2023-2026

Countryman Creek Fuels Reduction Targeted Implementation Plan

Targeted Implementation Plan

COLUMBUS FIELD OFFICE

Targeted Focus Area:

Countryman Creek Watershed, Stillwater County, Montana

Program:

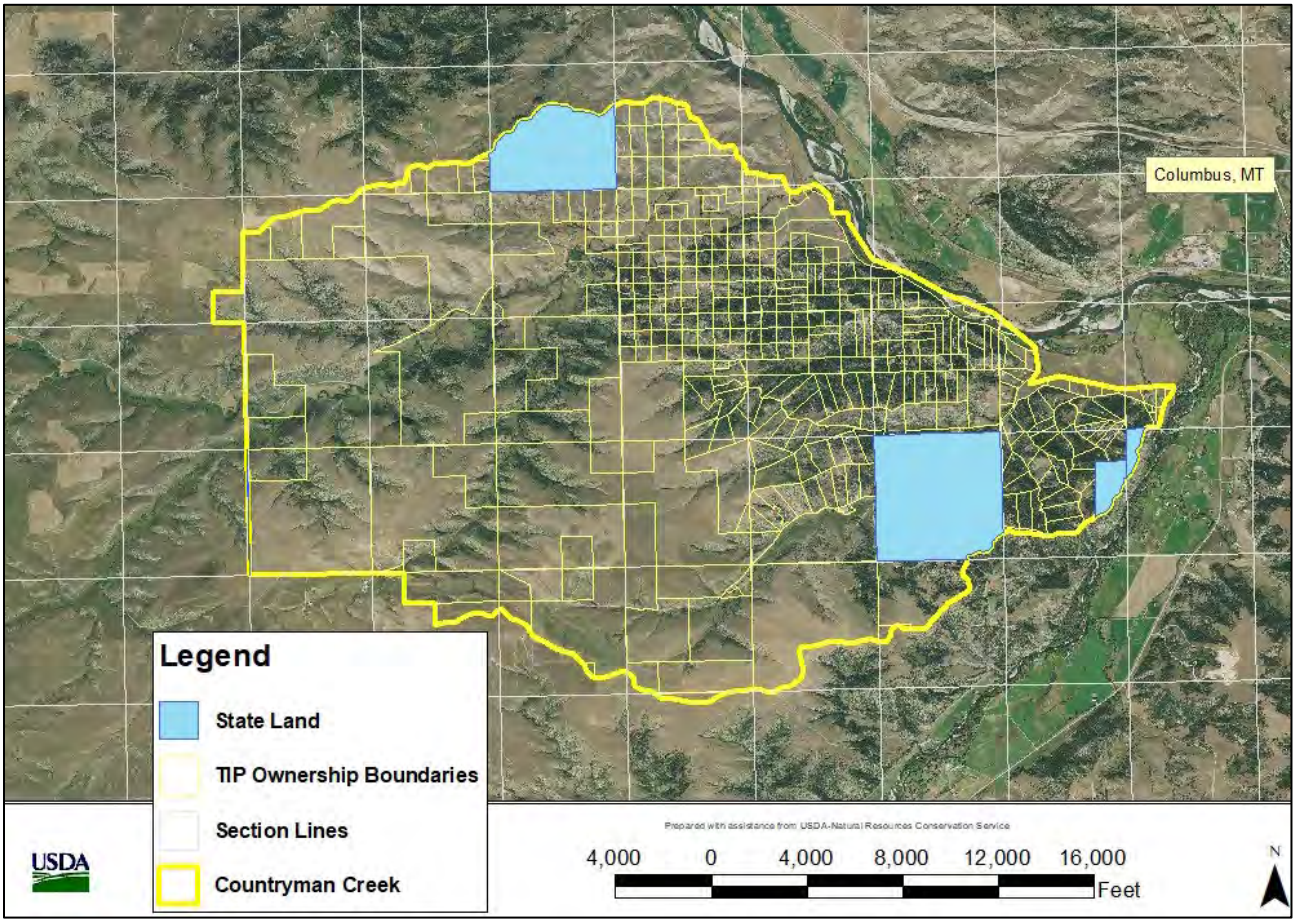
Montana Focused Conservation (MFC); Environmental Quality Incentives Program (EQIP)- Targeted Implementation Plan (TIP).

Overview/Background Information

The Countryman Creek Watershed is south of Columbus, MT and slightly West. Countryman Creek and Huntley Creek are the main creeks in the Countryman Creek HUC-12 watershed. Both flow from the south before emptying into the Yellowstone River. The land uses in the area are Forest and Range. This area is home to many small landowners with parcels 20 acres or less. At the western side of the TIP area are some larger livestock operations. Most of the woody vegetation within the hilly/breaks areas is ponderosa pine and Rocky Mountain juniper. These areas have been greatly suppressed from fire and hold an imminent threat of stand replacing fires. The greatest risk of loss is from a timber/brush-fed wildfire threat to residences, as demonstrated by the TIP Area's approximately 250 landowners.

Within the last 37 years, 1 major wildfire has occurred within this plan's northern geographic boundary in 2006 (Saunders Fire, 3,038 acres). Several other fires have occurred around the adjacent geographic area, the largest being the Derby Fire of 2006 to the south and west of the TIP boundary. This fire covered 200,993 acres. The identified TIP area is one of the islands in the county that has been devoid of fire for many years. The century long fire suppression, corresponding with significant conifer encroachment, have set the scene for a perfect combination of topography and fuels in an area particularly susceptible to fire damage with limited evacuation routes. The likelihood of a catastrophic fire is no longer an "if" scenario but rather a "when."

The Natural Resources Conservation Service (NRCS), in collaboration with the Local Working Group and other partners, has identified conifer encroachment as a major problem in the county. Agricultural producers in the local working group are invested in seeing an increase in conifer encroachment management. All perspectives are pushing for a proactive, inclusive approach, knowing that a reactive approach could be devastating to the county. This Targeted Implementation Plan (TIP) was developed in response to the recognition of the need to protect the landscape from likely catastrophic wildfires. This TIP's goal is to significantly mitigate the imminent threat of catastrophic wildfire within the project boundary.



Targeted Implementation Plan (TIP) Boundary

Problem Statement

Wildfires are a natural part of the forest ecological cycle. However, for more than a century people have made a concerted effort to fight fires, effectively taking fire off the landscape. This has resulted in a significant change in the encroachment and densities of our forests. Forests are now much more densely stocked, making them less adapted to major fire events. Because of the buildup of fuels, paired with previous droughts and dramatically higher temperatures, fires have become significantly more intense. These fire events often become stand replacing events and pose significant risk to people, livestock, infrastructure, and public safety. Encroachment of conifers into traditional rangeland also expands the extent of these wildfire events. Encroaching conifers also utilize a significant amount of water, leading to a decrease in water availability in streams, aquifers, and springs. The encroachment also shrinks habitat for wildlife dependent on open prairie landscapes. The TIP Area has been identified by NRCS, Columbus Fire Department, Stillwater Valley Watershed Council, and residents as an at-risk area due to limited transportation evacuation routes, critical infrastructure, and developments such as homes and ranching operations that exist throughout the area. The Montana Forest Action Plan also identifies a portion of the TIP boundary as a High-Risk area for wildfire risk.

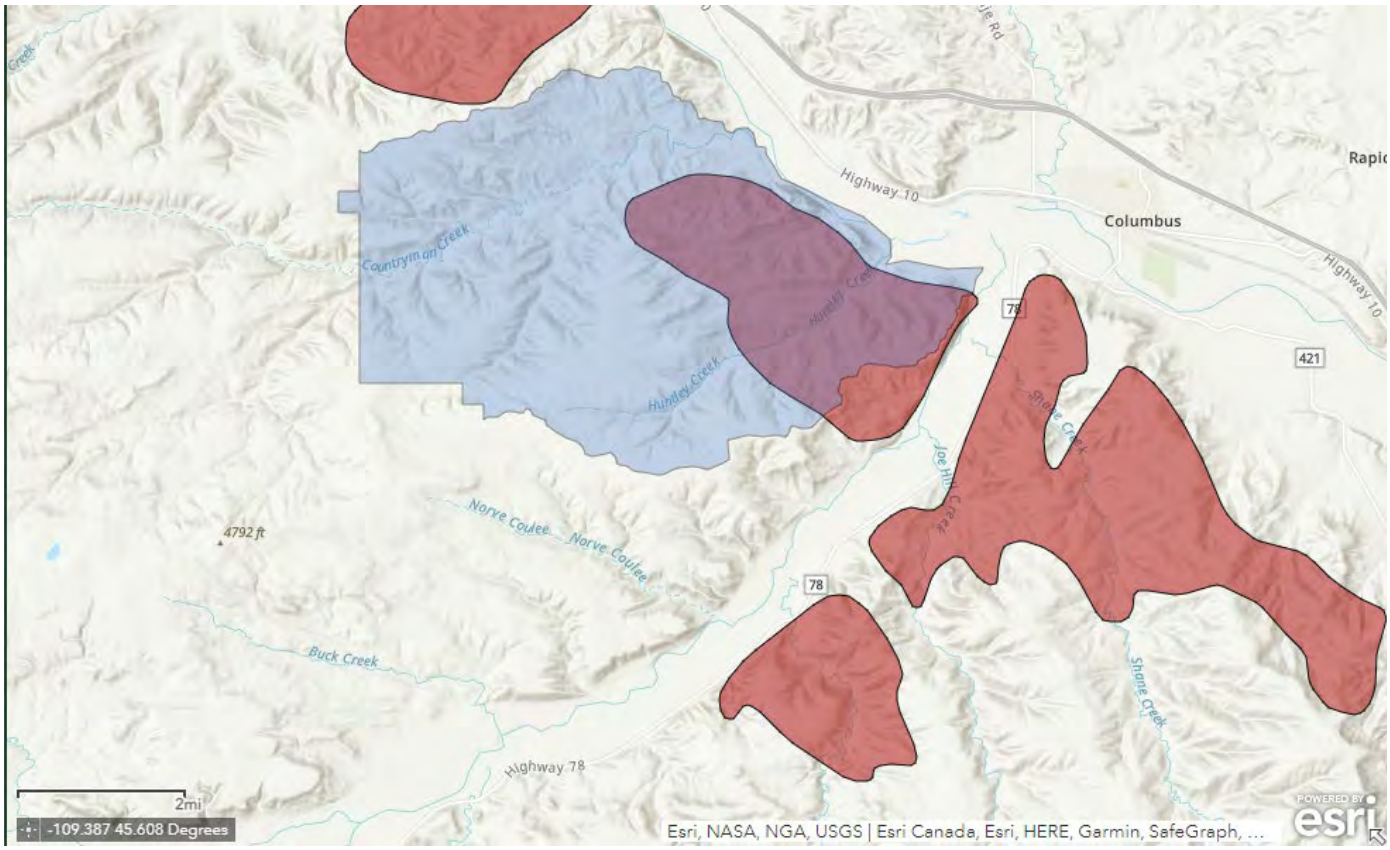
The TIP boundaries utilize the Countryman Creek watershed boundaries to the north, east, and south. The western boundary was drawn in its current location because conifer density decreases further to the west and intersects the boundary of the Derby Fire (a stand replacing fire) where conifer regeneration is minimal. Due to continuing development, subdivision, and conifer encroachment into previously tree-less areas, fire impact on property in the TIP area would be significant. This can be illustrated by the Derby Fire, which burned almost 201,000 acres, damaging millions of dollars in property, and incurring over $19 million in firefighting costs. While this fire did occur outside of this TIP boundary, topography and vegetation types are

similar, and serves as an example of the potential negative impact within a similar landscape and region. The issue is further complicated by the financial hurdle to treat these forests appropriately, as demonstrated by the level of interest and inquiries from landowners in the project area. Fire frequency in this ponderosa pine/Rocky Mountain juniper/bluebunch wheatgrass cover would be approximately 30 years. Fire suppression and lack of fuels treatment has exponentially increased the danger and damage caused by fires in decadent, unmanaged forests.

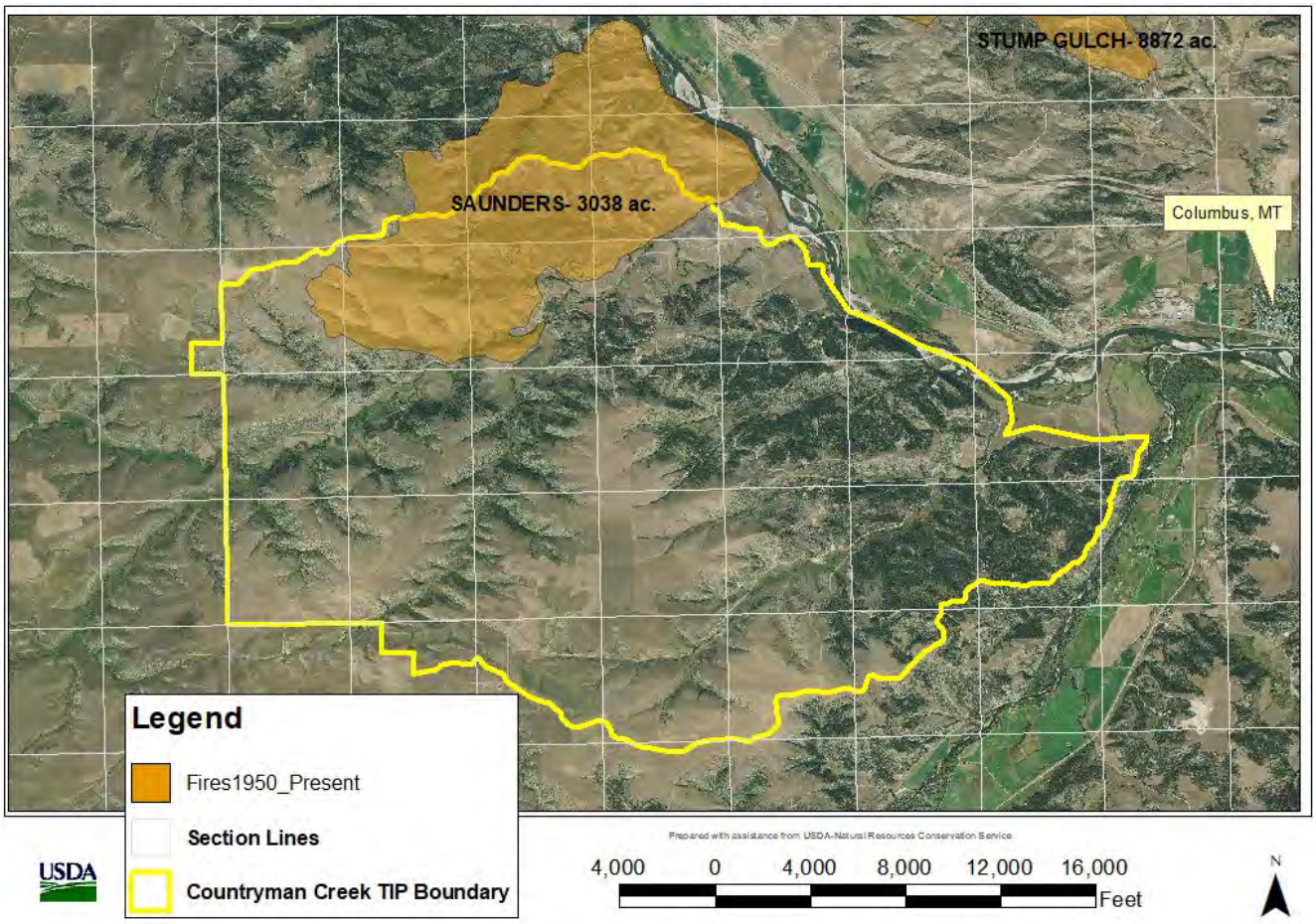
Noxious weed control is another resource concern often overlooked by small landowners and has become a problem in the TIP area. Control of noxious weed infestations is important not only to improve the plant community, but also to prevent spread following forestry management practices that may occur or fires that open bare spaces to weed invasion.

Due to the overpopulation of ponderosa pine and Rocky Mountain juniper in the area, the primary resource concern for this Targeted Implementation Plan is Degraded Plant Condition-Plant Structure and Composition.

The secondary resource concern is Plant Pest Pressure.



Overlay of Countryman Creek TIP Boundary (light blue polygon) over High Priority Areas of Stillwater County identified in the Montana Forest Action Plan (red polygons). https://www.montanaforestactionplan.org/pages/priority-areas



Fire History - 1950 to present

Goals and Objectives

This project will enhance conservation connectivity between previous Stillwater Valley Watershed Council Wildland Urban Interface (WUI) projects (see Partnerships) and other partner projects and link them with future efforts that are identified in the Stillwater County Long Range Plan. Resource objectives will focus on implementing them on a landscape scale:

1. Reduce hazardous fuels in priority areas to minimize potential negative impacts from wildfire.
   a. Complete 2,620 acres of forest management practices over an estimated 4-year period, leveraging partnership contributions, along with NRCS funding.

2. Improve forest health, resiliency to insects and diseases, and overall productivity.
   a. Develop forest management plans for each program participant with consideration for stand diversity, age class retention, optimal stand densities, encroachment, and overall health. Habitat type will be taken into consideration on a site-by-site basis during plan development.

b. Identify and prioritize any areas for insect or disease or overstocking that may have a catastrophic effect on forest health with the potential to create additional fuel loads.

3. Increase wildfire preparedness through education and outreach activities.
   a. Partner with National Wild turkey Federation, Montana Department of Natural Resources, Montana State University Extension, Columbus Fire Department, Stillwater Valley Watershed Council, and Countryman Creek HOA to facilitate forester visits, forest management plan development, and fire risk assessments on homes and properties for program participation. Forest Management Plans will be written by the Bozeman Area Partner Forester with the National Wild Turkey Federation.
   b. Promote landowner participation in forest stewardship workshops hosted by DNRC, SVWC, Columbus Fire Department, or MSU Extension.

Alternatives

Alternative 1: No action will result in a failure to address the identified resource concerns leaving landscape and structures with little defensibility against wildfire. Forest health will continue to decline in the short and long term due to overstocking, disease, insects, undesirable species, and encroachment into rangelands. In addition, noxious weeds will continue to increase in the short and long term. Catastrophic wildfire is a likely outcome.

Alternative 2: Host an annual outreach event for area residents on fire mitigation and forest health. This event will showcase experts on forest management, fire mitigation, and fire risk. This will be held with the intention of prompting action from residents to undertake fire mitigation measures.

Alternative 3: (Preferred) Implement a small suite of practices on forest or range land uses to address the identified resource concerns. Forest Stand Improvement (666), Silvopasture (381), Woody Residue Treatment (384), Brush Management (314), and Fuel Break (383) will be the primary practices employed to address degraded plant condition, plant pest pressure, and wildfire hazard from biomass accumulation. The use of the Fuel Break (383) practice will result in approximately 1.4 acres of defensible space around structures. The utilization of the additional forestry practices will result in additional survivable space being created. Based on the precipitation, average tree diameter, and understory vegetation, trees per acre following forestry practices is estimated at a maximum of 35 ponderosa pine with an average diameter of 12 inches. The use of these forestry thinning practices for the protection of ingress/egress routes will be prioritized to provide for safe evacuation routes for residents and safe access routes for firefighters. Herbaceous Weed Control (315) will be the practice used to treat the plant pest pressure resource concern, especially post forest stand treatment. The threat of catastrophic wildfire and the risk to residences, structures, and public safety will be significantly mitigated.

Special consideration will be given for practices effecting species of concern, such as Canada Lynx or Sage Grouse, to meet all federal regulations and NRCS policy requirements. Any cultural resources present will be identified and avoided during planning and implementation of practices involving federal action.

Proposed Solutions and Actions

The solution to these major resource challenges is to take a comprehensive approach, which engages private landowners, leverages partnerships, and utilizes a productive suite of practices to address the resource concerns to achieve desirable results. Due to the scale and size of the problem, this approach gives us the most potential of achieving a positive, measurable outcome. We will utilize assessments that have been done by the Columbus Fire Dept. to identify areas with the greatest risk levels related to wildfire vulnerability and severity. With the help of listed partners, a targeted outreach campaign will be rolled out, beginning in April of 2022, to generate interest and awareness of the program. We will also take advantage of current program participants, individuals who have previously expressed interest, and new applicants we

receive because of our targeted outreach. Specific actions will depend on the treatment recommendation by technical experts, based on the field conditions, which will be outlined in the conservation plan and site-specific management plan. Most of this work will be done through NRCS funding, with potential for partnering from DNRC, Columbus Fire Dept., and other sources.

These practices will include:

Forest Stand Improvement (Practice Code 666. Eligible on forest land use.) may be used on forestland to thin existing stands of conifers as well as other silviculture treatments. The planning will be completed by NRCS and the National Wild Turkey Federation with the potential for partnering with DNRC to assist with planning.

Silvopasture (Practice Code 381. Eligible on forest or range land uses that are managed for livestock production.) will be used on rangeland to thin existing trees to populations that still provide shade and shelter for livestock but also allow adequate light penetration to improve the productivity and health of the native range forage. The planning will be completed by NRCS and the National Wild Turkey Federation with the potential for partnering with DNRC to assist with planning.

Woody Residue Treatment (Practice Code 384. Eligible on forest and range land uses.) will involve reduction or elimination of slash generated from the above activities. Operations will include piling and burning, chipping, or removal for utilization (firewood, pulp, wood straw, etc.).

Brush Management (Practice Code 314. Eligible on forest and range land uses.) will be used to aid in protection and defensibility of structures, strategic points, or ingress/egress routes for first responders. Brush management will be utilized to re-open historic meadows and aide in defensible space during catastrophic wildfire events.

Fuel Break (Practice Code 383. Eligible on forest and range land uses.) may be used to reduce fuel load immediately surrounding residences and structures.

Herbaceous Weed Control (Practice Code 315. Eligible on forest and range land uses.) Will be utilized to treat noxious weeds that are likely to occur after implementation of forestry activities. A contract will not be written strictly for noxious weed control. This is intended as a supporting practice.

The following Table A provides specific targeted acreages for individual practices implemented over a 4-year period.

Table A. NRCS Deliverable Goals (in acres)

Activity	2023	2024	2025	2026	Total
Forest Stand Improvement (666)	125	250	325	100	800
Silvopasture (381)	125	250	325	100	800
Woody Residue Treatment (384)	405	765	1125	455	2620
Brush Management (314)	100	200	400	200	900
Fuel Break (383)	15	30	50	25	120
Herbaceous Weed Control (315)	100	200	400	200	900

Within this TIP boundary, approximately 7,600 acres are forested and treatable, approximately 5,000 acres of that is more densely canopied. It should be recognized that some property owners have already taken steps to create a defensible space by eliminating brush around their immediate residences and to open meadows and pastures for horses. Estimating the extent of work already completed is difficult as most of the work was done by the landowners themselves or the Columbus Fire Department and was not tied to a grant where acres of treatment were tracked. NRCS plans to treat approximately 2,620 acres for fire mitigation and approximately 900 acres for noxious weeds to support the mitigation and improve the condition of the plant community. This treatment total represents 34% of the treatable primary resource concern within the

larger TIP boundary, which is considerable with the large number of landowners involved. This acreage amount is attainable for the level of field staff and time available, the number of contractors available, and will encompass the current level of landowner interest as well as landowners who apply due to field office outreach efforts. This treatment addresses the primary resource concern and allows for additional and follow-up treatments to be accomplished by individuals and partners.

Both photos demonstrate tree density before (background) and after (foreground) thinning projects completed by the Columbus Fire Department. The photo on the right also demonstrates the difference in management objectives between landowners in the TIP Area (the boundary fence runs in front of the uncut trees).

Partnerships

Stillwater Conservation District: The Stillwater Conservation District will be the sponsor for outreach events. They help to organize the events and provide refreshments. They will also assist with contacting potential applicants.

Stillwater Valley Watershed Council: The Stillwater Valley Watershed Council currently has a Wildland Urban Interface (WUI) grant that is focused on fire mitigation and structure protection. They commonly get inquiries from outside of the scope of the grant, however. They can assist with outreach in this program as it builds on and provides continuity with wildfire mitigation efforts that they are already undertaking. They also have a working list of contractors and contacts related to fire mitigation that they will contribute. They have currently evaluated a few properties within the TIP boundary for potential fire mitigation efforts.

Montana Department of Natural Resources (DNRC): DNRC is currently partnered with NRCS to assist in the development of Forest Management Plans using DNRC staff to write the plans. DNRC has done thinning on at least 640 acres of state ground within the TIP boundary and have done some work with landowners in the Hearts and Diamonds subdivision (East portion of the TIP boundary) on fuels mitigation projects.

Columbus Fire Department: Columbus Fire Department has completed risk assessments on the properties within the TIP boundary. Using fire models, the department also has projections of potential fire behavior in the area. They also have been one of the main sources for fire mitigation efforts within the TIP boundary to date, using their summer hires on mitigation crews.

This project capitalizes on many current partnerships while forging new, long-term relationships. Many projects have already been completed or are underway adjacent to the project area through the SVWC's WUI Grant implementation throughout the Stillwater River Watershed. This TIP ties directly into the work that is being done or that is ready for implementation by being adjacent to that watershed. It also builds off some work that has been done by the Columbus Fire Dept., who can be hired to do thinning work and slash pile disposal. This project may also assist the Stillwater County Weed District with furthering noxious weed education and sparking interest for potential grant opportunities.

These partnerships use targeted outreach to bring technical and financial assistance to private landowners and have seen overwhelming interest. SVWC routinely gets inquiries from property owners outside of the scope of their WUI grants and often refers them to NRCS. The Stillwater Conservation District also regularly receives inquiries, particularly from the TIP area due to observations of adjacent SVWC projects.

Support for this project will also be provided by local Fire Departments. The Columbus Fire Department has already conducted assessments to identify potential problem areas, or areas that might be of special significance for ingress/egress or fire protection. Due to the large amount of groundwork that has already been done by the SVWC through their WUI grant, a list of contractors, as well as other knowledgeable individuals, has been assembled for the various aspects of the TIP. The Columbus NRCS Field Office has already been in meetings with the SVWC to discuss how the TIP area will increase fire mitigation continuity when adjacent to their projects as well as exchange contractor and personnel support contact information.

Fence line contrast of a fire mitigation project conducted by the Columbus Fire Department.

Implementation

The Columbus NRCS Field Office, along with the listed partners, has an extensive history of working with range and forest landowners. This history has led to a vast track record of successful implementation.

This project will occur over a four-year period, beginning in 2023. Conservation planning has been done, and will continue to be done, by the NRCS field office staff, along with cooperating partners. Previous planning or site-specific recommendations that have been made from partners will be utilized, providing that the recommendations meet NRCS standards and specifications.

First year participants will be selected from previously submitted applications, along with new applications submitted during the batching period. Additional application periods will create additional opportunities for producers and for TIP funding success. In future years, interest will be generated using several implementation strategies including target mailings, referrals from partners, NRCS outreach, and producer word-of-mouth.

Budget projections are based on the 2022 practice schedule for the above estimated acre goals. Silvopasture (381) while not on the fiscal year 2022 practice schedule, was estimated at roughly the same financial assistance rate as Forest Stand Improvement (666). Actual costs may vary from year to year, based on changes in the practice schedule, practices selected, and overall programmatic interest. Future budget projections have been estimated based on practice implementation history, current interest pool, and Field Office engagement with landowners.

Table B. NRCS Estimated Budget

Contributions	2023	2024	2025	2026	4- yr. Total
EQIP FA	$363,382	$730,705	$1,106,225	$445,140	$2,645,452

This set of photos demonstrates a photo point before and after forest stand improvement treatment.

Progress Evaluation and Monitoring

The effectiveness and extent of completed practices will be evaluated annually by NRCS and partners. Inventories will be completed before and after each treatment to document improvements including acreages, stocking rates, condition percent, species percent, average diameter, timing and method of slash treatment, wildlife mitigation measures, photo documentation, and producer expenditure documentation. Each project will be overseen by field office staff with certifications being made upon completion, contingent on practices meeting NRCS standards and specifications. Progress will be recorded in Conservation Desktop, or other appropriate databases. Monitoring will be conducted periodically to ensure outcome longevity and address any unforeseen complications that may arise due to natural disturbances, or land use changes. Follow-up treatments can then be determined if deemed necessary at that time.

Outcomes

Success of the project will be measured by the following criteria with pre-and post-treatment data:

An estimated 80 homes will have improved fire protection. This makes up 53% of the homes present in the planning area. This additional mitigation coupled with the fire mitigation that has already been undertaken by property owners in the TIP boundary, will result in a large majority of the houses in the boundary having fire mitigation measures in place. By the end of the TIP, there will be a total of 120 acres (approximately 91 football fields) of Fuel Break that will have been implemented around homes/structures to create immediate defensible space to protect against wildfire. This will be accomplished through removal of an estimated 100-foot radius of vegetation (brush, shrubs, trees) around the house/structure. Assuming that each home is worth $300,000 in today's market, that is 24 million dollars in homes (not including the value of forested acres that will have reduced fire risk) with increased protection from wildfire through an investment of approximately 2.6 million dollars.

2,500 combined acres (1,894 football fields) of Forest Stand Improvement and Brush Management to thin tree stands to an estimated maximum population of 35 ponderosa pine (based on a 12-inch diameter average) and reopen meadows to written Forest Management Plan recommendations for each landowner and their specific conditions. These practices will further increase defensible and survivable space in the project area, with attention given to protection of ingress and egress routes to support fire crews and safe landowner evacuation should the need arise. Opening of the tree canopy will also lead to the improvement of the diversity, density, and health of desirable plant species, beginning the plant community's recovery back to the identified habitat type potential. This will also improve the grazing resource and habitat of wildlife that rely on more open prairie landscapes.

900 acres of noxious weeds will be treated, and plant communities improved by biological, chemical, or mechanical means. Weed treatment will be planned on areas where noxious weeds are already present to control existing weeds and prevent spread to soil disturbed or uncanopied by thinning activities. Success will be measured by pre-and post-treatment photo points.

Ranking

These additional ranking questions will allow the field office to further prioritize the pool of applications to ensure the proposed projects are meeting the project's stated objectives:

1. Are the acres proposed for treatment directly adjacent to any currently planned or completed forest thinning or fuels reduction projects that have been completed in the last 5 years?
    a. Immediately Adjacent.
    b. Within ¼ mile.
    c. Over ¼ mile.
2. Are the acres proposed for treatment adjacent to a "stand replacing" fire that occurred within the last 15 years?
    a. Immediately Adjacent.
    b. Within ¼ mile.
    c. Over ¼ mile.
3. Are the acres proposed for treatment directly adjacent to ingress/egress routes that would be critical to residents or first responders in the event of a wildfire?
    a. Primary Road.
    b. Secondary Road.
4. Will 315 Herbaceous Weed Control be contracted to address noxious weeds on the proposed treatment acres?
    a. Yes.
    b. No.
5. Are the practices planned adjacent to structures with the intent of reducing risk of wildfire to those structures?
    a. Yes.
    b. No.
6. On what percentage of acres with the Degraded Plant Condition resource concern due to Ponderosa Pine and Rocky Mountain Juniper overpopulation will 666, 381, 384, or 314 practices be applied?
    a. >50% of acres.
    b. 25-49% of acres.
    c. < 25% of acres.