Helena-Lewis and Clark National Forest Inventoried Roadless Area Monitoring Project

NEVADA MOUNTAIN INVENTORIED ROADLESS AREA ASSESSMENT

Helena Hunters and Anglers Association

September 2024

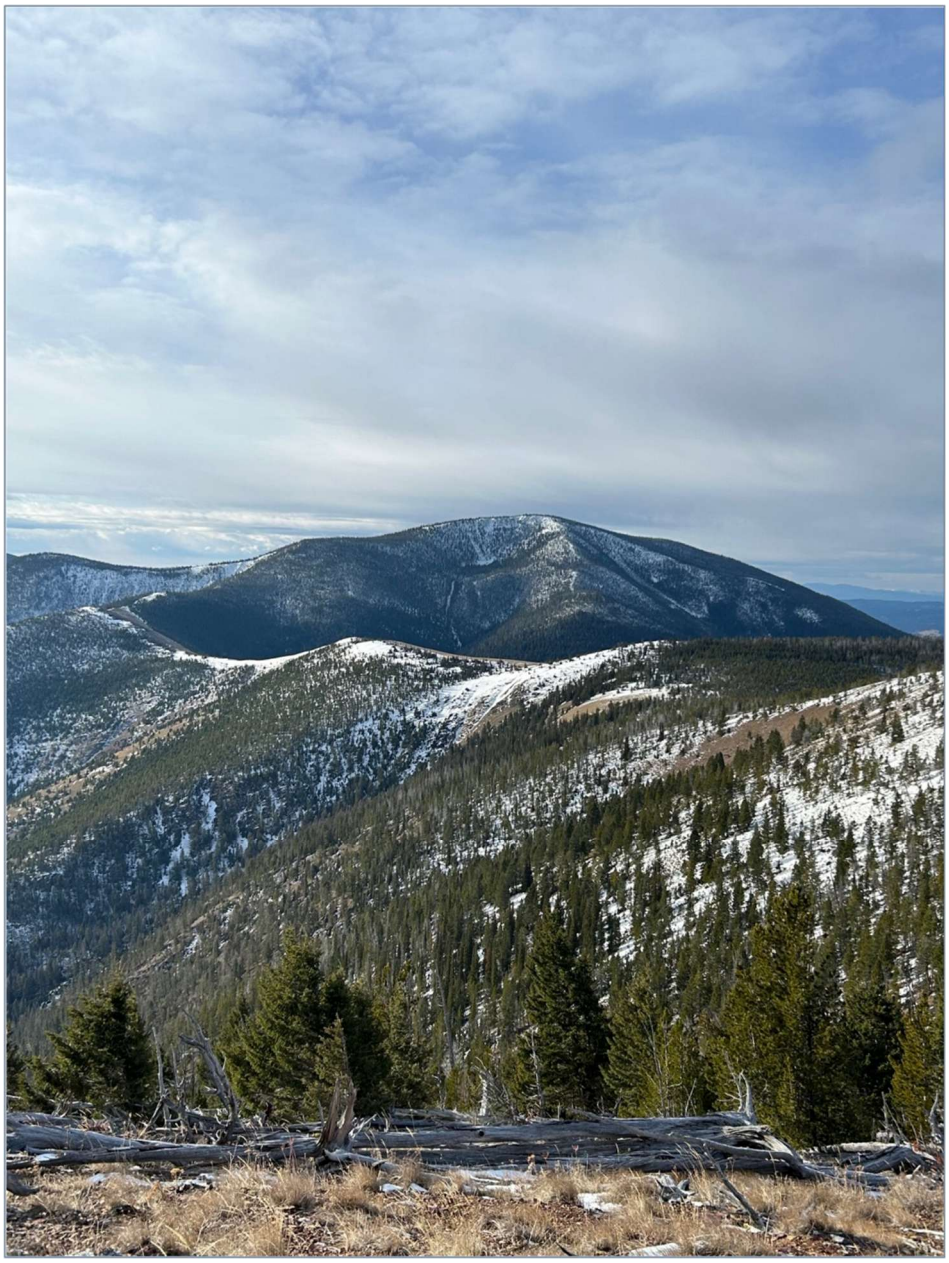


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ABSTRACT

Helena Hunters and Anglers Association (HHAA) implemented a monitoring program designed to assess the status and trends in condition of Inventoried Roadless Areas (IRAs) on the Helena – Lewis and Clark National Forest in 2022. Monitoring focus was on boundary condition, hydrology, wildlife, vegetation, human use and violations, and other observations. The Nevada Mountain IRA area was surveyed in 2022-2024 and represents one of the largest IRAs on the Forest.

An aerial overflight documented user created motorized routes. Field surveys showed good boundary signage in many areas and signage needs and travel plan enforcement in others.

Impacts to riparian areas from noxious weeds and unlawful grazing intrusions were quantified. The relationship between streamflows, which were at record lows in 2024, riparian condition, and resident/remnant bull trout and west slope cutthroat are discussed.

Wildlife habitat is excellent, although threats are discussed. All native species were present and biodiversity was high. The new Forest Plan Recommended Wilderness (RW) designation will be a positive factor in protecting wildlife habitat and security values. However, this designation does not include all of the Nevada Mountain IRA and has not been implemented. Motorized trapping documented in 2023 could pose a threat to some wildlife species, particularly lynx and wolverine.

Most of the forest is in mid- to late-seral stage. Forest conditions are discussed and a trend toward early-seral stage is occurring in many areas. Wildfire, an important natural ecological process, has been largely excluded from the IRA for at least the past 80 years. This lack of the natural fire regime has had some impacts on the area in forest composition for structure, age and species.

Recreational use appears to be concentrated along the CDNST where use was seasonally heavy. Portions of the trail are in need of maintenance, and a “leave no trace” ethic needs to be stressed. Mechanized/bicycle use was not apparent within the central portion of the Nevada Mountain IRA. Several abandoned hunting camps were documented. Illegal trail/travel route clearing work was documented in several locations.

HHAA recommends that agency monitoring be activated for Travel Plan enforcement, illegal grazing, noxious weed control, and enforcement of other illegal activities. Permanent signs at entry points into the IRA and new RW stating use restrictions, are needed.

This report was prepared by Helena Hunters and Anglers Association members Gary Ingman, Gayle Joslin, Dennis Milburn, Doug Powell, and Camie Westfall.

BACKGROUND AND INTRODUCTION

Helena Hunters and Anglers Association (HHAA) is a small but dedicated group of volunteers who care deeply about Montana's wildlife, wild places and public lands. Our conservation focus emphasizes local public land roadless areas, big game security, travel management, local Fish, Wildlife and Parks Wildlife Management Areas, and ethical hunting and fishing.

We, as twenty-first century Montanans, have inherited an incredible legacy of publicly owned lands and waters that support a diverse array of wildlife and fish, belonging to us all. Our American system of public lands and North American Model of Wildlife Conservation are unique in the world. As hunter-conservationists, we feel a profound responsibility to protect what we have inherited and to improve on it where possible. Unfortunately, there have always been, and always will be, those who seek to destroy this legacy for profit. We believe in constant vigilance and holding public land and wildlife managers to account, encouraging them towards even better stewardship and conservation-minded management. There is much work to be done.

HHAA members have a very long history of advocating for protective management of the numerous Inventoried Roadless Areas (IRAs) included within the 2,883,227 acre Helena-Lewis and Clark National Forest. In fact, more than one-half of the Forest (nearly 1.5 million consists of designated IRAs acres (Figure 1.) These IRAs represent some of the best remaining habitat for sensitive and endangered species including grizzly bear, lynx, wolverine, gray wolf, and bull trout. They also represent the most intact remaining big game security areas that help to sustain elk and deer populations in the face of increasing hunting pressure. Collectively, the IRAs represent stepping stones across the landscape that help maintain linkage corridors between increasingly isolated wildlife populations. They allow for the transfer of genetic material between sub-populations of wildlife. And here, along the Continental Divide – the major movement corridor on the Continent for large carnivores – these IRAs could not be more important.

The major factor contributing to wildlife habitat fragmentation and thus population isolation are roads. A synthesis of scientific information regarding forest roads (Gucinski, et al., 2001, https://research.fs.usda.gov/treesearch/7769) acknowledges that hydrologic basins with the highest ecological integrity index were largely unroaded; that road densities and fish populations correlate negatively; and that roads can increase harassment, poaching, collision with vehicles and displacement of terrestrial wildlife. The report details both negative and positive (economic) value of roads, but recognizes that roads foreclose options for wilderness designation, nonmotorized recreation, and various types of wildlife refugia.

The Conservation Value of National Forest Roadless Lands reported on by McKinley et al. in 2020 (https://conbio.onlinelibrary.wiley.com/doi/full/10.1111/csp2.288), details the ecological effects of roads; iterates the beneficial aspects of roadless country including to biodiversity, hydrology, and total carbon capture by protected areas; and describes the perils of development-driven attrition of roadless lands throughout the United States.

Other values associated with IRAs include high elevation snowpack areas that sustain streamflow for downstream fisheries, irrigation, municipal and industrial water supplies, and hydropower production. They also provide high quality dispersed human recreational opportunities such as hiking, hunting, foraging, wildlife viewing, and solitude. Ecological integrity and biodiversity associated with the IRAs provide a scientific baseline against which we can compare the long-term effects of adjacent development activities and influences of climate change, forest succession, insect infestations, and other variables in a natural setting. HHAA has continued to defend these areas against repeated development proposals and has promoted their importance on a local level, and at a larger ecological scale.

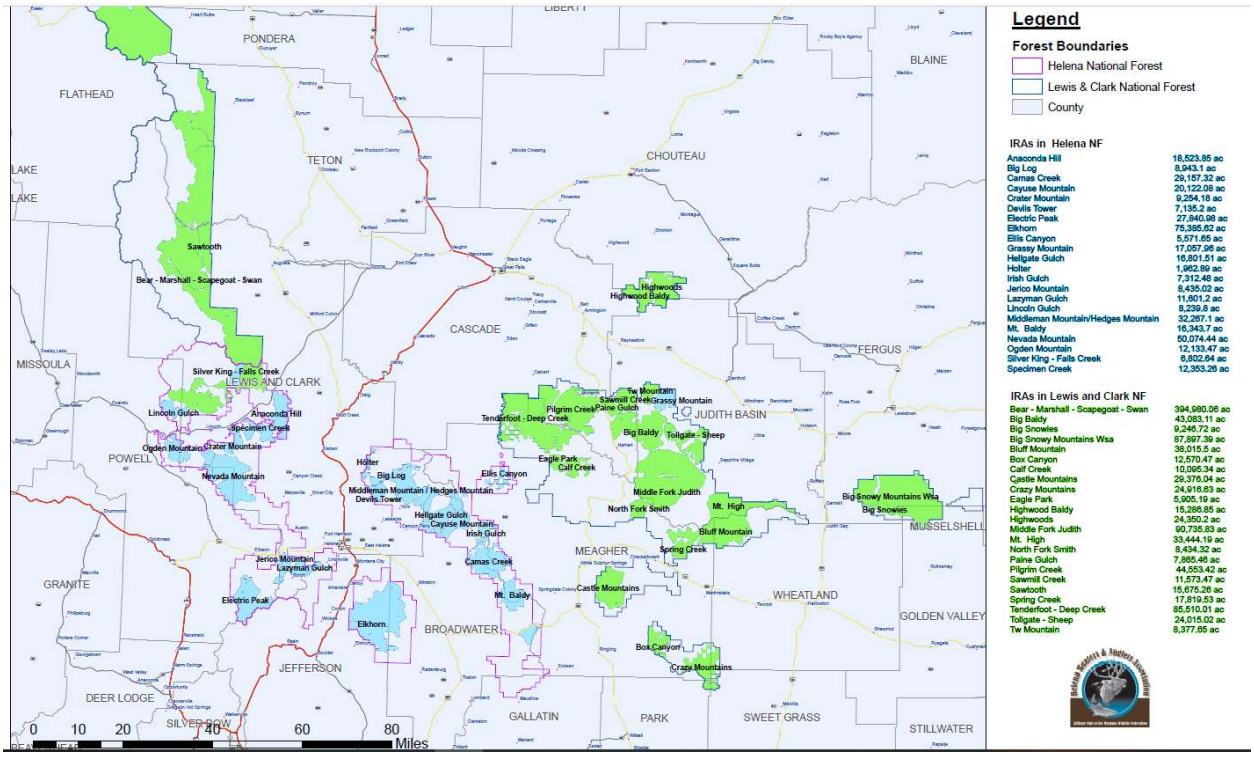


Figure 1. Helena-Lewis and Clark National Forest Inventoried Roadless Areas.

We have recently developed a monitoring program utilizing HHAA members and volunteers to gauge the status and trends in condition of the Helena Forest's IRAs. We believe that engaging our local citizenry in this monitoring effort will instill stewardship and build advocacy for protecting these areas. We plan to present monitoring results to the public and the land managers.

Initially, we developed maps and tables listing the IRAs and their acreages and then we prioritized them for monitoring. Monitoring entails a two-tiered approach beginning with an aerial overflight of each area. The aerial surveys are intended to provide a high-level screening that is then validated with on-the-ground surveys. Aerial and field monitoring together evaluate conditions relating to:

- Physical area, boundary condition and encroachment
- Wildlife habitat and ecological integrity

- Human use and activity

Presentation of results includes an assessment of ecological conditions (wildlife, vegetation, hydrology, etc.), human usage (recreation and other uses), and management direction and other factors that could influence the integrity of each IRA over the long term. Protocols for monitoring were developed in 2022 and field tested in 2023. Aerial and field monitoring was completed in 2024 for the Lazyman and Nevada Mountain IRAs. This assessment report represents the first product from this effort and provides an initial "report card" for the Nevada Mountain IRA.

2001 Roadless Rule

Designation of Helena-Lewis and Clark National Forest's Inventoried Roadless Areas, their prescribed uses, and our basis for monitoring stem from the *2001 Roadless Area Conservation Rule* (36 CFR, Part 294, 66 Federal Register 3244-3272, Jan. 12, 2001). IRAs represent a non-legislative, potentially non-permanent protected status. In addition to the Roadless Rule, the Helena-Lewis and Clark National Forest is managed for a variety of uses under the provisions of the *2021 Land Management Plan, Helena Lewis and Clark National Forest* (USDA Forest Service, R1-20-16, October 2021) and the associated Forest Travel Plans.

Management goals for Inventoried Roadless Areas are defined in the *Roadless Area Conservation Final Rule.* Individual IRAs are identified and mapped in the *Forest Service Roadless Area Conservation, Final Environmental Impact Statement, Volume 2*, dated November 2000. The definition of a roadless area for the 2001 Roadless Rule included: undeveloped areas typically exceeding 5,000 acres that meet the minimum criteria for Wilderness consideration under the Wilderness Act and that were inventoried during the Forest Service's *Roadless Area Review and Evaluation (RARE II)* process, subsequent assessments, or forest planning.

The 2001 Rule described IRAs as potentially having some or all of the following characteristics (known as roadless area characteristics):

- High-quality or undisturbed soil, water, or air;
- Sources of public drinking water;
- A high diversity of plant and animal communities;
- Habitat for threatened, endangered, proposed, candidate, and sensitive species and for species dependent on large, undisturbed areas of land;
- Primitive, semi-primitive non-motorized and semi-primitive motorized classes of dispersed recreation;
- Reference landscapes;
- Natural appearing landscapes with high scenic quality;
- Traditional cultural properties and sacred sites; and
- Other locally identified unique characteristics.

The 2001 Roadless Rule establishes prohibitions and permissions on road construction, road reconstruction, and timber harvesting within designated IRAs. The Roadless Rule prohibits activities that have the greatest likelihood of altering and fragmenting landscapes, resulting in immediate, long-term loss of roadless area values and characteristics, and eliminates permanent road construction and reconstruction. "The unique contribution of inventoried roadless areas is important in maintaining habitats, natural processes, and remote recreation opportunities in the regional and national network of protected lands. Management activities shall follow direction found in the 2001 Roadless Rule (36 CFR 294 Subpart B, published at 66 Fed Reg. 3244-3273). There are approximately 1,499,181 acres of inventoried roadless areas within the HLCNF" (*2021 Land Management Plan, Helena Lewis and Clark National Forest*, October 2021). As previously mentioned, IRAs constitute approximately 50 percent of the entire land administered by the Forest.

Priority IRAs for Monitoring in 2022-2026

HHAA plans to monitor 22 IRAs totaling 403,319 acres that are located within the Helena National Forest portion of the HLCNF (Table 1). Initially, we decided to focus on the Continental Divide Landscape portion of the Helena Forest. Realistically, we can only expect to monitor two or three IRAs each year. IRAs targeted for monitoring in the first few years of our effort will include: Lazyman Gulch (11,601 acres), Nevada Mountain (50,074 acres), Jericho Mountain (8,435 acres), Electric Peak (27,841 acres, 2024), Ogden Mountain (12,133 acres), Crater Mountain (9,254 acres), Anaconda Hill (18,524 acres), Lincoln Gulch (8,240 acres), Specimen Creek (12,353 acres), and Silver King-Falls Creek (6,803 acres). Lazyman Gulch and Nevada Mountain were inventoried in 2022-2024. Jericho Mountain and Electric Peak will follow in 2024-2025.

Table 1. Inventoried Roadless Areas on the Helena National Forest portion of the HLCNF

INVENTORIED ROADLESS AREAS on the Helena National Forest	**ACRES**
Anaconda Hill	18,525.85
Big Log	8,943.10
Camas Creek	29,157.32
Cayuse Mountain	20,122.08
Crater Mountain	9,254.18
Devils Tower	7,135.20
Electric Peak	27,840.98
Elkhorn	75,385.62
Ellis Canyon	5,571.65
Grassy Mountain	17,057.96
Hellgate Gulch	16,801.51
Holter	1,962.89
Irish Gulch	7,312.48
Jericho Mountain	8,435.02
Lazyman Gulch	11,601.20

Lincoln Gulch	8,239.80
Middleman Mountain/Hedges Mountain	32,267.10
Mount Baldy	16,343.70
Nevada Mountain	50,074.44
Ogden Mountain	12,133.47
Silver King-Falls Creek	6,802.64
Specimen Creek	12,353.26
TOTAL	**403,321.45**

Overview of Nevada Mountain IRA

The 50,074 acre Nevada Mountain Inventoried Roadless Area is located between Helena and Lincoln along the Continental Divide, in Lewis and Clark and Powell Counties. Prominent features include Nevada Mountain and Black Mountain, each over 8,000 feet in elevation, and a series of east-facing cirque basins atop the Divide in the headwaters of Little Prickly Pear Creek. Nevada Mountain is the largest remaining wild tract atop the Continental Divide between the Anaconda-Pintler and Scapegoat Wilderness Areas.

The roadless area is bounded on the north by forest and county roads in Poorman and Marsh Creek and to the south by the network of roads from past mining and cutting in Ophir Creek. East of the Divide on the Helena Ranger District, the roadless area meets short road segments at lower elevations in Deadman, Beartrap and Little Prickly Pear Creeks. West of the Divide, the roadless area is bounded by short road sections in Shingle Mill, Nevada, and Washington Creeks. National Forest lands south and north of the Nevada Mountain Roadless Area are intensively roaded from past mining and logging.

The Nevada Mountain Wild Area is managed by the Lincoln and Helena Ranger Districts, (Helena-Lewis and Clark National Forest) which includes 15 miles of the Continental Divide National Scenic Trail (CDT). Here the CDT reaches its highest point between the Pintlers and Canada crossing 8,338-foot Black Mountain. Along the Trail, visitors enjoy vistas of the Mission Mountains, Flint Creek Range, Big Belts and Scapegoat Wilderness.

Ongoing research indicates mountain corridors connect Nevada Mountain to the Crown of the Continent, with wildlife traveling north along the Divide and northwest to the Scapegoat Wilderness. Montana Fish, Wildlife and Parks rates the Nevada Mountain Roadless Area as a vital wild area link needed to continue wildlife connectivity and movement. Nevada Mountain provides a critical source of high-quality water that sustains streamflows in Little Prickly Pear, McQuithy, Lost Horse, Threemile and Nevada Creeks. These streams are vital to downstream fisheries and agriculture. Warming climate trends indicate lingering snowpack in high-elevation mountain headwaters will become even more critical as precipitation increasingly falls as rain.

In 1981, backcountry elk hunters formed Nevada Mountain Concerned Citizens to express public support for a 50,400-acre Nevada Mountain Wilderness and opposition to planned timber sales. The

sportsmen's proposed wilderness was subsequently endorsed by the Lewis and Clark County Board of Commissioners, Helena Forest Conservation Coalition, Montana Wilderness Association, Montana Wildlife Federation, Montana Wildlife Society and Montana Wildlands Coalition.

In 1987, a 21,000-acre Nevada Mountain Wilderness passed the U.S. House. In 1988, Nevada Mountain passed both houses of Congress with the support of the Montana Congressional delegation in legislation that was left unsigned by the President. In 1992, Nevada Mountain Wilderness was included in legislation passed by the U.S. House of Representatives. In 2007, Nevada Mountain was endorsed for wilderness conservation by nine outdoor and recreation groups that comprise Montana High Divide Trails.

The Helena National Forest Plan (1986) included a 12,000-acre area centered in the Nevada Mountain Roadless Area as "Management Area R-1" managed to "provide a variety of semi-primitive and primitive non-motorized recreation opportunities … Motorized vehicles are not allowed in the management area." Since 2001, Nevada Mountain has been managed under a forest plan amendment incorporating the National Forest Roadless Areas Conservation Rule banning new roads and most logging. Nevada Mountain Roadless Area was included as a non-motorized zone in a 2005 Winter Recreation Agreement signed by the Ponderosa Snow Warriors, Montana Snowmobile Association, Montana Wilderness Association and Montana Fish Wildlife and Parks. Based on the 2005 winter agreement, the 2013 Upper Blackfoot Winter Travel Plan limits the Lincoln Ranger District portion of the Nevada Mountain Area to non-motorized uses. In 2017, the forest issued a final Record of Decision (ROD) for the Upper Blackfoot Summer/Fall Travel Plan, which also included non-motorized uses for the Nevada Mountain Area. In 2016, a draft Record of Decision for the Divide Travel Plan was issued covering summer and winter trails and areas on the Divide area of the Helena Ranger District. The ROD includes year-round non-motorized use for the Nevada Mountain IRA, with these exceptions:

- The Cellar Gulch ATV Trail will remain open to seasonal OHV use.
- Approximately 940 acres on the southern periphery of the Roadless Area remains open to snowmobile use, in keeping with the 2005 winter recreation agreement.
- Lands in the Little Prickly Pear drainage (east slope) are omitted from the Divide Travel Plan.

In October 2021, a new Forest Plan was completed for the Helena-Lewis and Clark National Forest. The ROD designates a 31,571 acre portion of the more than 50,000 acre Nevada Mountain IRA as Recommended Wilderness.

METHODS

Monitoring methods are detailed below. Refinements and possibly streamlining are likely to occur as we gain field experience and test our methods. HHAA recruited volunteers for monitoring each of the roadless areas covered in 2022-2024. The team gathered data following the protocols detailed below. As the program expands to include multiple volunteers, training will be provided in data gathering, and quality assurance measures will be employed to ensure data collection comparability and consistency (precision and accuracy) within and across IRAs.

Monitoring entailed a two-tiered approach beginning with an aerial overflight of each area. The aerial surveys provided a high-level coarse screening for later validation with the on-the-ground data gathering and observations. Both aerial and ground monitoring activities included observation of anthropogenic and natural stressors resulting from a combination of Forest Travel Plan implementation and compliance, forest management activities such as timber harvest and prescribed burns, recreational activities (legal and illegal), overall forest health and succession, disease and insect infestations, noxious weeds, vegetation, wildlife and hydrologic conditions. A list of key questions for each criterion has been included within field forms and provides the basis for the scoring. Some general examples include the following: Is the roadless area boundary accurately described in the Forest Plan and the associated Travel Plan and is it intact physically? Is there evidence from the aerial surveys of illegal trails/user created routes – both motorized and non-motorized? What is the overall forest health condition, etc.?

Sub-unit delineations -

Where practical, each IRA was divided into several sub-units to ensure that monitoring was representative of the entire IRA. Sub-unit delineation was done as a group effort and considered access, hydrologic boundaries/sub watersheds, management authority (i.e. multiple USFS ranger districts), elevation, adjacent land ownership and uses, and other criteria.

Aerial Overflight -

Aerial overflights were performed by private pilot Doug Powell and, in some cases, an observer who recorded notes and took photographs. Aerial surveys noted vegetation health and types, wildlife, boundary conditions and encroachment, adjacent land uses, livestock grazing, recreational use, travel plan compliance and illegal trail or road construction, and other general observations. Aerial data were recorded on a field sheet (Appendix A), digital photographs were taken, and map locations were recorded with the Avenza mapping app onto digital satellite imagery.

Field Surveys -

On-the-ground field surveys collected information on boundary condition, hydrology, wildlife, vegetation, human uses, and general observations following the protocols described below (Appendices B – G). A field monitoring summary guide sheet used to advise field assessments is included in Appendix H. A log of field monitoring trips by date and location is included in Appendix I. Completed field forms used to catalogue information for each module and for the aerial surveys are housed in HHAA office files.

Boundary Condition -

Rationale: Land ownership, land uses and management of lands bordering IRAs may influence the long-term integrity of the IRAs and their ability to maintain key values. A buffer zone surrounding each IRA that has no to minimal development is desirable. This assessment category is to provide documentation of current conditions which are likely to be influenced by management and human uses.

Encroachment may occur within the mapped boundary of an IRA - inadvertently or purposely. Forest management activities such as logging, public uses such as firewood cutting, and illegal trails constructed from adjacent private property where it is not visible to the public or managers, are all documented examples of encroachment in IRAs on the HLCNF in recent years. Monitoring of IRA boundaries for these problems is warranted.

Scoring: Assign a score of 0-10 for this evaluation category, considering following extremes:

10 = IRA boundary is entirely publicly owned lands with a minimum level of development activity. No unauthorized activities are known to have occurred or are presently occurring;

1 = Intensive land use/management activities and roads are present along some portion of the periphery of the IRA; Portion of the IRA boundary are private lands affording opportunities for unscrutinized encroachment and illegal activities and a reduced ability to monitor and protect IRA values. Unauthorized activities have or are currently negatively affecting the IRA.

Some of these are YES/NO questions, therefore only 10 or 1 is applied as a score. Otherwise, it will appear that an illegal activity is only partially wrong.

Field:

- Are the boundaries intact?
- Are boundaries mapped and available as per 2001 Roadless Rule?
- Distance to human habitation in meters (within ¼ mile). Denote on map.
- Distance to other human activities (within ¼ to ½ mile). Denote on map.

1. Identify the presence of unauthorized travel-related activities, including motorized and non-motorized recreation, trail building, violations of Forest Travel Plan travel restrictions.
2. Identify the presence of encroachment into the designated areas by management activities such as logging, forest road construction, unauthorized livestock grazing, firewood gathering, Private land activities encroachment, and other activities.
3. Identify intimidation designed to keep public out of IRA: signage; fences/gates by private entities on public lands.
4. Identify agency actions that could prevent the public from monitoring activities that may not be legal or are not following FS protocols, e.g. excessive area closures.
5. Are the IRA boundaries described in the Forest Plan and associated Forest Travel Plans? Are maps available?
6. Does signage occur at all IRA entrances?
7. Are travel restrictions being monitored and enforced?
8. Is monitoring and enforcement of designated uses apparent or lacking?
9. Are the boundaries identifiable on the ground through any means?
    a. Is this IRA circumnavigable on the ground?
    b. How many days and people would it take to complete a boundary check?
    c. Would HHAA be allowed to physically “mark” the boundary? And if so, with what?
10. Other?

Office:

1. What is the designated acreage of the management unit/IRA?
2. Are actual acreages consistent with mapped acreages?
3. Google Earth aerial photo evaluation and flights with photos by HHAA

Hydrology -

Rationale: Many IRAs are important snowpack areas providing water supplies for multiple downstream uses, including fisheries. Precipitation amounts and timing have a direct influence on plant communities, wildlife, aquatic resources, and wildfires.

Scoring: Assign a score of 0-10 for this evaluation category, considering following extremes:

10 = Hydrology appears to be functioning properly within the constraints of climatic variables.

1 = Persistent drought conditions and water diversions are altering plant communities, degrading riparian habitat, affecting fisheries, and reducing streamflows.

Field:

- Sedimentation, headcuts, dredging. Photos/GPS location
- Catastrophic erosion event/washout. Photos/GPS location
- Evidence of hydrologic impacts of wildfire (streamflow and erosion). Photos/GPS location
- Riparian trampling. Photos/GPS location

Office:

1. Streamflow conditions and trends (visual observations and statistics from USGS gauging stations, where available: https://waterdata.usgs.gov/mt/nwis/rt

2. Snowpack conditions and trends from visual observations and statistics from NRCS SNOTEL sites, where available: https://www.nrcs.usda.gov/wps/portal/nrcs/detail/null/?cid=nrcs144p2_057785

3. Statewide drought index maps (https://drought.mt.gov)

4. MT DEQ water quality databases, TMDL information, integrated statewide report, etc.

5. FWP fisheries info; Heritage Program data.

Wildlife -

Rationale: IRAs provide important habitat and security cover for big game and a variety of sensitive and endangered wildlife species. IRAs also contribute to a geographical network of wildlands that serve as linkage corridors for wildlife movement and the exchange of genetic material between isolated

subpopulations. The status of wildlife populations within IRAs, including seasonal usage, provides a direct measure of biological integrity.

Scoring: Assign a score of 0-10 for this evaluation category, considering following extremes:

10 = Excellent wildlife diversity and sex and age structure, including a mix of predator and prey species and a demonstrated presence of sensitive and endangered species.

1 = Ecological or anthropogenic variables appear to have reduced wildlife use of the area to a bare minimum.

Field:

1. Note observations of wildlife: squirrels, chipmunks, nutcrackers, camp robbers (gray jays), woodpeckers, etc. [1 point for each wildlife species encountered – assume score would easily make it to 10]
2. Note tracks of wildlife (species); scat (species); rubs (elk/deer/moose); scrapes (lion); porcupine bark feeding; bedding areas and number of beds [1 point for each type of field sign encountered – assume score would easily make it to 10]
3. Wildlife - Trail Cam data – regularly establish then check sites to hopefully document rarer species.

Office:

1. Are wildlife populations healthy and diverse? [10 = very]
    a. If positive or negative trends exist, do we know the causes (e.g. predation, habitat changes, hunting pressure, harboring on private, adjacent land use changes, climate/drought, etc.
    b. Metrics:
        i. Elk Plan objectives being met for Elk Management Units overlapping the IRA:
            1. Population levels below or above objective Up (5)/Stable (10)/Down (1) (within 10% of objective)
            2. Bull:Cow ratios
                a. At or above objective = 10;
                b. Below objective by 1-9% = 9
                c. Below objective 10-19% = 3
                d. Below objective 20-29% = 1
            3. Calf:Cow ratios
                a. At or above objective = 10;
                b. Below objective by 1-9% = 9
                c. Below objective 10-19% = 5
                d. Below objective 20-29% = 4
                e. Below objective 30-39% = 3
                f. Below objective 40-49% = 2
                g. Below objective 50% or more = 1

ii. Management Plans for other species: mule deer; mountain goats; bighorn sheep. Are objectives being met? Yes = 10 No = 1
iii. Aerial survey trends at the Hunting District level from MFWP biologists
1. Up (5)/Stable (10)/Down (1) (within 10% of objective)
iv. Is disease an issue within or near the IRA? (CWD, brucellosis, avian influenza, pneumonia) YES = 1 NO = 10

2. Known presence of Sensitive, Threatened, Endangered species in the area? (list for each IRA – refugia for such species in an otherwise altered landscape)) Scoring for each category YES = 10 NO = 1.
3. Critical wildlife habitat – does it exist in this IRA? Yes = 10 No = 1
    a. Sensitive:
    b. Threatened:
    c. Endangered:
4. Critical wildlife habitat – does it exist in this IRA? Yes = 10 No = 1
    a. For species that do not migrate – mountain goats
    b. Denning areas; nesting areas; hibernacula; are elk (ungulate) parturition/nursery, wintering, and summering areas included inside the IRA?
5. Connectivity or movement corridors – do they occur in this IRA? Are approximate maps available?
    a. Genetic Connectivity: Species known to move through the area (g. bear, wolverine, lynx, wolves)
    b. Movement corridors for seasonal migration: elk, mule deer, bighorn sheep, moose, herps
6. Wildlife - Trail Cam data – regularly establish then check sites

Office:

1. Sensitive species presence (sightings, tracks and scat, trail cameras)
    i. Heritage Program reports
2. Bull trout redd counts (where available, e.g. Blackfoot Watershed)
3. Other indicator metrics from university and other researchers
4. Agency monitoring efforts (grizzly, lynx, wolf, wolverine, etc.)
    i. grizzly: MFWP
    ii. lynx: FWS, Wild Ideas LLC
    iii. gray wolf: MFWP; Heritage Program
    iv. wolverine: universities, Wild Ideas LLC

Plants/Vegetation –

Rationale: Plant communities within IRAs provide food and cover for wildlife and define "forest health." The Natural Range of Variation (NRV) describes the diversity of forest conditions that provides the full range of habitat conditions that would support the natural diversity of both flora and fauna. It is

important to evaluate how the existing forest conditions compare to the NRV to understand how well the plant and animal communities are functioning.

Field: Site-specific field trips were conducted to document vegetation conditions, such as:

1. Overall forest condition
2. Presence and spatial extent of insect infestations/beetle kill
3. Presence and spatial extent of noxious weed infestations
4. Evidence of wildfire and/or prescribed burns
5. Is forest succession/regeneration apparent following disturbances (insects, fire)
6. Riparian health and apparent causes of any degradation
7. Unique/rare/sensitive species: orchids, white bark pine, etc.
8. Species diversity
9. Conifer encroachment and/or sagebrush on meadows and parks
10. Noxious/county listed weeds: toadflax, knapweed, leafy spurge, hound's tongue, Canada thistle, musk thistle, hawkweed, black henbane, bindweed, whitetop, oxeye daisy, common tansy, hoary alyssum, smooth brome, Japanese brome, cheatgrass, mullein, etc.

Office: In addition to field observations, data from remote sensing and vegetation modeling systems were assessed to compare selected existing conditions within the IRA to those described for the Geographic Area(s) in the Helena-Lewis and Clark Forest Plan. The Nevada Mountain IRA is found within two Geographic Areas as defined in the Forest Plan, Divide and Upper Blackfoot, specifically. Using the same processes as the Forest Service employed, cover type, size class, canopy density, and past fire history were examined as a measure how the existing conditions met the Forest Plan and NRV expectations for the area. Please see Appendix K, "General Forest Area Condition Nevada Mountain Inventoried Roadless Areas" for the complete methodology and report.

Scoring: Assign a score of 0-10 for this evaluation category, considering following extremes:

For the forested areas, scoring is based on how well current vegetative conditions meet what would be expected for them to be within the Natural Range of Variation (NRV). A score of 10 indicates the cover type, size class, density class and disturbance regimes (fire, disease, insect infestation, etc.) are all represented to be within the NRV. A score of 5 indicates around 50% of these elements function with the NRV but others do not. A score of 0 indicates none of the elements are within the NRV.

For grass and shrublands a score of 10 would indicate their distribution is within the NRV and noxious weeds are not present. A score of 5 indicates there has been a reduction in their distribution and/or there are some noxious weeds are present at a moderate level. A score of 0 indicates a severe loss of their distribution and/or noxious weeds are very common/infestation levels over a significant portion of the IRA.

Human Use and Activity -

Rationale: IRAs provide a diversity of high quality non-motorized human recreational opportunities. However, recreational overuse can directly and negatively impact wildlife and other ecological processes. Recreational use on all public lands has shown rapid increases since the pandemic. This trend

poses a significant threat to the long-term integrity of IRAs and should be monitored – including authorized and illegal recreational activities.

A variety of other (non-recreational) human uses take place on forest lands and may impact the integrity of IRAs. Monitoring of these activities (authorized as well as illegal) will occur as part of this plan and any impacts noted. Examples include livestock grazing, firewood gathering, mining/prospecting, and others. Some of these uses may overlap with so-called recreational uses.

Scoring (Do not score individually, but document to indicate areas where the overall IRA score/ranking can be improved upon). Overall score: No specific land use = 10; 1 land use = 5; 3 or more adjacent uses = 1 [remove item 11.]

Field:

1. What recreational uses are occurring during what seasons and at which locations?
2. Are recreational uses occurring illegally - in opposition to Travel Plans?
3. Is recreational use interfering with other values associated with the IRAs?
4. Vehicle counts at trailheads and other access points.
5. Aerial and ground level observations (snowmobiles, skiers, bikers, ATVs, wood cutting; tracks, cut trees/shrubs, gravel placement at water crossings, constructed facilities such as tree stands, lean-tos, water pipes, ground leveling, corrals, etc.).
6. What other human uses are occurring within the IRAs besides recreation?
7. Identify these activities and associated trends and gauge impacts.
8. Are these activities consistent with Forest Plan direction and area management prescriptions?
9. Examples could include livestock grazing, firewood cutting, mining/prospecting, foraging, fishing, hunting, trapping etc. Some of these activities overlap with the recreational use category.
10. Describe adjacent land use – heavily roaded; agricultural; logged (how recently; monoculture?); mining; recreational use (ski area; ATVs; mountain bike)
11. Does the IRA landscape status contrast with surrounding areas within ½ mile? In what way?
    - Roads, motorized trails Yes/No
        - Occur along 10% or less of boundary (10)
        - Occur along 25% of the boundary (9-5
        - Occur along 50% of the boundary (3-0)
        - Occur along 75% of the boundary (0)
        - Occur along 91-100% of the boundary (0)
    - Recreational facilities Yes (0)/No (10)
        - Facilities themselves; infrastructure; roads accessing
    - Timber harvest Yes (0)/No (10)
        - past (>5 years old)
        - present (0-5 years)
        - future (planned within 10)
    - Agricultural Yes/No
        - No agriculture (10)
        - Along 10% or less of boundary (8-9)
        - Along 25% of boundary (5-7)

        - Along 50% of boundary (3-4)
        - Along 75% of boundary (2)
        - Along 91-100% or more of boundary (1)
    - Houses
        - No houses (10)
        - Along 10% or less of boundary (8-9)
        - Along 25% of boundary (5-7)
        - Along 50% of boundary (3-4)
        - Along 75% of boundary (2)
        - Along 91-100% or more of boundary (1)

Office: (review of the above when scoring in the office)

1. Is recreational use increasing and/or changing?
2. Online databases (Trailforks, CDNST use, etc.)
3. Hunter, fisherman, and trapping use from MFWP surveys

General Observations -

Rationale: There may be additional concerns and observations that won't be captured by the prior assessment categories. Record general positive and negative aspects and assessment of conditions observed in each sub-unit. Record any general observations not captured on any of the other monitoring forms. This category is not being scored.

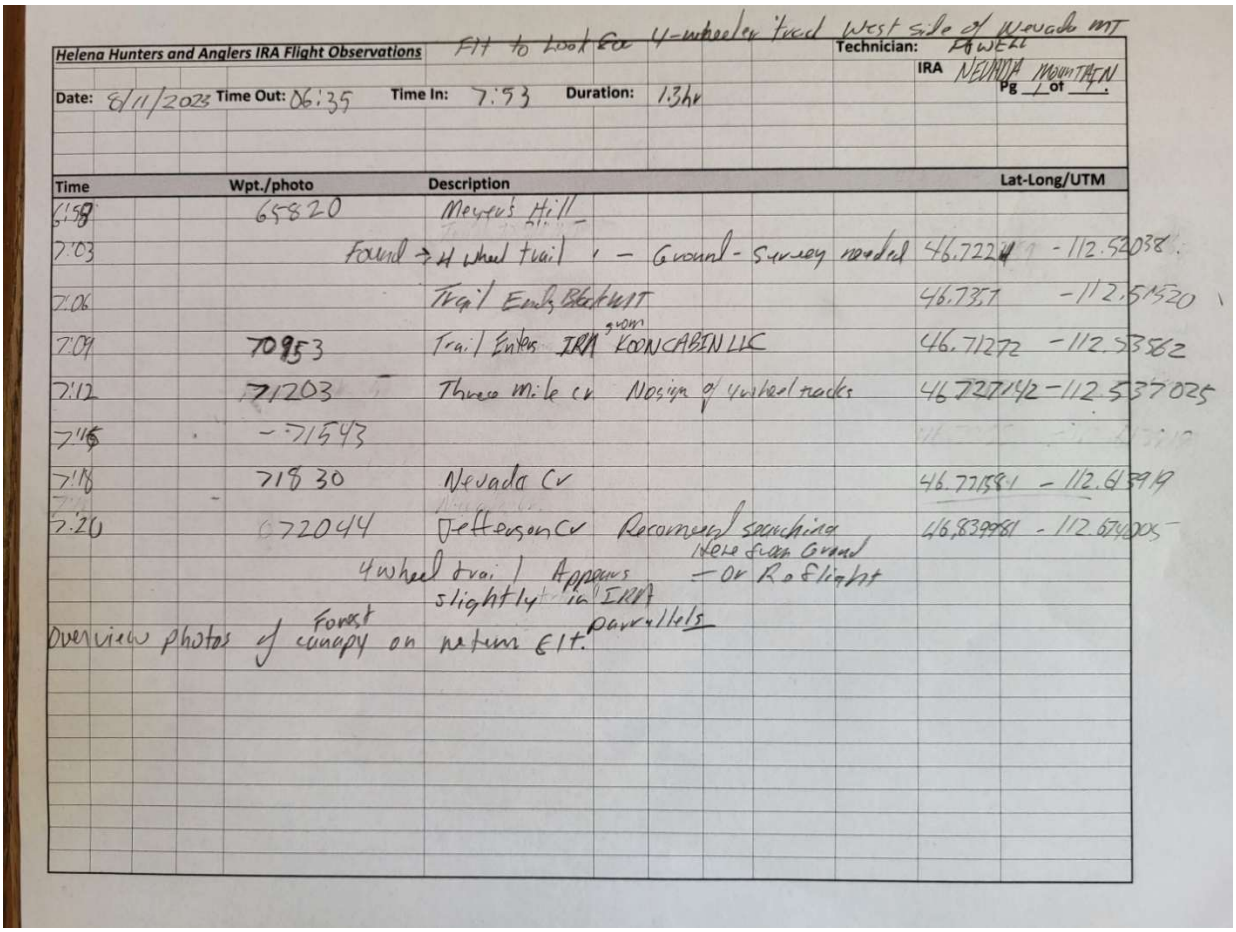
RESULTS

Aerial Overflight -

A single Nevada Mountain overflight was conducted on August 11, 2023 and focused on the west side of the Continental Divide (Figures 2-3). The flight objective was to make general observations.

The flight path began at Meyers Hill bearing northwest toward Threemile Creek, where a heavily used four-wheeler trail was located between Ophir Creek and Georgia Creek (Figures 4-6). The trail entered the IRA from Koon Cabin LLC property and extended northeast upslope between Threemile Creek and Meyers Hill and terminated on the upper slope of Black Mountain. The flight continued to Lower Threemile Creek and only a single-track trail proceeding up the drainage west into the IRA from private land was observed without evidence of motorized activity (Figure 7). The lower portion of Shingle Mill, Nevada Creek, and Washington Creek were flown, and no evidence of motorized trails was found, although the sun glare looking toward the east limited visibility.

Continuing northwest to Jefferson Creek, a four-wheel trail was observed very near the IRA paralleling the boundary near a continuous segment of mining claims from west to east. Flying up the drainage further there appeared to be motorized trail segments branching into the IRA from multiple locations (Figure 8). Some trail segments are visible on the OnX hunt map App. It is recommended to fly the area again to photograph trail segments in the IRA on Upper Jefferson creek. The flight returned to Helena.



Helena Hunters and Anglers IRA Flight Observations — Fit to Look for 4-wheeler trail West side of Nevada MT

Technician: [illegible] — IRA NEVADA MOUNTAIN — Pg 1 of 1

Date: 8/11/2023 Time Out: 06:35 Time In: 7:53 Duration: 1.3hr

Time	Wpt./photo	Description	Lat-Long/UTM
6:58	65820	Mercer's Hill	
7:03		Found → 4 wheel trail ↓ — Ground-Survey needed	46.7224 -112.52038
7:06		Trail Ends Blackfoot	46.7357 -112.51520
7:09	70953	Trail Ends IRA sign KOONCABIN LLC	46.71272 -112.53382
7:12	71203	Three Mile Cr Nosign of 4wheel tracks	46.727142 -112.537025
7:16	71543		
7:18	71830	Nevada Cr	46.72581 -112.61319
7:20	72044	Jefferson Cr Recommend searching Here from Ground — 4wheel trail Appears slightly in IRA — Or Re Flight	46.839981 -112.674005
		Overview photos of Forest canopy on return flt. parallels	

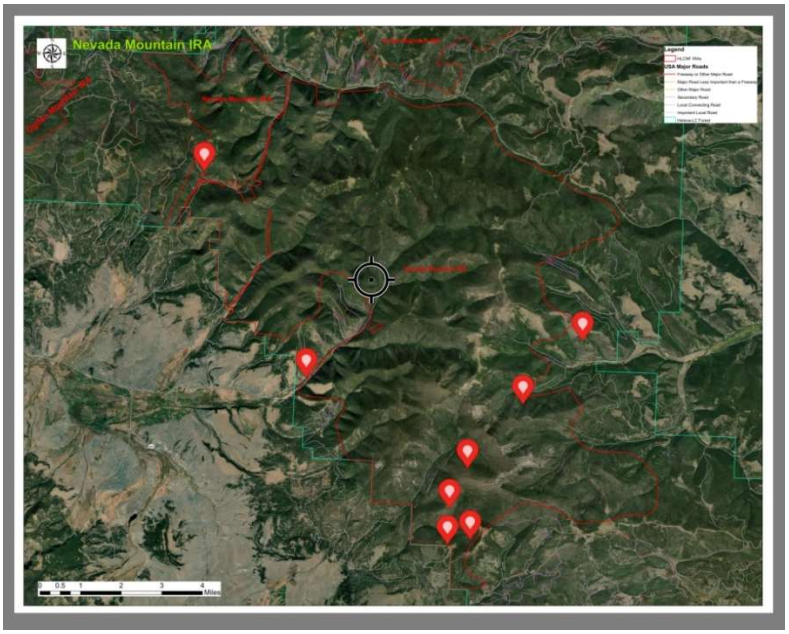


Figure 3. Aerial overflight photo points, August 11,2023.



Figures 4-6. ATV trails in Nevada Mountain IRA from Georgia Creek to Black Mountain and Myers Hill area on Continental Divide.





Figures 7. Threemile Creek drainage. Figure 8. Placer mining activity in Jefferson Creek drainage.

Sub-unit delineations -

Nevada Mountain IRA was sub-divided into six units for field assessment purposes, as follows.

1) Southern portion of Continental Divide corridor from Myers Hill to Nevada Mountain.
2) Northern portion of Continental Divide corridor from Marsh Creek to Gleason Creek.
3) Nevada Creek from the Nevada Mountain IRA boundary to its headwaters.
4) The "Lincoln Face" on the north end of the Nevada Mountain IRA, including tributary drainages extending from the South Fork Poorman Creek to McClellan Gulch.
5) East side drainages, including the South and North Forks of Little Prickly Pear Creek, Beartrap Gulch, McQuithy Gulch, Deadman Creek and others, from the IRA boundary to the Continental Divide.
6) West side drainages, including Washington Creek, Jefferson Creek, Huckleberry Creek, Gleason Creek and Threemile Creek from the IRA boundary to their headwaters.

Field surveys -

Nearly three dozen individual field surveys were conducted within the Nevada Mountain IRA between July 2022 and April 2024 by volunteers Dennis and Deb Milburn, Doug Powell, Gayle Joslin, Camie Westfall, Rod Bullis and Gary Ingman. Roughly half of these trips were for the purpose of deploying and

monitoring two motion sensor trail cameras intermittently from January 2023 to April 2024 (winter period in each year).

Narrative summaries of observations recorded during each of the surveys are presented below by date. Completed field data sheets and additional photographs and maps are housed in HHAA files in Helena.

Sub-unit 1: Southern portion of Continental Divide corridor from Myers Hill to Nevada Mountain

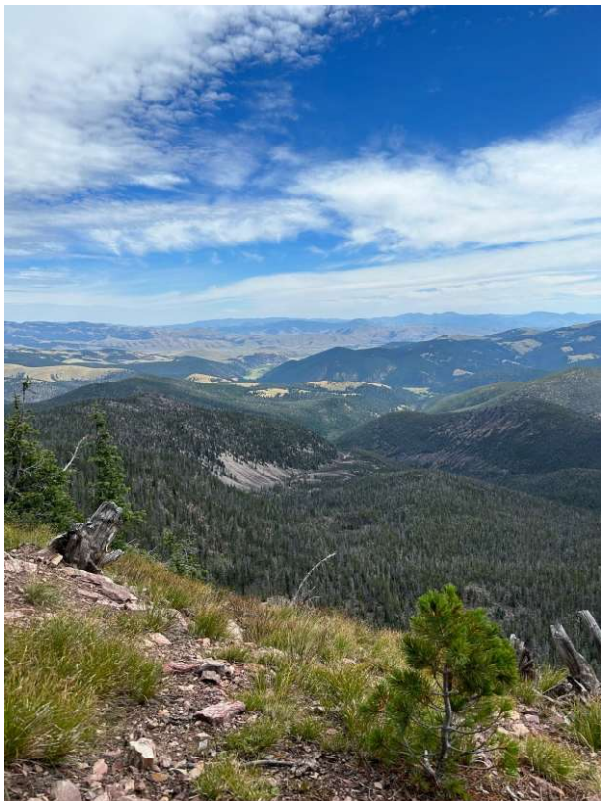
August 12-13, 2023 - Camie Westfall and Gary Ingman surveyed the Continental Divide Trail (CDNST) from Meyers Hill northwards to Black Mountain, and beyond to the junction with the Threemile Creek Trail. Notable observations on this overnight trip included: 1) a user created trail coming up to the Divide near the Black Mountain summit from private on the west side (see aerial overflight observations above and the August 16, 2023 entry below), 2) apparent motorized use and trail clearing by ATVs on the CDNST between Meyers Hill and Black Mountain (Figure 9), 3) a lack of signage and an effective trail closure denoting non-motorized use restrictions on the CDNST entering Nevada Mountain IRA from the south (Figure 10), 4) poor maintenance of the CDNST between Black Mountain and the Threemile Trail (significant trail blocking blow down), 5) observations of blister rust on white bark and lodge pole pine trees, and 6) conversations with a CDNST through-hiker providing insight into intensity of use.

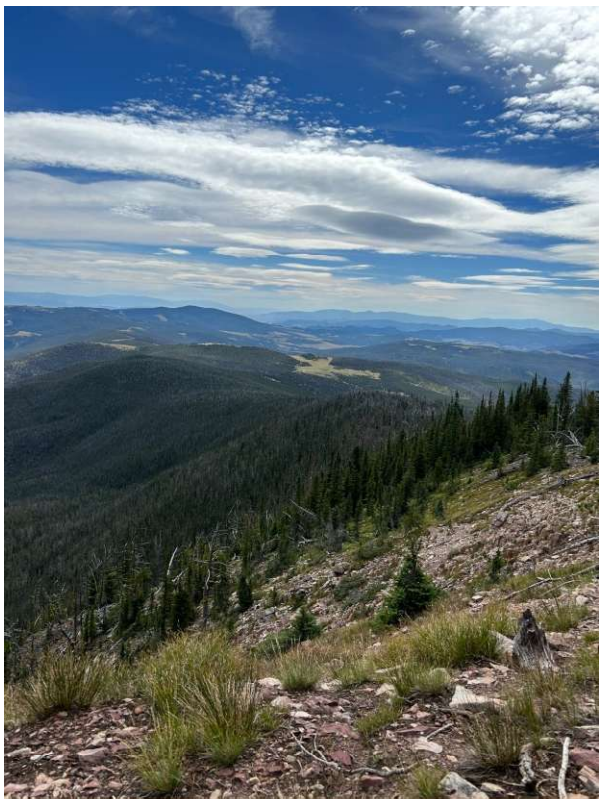




Figures 9. ATV caused erosion on CDNST between Myers Hill and Black Mountain within Nevada Mountain IRA. Figure 10. CDNST at Meyers Hill showing breached closure and lack of signage.

General scenery along the CDNST north of Black Mountain is depicted in Figures 11-13, August 12, 2023.







Figures 11-13. General scenery along the CDNST north of Black Mountain, August 12, 2023.

August 16, 2023 - Camie Westfall and Jeremy Parkinson returned to the Black Mountain area to document the illegal motorized trail originating in Georgia Creek and continuing to the CDNST. See separate field report (Appendix J) and map documentation (Figure 14), which has been shared with HLCNF personnel.



Figure 14. Waypoints showing illegal road/trail from private property in Georgia Creek to Black Mountain. Red line is Nevada Mountain IRA boundary. Green points - August 11, 2023, Purple points - August 12, 2023, Red points- August 16, 2023.

Sub-unit 2: Northern portion of Continental Divide corridor from Marsh Creek to Gleason Creek -

While elk hunting along the Continental Divide on November 22, 2022, Gary documented/photographed wolverine tracks on the CDNST north of Nevada Mountain (Figure 15).



Figure 15. Wolverine tracks on the CDNST, November 22, 2022.

August 9, 2023 - Rod Bullis surveyed the road closure area on the Continental Divide National Scenic Trail (CDNST) at the junction of the Cellar Gulch ATV trail, and continuing along the Divide Trail to the junction with the Gould-Helmville Trail # 467. He noted the need for signage at the Cellar Gulch Trail indicating seasonal use only, and motorized violations of the closure heading south along the Divide (Figures 16 and 17).



Figures 16 and 17. Trail signs at junction of CDNST with the Gould-Helmville Trail, August 9, 2023.

August 19, 2023 - Dennis and Deb Milburn surveyed the Continental Divide Trail from the junction with the Cellar Gulch ATV Trail to the head of Nevada Creek. Dennis indicated evidence of ATV use continuing out the CDNST to the Gould-Helmville Trail junction and possibly continuing out that trail. There was no evidence of illegal cattle grazing along the Continental Divide at the head of Nevada Creek, as has been noted in the past.

October 9, 2023 - Doug Powell and Gary Ingman surveyed the CDNST at the junction of the Cellar Gulch ATV trail. There was an apparently newly installed sign at the Cellar Gulch Trail indicating the season of use and two signs showing trail restrictions allowing only vehicles under 50 inches in width (Figure 18). This may have been installed following Rod Bullis's complaint to the HLCNF from his August 9 field survey. It was noted that ATVs had been driving around the Continental Divide closure just south of the Cellar Gulch Trail junction. This was documented. Gary and Doug brushed in the closure with dead wood. There is a closure sign but it was installed on a wood post that has not been set in the ground and which could easily be removed or hidden (Figures 19-20).







Figures 18-20. Cellar Gulch ATV Trail junction with CDNST, October 9, 2023, showing new signs, and CDNST motorized closure just south of the Cellar Gulch Trail junction, October 9, 2023, showing ATV breach around gate and free-standing closure sign.

October 12, 2023 - Gary Ingman hiked to the Continental Divide Trail via the South Fork Little Prickly Pear Creek drainage. Cut logs were noted along a travel route from the South Fork to the ridgetop between the South Fork and Beartrap Gulch and continuing to the Continental Divide. From personal knowledge, some of this route clearing was done by hunters retrieving game (moose and elk). He

discovered a group campsite near the base of Nevada Mountain, which included a large fire ring with recent usage, cut live trees to create tent sites, numerous live tree boughs cut for bedding, and garbage, cigarette butts and remnants of camping gear (tent stakes, cord, stuff sack, etc.) left behind. The campsite was on the CDNST and was documented with photos and GPS. Trash was removed, cut boughs dispersed and the fire ring dismantled (Figures 21-22). A dozen dusky and ruffed grouse were encountered. Elk and moose tracks were observed. There is an abundance of standing dead Lodgepole and Whitebark pine trees along the Continental Divide but the regeneration of young trees is impressive.



Figures 21 and 22. Camping evidence on CDNST north of Nevada Mountain, October 12, 2023.

The landscape of the Continental Divide in the vicinity of Nevada Mountain is depicted in Figures 23-26.



Figures 23-26. View from summit of Nevada Mountain, October 22, 2023; Remnant of old battery powered aircraft beacon on summit of Nevada Mountain, October 22, 2023; Looking south from Nevada Mountain to Black Mountain, October 24, 2023.

December 12, 2023. Gary Ingman deployed a trail camera just off of the CDNST. Fresh wolverine tracks were present near where the camera was deployed (Figure 27-28).





Figures 27 and 28. Looking north from CDNST, October 12, 2023; Wolverine tracks on CDNST, December 12, 2023.

January 4, 2024. Gayle Joslin and Gary Ingman checked the trail camera on the CDNST and recovered recent bull elk and bull moose photos (Figures 29-30). Wolf tracks were documented in Little Prickly Pear drainage in two separate locations on the way up (Figures 31-32).





Figures 29-30. Bull elk and bull moose trail camera photos on CDNST, December 2023.





Figures 31 and 32. Wolf tracks in the Nevada Mountain IRA on January 4, 2024.

January 31, 2024 – The camera on the CDNST was checked with no recent activity. A large herd (83+ head) of wintering elk was documented on the Continental Divide (Figure 33-34).



Figures 33. Large herd of elk wintering on the Continental Divide on January 31, 2024.



Figures 34. Elk tracks on the CDNST near Nevada Mountain on December 12, 2023.

April 19, 2024. Gary Ingman pulled the CDNST camera. The camera captured multiple wolverine pictures beginning on February 23 and extending to April 15 (Figures 35-36).





Figures 35 and 36. Trail camera photos of wolverines in Nevada Mountain IRA, February and March, 2024.

Ingman encountered and documented fresh grizzly bear tracks on the CDNST coming up from one drainage and traveling down the next one (Figures 37).



Figures 37-38. Fresh grizzly bear tracks on the CDNST; Looking north along the CDNST trail, April 19, 2024.

Sub-unit 3: Nevada Creek from the Nevada Mountain IRA boundary to its headwaters -

August 27, 2023 - Gary Ingman surveyed main Nevada Creek from the west side boundary of the Nevada Mountain IRA to the confluence of the East Fork Nevada Creek and continuing up the Prickly Gulch Trail. He observed that the main trailhead up Nevada Creek is well signed indicating non-motorized use restrictions (Figure 39-41).



Figures 39-41. Trailhead signs in upper Nevada Creek, August 27, 2023.



Figure 42. Grizzly bear warning sign at Nevada Creek trailhead.

There was evidence of some limited recent camping at the trailhead. Signs were also posted warning of grizzly bear presence (Figure 42). Ingman hiked up Nevada Creek from the USFS rental cabin on the near side (east side) of the creek. He inspected a spur road heading east up the hill just before the cabin which accesses a private mining claim inholding. There was no indication of motorized use and a number of dead trees were down across the road (Figure 43). Past the USFS cabin, the cattle drift fence which is intended to prevent livestock trespass into the Nevada Mountain IRA was down due to fallen trees and there was fresh evidence of cattle within the IRA (manure piles and tracks) (Figures 46-48). A large infestation of knapweed was noted at the creek ford where the trail crosses Nevada Creek. Extensive areas of knapweed and Canada thistle were observed heading up the Nevada Creek riparian zone on an old trail (Figures 49-50). The riparian area was lush with 3 foot tall grass and shrubs. No ATV usage was noted but more evidence of cattle trespass was observed.



Figures 43. Mining claim spur road near Nevada Creek rental cabin.



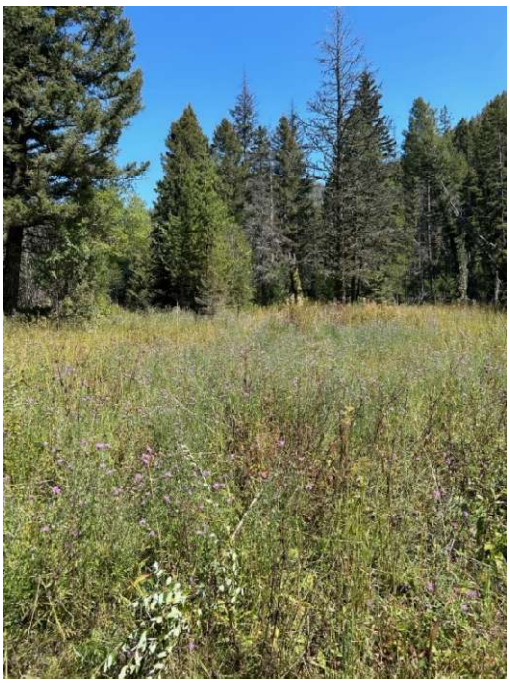


Figures 44-45. Signs at Nevada Creek Trailhead; and road closure leading to Nevada Creek rental cabin, August 27, 2023.





Figures 46-48. ATV breach around Nevada Creek rental cabin road closure; Cabin, water well and vault toilet at USFS Nevada Creek rental cabin.




Figures 49 and 50. Knapweed infestation in upper Nevada Creek; General view of forest in upper Nevada Creek, August 27, 2023.

The survey left main Nevada Creek at the Prickly Gulch Trail intersection. The trail is well signed (trail junction sign and periodic white marker signs (triangular CD Trail signs turned upside down) and blazes on trees and there was evidence of recent trail clearing with freshly cut logs along the trail margins (Figures 51-54). The trail is wide enough for ATVs but recent motorized use was not apparent.





Figures 51-52. Area closure sign beyond Nevada Creek rental cabin; Cattle exclosure past cabin.





Figures 53-54. Remnants of cattle drift fence; Cattle manure on trial past livestock exclosure, August 27, 2023.

The adjacent forest was mostly mid- to late-seral stage lodge pole pine with some mixed Douglas fir. Beetle killed lodge pole was present but not dominant (Figure 55-56). Moderate amounts of beetle killed blowdown were present.





Figures 55-56. Nevada Creek-Prickly Gulch Trail junction sign; Prickly Gulch Trail markers and clearing.

This survey continued uphill past a historical aqueduct used to convey water from Nevada Creek inter-basin for hydraulic placer mining activity in Washington Creek (Figure 57). Elk sign (tracks and droppings) was noted and elk could be smelled. The survey continued back down the main Nevada Creek Trail to the signed trailhead. This trail was well maintained and free of blowdown (Figure 58).




Figures 57-58. Historical aqueduct crossing Prickly Gulch Trail, well maintained trail, August 27, 2023.




Figures 59 and 60. Prickly Gulch Trail showing clearing; Nevada Creek Trail marker heading south from Prickly Gulch Trail, August 27, 2023.

A trailhead up Gleason Creek was also well signed indicating non-motorized use (Figure 61). Overall, the boundary condition in this segment of the IRA is excellent, with closures intact, signs well posted and no signs of ATV intrusions. Livestock trespass is an issue and has been documented in previous years, which poses a threat for spread of noxious weeds and damage to the riparian area of Nevada Creek, which is known to support a remnant population of sediment sensitive bull trout and native cutthroat trout.



Figures 61. Gleason Creek Trailhead sign denoting area closure, August 27, 2023.

Sub-unit 4: The "Lincoln Face" on the north end of the Nevada Mountain IRA including tributary drainages from the South Fork Poorman Creek to McClellan Gulch

October 9, 2023 - Doug Powell and Gary Ingman surveyed the South Fork Poorman Creek, and the Lincoln Face tributaries to Poorman Creek. The Nevada Mountain IRA boundary condition was observed descending down the South Fork Poorman Creek to main Poorman Creek. There is a logged strip following the road that delineates the IRA boundary and no motorized intrusions were observed.

The Little Davis Gulch intersection with the Stemple Pass Road was inspected and Little Davis Gulch was walked to the south for 100 yards on a poor trail. The area is a moist spring bottom with spruce and Lodgepole pine. There was a sign present with an arrow indicating a trail or travel route but no travel restrictions (i.e. non-motorized) or notation that the area is within the IRA.

The Prickly Gulch/Nevada Creek Trail trailhead at the Poorman Creek/Stemple Pass Road is a current major prospecting/placer mining site, with evidence of heavy equipment use up to the IRA boundary if not beyond (Figure 62). A trail leading south for the first half mile resembled a road bed leading to a reclaimed mining site. No trailhead sign was observed (like at the Prickly Gulch trailhead at Nevada Creek) but one may have been present further up the trail. If not present, one is needed indicating the route and the travel restrictions. A second spur trail to the east appears to be useable by ATVs and extends into the IRA some distance (Figure 63).



Figure 62. Mining claim sign in Prickly Gulch, October 9, 2023.



Figure 63. User created spur trail in Prickly Gulch extending into the Nevada Mountain Inventoried Roadless Area, October 9, 2023.

No access to McClellan Gulch was possible due to private land and mining claims. Private inholdings were noted on OnX maps extending all the way to the Gould-Helmville Trail. Wildfire related roads may have been pushed into the head of McClellan in 2020 based on Doug Powell's aerial observations of bulldozers and pumper trucks present.

Private cabins in the creek bottom block public access to Mead Gulch. There are no non-motorized restriction signs in the area or indication that the area is within the IRA, only no trespassing signs and signs indicating the presence of cameras placed on USFS lands. The private sections were skirted on foot to the east and an unauthorized foot trail from the private land traveling south into the IRA was encountered and followed. Extensive old growth Douglas fir trees were observed along the trail. The trail had been cleared of blow down recently. The trail may continue to the Gould-Helmville Trail and could accommodate motorcycle use. There is extensive logging activity on private land on the west side of the drainage to the IRA boundary. The Mead Gulch drainage contains some beautiful wildlife habitat overall.

The lower end of Fields Gulch was surveyed. An ATV trail goes up the drainage and crossed the creek. One fork of the road goes to a mining claim and the other westerly fork was not surveyed to the IRA boundary due to time constraints. Patches of non-native plants were observed in small areas along the road near the creek.

Sub-unit 5: East side drainages from the IRA boundary to the Continental Divide, including the South and North Forks of Little Prickly Pear Creek, Beartrap Gulch, Tongue Gulch, McQuithy Gulch, and Deadman Creek



Figures 64. Parks in head of Tongue Gulch, March 29, 2023.



Figure 65. View to the west from Tongue Gulch towards Nevada Mountain and Black Mountain, March 29, 2023.

July 12, 2022 - Gary Ingman hiked from the South Fork Little Prickly Pear Creek road closure (Figures 66 and 67) to the Continental Divide. Recently cut and removed blow down trees were noted along the closed road. This was done since hunting season in the fall of 2021. The work could have been done by the grazing lease permittee but remains unknown. No tracks from ATV or bicycle use were observed on the closed road. Gary observed fresh elk sign, spruce moth activity and beargrass in full bloom. The South Fork closure is well signed indicating year-long non-motorized use but there is some evidence of ATV use (cleared trail) that may be related to a grazing permit. Conditions of this permit need to be checked regarding period and place of use as well as motorized access.



Figure 66 and 67. Trail closure in upper South Fork Little Prickly Pear Creek, September 14, 2024.



Figures 68. Trail camera photo of grizzly bear near the Continental Divide, April 23, 2023. *(Courtesy of Wild Ideas, LLC)*



Figure 69. Bull moose encountered just below the Continental Divide, October 20, 2022.

August 13, 2023 – Camie Westfall surveyed the South Fork Little Prickly Pear Creek from the CDNST to the South Fork Road closure via a rugged cross county descent down through the South Fork cirques.

January 2, 2023 – Gary Ingman deployed a game camera east of the Divide within the Nevada Mountain IRA. Although restrictions and boundaries associated with the IRA are not communicated with signage (Figure 70), travel management restrictions in Beartrap Gulch is well signed indicating seasonal

motorized use restrictions on the closed road.. Additionally, the new Forest Plan designation of Recommended Wilderness will require modifications to the current Forest Travel Plan. This has been pledged by HLCNF officials to begin no later than October 2024.

January 17, 26, 30, 2023 – Gary Ingman checked the Nevada Mountain IRA. No activity was noted. Gary visited with an area trapper who shared wolverine photos and learned he had a wolverine spring one of his traps recently in that area.

February 10, 2023 – A camera check was performed by Gary Ingman. No activity was noted. In the vicinity of the trail camera, Ingman encountered and documented snowmobile-based trappers and predator hunters camping and trapping in an area closed to motorized vehicles (Figure 71).



Figures 70. Seasonal trail closure sign near the boundary of the IRA.

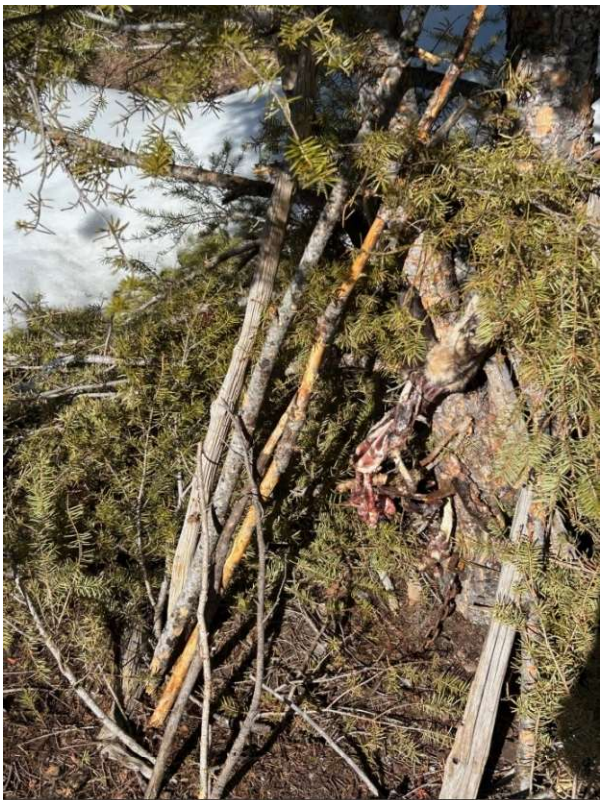


Figure 71. Live bobcat trap in non-motorized area, February 10, 2023.

March 23, 2023 - Gary Ingman snowshoed into the IRA and retrieved the game camera, which contained wolverine pictures from March 2-5, 2023. Gary encountered fresh grizzly bear tracks and followed them for 2.5 miles back down the valley (Figures 72). He collected a hair sample from a fence where the bear crossed onto private property (Figure 73) and sent the sample and documentation to James Jonkel in Missoula.



Figures 72. Grizzly bear tracks near the lower edge of the IRA, March 23, 2023.



Figures 73. Grizzly bear tracks crossing onto private land in lower South Fork Little Prickly Pear Creek, March 23, 2023.

January 23, 2024 – Gary Ingman deployed a game camera in the Nevada Mountain IRA in the same location that wolverines were documented in 2021 and 2023 (Figure 74).



Figure 74. Trail camera picture of wolverine, March 4, 2023.

January 29, February 6, 29, March 9, 14, April 12 - Camera checks were made by Gary Ingman. No activity was noted on the camera. It's been a very mild and open winter and snow was melting actively on January 29. Fresh tracks of wintering moose and some elk were observed on each of these dates. Bear tracks were observed from afar on March 14 in the same area the grizzly tracks were first noted on 2023.

May 20, 2024. Ingman pulled the camera. The camera had captured a color phase female black bear from May 19 (Figure 75).

September 14, 2024. Gary Ingman hiked up the closed upper South Fork Little Prickly Creek Road and observed a major infestation of spotted knapweed extending for more than a quarter of a mile along the closed road. Hounds-tongue was also observed. These weed infestations are presumed to be associated with livestock grazing activity based on the road travel route and cow manure on the road.



Figures 75. Trail camera photo of color phase black bear in the IRA, May 2024.



Figures 76. Trail camera photo of moose cow and calf in the IRA, May 2024.



Figures 77. Trail camera photo of gray wolves (2) in the Nevada Mountain IRA, March 2022.

August 12-13, 2023 – Camie Westfall and Gary Ingman surveyed the Threemile Creek Trail from the CDNST to within a half mile of the private land boundary in lower Threemile Creek. Notable observations included: 1) healthy hydrologic conditions and poor trail maintenance in Threemile Creek, 2) elk activity at night near their campsite, 3) no signs of recent human activity or trail clearing (i.e. the trail was inundated with blowdown in many areas), and 4) documentation of two old abandoned hunting camps and a permanent structure that are slowly becoming naturally reclaimed by downed trees (Figure 78-80). The former campsite included underground storage caches (a pit and buried plastic barrels, abandoned tools and camping equipment, a large rocked up fire pit and firewood pile, water piping, etc. The tent site and abandoned gear had been reported to the HLCNF many years ago but went unaddressed.





Figures 78. Old sign at junction of CDNST and Threemile Creek Trail. Figures 79. Unmaintained Threemile Creek Trail, August 12-13, 2023.



See the previous notation about the Gleason Creek Trail signage from the August 27, 2023 survey of main Nevada Creek by Gary Ingman (page 14).

Gary Ingman discovered an abandoned hunting camp on the eastern flank of Nevada Mountain in October 2023 which included a camp stove and camping gear.

Gary Ingman discovered an abandoned hunting camp just west of the Continental Divide Trail at the head of McQuithy Gulch many years ago. There is still a large amount of abandoned gear on site that is visible on Google Earth. It was reported to the HLCNF years ago but remains a mess. It needs to be cleaned up.

Figure 80. Dugout hunting/trapping cabin in upper Threemile Creek, August 12, 2023.

Tabulation of person hours, mileage, level of effort -

More than 579 man-hours of volunteer time and more than 1,593 vehicle miles were driven conducting the Nevada Mountain IRA monitoring effort in 2022-2024 (Appendix I). Most monitoring trips were single day trips, but one overnight backpacking trip was utilized for monitoring within the central interior portion of the Nevada Mountain IRA.

CONCLUSIONS AND SCORING

Aerial Overflight -

This assessment category is not scored.

One Nevada Mountain overflight was conducted on August 11, 2023 and focused on the west side of the Continental Divide. The flight objective was to make general observations and to locate motorized trails on the west side of Nevada Mountain IRA.

The flight was successful in documenting user created motorized routes within the Nevada Mountain IRA near Black Mountain and possibly in Jefferson Creek. However, the majority of the IRA was not able to be surveyed. Additional flights are warranted to examine possible cattle trespass in upper Nevada Creek, ATV use within the IRA on the west side of the area behind private property (specifically Shingle

Mill Creek, Mitchell Creek, etc.), fire associated roads construction on the west and north sides of the Gould-Helmville Trail, and the status of motorized access (if any) into the IRA along the "Lincoln Face".

Boundary Condition –

Good boundary signage was documented in some areas, particularly the west side trailheads on Nevada Creek and Gleason Creek. Eastside tributary drainages were fairly well marked but could use improvement, especially as the new Forest Plan and associated Travel Plan is implemented. The Continental Divide corridor on both the south and north ends were not well signed indicating non-motorized travel restrictions and both access points were being violated during this survey. New signs were installed on the north end of the CDNST during our surveys. In general, the boundary condition and adjacent buffer area did not seem to pose a major problem. There were a few exceptions, including the placer mining in Prickly Gulch, private access into the IRA from Mead Gulch, possible intrusions from Jefferson and Washington Gulches, and fire roads extending from the Gould-Helmville Trail. The Deadman Creek trailhead also needs better signs.

Score

85% out of a possible 100%, with a static trend.

Overall, the boundary condition was quite intact and well regulated, but there are some problems that need correction. The documented ATV intrusions from Meyers Hill to Black Mountain and from Marsh Creek to the Gould-Helmville Trail were detractors from a higher score. We also have concerns about possible motorized intrusions on the west side of the area behind private property (Threemile, McKay, Mitchell, Shinglemill creeks, etc. and vicinity) but this remains unknown. Lastly, the user created trails from Georgia Creek into the IRA need obliteration and immediate attention. These problems are human caused and Forest Travel Plan related.

Hydrology -

Impacts to riparian areas associated with noxious weeds were documented along mainstem Nevada Creek. Illegal cattle grazing was apparent in Nevada Creek due to damaged and unmaintained drift fences, which has contributed to riparian damage in previous years. A remnant bull trout population and native westslope cutthroat may be at risk from livestock induced sedimentation, based on observations from several years ago (pre-2022-2024 survey). Climate related hydrologic impacts (low snowpack, especially in Water Year 2023-2024) has the potential to negatively affect coldwater fisheries and threaten downstream irrigation and other water supplies in Nevada Creek, Threemile Creek, Poorman Creek, Little Prickly Pear Creek, etc. As of this writing (September 2, 2024), the upper Blackfoot River is and Nevada Creek are experiencing the lowest streamflows measured in 24 and 88 years, respectively, of record keeping (Blackfoot River above Nevada Creek, Nevada Creek above Reservoir, USGS, September 2024; https://waterdata.usgs.gov). Excellent functioning condition was noted in some tributary watersheds, for example Threemile Creek. Evidence of historical hydromodification was noted in Nevada Creek, where major inter-basin transfer canals were constructed long ago but are now abandoned.

Score

65% out of a possible 100%, with a downward trend.

Factors detracting from a higher score were 1) drought, low snowpack and record low streamflows, 2) cattle trespass in riparian areas on Nevada Creek, 3) and noxious weeds. Snowpack and adequate streamflows are important for wildlife, fisheries and downstream irrigation. We can't readily address declining precipitation, but we can protect riparian areas and maintain shading for cooler temps. This is a critical issue of concern.

Wildlife -

Wildlife in the Nevada Creek IRA showed an incredible diversity. During this survey, sightings, photos or tracks of wolf, lynx, wolverine, grizzly bear, black bear, cougar, coyote, fox, elk, moose, mule and whitetail deer, dusky, ruffed and spruce grouse were documented by Helena Hunters and Anglers and their cooperators (e.g. Wild Things Unlimited). Predators are well established and big game is apparently well distributed, reasonably abundant and with good age structure. Recent winter elk counts by Montana Fish, Wildlife and Parks in the Granite Butte Elk Management Unit show an elk population that is at or above objective, although bull numbers are relatively low. The security areas provided by the Nevada Mountain IRA contribute to the survival of bull and cow elk.

Motorized trapping activity documented in 2023 in the Nevada Mountain IRA would appear to pose a threat to some listed wildlife species, particularly lynx and wolverine, as evidenced by a report of a wolverine springing a trap in the area where wolverine pictures were documented by a trail camera in close proximity to live bobcat traps.



Figure 81. Trail camera picture of Lynx family in Nevada Mountain IRA, 2023. *(Courtesy of Wild Ideas, LLC*).

During September 2024, *a* wildfire burned in the central portion of the Nevada Mountain IRA (Marsh Creek Fire, InciWeb 2024). The area of the fire has shown major conifer encroachment of former parks on south facing slopes and a buildup of fuels (standing dead and downed beetle killed lodgepole pine on north facing slopes. Depending on total acreage burned and the burn pattern, this fire could provide major benefits to elk and other wildlife.



Figure 82. Marsh Creek fire burning in Nevada Mountain IRA. September 2024 (InciWeb; https://inciweb.wildfire.gov).

Score

95% out of a possible 100%, with a static trend.

Wildlife security habitat is excellent, all the native species are present and overall biodiversity is high. The new Recommended Wilderness designation will be a positive factor in protecting wildlife habitat and security values, when it is implemented. However, this designation does not include all of the Nevada Mountain IRA such as the Lincoln Face. Elk numbers are high but bull:cow ratios are low. This is

a hunting management issue. Mule deer populations are depressed possibly due to population cycling. Trapping is a threat to lynx and wolverine.

Plants/Vegetation -

Most of the forest is in mid- to late-seral stage. A general "blight" is widespread stemming from beetle kills, bud worm, blister rust, drought impacts, etc. The forest is slowly being replaced and moving from late- to early-seral stage in many areas. Noxious weeds are fairly widespread in livestock grazed areas. .

An important natural ecological process, wildfire, has been largely excluded from the IRA for at least the past 80 years. This lack of the natural fire regime has had some impacts on the NRV in forest composition for structure, age and species, i.e.:

- a. less Non-forest - mostly grassland impacted as confers expand their range
- b. expansion of Douglas fir and Lodgepole pine, loss of Ponderosa pine, Whitebark pine dominated areas
- c. higher density of canopy closure
- d. Little very young stage (seedling/sapling age class) in the IRAs
- e. Young and very young size class trees become dominant in older stands.
- 2. The NRV is key to the proper functioning of a fire-adapted ecosystem by being resistant to impacts from disturbance, such as wildfire, insect and disease infestations, as well as resilient from those impacts when they do occur.
- 3. R1-VMap inventory (remote sensing) identifies the dominant size class by the amount of area occupied for a stand of trees. As succession proceeds, younger, smaller size classes can expand into existing larger size classes and become the dominant size class by number of trees of the area. The large trees may still be there but are "hidden" by the more prevalent smaller trees. This may account for the perceived lack of large/very large size classes and a relative abundance of medium, and smaller size classes and a relative abundance of medium, and smaller size classes. This is why the medium and large/very large tree size classes are combined in much of the following discussion.
- 4. Even with little to no wildfire burned acreage in the past 80 years in the Divide GA, there is a significant lack of the mature (medium size class) and old/very old (large/very large tree size class) component in the forest ecosystem. Likely a combination of factors such as timber harvest, insect epidemic and, perhaps, disease are the causes.
- 5. The UBlkft GA ecosystem also shows a shortage of the combined mature and old/very old tree components. There have been some large wildfire events plus timber harvest and insect epidemic as the likely causes.
- 6. Both GAs have an abundance of very young and young age groups. Likely causes are timber harvest, insect epidemic and, in the case of the UBlkft, wildfire events.
- 7. The IRA has a higher proportion of a combined mature and old/very old age group than is found in the GAs. These combined groups are close to the middle of the NRV and DC in the IRA while the GAs are below both the NRV and DC.
- 8. The large fire events in the UBlkft may have been somewhat out of character from the NRV due to their infrequency and intensity of burn. There should have been more frequent fire events over the decades. This would have resulted in a more diverse age class structure across the GA from a more mosaic burn pattern.

- 9. If the IRA had the NRV fire activity, it would be more diverse and supportive of all of the native flora and fauna habitats.
- 10. As conifer stands age, they develop more of an understory, increased density, add more dead/down fuel, and have increased insect and/or disease activity. All these conditions add to the risk of a significant wildfire burning across much of the IRA with results beyond those expected if the forested conditions are more within the NRV.
- 11. This type of fire could eliminate most of the mature and old/very old components and change those burned areas to either NF or very young stage in one event.
- 12. However, even if the IRA is now at somewhat more risk from wildfire, it provides a much-needed mature and old/very old habitat combination that is lacking outside of the IRA.
- 13. Existing mature and old/very old stage stands currently provide habitat for key sensitive and/or threatened species, such as grizzly bear, wolverine, Canada lynx and WBK in the GAs.
- 14. Since there is little of the mature and old/very old age class combination in the GAs it appears likely there are minimal habitat linkages with other IRAs.
- 15. Any forest project, wildfire or insect epidemic that would impact the mature and old/very old age class could exacerbate their existing imbalance from both the NRV and DC in the GAs.
- 16. The other age classes are also present and offer suitable habitats for a number of species, even if the full set of NRV conditions may not be present.
- 17. Succession continues in the forested area of the IRA, so far with little direct human intervention except for fire suppression and climate change.

Score

60% and 85% out of a possible 100%, with a static trend.

The forested portion of the IRA receives a score of 60%. This is based on the fact some components are clearly not within their NRV while others are within their expected range. Disturbance from fire is severely lacking which has helped cause this imbalance of diversity for forest conditions. Insect infestations have been present at an elevated level.

The grass/rangeland portion of the IRA receives a score of 85%. This is based on the fact that while generally healthy, some grassland has been lost to conifer encroachment and noxious weeds are present at a moderate to light level.

Human Use and Violations –

CDNST Corridor -

The Divide had apparent heavy use by through hikers. A lone hiker on August 13, 2023 indicated there were a few hikers ahead of him and more than one hundred were coming behind him based on an online log. We noted that some of the trail was not well maintained, with lots of blowdown. A “leave no trace” ethic was not always followed with camping (see page 13). But generally, the CDNST showed little impact from the heavy use. Illegal mechanized/bicycle use was not apparent within the central portion of the Nevada Mountain IRA. On the other hand, illegal motorized intrusions were documented on the north end (Marsh Creek to the Gould-Helmville Trail junction and further out on the G-H Trail) and south end (Myers Hill to Black Mountain) of the CDNST, including illegal trail clearing on south end (Myers Hill)

to accommodate ATVs. An extensive user created road/trail network from private lands in Georgia Creek up the west flank of Black Mountain to the Continental Divide was thoroughly documented and has gone unchecked and uncorrected for many years now. Periodic illegal ATV use on the Prickly Gulch Trail and portions of the Gould-Helmville Trail cannot be ruled out, as well as ATV use on the Cellar Gulch Trail outside of the allowed period (October 15-May 15), based on past observations.

-Other Recreation

In general, recreational use appeared well distributed and minimally disruptive of wildlife and other values within the Nevada Mountain IRA, except on the CDNST where use was seasonally heavy (CD Trail through hikers). Several (4+) long abandoned hunting camps were documented, with extensive trash and one permanent structure (log dugout cabin). Illegal trail/travel route clearing (chainsaw) work was documented in several locations (South Fork Little Prickly Pear Creek, North Fork Little Prickly Pear Creek, upper Beartrap Gulch, etc.). Documented motorized trapping activity may pose threats to endangered wildlife such as lynx and wolverine.

Score

90% out of a possible 100%, with an upward trend.

Overall, recreation on the Forest is up since the Covid pandemic. However, this area seems to be holding its own. Mechanized use will be eliminated from a large portion of the IRA following Recommended Wilderness implementation. The score could higher if private trails and the documented illegal motorized use were curtailed. Over the past 40 years, there have definitely been improvements in protective management reducing human use-related violations.

General Observations -

Overall, the Nevada Mountain IRA was in good shape. Excellent wildlife habitat quality was evident from the diversity of species present. Recreational over-use was not an apparent problem. Agency monitoring and oversight is needed relative to Travel Plan enforcement (especially along the CDNST), illegal grazing, noxious weed control, and enforcement of other illegal activities like permanent or abandoned hunting camps, trail clearing, etc.

Overall Score

90% out of a possible 100%, with upward trend over historical conditions.

Overall functioning condition of the Nevada Mountain IRA was rated at 90%. There is room for improvement but it is likely among the best condition IRAs we have on the Helena-Lewis and Clark National Forest. The Recommended Wilderness designation of the area in the new Forest Plan demonstrates agency acknowledgement of the special attributes and wilderness character of Nevada Mountain.

RECOMMENDED ACTIONS

Aerial Surveys -

The west side of the IRA from Threemile Creek to Nevada Creek should be flown to look for boundary integrity relative to user created ATV trails, which are rumored to exist. Upper mainstem Nevada Creek should be monitored during the grazing season to check on livestock trespass, which has been a problem in the past. Boundary conditions should be examined from the air on the west end of the Gould-Helmville Trail for presence of trespass from mining claims in Washington and Jefferson Gulch and for intrusions from firefighting bulldozer roads (e.g. at the heads of Lincoln Face tributaries.

Trail maintenance on CDNST -

The Continental Divide National Scenic Trail is apparently heavily used by through hikers during the summer period. We experienced a lot of blow down trees across the trail during our surveys that appeared to be one or more years old. Trail maintenance could be improved on the main Continental Divide to accommodate recreational hikers. The trail width should be maintained at a width appropriate for horses and hikers but not ATVs (i.e. 3 feet not 5 feet).

Perimeter signage -

It would be beneficial to install permanent durable signs at multiple entry points into the Nevada Mountain IRA indicating that you are entering an inventoried roadless area with use restrictions and/or Recommended Wilderness as designated under the 2022 HLCNF Forest Plan. Some use restrictions (e.g. chainsaws, mechanized recreation, etc.) will presumably change as the new Recommended Wilderness designation is implemented. The Forest has pledged that the MEPA review process for updating the Forest Travel Plans for consistency with the new Forest Plan will commence no later than October 2024, according to Supervisor Bill Avey (pg. 18, ROD October 29, 2021): *"I will initiate site-specific NEPA planning to bring the travel plan designations consistent with the Plan suitability direction in the recommended wilderness areas within 3 years from the date of this decision."* Language pertaining to "Leave No Trace" camping etiquette, etc. would also be appropriate together with area maps allowing orientation for visitors. Current signs on the west side of the Divide at Nevada Creek trailhead were exemplary and provide a good example to follow.

Travel Plan Enforcement -

We documented illegal road/trail building from private property in Georgia Creek to Black Mountain and ATV usage on the CDNST on both the north and south ends of the Nevada Mountain IRA. Better monitoring and enforcement of the current Divide Area and Blackfoot Travel Plans is warranted.

Illegal roads and trails -

The road network coming up from Georgia Creek and extending along the west side of Black Mountain requires enforcement action and restoration/obliteration of the travel routes. We have concerns about reported but undocumented user created trails entering the IRA from private property on the western

perimeter of the Nevada Mountain IRA between Threemile Creek and Shinglemill Creek. This needs investigation but lack of public access poses a problem.

Grazing enforcement –

Evidence of unpermitted grazing activity was present in upper mainstem Nevada Creek. This has been an ongoing activity with cattle from the Stuckey Ranch ascending the Nevada Creek drainage from the motorized closure at the Nevada Creek Trailhead (Trail # 466) and occasionally working their way to the Continental Divide. A drift fence at the IRA boundary is intended to prevent cattle egress but it is not consistently maintained allowing livestock access, as was document in summer 2023 and in previous years. More scrutiny and monitoring are needed by the HLCNF grazing permit coordinator to ensure grazing compliance in this sensitive stream segment. The other grazing permit conditions need to be monitored and assessed for compliance (e.g. North Fork and South Fork Little Prickly Pear Creek, Beartrap Gulch, Deadman Gulch, etc.).

Weed control -

Noxious weeds were a significant problem in mainstem upper Nevada Creek, in various places along the CDNST (Marsh Creek to the head of Nevada Creek), and in McQuithy Gulch, Beartrap Gulch, South and North Forks of Little Prickly Pear Creek, and other areas. Some of this spread is likely associated with cattle grazing; both permitted (Beartrap Gulch) and unpermitted (Nevada Creek). The HLCNF should develop and implement a weed control plan and share the implementation burden with grazing permittees, where appropriate.

Reclamation/cleanup of abandoned hunting camps and structures -

At least four abandoned hunting camp areas were located during our surveys in 2022-2023, including permanent structures, abandoned tools and supplies, buried plastic barrels, etc. Cleanup is warranted and Helena Hunters and Anglers members are prepared and willing to assist the HLCNF in this effort. Livestock would be needed to pack out garbage.

Trapping monitoring and enforcement -

Regular and heavy snowmobile- based furbearer and wolf trapping and hunting activity as documented in winter 2023. We have concerns that this activity can pose a threat to some listed wildlife species, particularly lynx and wolverine, as evidenced by a report of a wolverine springing a trap near where wolverine pictures were captured by a trail camera in close proximity to live bobcat traps. We encourage monitoring and enforcement of area trapping by Montana FWP and HLCNF and public education about trapping regulations, sensitive species, lynx and wolverine recovery zone restrictions, and an expanding grizzly population etc.

Prescribed fire and benefits -

The Nevada Mountain IRA has experienced fire suppression for decades and can benefit from prescribed fires to reduce fuels and litter build up and to suppress conifer encroachment that is occurring in former

south facing clearings favored by big game. We have asked for the opportunity to work with the HLCNF to have input on planned annual prescribed burns on the Forest based on our knowledge of wildlife use. The 2024 Marsh Creek wildfire may present an unusual opportunity to accomplish a portion of this goal.

Heavy equipment use should be avoided in IRAs and burned areas should not be reseeded, but left to revegetate naturally. Firefighting activity in the Nevada Mountain IRA has been too heavy handed in the past, with ridgetops cleared for helicopter landing pads and crew camp sites, excessive chainsaw work destroying the natural character of the area, etc. The 2024 Marsh Creek fire has not been actively fought and has only burned 150 acres in two weeks demonstrating that natural fires can be left to burn unchecked in some circumstances (Figure 82).

Prescribed fire would be the preferred tool to use in a forest management project designed to restore or move an area toward its NRV. From a logistical and safety standpoint, prescribed fire use may be somewhat limited. Its use could best be employed around the "edges" of the IRA, in more accessible locations and in the more frequent fire-return interval forest types. The interior of the IRA is composed mostly of the longer-fire return interval forest types and the significant type of natural fire that visited these areas were most often of a stand-replacing nature, although not necessarily with one event impacting the entire IRA. An effort to use prescribed fire to replicate natural fire's role in these stands pose enormous logistical and safety issues. The current forest conditions could easily help cause a fire to exceed both intensity and extent of a planned prescribed fire. Restoration of the natural role of fire may best be accomplished by applying an "appropriate suppression response" to fires that occur in the right place at the right time. The Marsh Cr. Fire of 2024 is a great example. As more of these occur, some diversity will increase, site-specific fuel reduction achieved, and increased opportunity aid in the management of future fires to achieve restoration goals.

<u>Firefighting access roads on the west end of the Gould Helmville Trail –</u>

This was not assessed but there may be fire roads within the Nevada Mountain IRA which require obliteration. Examining several former wildfire sites within the Nevada Mountain IRA (Gleason Creek, north face of Nevada Mountain, and others), it is alarming to note the level of disturbance that has occurred. These include intrusive chainsaw work and fire breaks that may not have been warranted, clearing of helicopter landing pads and campsites, etc.

<u>Climate related hydrologic impacts -</u>

2024 experienced the record low streamflows in the Nevada Mountain IRA, based on U.S. Geological Survey gauging stations on the upper Blackfoot River. This condition is likely to continue, which can negatively impact coldwater fisheries (including bull trout and westslope cutthroat) and other aquatic life in Nevada Creek, Poorman Creek, Little Prickly Pear Creek, and other streams. This loss of habitat will equate to a loss of overall biointegrity.

Forest health issues -

Climate change, persistent drought, forest insects and fire prevention have created a less than healthy forest in much of the IRA. Prescribed burns could help address this condition while simultaneously benefitting wildlife and other values.

Agency Follow Up –

A number of the above issues of concern, including user created trails and roads, travel plan violations, unauthorized cattle grazing, and noxious weed infestations, have been previously conveyed to the HLCNF land managers and a dialogue was initiated about corrective measures for some of these, including the potential for volunteer assistance by HHAA. Positive observations, including effective boundary signing, rare species documentation, and others were also conveyed to the managers. Additionally, several meetings were held with monitoring practitioners in agency (MFWP) and private sector (Wild Ideas, LLC) roles to discuss data sharing and collaborative monitoring opportunities. Concern about observed expanded trapping on Forest Service lands within or adjacent to subject IRAs in proximity to documented wolverine and lynx presence was conveyed to agency managers in writing. We are hopeful this dialogue can extend to the other recommendations presented above. Lastly, Helena Hunters and Anglers Association reiterates its desire to work with the HLCNF to conduct the MEPA review for the 2022 Helena Forest Plan and to modify and implement revised Travel Plans for the Divide and Upper Blackfoot geographical planning areas. We politely ask that the Helena Forest recognize the Nevada Mountain IRA boundaries and actively work to protect them from intrusions, motorized and otherwise.

ACKNOWLEDGEMENTS

Wild Ideas, LLC owners Kalon Baughan and Bret Davis were gracious enough to allow us to use their wildlife monitoring information and remote camera data for the Lincoln Ranger District from 2022 and the Helena Ranger District for 2022-2023 to help us document the presence of sensitive species in the Nevada Mountain IRA, including lynx, wolverine and grizzly bears.

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APPENDICES

A. Aerial Survey Form



Aerial Survey Form - IRA flights.xlsx

B. Field Assessment Forms – Boundary Condition



IRA Monitoring_ Boundary Condition.p

C. Field Assessment Forms – Hydrology



IRA Monitoring_ Hydrology.pdf

D. Field Assessment Forms – Wildlife



IRA Monitoring_ Wildlife.pdf

E. Field Assessment Forms – Vegetation



IRA Monitoring_ Vegetation.pdf

F. Field Assessment Forms – Human Use and Activity



IRA Monitoring_ Human Use and Viola

G. Field Assessment Forms – General Observations



IRA Monitoring_ General Observations

H. Field Monitoring Summary Sheet (Cheat Sheet)

IRA Monitoring - CHEAT SHEET.pdf

IRA On-the-Ground Field Monitoring Cheat Sheet

Form	Observation Cues	How to Document
Boundary Condition	-Signage or markings at entrance points to the IRA -encroachment activities into the boundary (motorized travel, private land encroachment, trail building, -evidence of intimidation designed to keep public out of IRA by private entities (signs, fences, gates)	Drop points in Avenza (lat/long); photos; if necessary, elaborate on descriptions on **Boundary Cond. Form**
Hydrology	-Disturbance to waterbody/waterway. -Sedimentation, headcuts, dredging, -catastrophic erosion event or washout, -hydrologic impacts from wildfire (streamflow/erosion), riparian trampling (hydrology/bank erosion, water quality/turbidity/algae, riparian vegetation overgrazing/destruction), -Absence of woody/shrub vegetation on banks	Drop points in Avenza (lat/long); photos; if necessary, elaborate on description of observed impact on **Hydrology Form**
Wildlife	-Document observed wildlife of interest. -Tracks, sign, beds, dens, nests, rubs, scapes, calls, hair, feathers, etc. -signs of sickness or disease -Short List: grizzly bears, grouse, elk, wolverine, lynx, mtn lion, amphibians, moose, mule deer, porcupine, beaver, raptors, bobcat, wolves, martin, nutcracker, mountain goats, bighorn sheep, otter, pika, etc	Drop points in Avenza (lat/long); photos; record species, sex, number, age(s), etc, if necessary, elaborate on description on **Wildlife Form**
Plants	-Disturbance by wildfire/prescribed burn, -Riparian vegetation health issues from overgrazing (highlining, trampling, hummocking, etc), -unique/rare/sensitive species: orchids, whitebark pine, etc -lack of diversity/monoculture of species in certain areas -conifer encroachment and/or sagebrush on meadows and parks -evidence of beetle kill/disease -noxious/county listed weeds: toadflax, knapweed, leafy spurge, houndstongue, canada thistle, musk thistle, hawkweed, black henbane, bindweed, whitetop, oxeye daisy, common tansy, hoary alyssum, smooth brome, japanese brome, cheatgrass, mullein, etc	Drop points in Avenza (lat/long); photos; record species, number/size of population, etc, if necessary, elaborate on description on **Plants Form**
Human Use and Violations	-count vehicles observed at public access locations -general recreational use observations (snowmobiles, hiking, skiers, bikers, ATVs, trail creation/maintenance -not by FS, mountain biking, skiing, vehicle tracks, cut trees/shrubs, modified water crossings, constructed facilities, tree stands, lean-tos, water pipes, ground leveling, corrals, camping) -other human uses (livestock grazing, firewood cutting, mining/prospecting, foraging, fishing, hunting, trapping, etc) -agency management/use (timber harvest, use of flagging/tree marking) -Adjacent land use within 1/2 mile of IRA boundary (heavily roaded, trailheads, agriculture, logging, mining, recreational use, houses/private land ownership, campgrounds, etc)	-Drop points in Avenza (lat/long); photos; short description; if necessary, elaborate on description of observed impact on **Human Use and Violation Form** -For Adjacent uses within ½ mile: describe on **back of Human Use and Violation Form**
General Obs	-General positive AND negative aspects and assessment of condition observed in each subunit -additional general observation not captured on the other monitoring forms	-Describe on **General Obs Form** -Drop points in Avenza (lat/long); photos;

I. Log of Volunteer Field Hours and Mileage

IRA Monitoring-Volunteer

J. Forest Service Statement - Submission by C. Westfall

fs_5300_16
Statement_Westfall_3

USDA Forest Service — **STATEMENT** (Reference FSH 5309.11)

Case/File Number

☒ Initial Report ☐ Follow-Up

2. NATURE OF INVESTIGATION

t

3. PERSON MAKING STATEMENT (Last, First, Middle)	4. SOCIAL SEC. NO.	5. DOB	6. SEX
Westfall, Camielle, Elizabeth	- -	/ /	F

7. HOME ADDRESS (St., City, State, ZIP Code)	8. DRIVER'S LIC. NO.	9. PHONE (H) (Area Code)
5730 Racehorse Loop, Helena , MT 59602		(406) 363 - 8295

10. EMPLOYMENT (Occupation and Location)	11. PHONE (W) (Area Code)
	( ) -

12. LOCATION STATEMENT TAKEN	13. NAME OF OFFICER TAKING STATEMENT	14. DATE TIME STARTED
		8/31/2023

15. STATEMENT

We are concerned that the Forest Travel Plan road designations are not being followed by users. We are especially concerned about unlawful motorized use in the Inventoried Roadless Area/proposed wilderness area and the associated threats to high quality wildlife and native plant habitat.

I would like to make this report on behalf of myself and several other members of Helena Hunters and Anglers Association:

1. Evidence of unlawful motorized vehicle use within the Nevada Inventoried Roadless Area (IRA) and roads and trails that are closed to motorized use.
2. Evidence of noxious weeds and possibly trespass cattle use.

See descriptions on next page and attached kmz location files and photos.

I have read the foregoing statement consisting of 2 pages. I fully understand this statement and declare that the foregoing is true, accurate, and complete to the best of my knowledge. I have signed or initialed each and every page and have been given an opportunity to make any corrections or additions.

I have made this statement freely and voluntarily, without threats or rewards, or promises of rewards having been made to me in return for it.

Camielle Westfall Camielle Westfall
SIGNATURE OF PERSON GIVING STATEMENT

16. DATE/TIME ENDED: 8/31/2023

17. OFFICER'S SIGNATURE	18. WITNESS' SIGNATURE (If Applicable)

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USDA Forest Service	STATEMENT (Reference FSH 5300.11)	Case/File Number ☒ Initial Report ☐ Follow-Up

A. Ophir Creek/Georgia Creek: discovered 8/19/2023
An illegally created and maintained road (large enough for a passenger vehicle/truck) coming directly off of the private parcel located at Geocode:28-1989-13-1-01-01-0000, continues into the IRA, and connects to the CDT at Black Mountain. Some areas are maked on trees with slashes and spray paint. Possible Responsible Party: Koon Cabin LLC
(see photos and kmz points) (46.714409, -112.533659) (46.722297, -112.521642) (46.719109, -112.521448)(46.735202, -112.520235)(46.737310, -112.518710)

Significant spotted knapweed, musk thistle, and mullein infestations in the old timber harvest adjacent to the IRA near Ophir Creek.

B. Meyers Hill/CDT: discovered 8/12/2023
Motorized vehicle use (likely ATV/side-by-side) on the CDT trail from Meyers Hill to Black Mountain within the IRA. This section of the CDT is a two-track road with a maintained width greater than 50 inches. Near Black Mountain, there are some areas that are marked with slashes and spray paint. (see photos and kmz points) (46.726177, -112.474086)

C. McQuithy Gulch Road: discovered 8/16/2023
Has the restriction signs in place, but with only an unlocked wire gate. It appears that it has been accessed and driven on recently by vehicles. (see photo and kmz points)

D. Cellar Gulch/CDT: discovered 8/16/2023
Users are driving around closure gates at Cellar Gulch within the IRA. (see photos and kmz points) (46.842131, -112.487577) (46.841638, -112.487880)

E. CDT/Gould-Helmville: discovered 8/16/2023
ATV/motorized use and route maintenance at the junction of the CTD and the Gould-Helmville trail within the IRA. (see photo and kmz points) (46.839482, -112.499039)

F. Marsh Creek/CDT: discovered 8/16/2023
Users are driving around fence/sign in a non-motorized use area within the IRA. (see photo and kmz points) (46.848647, -112.479729)

G. Nevada Creek: discovered 8/27/2023
The cattle drift fence past the old Warren Cabin/Nevada Creek Cabin not intact due to timber blow down. There are signs of livestock use within the IRA.
There is a significant weed problem along Nevada Creek within the IRA with high infestation of spotted knapweed and Canada thistle. Noxious weed spread is suspected to be caused by cattle use.

Initials: CEW

K. General Forest Area Condition - Nevada Mountain Inventoried Roadless Areas

Appendix K

General Forest Area Condition

Nevada Mountain Inventoried Roadless Area

Process and Assumptions

Commonly used Acronyms:

AS/HW	-	Aspen/Hardwood	NF	-	Non-forest (grassland, rock, scree)
DC -	-	Desired Condition	NRV	-	Natural Range of Variation
DF	-	Douglas fir	PP	-	Ponderosa Pine
FP	-	Forest Plan	SpFir	-	Spruce and/or Subalpine Fir
GA	-	Geographic Area	UBlkft	-	Upper Blackfoot
IRA	-	Inventoried Roadless Area	WBP	-	Whitebark Pine
LP	-	Lodgepole Pine			

As part of our broad-scale monitoring effort for forest conditions in the Inventoried Roadless Areas (IRAs), we evaluated the existing condition diversity compared to the Natural Range of Variation (NRV) expectations for size class. The Helena-Lewis & Clark Forest Plan (FP) describes five size classes: seed/sap (0-4.9dbh), small (5-9.9dbh), medium (10-14.9dbh), large (15-19.9dbh), very large (20+dbh). For discussion purposes, these size classes can generally approximate, or relate to, differences in age groupings – very young, young, mature, old and very old. This grouping works well for most cover types. However, it does not work for lodgepole pine (LP). The medium size class for LP should be included with the "old" age group.

Vegetation Cover Type and Density Class were also examined to see how the existing condition compared to the NRV. Cover Type identifies by percent of area occupied by non-forested areas and the various tree species. The FP displays 3 levels of Density Class as determined by percent of canopy closure, low/medium at 10-39%, medium/high at 40-59% and High at 60 and greater%.

The R1 VMap database used in the FP was the primary source of information for this evaluation, along with some site-specific field observations in the summer of 2023 as well as years of on-the-ground knowledge and experience within the IRAs by the monitoring group members. R1-VMap is a consistent and continuous geospatial database for existing vegetation and associated attributes. The NRV values for the Geographic Areas (GA) are determined through SIMPPLLE, a spatially-explicit, dynamic landscape modeling system for projecting temporal changes in the spatial distribution of vegetation in response to insects, disease, wildland fire and other natural and management-caused disturbances. The NRV values are not available for the site-specific IRAs.

Each IRA is not an island unto itself, they exist within a greater landscape and the type of conditions across the landscape have implications on the potential management for the IRA. Therefore, we also used the FP Final Environmental Impact Statement data (Vol. 5, Appendix H, pg. 44, 67 and 77) for the

existing and NRV size class as well as Density Class and Cover Type for the Divide and Upper Blackfoot (UBlkft) GAs. The Desired Condition (DC) range is defined in the FP, Chapter 3, pages 151-152. Combined, these attributes provide insight into how the IRAs contribute to the landscape's NRV condition and diversity.

Site-specific Field Observation Notes, Nevada Mtn. IRA - 50,080 acres

(16,086 ac. in the Divide GA and 33,994 ac. in the Upper Blackfoot GA)

1. Marsh Cr. Trailhead to Nevada Cr. – forest appears to be very much in the medium to very large size class overstory trees, multiple understory conifer layers, evidence of significant insect defoliation on all conifer layers and scattered downfall.
2. From vantage points along the Continental Divide Trail on the north end of the GA, with the exception of the large park at the head of Nevada Creek, the landscape appears to have a rather high-density canopy cover.

Selected R1 VMap and SIMPPLLE Components

There are no NRV and DC values available for specific IRAs. However, we believe it is useful to display and discuss how the existing condition within the IRAs contributes to the overall forest diversity and objectives for the GAs.

R1 VMap/SIMPPLLE Tables

Table 1 Cover Type

NF=Nonforest, AS/HW=Aspen/Hardwood, PP=Ponderosa Pine, DF=Douglas Fir, LP=Lodgepole Pine, SpFir=Spruce Subalpine Fir, WBP=Whitebark Pine

Cover Type, Existing Condition % of IRA								
IRA		NF	AS/HW	PP	DF	LP	SpFir	WBP
Nevada:Divide	Existing	2	0	1	29	50	15	2
UBlkft	Existing	1	0	0	42	44	12	0
Cover Type - NRV, Existing and Desired Condition % of GA								
Divide GA	NRV	8-11	1-2.4	21-27	22-29	24-26	9-13	2.5-3
	Existing	8	1	0	40	37	10	1
	DC	5-15	2-5	10-20	20-30	20-30	5-15	2-5
UpBlkft GA	NRV	4-8	0.2-0.4	19-25	16-25	23-28	20-26	1-2
	Existing	16	.4	2	33	26	10	1
	DC	5-15	2-5	10-20	20-30	20-30	5-15	2-5

Discussion Points

Divide GA

1. Non-forest and aspen/hardwood types are right at the very low end of the NRV.
2. PP is not observed or not prevalent enough to be considered a cover type, well below both NRV and DC. Other cover type trees have likely become dominant within PP stands.
3. DF and lodgepole pine are both well above the NRV and DC.
4. Whitebark pine is less than 50% of both NRV and DC.

UBlkft GA

1. PP is well under both NRV and DC. Other cover type trees have likely become dominant within what were PP stands.
2. NF is well above the NRV.
3. AS/HW well below the DC but within the NRV.
4. DF above both RNV and DC.
5. WBP well below the DC. It is likely other cover types have become the dominant species within WBP stands.

IRAs:

UBlkft GA portion of the Nevada IRA:

1. The NF and PP in the Nevada IRA are below the NRV and DC.
2. NF is below the NRV and DC in the UBlkft.
3. DF and LP have exceeded their range for the NRV and DC.
4. No WBP recorded. It is likely other cover types have become the dominant species within WBP stands.

Divide GA portion of the Nevada IRA:

1. DF and LP have extended the range of their cover types.
2. No WBP recorded.
3. The NF and PP in the Nevada IRA are below the NRV and DC.

Table 2 Size Class

Forest Size Class, Existing Condition % of IRA					
IRA		Seed/Sap 0-4.9”	Small 5-9.9”	Medium 10-14.9”	Lrg/V Lrg 15+”
Nevada, Divide	Existing	4	65	24	1
UBlkft	Existing	1	44	45	7
Forest Size Class - NRV, Existing and Desired Condition % of GA					
Divide GA	NRV	2-22	7-27	5-25	28-51
	Existing	17	46	17	9
	DC	2-20	5-25	2-25	20-50
UBlkft GA	NRV	2-20	4-24	5-27	30-52
	Existing	17	30	18	7
	DC	1-20	5-25	5-30	30-55

Discussion Points

Divide GA

1. Small size class above both NRV and DC.
2. Large/very large together are far below NRV and DC. It is likely some smaller size classes have become the dominant size class in some of the older size class stands.

UBlkft GA

1. Small size class above both NRV and DC.
2. Large/very large size class is far below NRV and DC. It is likely some smaller size classes have become the dominant size class in some of the older size class stands.

IRAs:

Nevada portion in the UBlkft GA:

1. Seed/sap is at the very low end of the NRV and DC.
2. Small is well above both NRV and DC.
3. Medium is well above both NRV and DC.
4. Large/very large is far below the NRV and DC. It is likely some smaller size classes have become the dominant size class in some of the older size class stands.

Nevada IRA portion of the Divide GA:

1. Seed/sap is at the low end of the NRV and DC.
2. Small is well above both NRV and DC.

3. Medium is at the high end of both the NRV and DC.
4. Large/very large is almost absent. It is likely some smaller size classes have become the dominant size class in some of the older size class stands.

Table 3 Density Class

Forest Density Class, Existing Condition % of IRA				
IRA		NF/Low/Medium	Medium/High	High
Nevada, Divide	Existing	13	43	42
UBlkft	Existing	10	53	37
Forest Density Class, NRV versus Existing and Desired Condition % of GA				
Divide GA	NRV	14-49	32-50	17-49
	Existing	18	39	43
	DC	25-55	30-50	10-35
UBlkft GA	NRV	14-43	39-53	16-43
	Existing	28	41	31
	DC	25-55	35-55	10-35

Discussion Points

Divide GA

1. The high-density class is nearing the upper end of the NRV and higher than the DC.
2. The low-density class is at the low end of the NRV and below the DC.

UBlkft GA

1. Low-density class is within the NRV but near the low end of the DC.
2. High-density class is approaching the high of the DC.

IRAs:

Nevada portion in the UBlkft GA:

1. Low-density class is below both NRV and DC.
2. Medium-density class is at the very high end of both NRV and DC.
3. High-density class is at the high end of NRV and above the DC.

Nevada Portion of the Divide GA:

1. Low-density class is below the NRV and well below the DC.
2. Medium-density class is within both the NRV and DC.
3. High-density class is at the higher end of NRV and above the DC.

After an initial look at some of the differences between existing and NRV on the above tables, it became apparent we needed to examine the fire activity in the IRAs to see if that could explain some of the results. The

FP FEIS, Vol.5, Appendix i, pg. 11 displays the NRV and recent (1940-2016) wildfire burned acres for the GAs. Table 4 summarizes this data. Without specific information for the IRA, personal knowledge is the basis for estimating burned acreage.

Table 4 Wildfire Burned Acres

Wildfire Burned Acres, NRV and Recent Burning Levels, % of IRA				
IRA		Acres Burned 1940-2016	Acres Per Decade 1940-2016	Min/Max Acres Burned Per Decade
Nevada, Divide	Existing	little to none	little to none	
UBlkft	Existing	little to none	little to none	
Acres Burned Acres, NRV versus Recent Burning Levels, % of GA				
Divide GA	NRV		1,900-35,500	400-164,000
	Existing	589	77	
UBlkft GA	NRV		2,700-47,200	670-184,000
	Existing	81,922	10,779	

Discussion Points

GA Divide

There has been practically no wildfire burned acreage for at least 80 years in the GA.

UpBlkft GA

Significant burned acreage, largely in a couple of decades with several large events.

Conclusions

It is important to note that the multitude of numbers presented above are not to be considered absolute and infallible. They are the product of remote sensing and modeling, both with their own set of potential errors. The numbers are useful, as part of a broad scale assessment, to illustrate relative values and trends for the various forest attributes. The conclusions discussed below focus on these relative values and trends.

1. An important natural ecological process, wildfire, has been largely excluded from the IRAs for at least the past 80 years. This lack of the natural fire regime has had some impacts on the NRV in forest composition for structure, age and species, i.e.:
    a. less NF - mostly grassland impacted as confers expand their range
    b. expansion of DF and LP, loss of PP, WBP dominated areas
    c. higher density of canopy closure
    d. Little very young stage (seedling/sapling age class) in the IRAs
    e. Young and very young size class trees become dominant in older stands.

2. The NRV is key to the proper functioning of a fire-adapted ecosystem by being resistant to impacts from disturbance, such as wildfire, insect and disease infestations, as well as resilient from those impacts when they do occur.
3. R1-VMap identifies the dominant size class by the amount of area occupied for a stand of trees. As succession proceeds, younger, smaller size classes can expand into existing larger size classes and become the dominant size class by number of trees of the area. The large trees may still be there but are "hidden" by the more prevalent smaller trees. This may account for the perceived lack of large/very large size classes and a relative abundance of medium, and smaller size classes. This is why the medium and large/very large tree size classes are combined in much of the following discussion.
4. Even with little to no wildfire burned acreage in the past 80 years in the Divide GA, there is a significant lack of the mature (medium size class) and old/very old (large/very large tree size class) component in the forest ecosystem. Likely a combination of factors such as timber harvest, insect epidemic and, perhaps, disease are the causes.
5. The UBlkft GA ecosystem also shows a shortage of the combined mature and old/very old tree components. There have been some large wildfire events plus timber harvest and insect epidemic as the likely causes.
6. Both GAs appear to have an abundance of very young and young age groups. Likely causes are timber harvest, insect epidemic and, in the case of the UBlkft, wildfire events.
7. The Nevada Mtn. IRA has a higher proportion of a combined mature and old/very old age group than is found in the GAs. These combined groups are close to the middle of the NRV and DC in the IRAs while the GAs are below both the NRV and DC.
8. The large fire events in the UBlkft may have been somewhat out of character from the NRV due to their infrequency and intensity of burn. There should have been more frequent fire events over the decades. This would have resulted in a more diverse age class structure across the GA from a more mosaic burn pattern.
9. If the IRAs had the NRV fire activity, they would be more diverse and supportive for all of the native flora and fauna habitats.
10. As conifer stands age, they develop more of an understory, increased density, add more dead/down fuel, and have increased insect and/or disease activity. All these conditions add to the risk of a significant wildfire burning across much of the IRA with results beyond those expected if the forested conditions are more within the NRV.
11. This type of fire could eliminate most of the mature and old/very old components and change those burned areas to either NF or very young stage in one event.
12. However, even if the IRA is now at somewhat more risk from wildfire, it provides a much-needed mature and old/very old habitat combination that is lacking outside of the IRA.
13. Existing mature and old/very old stage stands currently provide habitat for key sensitive and/or threatened species, such as grizzly bear, wolverine, Canada lynx and WBK in the GA.
14. Since there is little of the mature and old/very old age class combination in the GAs it appears likely there are minimal habitat linkages with other IRAs.
15. Any forest project, wildfire or insect epidemic that would impact the mature and old/very old age class could exacerbate their existing imbalance from both the NRV and DC in the GAs.
16. The other age classes are also present and offer suitable habitats for a number of species, even if the full set of NRV conditions may not be present.
17. Succession continues in the forests of the IRA, so far with little direct human intervention except for fire suppression and climate change.

Recommendations:

1. Every project NEPA, including Categorical Exclusions, should display how the project contributes toward moving the project area and GA toward the DC or NRV.
2. Projects within a GA that is below the DC for the large and very large size classes, should not target trees of these sizes for removal.
3. Projects within a GA that is below the DC for the large and very large size classes, should not target medium size class tree species that will, at some point, move into the large size class.
4. The data and our site-specific field observations indicate thinning the understory that has developed under stands that contain medium and larger size trees could be beneficial. Removing encroaching conifers on grasslands could also help move toward the DC. Thinning should be accomplished within these guidelines:
    a. When feasible, allow natural fire to perform its natural ecological role.
    b. Prescribed fire should also be used, to the extent possible, to burn in a manner similar to a natural fire.
    c. It is recognized that it may be necessary to pre-treat some areas prior to burning, such as slashing prior to burning.
    d. Use the "clump" type of prescription to simulate the way a stand would have appeared with a natural fire.
    e. Handwork by slashing and burning without piling is preferred.
    f. It is recognized that piling may be necessary to expand the burn window in some stands.
    g. Helena Hunters and Anglers do not approve of the use of mechanized equipment within the IRAs.
    h. No roads should be built for access in any IRA.s