

## **Tenmile – South Helena Project: Detailed Information**

### **PROJECT LOCATION AND AREA DESCRIPTION**

The Tenmile—South Helena Project area encompasses approximately **61,500** acres in Lewis and Clark, Powell, and Jefferson Counties. This includes approximately **49,500** acres are National Forest System Land (NFS), **1,007** acres of public lands administered by the Bureau of Land Management (BLM Lands), and remaining acres are private lands. No treatments are proposed on private land.

The project area is located within the Upper Tenmile watershed, the primary source of municipal water for the City of Helena, and extends east through Colorado Gulch and the South Hills area of Helena, Montana. This proposal describes activities on NFS lands in Grizzly Gulch, Orofino Gulch, Corral Gulch, Tenmile Creek, Banner Creek, Beaver Creek; and on BLM lands in Colorado Gulch and south of Helena in Last Chance Gulch.

See Map 1 — Vicinity Map and Project Area Legal Description<sup>1</sup>

### **EXISTING RESOURCE CONDITIONS**

Fuel accumulations and dense forest stands due to decades of fire suppression, limited management activities and ongoing insect and disease mortality have created increased risk of landscape-scale fires and their associated effects. In the event of a wildfire in the project area during typical summer conditions, suppression would likely be difficult and the probability of successfully protecting important values and infrastructure would be low. Such a fire has the potential to pose great risk to firefighter safety, public safety and property, critical City of Helena water supply infrastructure, soil and water resources, wildlife habitat, and other important values.

Towns located within and adjacent to the project boundary have been identified by the Tri-County Community Wildfire Protection Plan as communities at risk of being impacted by wildfire due to their close proximity to hazardous fuel accumulations. These communities include Unionville, Rimini, and Helena. At-risk critical infrastructure exists in the project area and includes: private property, structures, roads, utility corridors, City of Helena water supply, and communications system components.

About 150 known abandoned or inactive mine sites are located within the Rimini area and Tenmile Creek watershed. The Environmental Protection Agency (EPA) has conducted remediation activities to

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<sup>1</sup> T10N, R6W Section 36; T10N, R5W Section 31; T10N, R4W Sections 31, 32, 34, 35, 36; T9N, R6W Sections 1, 2, 11, 12, 13, 23, 24, 25, 26, 35, 36; T9N, R5W Sections 1, 6-36; T9N, R4W Sections 1-24, 26-35; T8N, R6W Sections 1, 2, 11-14, 23-26; T8N, R5W Sections 1-12, 14-22, 29, 30; T8N, R4W Sections 5-8.

mitigate mining impacts to the area's water quality. For additional information on EPA remediation work please refer to the following link: <http://www2.epa.gov/region8/upper-tenmile-creek-mining-area>.

Also in the Tenmile – South Helena project area are about 80 miles of existing roads. These roads provide administrative access as well as public access to National Forest Service System Lands.

### **PURPOSE AND NEED FOR THE PROJECT**

The purpose of the project is to maintain consistent quantity and quality of water within the municipal watershed and improve conditions for public and firefighter safety across the landscape in the event of a wildfire. In order to achieve this purpose, there is a need to create a mosaic of vegetation and fuel structure more resilient to disturbance which would provide for safer, more effective fire suppression actions. Reducing intensity of wildfires and increase fire suppression effectiveness would improve protection measures for the surrounding communities and key municipal watershed infrastructure. These actions would reduce the probability of post-wildfire watershed impacts in the Tenmile municipal watershed. In addition, sources of anthropogenic sediment to streams need to be addressed in order improve water quality, watershed function, and other resource values in the project area.

### **PROJECT DEVELOPMENT TO DATE**

The Tenmile – South Helena project is being designed based in part on past collaborative efforts of the Tri-County FireSafe Working Group (TCFWG) and the Tenmile Watershed Collaborative Committee (TMWCC). Collaborative efforts in conjunction with a Forest-wide landscape-level assessment of conditions and predictions identified the project area as a high priority for fuels reduction work due to the extent of tree mortality resulting from mountain pine beetle epidemic, as well as the high values at risk of damage or loss in the event of a wildfire.

Data has been collected throughout the project area by Helena National Forest (HNF) resource specialists. In collaboration with the US Forest Service Rocky Mountain Research Station and Missoula Fire Sciences Laboratory, data was used to calibrate a model that predicted potential fire behavior across the fireshed (a roughly 30 square kilometer (18.6 square mile) zone around the project area)—an area in which an ignition would have the potential to impact the project area. These modeling efforts have assisted in identifying areas likely to contribute to the initiation and spread of crown fire and areas that show a propensity to contribute to large fire growth affecting the Tenmile watershed and the hills south of Helena. Areas identified through fire modeling which exhibited high fire intensities were visited to assess current conditions, potential treatments and accuracy of the fire model. This work helped identify preliminary issues and treatment units for this proposed action.

### **PRELIMINARY ISSUES**

- Firefighter safety concerns related to snags and inadequate escape route to safety zones due to the continuous surface fuel buildup
- Potential impacts to water quality
- Project effects on past mining activity and EPA remediation work
- Treatments within Inventoried Roadless Areas
- Treatment effects on elk
- Construction of new roads to facilitate treatment activities
- Wildlife connectivity
- Canada lynx
- Grizzly bear
- Treatments within recreation areas
- Old Growth

### **PROPOSED ACTION**

The design of the proposed activities addressed the need to modify forest fuels accumulation in order to reduce the potential for high-intensity wildfire effects within the City of Helena’s municipal watershed, wildland urban interface, and surrounding area as well as provide for firefighter and public safety.

#### **Proposed Vegetation Treatments**

Approximately **25,027 acres** are proposed for treatment (**24,020** on NFS Lands and **1,007** on BLM Lands) which would include a combination of commercial harvest of trees, non-commercial vegetation treatments and prescribed fire. Mechanical and/or hand treatment methods would be used to accomplish treatment objectives. Analysis of proposed treatment activities on BLM Lands will be evaluated in the analysis for the project. Locations of specific treatment methods would be determined as treatment units are refined through public and collaborative group involvement as well as resource specialist input.

The Proposed Treatment Type Description Table (below) and Map 2 – Tenmile South Helena Proposed Action Map for Scoping provide further description of proposed treatment types and approximate acres.

**Tenmile – South Helena Project: Proposed Treatment Type Description**

	Treatment Type	Specific Action	General Prescription	Acres
Commercial Treatments	Improvement Harvest	Improvement Cutting followed by jackpot or underburn	Thin from below and remove overstory trees (i.e., “crown thinning”) in order to reduce density and crown fire potential. Substantial amounts of green, healthy large diameter trees would be retained (generally 50-80 basal area <sup>2</sup> ) in these dry or mixed forests. Retain Forest Plan required snags.	4,082
	Regeneration Harvest	Clearcut with reserve trees followed by site prep burn	Cut dead and dying lodgepole pine. Retain all other live conifers when they occur; primarily Douglas-fir with spruce and subalpine fir. These units will naturally regenerate with lodgepole pine. Retain Forest Plan required snags.	4,247
		Seed tree with reserve trees followed by site prep burn	Cut dead and dying lodgepole pine. Retain 10-20 trees per acre of well-distributed healthy Douglas-fir and ponderosa pine to provide seed. Natural regeneration will be promoted, though ponderosa may be planted. Retain Forest Plan required snags.	203
		Shelterwood with reserve trees followed by site prep burn	A mix of dead lodgepole and other species will be cut. Retain about 20-50 trees per acre of healthy Douglas-fir to provide seed and shelter for seedlings. Natural regeneration will be promoted, though ponderosa may be planted. Retain Forest Plan required snags.	179
Prescribed Fire	Low Severity Prescribed Fire	Jackpot burn or underburn	Low intensity prescribed burning will be used to improve dry forests and grass-shrub areas. In forest areas, savannah conditions would be created with understory ladder fuels and crown fire potential reduced by the treatments. In non-forest areas, encroaching conifers would be reduced. Mechanical and hand rearrangement of fuels will occur, with smaller diameter (less than 12 inch) trees strategically slashed or thinned to facilitate prescribed burning. This treatment type also includes facilitating strategic buffers for containing aerial ignition zones described below.	11,194
	Mixed Severity Prescribed Fire	Broadcast burn	This larger scale “Landscape Ecosystem Burn” is a mosaic of prescribed fire types and intensities resulting in a strategic landscape mosaic of fire effects – about 40-60 percent of each unit would be burned. Mechanical rearrangement of fuels will be required to contain aerial ignition zones – which are principally dead lodgepole stands. Units include strategic buffers for managing the prescribed fire that are low severity prescribed fire burns (in above total). The treatments are within roadless areas.	2,420
Non-Commercial Treatments	Private Land Buffers	Pile burn or jackpot burn	Reduce hazardous fuels on NFS Lands creating a buffer zone near private land that has structures. Develop opportunities for citizens who have completed fuels reduction or defensible space treatment on their property to extend treatments onto public lands where it meets land management objectives. Treatment includes a wide range of hand and/or mechanical activities to rearrange and remove hazardous fuels and reduce crown fire potential by thinning trees. Buffers in the <i>South Helena Portion</i> would extend up to 100 yards from private boundaries onto FS lands. Buffers in the <i>Tenmile Portion</i> would extend up to 200 yards from private boundaries onto FS lands.	2,232
	Precommercial Thin	Precommercial thin followed by pile and burn	Thin young mixed conifer trees in old harvest units to: reduce stand density; enhance growth and vigor; and lessen the risk of potential mountain pine beetle caused mortality and stand-replacing fire in the future. Small diameter trees that would be cut leaving about 100 - 200 trees per acre of the best-formed trees. The limbs and tops of the fallen trees may be lopped and scattered to speed decomposition. Hand or machine piling and burning of piles would be completed where the fuel loading is an unacceptable risk.	470
<b>Total Acres</b>				<b>25,027</b>

<sup>2</sup> Basal area is a measurement of stand density, where a given area of trees is described by the cross-section (in square feet) of those trees.

**Treatments on BLM Lands:** Proposed treatment types and associated acres on BLM Lands are included in the in the table (Tenmile – South Helena Project: Proposed Treatment Type Description). The following table lists acres per treatment types proposed on BLM Lands.

Proposed Treatment Type on BLM	Acres
Improvement Harvest	426
Low Severity Prescribed Fire	348
Regeneration Harvest	233
<b>Total Acres</b>	<b>1,007</b>

**Treatments within old growth:** Vegetation treatments are proposed within some old growth stands or those trending toward old growth. Proposed activities include low impact treatments to promote and maintain old growth structure and increase the resiliency of the stands to future disturbance. Treatments include managing the understory trees with improvement harvest, hand slashing of ladder fuels, pulling slash away from old components, and piling/burning or low severity underburning as appropriate. Specific treatment types, locations, and methods (mechanical and/or hand) will be determined through public and collaborative group involvement as well as resource specialist input.

#### **Proposed Construction, Reconstruction, and Decommissioning of Roads**

**Construction of temporary road:** Approximately **40** miles of proposed temporary road segments may be necessary in order to access and treat some parts of the project area. See Map 2 – Tenmile South Helena Proposed Action Map for Scoping for locations of proposed construction of temporary roads.

*Temporary roads* would be constructed to a minimal standard to provide access for mechanized equipment and will be obliterated (restored to natural contours) upon completion of fuels removal operations.

**Reconstruction of haul routes:** Approximately **80** miles of existing roads have been identified to facilitate the transport of timber (haul routes) and provide access for other mechanical equipment throughout the project area. Identified haul routes would be reconstructed in order to meet Best Management Practices.

**Decommissioning of existing routes:** As recommended by the Tenmile Collaborative Committee, an equal length of existing roads would be decommissioned prior to the construction of temporary roads. Decommissioning could include a variety of treatments depending on the specific condition of each route. Decommissioning treatments could vary from full re-contouring of routes found to be causing resource damage to entrance obliteration or other access restriction to routes that are fully re-vegetated, contain no stream crossing, and have no associated resource impacts.

**Proposed Site Specific Forest Plan Amendments**

Site-specific amendments to the Helena National Forest (HNF) Plan may be necessary in order to meet the project’s purpose and need. Possible amendments may be needed for Forest Plan Standards 3, 4a, and 6 as well as for those management area standards listed in the table below.

**Helena National Forest-wide Standards that may require a site-specific Forest Plan amendment**

**Forest Plan Standard 3:** – *Subject to hydrologic and other resource constraints, elk summer range will be maintained at 35 percent or greater hiding cover and areas of winter range will be maintained at 25 percent or greater thermal cover in drainages or elk herd units.*

**Forest Plan Standard 4a:** *Implement an aggressive road management program to maintain or improve big game security.*

- a. *Road management will be implemented to at least maintain big game habitat capability and hunting opportunity. To provide for a first week bull elk harvest that does not exceed 40 percent of the total bull harvest, roads will be managed during the general big game hunting season to maintain open road densities with the following limits.*

<b>Existing Percent Hiding Cover <sup>(1)</sup></b>	<b>Existing Percent Hiding Cover <sup>(2)</sup></b>	<b>Max Open Road Density mi/mi<sup>2</sup></b>
56	80	2.4
49	70	1.9
42	60	1.2
35	50	0.1

*(1) Forest Service definition - a timber stand which conceals 90 percent or more of a standing elk at 200 feet;*  
*(2) MT Fish, Wildlife, & Parks definition - a stand of coniferous trees having a crown closure of greater than 40 percent.*

*The existing hiding cover to open road density ratio should be determined over a large geographic area, such as a timber sale analysis area, a third order drainage, or an elk herd unit.*

**Forest Plan Standard 6:** *Montana Cooperative Elk-Logging Study Recommendations, in Appendix C, will be followed during timber sale and road reconstruction.*

Appendix C in the Helena National Forest Plan identifies 11 recommendations that are applicable to Forest Plan Standard 6. Of those, the winter range recommendation may require a site-specific amendment:

*Timbered areas adjacent to primary winter foraging areas should be managed to maintain the integrity of cover for elk. Where timber harvest is acceptable, slash cleanup and logging should be scheduled outside the winter period.*

The Forest may need to operate during the winter season which would require a site-specific amendment.

**Management Area Standards that may require a site-specific Forest Plan amendment**

Management Area (MA)	Management Area Standards
H1	Maintain adequate elk thermal and hiding cover adjacent to forage areas as determined by a wildlife biologist. Generally, this means providing at least 25 percent thermal cover on identified winter range.
H2	Maintain adequate elk thermal and hiding cover adjacent to forage areas as determined by a wildlife biologist. Generally, this means providing at least 25 percent thermal cover on identified winter range.
L2	Maintain adequate elk thermal and hiding cover adjacent to forage areas as determined by a wildlife biologist. Generally, this means providing at least 25 percent thermal cover on identified winter range.
T3	Maintain a minimum of 35 percent hiding cover for big game. Maintain thermal cover adjacent to forage areas.
T5	Maintain adequate thermal and hiding cover adjacent to forage areas provided timber harvest volumes are no significantly reduced over the rotation period.

Specific design criteria and mitigations would be included in order to minimize effects to elk during project implementation. These include: restricting public use of temporary roads, prohibiting logging operations during the first two weeks of the general rifle season to maintain elk habitat capability, and confining logging to a single drainage at a time with all work completed in the shortest time frame possible.

In addition, a Forest Plan programmatic amendment is currently being proposed as part of the Divide Travel Plan process as a replacement for Standard 4a (big game security) and may be applicable in the Tenmile – South Helena project area. If selected as part of the Divide Travel Plan process, the new standard will be incorporated and analyzed in the Tenmile – South Helena project.

**Proposals within Inventoried Roadless Areas**

Approximately, **8,803** acres of treatment activities are proposed within Inventoried Roadless Areas (IRAs). Treatments in the IRAs are designed in part to improve the quality and quantity of water for the City of Helena. In addition, treating these areas in conjunction with the adjacent **16,223** acres of proposed treatment outside the IRAs would reduce the probability of high-intensity wildfires within the Tenmile municipal watershed and the surrounding area. Treatment in these units would create a mosaic of vegetation and fuel structure that would be more resilient to future disturbances from fire, insects and potential future effects from changes in climate conditions. The treatments within the IRAs are designed and located to not only protect the Tenmile Municipal Watershed and surrounding area, but to maintain ecosystem function within the IRAs.

Approximately **18,750** acres of the project area is located within the Jericho Mountain and Lazyman Gulch Inventoried Roadless Areas (IRAs). The Jericho Mountain IRA is **8,749** acres. Of this, **6,902** acres

(78%) are within the project area boundary. Treatment activities are proposed on **3,958** acres (45%) within the Jericho Mountain IRA. The Lazyman Gulch IRA is **11,848** acres and is entirely within the project area boundary. Treatment activities are proposed on **4,845** acres (41%) of the Lazyman Gulch IRA.

Commercial transport of timber is proposed on Forest Service System roads **1863** and **1863-E1** which are located within the Jericho Mountain IRA (see Map 2 – Tenmile South Helena Proposed Action Map for Scoping). The current maintenance level of these roads is capable of supporting commercial activities and no reconstruction of any road feature is necessary. Also, use of Forest Service system road **1864**, located in the Jericho Mountain IRA, is proposed for the purpose of providing machine access into proposed treatment units. This road is a double-track low standard road that is typically used by All Terrain Vehicles (ATVs). No commercial haul of timber is proposed on road **1864**. No road construction or reconstruction is proposed within either IRA.

Method of Treatment	Proposed Treatment Type (acres)	Acres in IRA	Acres of Jericho IRA affected by proposed actions	Acres of Lazyman IRA affected by proposed actions
Commercial Harvest	8,711	1,043	204	839
Prescribed Fire	13,614	7,180	3,699	3,481
Non-commercial	2,702	580	55	525
<b>Total Acres</b>	<b>25,027</b>	<b>8,803</b>	<b>3,958</b>	<b>4,845</b>

**SCOPING PROCESS – NEXT STEP**

The responsible official for this project is the Helena National Forest Supervisor.

A comment period for the Tenmile – South Helena Project will take place through the month of November. Your comments or concerns specific to the project or to individual sites are valuable in helping us identify issues and concerns, develop alternatives to the proposed action, and refine our analysis to focus on places or issues that are important to you. We are interested to hear what you think.

Please submit your comments by December 5, 2014. Comments can be submitted electronically to: [comments-northern-helena@fs.fed.us](mailto:comments-northern-helena@fs.fed.us). Written comments can be mailed to the address shown below. Along with your comments, please indicate whether you wish to remain on the project’s mailing list; how you would like to continue receiving project information (i.e. email and/or mail); and your email and/or mailing address. If we do not receive comments from you, we will assume that you would like your name removed from this mailing list.

Comments received in response to this solicitation, including names and email/physical addresses of those who comment, will be considered part of the public record and will be available for public inspection.

Comments submitted after December 5, 2014 will be incorporated into the project record and considered by the deciding official, but will be considered received outside of the designated opportunity for public comment (36 CFR 218.5)

The Helena Ranger District staff will host two public meetings where information on project proposal will be presented and opportunities will be available for the public to provide comments. Public Meetings will be held on:

**Tuesday, November 4<sup>th</sup> between 5:30pm and 7:30pm at the Unionville Fire Station**

Lewis and Clark Volunteer Fire Department  
1996 Oro Fino Gulch Drive  
Helena, MT 59601

**Wednesday, November 5<sup>th</sup> between 5:30pm and 7:30pm at the Baxendale Fire Station**

Baxendale Fire Department  
6000 Hwy 12 West  
Helena, MT 59601

For additional information or hardcopy request for project proposal documents, please call: 406-449-5201; write to the address below; or stop in to the Helena National Forest Supervisor's office.

Tenmile – South Helena Project Leader  
USDA Forest Service Helena National Forest  
2880 Skyway Drive  
Helena, MT 59602

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