

Lincoln County, Montana

Community Wildfire Protection Plan

This Community Wildfire Protection Plan has been developed to position fire protection agencies, county leaders, rural communities, county residents, forestland owners and managers to be better prepared to protect Lincoln County residents and its natural resources from the potentially devastating impacts of wildfire.

*Revised
June 2005*

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Introduction

The Lincoln County Community Wildfire Protection Plan (CWPP) was first written and approved in 2003. Since that time many of the goals have been accomplished, some goals have been abandoned and new goals are needed. The 2003 CWPP enabled Lincoln County to better compete for National Fire Plan money available through the Western States and the Stevens Act Wildland Urban Interface Grant programs. The county was able to fund all of the identified projects in the 2003 CWPP. Areas identified for assessments and feasibility studies in 2004 are targeted for grant funding in 2005.

The 2003 CWPP identified the need for periodic review to ensure goals are being accomplished through appropriate actions. To determine the effectiveness of the goals and objectives, the Steering Committee makes an annual *on the ground* review of accomplishments. With the enactment of the Healthy Forest Restoration Act in 2003, of particular importance to this 2005 revision is the need to clearly define the wildland urban interface and better identify the process used to select fire and fuel mitigation projects.

Wildland fires are a part of the natural ecological cycle of forest ecosystems. However, over the past 100 years this natural cycle has been disrupted by fire suppression in the low to middle elevation forests. The majority of these forests are rated in a high to moderate range of departure from natural fire occurrence. That coupled with human encroachment on the forest and recent long drought periods has produced a formula for uncharacteristic wildfire. These areas are known as the wildland urban interface (WUI). These geographic areas or zones of ever increasing risk potential pose a threat to human life and property.

The National Fire Plan calls for reducing this risk through a variety of measures including the creation of local WUI fire mitigation plans. Lincoln County received a grant in 2002 to prepare a CWPP and to identify actions and priorities for reducing wildland fire risk to communities.

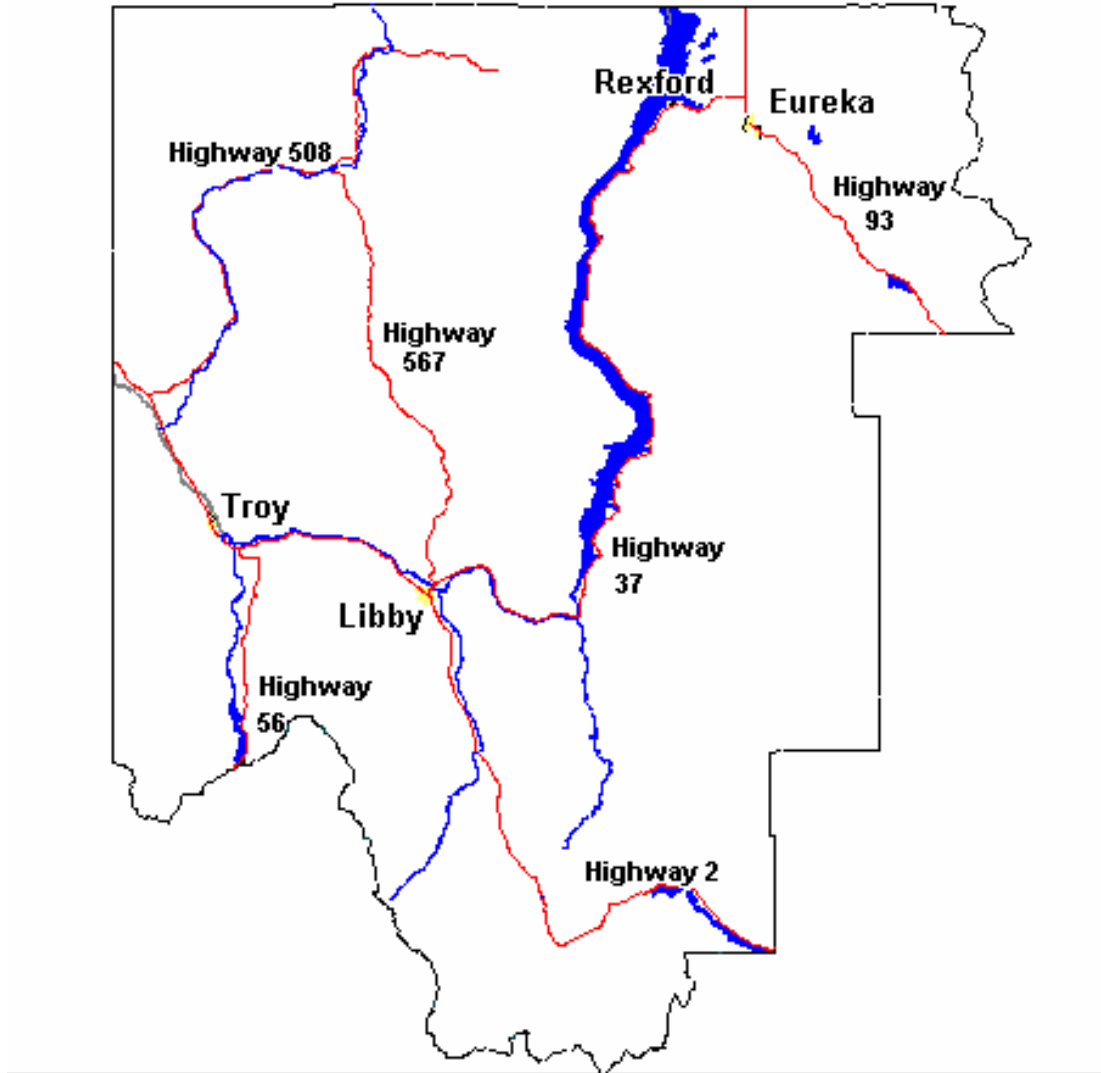
The following plan is the result of work by the Lincoln County Fire Steering Committee and other community leaders. It includes measures designed to reduce the impact from wildfire including prevention, mitigation, education, suppression and improved communication between all suppression agencies.

The plan contains

- Documentation of the process used to develop the mitigation plan, how the plan was developed, who participated and how the public was involved
- A risk assessment to identify vulnerabilities to wildfire in the WUI and how priority areas for treatment were selected
- A prioritized mitigation strategy that addresses each of the risks (e.g. training for fire departments, public education, hazardous fuel treatments, equipment, communications, additional planning, new facilities, infrastructure improvements, ordinance revision, volunteer efforts, and evacuation plans). The mitigation strategy includes goals and objectives with individuals assigned the responsibility to ensure specific objectives are met. Timelines are established.

- A process for maintenance of the plan which includes monitoring and evaluation of mitigation activities
- Signatures to document that the plan has been formally adopted by the involved agencies

Lincoln County



The Community

Lincoln County is a large, generally forested area situated in the northwest corner of Montana. The terrain is fairly rugged with the Cabinet Range to the south and the Selkirk Range to the west. Elevations vary from 1800' near Troy (the lowest point in Montana) to 8700' in the Cabinet Range. A central geological feature of the county is the Kootenai River which flows south out of British Columbia near Eureka and exits the county below Troy.

Due to the influence of the Pacific weather system the climate is mild and moist compared to the rest of the state. Many of the same tree and plant species found in the Pacific Northwest are found in portions of Lincoln County.

Average annual precipitation varies from 18" to 25" near Libby and Troy to only 14" in the Tobacco Valley near Eureka. The trees, plants and grasses found in this northern part of the county are more representative of areas in eastern Montana. Higher average annual precipitation amounts are found in higher elevations. Some of these areas have precipitation amounts of over 70" a year. The wettest months are November through January and the driest are June through September.

Based on the 2000 census, the population of Lincoln County is 18,837. This reflects a 7.8 percent growth rate over the past decade. Libby's population growth however, only grew at a rate of 2.5 percent. The 2000 census also showed a significant reduction of population in the under 5 years and the 25-34 year old age classes. There has been a corresponding increase in the 65 plus year old age class.

Kootenai National Forest lands are the primary resource base of Lincoln County. The county land base consists of 79 percent public lands, with the remaining 21 percent of the land divided between industrial (14 percent) and individual (7 percent) ownership. The County has been dependent on the extraction of mineral and harvesting of timber. Statistics supplied by the US Forest Service in 1993 indicate that 59 percent of the Lincoln County economic base is involved with the harvesting, transporting and processing of forest resources. While it supports one of the highest timber harvest levels in the state (accounting for roughly 25 percent of the state timber harvest) the total volume has been substantially reduced and will likely see further declines.

Since 1990, the county has experienced a significant downsizing in the timber and mining industries. Between 1992 and 1993, layoffs in the timber and mining industries resulted in the loss of 1300 jobs. Businesses that supplied goods and services to the natural resource producers were dependent on those primary industries for survival. Many of those support businesses are now gone and those remaining are struggling to survive

In 2003, Stimson Lumber Company closed its plywood mill in Libby resulting in the loss of an additional 300 jobs. In January of 2005, Owens and Hurst Lumber Mill in Eureka announced a planned closure in May which will result in the loss of 90 jobs. The two remaining timber related employers in Lincoln County are Plum Creek Timber Company and Riley Creek Lumber in Moyie Springs, Idaho. A recent bright spot for the area economy was the reopening of the Asarco Mine near Troy as a result of the improvement in silver prices.

The unemployment rate in Lincoln County averages around 12 percent which is well over the state

average and one of the highest in the Montana. In 2002, per capita personal income in Lincoln County was \$19,559 which was 79 percent of the state average and 63 percent of the national average. Nearly one fourth of the population of Lincoln County (22 percent) lives below the poverty level. These economic conditions make it difficult for many residents to afford the work to create an adequate defensible area around their home.

Recent Fire History

Lincoln County has witnessed many large, uncharacteristic wildfires. Sixty thousand acres burned during the 1994 fire season. In 2000, the area experienced another record fire season with 270 fires burning a total of 45,465 acres. That year the Kootenai National Forest managed four large fire complexes, requiring eight incident management teams. Fire fighting resources were stretched so thin that military resources were ordered along with an incident management team from Australia.

These fires were the result of drought and accumulation of hazardous fuels. Large, uncharacteristic fires can be expected to continue given current conditions. The 2000 fire season did not result in the loss of lives or homes, but the potential was definitely present. Homeowners in the Pinkam Creek area were advised to evacuate when fires made a dangerously close run near many homes. Although residents were well aware of the potential hazard from fires, there had not been a corresponding reduction of hazardous fuels around home sites

Executive Summary

Lincoln County is situated within a heavily forested landscape dominated by USFS ownership with sufficient precipitation to develop an abundance of fuels for fire. Fire suppression efforts over the past 100 years and recent housing development activity in and near forested lands has created a hazardous fire condition and expanded the Wildland Urban Interface (WUI).

Two disparate problems exacerbate this condition:

Mill and mine closures have had a severe economic impact on the residents of Lincoln County and created a large percent of low income families that cannot afford to manage the environment surrounding their homes.

Recent growth from out of state, particularly by people seeking homes in a forested environment has introduced people unfamiliar with fire behavior and the potential for destruction of their property.

The Community Wildfire Protection Plan (CWPP) identifies four conditions within the WUI: Interface, Intermix, Occluded and Rural. The current priorities for mitigation action are the Interface and Intermix conditions. It is imperative that the USFS, which owns 79% of Lincoln County, engage in land management activities that help reduce the threat within the WUI.

The general forest condition within the WUI is composed of mixed ages, sizes and a preponderance of tolerant species and ladder fuels. In this condition a wildfire can easily develop into a destructive crown fire.

Many homes have correctable problems (e.g. needles in gutter, dry grass near foundation) that can be addressed through firewise education. The major problem with existing homes is the proximity of forest fuels.

Some homeowners have social values that make them unwilling to implement the changes needed around their property. Firewise education and implementation, and making fire fighting resources (e.g. foams and gels) available will mitigate many of these conditions.

Recent major wildfires have demonstrated key threats to the community. These include: homes and infrastructure, public fear, public health, firefighter safety, financial, transportation, recreation, environmental, scenic, emotional/ spiritual and public safety/ support. Careful planning and the funding of firewise projects can mitigate these threats.

The Lincoln County Fire Steering Committee identified several goals in the 2003 CWPP, many which have been attained. This CWPP has additional strategic and tactical goals that will continue to reduce and mitigate the risk of wildfire in Lincoln County.

Risk Assessment

The WUI is commonly described as the zone where structures and other human development meet and intermingle with undeveloped wildland and vegetative fuels. The WUI zone poses tremendous risks to life, property, and infrastructure in associated communities and is one of the most dangerous and complicated situations firefighters face.

Areas Evaluated

Low intensity surface fires historically kept ground vegetation from becoming ladder fuels. But much of Lincoln County has experienced a change in this vegetation due to fire suppression efforts. As a result, there are more ladder and ground fuels (e.g. litter mat, down woody materials) that contribute to high intensity fire. This has increased the risk, hazard and threat to a growing population within the WUI.

In August of 2001, the following communities in Lincoln County were identified in the Federal Register, Volume 66, as At-Risk Communities: Troy, Libby, Eureka, Yaak, Trego Fortine, Rexford and Stryker.

Direction provided in Preparing a Community Wildfire Protection Plan as authorized in the Healthy Forest Restoration Act (HFRA) of 2003 allows communities to identify the WUI for their community plan.

As described in the HFRA, the term wildland urban interface can mean *an area within or adjacent to an at risk community that is identified in recommendations to the Secretary in a community wildfire protection plan*. Lincoln County CWPP assessment process identified four conditions within this definition of WUI. They are Interface Community, Intermix Community, Occluded Interface Community and Rural Interface Community (Norton 2002). A description of each condition follows.

Interface Condition The Interface Community exists where structures directly abut wildland fuels. There is a clear line of demarcation between wildland fuels and residential, business, and public structures. Wildland fuels do not generally continue into the developed area. The development density for an interface community is usually three or more structures per acre, with shared municipal services. Fire protection is generally provided by a local fire department with the responsibility to protect the structure from both an interior fire and an advancing wildland fire.

In Lincoln County, interface condition is common in portions of the communities of Troy, Libby, Rexford, Yaak, Fortine and Trego. It is also a common condition in county subdivisions such as Barnaby Lake, Pine Bay, Em Kayan Village, Crystal Lake and Wilderness Plateau.

Intermix Condition The Intermix Community exists where structures are scattered throughout a wildland area. There is no clear line of demarcation. Wildland fuels are continuous outside of and within the developed area. The development density in an intermix community ranges from structures very close together to one structure per forty acres. Local fire departments or districts normally provide life and property protection and may also have wildland fire protection responsibilities

Intermix conditions in Lincoln County include areas close to Eureka, Libby, Troy, Rexford, Fortine and Trego. Subdivisions such as Whispering Pines, Tetrault Lake, Swede Mountain, Fairview Heights, Lower Quartz Creek, Rawlings Tract and Yaak Shores, Angel Island and Glen Lake fall into this category. Intermix conditions also exist in the Bull Lake and Farm-to-Market Road areas near Libby.

Occluded Condition The Occluded Community normally exists within a city where structures abut an island of wildland fuels (park or open space). There is a clear line of demarcation between structures and wildland fuels. The development density for an occluded community is usually similar to those found in the interface community, but the occluded area is usually less than 1,000 acres in size. Fire protection is normally provided by local fire departments.

This is not a common condition in Lincoln County, but occluded conditions are found in Libby with Pioneer Park, J. Neils Park and Libby Public School lands.

Rural Condition The Rural Interface Community exists where scattered small clusters of structures (ranches, farms, resort, summer cabins) are exposed to wildland fuels. There may be miles between these clusters. Much of Lincoln County will fall into a rural condition.

The areas that attract individuals building home in the WUI are low to moderate in elevation. These are the areas that are generally moderate to high in departure from the natural fire occurrence. The majority of evaluations for the CWPP took place in these areas. The WUI areas in Lincoln County being prioritized are primarily in the *Interface* and *Intermix Communities*. There are several *Rural Interface Communities* in the Thompson Chain of Lakes.

In Lincoln County, where seventy-nine percent of the land base is in federal ownership (most of which is managed by the Kootenai National Forest) it is imperative that their land management help reduce the fire threat that occurs in the WUI. The Lincoln County Fire Steering Committee has recommended that the WUI be extended onto federal lands where the private and federal lands abut. The WUI boundary buffers private non-corporate land by two miles. (See Map) Through the Forest Service involvement with the Lincoln County Fire Steering Committee, priorities for fuel reduction projects will recognize the high fire hazard areas identified on private lands. A reduction of the fuels hazard on National Forest lands can result in slowing or stopping a fire before it spreads onto private lands. Fuel reduction can also work in reverse by stopping or slowing the spread of a fire from private lands onto the National Forest.

Fire Risk

Risks are assigned based on identified values and patterns or trends where fires are more likely to occur or more likely to burn at a higher intensity. The past history of recorded fires, the ignition patterns, weather, topography, aspect and vegetation are all very important factors when determining the risk of a forest fire. Important tools available in Lincoln County, that are critical to evaluating this risk, include ignition map, vegetative condition class map and a crown fire spread map. To confirm the analytical data, actual site visits were necessary.

The intensity of a wildfire is dependent on the likeliness of an ignition in combination with the amount and complexity of the vegetative fuels and weather conditions. The majority of the WUI

areas in the county have very similar vegetative configurations. Most of the large trees have been removed through logging over the past 70 years. The remaining trees tend to be younger and smaller, but more importantly they are often species such as Douglas fir that are more tolerant of shade. The result is a forest stand that is often composed of mixed ages, sizes and a preponderance of tolerant species. These stands consequently have many ladder fuels that can easily move a ground fire into a more destructive crown fire.

Fire History Fire history maps are available in Lincoln County and are a tool that allows fire managers to quickly see where past fires have occurred. As an example, the 1910 burn was a stand replacement burn that affected several areas in the county. While these maps give important information on the fuels based on how long ago a fire burned, they are not always accurate indicators of the intensity of the burn or the fuels remaining today.

Fire Ignitions Fire ignitions give fire managers clues as to where there is a greater chance for fire starts. These ignitions vary greatly and can either result from natural or human causes. Some areas receive more lightning activity due to frequent storms or magnetic attraction. Human starts are normally related to the occurrence of dwellings, roads and recreational activities.

Crown Fire Potential Crown fire potential is a measure of the susceptibility of a low impact ground fire moving into the crowns of the overstory and becoming much more intense. Crown fires normally have the most impact in the WUI. Unless there is a strong wind pushing the fire through the crowns of the larger trees, the usual way a crown fire develops is when there are many small trees in the understory (ladder fuels) that allow the fire to spread from the ground to the crowns. This process usually consists of embers spotting ahead of the fire front, lighting the small trees and then moving into the crowns.

Fire Regime Condition Classes An important factor in identifying the potential range of forest conditions that can occur on a landscape is an understanding of the influence of historical disturbance regimes on vegetation structure, species composition and spatial distribution. Some of the common disturbance regimes within North America include fire, insects, disease, hurricanes, blow down and flooding. Within any given landscape, several different historic disturbance regimes may have operated to influence vegetation in this manner. For this CWPP three primary historical disturbance regimes influencing species composition and structure were the short-interval fire regime (avg. <25 years) and the long-interval fire regime (avg. >25 years), and the mixed severity fire regime with intermediate fire return intervals creating forest patches displaying either short or long-term fire effects. Fire was the primary disturbance agent in this landscape directly influencing large-scale changes in forest species composition, structure and spatial distribution. Insects and disease are also an important component of the disturbance agents as well and their activities often contribute to the occurrence and severity of fire. Consequently, fire was the predominant driving force of large scale disturbance on the landscape.

Human-induced changes and their impact have functionally suppressed, eliminated or changed many of the historical disturbance regimes throughout the west. Fire suppression in Lincoln County has been effective in suppressing fires and changing the historical structure of many forest stands.

Short Interval Fire Regime The short-interval fire regime is predominantly characterized by relatively frequent, non-lethal, low to moderate intensity fires that burn along the ground and remain within the understory. The fire frequency generally averaged between five and twenty-five years influencing both the species composition and vegetation structure within these forests. Fire tolerant species like ponderosa pine and western larch were able to regenerate in the disturbed areas and because of their fire resistant characteristics were able to dominate the overstory. These stands were less likely to move through a typical succession progression of age classes. Instead, fire maintained a multi-age structure, characterized by saplings to old growth trees.

Long Interval Fire Regime The long-interval fire regime is characterized by an infrequent, lethal, high intensity fire that consumes both the understory and overstory as it moves across the landscape. Stand replacing fire regimes result in a short term, catastrophic effect on stand conditions, in contrast to the persistent, yet less obvious effects of the short-interval fire regime. The result of this impact is to set the stand back to an early succession stage and release plant species stimulated by severe fire events. Then the stand proceeds along an undisturbed succession trajectory for many years, depending on the ecological site.

Mixed Severity Fire Regime Within the CWPP region, a mixed severity fire regime also occurred. Depending on site conditions or position on the landscape, both non-lethal and lethal fires could occur within a mosaic of diverse stand conditions. This is typically common through the transitional portion of the environmental gradient where the lower elevation, drier sites are dominated by non-lethal fire regimes and the high elevation, moister sites are dominated by the lethal fire regime. Consequently, where a transitional site occurs primarily adjacent to the low elevation types, it is predominantly influenced by a short-interval fire regime. Where it occurs primarily adjacent to the high elevation types, it is predominantly influenced by a long-interval fire regime. Topographic features, time of the burn and other factors can influence the occurrence of a “mixed” fire regime as well.

The Fire Regime Condition Class is defined in terms of departure from the historic fire regime, as determined by the number of missed fire return intervals. In the mid to low dryer elevation areas, where fires tend to burn more frequently, Fire Regime Condition Class maps indicate that most of the WUI areas in the Short Interval Fire Regime in Lincoln County are two to three intervals from normal departure. In the middle to higher elevation areas containing some Mixed Severity Fire Regimes, but primarily Long Interval Fire Regimes, fires naturally burn at longer intervals. Most of these areas are still in a Condition Class 1 or 2.

There are three Condition Classes that categorize the current condition with respect to each of the three Fire Regime Groups. The relative risk of fire caused losses of key components that define the system increases for each respective higher numbered Condition Class. Condition Class 1 represents little or no risk and Condition Class 3 would normally be considered high risk. (See Table 1) However, it is important to note, that even though most of the areas of concern in the WUI are in the Short Interval Fire Regime there are a considerable number that are also in the Long Interval Fire Regime and Mixed Severity Fire Regimes. These longer interval fire regimes may actually be rated as a Condition Class 1 or 2 ecologically, but could pose a major risk within the WUI because of the large amount of fuels.

Table 1 *Fire Regime Condition Class*

Condition Class	Description	Potential Risks
Condition Class 1	Within the natural (historical) range of variability of vegetation characteristics; fuel composition; fire frequency, severity and pattern; and other associated disturbances.	<p>Fire behavior, effects, and other associated disturbances are similar to those that occurred prior to fire exclusion (suppression) and other types of management that do not mimic the natural fire regime and associated vegetation and fuel characteristics.</p> <p>Composition and structure of vegetation and fuels are similar to the natural (historical) regime</p> <p>Risk of loss of key ecosystem components (e.g. native species, large trees, and soil) is low.</p>
Condition Class 2	Moderate departure from the natural (historical) regime of vegetative characteristics; fuel composition; fire frequency, severity and pattern; and other associated disturbance.	<p>Fire behavior, effects and other associated disturbances are moderately departed (more or less severe).</p> <p>Composition and structure of vegetation and fuel are moderately altered.</p> <p>Uncharacteristic conditions range from low to moderate.</p> <p>Risk of loss of key ecosystem components is moderate.</p>
Condition Class 3	High departure from the natural (historical) regime of vegetation characteristics; fuel composition; fire frequency, severity and pattern; and other associated disturbances.	<p>Fire behavior, effects, and other associated disturbances are highly departed (more or less severe).</p> <p>Composition and structure of vegetation and fuel are highly altered.</p> <p>Uncharacteristic conditions range from moderate to high.</p> <p>Risk of loss of key ecosystem components is high.</p>

Structural Fuel Hazards

House structures have been assessed throughout the county for their ability to withstand a forest fire. These assessments varied from actual detailed assessments to visual observations by trained individuals. Some aspects of home construction have improved over time such as the use of flame resistant composite siding and roofing materials. Most of the roofs observed were constructed of flame resistant composite materials. The siding materials vary, however, with most siding not being flame resistant.

An even larger problem is that many of the homes that have been assessed or observed have situational problems that lend them vulnerable to forest fires. Many of these problems are fairly minor (e.g. needles in the gutter, dead grass next to the foundation) and can be easily corrected through *Firewise* education. The major problem with existing homes is the close proximity of forest fuels.

There are opportunities to improve home construction using *Firewise* techniques in the future. Fire proof type materials including the roofing and siding are obvious. Other built-in designs such as residential sprinkling systems and low emission rated glass will help. Recent improvements in fire barrier foams and gels are also relatively low cost methods to protect homes. Making foams and gels available at the local area may be a worthy short term objective for some homeowners with unsafe conditions around their homes.

Social Values

Social values often reflect the quality of life. They may include aesthetics, home and property, air quality, view, livelihood, cultural and historical sites and features. Although these factors are important throughout the county, we examined those social elements that are considered critical around the WUI. Understandingly, the home and property are considered the most important social value by these residents, but close behind appear to be the aesthetics and viewing adjacent to their homes. Ironically, these values are often reflected in the reluctance of many WUI residents to appreciate the vegetative changes and increasing fire hazard that has occurred over time. Therefore, they are often unwilling to implement the changes needed around their property that will perpetuate the very values they treasure.

Fire Protection Preparedness and Capability

Lincoln County is fortunate to be protected by very capable and dedicated fire suppression organizations. These organizations include the US Forest Service, Montana Department of Natural Resources and Conservation (DNRC) and 9 volunteer fire departments throughout the county. As with any area with multiple fire suppression organizations there is always the need to closely communicate, coordinate and cooperate. This assessment looks at opportunities to improve these efforts through training, equipment use and shared resource data information.

The county has a director of Emergency Management and along with the county sheriffs department is responsible for community preparedness in case of a county disaster. A Pre-Disaster Mitigation Plan (PDM) has been completed for the county. The 2003 CWPP is part of the Lincoln County PDM. The 2005 CWPP revision will be incorporated into the PDM. (See Appendix A for a further assessment of the fire departments in Lincoln County.)

Values at Risk

The obvious intent of fire protection is to protect the values at risk. A successful fire management program would be one that reduces the risks associated with values that are important to communities, people and the natural resources. Although it is often difficult to quantify and qualify these values, inevitably these values become important in the selection of hazardous fuels treatment or suppression efforts.

Some of the values at risk in Lincoln County are

- Public Safety
- Property, Improvements and Facilities *
- Air Quality
- Historical and Cultural
- Water Quality and Municipal Watersheds
- Ecosystem Health
- Aesthetics
- Firefighter Safety
- Community Impacts-Economic & Social
- Recreation
- Timber
- Soils
- Wildlife

* *Property Values* The US Census Bureau's 2000 database for census blocks within Lincoln County indicates an average residential unit value of \$62,700. Although these unit values are not used to prioritize fuel mitigation treatments in this plan, they can be used to roughly determine replacement values. When these values are combined with the number of residences by fire district (see ma) a more definitive value can be determined for prioritizing suppression response during a large fire occurrence.

Lincoln County experienced major wildfires in 1994 and 2000. These wildfires resulted in immediate threats to the community which included

Homes and Infrastructure The first thought during any major wildfire is the threat to homes, structures, fences, power lines, communication sites or other infrastructure. Treatments in the immediate area around structures to reduce fire intensity can drastically improve the chances of their survival. These measures however, do little to protect other values at risk, some of which may be equally or more important from a neighborhood or community standpoint.

Public Fear Wildfires can induce fear, concern and panic. This will result in increased calls to dispatch centers and result in a reduction in the ability to service other emergency calls. In addition, access roads may become clogged as people flee the scene, attempt to return home to protect their property or remove other family members or pets.

Public Health There is great concern in Lincoln County and in particular the town of Libby, over any prolonged heavy smoke from a wildfire. The community of Libby has an unusually high incidence of asbestosis, a result of the past operation of a vermiculite mine and the associated processing plant. Any major wildfire with heavy smoke accumulation would no doubt exacerbate the problem and result in a dramatic increase in doctor visits and hospital admissions.

Firefighter Safety It is a well known fact that wildland firefighters are at risk during any conflagration. In 1997, the *Tridata Study: Wildland Firefighter Safety Awareness Study* identified the number one recommendation to improve the safety of firefighters was to

“implement a large-scale, long-range fuel management program”. Fuel reduction projects around residences and clusters of residences would help save homes, but these efforts will do little for firefighter safety or the general safety of the public unless larger scale fuel projects are implemented. These larger scale treatments will be difficult to implement on private lands but, hopefully, will be implemented in the WUI areas identified on public lands.

Financial Major wildfires can have a tremendous financial impact in any communities. Local businesses frequently suffer major losses, particularly when wildfires occur during the peak tourist season.

Transportation Fires can disrupt travel corridors. This may involve motor vehicles, rail and air transportation. After fire effects can also impact vehicle travel from debris flows crossing roadways.

Recreation Opportunities to enjoy outdoor recreation activities can be severely reduced by wildfire. Areas can be closed to the public because of an active fire or fire danger. After fire effects are often associated with popular recreation sites or general areas being blackened and no longer attractive to the public.

Environmental An intense wildfire can result in a number of environmental concerns. Wildlife and plants may be affected. Threatened and endangered species may have their habitat impacted. Watersheds may be damaged, such as the Flower Creek Reservoir, which is a source of water for the community of Libby. Wildfire may result in an increase of insect and disease activity.

Scenic Picturesque views of the forested landscape are an important reason people live in and visit Lincoln County. Wildfires impact the aesthetics of an area which can further impact individual landowner property values.

Emotional / Spiritual Many individuals and groups have bonds to a particular site or area. Damage, real or perceived, to these areas can cause mental or even physical pain.

Public Confidence / Support During or following a major wildfire event, public review of officials and programs routinely occurs. Confidence in individuals, institutions, and activities may be questioned. This is often an emotional time and objectivity is difficult.

Fire and Fuels Mitigation Treatment

Project Selection

Lincoln County has developed a scoring system to help prioritize fuels treatment areas. Each of the criteria is weighted based on its significance in determining potential hazard. The following rating form and example of its use illustrated the scoring system.

Project Selection Rating Form

Project Area Identification _____ Fire Protection District _____			
	Raw Score	Weight	Score
Subdivisions or concentrations of homes		25%	
50 homes (or more) per square mile	10		
40 – 50 homes per square mile	8		
30 – 40 homes per square mile	6		
20 – 30 homes per square mile	4		
Less than 20 homes per square mile	1		
Incident of lightening and or human caused fire starts		10%	
.08 fires per square mile per year	10		
.04 fires per square mile per year	5		
Less than .04 fires per square mile per year	1		
Fire Regime Condition Class *		35%	
Short Interval Fire Regime			
Condition Class 3	10		
Condition Class 2	5		
Condition Class 1	0		
Long Interval or Mixed Severity Fire Regime			
Condition Class 3	10		
Condition Class 2	10		
Condition Class 1	5		
Crown Fire Potential		20%	
High	10		
Moderate	5		
Low	1		
Organized group willing to make their area more Firewise		10%	
Homeowners Association willing cooperate	10		
No organization but a general willingness to cooperate	5		
Not willing to cooperate with Firewise program	0		
* A Condition Class 1 or 2 in a Long Interval Fire Regime or a Mixed Severity Fire Regime may result in a higher rating than a Condition Class 1 or 2 in a Short Interval Fire Regime.		Composite Score	
Notes			

Sample of Project Selection

Project Selection
Rating Form

Project Area Identification <u>Jackson Hollow</u>		Fire Protection District <u>Troy RFD</u>	
	Raw Score	Weight	Score
Subdivisions or concentrations of homes			
50 homes (or more) per square mile	10		<i>15</i>
40 – 50 homes per square mile	8		
30 – 40 homes per square mile	6	X	
20 – 30 homes per square mile	4		
Less than 20 homes per square mile	1		
Incident of lightening and or human caused fire starts			
.08 fires per square mile per year	10	X	<i>10</i>
.04 fires per square mile per year	5		
Less than .04 fires per square mile per year	1		
Fire Regime Condition Class *			
Short Interval Fire Regime			<i>35</i>
Condition Class 3	10		
Condition Class 2	5		
Condition Class 1	0		
Long Interval or Mixed Severity Fire Regime			
Condition Class 3	10		
Condition Class 2	10	X	
Condition Class 1	5		
Crown Fire Potential			
High	10		<i>10</i>
Moderate	5	X	
Low	1		
Organized group willing to make their area more Firewise			
Homeowners Association willing cooperate	10		<i>5</i>
No organization but a general willingness to cooperate	5	X	
Not willing to cooperate with Firewise program	0		
* A Condition Class 1 or 2 in a Long Interval Fire Regime or a Mixed Severity Fire Regime may result in a higher rating than a Condition Class 1 or 2 in a Short Interval Fire Regime.		Composite Score	<i>75</i>
Note			

Planned Treatments

Although there will be exceptions, normally a standard fuels mitigation treatment will fall within one of the WUI conditions. The Lincoln County CWPP attempts to classify its planned treatments by these WUI conditions.

Interface Condition In areas where structures abut wildland fuels the general mitigation action planned will be to promote the creation of a fuels treatment area within 250 feet of the structures. This treatment area may be widened depending on the fuels, slope and wind direction. The treatment of homes adjacent or near these wildland fuels should emphasize *Firewise* techniques that create defensible space around the home and encourage fire resistant building materials.

Intermix Condition Where structures are scattered throughout a wildland area the general rule for treatment will be to

- Look for opportunities to create fuel breaks based on slope, fuels and wind direction.
- Treat the fuels within 250' of a home by reducing the ladder fuels and thinning the overstory to the point that a crown fire is unlikely.
- Create defensible space within 100 feet of the home following the Montana DNRC recommended guidelines. This would include spacing crowns 10 feet apart; pruning up to 15 feet or one third the height of the tree; and removing ladder fuels.
- Remove vegetation adjacent to roads to allow safe fire engines access and adequate escape routes for homeowners.

Occluded Condition Where structures abut an island of wildland fuel within a town or community, every attempt should be made to treat all the fuels in the island. If this is not possible, homes and structures should follow *Firewise* recommendations to create defensible space around the home and utilize fire resistant building materials.

Rural Condition Rural areas will generally not be able to create fuel breaks. However, they should attempt to

- Treat the fuels within 250 feet of their homes by removing ladder fuels and thinning the overstory to reduce the chance of a crown fire
- Create defensible space within 100 feet of their homes by following Montana DNRC recommended guidelines. This would include spacing crowns 10 feet apart, pruning up to 15 feet or one third the height of the tree and removing ladder fuels.
- Remove vegetation adjacent to roads to allow safe access by fire engines and adequate escape routes by homeowners

The Planning Process

In February of 2002, Lincoln County was awarded a \$25,000 grant from the Montana Department of Commerce as a part of the National Fire Plan to develop a countywide Community Wildfire Protection Plan. The grant proposal identified four objectives that formed the nucleus of the plan development

- 1) Cooperate with all fire suppression agencies, local governments and landowners to develop a unified approach to fire prevention, suppression and mitigation
- 2) Assess the fuels and fire hazard within the county and develop a mitigation plan for the wildland urban interface
- 3) Encourage an educational outreach in the county that focuses on *Firewise* assessments to help homeowners better understand how to reduce their fire hazard
- 4) Develop a coordinated database between all agencies and landowners that can be used for mitigation actions and suppression activities. (e.g. water sources, helispots)

Committee Development and Organization

In April 2002, a steering committee was formed to direct the planning process. An effort was made to include representation of all interested entities. The resulting committee represents a broad, cross section of interests in Lincoln County. Decisions are arrived at by consensus. The committee continues to provide needed direction.

The regular membership has all major landowners and government agencies represented. Ad hoc members participate as relevant issues developed. Technical advisors are brought in on an as needed basis. The committee chair is the Lincoln County National Fire Plan representative. Meetings are held on a monthly basis and are open to the public. Meeting minutes have broad distribution throughout the county.

Committee Members

Keith Kenelty	Montana Department of Natural Resources and Conservation
Marc McGill	Lincoln County Disaster and Emergency Services
Jerry Wolcott	Plum Creek Timber Company.
Mark Romey	USDA Forest Service (Kootenai National Forest)
Greg Larson	Northwest Regional Resource Conservation & Development Area
Dan Rose	USDA Forest Service (Kootenai National Forest)
Ed Levert	Lincoln County National Fire Plan Coordinator
Ken Peterson	Lincoln County Planner
Jerry Rust	Lincoln County Sheriffs Department

Ad-Hoc Members

Bill Watt	Libby Volunteer Fire Department Assistant Chief
Tom Wood	Lincoln County Fire Chief and Insurance representative
Patti Keeler	Lincoln County Board of Realtors
John Desch	Flathead Electric Coop

Citizens Participation

The Lincoln County Community Fire Plan Steering Committee has provided the major direction in development of the CWPP. However, citizens throughout the county have been made aware of these Committee's efforts. This has been accomplished through personal contact and news articles which provide valuable information relevant to the planning process.

The value of this citizen participation in the planning process has been to

- Make county residents aware of the wildland urban interface problem,
- Gain support through solutions that will help resolve these problems,
- Inspire the public to take action in a community based manner, and
- Respect their opinions and attempt to incorporate their ideas into the CWPP.

Community Wildfire Protection Plan Presentations

Presentations have been made to citizens, agencies and rural fire departments in Lincoln County to explain the CWPP. *Firewise* information was also disseminated during many of the presentations. Participants were given the opportunity to provide input and comment.

The following is a summary of CWPP presentations.

2001	August 23	Em Kayan Village Homeowner Association Meeting
	September 12	Troy LDS Church
	September 17	Libby Rotary Club
2002	January 28	Kootenai NF (Eureka District) and Eureka RFD representatives
	February 27	Presentation to Kootenai Forest Fire Workshop
	March 7	Troy Business Meeting
	April 8	Libby Lions Club
	April 16	Lincoln County Fire Council
	April 23	Libby Fire Prevention Meeting
	June 5	Lincoln County Realtor Meeting
	July 9	Lincoln County community leader bus tour
	July 19	Pine Bay Subdivision residents
	December 11	Fortine Community Meeting
2003	January 28	Libby Chapter of the Society of American Foresters
	March 8	Trego-Fortine-Stryker VFD assessment training
	March 20	Lower Quartz Homeowners Meeting
	April 10	McCormack RFD
	July 12	Chain of Lakes Homeowner Association Meeting
	August 26	Bull Lake Rod and Gun Club
	September 17	Yaak Community Center

News Release

2002	March 17	The Montanian (Libby)
	August 21	The Western News (Libby)
2003	February 28	The Western News (Libby)
	June 15	Tobacco Valley News (Eureka)

Fire Department Interviews

Fire department chiefs from Libby Volunteer Fire Department, McCormick Rural Fire Department, Eureka Fire Department, Trego / Fortine / Stryker Volunteer Fire Department, Cabinet View Fire Department, Fisher River Fire Department, Ranchers Volunteer Fire Department, Troy Volunteer Fire Department, Yaak Rural Fire Department and Bull Lake Rural Fire Department were asked to identify specific problems they face in the WUI. They were also asked to identify the capability of their respective departments and their current apparatus. Fire chiefs were asked what measures were needed to reduce the insurance rating in their districts. The fire department input is included in Appendix A.

The most common problem identified by fire department chiefs is the high fuel loading that occurs in the WUI. Other common problems include lack of radio coverage, failure of dispatch to follow proper procedures, poor identification of home locations, lack of water, poor roads, lack of wildland fire training and lack of active members. Surprisingly, most of the fire department chiefs felt that their equipment was adequate and often it was more of a problem to find operators.

The fire department chiefs were asked to identify possible solutions to the problems. Obviously, fuel reduction projects in the WUI would help greatly. An Enhanced 911 will help resolve the home identification problem. Communication problems could be improved through mobile repeaters. A long term objective that became obvious from the fire department interviews is the opportunity to reduce fire insurance rates through equipment upgrades, improved water sources and more personnel.

It appears that a concerted effort through the steering committee and the county fire department counsel could result in improvements in many areas. Problems that are identified and worked on together will result in better potential for solutions.

Fire Mitigation Goals and Objectives (2005)

These goals and objectives reflect the strategy and tactics that the Lincoln County Fire Steering Committee has adopted. They are intended to serve as an action plan that addresses the major problems within the WUI areas. They provide guidelines for making recommendations for resolving those problems. None of the collaborating entities are formally required to support these actions. However, they are agreeing that as resources become available these actions are worth pursuit. When appropriate, assignments are made to individuals who accept the responsibility for carrying out an objective. Timelines are established if possible. (✓ indicates objective completion)

Emphasize prevention of wild land urban interface fires using a proactive, cooperative approach with incentive measures.

Objective

Support alternative methods to burning when reducing fuel hazards (e.g. chipping, commercial timber harvesting, making firewood available). Recognize that actions such as commercial timber harvesting alone may not be sufficient to reduce or eliminate the fire hazard.

- ✓ Educate landowners about alternatives to burning piles (e.g. a community wood pile at the community dump, share county chipper or make a chipper available for rent).
- ✓ Develop demonstration projects to exhibit these projects to the public. These projects may also reduce concerns associated with air quality. (Levert)
- ✓ Require non-burning alternatives for treatment of the slash from the thinning in the county parks lands at Pine Bay. (Levert)
- ✓ Establish before and after photo points within the county parks lands at Pine Bay and invite the Western News and Tobacco Valley News. (Justus)
- Encourage the use of biomass as pulp, hog fuel or for other non-burning alternatives. (Larson / Levert)

Objective

Provide information to utility companies to help set priorities to reduce ignition fuels and windfall hazards in power line corridors.

- Have rural fire departments prioritize fire hazards along power lines annually. (McGill / Desch)
- Encourage utility companies to use underground lines when replacing existing lines and constructing new transmission lines in subdivisions. (Peterson / Desch)

Objective

Encourage all land development ordinances and codes to include

- Requirements for adequate water supply for fire fighting
- Requirements for adequate means of ingress and egress
- ✓ Requirements for new subdivisions to be *Firewise* prior to approval (Peterson)

Promote effective fire risk assessments and fuel treatment programs for homeowners that are carried out on an ongoing basis in all wild land urban interface areas in Lincoln County.

Objective

The steering committee will establish priorities across the county for *Firewise* assessments based on the values at risk and the likeliness of an uncharacteristic wildfire. Use selection criteria approved by steering committee to establish priority areas. Individual home and property risk ratings will be performed during assessments to more specifically identify the particular risk of the community and determine the priority for future cost share fuels treatment.

Priority Assessment Areas

Assessment Area	Funded	On Going	Completed	Assessment Area	Funded	On Going	Completed
Barnaby Lake			✓	Rawlings Tract			
Bull Lake	✓			Rexford Bench	✓		
Chain of Lakes			✓	Rolling Hills	✓	✓	
Fairview Estates				Schoolhouse Lake	✓		✓
Farm to Market Road				Tetrault /Valley View	✓		
Glen Lake	✓			West Kootenai			
Lower Quartz Creek		✓		Whispering Pines			
Milnor Lake				Wilderness Plateau			✓
Pine Bay		✓		Yaak Shores			

- ✓ Make assessment data available to the state wide database maintained by the Montana Department of Natural Resources and Conservation in Missoula,
- ✓ Implement a hotline phone number where county residents can call to request a Home *Firewise* Assessment for their home. Implement by December 1, 2003. (Kenelty / RC&D / Rural Fire Departments)
- ✓ Request Title III funds for *Firewise* Assessments. County fire department personnel will be trained and provide perform the Assessments. Implement by December 15, 2003. (Levert / Kenelty)

Objective

Promote fuel reduction projects in the WUI based on the values at risk and the potential of an uncharacteristic wildfire. Seek opportunities that allow other landowners and agencies to cooperate with the project when it can be determined that a larger treated area can be more effective.

- ✓ Secure cost share funding for hazardous fuels reduction in the Chain of Lakes, Whispering Pines, Barnaby Lake, Pine Bay, Rawlings Tract, Lower Quartz Creek, and Tetrault/Valley View Estates areas. Secure funds by January 2004. (Larson, / Justus / Levert)
- Secure cost share funding for hazardous fuels reduction in the Farm to Market Road, Schoolhouse and Milnor Lakes and The Yaak areas. Secure funds by September 2005. (Larson / Levert)

Priority	Treatment Area	Funded	Percent Completed	Priority	Treatment Area	Funded	Percent Completed
1	Chain of Lakes	✓	1%	9	Schoolhouse Lake		
2	Whispering Pines	✓		10	Milnor Lake		
3	Barnaby Lake	✓		11	The Yaak		
4	Pine Bay	✓		12	Fairview Heights		
5	Rawlings Tract	✓		13	Bull Lake / Angel Island		
6	Lower Quartz Creek	✓		14	Glen Lake		
7	Tetrault / Valley View	✓		15	South Libby		
8	Farm-to-Market	✓					

- ✓ Support fuel reduction demonstration projects on county and private lands with Title III funding. Lower Quartz Creek and Pine Bay are the proposed demonstration sites for 2003.
- Support fuel reduction demonstration projects throughout the county that will encourage homeowners to reduce their own fire hazard. (Kenelty)
- ✓ Organize and conduct a contractor workshop to help educate a workforce to complete fuel reduction projects. Complete by June 1, 2004 (Wolcott)
- ✓ Develop and post *Firewise* signs identifying properties which have completed successful fuel reduction projects. (Levert / State Farm Insurance)

Objective

Promote the *Firewise Community* concept within subdivisions with the objective of motivating communities to be more self reliant.

- Encourage the Em Kayan Village to become a *Firewise Community*. Obtain commitment by July 1, 2005 (Levert)

Provide the appropriate resources to maintain an effective emergency response system to wildland urban interface fires in Lincoln County.

Objective

Provide information to suppression agencies and emergency services that will allow for efficient and timely responses to emergencies.

- Establish a shared data base with all primary fire suppression agencies that provides data for roads access (open or closed), water sources, property owners, fire district service areas, fuel ratings, historical ignitions, slope, fire camp staging areas, power lines, heliports, commissioner districts, hazards and railroads.
- Use the Enhanced 911 inventory to identify residences, roads and other information critical to fire suppression and evacuation responses.
- Request grant funding for a position in the county planning department dedicated to the development of the shared data base and Enhanced 911. Obtain funding by July 1, 2005. (Peterson / McGill)
- Assist efforts of rural fire departments to coordinate a minimum standard for wildland interface training and maintain a sufficient number of personnel with FFT2 (minimum wildland level) qualifications. Ongoing (McGill / Turman)
- Identify existing problems in rural fire districts (e.g. high rate of fire starts, particularly hazardous fuels, inadequate suppression equipment). Ongoing (McGill / RFD Chiefs)
- ✓ Maintain an inventory of county and rural fire fighting resources (e.g. engine type, porta tanks) Ongoing (McGill / RFD Chiefs)

Sustain a coordinated and cooperative program of timely information and educational programs for county residents, businesses, and recreational home owners.

Objective

- Promote *Firewise* educational efforts through news releases and stories in county newspapers and radio stations on a regular basis. (Levert)
- Use homeowner association and community meetings to present *Firewise* videos and discuss potential assessments and fuel reduction projects. Coordinate these events with local fire departments. (Levert / Kenelty)

Year	Planned Event	Completed	Year	Planned Event	Completed
2004	Chain of Lakes	✓	2005	Rexford	
	McCormick				
	Glen Lake				
	Schoolhouse Lake				
	Tetrault / Valley View				
2003	Barnaby Lake/Whispering Pines	✓			
	West Kootenai				

- Promote and sustain the efforts of the Eureka Middle School Education Program and incorporate throughout Lincoln County by April, 2005. (Kenelty / Rose)
- ✓ Continue *Firewise* news articles and radio presentations (Turk / Goheen)
- ✓ Involve the Lincoln County Board of Realtors in promoting fire hazard reduction measures (Levert)
- ✓ Identify a process that allows homeowners to have their homes that are for sale listed as certified *Firewise*. Establish by December, 2003. (Kenelty / Keeler)
- Develop a brochure jointly with the Lincoln County Board of Realtors that explains the steps homeowners can take to qualify their home as a *Firewise* home. Develop brochure by August 2005. (Levert / Kenelty / Keeler)
- Attempt to get Eureka Realtor Group to work with Firewise Program by August 2005. (Levert)

Accomplishments

2003

- Community firewood piles established through Title III funding in Troy, Trego and Libby as an alternative to burning slash piles.
- Lower Quarts Creek and Pine Bay demonstration projects completed to provide hazardous fuels reduction education for the public.
- Established a non-burning alternative for treatment of slash on Pine Bay county parks land.
- Publicized Pine Bay fuels treatment project in county newspapers.
- Obtained a Title III grant from Lincoln County for free *Firewise* assessments.
- Established a hotline for free *Firewise* assessments.
- Successfully completed efforts of the Eureka Middle School Education Program in 2003.

2004

- Lincoln County adopted planning regulations that require new subdivision to be *Firewise* prior to approval.
- Secured funds through the 2004 Western States Wildland Urban Interface Grant Program for Homeowner Assessments in the Bull Lake / Angel Island, Glen Lake, Rolling Hills, Schoolhouse Lake, and Rexford Bench areas.
- Secured cost share funds through the 2004 Western States Wildland Urban Interface Grant Program for hazardous fuels reduction work in the Chain of Lakes and Rawlings Tract areas.
- Secured cost share funds through the 2004 Stevens Act Wildland Urban Interface Grant Program for hazardous fuels reduction work in the Whispering Pines, Barnaby Lake, Pine Bay / Rexford, Lower Quartz Creek, Tetrault Lake / Valley View, and Farm-to-Market areas.
- Conducted *Firewise* Training Workshops for landowners and hazardous fuels reduction contractors.
- Developed *Firewise* signs to post at successful fuels reduction project sites. Signs were made available to RC&D foresters.
- Sent letter of support to Commissions for the establishment of a position responsible for county GIS database.
- Identified a process with local realtors that allows homeowners to have their homes listed as *Firewise* certified.

Implementation and Monitoring

It will continue to be the responsibility of the Lincoln County Fire Steering Committee to ensure implementation of the CWPP. Monitoring will involve review of the goals and objectives with the Committee making necessary changes on a regular basis.

It is imperative that the Steering Committee annually review accomplishments *on the ground*. This will help determine the effectiveness of the CWPP. An annual report will be prepared and submitted to the approving entities for review. This report will track accomplishments and identify any changes needed to the CWPP. New or revised goals and objectives will be the primary changes expected in the annual report. If it is determined that major changes are needed in the CWPP, a revised Plan will be developed.

Lincoln County Rural Fire Department Data

McCormick Fire Department

Department overview

The McCormick Fire Department has ten active volunteers with one person wildland fire red card qualified. The department is able to provide emergency medical services. They have a current fire insurance rating of 9 with a reasonable potential of 8.

Apparatus

- 74 Ford pickup CAF unit
- 75 Seagraves 1000 gal/1250 gpm
- 69 Ford Pumper 1000 gal/500 gpm with dump chute
- 60 Ford Pumper 1000 gal/1000 gpm
- 76 Seagraves Engine 1000 gal/1250 gpm

Issues related to the WUI

- Heavy fuel accumulations in forested areas
- Distance to water sources
- Spotty radio reception in Pine Creek area

Recommendations for action

- Thinning projects in appropriate areas
- More hydrants

Cabinet View Fire Department

Department overview

The Cabinet View Fire Department has 12 active volunteers with nine wildland fire red card qualified. The department does not provide emergency medical services. They have a potential fire insurance rating of 4.

Apparatus

- | | |
|--------------------------------|-------------------------------|
| ▪ 74 Dodge Type 6 4x4 200 gal | ▪ 76 Dodge Type 6 4x4 300 gal |
| ▪ 89 Tender 3000 gal | ▪ 67 Ford Type 2 1000 gal |
| ▪ 66 Ford Type 2 1000 gal | ▪ 88 IHC 37 passenger bus |
| ▪ 80 Seagraves Type 1 1000 gal | ▪ Ford Type III 4x4 500 gal |
| ▪ Diesel Powered Pump 600 gpm | |

Issues related to the WUI

- Lack of funding for building and fire equipment

Recommendations for action

None identified

Eureka Fire Department

Department overview

The Eureka Fire Department has 28 active volunteers with all 28 wildland fire red card qualified. The department has two individuals that provide emergency medical services. They have an insurance rating of 5/8 with a reasonable potential rating of 5/7.

Apparatus

- 1971 Chevy tanker 750 gal/750 gpm
- 1975 Chevy Equipment van
- 1984 M.L.F. 500 gal/1250 gpm -75' ladder
- 1979 Ford 2500 gallon tanker/100 gpm
- 1995 Ford 4x4 3000 gal/90 gpm
- 1984 Chevy 4x4 250 gal/90 gpm
- 1981 Kenworth 3500 gallon tanker/1000 gpm
- 2002 GMC 1200 gallon tanker/1240 gpm

Issues related to the WUI

- Lots of brush areas in subdivisions
- Lack of addresses in rural areas
- Lack of water in certain areas

Recommendations for action

Two county hooking on ADR

Trego / Fortine / Stryker Fire Department

Department overview

The Trego / Fortine / Stryker Department has twelve active volunteers with two wildland fire red card qualified. The department does not provide emergency medical services. They have a current insurance rating of 9 with a reasonable potential of 7.

Apparatus

- 1958 Engine 500 gal/750 gpm
- 1971 Engine 1000 gal/250 gpm (foam)
- 1989 Engine 400 gal/240 gpm (foam)
- 1958 Engine 500 gal/750 gpm
- 1983 Engine 300 gal/350 gpm
- 2001 225 gal/200 gpm (foam)

Issues related to the WUD

- Poor roads
- Fuel loads
- No road signs
- Long distance from station

Recommendations for action

- Education programs
- Fuel reduction programs
- Wildland/urban interface training

Fisher River Valley Fire Rescue

Department overview

The Fisher River Battalion has twelve volunteers all of which are wildland fire red card qualified. The Ranchers Battalion has ten volunteers all of which are wildland fire red card qualified. The department provides emergency medical services. They have a current fire insurance rating of 9 with a reasonable potential rating of 7.

Apparatus (Fisher River – Station #1)

- Type 2 Engine
- Type 2 Engine
- Type 3 Fire Boat (trailer mounted 150gpm @ 200 psi plus monitor and 1200 SJRL hose)
- Type 2 Tender 3000 gal/500gpm
- Type 4 Engine

Apparatus (Ranchers – Station #2)

- Type 1 Engine 500 gal/1000 gpm
- Type 4 Engine 4x4 1500 gal/120 gpm
- Pump Trailer (trailer mounted engine 600 gpm @ 150 psi)
- Type 2 Water Tender 1000 gal
- Type 2 Ambulance

Issues related to the WUI

- Not being dispatched when we should
- Lincoln County Dispatch radio problems on local radios (feedback)
- Fix radios in Lincoln County Dispatch for local government
- Lincoln County Dispatch should follow protocols when dispatching fire and EMS
- Lack of members
- Poor radio coverage
- Catching fires quickly when they occur
- Paged out appropriately

Recommendations for action

- Truck mounted mobile repeaters
- Lightning map indicator
- SO page when accident, fire etc. occurs in district or mutual aid district

Libby Fire Department

Department Overview

There are 28 active volunteers ten of which are wildland fire red card qualified. The department does not provide emergency medical services. They currently have an insurance rating of 3/8.

Apparatus

- 1975 Ford Engine 500 gal/1000 gpm
- 1975 IHC Engine 750 gal/1000 gpm (foam)
- 1954 Mack Engine 300 gal/500 gpm
- 1993 Simon Duplex Eng 1000 gal/1500 gpm
- 1999 E-One Engine 1000 gal/1250 gpm
- 2003 Ford Eng 320/20 tank 70/35 gpm CAFS
- 1983 Ladder/Engine 400 gal/1500 gpm
- 2004 Sterling Vacuum Tender Fire Pump 3500 gal/500 gpm
- 1995 Ford Tender 1700 gal /300 gpm pto
- 1980 IHC Tender 2100 gal /250 gpm pto
- 1990 IHC Tender 3500 gal/350 gpm pto
- 1972 International Engine 1000 gpm
- Trash Pump on Trailer 1500 gallon
- 1996 Command Center

Issues related to the WUI

- Hazardous conditions
- Water supplies
- Road access (too steep of road)

Recommendations for action

- Fire ponds

Bull Lake Fire Department

Department overview

The Bull Lake Department has five active volunteers, none of which are wildland fire red card qualified. Emergency medical services are provided from the department facility. They have a current fire insurance rating of 9 with a reasonable potential of 8 B.

Apparatus

- Type 6 Engine 4x4 250 gal
- 61 Chevrolet Water Tender
- Floating Water Pump 1 ½” line
- Freightliner Water Tender 3000 gal with 2-1 ½” hard line hoses
- 62 GMC Engine 500 gal/750 gpm
- Trash Pump 8 HP
- 62 Ford F850 Pumper 750 gal/100 gpm

Issues related to the WUI

- Not enough firemen
- Poor radio coverage from Troy
- Wildland fuels hazard

Recommendations for action

None identified

Yaak Fire Department

Department overview

The Yaak Department has eight active volunteers with all eight being wildland fire red card qualified. The department provides emergency medical services. They have a current fire insurance rating of 9 and will realistically stay at a 9.

Apparatus

- 2000 Ford F450 4x4. 600 gal/no foam
- 71 International Water Tender 3200 gal
- 71 Ford Type 6 4x4 350 gal
- 2-trash pumps

Issues related to the WUI

- House addresses are difficult to find
- Hazardous fuels problem near Yaak School
- Need chainsaws
- Under trained and under equipped
- Communications with Troy Dispatch

Recommendations for action

- Improving maps
- Acquire chainsaws

Troy Rural Fire Department

Department Overview

The Troy department has 28 active volunteers with 6 wildland fire red card qualified. Emergency medical services are provided from a different facility. They have a current fire insurance rating of 8 with a reasonable potential of going to a 7.

Apparatus

- 1972 Class A Engine 500 gal/1000 gpm
- Rescue Vehicle with Extrication Equipment
- 1980 Class A Engine 750 gal/750 gpm
- 1985 Type 6 Engine 4x4 200 gal
- 1964 Ford Tandem 750 gal-1500 gal Class A
- Van with Equipment
- 1943 Seagraves
- 1987 GMC Water Tender 2000 gal w/pump and hard line hose
- 1990 Ford Water Tender 2000 gal w/pump and hard line hose
- Freightliner Engine 1000 gal/1500 gpm (Class A and B Foam)

Issues related to the WUI

- Hazardous Fuels
- Addresses
- Education

Recommendations for action

None identified

2004 Western States Wildland Urban Interface Grant

As preparations began to seek funding for hazardous fuels reduction projects, the assistance of the Northwest Regional Resource Conservation and Development Council (RC&D) was secured. In September of 2003, a proposal was submitted to the Western States Wildland Urban Interface grant program. This was a cooperative effort of the Lincoln County Fire Planning Steering Committee, the Montana DNRC and the NW RC&D. Many items identified in the CWPP *Fire Mitigation Goals and Objectives* were addressed in the proposal. The proposal included an educational component, *Firewise* assessments and a fuels mitigation program.

Implementation Plan

Landowner contracts will be drawn up to verify interest, explain project details and responsibilities, and develop implementation schedules and procedures. Future assessments will be made in new priority areas. New assessments require planning, site visits, education, rating, and prioritization based on need, public interest and support. Projects will be designed that meet the landowner's objectives while focusing treatment on creating a positive effect on fire behavior. Public participation is an important element in building trust. It will serve as a consensus building tool for future projects.

Private benefit fuel treatments will be cost shared at a 75/25 percent match with landowners assuming 25 percent of the cost. This match will assure that the landowner has a vested interest in the project. The cost share rates for the fuels reduction treatment will be based on rates set by the Forest Landowner Incentive Program (FLEP).

Exceptions to this planned 75/25 match will occur in public benefit treatments such as fuel barriers where the community benefit is paramount and private benefit is minimal. In those areas where the greater good is community, the grant will be 100 percent of the treatment cost. Project design, contract administration, and payment will be made through the NW RC&D office in Libby.

Proposed Project Timeline

Receive grant funds	July 2004
Develop contract specifications and cost share rates	Summer 2004
Begin program promotion and landowner agreements	Fall 2004
Implement and complete cost share agreements	2004-2005
Complete all grant requirements	December 31, 2006

Organization Structure/Administration

Coordination and administration of this grant is the responsibility of the NW RC&D. The Council has extensive experience in administering grants from state, federal and private sources. Oversight for the project will be provided by Lincoln County and DNRC.

In year one, funds are to be distributed as outlined in this proposal for each priority area. In year two, successes will be evaluated and funds reallocated to areas where public interest and benefit are greatest.

Additional efforts will be made to create *Firewise* communities to serve as role models for other areas. This will increase awareness among landowner groups about the importance of becoming *firewise*. The ultimate goal of this project is to provide better public and firefighter safety.

Treatment Areas

Chain of Lakes -The Chain of Lakes area consists of the areas around Crystal Lake; and Upper, Middle and Lower Thompson Lakes. The forest in this area is primarily a two-story dry site Douglas fir stand with an understory of dense ladder fuels and an overstory continuous enough to carry a large crown fire. The primary objective of the fuels treatment is to reduce the ladder fuels around the home sites and to construct fuel breaks (based on prevailing winds) along the west and southwest borders of the project area. Cooperators in the Chain of Lakes Project include DNRC; Montana Fish, Wildlife and Parks; and Plum Creek Timber Company

Educational presentations and *Firewise* assessments are proposed within this treatment area. There are 381 acres of treatment planned around homes and an additional 43 acres of fuel breaks. The cost share funding for fuels treatment is \$219,331.

Rawlings Tract - This subdivision is located three miles northwest of Libby. There are 130 property owners over 640 acres. *Firewise* assessments have been completed and it is estimated that nearly two-thirds of the lots need improvement or are high hazard with dense ladder fuels. Adjacent National Forest lands have recently been thinned and burned.

The project proposes to assist approximately fifty homeowners by treating one acre around each home. A fuels barrier is proposed by thinning four five-acre parcels adjacent to Section 20. The cost share funding for fuels treatment is \$30,341.

Assessment Areas

Bull Lake / Angel Island - This large area is located in an area that is at high risk to wildfire. The Angel Island subdivision contains the majority of the homes. Most of the homes in Angel Island are on very small lots which make them difficult to defend during a forest fire. Educational efforts for area homeowners have already begun. A feasibility study and assessments for approximately 250 homes are planned. Grant funding for assessments and a feasibility study is \$6,802.

Glen Lake - This large subdivision is at high risk along the west and north sides of Glen Lake. A feasibility study is needed to determine the best way to protect the area. *Firewise* assessments are planned for 250 properties. Grant funding for assessments and a feasibility study is \$7,518.

Rolling Hills- This is a scattered, large parcel settlement near Eureka. A feasibility study is needed and *Firewise* assessments are needed for fifty properties. Grant funding for assessments and a feasibility study is \$3,222.

Schoolhouse Lake - This subdivision is at high risk to forest fires because of the dense understory ladder fuels. A feasibility study is needed and assessments are planned for thirty properties. Grant funding for assessments and a feasibility study is \$1,790.

Rexford Bench- This development consists of thirteen homes scattered over 400 acres of dry, grassy hillsides. A feasibility study is needed and assessments are planned for thirteen homes. Grant funding for assessments and a feasibility study is \$1,182.

2004 Stevens Act Wildland Urban Interface Grant

As preparations began to seek additional funding for hazardous fuels reduction projects, the assistance of the Northwest Regional Resource Conservation and Development Council (RC&D) was secured. In February 2004, a proposal was submitted to the Stevens Act Wildland Urban Interface Grant Program. This was a cooperative effort of the Lincoln County Fire Planning Steering Committee, the Montana DNRC and the NW RC&D. Many items identified in the CWPP *Fire Mitigation Goals and Objectives* were addressed in the proposal. The proposal included an educational component, *Firewise* assessments and a fuels mitigation program.

Implementation Plan

Landowner contracts will be drawn up to verify interest, explain project details and responsibilities, and develop implementation schedules and procedures. Future assessments will be made in new priority areas. New assessments require planning, site visits, education, rating, and prioritization based on need, public interest and support. Projects will be designed that meet the landowner's objectives while focusing treatment on creating a positive effect on fire behavior. Public participation is an important element in building trust. It will serve as a consensus building tool for future projects.

Private benefit fuel treatments will be cost shared at a 75/25 percent match with landowners assuming 25 percent of the cost. This match will assure that the landowner has a vested interest in the project. The cost share rates for the fuels reduction treatment will be based on rates set by the Forest Landowner Incentive Program (FLEP).

Exceptions to this planned 75/25 match will occur in public benefit treatments such as fuel barriers where the community benefit is paramount and private benefit is minimal. In those areas where the greater good is community, the grant will be 100 percent of the treatment cost. Project design, contract administration, and payment will be made through the NW RC&D office in Libby.

Proposed Project Timeline

Receive grant funds	September 2004
Begin program promotion and landowner agreements	Fall 2004
Implement and complete cost share agreements	2004 / 2005
Complete all grant requirements	December 31, 2006

Organization Structure/Administration

Coordination and administration of this grant is the responsibility of the NW RC&D. The Council has extensive experience in administering grants from state, federal and private sources. Oversight for the project will be provided by Lincoln County and DNRC.

In year one, funds are to be distributed as outlined in this proposal for each priority area. In year two, successes will be evaluated and funds reallocated to areas where public interest and benefit are greatest.

Additional efforts will be made to create *Firewise* communities to serve as role models for other areas. This will increase awareness among landowner groups about the importance of becoming *firewise*. The ultimate goal of this project is to provide better public and firefighter safety.

Treatment Areas

Whispering Pines - This subdivision located near Fortine has 22 homes with parcels varying in size from five to 40 acres. The area is sited in a dense forest with hazardous ladder fuels. It is estimated that 50 percent of the homes will be treated by reducing 2 - 3 acres of fuels around the homes. Approximately one mile of fuels, 200 feet wide, is planned for treatment along the west boundary. The grant funding for fuels treatment is \$26,800.

Barnaby Lake - This forty-one home subdivision is located near Fortine. Many of the homes along the lake are low to medium fire hazard. However, the larger fire acre parcels immediately south are generally a high fire hazard. Of particular concern is the dense forest immediately west of the subdivision that belongs to the Flanagan Ranch.

Based on a past *Firewise* assessment it is estimated that twenty of the homeowners will participate in a fuel reduction project around their property. The Flanagan Ranch would participate by completing a commercial timber harvest and a subsequent fuel treatment along a 200 foot strip along the west side of the subdivision. The grant funding for fuels treatment is for \$11,550.

Pine Bay - This subdivision is located near Rexford along the Koocanusa Reservoir. The fuels vary from moderate to extremely dense. Steep draws down to the reservoir make this area a very high risk for a uncharacteristic wildfire.


Six acres of high risk fuels in county parks parcels were treated by Lincoln County in 2003. There are 68 property owners and 22 homes in the subdivision. It is estimated that twenty-five property owners will participate. The grant funding for fuels treatment is \$9,375.

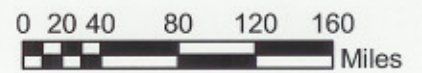
Tetrault Lake / Valley View Estates - This subdivision is located just north of Eureka. The area is a dry, grassy, Douglas fir site. The prevailing winds from the southwest make this area extremely vulnerable to wildfire. There are eighteen landowners willing to participate by having approximately two and a half acres treated around existing homes. In addition, the access roads need to be treated to allow a safe access. This road treatment will also create an additional fuel break. The grant funding for fuels treatment is \$16,875.

Lower Quartz Creek – There are twenty homeowners in this area with the lots averaging three to four acres. Fuels are extremely dense and hazardous. The project proposes to thin and remove the ladder fuels on nine lots for a total of twenty-seven acres. The grant funding for fuels treatment is \$14,850.

Farm-to-Market – This project will treat an average of five acres of private land for approximately thirty landowners. The grant funding for fuels treatment is \$99,525.



 Lincoln County



1 inch equals 100 miles

**LINCOLN COUNTY FIRE
DISTRICTS & SERVICE AREAS**

HOUSING COUNTS

**McCormick
122 Housing Units**

**Troy
1043 Housing Units**

**Bull Lake
198 Housing Units**

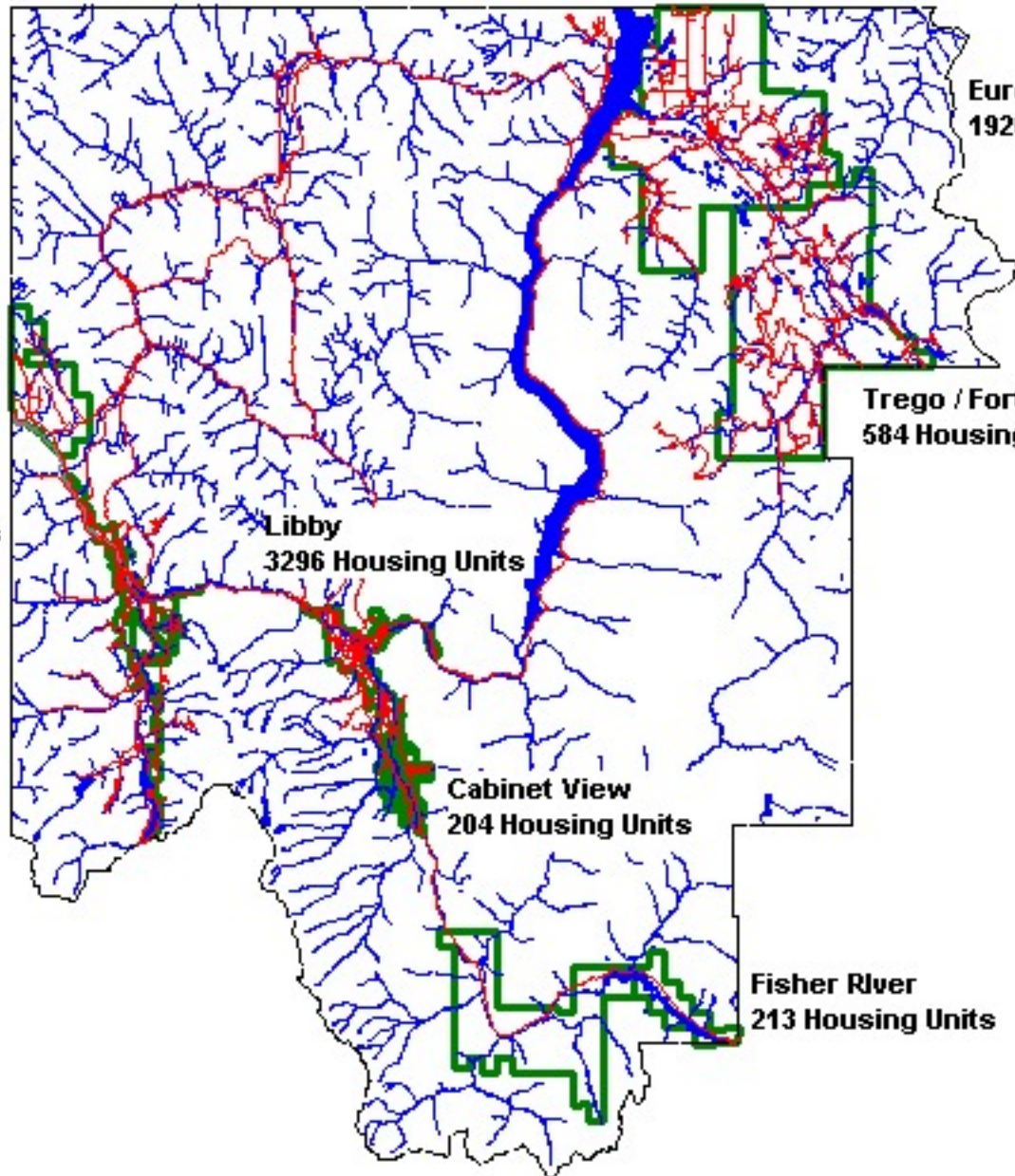
**Libby
3296 Housing Units**

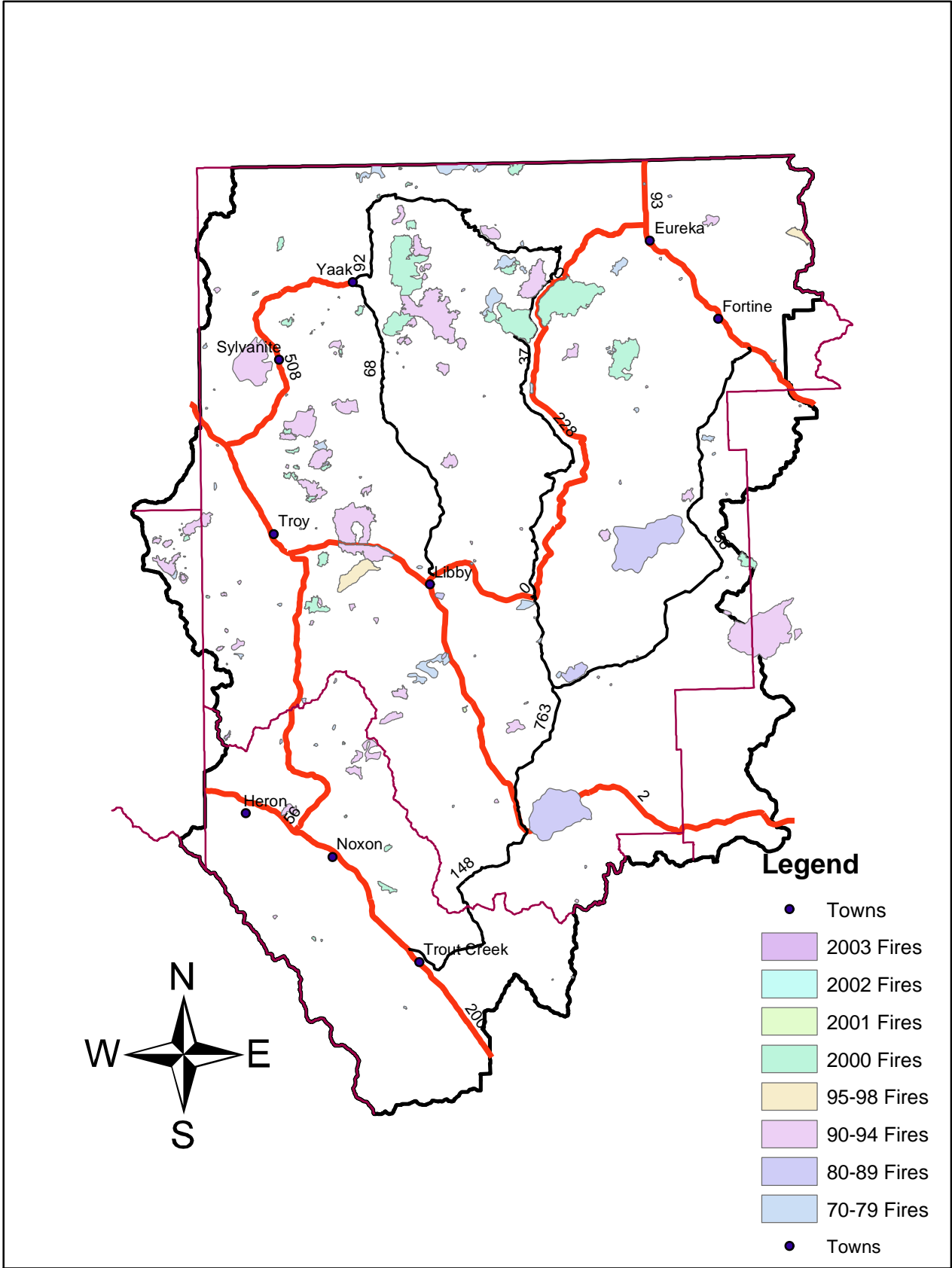
**Cabinet View
204 Housing Units**

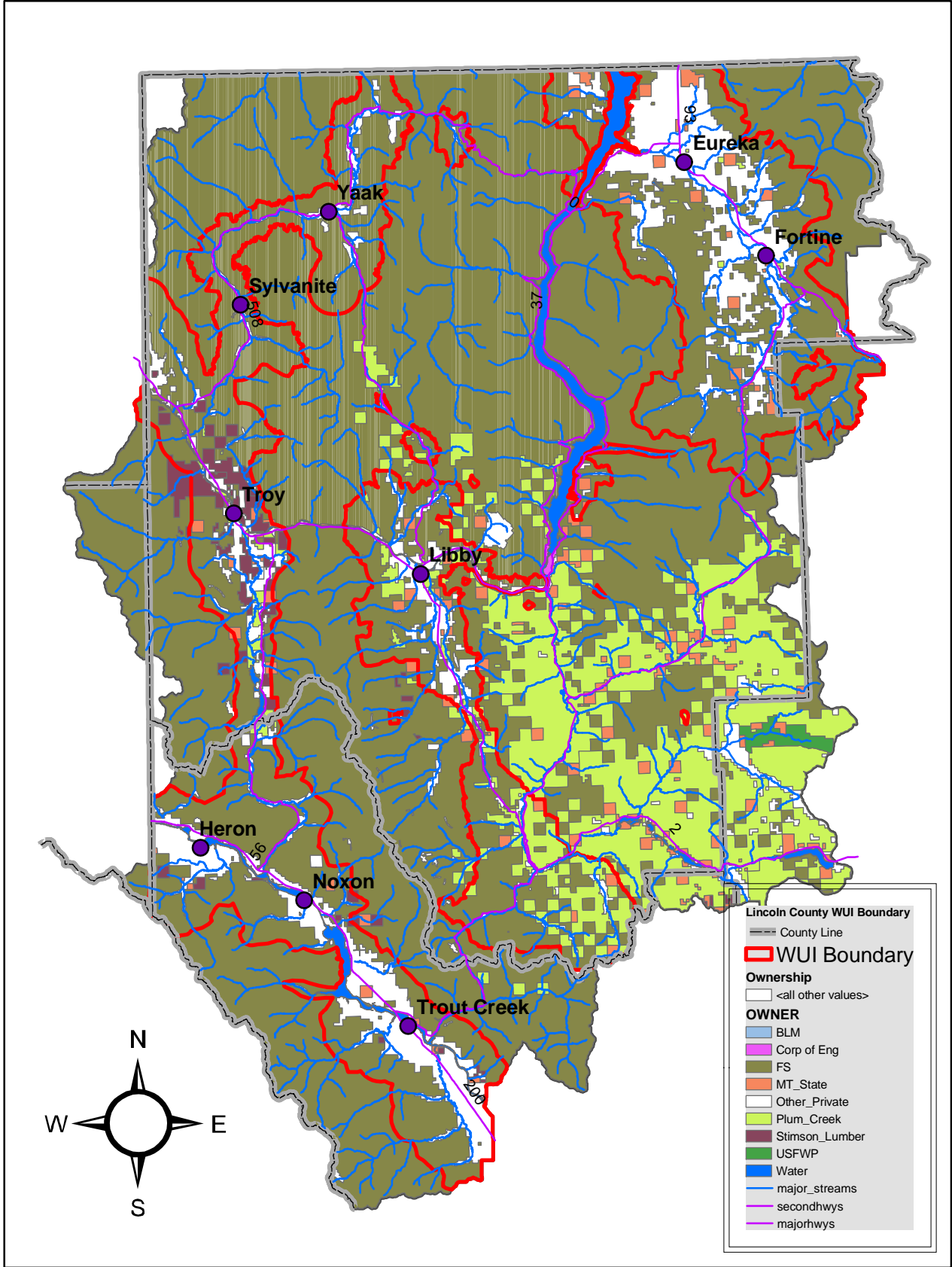
**Eureka / Rexford
1920 Housing Units**

**Trego / Fortine
584 Housing Units**

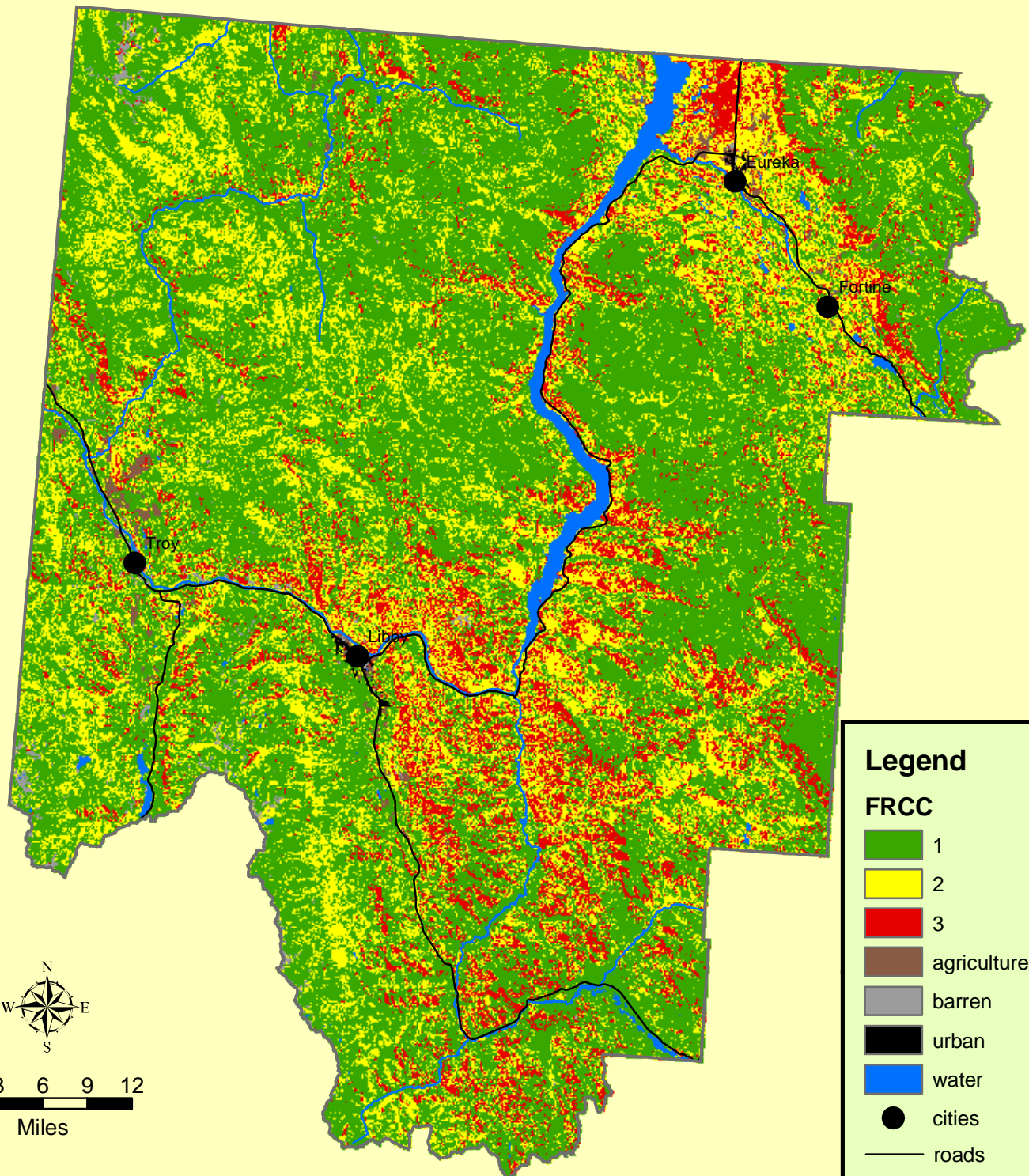
**Fisher River
213 Housing Units**

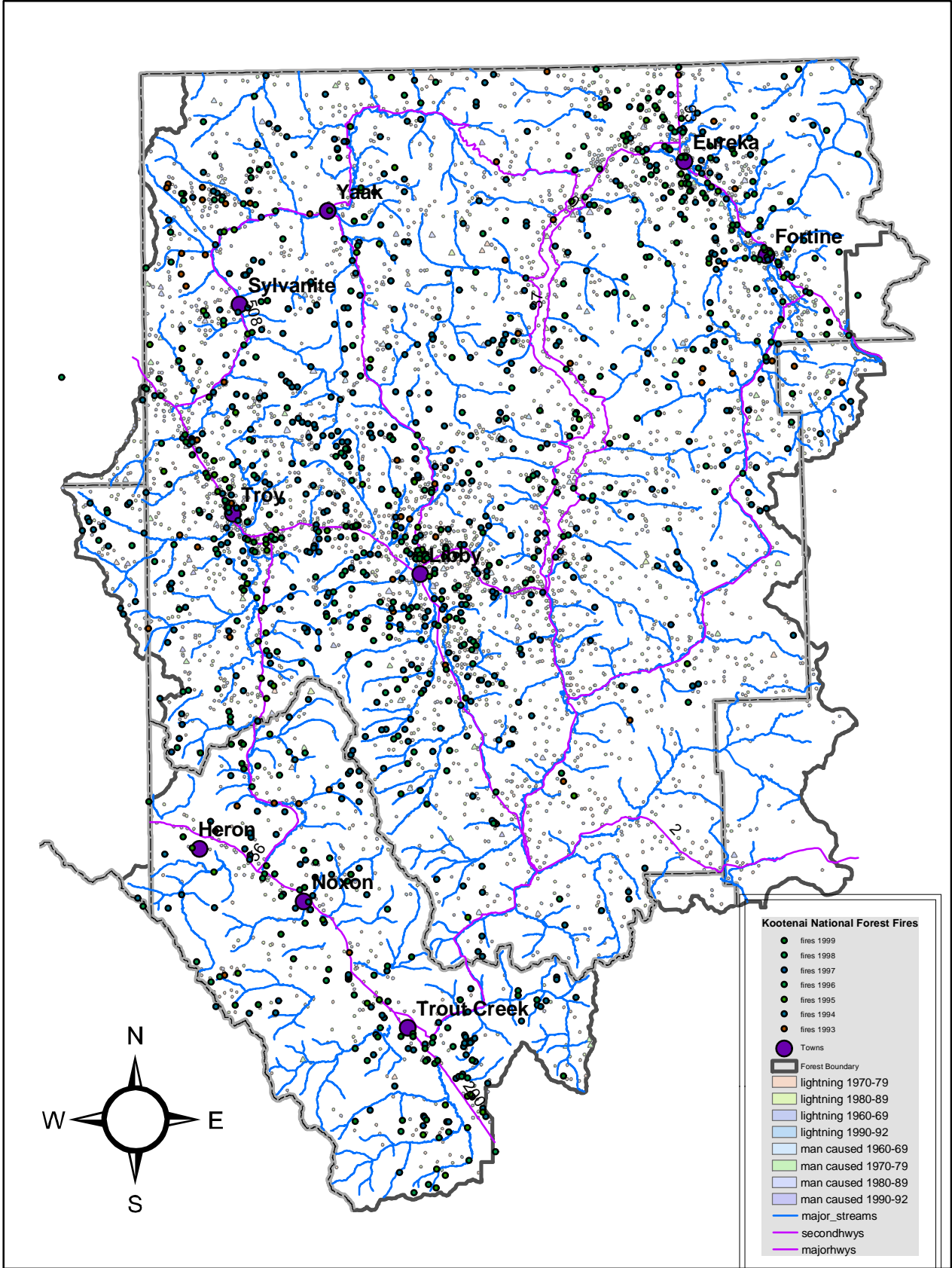


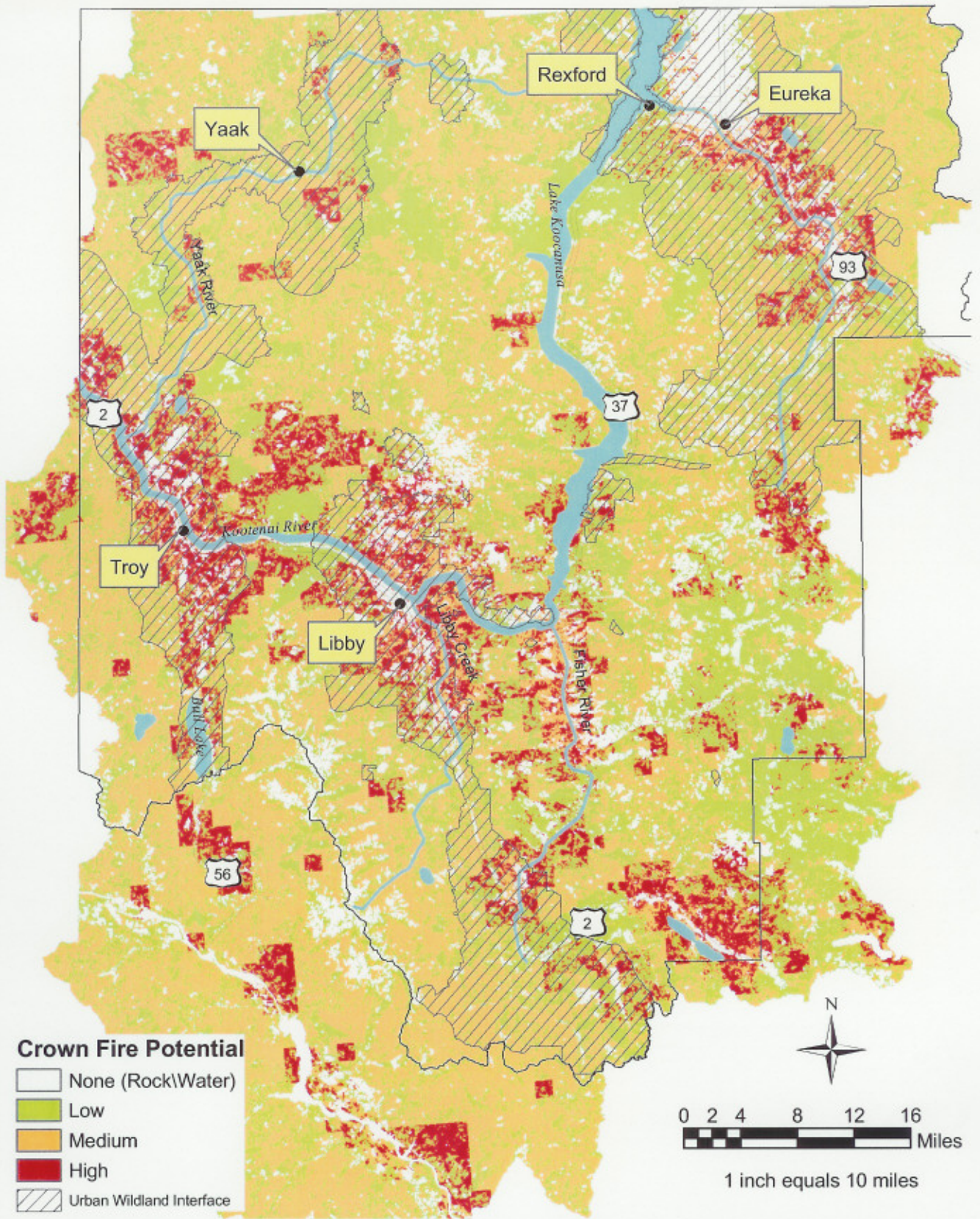




Fire Regime Condition Class Lincoln County, MT





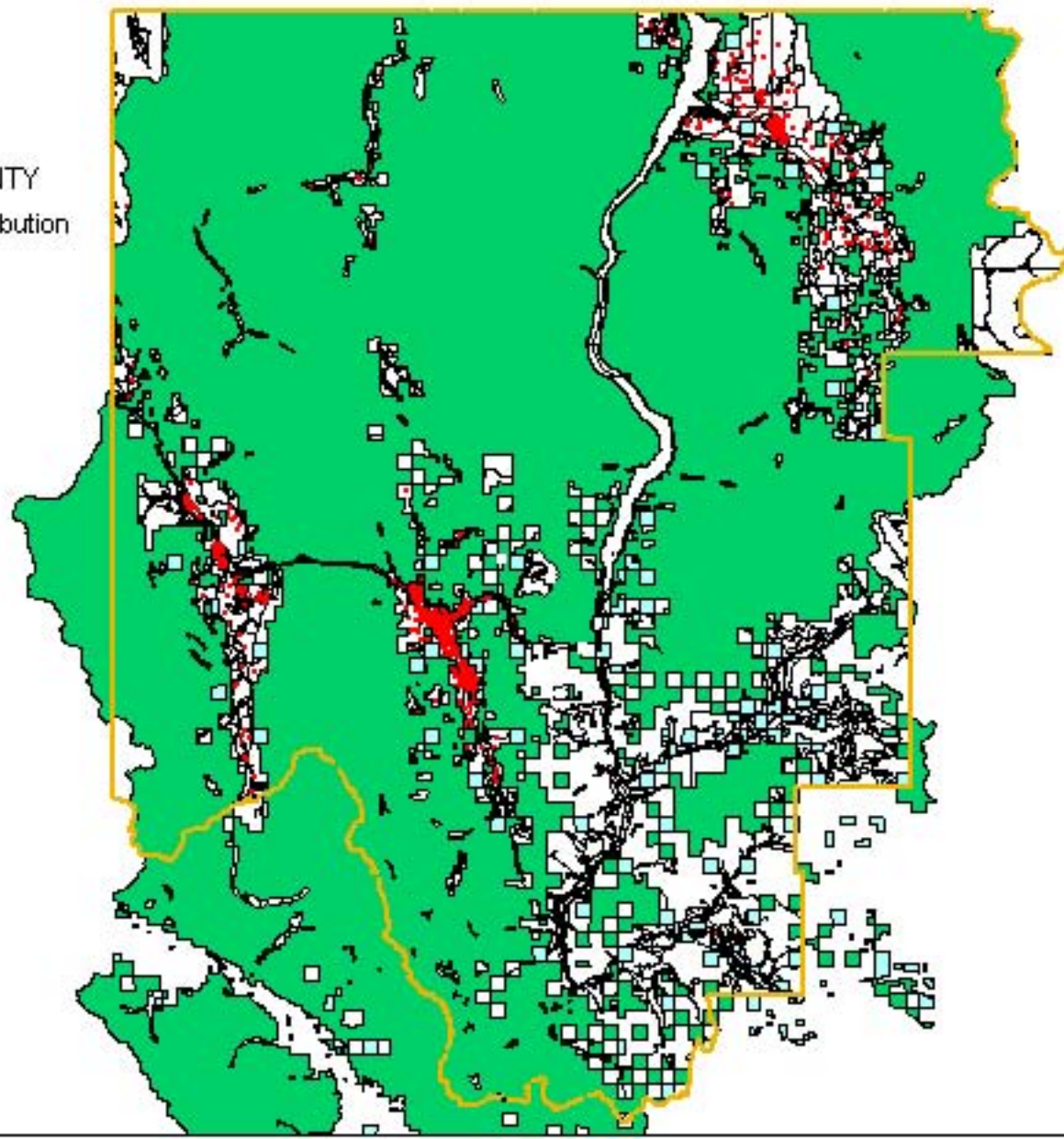


Pre-Disaster Mitigation Plan
Lincoln County, MT

Urban Wildland Interface (Kootenai National Forest, 2004) and
Crownfire Potential Map (Northern Region National Fire Plan
Cohesive Strategy Geospatial Dataset, 2002)

Figure
3-1

LINCOLN COUNTY
Population Density Distribution



**LINCOLN COUNTY FIRE
DISTRICTS & SERVICE AREAS**

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