

## PROJECT TITLE: Elkhorn Cooperative Management Area (ECMA) JCLRP

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### Project Abstract

This project will support diverse and sustainable forest and non-forested ecosystems, reduce the intensity of wildfire, enhance wildlife habitat, and maintain or improve watershed values on 6,270 acres of private land and 13,500 acres of USFS lands.

The Elkhorn Wildlife Management Unit (ECMA) is unique in the National Forest System and is cooperatively managed under the ECMA Memorandum of Understanding (MOU). The ECMA is managed cooperatively by the Beaverhead-Deerlodge and Helena-Lewis and Clark National Forests (USFS), the Butte Field Office of the Bureau of Land Management (BLM), Montana Department of Fish, Wildlife and Parks (FWP), the Natural Resource Conservation Service (NRCS), and the Department of Defense – Montana Army National Guard (DOD). The planning area is a mix of private, county, state and federal (NFS, BLM and Department of Army) lands, and presents a unique opportunity to create synergies across ownership boundaries and increase overall project efficiency and efficacy. The project covers Jefferson and Broadwater Counties and the communities of Boulder, Jefferson City, Clancy, Montana City, East Helena, Winston and Radersburg. High priority treatment areas for this proposal include a municipal watershed and numerous communities and residential developments in the Wildland Urban Interface (WUI) which lie within high and extreme fire risk areas. There is a 21,000 acre Military Training Center and a utility corridor that will also benefit from improved forest conditions. Management activities will span several forest types. In lodgepole pine forests, management activities will increase landscape heterogeneity and provide a mosaic of habitat structures and conditions for a variety of wildlife species including elk and mule deer. White bark pine management will improve foraging habitat for several wildlife species including grizzly bears. Reduction of conifer colonization in grasslands and shrublands will increase habitat diversity for additional wildlife species, improve the resilience of the local landscape, and benefit local communities. Meadow and shrubland restoration and the reintroduction of fire will improve high-quality wildlife habitat into the future and restore grasslands to more historic conditions.

### Landscape-Scale Priorities and Objectives

The ECMA cooperators recognize the need to manage across jurisdictional boundaries to achieve comprehensive landscape management. A century of fire suppression has created unnatural fuel loadings, conifer colonization, homogenous forests, and an overall shift in ecosystem processes that threaten to alter the native assemblages of plants and animals. Forest and habitat types range from sagebrush grassland to Douglas fir-lodgepole and white bark pine. Quaking aspen is scattered throughout the ECMA and mountain mahogany is present at lower elevations.

Two citizen groups are actively involved in the development of collaborative recommendations related to ecosystem management in the Elkhorn Mountains: the Elkhorn Working Group (EWG) and the Big Elk Divide Restoration Committee (BEDRC) which is a part of the Montana Forest Collaborative Network. The EWG and BEDRC promote sound application of ecological principles in landscape management. BEDRC prepared the report, *Restoration of Ecosystems in the Elkhorn Cooperative Management Area* (2016), that provides treatment recommendations designed to replicate natural processes. This report and others including *Montana's Comprehensive Fish and Wildlife Conservation Strategy*, *Elkhorn Cooperative Management Area Conifer Colonization Management Strategy* and the *Montana Forest Action Plan* provide context and direction for this

project.

Most of the private lands in this proposal boundary are within two NRCS Targeted Implementation Plan (TIP) areas. The goals of the “McClellan Creek Forest Health and Fuel Reduction TIP” and the “ECMA-Range Health & Conifer Encroachment Treatment TIP” are to reduce conifer encroachment on range land, improve forest health, and reduce wildfire risk.

**Check one or more JCLRP objectives this proposal plans to address:**

- Reduce and mitigate wildfire threats to communities and landowners
- Protect water quality and supply for communities and industry
- Improve habitat conditions for at-risk species

This proposal's objectives will be met through a multi-phase approach on Forest Service lands; the first phase will include hand slashing/thinning, chipping or mastication of fuels, and slash piling as needed. Prescribed fire may be used following thinning to reduce surface fuels. The use of prescribed fire would restore more natural fuel conditions and reduce the intensity and impact of wildfire on wildlife habitat and communities. Reduced fuel loads would aid in managing future fire starts, improving habitat and assist with overall forest health.

On private lands, participants will utilize the following practices to achieve the goals of this proposal: 383 acres of fuel breaks used around buildings and along escape routes, 666 acres of forest stand improvement combined with 384 acres of woody residue treatment for forest health and fuel reduction, and 315 acres of herbaceous weed treatment to contain noxious weed invasion.

## Resource Concerns

**Wildfire Hazard:** Historically, the mean fire interval of the project landscape was 53 years. By comparison, the current fire interval averages nearly 120 years, more than twice the pre-settlement mean. In addition, many pre-settlement fires were low-severity, understory fires. A mountain pine beetle (MPB) outbreak across the forest, peaking in 2009, caused greater than 90 percent mortality in mature lodgepole pine stands and has resulted in excessive accumulations of woody debris in the project area. Without treatment, this fuel load will remain for the foreseeable future until it decomposes or a stand replacing fire occurs. The contiguous nature of the fuels and high fuel loading creates conditions conducive to large-scale, high severity wildfire which could significantly reduce habitat for species from fish to grizzly bears; create expensive short and long-term management challenges for the municipal watershed; and impact communications, transportation and energy infrastructure. Infrastructure includes the military training area, electrical supply corridors, and numerous communication systems.

Forest Service staff and local wildfire risk experts recently conducted a wildfire hazard and risk assessment that identified potential areas of treatment. Landscape prioritization and treatment feasibility was done in consultation with the Rocky Mountain Research Station and Fire Science Lab. The assessment was utilized by the Lewis & Clark County Community Planning Assistance for Wildfire (CPAW) and Tri-County FireSafe Working Group's Regional Community Wildfire Protection Plan. Climate change in the Northern Rockies is predicted to result in longer, hotter summers. These changes will likely result in extended periods of drought, increased insect attacks, reduced fuel moisture content, and will exacerbate severe fire behavior.

**Water Quality Degradation & Municipal Water Supply:** The City of East Helena draws part of its municipal water supply from McClellan Creek within the project area. This system is vulnerable to contamination from ash and sediment, should a wildfire occur and significantly increase water treatment costs.

**Wildlife and Aquatic Habitat Improvement:** Fires were a frequent occurrence in the Elkhorn Mountains before settlers arrived, and while they still occur, they do not occur at the same frequency or scale. The full diversity of wildlife habitats has been compromised by the decline in vegetative diversity due, in part, to fire suppression (*Role of Fire in the Elkhorn Mountains*, Barrett 2005). As noted in the *Elkhorn Cooperative Management Area Conifer Colonization Management Strategy* (2012), there is ample evidence of conifer colonization into grasslands. The treatments are designed to maintain and enhance habitat for a variety of wildlife species. Specifically, grass and shrubland treatments are designed to improve foraging habitat for elk and mule deer and structural diversity for ground-nesting and sage brush obligate species including Greater Sage Grouse.

The FWS has verified both lynx and grizzly bears, threatened species under the ESA, are present in the Elkhorns. Proposed treatments promote a mosaic of forest successional stages important for lynx habitat and restore whitebark pine, an important food source for grizzly bears.

Sage grouse have been observed on private land south of the Elkhorns (MTFWP). Reducing conifer colonization in these and adjacent habitats will improve nest-success, reduces loss to predation, and increase overwintering survival by sage grouse.

The effects of wildfire on riparian areas with even moderate density conifer encroachment result in high mortality of desirable vegetation and an increase of sedimentation in critical fish habitat for westslope cutthroat trout.

Across the project area, development of forest size-class diversity has stalled, resulting in a decrease of wildlife habitat, particularly for elk and other big game species, and an increase in conflict with livestock producers on adjacent private land. Without adequate resources and funding to restore wildlife habitats, these conflicts with private landowners will continue. The proposed habitat treatments will also reduce accumulations of dead lodgepole pine that create barriers for big game.

**Acres to be Implemented:**

	Planned Treatments	Implemented Treatments	Total
USFS	13,500	6,000	19,500
NRCS	6,270	11,740	18,010
BLM		3,200	3,200
Department of Defense	100	750	850
Tri County Fire Safe	20	30	50
Total	19,890	21,720	41,610

**Conservation Outcomes:** Implementation of the project increases the likelihood that a sufficient quality and quantity of municipal drinking water will be maintained in the event of a wildfire by reducing severity and extent of a wildfire within the McClellan Creek municipal watershed. Overall fire risk will be reduced for critical infrastructure, private property, the public and emergency responders, and forest health conditions will be improved. This reduced risk improves fire management options and may improve the effectiveness of suppression actions during a wildfire. Treated stands will be more resilient to disturbance, with less damage to ecosystem functions. Reducing risk and severity of wildfire in and adjacent to the Elkhorns Wildlife Management Area will prevent widescale habitat loss for a variety of wildlife species including grizzly bear, lynx, sage grouse, and cutthroat trout. Planned treatments should reduce wildfire spread across ownerships.

**Degraded Plant Condition:** Historically, aspen stands in the proposal area were widely dispersed. Under naturally occurring wildfires, aspen stands had a diversity of structure and age classes. Currently, stands are declining due to conifer colonization and lack of disturbance, causing a reduction in wildlife habitat diversity.

At high elevations, whitebark pine has experienced high mortality due to mountain pine beetle and white pine blister rust. Whitebark pine is considered a keystone species because it is responsible for maintaining and increasing the biodiversity on the landscape. Whitebark pine is an important food source for a variety of wildlife species. The U.S. Fish and Wildlife Service (FWS) has recently proposed whitebark pine for listing under the Endangered Species Act (ESA).

**Benefits to Communities**

The main threat to the ECMA is the loss of ecosystems that sustain the diversity of plant and animal communities, which in turn support the livelihoods of local landowners, surrounding communities, and provide for the enjoyment of the greater public.

Proposed treatments will minimize impacts to private land by retaining big game on public land. Also, the Elkhorns are located within Hunting District 380, one of Montana’s most popular hunting areas which provides economic benefits to the surrounding communities. The proposal directly connects to Montana NRCS focused Conservation Targeted Implementation Plans, Elkhorn Conifer Encroachment Strategy, and National sage grouse initiatives.

The surrounding communities would greatly benefit from the reduced risk of large-scale wildfires that have the potential to impact homes, community infrastructure, traditional livelihoods, and backyard recreation areas.

This funding would ensure continued progress with existing partnerships and improve opportunities to increase interest and education with private landowners. In addition, this proposal would generate opportunities for forestry related employment and outputs both in the federal and private sector.

The FS and NRCS will continue to provide opportunities to engage the public in local tours, public meetings, and site visits to share the collective vision of the benefit of forest management, regardless of ownership.

Implementing landscape-scale private land conservation is often dependent on community support. After early-adopters complete projects like fuel breaks, forest stand improvement, and brush management, neighboring landowners see the benefits and want similar results. Due to the high cost of forestry-related practices, it can take several years to achieve this type of community buy-in. The previous Capital 360 Joint Chiefs' treatments have sparked increased interest in private land forestry conservation in the three participating counties. NRCS has received multiple inquiries from private landowners for fuel reduction and forestry work in the Elkhorns, solidifying the need for this proposal. Outreach efforts, as well as completed projects "selling themselves" should easily utilize the dollars requested by NRCS. Soil and Water Conservation Districts and non-governmental organizations are further fostering community understanding through field tours highlighting landscape-scale, cross-boundary conservation, and the reliance of this collaborative approach on both public and private land managers.

The completion of the collaborative cross boundary projects will provide additional protection for the Bonneville Power Administration's Eastern Tie that transfers power to the Pacific Northwest during high demand peak use periods. If this supply line was impacted by wildfire, it could affect millions of homes and businesses throughout the Pacific Northwest.

The low-income community of East Helena will benefit by reduced likelihood of a wildfire in their municipal watershed. East Helena residents also utilize the Elkhorns for subsistence hunting and firewood gathering.

### **Certification of NEPA Readiness**

For the Forest Service, treatments would fall under the following National Environmental Protection Act (NEPA) projects: Helena National Forest Hazardous Tree Removal Environmental Impact Statement (EIS), 1988 Elkhorns Habitat Improvement Categorical Exclusion (CE), and Johnny Crow CE. All proposed activities are covered by the NEPA decisions and are implementation ready. All projects have been through objections and have no further litigation risk. NRCS programs are similarly administered in accordance with NEPA. NRCS developed a national programmatic NEPA documents, including an Environmental Quality Incentive Program Environmental Assessment, which was completed in October 2020. Further, an environmental evaluation is completed for each individual participating property that addresses potential impacts to soil, water, air, plant, energy, and animal resources as well as human and economic factors. The evaluation also addresses cultural and historic resources, invasive species, threatened/endangered species, and other special environmental concerns.

### **Partner Engagement and Associated Contributions**

*See landscape-scale priorities and objectives for acres planned and implemented with this proposal.*

This effort expands upon successful implementation of various vegetation projects by multiple entities within the proposal area. We will continue to work with our many and varied partners over the course of project implementation. Tri-County Fire Safe Working Group and NRCS have a long history of completing private land fuels reduction treatment projects across the landscape, and this partnership will continue during implementation. The Tri-County Fire Safe Working Group has been focused on fuels reduction and defensible space projects for over 30 years in Jefferson, Lewis & Clark, and Broadwater Counties while also improving 15 miles of evacuation routes. The Whitehall and Townsend NRCS offices currently have over 2,800 acres of conifer treatment application planned for FY 2023 for approximately 2.1 million dollars in financial assistance.

Broadwater Conservation District and Jefferson Valley Conservation District established their partnership with NRCS by aiding with education, outreach, and technical assistance on all projects and/or programs pertinent to NRCS's mission of getting conservation on the ground.

The BLM has implemented multiple vegetation treatment projects on over 3,200 acres within the proposal

boundary. The BLM Butte Field Office completed their land health evaluation process in the southern portion of the ECMA in 2021 preparing the way for range improvement projects adjacent to the NRCS and USFS projects, effectively doubling the acres being treated by this proposal.

The Montana Army National Guard (MTARNG) has been treating conifer expansions and creating fuel breaks on over 750 acres (i.e., mastication) throughout the Limestone Hills Training Area (LHTA) over the past 11 years. The MTARNG utilizes the LHTA for pre-deployment training and unit readiness. Because of the highly hazardous nature of the firing range, primarily from exposure of firefighting resources to unexploded ordinances, the fuel breaks are utilized by suppression resources as predetermined control lines to limit fire spread outside of the LHTA. Per an Interagency Agreement with the Department of Military Affairs and MTARNG, the U.S. Forest Service has the responsibility to suppress wildland fires caused by military activities within the LHTA.

The Montana Department of Natural Resources and Conservation (DNRC), through an agreement with NRCS, is completing inventories and Forest Management Plans on several hundred acres of private land in the Elkhorns, as well as other service forestry work for private landowners. The goals of the ECMA and this proposal align perfectly with the Montana Forest Action Plan (MFAP). Shared goals include wildfire hazard reduction, and safety of escape routes and homes in the Wildland Urban Interface.

See attached Excel tables for partner fiscal contributions within proposal area.

### Monitoring and Evaluation

Monitoring will be used in an adaptive management framework to ensure that proposed restoration treatments meet ecological objectives described in this proposal. Monitoring will be based upon established and state of the art approaches to restoration monitoring. Attributes monitored will take advantage of ongoing monitoring programs by state agencies, the Forest Service, Natural Resources Conservation Service and other science-based organizations to provide unbiased evaluations of forest and range land restoration treatments. The monitoring team will include members from BEDRC whose respective networks will add additional stakeholder and community capacity. The monitoring team will also include a youth component via the Youth Forest Monitoring Program, a well-established program in place for over two decades whose goal is to connect young people with their local forest lands and forest professionals.

#### **Reducing Wildfire Threat:** *Will the proposed treatment influence wildfire hazard or behavior?*

Vegetation monitoring will utilize transects and photo monitoring points to demonstrate reduced fire hazard and other changes in plant communities. Fuels effectiveness monitoring data (e.g., canopy base heights, surface fuel loadings, canopy spacing, and post-fire vegetation response) has been collected for pretreatment; post treatment monitoring will be collected and analyzed to evaluate potential changes in fire behavior. This monitoring will highlight anticipated positive responses in species diversity and plant community structure, which will have implications for wildlife habitat quality and wildlife occupancy. These results will generate the desired outcome(s) of reducing wildfire hazard from high to low on approximately 6,270 acres of private land and 13,500 acres of USFS lands.

#### **Wildlife & Aquatic Species Habitat:** *Will the proposed treatments provide additional protection or have a positive effect on wildlife or aquatic species habitat?*

Wildlife habitat assessments will be conducted before and after the project to evaluate specific changes as it pertains to wildlife use. Treated areas will be monitored using ground transects to demonstrate impacts on plant community structure and distribution. It is expected that a 75% reduction in private land conifer encroachment, a 25% reduction in noxious weed infestations, and multiple aspen clones being enhanced will be achieved at the completion of the proposal.

**Water Quality and Municipal Water Supply:** *Will the proposed treatments provide additional protection or improvement to the East Helena municipal water supply watershed or critical westslope cutthroat trout fisheries?* Regeneration of conifers in the treatment units can mark the success or failure of the project through yearly monitoring of the treated areas. Follow-up treatments can be determined by these monitoring efforts and help to establish long-term objectives for controlling conifer colonization into treated and untreated areas.

Pre and post riparian health assessments will be completed for all projects located near perennial streams. This will show a substantial reduction in conifer encroachment and increased diversity of desirable understory vegetation cover.

## **Deliverables**

See attached Excel tables.

## **Budget Request**

See attached Excel tables.

## **Map**

Maps and GIS data are uploaded to the [JCLRP Webmap](#).