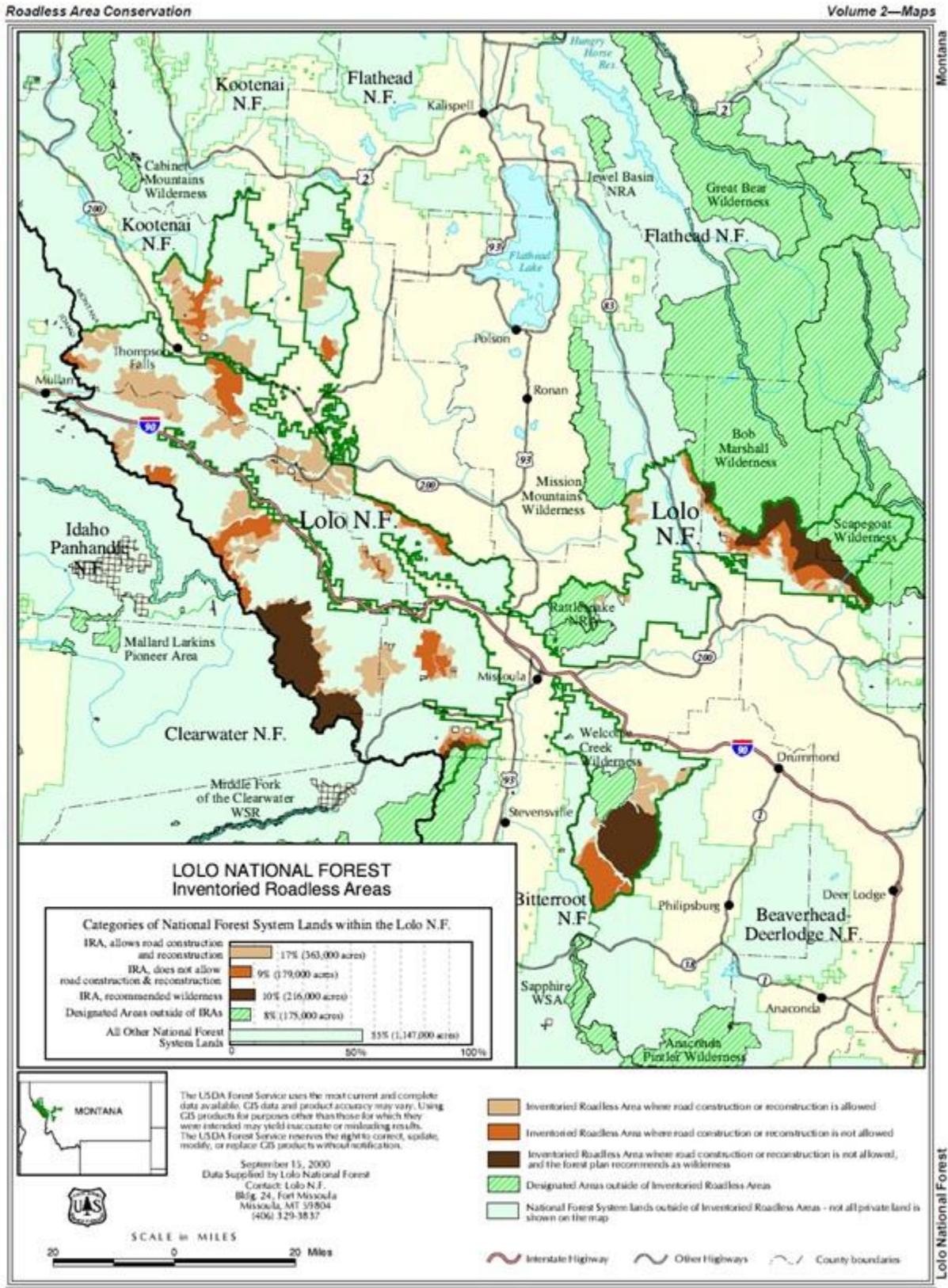


Table 1. Population state of bighorn sheep by hunting district and various threats to

| Herd Unit Name             | H.D. | Threats to Population |            |                   |             |                  |            |                      |                  |               |       |                      |               |
|----------------------------|------|-----------------------|------------|-------------------|-------------|------------------|------------|----------------------|------------------|---------------|-------|----------------------|---------------|
|                            |      | Predation             | Dom. Sheep | Weed Control/Dom. | Hobby Sheep | 3/ Human Develop | Road Kills | Conifer Encroachment | Small Range Size | Noxious Weeds | ATV's | Wildlife Competition | Social Limits |
| Kootenai Falls             | 100  |                       |            |                   | X           | X                | X          | X                    |                  |               |       |                      |               |
| Ural-Tweed                 | 101  |                       |            |                   |             |                  |            | X                    |                  |               |       |                      |               |
| Galton Range               | 102  |                       | X          |                   |             |                  |            | X                    |                  | X             |       |                      |               |
| North Clark Fork           | 121  |                       |            |                   | X           |                  | X          | X                    |                  |               |       |                      |               |
| Clark Fork Cut-Off         | 122  |                       |            |                   | X           |                  | X          | X                    |                  | X             |       |                      |               |
| Cabinet Mountains          | 123  |                       |            |                   | X           |                  | X          | X                    |                  | X             |       |                      | X             |
| Paradise                   | 124  |                       |            |                   | X           |                  | X          | X                    |                  | X             |       |                      |               |
| Wildhorse Island           |      |                       |            |                   |             |                  |            | X                    |                  | X             |       |                      |               |
| Grave Creek Range          | 203  |                       |            |                   | X           | X                | X          | X                    |                  | X             | X     |                      |               |
| John Long Range            | 210  |                       | X          |                   |             | X                | X          | X                    |                  | X             |       |                      |               |
| Garrison                   | 212  |                       | X          | X                 |             | X                |            | X                    |                  | X             |       |                      |               |
| Lost Creek                 | 213  |                       | X          | X                 | X           | X                |            | X                    |                  | X             |       |                      |               |
| West Rock Creek-Quigg Peak | 216  |                       |            | X                 | X           |                  |            | X                    |                  | X             |       |                      |               |
| Watchtower                 | 1/   |                       |            |                   |             |                  |            | X                    |                  | X             |       |                      |               |
| Paint. Rocks               | 250  |                       | X          |                   |             |                  |            |                      |                  | X             |       |                      |               |
| Skalkaho                   | 261  |                       | X          |                   | X           | X                | X          | X                    |                  | X             | X     |                      |               |
| E. Bitterroot              | 270  |                       | X          |                   | X           | X                | X          | X                    |                  | X             |       |                      |               |
| Lower Blackfoot            | 283  |                       |            | X                 | X           | X                | X          | X                    |                  | X             |       |                      | X             |
| 2/<br>Gallatin-Yellowstone | 300  |                       |            |                   |             | X                |            |                      |                  |               |       |                      |               |
| Spanish Peaks              | 301  |                       | X          |                   |             | X                | X          | X                    |                  |               | X     |                      |               |
| Hilgard                    | 302  |                       | X          | X                 |             |                  | X          |                      |                  |               |       | X                    |               |
| South Absaroka             | 303  |                       |            |                   |             |                  |            |                      |                  |               |       |                      |               |
| Hyalite                    | 304  |                       |            |                   |             |                  |            |                      |                  |               |       |                      |               |
| South Yellowstone          | 305  |                       |            |                   |             |                  |            |                      |                  |               |       |                      |               |
| Tendoy Mountains           | 315  |                       | X          |                   |             | X                |            |                      |                  |               |       |                      |               |
| Highland Mountains         | 340  |                       |            |                   | X           | X                | X          | X                    |                  | X             |       |                      |               |