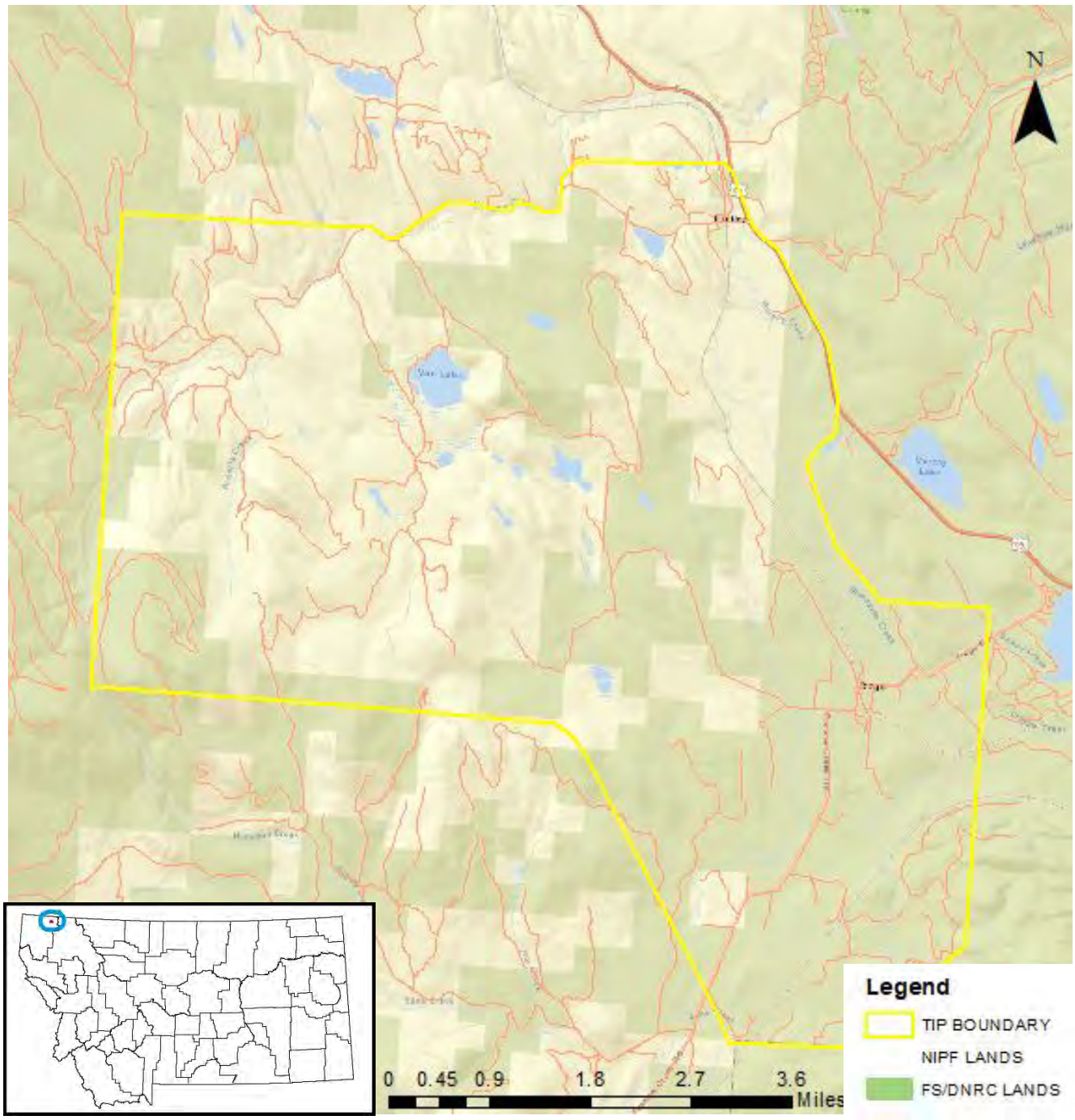
FIRE ADAPTED FORTINE - SOUTH



Promoting cross boundary forest stewardship with a good neighbor approach.

Overview/Background Information

The Fire Adapted Fortine South Targeted Implementation Plan (TIP) is focused around the greater community of Fortine, MT in northeastern Lincoln county approximately 15 miles south of the town of Eureka. It is a designated wildland urban interface (WUI) with a total size of 24,509 acres. It is compromised predominantly of United States Forest Service (USFS) lands at 54% (12,977 ac) and Non-Industrial Private Forest (NIPF) lands at 39% (9784 ac). There are 336 individual landowners with an average parcel size of 40 ac. The remaining land base is 3% DNRC (848 ac) and 4% industrial private (900 ac). The total number of homes or significant structures, excluding non-forested properties, is 175.

Lincoln County is one of the heaviest forested counties in the western United States with nearly 80% of county lands being timber based and up to 99% forested including small private lands. The Montana Forest Action Plan (MFAP) shows that Lincoln County has the third largest total WUI area in Montana encompassing 77,948 acres. The county also has the largest percentage of homes built inside the WUI (50.7%) and the highest number of second homes inside the WUI (24.1%). These conditions point to a significant threat of wildfire to people and private property in Lincoln County.

The area has been important historically both for recreation and for providing forest products to the regional economy. It contains critical habitat for Threatened and Endangered (T&E) species and species of concern such as Westslope Cutthroat Trout, Bull Trout and is adjacent to the Tobacco Bears Outside Grizzly Bear Recovery Zone and several Canada lynx analysis units. It is set within the Tobacco River valley, of the Kootenai River Watershed. Major tributaries include Meadow Creek and Fortine Creek, with many smaller associated drainages. The area is characterized by low rolling hills and scattered glacial lakes. To the west is the Pinkham ridge where the Salish Mountains begin and to the east is the Galton and Whitefish Mountain Ranges. The forests in this region are among the most diverse and productive in Montana. This is primarily due to the warm-moist Pacific influence. Despite this moisture, valleys in Northwestern Montana receive significantly less precipitation than the mountain ranges. This is seen very well in the Tobacco Plains north of Eureka, where precipitation is so little that few trees are able to grow. The TIP area can be characterized as a transition zone with unpredictable weather patterns that put these forests at risk from the effects of drought, fire, insects and disease if they are not managed to maintain healthy growing conditions.

TIP area forests are generally characterized by Douglas-fir *(Pseudotsuga menziesii)* and ponderosa pine *(Pinus ponderosa)* in the drier areas and Engelmann spruce *(Picea engelmanii)* in lower depressional wetlands, seeps and riparian areas. Other species are present to a lesser degree depending primarily upon on aspect, elevation and groundwater availability. Reference Figure 1 for a depiction of a typical Lincoln County forest setting. The project area is entirely below 5000' elevation, which limits areas of encroachment from species like subalpine fir *(Abies lasiocarpa)* and Engelmann spruceexcept in lower elevation wet areas. Management for fire resiliency is possible in this elevation range by favoring of fire-adapted species such as western larch *(Larix occidentalis)* and ponderosa pine. Subalpine and shade-tolerant forests typically support high-intensity stand-replacing fires due to their dense growth habit. On the contrary well managed stands dominated by mature western larch, Douglas-fir and Ponderosa pine support more frequent low to moderate intensity fires that are better suited for firefighter and community safety. Prescriptions will focus on creating, enhancing and restoring fire-adapted forest conditions.

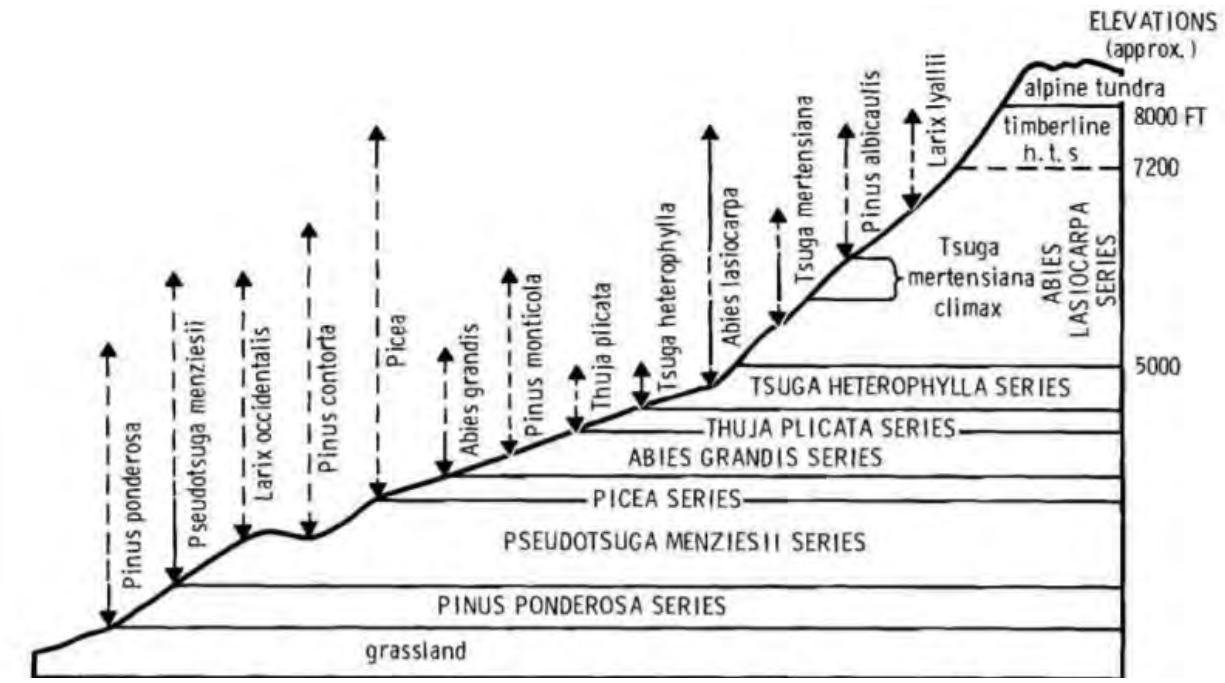


Fig. 1 – Distribution of forest trees in an area of the Kootenai drainage in northwestern Montana. Arrows show the relative elevational range of each species; solid portions of the arrow indicate where species is potential climax, dashed portions show where it is seral. (Arno 1979, Pfister et al 1977)

The Kootenai National Forest has a pending National Environmental Policy Act (NEPA) decision on their Pinkham Meadow Vegetation Management and Fuel Reduction project with a final decision expected early in 2021. This project includes roughly 900 acres of Good Neighbor Authority (GNA) timber harvests which allows the Department of Natural Resources & Conservation (DNRC) to act on behalf of the USFS to complete necessary fuels reduction and forest health work on isolated small parcels in WUI areas. Project work will include fuel and silvicultural treatments such as mastication, prescribed burns, improvement harvests, pre commercial and commercial thinning. This TIP is encompassed within the broader Pinkham Meadow Forest Service planning area (pending), focuses on the WUI, and will serve to mirror forest stewardship objectives on adjacent Federal and State property. A full description of the proposed Pinkham Meadow Project can be found here:

https://www.fs.usda.gov/nfs/11558/www/nepa/107398_FSPLT3_4779180.pdf

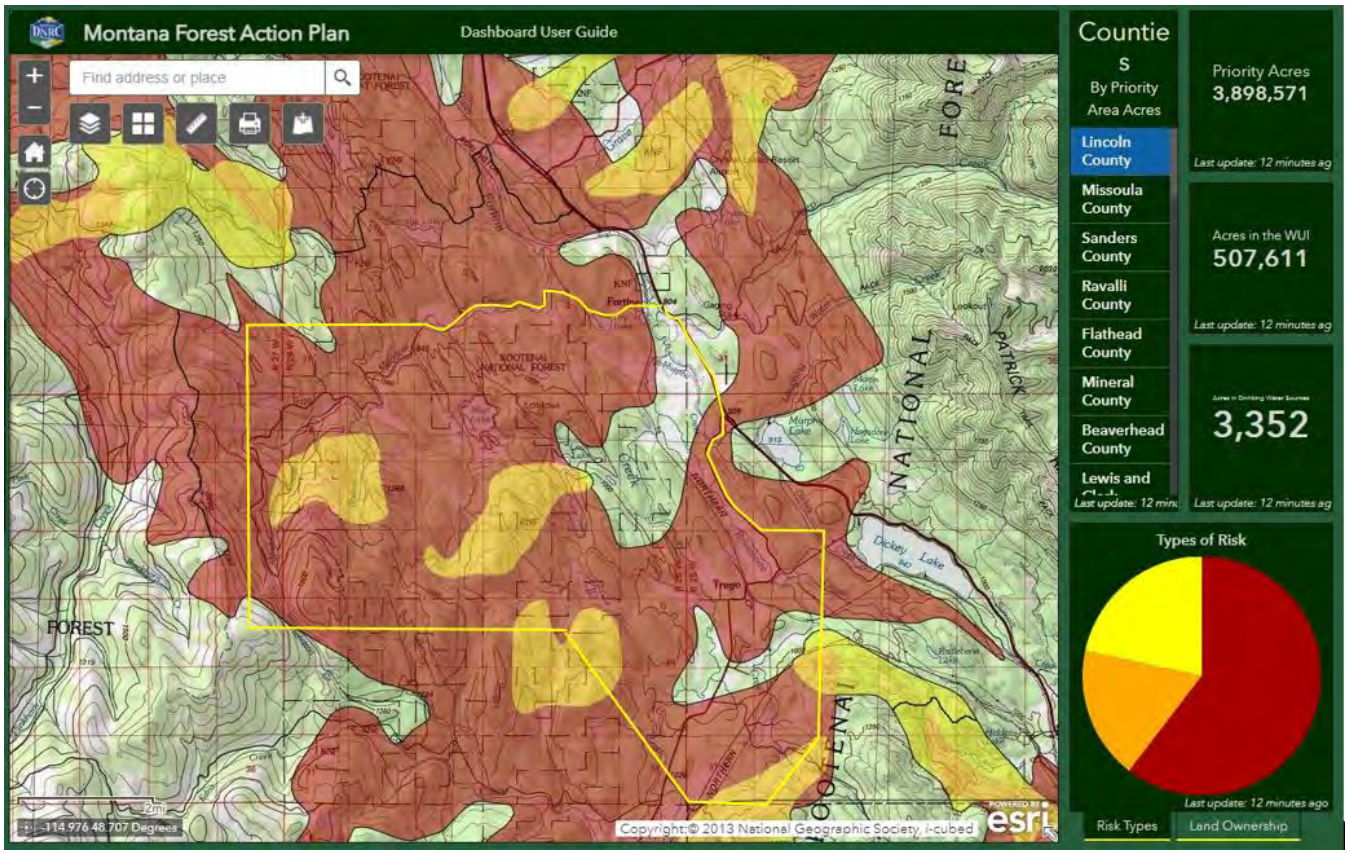
Early in 2020, Mark Peck, one of Lincoln County's commissioners, spearheaded the Kootenai Shared Stewardship Initiative (KSSI). This initiative is an understanding between Lincoln County, the Natural Resources Conservation Service (NRCS) Eureka Field Office, the USFS-Kootenai National Forest, and DNRC, to work together on the number one resource concern identified by the NRCS Eureka FO Long Range Plan (pg. 20), which is wildfire hazard from biomass accumulation. The authority for KSSI has been delegated to the Lincoln County Firesafe Council, with NRCS as a participating member. This has led to the adoption of a formal Memorandum of Understanding (MOU) between the entities, signed by the heads of each agency including the NRCS State Conservationist. This also coincided with the revelation from the newly released Montana Forest Action Plan (MFAP) that Lincoln County has the highest number of designated priority fire risk acres at 418,000. Given the broad range of land ownership types, a focused collaborative approach was deemed essential to accomplishing measurable desired outcomes. This TIP is the second

proposal utilizing the KSSI model for collaboration and will pool resources from NRCS, DNRC, Lincoln County, American Forest Foundation (AFF), and the Kootenai National Forest.

The intent of this proposal is to compliment and build upon the work that DNRC and the USFS are doing through their GNA program, with the specific intent of lowering the fire risk. Priority will be placed on NIPF lands adjacent to planned USFS, GNA, or DNRC treatment units, especially properties that contain a physical residence or other significant structures. Of particular interest is a residential area known as the Whispering Pines Subdivision located in the northwest portion of the TIP. This development contains several dozen 5 ac. parcels with a high concentration of homes.

Problem Statement

In recent years forest managers and the public alike have witnessed some of the most destructive wildfires in modern history. These fires are largely due to development in the wildlands of the American West, combined with unpredictable climatic patterns and heavy fuel load accumulation on public and private lands that have enabled fires to burn at an uncontrollable scale. Several destructive fires throughout the country in the early 1900s led to a national effort to eliminate fires from the landscape to protect timber and communities. Adding to the problem, many acres of forest have succumbed to attacks from pests and diseases due to unhealthy growing conditions. The compounding effect of poor forest health and extremely hazardous fire weather has led to detrimental impacts to forests. Stand replacing fires are now more common than in any time in history. The TIP area has been identified as a particular area of concern for wildfire and classified in the Montana



Forest Action Plan as a priority area for elevated wildfire risk.

About 100 years ago Eureka self-designated as the "Christmas Tree Capital of the World" before the wild Douglas-fir industry collapsed around 1924. Forest stands were converted to Douglas-fir and other less resilient species that were popular for Christmas trees at the time. Trees were harvested by cutting or coppicing leaders allowing them to re sprout from the same "stump culture". This could be done for many years with one stump producing many Christmas trees. Signs of this practice are evident today as new leaders have emerged from old stump cultures producing trees that may be 50' in height but exhibit very poor form and quality as seen in the figure below.

Figure 2: Unhealthy Douglas-fir forest with many crooked deformed trees and stump cultures.

Figure 3: Up close shot of stump culture

Trees are drought stressed and at-risk for detrimental impacts from fire, insects and disease. Many stands, as seen in the Figures above will never develop to a healthy status without intervention. For a small private landowner, the economic feasibility to complete restoration work is nearly impossible.

Many acres of adjacent USFS land to the east of the TIP are being attacked by Douglas-fir beetle (*Dendroctonus pseudotsugae*). Many other pests can have "blow-ups" on the landscape such as: mountain pine beetle or spruce budworm, both of which have caused significant damage throughout Montana and the western United States.

Current forest conditions put the TIP area at risk for attacks from these insects. Forest thinning serves as a universal remedy for these problems by increasing stand vigor.

In addition to forest health concerns is the challenge of homes and structures being built in the WUI. There is an increasing trend of homes and structures burning in wildfires throughout the western United States. Often, access for ingress and egress are an issue with emergency response. In the Priority Treatment Areas map the roads highlighted in yellow are rough graveled routes that pose challenges for residents and emergency responders. This plan aims to decrease access issues through hazard tree and biomass accumulation removal along primary and secondary evacuation routes.

Uncharacteristic wildfire not only pose significant challenges to local communities, but the effects can be felt far beyond the immediate vicinity. Smoke can travel hundreds of miles creating acute cardiopulmonary problems and exasperates other health concerns like asthma and influenza. Elevated particulate matter has been known to cause school closures and lead to indoor quarantining advisories, similar to what has been seen with the COVID-19 pandemic. The economic impact from large wildfires can cause instability in local forest markets, creating disruptions in employment and production. The cost of fighting wildfire is escalating year after year, putting a strangle on firefighting resources, ultimately at the taxpayer expense. The Forest Service appropriation alone has more than tripled since 1995, resulting in less personnel and funding for activities such as forest management and conservation. And with the exasperating effects from climate change, driving increased temperatures and longer fire seasons, the problem will likely continue to be amplified. According to the Global Fire Emissions Database, in 2020 California alone generated 91 million metric tons of CO2 from wildfires, 25% more than annual emissions from fossil fuels in the state. Funding forest health efforts will help reduce costs across a broad range of fire-associated impacts. It will also help our forests and communities to be more resilient to the uncertain effects from Climate Change.

Priorities, Goals and Objectives

The primary objective in this TIP is to recreate healthy forest conditions based on fuel model descriptions that will meet state and county goals for reducing fire hazard. Current conditions pose a significant risk for catastrophic wildfire. Fire behavior models show rate of spread as fast as 50 chains per hour and flame length as high as 15 ft in the understory. Flame lengths would greatly increase if the fire moved into the canopy of trees, which in many cases is possible. Our goal is to manage for diverse resilient forests with fuel conditions that reduce rate of spready to a max of 20 chains per hour and a flame length of 4 ft, trending toward the TU1 model (see appendix B for Model depictions).

To achieve these goals, it will be necessary to implement fuels reduction treatments on a significant portion of the project area. Of the 9784 ac total acres of NIPF land in the project boundary, a significant portion consists of agricultural lands, wetlands, meadows and other forestlands that have been previously treated. An estimate using arial photography, and field office data, approximates the actual number of NIPF acres in an undesirable condition class at 4000. Factoring in continuity between past and future treatments, along with adjacent FS/DNRCS planned projects, it will be possible to reach our overall percentage goals, achieving the desired fuel conditions.

This TIP will be implemented in conjunction and coordination with the Kootenai National Forest and DNRC with the intent of treating private lands adjacent to planned Federal and State veg treatment units. Prioritization will be critical for achieving this goal and will include:

- Properties determined to have a high wildfire risk due to biomass accumulation
- Properties with or are adjacent to homes or significant structures
- Properties with primary or secondary evacuation routes critical for first responders
- Properties adjacent to FS or DNRC recently completed or planned treatment units
- Landowners providing TRUP (Temporary Road Use Permits) on GNA treatment units

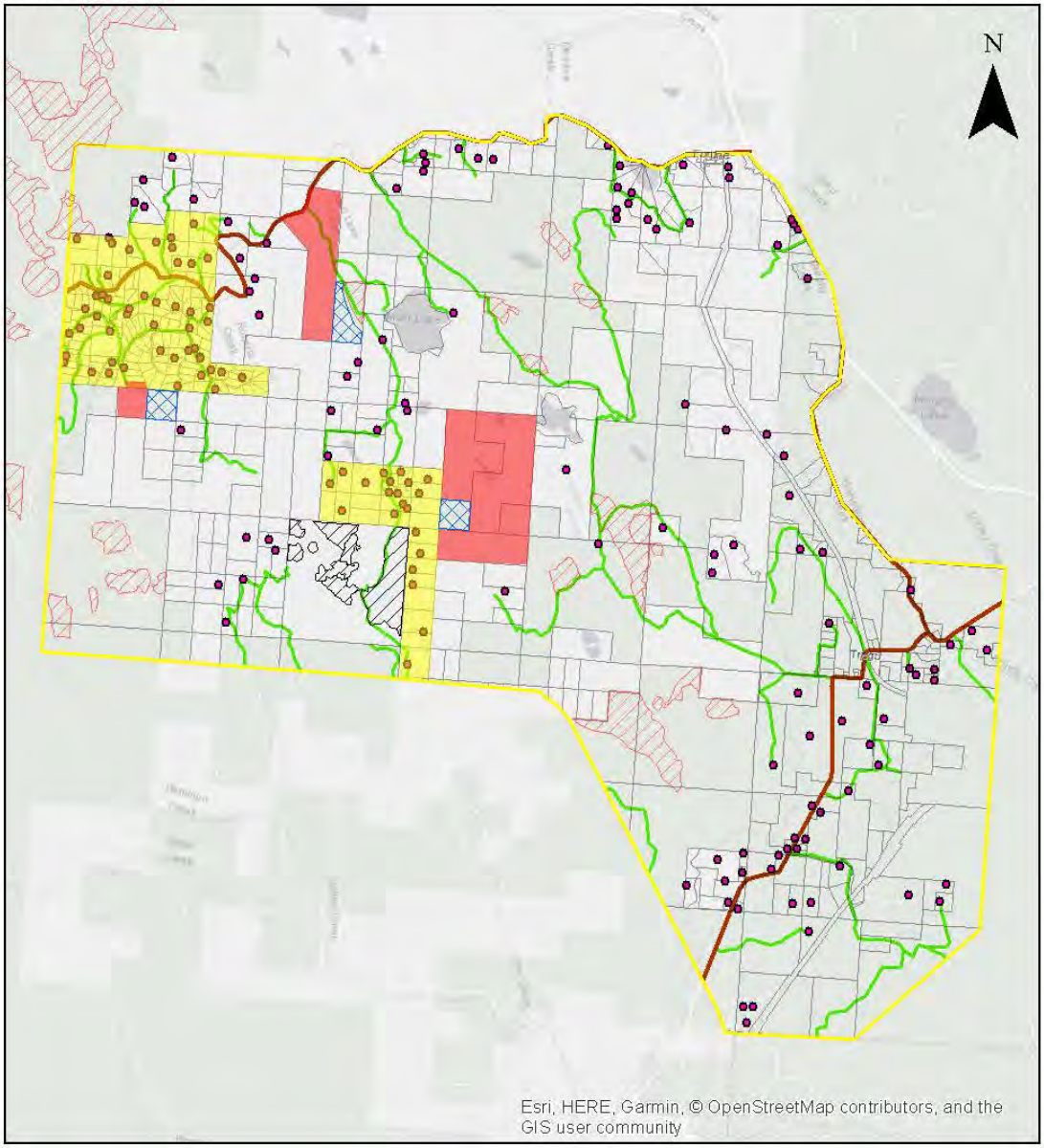
The following map shows NIPF lands that will be prioritized adjacent to planned USFS (pending decision) and DNRC planned treatment units:

PRIORITY TREATMENT AREAS

USDA

NRCS
Eureka Field Office

Brian Ressel
District Conservationist



Legend

- DNRC PROPOSED TREATMENT UNITS
- GNA VEG. TREATMENT UNITS (PENDING APPROVAL)
- FS PINKHAM MEADOW VEG. TREATMENT UNITS (PENDING APPROVAL)
- GNA ACCESS REQUESTS
- NRCS/COUNTY PRIORITY
- TIP BOUNDARY
- Ownership
- Home or Structure
- Primary Evacuation Route
- Secondary Evacution Routes

0 0.4 0.8 1.6 2.4 3.2
Miles

Resource objectives will be as follows:

1) Reduce hazardous fuels on 1,050 acres over a 5-year period, significantly decreasing the fire risk measured using MFAP criteria.
   a) Reduce canopy cover to appropriate level to increase crown spacing.
   b) Modify forest structure by reducing under story and mid story ladder fuels to reduce risk of crown fires.
   c) Reduce forest density by selectively removing poorly formed, damaged, insect or disease infested, suppressed or otherwise undesirable species that create excessive fuel loads and forest health concerns.
   d) Manage for forestland conditions that will trend toward a TU1 – Low Load Dry Climate Timber-Grass-Shrub fuel type.

2) Improve the defensibility of residential areas and individual properties to aide first responders and firefighters.

   a) Complete structure assessments and promote management practices that increase defensible space around homes.
   b) Improve line of site on evacuation routes utilizing Montana Firewise standards.

3) Increase wildfire awareness and participation in funding opportunities through education and outreach activities.

   a) Utilize AFF funding and DNRC staff on an annual basis to initiate a mailing campaign targeting all eligible landowners within the focus area to raise awareness and promote program participation.
   Partner with DNRC to promote landowner education through informational materials included in outreach and potentially in person or virtual landowner workshops.

Alternatives

1. Alternative 1: No action will result in a failure to address pressing resource concerns leaving homes, timber resources, and other significant structures at risk for wildfire damage. Forest health will continue to decline in the short and long term due to overstocking, insects, diseases, and undesirable stand composition. Fuels will continue to accumulate in the long term, compounding the resource concern.

2. Alternative 2: Implement a suite of practices to address resource concerns. Forest Stand Improvement (666), Fuel Break (383), and Woody Residue Treatment – chipping (384), will be employed to address wildfire hazard from biomass accumulation (primary), inadequate structure and composition (secondary), and undesirable health and productivity concerns (secondary).

3. Alternative 3: (Preferred) Implement a suite of practices to address resource concerns. Forest Stand Improvement (666), Fuel Break (383), and Woody Residue Treatment – pile & burn (384) will be employed to address wildfire hazard from biomass accumulation (primary), inadequate structure and composition (secondary), and undesirable health and productivity concerns (secondary).

Alternatives will be analyzed in compliance with the National Environmental Policy Act (NEPA). All practices chosen for implementation will meet NEPA requirements. Special consideration will be given for practices effecting T/E species, such as Canada Lynx and Bull Trout, in order 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 any federal action.

Proposed Solutions and Actions

The solution to these substantial resource challenges is to take a comprehensive approach which engages private landowners, leverages partnerships, and utilizes a suite of available practices to achieve desirable results. Due to the scale of the problem, this approach gives us the best chance of achieving a measurable outcome. Specific actions will depend on the silvicultural treatment recommended by technical experts which will be outlined in the forest management plan developed for each landowner.

These practices will include:

Forest Stand Improvement (666) may be used for several treatment options such as pre-commercial thinning, sanitation harvests for stands with substantial insects and disease outbreaks, and other silvicultural treatments. Funding for this work will happen through NRCS with the potential for partnering with DNRC through their Kootenai Forests to Rivers Initiative. (core practice)

Fuel Break (383) will be used to aid in protection and defensibility of homes and structures and involve a more intensive approach to treating fuels. As with past partner projects, some of this work on smaller properties may be done through Lincoln County programs with some grant opportunities or through NRCS EQIP funding. (core practice)

Woody Residue Treatment (384) will involve reduction or elimination of slash generated from the above activities. Options will include piling and burning, chipping, shredding, and removal for utilization. Most of this work will be done through NRCS funding with the potential for partnering with DNRC or Lincoln County. (core practice)

The following (table A.) provides specific target acreages for individual practices contracted over a 5-year period:
Table A. NRCS Deliverables

Activities	2021	2022	2023	2024	2025	Total
Forest Stand Improvement (NRCS-666)	300	250	200	150	100	1000
Woody Residue Treatment (NRCS-384)	300	250	200	150	100	1000
Fuel Break (NRCS-383)	20	15	5	5	5	50

Partnerships

A Fire Adapted Fortine Coalition will be formed and consist of the following partners:

- DNRC Good Neighbor Authority Forester – Jodi Turk
- DNRC Service Foresters– Derek Luchik and Jeremy Rank
- DNRC Stillwater Unit – various personnel

- DNRC Forestry Assistance Bureau – Julia Berkey
- Lincoln County Forester – Jennifer Nelson
- Kootenai National Forester, Eureka Ranger District – various personnel
- American Forest Foundation – Natalie Omundson
- Lincoln County Firesafe Council

These partnerships will be utilized in the follow ways:

1) Outreach: AFF dollars will be funneled to the DNRC NW Land office where a mailing campaign will be initiated by Julia Berkey. This will be targeted to landowners in the project area and consist of 2 "touches" or letters that contain information on cost share opportunities along with educational materials. This will occur annually and coincide with program sign up deadlines. In addition, there will be yard signs placed on willing participants active projects adjacent to high traffic roadways. These will display contact and other information for general residents interested in learning more about potential opportunities.
2) Technical Assistance: Participants acquired through our outreach efforts will be referred to DNRC Service Foresters for site visits and forest management plan development.
3) Coordination: Projects will be coordinated with Jodi Turk, GNA Forester, and other FS personnel to ensure continuity with cross boundary objectives on Forest Service lands undergoing treatments.
4) Advisory: This group will be led by Jennifer Nelson, Lincoln County Forester and the FireSafe Council to help guide the project with decision making, technical expertise, outreach and data analysis.

The following table is a breakdown of the funding commitment for the Fire Adapted Fortine - South Project:

Table B. AFF contributions

	# completed/Planned	Funding Provided $
	Direct Mail Outreach 2-touch	
	Yard signs + flyers	
	Neighbor referral postcards	
Total:		$2,000

Table C. GNA contributions provided by DNRC

Worksheet (c) for Agreement #18-GN-11011400-003 Mod #6 - Meadow GN Project

State Funds Contribution Cost Analysis, Column ©

Use this worksheet to perform the cost analysis that supports the lump sum figures provided in the matrix. NOTE: This worksheet auto populates the relevant and applicable matrix cells.

DNRC Salary					
Position/Function		Cost/Hour	# of Hours		Total
Management/Program (Area/Bur/Div)		$50.00	180.0		$9,000.00
Forester Staff		$40.00	807.0		$32,280.00
Administrative staff		$30.00	180.0		$5,400.00
Technician Staff		$25.00	987.0		$24,675.00
					$0.00
					$0.00
Total Salary					**$71,355.00**

DNRC Contracting Expenses					
Description		Cost/hour	# of Hours		Total
			0		$0.00
			0		$0.00
Total Contracting Expenses					**$0.00**

DNRC Travel					
Travel Expense	# of Nights	Cost/mile/night	# of Items		Total
Lodging	0	$120.00	0		$0.00
Vehicle Mileage (152 mi roundtrip, 45 trips)		$0.58	6,840		$3,967.20
Vehicle Mileage (96 mi roundtrip, 5 trips)		$0.58	490		$284.20
Total Travel					**$4,251.40**

DNRC Fleet/Equipment					
Piece of Equipment		Cost/Hour	# of Hours		Total
					$0.00
					$0.00
Total Fleet/Equipment					**$0.00**

DNRC Supplies/Materials/Other					
Supplies/Materials		Cost/Item	# of Items		Total
Standard Tree Marking Paint (cases)		$76.20	35		$2,667.00
Misc Supplies (Flagging, Cruise Gear, Etc.)		$10.00	100		$1,000.00
					$0.00
					$0.00
					$0.00
Total Supplies/Materials/Other					**$3,667.00**

Subtotal Direct Costs	$79,273.40

Total Indirect Costs				
Current Overhead Rate	Subtotal Direct Costs			Total
N/A	$79,273.40			
Total Indirect Costs				**$0.00**

TOTAL COST	**$79,273.40**

Financial Plan column c worksheet page 1 of 1

Implementation

One of the common questions we encounter when working with private landowners who have committed to managing their forestland is "what are public land managers doing on their side of the fence?". This project seeks to address that specific concern by centering our work around GNA projects occurring on Forest lands, as well as DNRC planned treatment units, that are adjacent to NIPF lands. We will accomplish that by tailoring our prioritization through our ranking process.

This project will occur over a five-year period, beginning in 2021. Conservation planning will be done by NRCS field office staff along with partners. The specific skill set, and resources of each partner will be leveraged for optimal efficiency. DNRC (Forestry Assistance Bureau) will also initiate an outreach campaign, utilizing AFF funding, timed with NRCS sign up deadlines to increase awareness and interest in the funding opportunities available to individual landowners. DNRC will also provide consultation, written management plans, and some project oversight during implementation.

Budget projections are based on the typical cost share rates per acre for common forestry practices in Lincoln County, but may vary from year to year based on changes in the cost list and individual practices selected. Several factors including practice implementation history in the focus area, the current applicant pool, and District Conservationist engagement with landowners were also used to estimate the projected acreage targets for each year.

Table D. NRCS Budget Projections

CONTRIBUTIONS	2021	2022	2023	2024	2025	TOTAL
NRCS EQIP FA	$294,000	$243,000	$186,000	$141,000	$96,000	$960,000

The following are estimates of staff hours required to meet the projected goals:

Table F. CTA Projections

CONTRIBUTIONS (HRS)	2021	2022	2023	2024	2025	TOTAL
Outreach	20	20	20	20	20	100
Planning	300	250	200	150	100	1000
Implementation/Certifications	200	150	100	75	50	575
Area Staff Consultations	10	10	10	10	10	50
Totals	530	430	330	255	180	1695

Screening

Due to the ongoing interest in Environmental Quality Incentives Program (EQIP) forest management across the county, an applicant screening criterion is necessary to prioritize projects that fit within the TIP objectives. The following questions will be used to screen out applications that fall outside the target area and/or do not meet the minimal criteria for program funding:

1. Does the applicant have an existing NRCS program contract that is currently in noncompliance or has been terminated within the last three years?
2. Is the proposed conservation treatment within the geographic boundaries of this TIP?
3. Does this application meet the intent of the TIP and is for practices currently?
   offered in the TIP that will treat the identified priority resource concern?

Ranking

These additional ranking questions will allow the field office to further prioritize the pool of applicants to ensure the proposed projects are meeting our stated objectives:

1. Is a core practice adjacent or within 200 ft of an existing home or significant structure?
2. Are the treated acres adjacent or within 1000 ft of any planned or recently completed Forest Service or DNRC treatment units?
3. Are landowners providing "good neighbor" accommodations to public lands managers such as temporary road use permits?
4. Is the stocking of proposed acres over 700 TPA or 85% or greater canopy cover?

Progress Evaluation and Monitoring

The effectiveness and extent of completed practices will be evaluated at multiple levels. At the individual level, projects will be inventoried before and after each treatment to document improvements and include acreages, stocking rates, overall tree health, species compositions average diameter, timing and method of slash treatment, wildlife mitigation measures, photo points. Each project will be overseen by field office staff with certifications being made upon completion, contingent on practices meeting NRCS standards and specifications.

Evaluation will also be conducted at a project wide level after the 5th year of funding has closed and all acres have been obligated. At this point we will be able to make some projections relative to the total percentage of fuels reduction accomplished in the project area between partners and NRCS on NIPF lands. More importantly, we will have enough data to model projected changes in fire behavior at a landscape level. A successful outcome will not only include the number of ac, individual homes and properties protected, but also the ability to show how the fire risk projection has been lowered.

The final level of evaluation will be made once all the obligated practices are completed. EQIP timeframes allow up to 10 years for contract completion, however the average length is typically around 5-6 years. We will then be able to physically see the changes to the forest structure and composition that we have affected and compile data such as total number of acres treated, percent of project area treated, number of homes protected. We will be able to compare the actual data against the projected data to get a more accurate assessment of projected fire behavior which, short of an actual fire, is the best measure of a successful project outcome.

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.

Appendix A. Example of Outreach Material

Appendix A
DESIGN PREVIEW , *p. 1*

KOOTENAI
FORESTS TO RIVERS INITIATIVE

We are so excited to connect with you! As you may already know, there is a lot of work being done in your area to improve forest health. We here at KFRI would love to work with you to manage your forest for your priorities.

WHAT IS THE KOOTENAI FOREST TO RIVERS INITIATIVE?

Our program is a partnership between the Montana Department of Natural Resources and Conservation (DNRC), Lincoln County, Natural Resources Conservation Service (NRCS), and the American Forest Foundation. Our goal is to help connect private forest landowners in northwest Montana — **like you** — with technical and financial assistance for active forest management.

The KFRI partnership enables landowners to take action to restore forest health and reduce wildfire risk through forest thinning projects.

QUICK MONTANA FOREST FACTS

- Over the past century, **large-scale fire exclusion has led to a massive transition** from forest stand conditions that were once dominated by fire-tolerant tree species and moderate fuel loading, to overstocked stands dominated by species that are less fire tolerant and have excessive fuels.
- **Over half** of Montana's forests have experienced epidemic proportions of insect and disease outbreaks over the last 10 years.
- Today, more than **85%** of Montana's forests are at elevated risk of wildfire.

QUESTIONS? CONTACT US

We're here to help guide you in actively managing your forest land from start to finish — so, please feel free to contact us.

www.kootenaiinitiative.org
@kootenai

Brian Reasel
District Conservationist
NRCS
406-296-0367
Brian.reasel@usda.gov

KOOTENAI
FORESTS TO RIVERS INITIATIVE

WHAT TO EXPECT

Here is an overview of what happens in the Kootenai Forest to Rivers initiative program journey.

STEP 1: CONNECT WITH KFRI
You, a family forest landowner in Montana, connect with our team at KFRI and express interest in actively managing your forest land. We set up a call with you to learn about your land and discuss the assistance available in your area. **Estimated time: 1-2 weeks**

STEP 2: FORESTER VISIT
If you are interested in actively managing your forest land to reduce wildfire risk, our team will schedule a local professional forester to visit your property. During that visit, the forester will walk your property with you, discussing your land management goals and treatment needs. They will also explain financial assistance opportunities — both through KFRI other local funding sources — in more detail. **Estimated time: 1-9 months after initial contact, weather and landowner schedule dependent**

STEP 3: FORESTER CONTRACT
If you're interested in developing a management plan for your forest and reducing wildfire risk on your property by thinning your forest, your assigned forester will walk you through the process. The forester will also work with you to finalize the project layout. You will select a contractor to conduct the thinning project. **Estimated time: 1-1.5 years after initial contact**

STEP 4: PROJECT IMPLEMENTATION
Once the paperwork is in order and the contractor you selected is scheduled, your treatment project will begin. Trees will be removed to reduce the risk of wildfire and improve the health of your forest. **Estimated time: 1.5-2 years after initial contact**

STEP 5: MAINTENANCE
Once your project has been implemented, our team will work with you to set up a maintenance plan to ensure your forest stays healthy. Over the course of the maintenance plan, the KFRI team will follow-up periodically to check-in on the status of your forested land, discuss any remaining questions, and address any necessary next steps in continued forest management practices. **Estimated time: 10 years post treatment**

TERMS TO KNOW

- **Forest health** is a condition that sustains forest ecosystem complexity while providing for human needs. Current forest health problems were caused by past lack of understanding of the importance of disturbance in forest ecosystems.
- **Defensible Space (D-space):** the buffer created between a building on your property and the grass, trees, shrubs, or any wildland area that surround it.
- **Wildland-Urban Interface (WUI):** Areas where homes have been built near or among lands prone to catastrophic wildland fire.

CONTACT US

406-296-0367 Brian.reasel@usda.gov

DNRC KFRI OUTREACH CAMPAIGN STATIONERY
8.5x11" landscape, flat printed, 2-sided

DESIGN PREVIEW , *p. 2*

KOOTENAI
FORESTS TO RIVERS INITIATIVE

HEY NEIGHBOR. DID YOU KNOW THAT YOU MAY BE ELIGIBLE FOR FINANCIAL ASSISTANCE TO IMPROVE THE HEALTH OF YOUR FOREST LAND, AND REDUCE WILDFIRE RISK?

The Kootenai Forest to Rivers Initiative (KFRI) is a local partnership dedicated to helping private forest landowners, **like you**. Our team is already working with neighbors in your area to restore forest health and reduce wildfire risk.

JOIN THEM IN TAKING ACTION.

By teaming up with neighbors, you'll be able to:

1. Save money reducing treatment costs
2. Help create a larger swath of healthy, fire resilient forestland — which will greatly benefit you and your community.

USDA United States Department of Agriculture | DNRC

KFRI is a partnership between the Natural Resource Conservation Service, Montana Department of Natural Resources and Conservation (DNRC), and the American Forest Foundation (AFF) to help connect landowners in northwest Montana with technical and financial assistance for active forest management.

Contact us today to get started:

kootenaiinitiative.org
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TAKE ACTION TODAY TO PROTECT YOUR FOREST.

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DNRC KFRI OUTREACH CAMPAIGN STATIONERY
5x7" postcard, flat printed, 2-sided

Appendix B: Current & Desired Fuel Model Descriptions

Fig. 1: Description of the most common fuel type in the TIP area.

Timber-Understory Fuel Type Models (TU)

The primary carrier of fire in the TU fuel models is forest litter in combination with herbaceous or shrub fuels. TU1 and TU3 contain live herbaceous load and are dynamic, meaning that their live herbaceous fuel load is allocated between live and dead as a function of live herbaceous moisture content. The effect of live herbaceous moisture content on spread rate and intensity is strong and depends on the relative amount of grass and shrub load in the fuel model.

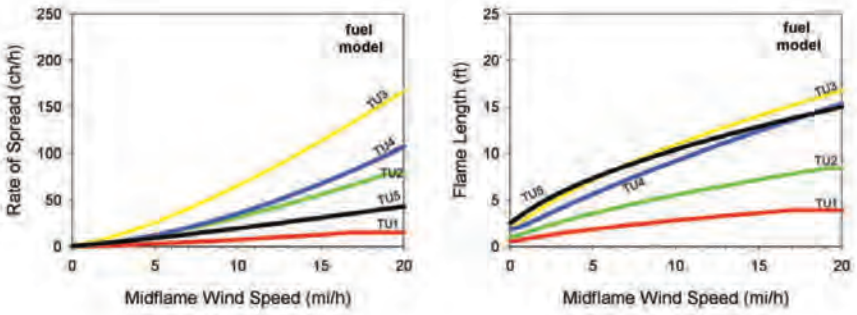

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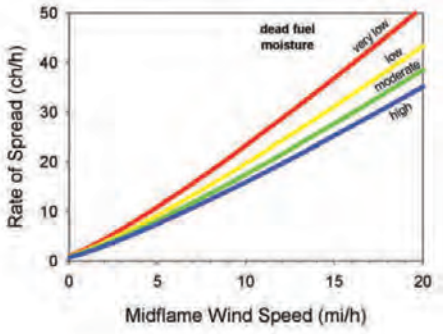
Fig.2. Generalized model of current TIP conditions

TU5 (165)

Very High Load, Dry Climate Timber-Shrub

Description: The primary carrier of fire in TU5 is heavy forest litter with a shrub or small tree understory. Spread rate is moderate; flame length moderate.

Fine fuel load (t/ac)	7.0
Characteristic SAV (ft-1)	1224
Packing ratio (dimensionless)	0.02009
Extinction moisture content (percent)	25



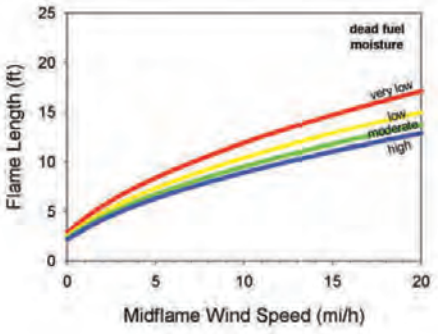


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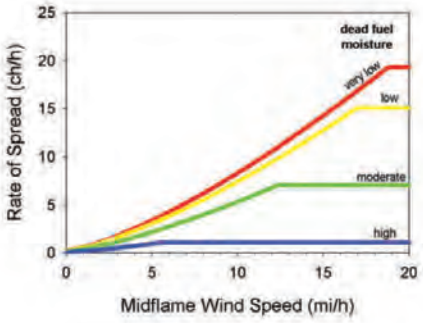
Fig 3. Generalized model of desired TIP conditions

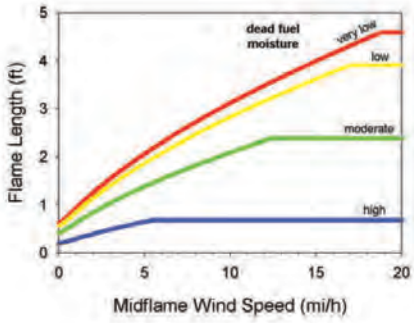
TU1 (161)

Low Load Dry Climate Timber-Grass-Shrub (Dynamic)

Description: The primary carrier of fire in TU1 is low load of grass and/or shrub with litter. Spread rate is low; flame length low.

Fine fuel load (t/ac)	1.3
Characteristic SAV (ft-1)	1606
Packing ratio (dimensionless)	0.00885
Extinction moisture content (percent)	20





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