

DRAFT

ENVIRONMENTAL ASSESSMENT

**RAY KUHNS WMA FOREST HABITAT IMPROVEMENT
AND FUELS REDUCTION PROJECT**

FWP-SEA-WLD-R1-25-006

February 20, 2025



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Environmental Assessment

The Montana Department of Fish, Wildlife and Parks (FWP) has prepared this Draft Environmental Assessment (EA) in accordance with the requirements of the Montana Environmental Policy Act (MEPA). The purpose of an EA is to identify, analyze, and disclose the impacts of a proposed state action. This document may disclose impacts that have no required mitigation measures, or over which FWP, more broadly, has no regulatory authority.

Local governments and other state agencies may have authority over different resources and activities under separate regulations. FWP actions will only be approved if the proposed action complies with applicable regulations. FWP has a separate obligation to comply with any federal, state, or local laws and to obtain any other permits, licenses, or approvals required for any part of the proposed action.

This EA was prepared for the following action:

PROJECT NAME: Ray Kuhns WMA Forest Habitat Improvement and Fuels Reduction	
LOCATION: Ray Kuhns Wildlife Management Area	COUNTY: Flathead
PROPERTY OWNERSHIP: <input type="checkbox"/> FEDERAL <input checked="" type="checkbox"/> STATE <input type="checkbox"/> COUNTY <input type="checkbox"/> PRIVATE	
EA PREPARER: Ethan Lula – FWP Wildlife Biologist, Jason Parke – FWP Forester	DATE ISSUED: 02/20/2025

I. Compliance with the Montana Environmental Policy Act

Before a proposed project may be approved, environmental review must be conducted to identify and consider potential impacts of the proposed project on the human and physical environment affected by the project. The Montana Environmental Policy Act (MEPA) and its implementing rules and regulations require different levels of environmental review, depending on the proposed project, significance of potential impacts, and the review timeline. § 75-1-201, Montana Code Annotated (“MCA”), and the Administrative Rules of Montana (“ARM”) 12.2.430, General Requirements of the Environmental Review Process.

FWP must prepare an EA when:

- It is considering a “state-proposed project,” which is defined in § 75-1-220(8)(a) as:
 - (i) a project, program, or activity initiated and directly undertaken by a state agency;
 - (ii) ... a project or activity supported through a contract, grant, subsidy, loan, or other form of funding assistance from a state agency, either singly or in combination with one or more other state agencies; or
 - (iii) ... a project or activity authorized by a state agency acting in a land management capacity for a lease, easement, license, or other authorization to act.*
- It is not clear without preparation of an EA whether the proposed project is a major one significantly affecting the quality of the human environment. ARM 12.2.430(3)(a));*
- FWP has not otherwise implemented the interdisciplinary analysis and public review purposes listed in ARM 12.2.430(2) (a) and (d) through a similar planning and decision-making process (ARM 12.2.430(3)(b));*
- Statutory requirements do not allow sufficient time for the FWP to prepare an EIS (ARM 12.2.430(3)(c));*
- The project is not specifically excluded from MEPA review according to § 75-1-220(8)(b) or ARM 12.2.430(5); or*
- As an alternative to preparing an EIS, prepare an EA whenever the project is one that might normally require an EIS, but effects which might otherwise be deemed significant appear to be mitigable below the level of significance through design, or enforceable controls or stipulations or both imposed by the agency or other government agencies. For an EA to suffice in this instance, the agency must determine that all the*

impacts of the proposed project have been accurately identified, that they will be mitigated below the level of significance, and that no significant impact is likely to occur. The agency may not consider compensation for purposes of determining that impacts have been mitigated below the level of significance (ARM 12.2.430(4)).

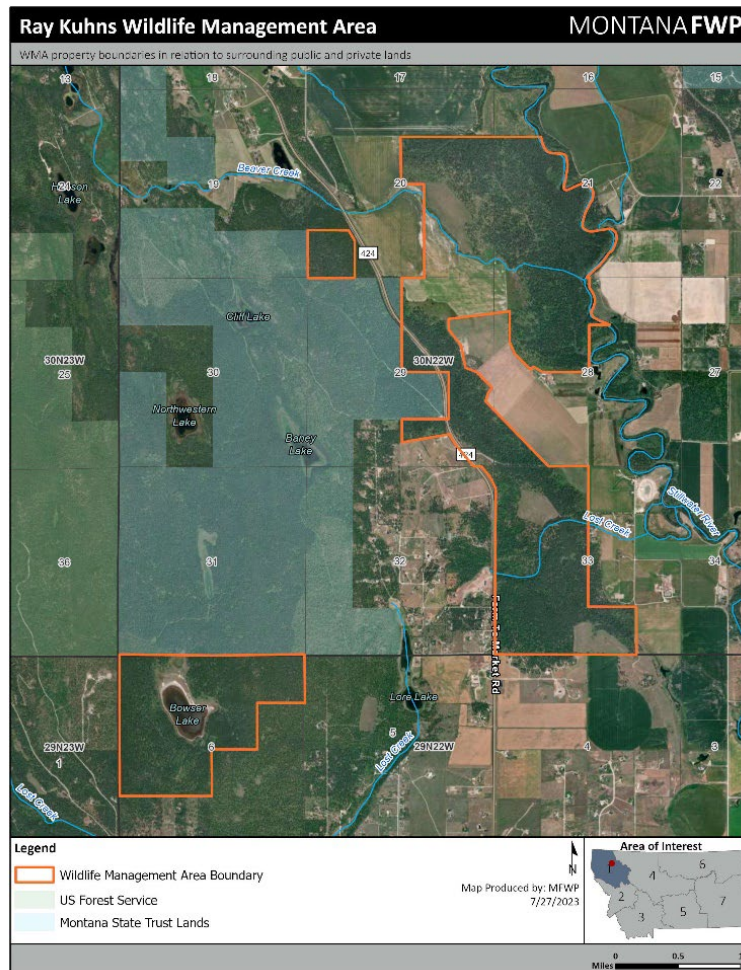
MEPA is procedural; its intent is to ensure that impacts to the environment associated with a proposed project are fully considered and the public is informed of potential impacts resulting from the project.

II. Background and Description of Proposed Project

Name of Project: Ray Kuhns WMA Forest Habitat Improvement and Fuels Reduction

FWP proposes to implement a forest habitat improvement and forest fuels reduction project on the Ray Kuhns Wildlife Management Area (WMA). The 1,560-acre WMA, located in the northwestern corner of the Flathead Valley, is managed by Montana Fish, Wildlife and Parks to provide wildlife habitat, particularly white-tailed deer winter range, and compatible public recreational opportunities. Acquired by FWP between 1953 and 1981, the WMA largely consists of two separate parcels, the 355-acre West (Bowser Lake) parcel (S.20, T.29N., R.22W.) and the 1,205-acre East parcel, situated between the Stillwater River and Farm to Market Road (MT-HWY 424; Figure 1).

Figure 1: Ray Kuhns WMA property boundaries in relation to surrounding public and private lands.



The WMA supports approximately 104 acres of grassland, 164 acres riparian/wetlands, 1,074 acres of woodland/forestland, 11 acres of shrubland, and 204 acres of human impacted, modified, or recently disturbed lands (e.g., agriculture, etc.; [Natural Heritage Map Viewer](#)¹). The majority of the Ray Kuhns WMA is forested, consisting primarily of closed canopy Douglas-fir habitats which serve as important winter range for regional white-tailed deer populations. The understories of these forested habitats have a rich diversity of low-growing, deciduous shrubs and cool season forest grasses. Small pockets of ponderosa pine and rough fescue habitats persist but are at risk due to smooth brome and western snowberry invasion from past agricultural legacy disturbances. The riparian habitats along the Stillwater River are mainly spruce climax. The few grassland meadows present on the WMA were likely once forested habitat cleared for grazing and are now dominated by introduced, cool season grasses. Lastly, around 100 acres are leased for cropland production for the benefit of wildlife, soil health, future restoration, and hunting opportunities.

The proposed project area encompasses approximately 358 acres of forest within the east parcel of Ray Kuhns WMA (Figures 2 and 3). Within the proposed project area, forest conditions vary according to terrain (e.g., slope, aspect) and legacy forestry actions, but are dominated by second-growth mature Douglas-fir or mixed Douglas-fir/Ponderosa pine stands. Tree mortality and degrading forest conditions within the proposed project area have increased due to forest succession, fire exclusion, drought, and increasing occurrence of Douglas-fir bark beetle infestation within the WMA and surrounding area (Appendix A; Figure 4). Stands are at increased susceptibility to Douglas-fir bark beetle infestations and severe fire, and portions of the WMA have been identified as *Priority Areas for Focused Attention* in the [Montana Forest Action Plan](#)² (2020) due to wildfire risk, proximity to the Wildland Urban Interface (WUI), and insects and disease risk.

The proposed project area is within the *Connecting Fuels Treatments in the Salish Mountains and Whitefish Range* [Joint Chiefs' Landscape Restoration Partnership Project](#)³. FWP intends to participate with the project partners and implement the priorities identified in the project where they are compatible with FWP objectives. FWP also intends to seek grant funding through the Joint Chiefs' Landscape Restoration Partnership Project.

FWP's objective is to begin forest treatment efforts during summer 2025. Primary project completion would be completed by December 2027. Follow-up treatments such as prescribed fire and noxious weed control are expected to be necessary and may occur until December 2030.

Climate Change:

Climate is a statistical characterization of the weather, averaged over many years. Forests have evolved, adapted, and transformed in response to natural processes, including disturbance and climate shifts, over the millennia (Wade et al. 2017). Climate change is a non-random change in climate that is measured of several decades or longer (Halofsky et al. 2018). Changes in climate, such as temperature and precipitation, can have direct impacts on forests. Concentrations of greenhouse gasses in the atmosphere, such as carbon dioxide, re-radiate a portion of the sun's energy contributing to a phenomenon known as the greenhouse effect. Forests capture carbon from the atmosphere and store it as biomass through photosynthesis. Carbon is stored in live trees, standing dead trees, downed wood, understory plants, and soils.

¹ Montana Natural Heritage Program Map Viewer- Landcover: <https://mtnhp.org/MapView/?t=1> (last accessed March 29, 2023)

² Montana Forest Action Plan: <https://www.montanaforestactionplan.org/pages/forest-action-plan> (last accessed March 29, 2023)

³ Joint Chiefs' Landscape Restoration Project: <https://www.nrcs.usda.gov/programs-initiatives/joint-chiefs-landscape-restoration-partnership/montana/connecting-fuels> (last accessed March 29, 2023)

Climate plays an important role in the makeup, function, and health of forests. Therefore, changes in climate, such as in temperature and precipitation, can have direct impacts on forests. These impacts vary by region and forest type. Some impacts may be beneficial while others could be damaging. For example, a warmer climate may increase tree growth in some forests but decrease it in others (Vose et al. 2018). When considering carbon in the context of land and associated forestry and wildlife management activities, it is necessary to consider the overall management objectives associated with a piece of land.

Evidence of widespread climate change has been well documented and reported and is an important consideration today (Intergovernmental Panel on Climate Change (IPCC) 2023). In Montana, effects of climate change will be related to changes in temperature and moisture availability, and the response of individual tree species, forests and habitats will be complex and variable depending local site and stand conditions. Changes in temperature and moisture availability may affect the ability of some tree species to establish and regenerate on some sites. Forest productivity may increase in some areas due to longer growing seasons and decrease in other areas where there is less water availability (Wade et al. 2017). Changing climate is also expected to alter natural disturbance regimes, such as fire and insects, with the resulting effects expected to have greater impact on Montana's forests than changes in temperature and moisture availability that directly affect individual trees and species (Wade et al. 2017). Predicting what changes may occur in forest composition and which species may thrive is difficult and may take many decades to understand. The natural variation of weather complicates the ability to identify and predict climate impact trends. This in turn, makes it difficult to respond to climate change impacts proactively. Given this, the ability to identify possible direct, indirect, or cumulative effects of climate change in association with project activities identified is beyond the scope of this analysis.

Affected Area / Location of Proposed Project

- Legal Description
 - Latitude/Longitude: 48.32100 N / -114.41218 W
 - Section, Township, and Range: SECTION 20, 28 29, 33, T.30N., R.22W.
 - Town/City, County, Montana: KALISPELL, FLATHEAD COUNTY, MONTANA

Figure 2: Proposed project area boundary within Ray Kuhns WMA.

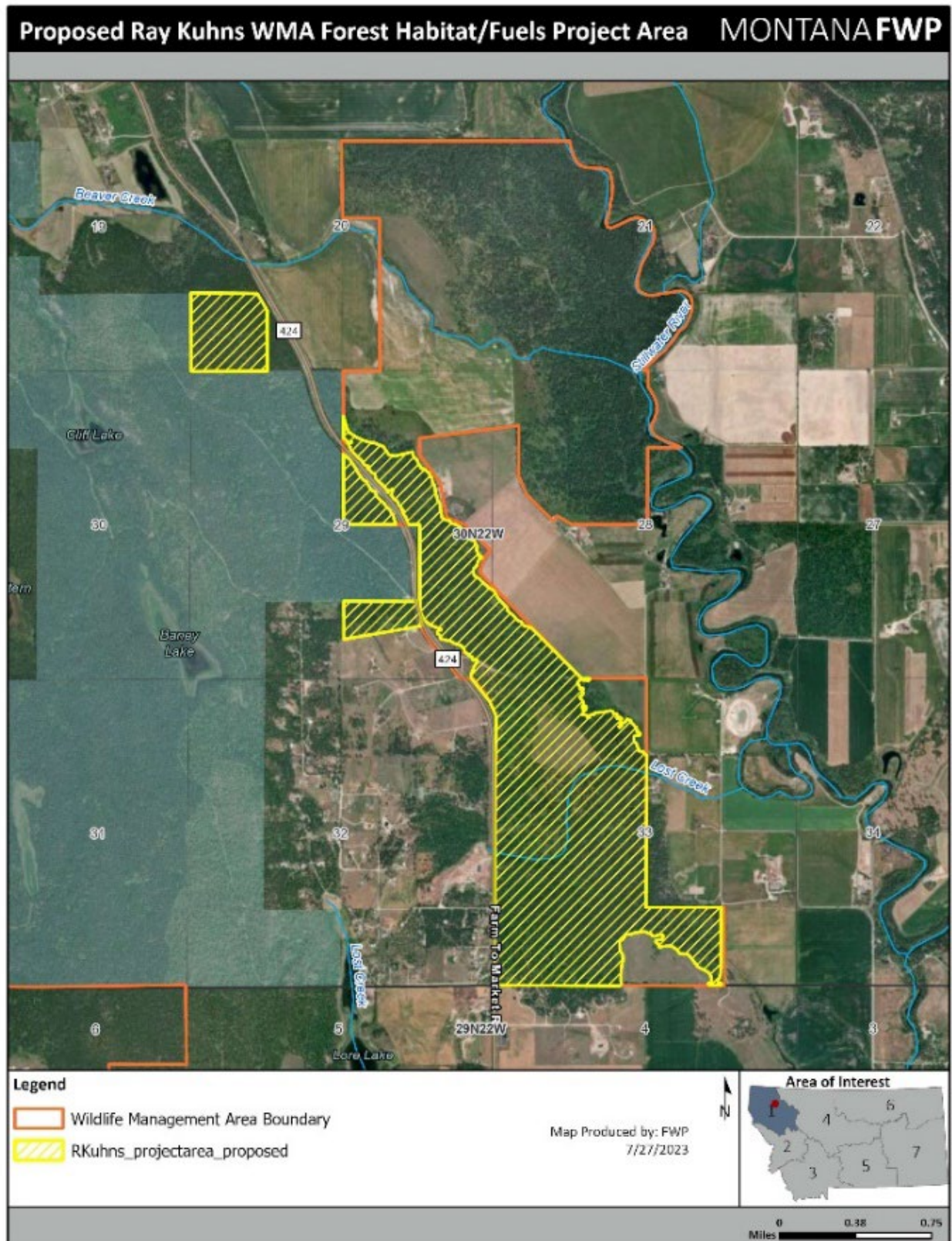


Figure 3: Proposed Treatment Units and Access Roads.

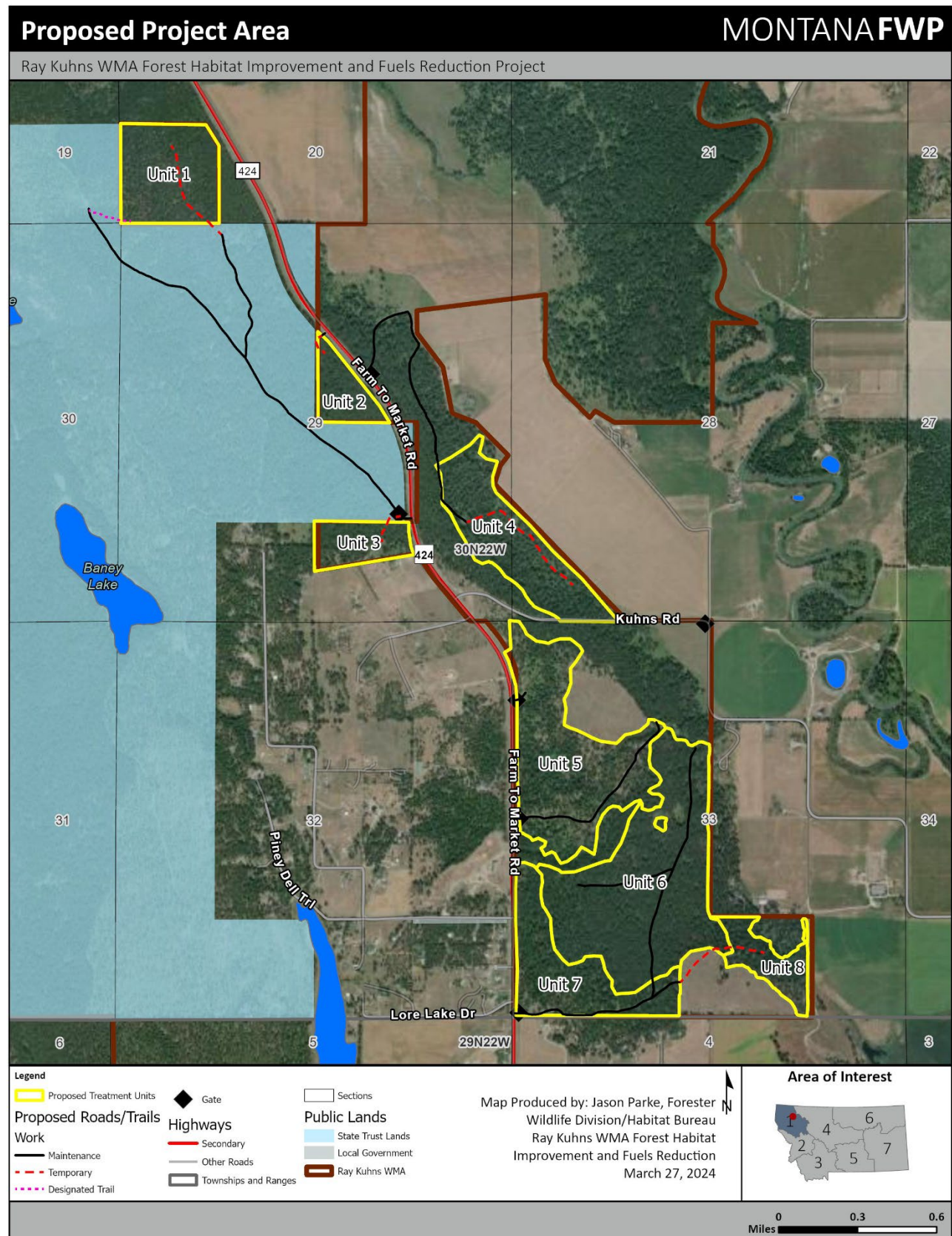
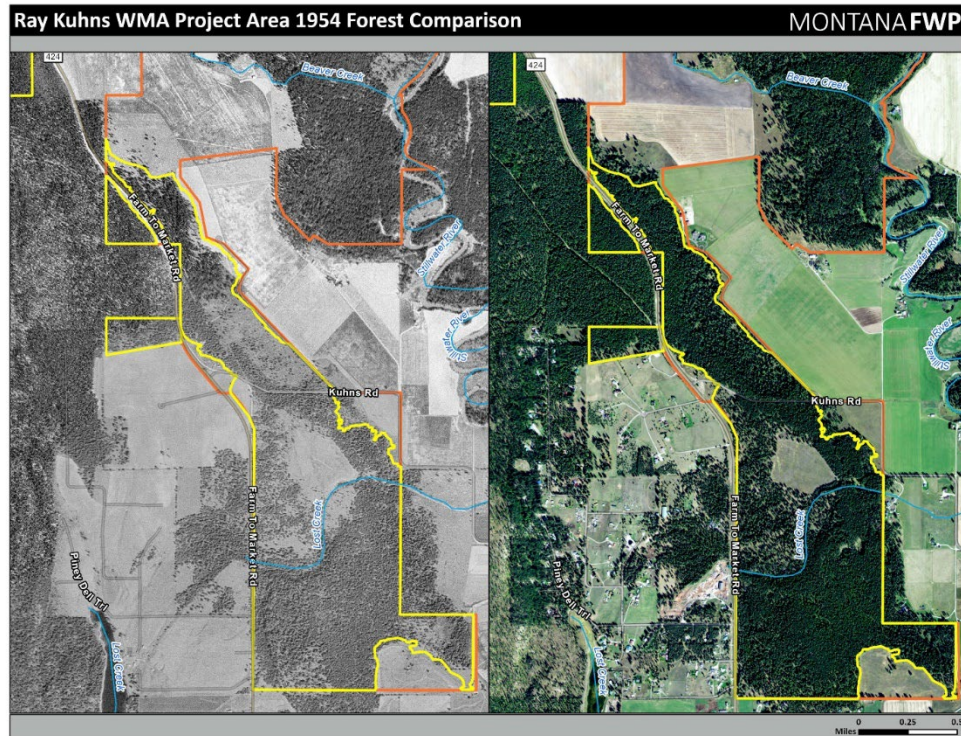


Figure 4: 1954 aerial imagery and 2021 NAIP imagery comparison of forest progression on RKWMA.



Proposed treatments would vary by unit but include activities such as commercial thinning (removal of merchantable trees), non-commercial thinning (removal of sub-merchantable trees), prescribed burning, rehab (such as grass seeding and noxious weed control), and minor road maintenance and improvements to facilitate access to the treatment units. For detailed unit descriptions and proposed treatments, see Appendix A. Tree removal would be accomplished through a combination of mechanized and non-mechanized methods. Merchantable trees would be treated with ground-based logging equipment, such as feller-bunchers and skidders, that would cut and skid trees to designated roadside locations (called “landings”). Tree stems would be delimbed and processed into logs. Logs would be loaded onto log trucks and hauled to local forest product manufacturing facilities. Nonmerchantable trees (trees too small to be manufactured into forest products) would be treated by mastication or felled with chainsaws. Slash (the nonmerchantable limbs and treetops) and cull material generated from this process would be treated either by piling and burning, grinding or chipping, and/or removing the material from the site.

Ground disturbance is expected on skid trails and landing areas. Any ground disturbance (exposed, displaced, or compacted soils) would be rehabbed and seeded with a native grass seed mix. Contractors hired to do this work would be required to adhere to Montana Forestry Best Management Practices⁴ (BMPs). FWP would develop a site-specific treatment plan for the site with contractors hired to do this work. This plan would identify resource protection measures to minimize impacts to the site. FWP would oversee the activities while they are on-going to ensure compliance with the plan and to minimize resource impacts.

⁴ Available online: <https://dnrc.mt.gov/Forestry/Forest-Management/best-management-practices> (last accessed August 8, 2023)

Access to the project areas would be from existing roads (4.2 miles) and new temporary roads (1.0 miles; Figure 3). Roads would be upgraded to the minimum extent necessary to facilitate logging and log hauling while meeting BMPs. Temporary “jump-up” roads (relatively short spur roads) may be needed in some areas. These would be located on flat ground and where excavation could be avoided. Ground impacts, such as more severe soil compaction or soil exposure, may be greater on these spur roads. These would be reclaimed and blocked to prevent unauthorized motorized use. Road work would be short duration (3-4 weeks) and would be done during periods when the soil moisture is adequate to allow for adequate shaping and compaction.

The operating period for the proposed treatments would be from July 15 to October 15 and/or December 1 through March 15. Ground based logging equipment would be restricted to periods when soils are relatively dry, frozen, and/or snow-covered conditions to minimize impacts to soil and vegetation. Other clean-up and rehab activities, such as slash treatment, grass seeding, and noxious weed control would be short duration (1 to 2 weeks) and could potentially occur throughout the year. If slash is piled and burned, burn piles would be in openings away from residual trees and neighboring property lines. Burning would be conducted in accordance with open burning seasons and applicable state and county regulations.

Road work and logging activities would comply with Montana Forestry BMPs and the Montana Streamside Management Zone⁵ law. To minimize the spread of noxious weeds, all equipment would be cleaned and inspected by FWP before moving onto the FWP lands. Exposed bare mineral soils would be reseeded immediately and any weed infestations would be treated with herbicides indefinitely through annual FAS weed management efforts.

Broadcast burning would be used to reduce surface fuel loading, promote aspen regeneration, and benefit fire-adapted grasses, forbs, and shrubs. Further evaluations of the proposed treatment units for suitability, feasibility, and risk of broadcast burning would be conducted following mechanical treatments and burn plans would be developed in conjunction with the U.S. Forest Service, Montana Department of Natural Resources and Conservation, and/or with qualified contractors prior to implementing burns.

III. Purpose and Benefits of Proposed Project

The purpose of the proposed project is to improve forest habitat conditions and reduce hazardous fuels on portions of the Ray Kuhns WMA where the long-term health of the forest stand is declining and/or progressing towards a state that has relatively low value to wildlife. The benefits of the proposed action include:

- Managing forest stands towards a desired condition that promotes and maintains long-term canopy cover for white-tailed deer winter range.
- Reduce hazardous fuels that could result in severe fire.
- Increase understory forage production.
- Reduce the treated stands' susceptibility to bark beetle infestation.
- Reduce threats to conifer-dominated forest and woodland (xeric-mesic), a Tier 1 Community Type of Greatest Conservation Need ([Montana's State Wildlife Action Plan](#)⁶ 2015).

⁵ Available online: <https://dnrc.mt.gov/docs/forestry/SMZFullcopy.pdf> (last accessed August 8, 2023)

⁶ Montana's State Wildlife Action Plan: <https://myfwp.mt.gov/getRepositoryFile?objectID=70168> (last accessed March 30, 2024)

February 2025 – Draft SEA public comment

March 2025 – Final SEA/Decision Notice

June 2025 – Fish and Wildlife Commission (Final Decision)

July 2025 – Contract award

July 2025 through October 2026 – Implementation

November 2026 through December 2029 – As needed follow-up treatments (e.g. prescribed fire and noxious weed control)

If FWP prepared a cost/benefit analysis before completion of the EA, the EA must contain the cost/benefit analysis or a reference to it. ARM 12.2.432(3)(b).

	Yes*	No
Was a cost/benefit analysis prepared for the proposed project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

* If yes, a copy of the cost/benefit analysis prepared for the proposed project is included in Attachment A to this Draft EA

IV. Agency Authority for the Proposed Action

Pursuant to the applicable requirements of § 87-1-209, MCA, FWP is authorized by law to own and manage lands as wildlife habitat. The land subject to this proposal is included in the RKWMA, acquired via bequeathment from Mr. Ray Kuhns in 1971 for the express purposes of wildlife management and compatible public outdoor recreation. FWP uses budgeted license revenues and P-R matching funds, within spending authority granted each biennium by the Montana legislature, for maintenance of the RKWMA. FWP is authorized to use supplemental funds from various public and private sources, which may be awarded under specific conditions for individual maintenance and enhancement projects on the RKWMA and other properties. The Montana Fish and Wildlife Commission endorsed this proposal in October 2021, allowing FWP to proceed with further development and analysis of this proposed action, including completion of this Environmental Assessment.

87-1-201(10)(a)(iv), 87-1-622, and 87-1-621, MCA

FWP is required to implement programs that address fire mitigation, pine beetle infestation, and wildlife habitat enhancement giving priority to forested lands in excess of 50 contiguous acres in any state park, fishing access site, or wildlife management area under the department's jurisdiction; in accordance with the forest management plan and based on an annual sustained yield. The Montana Legislature has provided FWP the means to accrue revenue from forest management activities and spend them to fund further management projects on its forested lands.

Montana Fish, Wildlife & Parks Forest Management Plan⁷ (2018)

The Montana Fish, Wildlife & Parks Forest Management Plan directs FWP to manage for desired habitat conditions and public use opportunities while maintaining the ecological integrity of forests. The plan provides a framework for developing desired future conditions (DFCs), identifies mechanical and non-mechanical treatments as management tools to achieve DFCs, and establishes guidelines for implementing forestry treatments on FWP forested lands.

⁷ Available upon request from R1 FWP (Kalispell) or FWP Wildlife (Helena) office.

V. Other Agency Regulatory

Responsibilities

FWP must list any federal, state, and/or local agencies that have overlapping or additional jurisdiction, or environmental review responsibility for the proposed project, as well as permits, licenses, and other required authorizations. ARM 12.2.432(3)(c).

*A list of other required local, state, and federal approvals, such as permits, certificates, and/or licenses from affected agencies is included in **Table 2** below. **Table 2** provides a summary of state requirements but does not necessarily represent a complete and comprehensive list of all permits, certificates, or approvals needed. Rather, **Table 2** lists the primary state agencies with regulatory responsibilities, the applicable regulation(s) and the purpose of the regulation(s). Agency decision-making is governed by state and federal laws, including statutes, rules, and regulations, that form the legal basis for the conditions the proposed project must meet to obtain necessary permits, certificates, licenses, or other approvals. Further, these laws set forth the conditions under which each agency could deny the necessary approvals.*

Table 2: Federal, State, and/or Local Regulatory Responsibilities

Agency	Type of Authorization (permit, license, stipulation, other)	Purpose
Montana Department of Environmental Quality	Major Open Burn Permit	Burn Permit for agencies and companies that conduct prescribed burns on large amounts of land, as defined in ARM 17.8.601

VI. List of Mitigations, Stipulations

Mitigations, stipulations, and other *enforceable* controls required by FWP, or another agency, may be relied upon to limit potential impacts associated with a proposed Project. **Table 3** below lists and evaluates enforceable conditions FWP may rely on to limit potential impacts associated with the proposed Project. ARM 12.2.432(3)(g).

Table 3: Listing and Evaluation of Enforceable Mitigations Limiting Impacts

Are enforceable controls limiting potential impacts of the proposed action? If not, no further evaluation is needed.			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If yes, are these controls being relied upon to limit impacts below the level of significance? If yes, list the enforceable control(s) below			Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Enforceable Control	Responsible Agency	Authority (Rule, Permit, Stipulation, Other)	Effect of Enforceable Control on Proposed Project	
Streamside Management Zone	DNRC	Streamside Management Zone Law, §77-5-301, MCA	Protect and maintain function of streamside management zones.	
Montana Forestry Best Management Practices (BMPs)	DNRC	BMP Notification Law, §76-13-131, MCA	Requires landowners to notify DNRC prior to harvesting timber.	
Cultural Resource Protection	FWP, State Historic Preservation Office	Antiquities Law, §22-3-421, MCA	Avoid actions that substantially alter heritage properties or paleontological remains on lands owned by the state.	
Noxious weed control	FWP, Flathead County	Noxious Weed Law, §7-22-2101, MCA; Flathead	Establishes noxious weed management agreements and programs.	

		County Weed Management Plan (2023)	
Smoke Management	DEQ, Montana/Idaho Airshed Management Group	Clean Air Act, §75-2-201, MCA	Achieve and maintain levels of air quality that will protect human health and safety; prevent injury to plant and animal life and property; foster comfort and convenience of people; promote economic and social development; and facilitate the enjoyment of the natural attractions of the state.
Forest Management Mandate	FWP	Forest Management Statutes – 87-1-201(10)(a)(iv), 87-1-621, & 87-1-622	Requires FWP to manage its forested lands for wildlife habitat enhancement, hazardous fuels reduction, and bark beetle infestation—based on a forest management plan and sustained yield—and to deposit any revenue generated from timber sales into the legislatively-created forest management account for use towards future forestry projects.
Good Neighbor Policy	FWP	§23-1-126, MCA	The good neighbor policy of public land use, as applied to public recreational lands, seeks a goal of no impact upon adjoining private and public lands by preventing impact on those adjoining lands from noxious weeds, trespass, litter, noise and light pollution, streambank erosion, and loss of privacy.

VII. Alternatives Considered

In addition to the proposed project, and as required by MEPA, FWP analyzes the "No-Action" alternative in this EA. Under the "No Action" alternative, the proposed project would not occur. Therefore, no additional impacts to the physical environment or human population in the analysis area would occur. The "No Action" alternative forms the baseline from which the potential impacts of the proposed Project can be measured.

	Yes*	No
Were any additional alternatives considered and dismissed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>

VIII. Terms Used to Describe Potential Impacts on the Physical Environment and Human Population

The impacts analysis identifies and evaluates **direct**, **secondary**, and **cumulative impacts**.

- **Direct impacts** are those that occur at the same time and place as the action that triggers the effect.
- **Secondary impacts** “are further impacts to the human environment that may be stimulated or induced by or otherwise result from a direct impact of the action.” ARM 12.2.429(18).
- **Cumulative impacts** “means the collective impacts on the human environment of the proposed action when

considered in conjunction with other past and present actions related to the proposed action by location or generic type. Related future actions must also be considered when these actions are under concurrent consideration by any state agency through pre-impact statement studies, separate impact statement evaluation, or permit processing procedures.” ARM 12.2.429(7).

Where impacts are expected to occur, the impact analysis estimates the **extent, duration, frequency, and severity** of the impact. The duration of an impact is quantified as follows:

- **Short-Term:** impacts that would not last longer than the proposed project.
- **Long-Term:** impacts that would remain or occur following the proposed project.

The severity of an impact is measured using the following:

- **No Impact:** there would be no change from current conditions.
- **Negligible:** an adverse or beneficial effect would occur but would be at the lowest levels of detection.
- **Minor:** the effect would be noticeable but would be relatively small and would not affect the function or integrity of the resource.
- **Moderate:** the effect would be easily identifiable and would change the function or integrity of the resource.
- **Major:** the effect would irretrievably alter the resource.

Some impacts may require mitigation. As defined in ARM 12.2.429, mitigation means:

- Avoiding an impact by not taking a certain action or parts of a project;
- Minimizing impacts by limiting the degree or magnitude of a project and its implementation;
- Rectifying an impact by repairing, rehabilitating, or restoring the affected environment; or
- Reducing or eliminating an impact over time by preservation and maintenance operations during the life of a project or the time period thereafter that an impact continues.

FWP may, as an alternative to preparing an EIS, prepare an EA whenever the action is one that might normally require an EIS, but effects which might otherwise be deemed significant appear to be mitigable below the level of significance through design, or enforceable controls or stipulations, or both, imposed by the agency or other government agencies. For an EA to suffice in this instance, the agency must determine that all the impacts of the proposed action have been accurately identified, that they will be mitigated below the level of significance, and that no significant impact is likely to occur. The agency may not consider compensation for purposes of determining that impacts have been mitigated below the level of significance. ARM 12.2.430(4).

A list of any mitigation strategies including, but not limited to, design, enforceable controls or stipulations, or both, as applicable to the proposed project is included in **Section VI** above.

FWP must analyze impacts to the physical and human environment for each alternative considered. The proposed project considered the following alternatives:

- Alternative 1: No Action
- Alternative 2: Proposed Project

IX. Alternative 1: No Action. Evaluation and Summary of Potential Impacts on the Physical Environment and Human Population

Under the “No Action” alternative, the proposed project would not occur. Therefore, no additional impacts to the physical or human environment in the analysis area would occur. The “No Action” alternative forms the baseline from which the potential impacts of the proposed Project can be measured.

The no action alternative would result in status quo forest management on Ray Kuhns WMA, with no direct manipulation of overstory or understory existing condition. Forest stands will continue the successional trajectory set by legacy forestry actions in the absence of natural fire regimes. Stands predominantly composed of densely stocked, mature (~100-year-old) Douglas-fir overstory will continue to degrade due to competition stress and resultant susceptibility to Douglas-fir beetle. Under the no-action alternative, existing snow intercept and thermal cover for white-tailed deer would be maintained in the short-term but would decline as trees continue to die. Understory treatments would not be implemented, and rough fescue bunchgrass communities will continue to be supplanted by more shade-tolerant grasses, shrubs (e.g., snowberry), and trees. Aspen stands in units 4 and 8 will degrade and eventually be replaced by the conifers. Forest fuels will not be reduced, and the risk of severe wildfire will increase as dead fuels accumulate. The no action alternative would result in FWP not fulfilling its statutory obligation to §87-1-201(10)(a)(iv), MCA at this time.

FWP will continue to monitor and control noxious weeds, maintain administrative roads, and remove individual hazard trees per WMA management objectives.

X. Alternative 2: Proposed Project. Evaluation and Summary of Potential Impacts on the Physical Environment and Human Population

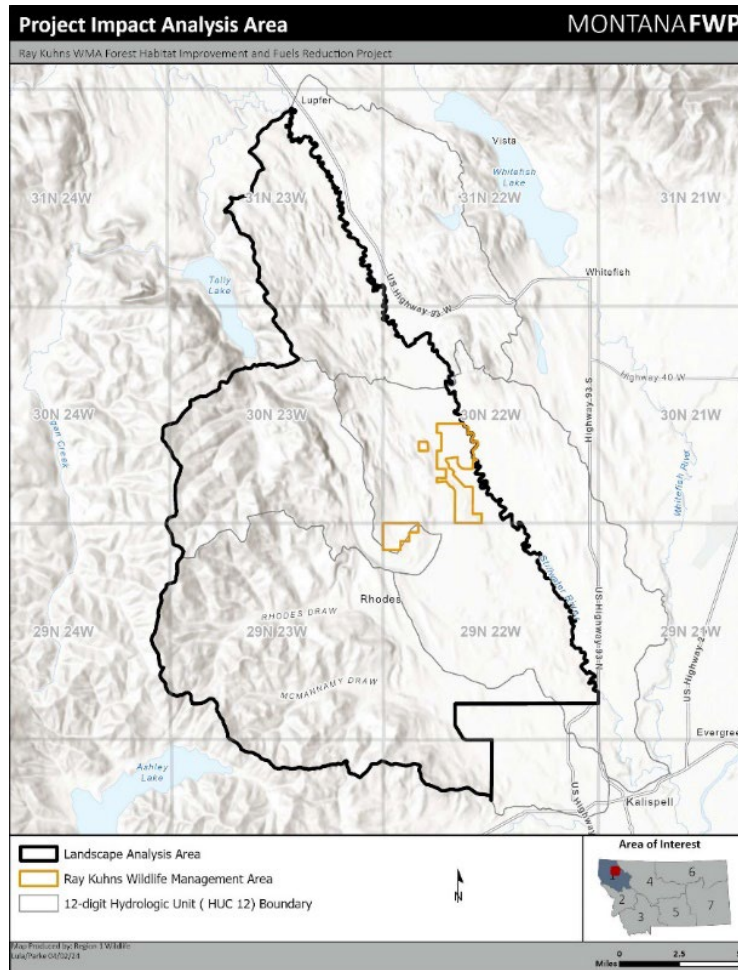
A. Evaluation and Summary of Potential Impacts on the Physical Environment

1. Terrestrial, Avian, and Aquatic Life and Habitats

Existing Environment/Baseline Conditions (No Action Alternative):

We evaluated the existing condition for terrestrial, avian, and aquatic life and habitats, at two scales (Figure 5). The extent of the largest, landscape-scale analysis area was defined using sub-watersheds delineated by 12-digit Hydrologic Units (HUC 12). We selected all 12th order sub-watersheds that overlapped a five-mile radius circle from the center of the project area: Stillwater River-Beaver Creek, Spring Creek, Lost Creek, and Stillwater River-Tobie Creek. We further refined the extent by limiting the western boundary to the Stillwater River. Based on historic observation and GPS data, the Stillwater River is assumed to be a natural habitat break for most terrestrial species using the RKWMA (Dusek et al. 2006, Lula MT-FWP unpublished data). The southern boundary of the landscape analysis area was also modified to avoid urban development around the city of Kalispell. This resulted in a landscape analysis area of 77,782 acres. Our fine-scale analysis area was that of the RKWMA and the proposed treatment units, approximately 1,560 and 358 acres respectively.

Figure 5: Landscape scale (black polygon) and RKWMA scale (yellow polygon) analysis areas for potential impacts of the proposed action.



Landscape scale

At the landscape scale, we categorized 19 landcover types according to Montana Natural Heritage Program's Level 2 classification (Appendix C). Of these, only 5 composed more than 5% of the total landscape analysis area (Table 4.) The dominant habitat types within the analysis area are xeric-mesic (38.43%) and mesic- wet (20.82 %) Conifer-dominated Forest Woodland. The Montana Statewide Wildlife Action Plan (SWAP) identifies both habitats as terrestrial Community Types of Greatest Conservation Need (CTGCN). Approximately 40% of the landscape analysis area is within the Tier 1, Salish Focal Area, which serves as important linkage habitat between the Northern Continental Divide and Cabinet-Yaak Ecosystems. Within the landscape analysis area, we identified 1 amphibian, 16 avian, 3 fish, 10 mammal and 1 reptile Species of Greatest Conservation Need (SGCN) that might occur within the proposed project area and potentially be impacted by the proposed action (Table 5, Appendix C). Of these, four species are federally listed as Threatened: bull trout, grizzly bear, Canada Lynx, and wolverine (See #8: Unique, Endangered, Fragile, or Limited Environmental Resources). In addition to SGCN, the landscape provides habitat for a variety of other species including white-tailed deer, elk, mule deer, black bear, mountain lion, coyote, bobcat, wild turkey and numerous small mammal, avian, and aquatic species.

Table 4: Landscape-Scale Habitat Types

Type 2 Habitat Classification	Acres	Landcover Percent
Conifer-dominated Forest and woodland (xeric-mesic)	38833.2	38.43
Conifer-dominated Forest and woodland (mesic-wet)	21035.4	20.82
Agriculture	13368.4	13.23
Developed	9801.8	9.70
Montane Grassland	6986.7	6.91
Harvested Forest	4514.4	4.47
Floodplain and Riparian	1563.2	1.55
Insect-Killed Forest	1258.8	1.25
Wet meadow	1144.4	1.13
Open Water	885.4	0.88
Deciduous Shrubland	786.6	0.78
Introduced Vegetation	297.3	0.29
Mining and Resource Extraction	258.4	0.26
Mixed deciduous/coniferous forest and woodland	188.8	0.19
Herbaceous Marsh	62.7	0.06
Bog or Fen	33.8	0.03
Cliff, Canyon and Talus	26.2	0.03
Deciduous dominated forest and woodland	3.6	0.00
Forested Marsh	0.4	0.00

Table 5: Landscape scale SGCN

Species Group	Common Name	Scientific Name	Habitat	Distribution	FWP SWAP
Amphibians	Western Toad	<i>Anaxyrus boreas</i>	Wetlands, floodplain pools	Resident Year Round	SGCN2
Birds	American Goshawk	<i>Accipiter atricapillus</i>	Mixed conifer forests	Resident Year Round	SGCN3
Birds	Black Tern	<i>Chlidonias niger</i>	Wetlands	Migratory Summer Breeder	SGCN3
Birds	Pileated Woodpecker	<i>Dryocopus pileatus</i>	Moist conifer forests	Resident Year Round	SGCN3
Birds	Evening Grosbeak	<i>Coccothraustes vespertinus</i>	Conifer forest	Resident Year Round	SGCN3
Birds	Brown Creeper	<i>Certhia americana</i>	Moist conifer forests	Resident Year Round	SGCN3
Birds	Cassin's Finch	<i>Haemorhous cassinii</i>	Drier conifer forest	Resident Year Round	SGCN3
Birds	Varied Thrush	<i>Ixoreus naevius</i>	Moist conifer forests	Migratory Summer Breeder	SGCN3
Birds	Pacific Wren	<i>Troglodytes pacificus</i>	Moist conifer forests	Resident Year Round	SGCN3
Birds	Clark's Nutcracker	<i>Nucifraga columbiana</i>	Conifer forest	Resident Year Round	SGCN3
Birds	Great Blue Heron	<i>Ardea herodias</i>	Riparian forest	Resident Year Round	SGCN3
Birds	Horned Grebe	<i>Podiceps auritus</i>	Wetlands	Migratory Summer Breeder	SGCN3
Birds	Veery	<i>Catharus fuscescens</i>	Riparian forest	Migratory Summer Breeder	SGCN3
Birds	Lewis's Woodpecker	<i>Melanerpes lewis</i>	Riparian forest	Migratory Summer Breeder	SGCN2
Birds	Long-billed Curlew	<i>Numenius americanus</i>	Grasslands	Migratory Summer Breeder	SGCN3
Birds	Common Loon	<i>Gavia immer</i>	Mountain lakes w/ emergent veg	Migratory Summer Breeder	SGCN3
Birds	Brewer's Sparrow	<i>Spizella breweri</i>	Sagebrush	Migratory Summer Breeder	SGCN3
Fish	Bull Trout	<i>Salvelinus confluentus</i>	Mountain streams, rivers, lakes	Resident Year Round	SGCN2
Fish	Westslope Cutthroat Trout	<i>Oncorhynchus clarkii lewisi</i>	Mountain streams, rivers, lakes	Resident Year Round	SGCN2
Fish	Pygmy Whitefish	<i>Prosopium coulterii</i>	Deep mountain lakes and tributaries	Resident Year Round	SGCN3, SGIN
Mammals	Northern Bog Lemming	<i>Synaptomys borealis</i>	Conifer forest wetland	Resident Year Round	SGCN2, SGIN
Mammals	Grizzly Bear	<i>Ursus arctos</i>	Conifer forest	Resident Year Round	SGCN2-3
Mammals	Canada Lynx	<i>Lynx canadensis</i>	Subalpine conifer forest	Resident Year Round	SGCN3
Mammals	Long-legged Myotis	<i>Myotis volans</i>	Conifer forest	Resident Year Round	
Mammals	Fisher	<i>Pekania pennanti</i>	Mixed conifer forests	Resident Year Round	SGCN3
Mammals	Long-eared Myotis	<i>Myotis evotis</i>	Forest	Resident Year Round	
Mammals	Hoary Bat	<i>Lasiurus cinereus</i>	Riparian and forest	Migratory Summer Breeder	SGCN3
Mammals	Little Brown Myotis	<i>Myotis lucifugus</i>	Generalist	Resident Year Round	SGCN3
Mammals	Wolverine	<i>Gulo gulo</i>	Boreal Forest and Alpine Habitats	Resident Year Round	SGCN3
Mammals	Yuma Myotis	<i>Myotis yumanensis</i>	Riparian and mixed forest	Resident Year Round	SGIN
Reptiles	Northern Alligator Lizard	<i>Elgaria coerulea</i>	Talus slopes / rock outcrops	Resident Year Round	SGCN3, SGIN

RKWMA Scale

Interposed among a mix of public and private ownerships, the RKWMA is managed principally for wildlife habitat with special emphasis towards white-tailed deer winter range. Forest conditions vary according to terrain (e.g., slope, aspect) and legacy forestry actions, but are dominated by second-growth mature Douglas-fir or mixed Douglas-fir/Ponderosa pine stands (See # 2 Vegetation Cover, Quantity and Quality).

Terrestrial Life Habitats -

Mammals

See #8 Unique, Endangered, Fragile or Limited Environmental Resources for impact analysis for grizzly bear, Canada lynx, and wolverine.

- *Fisher*- The proposed project area does not provide habitat for Fisher.
- *Northern Bog Lemming* – The proposed project area does not provide habitat for Northern Bog Lemming.
- *Bats (Long-legged myotis, Yuma Myotis, Long-eared Myotis, Little Brown Myotis)* – Portions of the WMA and proposed project area serve as important non-cave natural roost sites (e.g., snags, rock outcrops, injured live trees) for various bat species.

- *White-tailed deer*- R KWMA and adjacent low-elevation forest habitat are of particular importance to white-tailed deer in the east Salish mountains. Investigations into the winter ecology of white-tailed deer on the Bowser/Cliff Lake winter range determined that most deer migrated to the area from higher elevation summer habitats (mean distance = 14mi), and were highly selective of the closed-canopy, mature Douglas-fir forests which typifies the proposed project area (Dusek et al. 2006). During winters with moderate to high levels of winter snow accumulation, (snow water equivalent (SWE) = 10 and 20 inches respectively), white-tailed deer become highly reliant on this habitat due to the canopy's ability to intercept snowfall and reduce on the ground accumulations. This in turn reduces energy expenditure and improves overwinter survival. Within the context of the eastern Salish Mountains, such winter habitat is limited.

Reptiles and amphibians

- Western toads have been documented on the R KWMA, along the Stillwater River corridor (Lula, MT-FWP unpublished data). However, no wetlands or associated habitats are included in the proposed project area.
- Northern Alligator lizards in Montana are most often associated with south facing aspects, in or along the margins of talus slopes. Given the absence of this habitat type and no observations on the R KWMA (MNHP 2024), Alligator lizards are unlikely to occupy the proposed project area.

Avian Life Habitats- Of the 16 SGCN identified within the landscape analysis area, 8 have been observed on R KWMA, or are strongly associated with the dry-conifer forest habitat type found within the proposed project area; American Goshawk, Pileated Woodpecker, Evening Grosbeak, Cassin's Finch, Varied Thrush, Brown Creeper, Lewis' Woodpecker and Clarks Nutcracker. Additionally, Great Grey owls have been observed on the R KWMA.

Aquatic / Life Habitats – The northwest corner of the R KWMA is adjacent to the Stillwater River, which provides habitat for Bull Trout (See #8 Unique, Endangered, Fragile, or Limited Environmental Resources). The R KWMA and proposed project area does not provide habitat for Pygmy Whitefish or Westslope Cutthroat Trout.

Direct Impacts:

Terrestrial Life Habitats

Direct impacts to terrestrial life habitats are expected to be short-term and minor. Some wildlife would temporarily be displaced from the project area while treatments are ongoing. Large and mobile species would likely move to secure adjacent habitat. Proposed project units do not contain any wetlands or riparian areas. FWP would retain large (> 16" dbh) woody debris in an advanced state of decay or partially embedded in the ground to mitigate impacts to amphibians and small mammals. Winter treatments may attract deer to feed on the felled conifer tops. No significant adverse direct impacts to terrestrial life habitats are expected because of the proposed project.

Avian Life Habitats

Direct impacts to avian life habitats are expected to be short-term and minor. Some avian species may be temporarily displaced from the project area while treatments are ongoing. Mitigations include conducting treatments after bird nesting is complete (July 15 – October 15), or before nesting initiates (December 1 – March 15). Any observed active nests would be left undisturbed until nesting is complete. The proposed prescription for snags and large woody debris is to retain snags greater than 16

inches DBH and large woody debris larger than 16 inches in diameter at the large end. FWP would also retain trees with visible nesting cavities; and trees with dead, deformed, or multiple tops. No significant adverse direct impacts are expected to avian life habitats as the result of the proposed project.

Aquatic Life Habitats

No direct impacts to aquatic life habitats are expected because of the proposed project. The proposed project units do not contain any riparian or aquatic life habitats.

Secondary Impacts:

Terrestrial Life Habitats

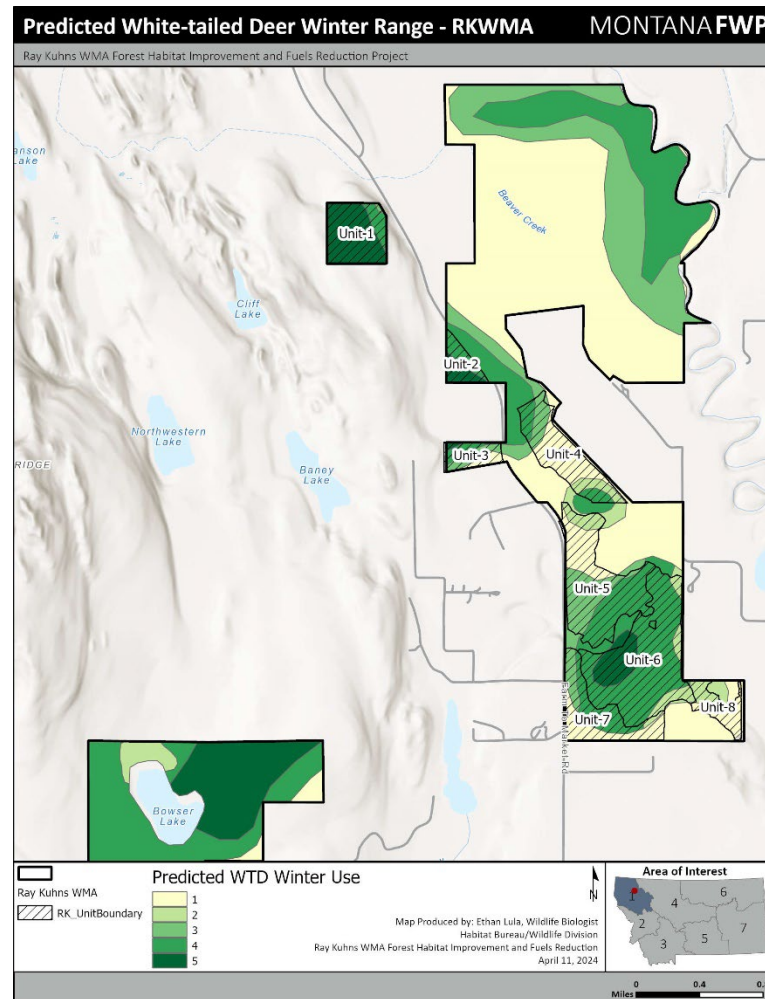
At the landscape scale, secondary impacts to terrestrial habitats are expected to be long-term and negligible. The proposed action would modify 294 acres of xeric-mesic conifer dominated woodland and 63 acres of mesic-wet conifer dominated woodland, representing less than one percent of these available habitat types within the landscape analysis area (Table 4). Approximately 1.3% of predicted white-tailed deer winter range within the landscape analysis area would be impacted because of the proposed project (Table 6) and is expected to result in a long-term improvement to winter range condition. No significant adverse secondary impacts to terrestrial life habitats or SGCN are expected because of the proposed project.

Table 6: *Affected acres and proportion of predicted white-tailed deer winter habitat relative to availability within Ray Kuhns WMA and landscape analysis areas.*

Predicted Winter Use	Landscape Acres	RKWMA Acres	Treatment Unit Acres	Percent of Landscape	Percent of RKWMA
1 (Low)	11540	574	75	0.6	13.1
2	5568	68	30	0.5	44.1
3	1844	217	44	2.4	20.3
4	5832	495	151	2.6	30.5
5 (High)	1864	153	58	3.1	37.9
SUM	26648	1507	358	1.3	23.8

At the scale of the RKWMA, secondary impacts to terrestrial life habitats are expected to be long-term and moderate. The proposed action would alter the current trajectory of forest progression within the project units (Appendix A), and are expected to promote long-term forest health, wildlife habitat, and reduce forest fire risk. Prescribed understory burns are expected to reduce the quantity of mature shrubs and dead vegetation, improve vegetative diversity, and increase the availability of young forbs and grasses for wildlife forage. No significant adverse secondary impacts to SGCN are expected because of the proposed project. The proposed 358 acres within the project area represents approximately 24% of predicted white-tailed deer winter range within the RKWMA (Table 6). Some proposed thinning treatments are designed to promote long-term white-tailed deer winter range conditions, though may initially reduce winter range capacity within the RKWMA. Mitigations to reduce the potential negative impact of initial removal include patch retention within treatment units, variable density thinning/group selection, thin from below and overstory treatments designed to promote tree crown health and retain overall snow-intercept capability within the stand. FWP may also implement operational timing restrictions within treatment units that have existing high-quality habitat (Figure 6).

Figure 6. Categorized predicted winter use probability by white-tailed deer at typical snow conditions (Dusek et al. 2006) relative to proposed treatment units in Ray Kuhns WMA. Cool colors represent lower probabilities of use and dark colors represent higher probability of use.



Avian Life Habitats

At the landscape scale, secondary impacts to avian life habitats are expected to be long-term and negligible. The proposed action would modify 294 acres of xeric-mesic conifer dominated woodland and 63 acres of mesic-wet conifer dominated woodland, representing less than one percent of these available habitat types within the analysis area. No significant adverse secondary impacts are expected for species associated with these habitat types within the landscape analysis area.

At the scale of the RKWMA, secondary impacts to avian life habitats are expected to be long-term and minor. Proposed thinning treatments are intended to reduce Douglas-fir beetle tree mortality and improve overall resiliency and health. This will result in projected fewer dead or dying trees on RKWMA which could reduce foraging and nesting habitat for cavity nesting bird species. Mitigations include retention of standing dead snags > 16 in DBH, trees with visible nesting cavities and trees with dead, deformed, or multiple tops. No significant adverse secondary impacts are expected for avian life habitats or SGCN because of the proposed project.

Aquatic Life Habitats

No impacts to aquatic life habitats are expected because of the proposed project.

Cumulative Impacts:

Recent timber management projects that could contribute to the cumulative effects are summarized below in Table 7.

Table 7: Recent timber management actions within the landscape analysis area.

Project Name	Agency	Status	Project Area within Landscape Analysis Area (acres)
Cliff Lake	DNRC	Closed (2006)	475
Cliff/Bowser	DNRC	Closed (2015)	112
Bowser Lake	DNRC	Closed (2015)	16
Stovepipe	USFS	Scoped	4,261
Cliff Lake	DNRC	In Progress(2025)	1,473

Terrestrial Life Habitats

No significant adverse cumulative impacts are expected for SGCN within the landscape or RKWMA analysis areas because of the proposed action. Impacts to white-tailed deer winter range are expected to be long-term and moderate. Winter range within the landscape analysis area has been reduced as the result of cumulative timber management actions (Table 7) and declining forest stand health. Prescriptions have varied according to agency land use management objectives, forest history, and existing condition, resulting in both negative and positive impacts to the long-term preservation of white-tailed deer winter range. Consistent with RKWMA management objectives, the proposed action is designed to change declining forest trajectory on portions of the RKWMA and provide a positive contribution to the cumulative long-term sustainability of white-tailed deer winter range on the landscape.

Avian Live Habitats

No significant adverse cumulative impacts on avian life habitats are expected because of the proposed project.

Aquatic Life Habitats

No significant cumulative impacts on aquatic life habitats are expected because of the proposed project.

2. Water Quality, Quantity, and Distribution

Existing Environment/Baseline Conditions (No Action Alternative):

The proposed project area is within the Stillwater River watershed. No perennial streams or lentic water bodies occur within the proposed project area. The USGS National Hydrography Database (NHD)⁸ identifies Lost Creek as an intermittent stream which flows west to east through the project area. However, no channel or recent surface flow has been documented at this location.

Direct Impacts:

No significant adverse impacts to water quality, quantity and distribution in the affected area would be expected because of the proposed project. The proposed project area does not contain any surface water resources, with the nearest being the Stillwater River, approximately 0.6 miles to the east. Therefore, no direct impacts to water quality, quantity or distribution are expected to occur.

Secondary Impacts:

No significant adverse secondary impacts to water quality, quantity and distribution in the affected area would be expected because of the proposed project. The proposed project area does not contain any surface water resources, with the nearest being the Stillwater River, approximately 0.6 miles to the east. Forestry treatments may slightly alter the rate and volume of spring runoff and retained snowpack. Given the limited scale of the project and condition of adjacent stands, this effect is expected to be negligible.

Cumulative Impacts:

No significant adverse cumulative impacts to water quality, quantity and distribution in the affected area would be expected because of the proposed project.

3. Geology

Existing Environment/Baseline Conditions (No Action Alternative):

The proposed project area is in the west Flathead Valley, near the foothills of the Salish Mountains, and falls within the Mesoproterozoic Belt Supergroup sedimentary basin. The layer is more than 15km thick and covers an extent > 20,000 km² across western Montana, southern British Columbia, and northern Idaho (Montana Bureau of Mines and Geology⁹).

Direct Impacts:

No significant adverse impacts to the geology in the affected area would be expected because of the proposed project. The proposed project does not include any sub-surface disturbance. Therefore, no direct impacts to the underlying geology would be expected.

⁸ Available Online: <https://www.usgs.gov/national-hydrography/national-hydrography-dataset> (last accessed Nov 1, 2023)

⁹ Available Online: <https://www.mbmng.mtech.edu/DataCenter/main.asp#gsc.tab=0> (last accessed Aug 5, 2023)

Secondary Impacts:

No significant adverse impacts to the geology in the affected area would be expected because of the proposed project. The proposed project does not include any sub-surface disturbance. Therefore, no secondary impacts to the underlying geology would be expected.

Cumulative Impacts:

No significant adverse impacts to the geology in the affected area would be expected because of the proposed project. The proposed project does not include any sub-surface disturbance. Therefore, no secondary impacts to the underlying geology would be expected.

4. Soil Quality, Stability, and Moisture

Existing Environment/Baseline Conditions (No Action Alternative):

The soils within the project area are unconsolidated and undifferentiated sedimentary glacial lake deposits, consisting of light brown laminated silt, fine-grained sand, and clay (Vuke 2015).

Direct Impacts:

Approximately 1.03 miles of new, temporary road would be required to access the project area. These temporary roads would be up to 14 feet wide and located on flat ground where no excavation is required; however bare mineral soils would be exposed, and soil compaction is expected. Ground-based logging, involving operating heavy equipment off roads would occur across portions of 358 acres. Road work and logging activity would be conducted in accordance with Montana Forestry BMPs which includes practices that have been shown to reduce adverse impacts to soil resources (DNRC 2022). The combined direct impacts of new temporary roads and ground-based logging is expected to affect 50 acres (5,438 ft x 14 ft/43560 feet + 13.5% x 358).

Erosion is not expected to occur due to the gentle slopes within the treatment units combined with the application of BMPs.

Tree cover, understory vegetation, and coarse and fine woody debris would be retained in accordance with BMPs so no adverse effects to soil nutrients or soil moisture would be expected to occur.

Secondary Impacts:

No significant adverse secondary impacts to soils in the affected area would be expected because of the proposed project. Application of BMPs would limit impacts and direct impacts would naturally ameliorate over time. Therefore, no secondary impacts to soils would be expected.

Cumulative Impacts:

Cumulative effects would be controlled by limiting the area of adverse soil impacts to less than 15 percent of the treatment units through implementation of BMPs, skid trail planning, and limiting operations to dry or frozen conditions. Future treatments would likely use the same road system, skid trails, and landing sites to reduce additional cumulative impacts. Due to these mitigation measures and

the limited existing impacts, the cumulative effects from compaction and displacement would be negligible.

5. Vegetation Cover, Quantity, and Quality

Existing Environment/Baseline Conditions (No Action Alternative):

The proposed project area consists of 358 acres of forested land, the majority of which is classified as Rocky Mountain Dry-Mesic Montane Mixed Conifer Forest ecological system (MTNHP 2017), a sub-classification of the xeric-mesic conifer dominated woodland (Table 4). This ecological system is very common in northwest Montana, occurring on well drained mountain slopes and valleys from the lower tree line to elevations up to 5,500 feet. Douglas-fir is the dominant conifer species throughout all stages of succession. Other dominant conifer species include long-lived seral western larch and ponderosa pine, Engelmann spruce, lodgepole pine, and grand fir. Aspen and western white pine may be minor components.

The most common habitat types are Douglas-fir/dwarf huckleberry and Douglas-fir/common snowberry-pinegrass phase (Pfister et al. 1977). Pfister et al. (1977) noted that big game use of the Douglas-fir/dwarf huckleberry habitat type was heavy in the winter, depending on snow depth. Spruce/queencup beadrily habitat types also occur in low-lying "frost pockets" (Pfister et al. 1977). These habitat types are within Fischer-Bradley Fire Group Six: Moist Douglas-fir Habitat Types (Fischer and Bradley 1987). "Fire Groups" are a classification of habitat types based on the response of the vegetation to fire and the roles these species take during successional stages. Historic mean fire return intervals in Fire Group Six range from 16 to 42 years, however it is likely that due to the proximity of the proposed project area to the valley bottom, the area may have been subjected to more frequent anthropogenic burning prior to Euro-American settlement. Fire was an important agent in controlling density and species composition and frequent fire tended to favor development of open, park-like stands of mature western larch and ponderosa pine. Frequent, low- to moderate-severity fire also has a demonstrable effect on wildlife habitat by killing overstory trees which reduces competition for understory plants as well as rejuvenating sprouting plants, increasing the availability of palatable browse and forage species (Fischer and Bradley 1987). High severity, stand replacement fire was historically rarer, occurring at intervals of 140-180 years in the ecological system (Barrett et al. 1991).

Noxious weeds:

FWP used Montana Natural Heritage Program (MTHNP) species occurrences and observations within a 1-mile buffer from Ray Kuhns WMA and FWP field observations to identify noxious weeds present (or potentially present) within the project area (Table 8).

Montana noxious weeds are listed by order of management priority:

- Priority 1A – These weeds are not present in Montana. Management criteria will require eradication of detected species; education and prevention.
- Priority 1B – These weeds have limited presence in Montana. Management criteria will require eradication or containment and education.
- Priority 2A – These weeds are common in isolated areas of Montana. Management criteria will require eradication or containment where less abundant. Management shall be prioritized by local weed districts.
- Priority 2B – These weeds are abundant in Montana and widespread in many counties. Management criteria will require eradication or containment where less abundant. Management shall be prioritized by local weed districts.

Table 8: MTNHP and FWP noxious weed observations within 1-mile buffer of the proposed project area.

Noxious Weeds	MTNHP Observations	FWP Field Observations
Dyer's Woad (Priority 1A)	X	
Orange Hawkweed (Priority 2A)	X	X
Tall Buttercup (Priority 2A)	X	
Meadow Hawkweed (Priority 2A)	X	X
Tansy Ragwort (Priority 2A)	X	
Yellowflag Iris (Priority 2A)	X	
Oxeye Daisy (Priority 2B)	X	X
Common Tansy (Priority 2B)	X	
St. John's-wort (Priority 2B)	X	X
Yellow Toadflax (Priority 2B)	X	X
Houndstongue (Priority 2B)	X	X
Dalmatian Toadflax (Priority 2B)	X	
Spotted Knapweed (Priority 2B)	X	X
Sulphur Cinquefoil (Priority 2B)	X	X
Canada Thistle (Priority 2B)	X	X
Field Bindweed (Priority 2B)	X	
Leafy Spurge (Priority 2B)	X	X
Diffuse Knapweed (Priority 2B)	X	

Insects and disease:

FWP used publicly available Insect and Disease Detection Survey Data (USDA Forest Service 2022) as well as on-the-ground field reconnaissance notes to identify presence of insects, diseases, and other tree damaging agents. Table 9 shows a list of recently detected agents affecting trees within the cumulative effects and proposed project analysis areas.

Table 9: Insect, disease, or other damage occurrence within the cumulative effects and proposed project areas.

Insect, disease, or damaging agent	Cumulative Effects Analysis Area	Proposed Project Area
Douglas-fir beetle ¹	X	X
Fir engraver ²	X	
Subalpine fir decline ²	X	
Western pine beetle ²	X	
Drought ²	X	

¹Identified by both aerial detection survey (2022) and FWP field reconnaissance

²Identified by aerial detection survey (2022)

Douglas-fir bark beetle (*Dendroctonus pseudotsugae* Hopkins) affects Douglas-fir and are attracted to wind-throw and trees weakened by fire, drought, defoliation, or root disease. Populations expand rapidly in the presence of weakened or damaged hosts and subsequent generations of beetles attack and kill surrounding live trees. As susceptible hosts are killed, beetles are forced into increasingly healthy trees and populations typically decline, lasting 2-4 years, but may be prolonged during periods of drought (Kegley 2004). Old, dense stands of Douglas-fir with root disease or other factors causing poor health are highly susceptible to. Weatherby and Their (1993) developed a hazard rating system for forest stands in the Intermountain West. Stands are considered "high hazard" where stand density is greater than 250 square feet of basal area, Douglas-fir makes up greater than 50% of the species

composition, the average stand age is greater than 120 years, and the average diameter of Douglas-fir is greater than 14 inches. FWP identified several areas of Douglas-fir bark beetle mortality across the proposed project area.

Snags and large woody debris:

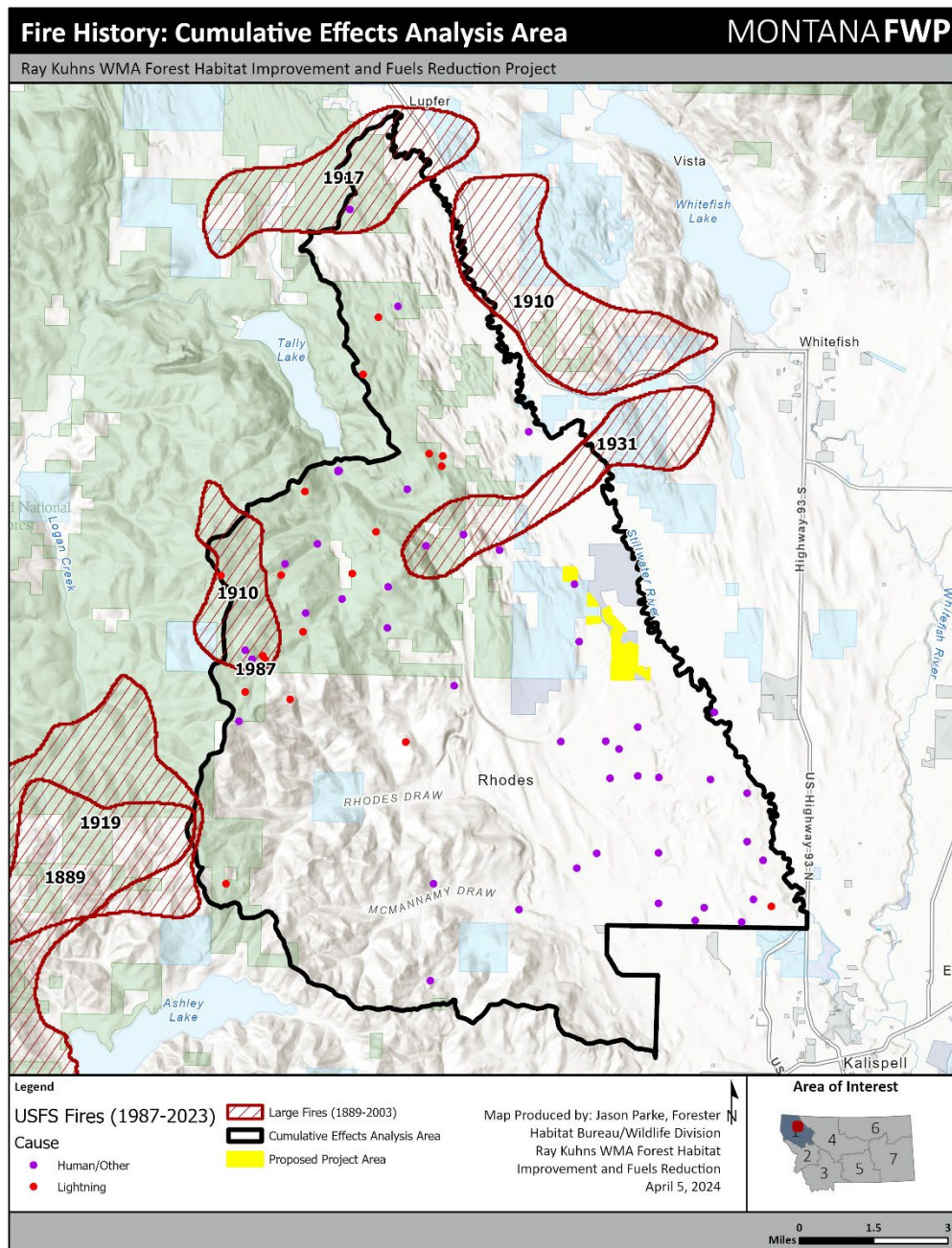
FWP made ocular observations of snags and large woody debris during field reconnaissance. Snag density is variable by unit, ranging from 0 to 30 snags per acre. The highest snag densities occur in proposed unit 1, due to an on-going Douglas-fir bark beetle infestation. The majority of the snags are small, 0 to 8 inches DBH, which resulted from trees that died due to drought and competition stress. Pockets of larger snags (for the purposes of this EA, dead trees with a DBH greater than 16 inches) exist where Douglas-fir infestations have occurred. Large woody debris (for the purposes of the EA, downed wood larger than 16 inches in diameter at the large end) is also variable, ranging from 2 to 30 tons per acre. The highest density of downed wood occurs in proposed unit 8 and the eastern boundary of proposed unit 6 (Appendix A, Figure A.10), where a wind event resulted in blowdown trees over 10 years ago.

Fire and fuels:

FWP used publicly available data from the Montana Wildfire Risk Assessment (Gilbertson-Day et al. 2020) to assess potential fire severity. The datasets evaluated include fire history, predicted burn probability, predicted average flame length, and predicted suppression difficulty index. The methodologies and data used to create the datasets are described in the Montana Wildfire Risk Assessment (Gilbertson-Day et al. 2020).

From 1987 to 2023, there were 65 recorded fire starts within the 77,838-acre cumulative effects analysis area (Figure 7; 46 human-caused and 19 lightning). During that period, 57 of the 65 fires burned less than one acre, the largest fire was 20 acres. Large historic fires (1889-2003) within the cumulative effects analysis area have burned approximately 6,200 acres.

Figure 7: Fire History within the cumulative effects analysis area.



Historically, fires occurred in this vegetation system every 16 to 42 years and were typically low to moderate severity (Fischer and Bradley 1987). Due primarily to fire suppression, fuel loads and the potential for severe fire have increased across many of the forests within the cumulative effects and proposed project analysis areas.

Annual burn probability (likelihood of a wildfire >250 acres burning in a given location, based on wildfire simulation modeling) is 1 in 100 (1%) across the cumulative effects and proposed project analysis areas. The proposed project analysis area is within DNRC fire protection. In 2023, 96% of wildfires under DNRC

direct protection were kept under 10 acres¹⁰. Highly effective initial attack fire suppression has been acknowledged as creating a “suppression bias” where removing less-extreme wildfires ensures that the remaining fires burn under more extreme conditions (Kreider et al. 2024).

If a fire were to burn within the proposed project area during periods of high fire danger, the predicted average flame length would be 12 to 40 feet, based on modeling in the Montana Wildfire Risk Assessment (Gilbertson-Day et al. 2020). Four feet is generally considered to be the limit of manual control by wildland fire crews and over 8 feet is generally considered to be the limit of mechanical equipment control (NWCG 2004). The “suppression difficulty index” in the Montana Wildfire Risk Assessment (Gilbertson-Day et al. 2020) is rated medium to medium-high. The western portion of the proposed project area is also mapped as a “Priority Area” in the Montana Forest Action plan (DNRC 2020), with wildfire risk as one of the primary drivers of risk.

Given the historically high initial attack success rate, burn probability, predicted average flame length, and suppression difficulty index along with a well-established road system for fire crew access, FWP would expect that fire suppression would continue to be very successful under an initial attack scenario and under “normal” weather and fuel conditions. In more severe weather conditions, such as those occurring on September 2, 2017 on the Caribou Fire, FWP would expect high severity fire across significant portions of the analysis areas. Based on simulated burn probabilities, the likelihood of that type of event occurring are about 1% on any given year.

Carbon:

The proposed project area contains approximately 358 acres of forested canopy cover ($\geq 10\%$ canopy cover of trees; The Nature Conservancy 2024) and stores an estimated 19,559 metric tons (t) of total forest carbon, with 8,741 t as above ground forest carbon (The Nature Conservancy 2024). The property sequesters approximately 36 t of carbon per year.

Direct Impacts:

Noxious weeds:

Short-term, minor adverse direct impacts to noxious weeds in the affected area would be expected because of the proposed project. Potential spread during mechanical treatments would be mitigated by requiring equipment to be washed before entering the WMA, minimizing ground disturbance, immediately reseeding disturbed areas, and treating affected areas or areas at risk with herbicide.

Insects and disease:

Short-term, minor adverse direct impacts to insects and disease in the affected area would be expected because of the proposed project. Thinning may increase the intensity of wind speeds and lead to windthrow, which may result in increased Douglas-fir bark beetle infestation. FWP expects thinning will decrease the hazard rating (Weatherby and Their 1993) for Douglas-fir bark beetle by reducing stand density and increasing the proportion of non-host species.

Snags and large woody debris:

¹⁰ [https://news.mt.gov/Governors-](https://news.mt.gov/Governors-Office/Governor_Gianforte_Praises_Firefighters_and_DNRC_for_Effective_2023_Fire_Season_Response#:~:text=%E2%80%9CThank%20to%20our%20dedicated%20wildland,acres%20or%20fewer%20this%20year.%E2%80%9D)

[Office/Governor_Gianforte_Praises_Firefighters_and_DNRC_for_Effective_2023_Fire_Season_Response#:~:text=%E2%80%9CThank%20to%20our%20dedicated%20wildland,acres%20or%20fewer%20this%20year.%E2%80%9D](https://news.mt.gov/Governors-Office/Governor_Gianforte_Praises_Firefighters_and_DNRC_for_Effective_2023_Fire_Season_Response#:~:text=%E2%80%9CThank%20to%20our%20dedicated%20wildland,acres%20or%20fewer%20this%20year.%E2%80%9D)

The proposed prescription for snags and large woody debris is to retain snags greater than 16 inches DBH and large woody debris larger than 16 inches in diameter at the large end. FWP would also retain trees with visible nesting cavities; and trees with dead, deformed, or multiple tops. FWP would also retain large woody debris in an advanced state of decay or that is partially embedded in the ground. Short-term, minor adverse direct impacts to snags and large woody debris would be expected because of the project.

Fire and fuels:

No significant adverse direct impact to fire and fuels conditions in the affected area would be expected because of the proposed project. The proposed thinning treatment may increase surface fire intensity due to higher wind speeds and residual understory fuels (if not adequately reduced by piling and burning, mastication, and/or broadcast burning). Spacing of 20+ feet between crowns greatly reduces the probability of crown fire spread (Alexander & Cruz 2011, Safford et al. 2012, and Contreras et al 2012), which will occur within portions of the treatment units. The proposed thinning is expected to result in: 1) variable tree patterns and patchy surface fuel loadings, in turn creating more variable fire behavior and burn patterns; 2) reductions in crown fire potential; 3) the potential for localized torching to occur within clumps that have ladder fuels; and 4) openings that act as mini fire breaks to stop crown fire (Miller and Urban 2000, Knapp et al. 2006, Symons et al. 2008, Bigelow & North 2012, Linn et al. 2013, Kennedy & Johnson 2014, Lydersen et al. 2015, Ziegler et al. 2017, Parsons et al. 2017). Therefore; short- and long-term, minor to moderate, and generally beneficial direct impacts to fire and fuels conditions in the affected area would be expected because of the proposed project.

Carbon:

Given the difficulty in predicting forest response to climate change (i.e. seasonal weather pattern changes and potential for increased fire risk) and how many metric tons the treatments will sequester, FWP will continue to manage for forest conditions that are similar to those which occurred historically prior to Euro-America settlement. FWP is proposing to use a thinning approach which would restore the stands proposed for treatment to a historic and natural condition, promote disturbance-resilient species (i.e., western larch and ponderosa pine), reduce forest density, and promote species and genetic diversity (Halofsky et al. 2018). This thinning approach has been shown to create conditions that reduce undesirable fire behavior effects, improve drought resistance, and increase resistance and resilience to many common insects and diseases (Churchill et al. 2018). FWP expects those conditions will be more resilient to wildfire, insects, disease, and drought and would promote long-term carbon storage and sequestration.

Secondary Impacts:

Noxious weeds:

No significant adverse secondary impacts to noxious weeds are expected. Potential impacts are expected to be mitigated by the immediately reseeding of the disturbed areas, treating affected areas or areas at risk for at least 3 years following the treatment including chemical, biological, mechanical, or cultural treatments, and incorporation of annual monitoring into WMA noxious weed management plans.

Insects and disease:

No significant adverse secondary impact to insects and disease conditions in the affected area would be expected because of the proposed project.

Snags and large woody debris:

The proposed thinning may decrease the hazard rating (Weatherby and Their 1993) for Douglas-fir bark beetle by reducing stand density and increasing the proportion of non-host species, which may decrease the creation of new Douglas-fir snags and large woody debris being created from bark beetle infestation. However, where higher proportions of Douglas-fir are left, Douglas-fir bark beetle infestations may persist, and snag and large woody debris creation may continue to occur. Therefore, long-term, minor secondary impacts to snags and large woody debris in the affected area would be expected because of the proposed project.

Fire and fuels:

No significant adverse secondary impacts to fire and fuels conditions in the affected area would be expected because of the proposed project. FWP expects short- and long-term, minor to moderate, and generally beneficial secondary impacts to fire and fuels conditions in the affected area would be expected because of the proposed project.

Carbon:

Given the difficulty in predicting forest response to climate change (i.e. seasonal weather pattern changes and potential for increased fire risk) and how many metric tons the treatments will sequester, FWP will continue to manage for forest conditions that are similar to those which occurred historically prior to Euro-America settlement. FWP is proposing to use a thinning approach which would restore the stands proposed for treatment to a historic and natural condition, promote disturbance-resilient species (i.e., western larch and ponderosa pine), reduce forest density, and promote species and genetic diversity (Halofsky et al. 2018). This thinning approach has been shown to create conditions that reduce undesirable fire behavior effects, improve drought resistance, and increase resistance and resilience to many common insects and diseases (Churchill et al. 2018). FWP expects those conditions will be more resilient to wildfire, insects, disease, and drought and would promote long-term carbon storage and sequestration.

Cumulative Impacts:

Noxious weeds:

No significant adverse cumulative impact to noxious weeds in the affected area would be expected because of the proposed project. FWP would continue to implement annual monitoring and noxious weed control in accordance with state law, FWP's noxious weed management plan, and the Flathead County weed district.

Insects and Disease:

No significant adverse cumulative impact to insects and disease conditions in the affected area would be

expected because of the proposed project. Work on adjacent DNRC and U.S. Forest Service lands would result in an additive effect to that described in FWP's proposed project on insect, disease, and damaging agent susceptibility.

Snags and large woody debris:

No significant adverse cumulative impact to snags in the affected area would be expected because of the proposed project. Work on adjacent DNRC and U.S. Forest Service lands would result in an additive effect to that described in FWP's proposed project on snags and large woody debris.

Fire and fuels:

No significant adverse cumulative impact to fire and fuels conditions in the affected area would be expected because of the proposed project. Work on adjacent DNRC and U.S. Forest Service lands would result in an additive effect to that described in FWP's proposed project on fuels and potential fire impacts, specifically the potential for increased surface wind speeds coupled with reduced fuels that may provide a barrier to crown fire across a broader area.

Carbon:

Given the difficulty in predicting forest response to climate change (i.e. seasonal weather pattern changes and potential for increased fire risk) and how many metric tons the treatments will sequester, FWP will continue to manage for forest conditions that are similar to those which occurred historically prior to Euro-America settlement. FWP is proposing to use a thinning approach which would restore the stands proposed for treatment to a historic and natural condition, promote disturbance-resilient species (i.e., western larch and ponderosa pine), reduce forest density, and promote species and genetic diversity (Halofsky et al. 2018). This thinning approach has been shown to create conditions that reduce undesirable fire behavior effects, improve drought resistance, and increase resistance and resilience to many common insects and diseases (Churchill et al. 2018). FWP expects those conditions will be more resilient to wildfire, insects, disease, and drought and would promote long-term carbon storage and sequestration.

6. Aesthetics

Existing Environment/Baseline Conditions (No Action Alternative):

Portions of Ray Kuhns WMA, including some proposed treatment units, are visible from Farm to Market Road and Kuhns Road. The WMA is open to non-motorized travel between April 15 and Dec 2, allowing walk-in access to the entirety of the proposed project area. The existing aesthetic within the proposed project area is that of a mixed conifer forest in succession consistent with previous timber management practices and fire suppression. Existing aesthetic conditions are expected to degrade over time due to current successional progression, decreasing stand health, and increasing risk of wildfire and Douglas-fir beetle infestation (see Background and Project Description).

Direct Impacts:

Short-term moderate direct impacts on aesthetics are expected as the result of the proposed project. Logging equipment will be active within the proposed units and associated debris, slash, and skid trails will negatively impact aesthetics during the proposed project timeline. Where applicable, broadcast burning and slash burning would also alter the existing condition. Direct impacts will be mitigated through seasonal timing restrictions and minimizing road development.

Secondary Impacts:

Long-term moderate secondary impacts to aesthetics are expected as the result of the proposed project. The proposed action is designed to improve forest health, reduce the risk of wildfire, reduce Douglas-fir beetle mortality, and direct succession towards providing long-term forested wildlife habitat. The existing aesthetic condition will be altered from its current trajectory to maximize the long-term benefit to wildlife.

Cumulative Impacts:

Long-term moderate cumulative effects are expected as the result of the proposed project. Improving forest health, reducing the risk of wildfire and Douglas-fir beetle mortality is ultimately expected to positively affect aesthetics of the WMA and surrounding landscape. No significant adverse cumulative impacts are expected because of the proposed project.

7. Air Quality

Existing Environment/Baseline Conditions (No Action Alternative):

Air quality in the area affected by the proposed project is currently unclassifiable or in compliance with/attainment for the applicable national ambient air quality standards (NAAQS¹¹). Existing sources of air pollution in the area are limited and generally include fugitive dust associated with high wind events and exposed ground, vehicle travel on unpaved roads (fugitive dust), vehicle exhaust and various agricultural practices. No significant point sources of air pollution exist in the area affected by the proposed project.

Direct Impacts: No significant adverse impacts to air quality would be expected because of the proposed project. Fugitive dust and emissions resulting from the transport and operation of logging equipment may adversely impact air quality. However, no air quality restrictions exist for the affected area; therefore, the proposed project would not be expected to cause or contribute to a violation of the applicable NAAQS for particulate matter (fugitive dust). Therefore, any impacts would be short-term negligible, consistent with existing impacts and mitigated by operational timing restrictions that minimize potential impacts to surface vegetation and soils. Prescribed broadcast burning and slash burning may also adversely impact air quality, though would be conducted in accordance with open burning seasons and applicable state and county regulations. Any impacts associated with prescribed burning would be short-term and negligible.

Secondary Impacts: No significant adverse secondary impacts would be expected because of the proposed project. Fugitive dust and emissions resulting from the transport and operation of logging equipment may adversely impact air quality. However, no air quality restrictions exist for the affected area; therefore, the proposed project would not be expected to cause or contribute to a violation of the applicable NAAQS for particulate matter (fugitive dust). Therefore, any impacts would be short-term negligible, consistent with existing impacts and mitigated by operational timing restrictions that minimize potential impacts to surface vegetation and soils. Prescribed broadcast burning and slash burning may also adversely impact air quality, though would be conducted in accordance with open burning seasons and applicable state and county regulations. Any impacts associated with prescribed burning would be short-term and negligible.

¹¹ Available online:

<https://gis.mtdeq.us/portal/home/webmap/viewer.html?useExisting=1&layers=f27a7686d0544bf58d327202aeb19787> (last accessed Aug 22, 2023)

Cumulative Impacts: No significant adverse secondary impacts would be expected because of the proposed project. Fugitive dust and emissions resulting from the transport and operation of logging equipment may adversely impact air quality. However, no air quality restrictions exist for the affected area; therefore, the proposed project would not be expected to cause or contribute to a violation of the applicable NAAQS for particulate matter (fugitive dust). Therefore, any impacts would be short-term negligible, consistent with existing impacts and mitigated by operational timing restrictions that minimize potential impacts to surface vegetation and soils. Prescribed broadcast burning and slash burning may also adversely impact air quality, though would be conducted in accordance with open burning seasons and applicable state and county regulations. Any impacts associated with prescribed burning would be short-term and negligible.

8. Unique, Endangered, Fragile, or Limited Environmental Resources

Existing Environment/Baseline Conditions (No Action Alternative):

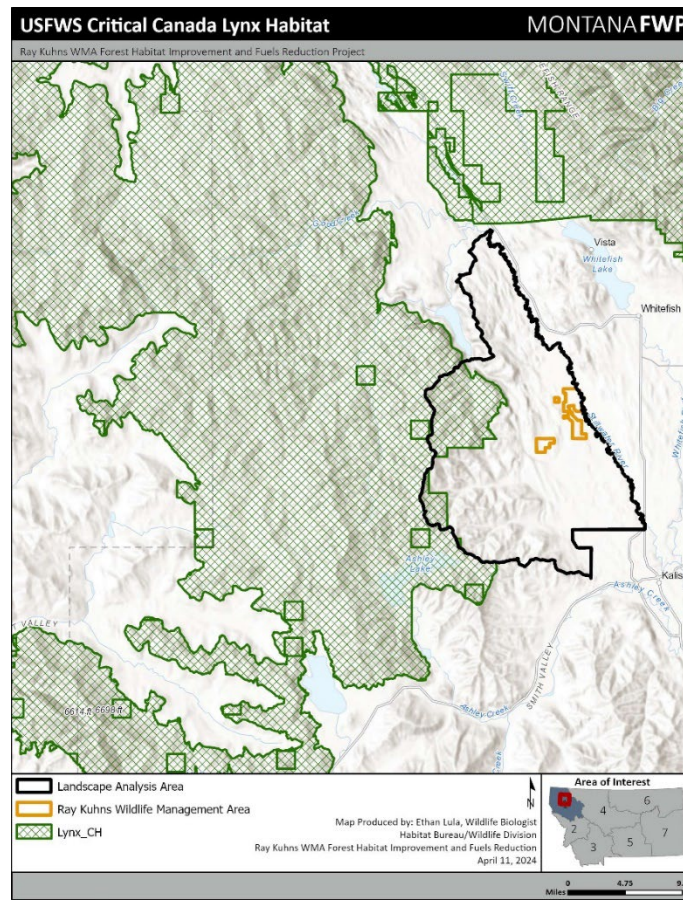
See #1: Terrestrial, Avian, and Aquatic Life Habitats for existing condition. We analyzed the potential impacts to unique, endangered, fragile, or limited environmental resources using the same analysis areas described by Figure 5. The greater project area provides important habitat for several Species of Greatest Conservation Need (SGCN; Montana Statewide Wildlife Action Plan, 2015, Appendix C).

Four federally Threatened species occur in the vicinity of the project area:

Canda lynx – Within the landscape-scale analysis area, approximately 25,139 acres are designated critical habitat under the U.S. Endangered Species Act (Figure 8; USFWS 2014). The RKWMA and proposed treatment units are located at low-elevation sites with low to moderate winter snow depths and fall outside of federally designated critical lynx habitat. Forest composition is not typical for lynx occupancy (Ruediger et al. 2000), and records of lynx on, or adjacent to the RKWMA are absent (MNHP¹²).

¹² Montana Natural Heritage Program Map Viewer – Species Observation (Canada Lynx): <https://mtnhp.org/MapView/?t=7> (last accessed April, 9 2024)

Figure 8: USFWS designated Canada lynx critical habitat (CH) in relation to the proposed project area.



Grizzly bear – Grizzly bears occupy the broader project landscape and have occasionally been observed on the RKWMA (MNHP 2024, Lula, MT-FWP unpublished data). The proposed project area is outside of the Northern Continental Divide Ecosystem Grizzly Bear Recovery Zone, though as part of the Salish Tier-1 Focal Area, provides important linkage habitat between the North Continental Divide and Cabinet-Yaak Ecosystems (SWAP 2015).

Wolverine – The proposed project area falls within the U.S. distinct population segment (DPS) of the North American wolverine where it is listed as threatened species due primarily to the ongoing and increasing impacts of climate change and associated habitat degradation and fragmentation. In the western contiguous United States, wolverines exist as a set of sub-populations, likely comprised of a few hundred individuals residing in high-alpine areas that are distributed across a vast geography (Inman et al. 2013). Using the publicly available Geospatial data for predicted primary adult habitat used in Lukacs et al. (2020), there is no primary wolverine habitat within the proposed project area. This predicted habitat layer was developed for the purposes of wolverine conservation, including population and land management decisions, especially at the scale of the population. Researchers in the mountains of Scandinavia, Idaho, and British Columbia found that wolverines avoided low-elevation forests with roads and other infrastructure and instead appeared to prefer alpine areas (May et al. 2006, Copeland et al. 2007, Krebs et al. 2007). Few, if any, wolverines primarily reside in low elevation valleys in the western United States (Inman et al. 2012) but may occasionally travel through the project area during use of their extensive home ranges.

Bull Trout – Bull trout occur within the Stillwater River, which serves as the northeastern border of the RKWMA. There are no perennial streams or lentic waterbodies within the proposed project area.

Direct Impacts:

Canada lynx – No significant adverse direct impacts are expected because of the proposed project.

Grizzly bear – Direct impacts to grizzly bears are expected to be short-term and minor. Grizzly bears primarily use the RKWMA as a movement corridor along the Stillwater River and between secure forest habitats. Most disturbance would be associated with equipment operation and timber harvest, which would temporarily discourage use by grizzly bears. No treatment units are proposed along the Stillwater River riparian corridor and logging operations would only be active during daylight hours to facilitate grizzly bear movement.

Wolverine – No significant adverse direct impacts are expected because of the proposed project.

Bull trout – No significant adverse direct impacts are expected because of the proposed project.

Secondary Impacts:

Canada lynx – No significant adverse secondary impacts are expected because of the proposed project.

Grizzly bear – No significant adverse secondary impacts are expected because of the proposed project.

Wolverine – No significant adverse secondary impacts are expected because of the proposed project.

Bull trout - No significant adverse secondary impacts are expected because of the proposed project.

Cumulative Impacts:

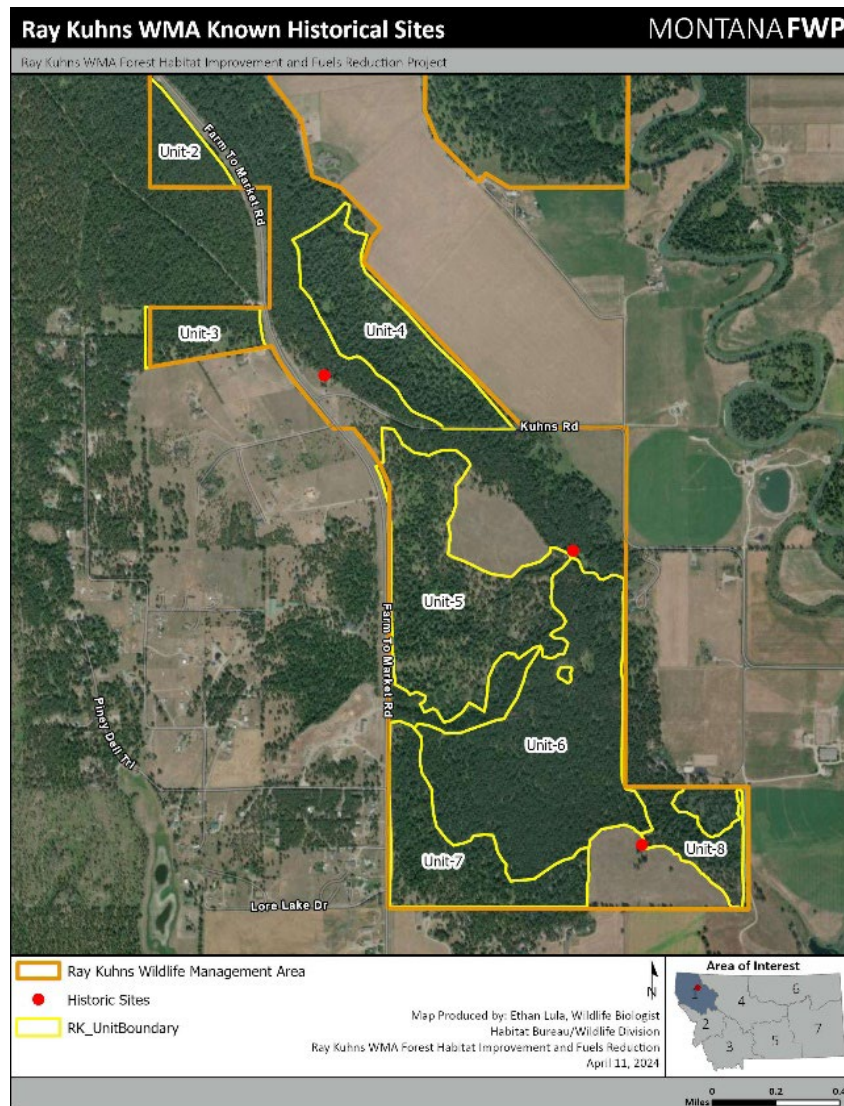
No significant adverse cumulative impacts to Unique, Endangered, Fragile or Limited Environmental Resources are expected as a result of the proposed project.

9. Historical and Archaeological Sites

Existing Environment/Baseline Conditions (No Action Alternative):

The proposed project area is within the traditional homeland for the Pend d' Oreille, Salish and Kootenai tribes. Additionally, pioneers, homesteaders, trappers, and other travelers historically occupied and traveled through the area. There are no known archaeological sites of importance within the proposed project area. The foundations and remnants of three historic homestead/logging camp sites are found within the proposed project area (Figure 9).

Figure 9: Known historic sites within the proposed project area.



Direct Impacts: No significant adverse direct impacts to historical and archeological sites are expected. Activities associated with the proposed project would avoid any structures over fifty years of age, including the known homestead/logging camp sites. If any structures or artifacts over fifty years of age were to be discovered during the project, FWP would cease activities and contact the State Historic Preservation Office and potentially adjust the project design to avoid impacting these resources.

Secondary Impacts: No significant adverse secondary impacts to historical and archeological sites are expected.

Cumulative Impacts: No significant adverse cumulative impacts to historical and archaeological sites area expected.

10.Demands on Environmental Resources of Land, Water, Air, and Energy

Existing Environment/Baseline Conditions (No Action Alternative):

The proposed project is located entirely within the Ray Kuhns WMA. The WMA is managed by FWP to provide wildlife habitat and compatible public recreational opportunities. Public hunting, wildlife viewing, hiking, and horseback riding are common forms of recreation conducted on the WMA during the open dates.

Direct Impacts: Direct impacts to the demands on environmental resources of land, water, air and energy would be short-term and negligible, resulting from the fuel and electricity required to treat stands and process the timber byproduct.

Secondary Impacts:

No significant adverse secondary impacts to the demands on environmental resources of land, water, air, and energy are expected.

Cumulative Impacts:

No significant adverse cumulative impacts to the demands on environmental resources of land, water, air, and energy are expected.

B. Evaluation and Summary of Potential Impacts of the Proposed Project on the Human Environment

1. Social Structures and Mores

Existing Environment/Baseline Conditions (No Action Alternative): The primary objective of the WMA is to provide wildlife habitat, particularly white-tailed deer winter range. The purpose of the proposed project is to improve forest conditions to increase resiliency to severe fire and disease and maintain long-term wildlife habitat.

Direct Impacts: No significant adverse impacts to social structures and mores in the affected area would be expected because of the proposed project. The proposed project constitutes forest treatment activities within an existing WMA. The proposed project would not impact current land use; therefore, the proposed project would not impact any pre-project social structures, customs, values, and conventions within the affected area.

Secondary Impacts: No significant adverse impacts to social structures and mores in the affected area would be expected because of the proposed project. The proposed project constitutes forest treatment activities within an existing WMA. The proposed project would not impact current land use; therefore, the proposed project would not impact any pre-project social structures, customs, values, and conventions within the affected area.

Cumulative Impacts: No significant adverse impacts to social structures and mores in the affected area would be expected because of the proposed project. The proposed project constitutes forest treatment activities within an existing WMA. The proposed project would not impact current land use; therefore, the proposed project would not impact any pre-project social structures, customs, values, and conventions within the affected area.

2. Cultural Uniqueness and Diversity

Existing Environment/Baseline Conditions (No Action Alternative):

The RKWMA is in the northwestern Flathead Valley within the Stillwater watershed. Prior to European settlement, the people of the Salish and Kootenai tribes hunted, fished, and gathered in the Stillwater watershed. Contemporary land use is dominated by farming agricultural practices, but residential development has also become a significant land use associated with an increasing population within the Flathead Valley.

Direct Impacts: No significant impacts to cultural uniqueness and diversity in the affected area would be expected because of the proposed project. The proposed project would employ a single contractor to conduct logging operations on the WMA. Prescribed burning and monitoring would be conducted by existing DNRC or FWP staff. Therefore, the proposed project would not be expected to result in any relocation of people in to or out of the affected area and no impacts to the existing cultural uniqueness and diversity of the affected area would be expected because of the proposed project.

Secondary Impacts: No secondary impacts to pre-project cultural uniqueness and diversity would be expected to occur. Therefore, no significant, adverse secondary impacts would be expected because of the proposed project.

Cumulative Impacts: No significant adverse cumulative impacts would be expected because of the proposed project. Timber management actions have historically occurred within the proposed project area, and any subsequent actions would be subject, and compiled with, MEPA.

3. Access to and Quality of Recreational and Wilderness Activities

Existing Environment (No Action Alternative):

The RKWMA is open to non-motorized public use between April 15 and Dec 1. Outside of these dates, the WMA is closed to public access to provide wildlife winter range security. Hunting, hiking, nature viewing, and horseback riding are popular recreational activities during the open dates. Some user generated mountain bike trails exist on portions of the WMA adjacent to DNRC lands.

Direct Impacts: Direct impacts to access and quality of recreational wilderness activities will be short-term and minor. Access to units may be restricted during times when equipment is operating and use of administrative roads by logging equipment may discourage horseback riding. Signage would be placed near WMA entrances to alert recreationists of logging activity in the affected area during project implementation. Logging and related forest management activities could negatively impact the quality of the recreational experience for some individuals.

Secondary Impacts: No significant adverse secondary impacts to access and quality of recreational wilderness activities are expected because of this project. Access to the project area will remain unchanged once the proposed action is complete.

Cumulative Impacts: No significant adverse cumulative impacts to access and quality of recreational wilderness activities are expected because of this project. Access to the project area will remain unchanged once the proposed action is complete.

4. Local and State Tax Base and Tax Revenue

Existing Environment/Baseline Conditions (No Action Alternative):

FWP is required by law to make tax payments to counties equal to the amount that a private landowner would be required to pay per Montana Code 87-1-603. Tax Year 2022 property tax equivalent payments for RKWMA amounted to \$2,648.97

Direct Impacts:

No significant, adverse impacts to the local and state tax base and tax revenue would occur because of the proposed project. MFWP already pays annual taxes on the property and the proposed action would not affect the tax base. Therefore, no additional direct impacts to the local and state tax base and revenue would be expected because of the proposed project.

Secondary Impacts:

No secondary impacts to the local tax base and tax revenues would be expected to occur. Therefore, no significant, adverse secondary impacts would be expected because of the proposed project.

Cumulative Impacts:

No significant, adverse cumulative impacts would be expected because of the proposed project.

5. Industrial, Commercial, and Agricultural Activities and Production

Existing Environment/Baseline Conditions (No Action Alternative): RKWMA is managed to provide wildlife habitat and compatible recreational opportunities. Industrial activities (material handling, transportation, or storage; manufacturing; maintenance; treatment; or disposal) that occur on the WMA would be those associated with normal WMA maintenance. The WMA currently supports a single short-term farming lease, on 98 acres of historic agricultural ground, designed to improve soil health and provide wildlife habitat.

Direct Impacts: Direct impacts to industrial, commercial, and agricultural activities and production are expected to be short-term and minor. An estimated 700 thousand board feet of sawlogs and 2,500 tons of non-sawlog material are estimated to be sold to local mills in western Montana. No significant adverse impacts to industrial, commercial, and agricultural activities and production are expected because of this project.

Secondary Impacts: No significant adverse secondary impacts to industrial, commercial, and agricultural activities and production are expected as the result of the proposed action.

Cumulative Impacts: No significant adverse cumulative impacts to industrial, commercial, and agricultural activities and production are expected as the result of the proposed action.

6. Human Health and Safety

Existing Environment/Baseline Conditions (No Action Alternative):

Non-motorized public access is allowed on the WMA between April 15 and December 2. Terrain, wildlife, and vegetation all pose an implicit degree of risk to human health and safety. The proposed project area falls within the Connecting Fuels Treatments in the Salish Mountains and Whitefish Range Joint Chief's Landscape Restoration Partnership project area, which ranked third for a total risk to

structures in the Montana Wildfire Risk Assessment (2020). The proposed project area also partially falls within a priority area identified in Montana's Forest Action Plan (2020) due to elevated wildfire risk and forest health issues.

Direct Impacts:

Direct impacts expected as the result of the proposed action are expected to be short-term and minor. Forest management activities are inherently dangerous. All contractors would be required to comply with federal and state safety standards for logging operations as established by the United States Department of Labor, Occupational Safety and Health Administration (OSHA; 29 Code of Federal Regulations 1910 and any other such applicable regulations promulgated by OSHA) and as required by Title 50, Chapter 71 of the Montana Code Annotated (MCA), and any regulations promulgated to implement the affected statutes.

Secondary Impacts: Secondary impacts are expected to be long-term and minor. The proposed action will reduce the risk of wildfire and Douglas-fir beetle mortality which would positively affect human health and safety on the WMA and surrounding area.

Cumulative Impacts: Cumulative impacts are expected to be long-term and minor. The proposed project area falls within the Connecting Fuels Treatments in the Salish Mountains and Whitefish Range Joint Chief's Landscape Restoration Partnership project area, which ranked third for a total risk to structures in the Montana Wildfire Risk Assessment (2020). The proposed project area also partially falls within a priority area identified in Montana's Forest Action Plan (2020) due to elevated wildfire risk and forest health issues. The proposed action, when taken into context with broader efforts to reduce forest fuels and mitigate wildfire risk, could have long-term benefits to human health and safety.

7. Quantity and Distribution of Employment

Existing Environment/Baseline Conditions (No Action Alternative):

According to the 2022 U.S. Census, the economy of Flathead County employed 52,000 people, with the three largest industries being educational, health care and social assistance (19.4%), retail trade (14%) and construction (11.5%). Approximately 5.9% of the available workforce was employed in agriculture, forestry, fishing/hunting, and mining occupations¹³

Direct Impacts:

Direct impacts to the quantity and distribution of employment are expected to be short-term and minor. According to the Montana Bureau of Business and Economic Research (Sorenson et al. 2016), the harvest of a million board-feet of timber equates to roughly 10 direct jobs (in forestry, logging, wood and paper product manufacturing, and forestry support activities) annually. Qualified contractors will be hired to conduct logging operations, rehabilitate skid trails and temporary roads, and possibly conduct understory burning. Existing FWP staff will be responsible project layout, monitoring and coordination with U.S. Forest Service and Montana Department of Natural Resources and Conservation to develop/implement prescribed burn plans.

¹³ Available online: [https://data.census.gov/profile/Flathead County, Montana?g=050XX00US30029#populations-and-people](https://data.census.gov/profile/Flathead%20County,%20Montana?g=050XX00US30029#populations-and-people) (last accessed 5/24/2024)

Secondary Impacts:

No significant adverse secondary impacts to the quantity and distribution of employment are expected because of the proposed action.

Cumulative Impacts:

No significant cumulative impacts to the quantity and distribution of employment are expected because of the proposed action.

8. Density and Distribution of Human Population and Housing

Existing Environment/Baseline Conditions (No Action Alternative):

The entirety of the proposed project would take place within the boundaries of the Ray Kuhns WMA. There are no houses within the WMA.

Direct Impacts:

No significant direct adverse impacts would be expected because of the proposed project. The proposed project would utilize existing FWP or DNRC staff for planning, layout and prescribed fire. Project implementation would be conducted by an independent contractor(s), identified through a competitive bid process. No movement of an existing human population or new population into the project area will be required. Therefore, no direct impacts to the density and distribution of population and housing would be expected because of the proposed project.

Secondary Impacts:

No significant adverse secondary impacts to the Density and Distribution of Human Population and Housing would be expected to occur.

Cumulative Impacts:

No significant cumulative impacts to the Density of and Distribution of Human Population and Housing would be expected to occur.

9. Demands for Government Services

Existing Environment/Baseline Conditions (No Action Alternative):

FWP manages the Ray Kuhns WMA for wildlife habitat and compatible recreational opportunities. FWP staff are responsible for routine maintenance (e.g., noxious weed control, fence repair), wildlife habitat monitoring and improvement, rulemaking, and enforcement of WMA use rules and seasonal closures. Under the No Action Alternative, the demand for government services would continue unchanged.

Direct Impacts:

No significant adverse direct impacts would be expected because of the proposed project. FWP staff will be responsible for project design, layout, contractor hiring/coordination, and public outreach. Additional support and coordination with U.S. Forest Service and Montana Department of Natural Resources and Conservation will be required to design and implement prescribed understory burns. Therefore, direct demands for government services are expected to be short-term and minor.

Secondary Impacts: No significant adverse impacts would be expected because of the proposed project. Following project completion, FWP staff will monitor forest health and condition as their routine duties. Therefore, no secondary impact on demands for government services would be expected because of the proposed project.

Cumulative Impacts:

No significant adverse cumulative impacts on the demands for government services is expected because of the proposed project. The WMA will continue to be managed according to the original management purpose, by FWP. Therefore, no cumulative impact on demands for government services would be expected because of the proposed project.

10. Locally Adopted Environmental Plans and Goals

Existing Environment/Baseline Conditions (No Action Alternative): The primary purpose of Ray Kuhns WMA is to provide wildlife habitat, particularly white-tailed deer winter range. Compatible recreational activities (e.g., hunting, hiking, horseback riding etc.) are permitted so long as they do not conflict with the primary purpose. The proposed project area falls within the Connecting Fuels Treatments in the Salish Mountains and Whitefish Range Joint Chief's Landscape Restoration Partnership project area, which ranked third for a total risk to structures in the Montana Wildfire Risk Assessment (2020). The proposed project area also partially falls within a priority area identified in Montana's Forest Action Plan (2020) due to elevated wildfire risk and forest health issues. FWP is not aware of any other locally adopted environmental plans or goals which apply to the WMA.

Direct Impacts: No significant adverse direct impacts would be expected because of the proposed project. The proposed project would not change current land use practices. Therefore, no direct impact on locally adopted environmental plans and goals would be expected because of the proposed project. FWP is unaware of any other locally adopted environmental plans or goals that may be directly impacted by the proposed project.

Secondary Impacts: No significant adverse secondary impacts would be expected because of the proposed project. The project objectives complement those identified by the Joint Chief's Landscape Restoration Partnership project and fall within that project boundary. Therefore, long-term, minor, and beneficial secondary impacts would be expected because of the proposed project.

Cumulative Impacts: No significant adverse cumulative impacts would be expected because of the proposed project. The proposed project would support and have long-term, minor and beneficial cumulative impact on Montana's Forest Action Plan and the Joint Chief's Landscape Restoration Partnership project.

XI. Determining the Significance of Impacts

If the EA identifies impacts associated with the proposed action FWP must determine the significance of the impacts. This determination forms the basis for FWP's decision as to whether it is necessary to prepare an environmental impact statement. FWP considered the criteria identified in **Table 6** below to determine the significance of each impact on the quality of the physical and human environment. ARM 12.2.431.

The significance determination is made by giving weight to these criteria in their totality. For example, impacts identified as moderate or major in severity may not be significant if the duration is short-term. However, moderate or major

impacts of short-term duration may be significant if the quantity and quality of the resource is limited and/or the resource is unique or fragile. Further, moderate or major impacts to a resource may not be significant if the quantity of that resource is high or the quality of the resource is not unique or fragile.

Table 6: Determining the Significance of Impacts

Criteria Used to Determine Significance	
1	<p>The severity, duration, geographic extent, and frequency of the occurrence of the impact</p> <p>“Severity” describes the density of the potential impact, while “extent” describes the area where the impact will likely occur, e.g., a project may propagate ten noxious weeds on a surface area of 1 square foot. Here, the impact may be high in severity, but over a low extent. In contrast, if ten noxious weeds were distributed over ten acres, there may be low severity over a larger extent.</p> <p>“Duration” describes the time period during which an impact may occur, while “frequency” describes how often the impact may occur, e.g., an operation that uses lights to mine at night may have frequent lighting impacts during one season (duration).</p>
2	The probability that the impact will occur if the proposed project occurs; or conversely, reasonable assurance in keeping with the potential severity of an impact that the impact will not occur
3	Growth-inducing or growth-inhibiting aspects of the impact, including the relationship or contribution of the impact to cumulative impacts
4	The quantity and quality of each environmental resource or value that would be affected, including the uniqueness and fragility of those resources and values
5	The importance to the state and to society of each environmental resource or value that would be affected
6	Any precedent that would be set as a result of an impact of the proposed project that would commit FWP to future actions with significant impacts or a decision in principle about such future actions
7	Potential conflict with local, state, or federal laws, requirements, or formal plans

XII. Private Property Impact Analysis (Takings)

The 54th Montana Legislature enacted the Private Property Assessment Act, now found at § 2-10-101. The intent was to establish an orderly and consistent process by which state agencies evaluate their proposed projects under the "Takings Clauses" of the United States and Montana Constitutions. The Takings Clause of the Fifth Amendment of the United States Constitution provides: "nor shall private property be taken for public use, without just compensation." Similarly, Article II, Section 29 of the Montana Constitution provides: "Private property shall not be taken or damaged for public use without just compensation..."

The Private Property Assessment Act applies to proposed agency projects pertaining to land or water management or to some other environmental matter that, if adopted and enforced without due process of law and just compensation, would constitute a deprivation of private property in violation of the United States or Montana Constitutions.

The Montana State Attorney General's Office has developed guidelines for use by state agencies to assess the impact of a proposed agency project on private property. The assessment process includes a careful review of all issues identified in the Attorney General's guidance document (Montana Department of Justice 1997). If the use of the guidelines and checklist indicates that a proposed agency project has taking or damaging implications, the agency must prepare an impact assessment in accordance with Section 5 of the Private Property Assessment Act.

Table 4: Private Property Assessment Act (Taking and Damaging Assessment)

PRIVATE PROPERTY ASSESMENT CHECKLIST			
Does the Proposed Action Have Takings Implications under the PPAA?	Question #	Yes	No
Does the project pertain to land or water management or environmental regulations affecting private property or water rights?	1	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the action result in either a permanent or an indefinite physical occupation of private property?	2	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the action deprive the owner of all economically viable uses of the property?	3	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the action require a property owner to dedicate a portion of property or to grant an easement? (If answer is NO, skip questions 5a and 5b and continue with question 6.)	4	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is there a reasonable, specific connection between the government requirement and legitimate state interest?	4a	<input type="checkbox"/>	<input type="checkbox"/>
Is the government requirement roughly proportional to the impact of the proposed use of the property?	4b	<input type="checkbox"/>	<input type="checkbox"/>
Does the action deny a fundamental attribute of ownership?	5	<input type="checkbox"/>	<input type="checkbox"/>
Does the action have a severe impact of the value of the property?	6	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the action damage the property by causing some physical disturbance with respect to the property in excess of that sustained by the public general? (If the answer is NO, skip questions 7a-7c.)	7	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Is the impact of government action direct, peculiar, and significant?	7a	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has the government action resulted in the property becoming practically inaccessible, waterlogged, or flooded?	7b	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has the government action diminished property values by more than 30% and necessitated the physical taking of adjacent property or property across a public way from the property in question?	7c	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Does the proposed action result in taking or damaging implications?		<input type="checkbox"/>	<input checked="" type="checkbox"/>
Taking or damaging implications exist if YES is checked in response to Question 1 and also to any one or more of the following questions: 2, 3, 4, 6, 7a, 7b, 7c; or if NO is checked in response to question 4a or 4b.			
If taking or damaging implications exist, the agency must comply with MCA § 2-10-105 of the PPAA, to include the preparation of a taking or damaging impact assessment. Normally, the preparation of an impact assessment will require consultation with agency legal staff.			
Alternatives: The analysis under the Private Property Assessment Act, §§ 2-10-101-112, MCA, indicates no impact. FWP does not plan to impose conditions that would restrict the regulated person's use of private property to constitute a taking.			

XIII. Public Participation

Scoping

Scope is the full range of issues that may be affected if an agency implements a proposed action or alternatives to the proposed action. The scope of the environmental review is described through a definition of those issues, a reasonable range of alternatives considered, a description of the impacts to the physical and human environments, and a description of reasonable mitigation measures that would ameliorate the impacts. Scoping is the process used to identify all issues that are relevant to the proposed action.

Depending on the level of impact associated with a proposed action, the scoping process may include a request for public participation in the identification of issues.

Scoping provides an opportunity for public and agency involvement during the early planning stages of the analysis. The intent of the scoping process is to gather comments, concerns, and ideas from those who have an interest in or who may be affected by the *Proposed Action*. Several strategies were used to inform the public about and solicit comments on the *Proposed Action*. These strategies included:

- Press release (May 5, 2023)
- Distribution of a scoping letter (May 5, 2023)

A detailed account of the scoping processes can be found in the *Public Scoping Report*, which is on file with FWP and available by request. A copy of the *Public Scoping Report* may be obtained by request from the FWP Contact identified below in this section.

Scoping also includes efforts to engage internal and affected external agencies. For the proposed project, these scoping efforts included queries to the following websites/databases/personnel:

- Montana State Historic Preservation Office (SHPO)
- Montana Department of Natural Resource and Conservation (DNRC)
- Montana Department of Environmental Quality (DEQ)
- USGS National Hydrography Data
- Montana Natural Heritage Program
- Montana Cadastral
- Montana Bureau of Mines and Geology
- US Department of the Interior
 - Fish and Wildlife Service
- US Department of Agriculture
 - Forest Service
 - Natural Resource Conservation Service

Public Review of Environmental Assessments

The level of analysis in an EA will vary with the complexity and seriousness of environmental issues associated with a proposed action. The level of public interest will also vary. FWP is responsible for adjusting public review to match these factors (ARM 12.2.433(1)). For the proposed project, FWP determined the following public notice strategy will provide an appropriate level of public review:

- An EA is a public document and may be inspected upon request. Any person may obtain a copy of an EA by making a request to FWP.
- Public notice will be served on the Montana Fish, Wildlife and Parks website at: <https://fwp.mt.gov/public-notices>.
- Public notice will be served on the Montana Environmental Quality Council's MEPA Document List website at: <https://leg.mt.gov/mepa/search/>.
- As applicable, copies will be distributed to neighboring landowners to ensure their knowledge of the proposed project and opportunity for review and comment on the proposed action.
- FWP maintains a mailing list of persons interested in a particular action or type of action. FWP will notify all interested persons and distribute copies of the EA to those persons for review and comment (ARM 12.2.433(3)).

Public notice announces availability of the Draft EA for public review, summarizes the proposed project, identifies the time-period available for public comment, and provides direction for submitting comments.

- **Duration of Public Comment Period:** The public comment period begins on the date of publication on FWP’s Public Notice webpage (see above). Written or e-mailed comments will be accepted until 5:00 p.m., Mountain Time, on the last day of public comment, as listed below:

Length of Public Comment Period: 30 days

Public Comment Period Begins: February 20, 2025

Public Comment Period Ends: March 21, 2025

Comments must be addressed to the FWP contact listed below.

- **Where to Mail or Email Comments on the Draft EA:**

Name: ETHAN LULA – EUREKA WILDLIFE BIOLOGIST

Email: ETHAN.LULA@MT.GOV (Please put “RAY KUHNS EA COMMENT” in the subject line)

Mailing Address:

Montana Fish, Wildlife and Parks

P.O. Box 431

Trego, MT 59934

XIV. Recommendation for Further Environmental Analysis

NO further analysis is needed for the proposed action	<input checked="" type="checkbox"/>
FWP must conduct EIS level review for the proposed action	<input type="checkbox"/>

XV. EA Preparation and Review

	Name	Title
EA prepared by:	Jason Parke	FWP Forester
	Ethan Lula	FWP Eureka Area Wildlife Biologist
EA reviewed by:	Neil Anderson	FWP Region 1 Wildlife Manager
	Rick Northrup*	FWP Wildlife Division, Habitat Bureau Chief
	Eric Merchant*	FWP MEPA Coordinator

*The preparer/reviewer listed was previously involved in this EA but is no longer working for FWP