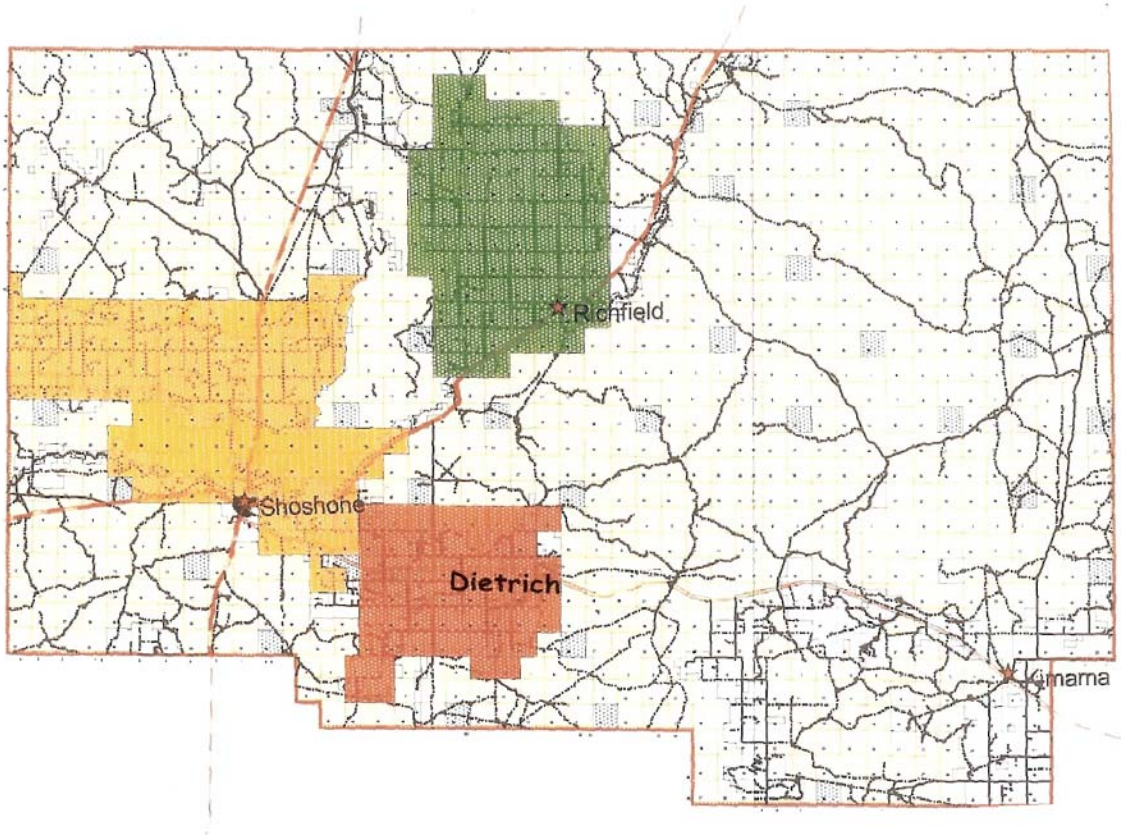
Lincoln County, Idaho
Wildland Fire Hazard Mitigation Plan

Prepared for:
Board of Commissioners
Lincoln County
Shoshone, Idaho



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DISCLAIMER

R&S Enterprise has prepared this Wildland Fire Hazard Mitigation Plan solely for Lincoln County, Idaho. The technical information contained herein should not be released without the written consent of the County Commissioners or other Authorized Officer. This document shall be used as a guide for county and local fire management agencies to mitigate the risk and hazard of wildfire.

This is not a final decision document and Lincoln County should not implement fire management recommendations contained herein without appropriate planning, analysis, and funding. This management plan is intended solely as guidance by which fire risk and mitigation analyses have been provided to Lincoln County, Idaho by R&S Enterprise. R&S Enterprise shall not be held liable for problems or issues associated with implementing the actions contained in this report.

The Lincoln County Wildland Fire Mitigation Plan has been reviewed and approved by the following individuals:

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1.0 Introduction:

During the 2000 fire season, more than 6.8 million acres of public and private lands burned, resulting in loss of property, damage to resources, and disruption of community services. Many of these fires occurred in wildland/urban interface areas and exceeded fire suppression capabilities.

To reduce the risk of fire in the Wildland/urban inter-face, the President of the United States directed the Secretaries of the Departments of Agriculture and Interior to increase federal investments in projects to reduce the risk of a wildfire in the urban/urban interface. The urban/urban interface occurs where human structures meet or intermix with urban vegetation.

This congressional direction resulted in the preparation of the "National Fire Plan" (NFP) (U.S. Department of Agriculture [USDA] 2002). This plan was approved in September 2000 and is titled *Managing the Impacts of Wildfire on Communities and the Environment: A Report to the President in Response to the Wildfires of 2000*. The objectives of the National Fire Plan include: firefighting preparedness, rehabilitation and restoration of burned areas, reduction of hazardous fuels, community assistance, and accountability.

In 2001, Congress released another directive requiring the Departments of Agriculture and the Interior to engage Governors in the development of a National ten-year comprehensive strategy that would implement the NFP. As a result of this effort, the *Idaho Statewide Implementation Strategy for the National Fire Plan* (Kempthorne, et al. 2002) was developed.

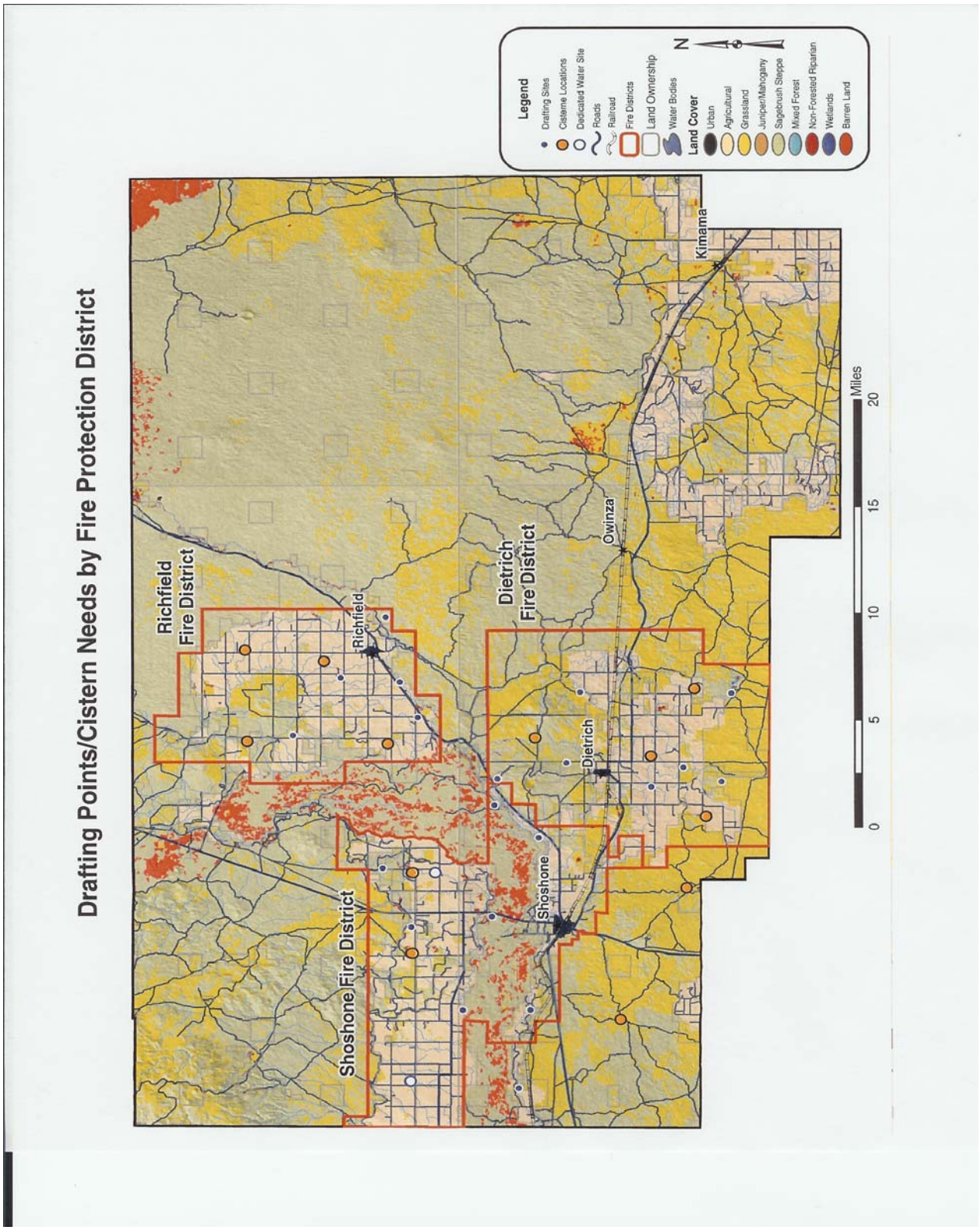
This plan was approved in May 2002 and involved the cooperation of the Secretary of Interior and Agriculture, the Governors of Montana, Wyoming, Idaho, and Oregon, and the Director of the Council on Environmental Quality. The primary goals and objectives of the Idaho Plan are to improve prevention and suppression of wildfire, reduce hazardous fuels, restore fire-adapted ecosystems, and enhance community assistance.

The Lincoln County Wildland Fire Mitigation Plan will be developed in compliance with the Federal Emergency Management Agency (FEMA) requirement for Local Mitigation Plans. Local mitigation plans serve as guidelines for decision makers in committing resources to reduce the effects of natural hazards. Therefore, the Lincoln County Fire Mitigation Plan will help represent Lincoln County's commitment to reduce risks from natural hazards.

The goal of the Lincoln County Fire Mitigation Plan (LC FMP) is to reduce the risk of fire in Lincoln County.

The objectives of the LC FMP are to identify the existing fire conditions throughout the county and to recommend actions to mitigate fire threats in the specific areas of (1) public education and prevention, (2) infrastructure and fire fighting capacity and (3) fuel reduction.

Figure 1 Major open areas without fire protection/drafting points/cistern needs



With a recommendation for hazardous fuels reduction, a reduction in frequency and intensity of wildfire spreading from city or private property to public lands and a reduction in wildfires spreading from public lands to city and private property would be realized.

2.0 Description of Area:

Lincoln County is located in Southern Idaho in the northern portion of the Magic Valley with its county seat at Shoshone. It encompasses 771,000 acres in a rural type setting with the majority of populations centered around three (3) small communities; 1) Dietrich, 2) Richfield and the county seat at 3) Shoshone. Lincoln County is Idaho's sixteenth (16) largest county (land mass) in Idaho, with most lands divided among three (3) major landowners (Table 1). The county is relatively flat with some rolling hills and numerous escarpments associated with historical lava flows. Approximately 299,400 acres of Lincoln County are considered barren from historic volcanic activity.

Each of the three (3) primary communities within Lincoln County (Dietrich, Richfield and Shoshone) contain a tax base supported fire department and fire protection district (Figure 1). Early settlements such as Marley and Burmah and various labor camps, established along the UPRR, are no longer in existence or represent a very small community or cluster of homes.

2.1 Land status:

Lincoln County contains approximately 771,000 acres divided among three (3) major landowners. (Table 1) Figure 1 displays Lincoln County land ownership and the three (3) fire protection districts. All state and federal lands located within Lincoln County are protected through Mutual Aid Agreement with respective FPD.

Table 1. Land Status of Lincoln County, Idaho

Owner	Acres	Percent
State of Idaho	22,251	2.9
Private	164,100	21.3
BLM	582,912	75.83
***Other**	2,321	0.3

*Idaho Department Fish and Game, Bureau of Reclamation, Idaho Department of Parks and Recreation, County, Municipal

2.2 Population:

Presently, Lincoln County is experiencing a development boom, fueled by the increased demand for goods and services in Blaine County. Affordable housing costs in Lincoln County are attracting new homeowners who commute to the job market in the north. Each of the three (3) communities within Lincoln County has experienced an increase in subdivision development and new housing starts, as have the unincorporated portions of the county. Lincoln County has grown by 2.176% over the past three (3) years.

Population density for the county is 3.4 persons per square mile. According to the mid 2000-2003 census report, Lincoln County now has 4,132 people, 1,651 households and 1,050 families residing in the county. That population is equally divided between the three cities and the unincorporated portions of the county. (Table 2)

Table 2. Population of major communities in Lincoln County, Idaho

Major Cities – Lincoln County, Idaho	2000 Population Census	2003 Population Census
Dietrich	159	167
Richfield	429	451
Shoshone	1488	1565
Unincorporated Population	1968	1949
Total County Population	**4044**	**4132**

2.3 Agriculture:

Agriculture is limited due to extensive lava outcrops. Crops include wheat, corn, alfalfa, potatoes, sugar beets, and dairy and range cattle. Livestock grazing on BLM lands, combined with increased wildfires, has led to the conversion of sage-steppe shrub to crested wheat and cheat- grass, increasing the wildfire return interval due to the early flammability and rapid invasion of cheatgrass.

The rural development of agriculture has determined the way the county developed. Irrigation systems used in agriculture served to break up the wild lands and created a different fuel complex with a unique fire risk. More recently the conversion of productive lands to urban development represents one of the greatest fire risks in the county. Previously irrigated croplands are idled and allowed to go to weeds. Water transfers away from productive lands and assures the short-term growth of weeds and fuels. As new subdivisions develop, new landowners fail to control the weed and grass growth on the small (5-20 acres) mini ranchettes.

2.4 Climate:

Warm dry summers and cold to very cold winters characterize Lincoln County. The majority of precipitation occurs from November to March. Temperatures may exceed 100 degrees during July and August, and have been recorded as low as –30 degrees during the winter months. The average frost-free period is 112 days.

Summer may begin with a sudden change to warm and dry weather around the first of June during the day, but chilly nights may persist into July. Showers and thunderstorms are common. Afternoon temperatures occasionally rise into the low 90's, but nighttime temperatures are usually in the 50's. The fall brings cooler weather with daytime temperature rarely exceeding the 70's and dipping into the 40's by mid November, but remaining dry.

The Bureau of Land Management (BLM) collects and analyses historical fire weather to determine local burning conditions. Modeling for burning conditions are based up the fifty (50) percentile, which represents normal conditions; the ninety (90) percentile which represents drought conditions, and in recent drought related years the ninety-seventh (97) percentile which represents severe drought conditions.

The analysis of drought related conditions directly relate to burning conditions and provide a realistic picture of predicted fire behavior which firefighters may anticipate whenever a wildfire occurs. Presently, the combination of below average precipitation and high summer temperatures increase the annual fire cycle and ignition opportunity.

With the continued drought Lincoln County is presently experiencing, drought conditions and the corresponding burning conditions are being modeled at the ninety-seventh (97) percentile for severe drought conditions. Therefore, when a wildfire does occur, Lincoln County emergency first responders will experience extreme fire behavior.

Table 3. Monthly Climate Summary for Lincoln County, Idaho for years 1978 to 2003

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual Average
Ave. Max. Temperature (F)	34.7	41.6	51.7	54.9	66.7	76.8	85.9	83.8	74.6	61.8	45.9	36.8	62.32
Ave. Min. Temperature (F)	18.6	22.9	26.4	34.8	42.6	49.1	53.8	52.9	44.4	36.1	28.1	19.4	34.41
Ave. Total Precipitation (in.)	1.21	0.79	0.93	0.96	1.29	0.88	0.38	0.47	0.59	0.68	0.99	1.09	7.91
Ave. Total Snowfall (in.)	6.8	3.7	2.8	1.6	0.6	0.0	0.0	0.0	0.0	0.3	2.6	5.9	23.0
Average Snow Depth (in.)	3	2	0	0	0	0	0	0	0	0	0	2	2

2.5 Vegetation:

Common native vegetation found in Lincoln County include Wyoming big sagebrush (*Artemisia tridentate* spp. *Wyomingensis*), green rabbitrush (*Chrysothamnus vicidiflorus*), greasewood (*Sarcobatus vermiculatus*), bluebunch wheatgrass (*Pseudoroegneria spicata*), Thurber's needlegrass (*Achnatherum thurberianum*), Sandberg bluegrass (*Poa secunda*), arrowleaf balsamroot (*Balsamorhiza sagittata*), and Indian ricegrass (*Achnatherum hymenoides*). Much of the rangeland is comprised of crested wheatgrass (*Agropyron cristatum*) seedings with halogeton (*Halogeton glameratus*) and cheatgrass (*Bromus tectorum*) dispersed along roadways and disturbed sites.

Due to frequent wildfire activity, livestock grazing and other disturbance, much of the rural areas in Lincoln County have been converted to crested wheatgrass seedings, where rehabilitation is feasible, and the invasive, exotic annual cheatgrass. The wildfire return interval has been shortened dramatically because of the early flammability and rapid rate of spread of cheatgrass.

2.6 Wildfire history/risk:

Historically, major industry within the county has centered along State Highway 75 and 93, the Union Pacific Railroad (UPRR), and the rural areas in close proximity to the three (3) primary communities.

The very rural aspect of the county has determined the way the county is presently developing. The irrigation systems used in agriculture areas have serviced to break up the wildland and human created fuels, and has created a different fuel complex with its unique potential fire problems.

With a heavy travel corridor running throughout the middle of the county, fire incidents are from both natural and human causes. The highest fire frequency has occurred in the extreme eastern portion of the county and for the most part, entirely on BLM lands.

Wildfire frequency in Lincoln County is high. The three (3) tax based Fire Protection Districts located in Lincoln County (Dietrich, Richfield, and Shoshone) respond to an average of twelve (12) brush fires annually and since 1975 have been involved with one hundred forty six (146) wildfires for a total of 277,065 acres lost.

The risk of wildfires within and adjacent to Lincoln County is high due in part to an accumulation of excess flammable fuels and land use changes over the past decade. Cool wet springs have increased grass and shrub density within the sagebrush-steppe and persistent drought has led to a high to extreme fire danger. Figure 2 shows fuel models and historical fire perimeters for years (1999-2002).

Since 1995, and the creation of Mutual Aid agreements with neighboring FPD's and Federal Agencies represented throughout southern Idaho, Lincoln County's three (3) FPD's have responded to an average of sixteen (16) wildfires annually; a 3.0% response increase over the past fifteen (15) years.

The three (3) year average (2001-2003) of all emergency responses or call outs made by Lincoln County's three (3) FPD's displays an upward trend. (2001 – 2002 twenty seven (27) average annual responses, 2002 20033, forty three (43) average annual responses. This annual response increase represents a 5.3 percent increase in emergency responses over the past three (3) years.

Table 4 Lincoln County Fire History from 1994 to 2004

YEAR	FIRE	ACRES	YEAR	FIRE	ACRES
1994	KINZIE BUTTE	10.0	1997	CAMP ONE	10
"	KERNER	10.0	"	BP148ESCP	500
"	HY-24-MP-35N	10.0	1997	Total: 11 Fires For	696 ac
1994	Total: 3 Fires For	30.0 Ac.	1998	2W4 MILLARD	50
1995	**RIVERWOOD**	5	"	**PAGARI NW**	40
"	**HY-93-MP-17**	10	"	BAT CALL	10
"	STAR LAKE	10	"	**BURMA HNO**	50
"	CAMP ONE	10	"	**BURMA HNO2**	10
"	UPRR-MP-319	1	"	**MARLEY RD**	1
"	**DIETRICH BUTTE**	10	"	HIDDEN VALLEY	100
"	ROCK LAKE	2180	1998	Total: 7 Fires For	261 ac
"	**UPRR-MP-328N**	20	1999	RICHFIELD CANAL	1
"	TUNUPA	5	"	RICHFIELD CANAL	1
"	UPRR-MP-30425	10	"	DISPATCH	10
"	UPRR-MP-307N	10	"	UPRR MP307	10
"	KIMAMA	50	"	PREACHER CREEK	1
"	SID	1	"	**SHOSHONE W**	900
"	LAIDLAW	1000	"	**SHOSHONE W**	900
"	SIMPLOT	1000	"	HWY26 MP16	150
1995	Total: 15 Fires For	4,322 ac	"	GOODTIME 1	200
1996	OWINZA #1	1	"	**GOODTIME 2**	200
"	OWINZA #2	1	"	OWINZA	2
"	**US93 MP67**	1	"	OWINZA 2	1
"	INSULATOR	10	"	OWINZA 3	1
"	STAR LAKE	500	"	SID CROSSING	8
"	**RICHFIELD**	35000	"	SID CROSSING 2	1
"	TUNUPA	10	"	MALLARD LAKE	30000
"	BURMAH	100	"	HWY93 MP19	5
"	**JOHNNYS MI**	50	"	**UPRR MP318**	40
"	**JOHNNYS E**	10	"	**BESSLEN 1**	10
"	**JOHNNYS W**	10	"	**BESSLEN 2**	20
"	STAR LAKE	300	"	HWY24 MP48	20
"	5426 MP155	10	"	BURMA HRD	150
"	MAMMOTH 2	100	"	UPRR MP3055	1
"	THORN CREEK	10	"	**UPRR MM303**	15
"	KIMAMA XING	5	"	NEWYEAR LAKE	1000
"	**UPRR 294**	2	"	SENTER 1	1
"	CEPTER	200	"	SENTER 2	10
"	SENTER	1800	"	NORLAND 4N	500
"	FLATTOP RES.	500	"	KIMAMA 2	50
1996	Total: 20 Fires For	38,620ac	"	UPRR MP288	2
1997	PREACHER 1	1	"	SENTER 3	5
"	UPRR MP305	10	"	**HIDDEN VALLEY**	50
"	UPRR MP318	20	"	**HWY24 MP36**	1
"	**SEWAGE POND**	10	"	KIMAMA 1	1
"	**OWINZA**	10	1999	Total: 34 Fires For	34,267ac
"	HWY26 MP15	20	2000	**HWY75 MP93**	1
"	MILNER CANAL	5	"	**HWY75 MP93-2**	1
"	**HIDDEN VALLEY**	10	"	LITTLE DROP	30

YEAR	FIRE	ACRES	YEAR	FIRE	ACRES
2000	**HIDDEN VALLEY**	100	2002	**4N SHOSHONE**	20
“	BUCKLAKE	1	"	UPRR 318	1
“	TUNUPA	1	“	MAGIC	30
“	**STAGEBARN**	107245	“	**HWY75 MM83**	1
“	**WILSON SE**	55000	“	**CRATER BUTTE**	3
“	UPRR MM290 5	10	“	**JIM BURNS**	52370
“	HWY24 MP44	1	“	MILNER 1	3
“	SID BUTTE	3500	“	MILNER 2	3
“	**HIDDEN VALLEY**	2000	“	SO DIETRICH	410
“	**SID BUTTE**	16664	“	CROSSING	10
2000	Total: 13 Fires For	18,4474ac	“	**HWY24 MM35**	30
2001	**DIETRICH**	2660	“	LAIDLAW S	50
“	HWY93 MP17	100	“	HWY24 MM46	860
“	DUMP	15	2002	Total: 20 Fires For	326,954ac
“	TUNUPA	20	2003	HWY75 MM85	1
“	**DIETRICH**	164685	“	UPRR MM31	10
“	HWY93 MP17	1	“	UPRR MM31	1
“	**SHOSHONE H**	50	“	UPRR MM30	30
“	2 SO MAMMOTH	50	“	UPRR MM30	1
“	HWY93 MP58	5	“	HWY75 MM75	3
“	**LITTLE DROP**	50	“	**HWY26 MM15**	2000
“	THEELUSIV	2	“	**3N SHOSHONE**	30
“	BUCKLAKE	1	“	HWY75 MM76	300
“	**DIETRICH BUTTE**	20	“	**SHOSHONE WSA**	3
“	DYNAMITE	50	“	**HWY75 MM76W**	1
“	HWY75 MP76	1	“	S KIMAMA	20
“	**SHO SHONE ASST1**	1	“	RURERT ASST 14	300
“	HIDDEN VALLEY	20	“	THE CRATER	270
“	**THE LEDGE**	10	“	ID POWER	1
“	HWY75 MM81	5	“	**SID BUTTE**	26800
“	SID SEC 28	465	2003	Total: 17 Fires For	29,781ac
“	KIMAMA XIN	20	2004	BLACK BUTTE	1
“	SHALE BUTTE	800	“	DROPS	1
“	BLACK RIDGE	100	7/2004	Total: 2 Fires For	2ac
“	KIMAMA BUTTE	50			
“	**HWY24 MP33**	5			
“	**UPRR MM294**	2			
2001	Total: 27 Fires For	169,188ac			
2002	UPRR MM32	3			
“	**THORN CREEK**	20			
“	**SO DIETRICH**	410			
“	**OWINZA**	181520			
“	MALLARD LAKE	18200			
“	**SHOSHONE**	56200			
“	**SHOSHONE**	120			
“	MAMMOTH CAVE	16710			

Narrative: Table 4: fire history displays the number of wildfires Lincoln County has endured over the past ten (10) years. Over two thirds (2/3) of Lincoln County has burned during this time period. Of particular interest is the wildfire frequency and, number of incidents related to the Lincoln County’s heavily traveled corridor. Roadside starts (32) and railroad fires (38) represent

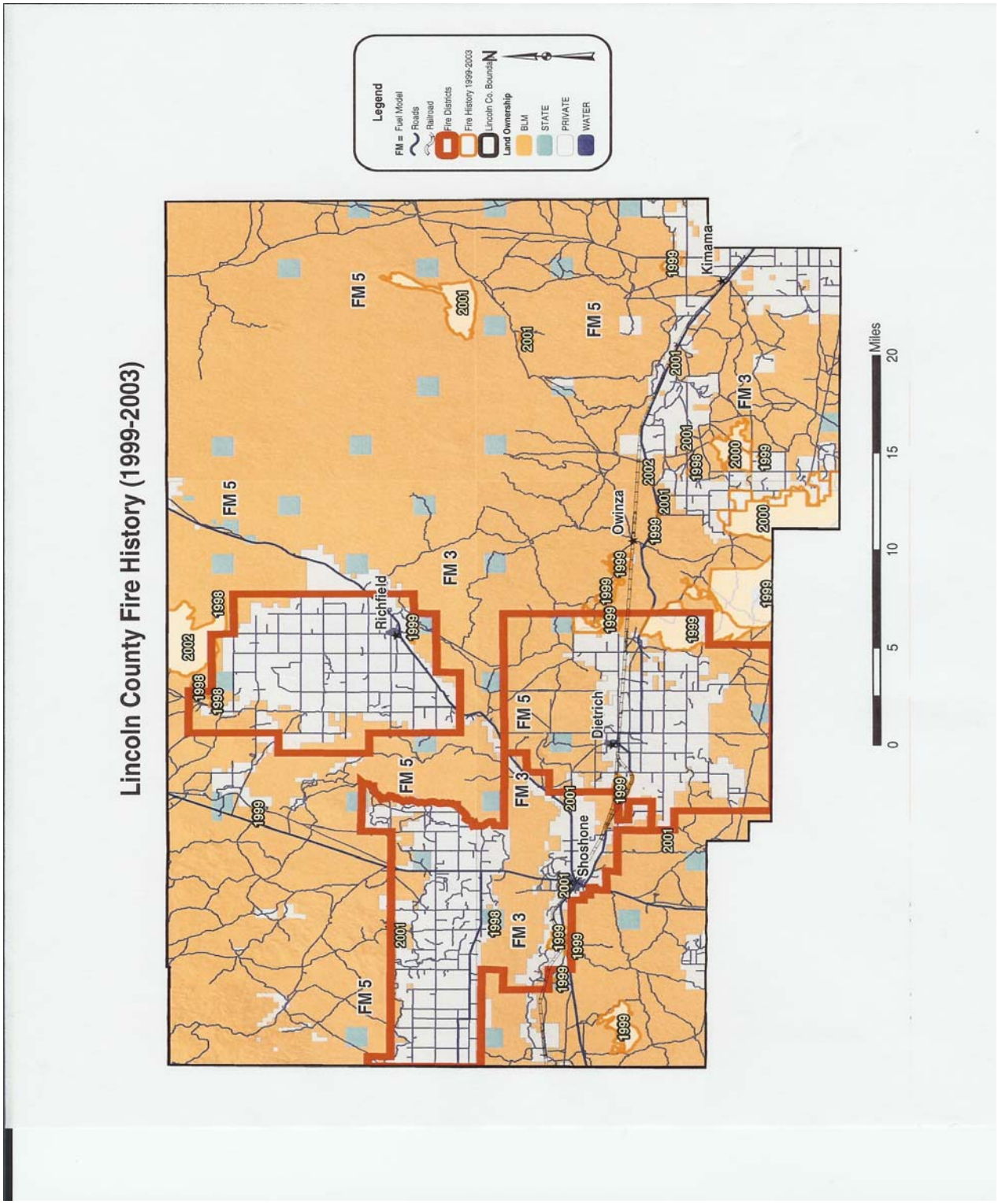
41% of all wildfire incidents over the past ten (10) years. Individual highlighted incidents represent the number of wildfires Lincoln County FPD's responded to through existing mutual aid agreements.

2.7 Fuel Models:

Fuel Models three (3) and five (5) are predominant throughout Lincoln County. (Figure 2) This is due to past disturbance and a change in land use practices. Under pristine conditions Lincoln County's predominant fuel model would be models five (5) and six (6) comprised of native grasses, forbs, and brush. A brief description of each model follows:

> **Fuel Model 3** (2.5 feet deep) Fires in this fuel are the most intense of the grass group and display high rates of spread under the influence of wind. Stands are tall, averaging about 3 feet, but considerable variation may occur. Approximately one-third or more of the stands are considered dead or cured and maintain the fire.
>
> **Fuel Model 5** (2 feet deep) Fire is generally carried in the surface fuels made up of litter cast by the shrubs and the grasses or forbs in the understory. Fires are generally not very intense as surface fuel loads are light, the shrubs are young with little dead material, and the foliage contains little volatile material. Shrubs are generally not tall, but nearly cover the entire area. Young, green stands with little or no deadwood. <u>As the shrub fuel moisture drops, consider using a Fuel Model 6.</u>

Figure 2 Fire History



3.0 Planning and Implementation

3.1 Goal

The primary goal of the Lincoln County FMP is to reduce the risk of fire through public education and prevention, infrastructure improvement, and fuel reduction. This will be accomplished through a coordinated effort of numerous city and county emergency service organizations, private landowners and state and federal agencies.

Scope of Work defines the tasks and timelines as follows: Public Outreach (ongoing throughout the planning process) with a completion date of 4/1/04. Hazard and Mitigation Assessment completed by 5/1/04. Draft Lincoln County Fire Mitigation Plan in review by 6/30/04. Final Lincoln County Fire Mitigation Plan completed, and the Final Package for Lincoln County approved 9/30/04.

3.2 Outline of accomplishments to date include:

1. Identified and mapped (April – June)
    a. Land ownership patterns
    b. Existing fuel loads
    c. Historical fire perimeters
    d. Slope risk as related to wildfire
    e. Three Fire protection Districts
    f. Areas outside of FPD's

2. Assessment of Fire hazards and Community needs (June – July)
    a. Assessed all subdivisions/parcels within the county
    b. Assessed all roads of the county
    c. Completed fire hazard and structural hazard assessment for each community and subdivision

3. Interview of emergency response officials (Date)
    a. Dietrich FPD Chief & Commissioners (May)
    b. Richfield FPD Chief & Commissioners (May)
    c. Shoshone FPD Chief & Commissioners (June)
    d. Highway Districts: Shoshone, Richfield, (May) Dietrich, Kimama (June)
    e. Lincoln County Disaster Services (June)
    f. Quick Response Units: Richfield, Dietrich (May)
    g. Lincoln County Ambulance Service (June)
    h. Lincoln County Sheriff's Department (June)
    i. Lincoln County Search & Rescue (June)

4. Documentation (Date)
    a. Contract Activity Report for February – March
    b. Contract Activity Report for April – May
    c. Summary of Lincoln County Fire Chief's Meeting (4/1/04) attendance sheet attached. (Appendix A)
    d. Summary of Lincoln County Emergency Response Agencies meeting (4/21/04) attendance sheet attached. (Appendix A)
    e. Summary of comments received, by department, by priority
    f. Assessment needs of major open areas
    g. First open house meeting to review the draft mitigation plan. (August 7, 2004)
    h. Summary of Lincoln County Commissioners' review of final Lincoln County Fire Mitigation Plan. (September 7, 2004)
    i. News releases: Lincoln County Fire Mitigation Plan. (January 16, 2004); Open house review of draft Lincoln County Fire Mitigation Plan

5. Draft Lincoln County Wildfire Mitigation Plan (Submitted for review 7/8/04)

6. Open House – Public Review of Final Mitigation Plan (August 5, 2004)

7. September 7th. Final review of Lincoln County Fire Mitigation Plan by Lincoln County Commissioners

3.3 Implementation and Review

Implementation of the Lincoln County Fire Mitigation Plan should begin immediately. Implementation should include community meetings to promote Public Outreach and Firewise Programs. Ideally community programs should be linked to "spring cleanup days" in each community to strengthen and enhance homeowners desire to cleanup around their homes and property, thereby cleaning up each city itself.

The implementation schedule should be developed, maintained, and agreed upon by all signatories to the plan. Specific objectives should be developed to ensure proper mitigation of the many needs, issues and concerns identified. The Mitigation Plan should be reviewed annually, and updated every five (5) years to remain in compliance with FEMA and NFMA maintenance requirements, and to keep abreast of the continued growth Lincoln County is presently experiencing.

4.0 Lincoln County Action Plan

4.1 Objective

The objective of the Lincoln County Action Plan is to document the existing wildland fire conditions and make recommendations for mitigation. These conditions and recommendations will be organized around the FMP objectives of public education and prevention, infrastructure and fuel reductions needs and conditions found throughout Lincoln County. This documentation leads to a discussion of needs and the appropriate recommendations for mitigation, based upon county priorities.

4.2 Infrastructure Needs

4.3 Communications: Improved radio communications is the top infrastructure priority, and all emergency response departments in Lincoln County share this need.

4.3a Conditions: Currently, Lincoln County emergency response agencies communicate with a multitude of different types of radios, channels, frequencies, and repeater sites, thereby creating many frustrations with present day communication problems. During multi agency incidents resulting in "heavy traffic", much bleeding and overriding occurs which results in confusion, increased frustrations and ultimately an increase in the critical response time.

Although Lincoln County is relatively flat, with less than 1000 feet difference in elevation countywide, there remain many dead spots in remote areas of the county where efficient radio communication is sporadic at best. (Figure 3) Additional repeater sites are available to improve upon communication efficiency throughout the county; however, these sites are located in remote areas of Lincoln County. Some available repeater sites are located in and adjacent to Federal Wilderness Study Areas (WSA's) making access to these remote sites for construction and routine maintenance impossible.

Figure 4, a relief Map, shows the Slope Risk Model for Lincoln County. Steep slope cause fires to spread rapidly because of convection and radiant heat at the head of the fire, and the fact that the flames are closer to the fuels and fire spreads more rapidly. Fortunately, elevation change (Relief) in Lincoln County in comparison to other counties is minimal.

Figure 3 Radio Dead Spots

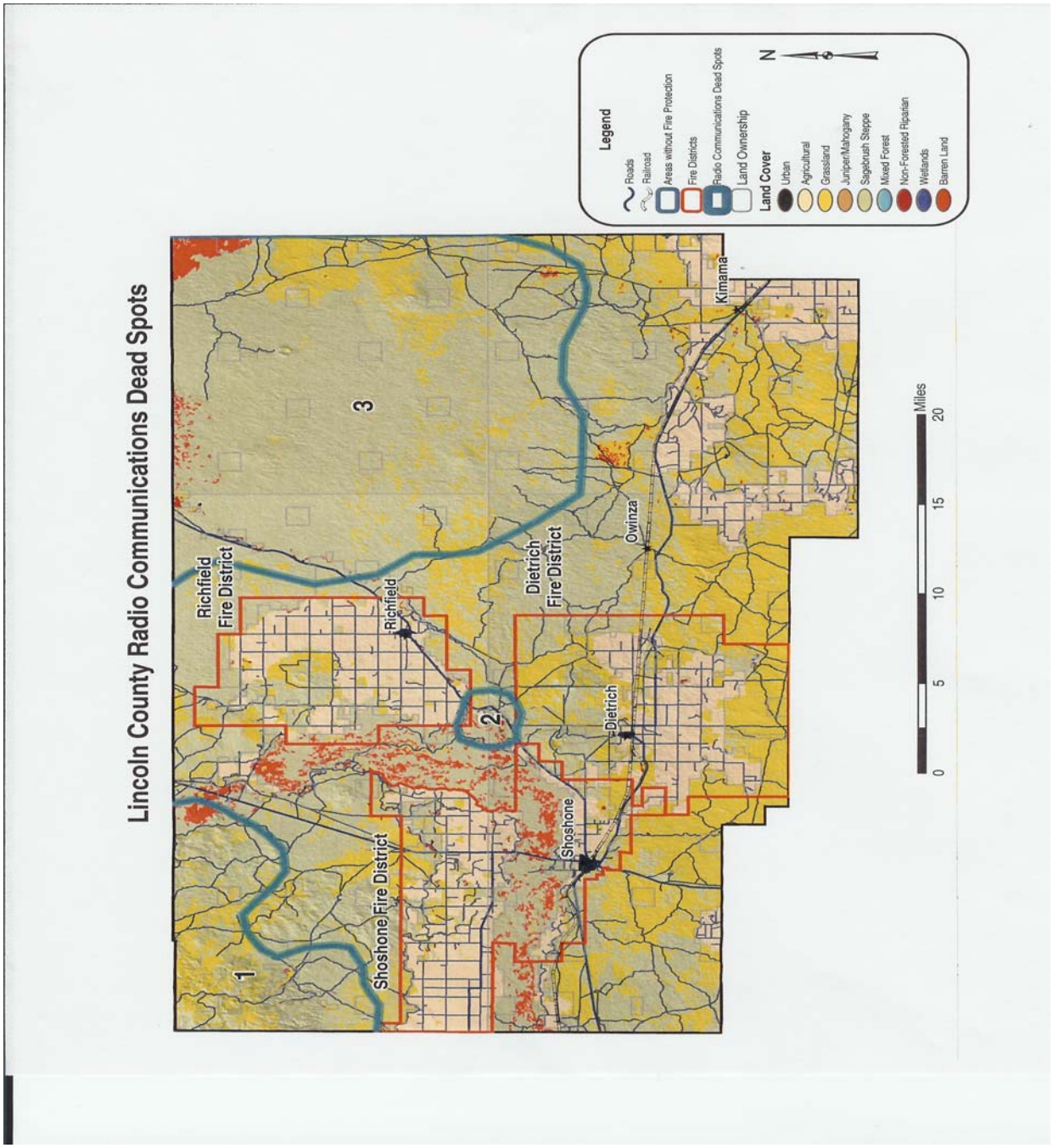
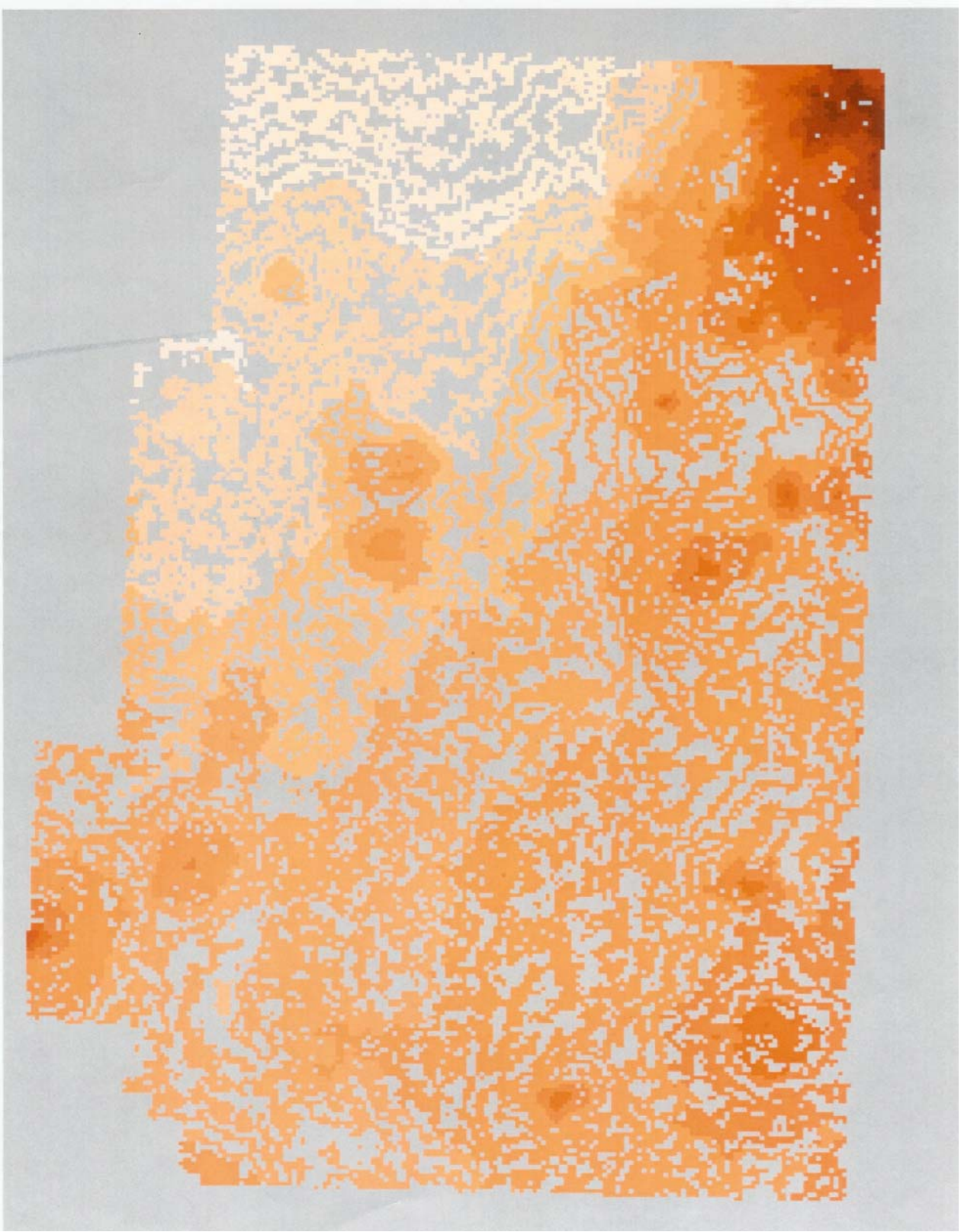


Figure 4, Slope



Higher mountains and available repeater sites, which would result in better radio coverage throughout Lincoln County, are available north of Lincoln County in neighboring Blaine County. Federal Agencies and Blaine County emergency response agencies share services on many repeater site locations. Federal radio coverage is much better than the existing situation in Lincoln County; however, federal agencies have problems with “deadspots” as well.

4.3b Recommendations:

Emergency response departments not only need to effectively communicate with each other, but neighboring counties as well, and this must be achieved without tying up Southern Idaho Radio Communications Center. (SIRCOM)

All federal agencies are switching over to P-25 digital radio systems by 2006. Planning is in place for Lincoln County to make the switch over to the P-25 digital system in 2012. Presently, Lincoln County emergency response departments operate on UHF and Federal Agencies operate on VHF; therefore, a bridging device to go from UHF to VHF would promote better communications with federal agencies and increased efficiency.

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Communication systems need to be upgraded to facilitate better communication between dispatcher, emergency, disaster, and fire personnel regardless of agencies involved. Computer systems as well as radio and phone systems need to be linked to facilitate voice and data transfer.

To eliminate the frustrations and strengthen the county’s communication problem a number of viable alternatives are available for Lincoln County.

1. Approach the Federal Communications Center (FCC) to propose shared services. Shared services on the existing repeater sites on Bennett Mountain, Bell Mountain, and Kimama Butte would increase the effectiveness of radio communications throughout most of Lincoln County, and eliminate most of the “dead spots”.

2. Once the communication coverage issue is resolved, the next issue is to increase communication effectiveness between emergency response agencies. This could be made possible with a “bridging device”.

A bridging device would allow all emergency response agencies to talk to each other irregardless of what frequency they’re operating on, what type of radios they have, or what repeater sites they currently operate from.

The bridging device would interconnect all systems together by providing a multi-agency use, or interconnected use channel, which would be compatible throughout Lincoln County. Currently, a bridging device costs around $50,000.

3. Apply for a special use permit with FCC to allow Lincoln County to construct and maintain a solar powered repeater site. Such a site, in the Bennett Hills, accompanied by a bridging device, would resolve all communication problems in Lincoln County.

4. Start working towards a P-25 digital system. All federal agencies are going to narrow band, digital systems by 2006. The P-25 communication system is a digital, narrow band system equipped with a search bank and is "backwards" compatible, to transmit and receive on all frequencies. A P-25 system would be compatible with all federal agencies and resolve all Lincoln County's communication problems. Currently only one company (Motorolla) produces the P-25 communication system, therefore the system is quite expensive. Handheld, P-25 compatible radios cost around $3500.00.

It is anticipated, with more communication companies offering P-25 systems in the near future (2006-2009), increased competition will force the price of P-25 compatible handheld radios down to a more reasonable price of $400-$600 each.

4.4 Available Water

4.4a Conditions: All FPD's have excellent water available for refill sites during emergency incidents. There is good access to major canals, laterals and tributaries near farmable ground, and verbal agreements exist to access water from sprinkler lines, wells, and stock ponds during a normal fire season. A concern that is shared by all Lincoln County FPD's is when seasonal water sources (canals) are shut down for the year. This issue becomes increasingly more important during drought years and seasonal water sources are shut down early, and no longer available during the middle of the fire season.

4.4b Recommendations: All Lincoln County FPD's have identified the need for "year around" water or refill sites. To reduce travel and refill time for suppression equipment, dedicated access to year around water sources through written agreement needs to be established with private landowners in remote areas of all three (3) FPD's**.**

Most emergency refill sites in remote areas are seasonal water sources only. If no opportunity exists with private landowners for a dedicated year around water source, then a number of 30,000 water storage tanks or cisterns should be constructed in remote areas of each FPD. (Figure 1)

Initiate a program in cooperation with private landowners to obtain written agreements for dedicated water or refill sites and allow access to irrigation wells and sprinkler lines. This would require proper fittings, which should be standard accessories on all tenders and engines. Dedicated water refill sites that are available year round would reduce travel and refill time for suppression equipment during emergency incidents.

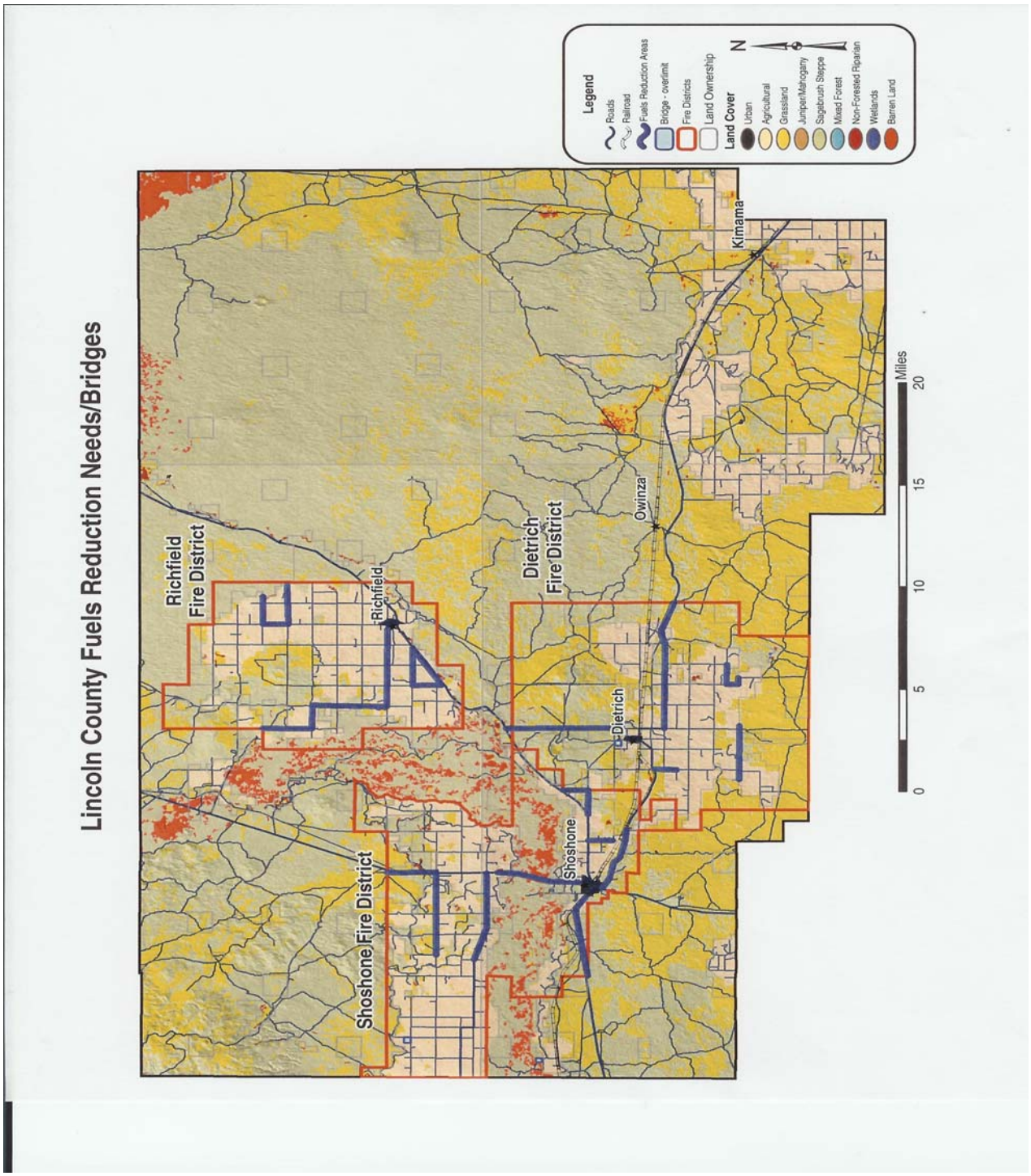
4.5 Bridge Limits

4.5a Conditions: An assessment of bridge conditions, supported by the annual State Bridge and Road Inspection, found that three (3) bridges in their present condition do not support recommended tare weights or pass annual inspections. The Shoshone Highway District has two (2) bridges with substandard weight limits located on the Big Wood Lateral near Four Brothers Dairy, and another at Tunupa, where 440 West crosses the Little Wood River, in western Lincoln County. (Figure 5)

The Dietrich Highway District has one (1) bridge with substandard weight limits and will not pass annual inspection located on the Dietrich Canal lateral which is the only access to private land and a home occupied by Kelly Jennings at 94 South, 700 East. (Figure 5)

4.5b Recommendations: The Dietrich and Shoshone Fire Department protection maps have been updated, and volunteer firefighters made aware of the deficient bridge locations. Planning and the appropriate funding should be initiated to correct this situation in the near future. For cost estimates refer to the Budget Spreadsheet, Appendix D.

Figure 5 Fuels Reduction Needs/Bridges



4.6 Structural Facilities

4.6a Conditions: Presently, the Dietrich Fire Department utilizes the old highway district building, which was constructed in 1944, as their fire station. (Figure 6) The building is in need of major upgrade just to comply with local ordinances and fire codes. The facility also needs additional space for storage of equipment and suppression engines, and the Dietrich QRU. It has no restrooms or changing room and most suppression equipment must be stored outside making it unavailable in inclement weather.

The Richfield Fire Department constructed a new fire station in 2002. (Figure 8) The new facility has adequate space to store all suppression equipment and the Richfield Quick Response Unit (QRU); however, the new station remains in need of major upgrade to construct a changing room, restroom, training room, and pour a cement floor. An interior, quick refill water system for two (2) storage bays would also be a great improvement.

The Shoshone City and Rural Fire Department has two (2) stations. Station One (Figure 10) was constructed in 1949. The facility affords the opportunity to house emergency equipment inside, out of inclement weather and ready for a response year around; however, the station is in need of a major upgrades including a changing room, additional storage space, ceiling insulation and new electrical wiring throughout the facility to comply with local ordinances and fire codes.

Shoshone Station Two (Figure 11) is located six (6) miles North and twelve (12) miles west of Shoshone. Constructed in 1946, station two (2) is nothing more than a long “single car garage”. The station is not heated, has no restroom; no changing room; no office or training space, no storage space, and has a gravel floor. The facility has adequate space for three (3) types of emergency equipment, as noted above; however, the limited space requires each piece of equipment to be backed in and stored “end to end”. What piece of equipment is stored in first out position depends up the greatest need, season and time of year.

Substantial growth in support of the “Woodriver Commute” has resulted in the subdivision of many acres of farm ground and the development of thirty-one (31) new subdivisions within Lincoln County over the past twelve (12) years. All three (3) of Lincoln County’s major communities have experienced the increased growth of single-family dwellings in and around each community and the rural areas. Thirty one (31) of the thirty two (32) new subdivisions have been developed north and east of Shoshone, in Shoshone’s Station Two’s response area.

4.6b Recommendations: Two (2) new fire stations should be built in the Dietrich and Shoshone FPD’s with adequate space for respective QRU’s, and funding appropriated to provide upgrading current stations in Richfield and Shoshone FPD’s.
Needed upgrades include: insulation and heating, storage and changing rooms, office space, inside rapid refill water system, restrooms and a cement floor.

To keep up with the demand for new home sites and requests for fire protection, a new station should be considered in the Shoshone FPD, north and east of Shoshone, where major new subdivisions are being developed. The new facility should also have adequate space to house the

North Shoshone QRU. The Shoshone City and Rural Fire Department has been offered the ground (1 acre), north and east of Shoshone, if a new facility could be constructed on the site, equipped with structural engines and appropriately trained volunteers. Cost estimates are included in the Budget Spreadsheet, Appendix D.

4.7 Equipment

4.7a Condition: Emergency Infrastructure needs is common throughout all Lincoln County's emergency response agencies. To maintain peak efficiency and cost effectiveness, all emergency response equipment should be upgraded, or targeted for replacement when approaching ten (10) years old. Once suppression equipment exceeds ten (10) years old, replacement parts are no longer available from the factory.

4.7b Recommendation: As reflected in (Table 10), there is a definite need to upgrade and/or replace numerous types of emergency equipment within all Lincoln County emergency response agencies.

Upgrade and replace old fire equipment as needed to meet expanding fire suppression needs. Additional or outstanding infrastructure needs include a 2000 gallon refill engine for the Richfield FPD and Shoshone's Station Two. Light and heavy brush trucks are needed for the Richfield and Shoshone FPD's.

Coordination and funding support should be initiated to upgrade and improve upon the inferior community emergency service infrastructure throughout Lincoln County.

Initiate a ten (10) year replacement/rotation schedule, with appropriate funding to upgrade emergency service infrastructure in Lincoln County.

A ten (10) year rotation schedule is the most widely accepted standard for replacing/upgrading older equipment with many hours or miles, and reduces routine maintenance costs.

Provide the appropriate grant writing and application training to enhance the opportunity for local emergency officials to successfully develop grant applications and obtain funding, which is available now. For estimated upgrade/replacement costs refer to budget spreadsheet. (Appendix D)

4.8 Training

4.8a Condition: Proper and efficient management of an all-volunteer firefighting organization, most often is a "work of art" in itself. The appropriate level of management requires a great amount of finesse and keen management skills just to keep an active, entry level volunteer in the program, develop and maintain their interest and skills to establish an upward mobility program and maintain an efficient training cadre.

Each of the three (3) Lincoln County FPD's desire to start the practice of paying for volunteer firefighters for time spent in the classroom to encourage upward mobility and continued education

Table 5. *Average/Current Training Levels of Lincoln County Fire Protection Districts Volunteers

FPD	Number of Volunteers Active/Inactive	Average Level of Training	Average years of experience	Average Age
Dietrich	**12/6**	**Basic - 7 Advance - 5**	**12**	**37**
Richfield	**20/4**	**Basic - 16 Advance - 6**	**9**	**40**
Shoshone	**26/7**	**Basic – 19 Advance - 7**	**10**	**36**

4.8b Recommendation: Continue and expand existing firefighter training program so that all fire personnel are qualified in both wildland and structural fire suppression techniques. Consideration should be made in paying volunteers for basic and advanced training. Additionally, this opportunity for cross training (structural/wildfire) should be made available to all emergency service first responders within Lincoln County.

Provide the appropriate funding to allow departments to implement the standard (recommended) ten (10) year training profile. (Appendix B) Each of the three (3) Lincoln County FPD's would like to provide the necessary advance fire training to bring one (1) or two (2) of the more active volunteers up to the level of "Taskforce Leader", which would be the equivalent of "Assistant Fire Chief". This would enable each PD to have qualified leadership in the event of multiple incidents and leadership in the fire chief's absence.

If Lincoln County continues to experience accelerated growth and new housing developments, consideration should be given for justification of creating a full time fire chief position for the Shoshone Fire Protection District. Also, to increase cooperation, facilitate, and coordinate, the suppression and training needs between FPD's and all other Lincoln County Emergency Response Agencies. Lincoln County is rapidly approaching the need for the creation of a full time Lincoln County Fire Marshall position.

4.9 Mutual Aid

4.9a Condition: Mutual aid agreements exist among the three (3) Fire Protection Districts and are updated annually. This allows for temporary equipment and personnel assignments to other districts on an as needed basis.
The Districts also have mutual aid agreements with the U.S. Fish and Wildlife Service, U.S. Park Service, U.S. Forest Service, and the Bureau of Land Management.

Presently, a great amount of concern exists between BLM and Lincoln County fire departments. Lincoln County fire departments feel that their department is not being utilized according to the Mutual Aid Agreement, and BLM still has a lot of safety concerns with training levels of county volunteers and equipment dependability.

4.9b Recommendation: If no consideration is given to incorporating Lincoln County's open areas without fire protection or placement of a satellite station in the general vicinity, then a Mutual Aid Agreement may improve upon the existing situation of no fire protection.

Concerns over existing mutual aid agreements need to be addressed at the annual agreement update meeting. Each agency (BLM and FPD) need to air their concerns, agree upon a solution, and strive to overcome the weakness, and increase the effectiveness of the mutual aid agreements.

5.0 Public Education/Prevention

5.1 Education

5.1a Condition: Throughout the needs analysis and public outreach process, it is evident that most citizens and private landowners in Lincoln County are very interested, and need further education in fire-wise home practices and wildfire prevention efforts.

5.1b Recommendation: Community education efforts needs to be expanded into the urban areas. Prevention training should be implemented and orientated around FIREWISE – A Community-wide Outreach Program (Appendix B).

5.2 Prevention

5.2a Condition: Prevention efforts are limited throughout Lincoln County. Each FPD has on going prevention activities, with emphasis on urban populations only.

5.2b Recommendation: Increase prevention efforts to include rural areas of the county. Prevention training should be implemented and orientated towards the benefits of creating and maintaining Defensible Space and Survivable Space around homes and structures. (Appendix B)

Develop and maintain evacuation plans for all subdivisions, farms, ranches, recreational areas and the cities in cooperation with disaster, emergency, and police personnel.

5.3 Code Enforcement

5.3a Condition: Lincoln County has adopted some NFPA building codes covering subdivision development, however the rural areas have homes and structures in many cases predate existing regulations. These parcels are not part of a legal subdivision and may have different regulations covering their future development.

Adequate support for enforcement of the National Fire Code is lacking, and county FPD's are being approached to sign off on subdivision plans without proper consideration for water, emergency equipment access and egress, and adequate turn around space.

Fire chiefs are not getting the necessary support from the county level with enforcement of the National Fire Code, and Planning and Zoning requirements.

5.3b Recommendation: More enforcement and streamlining of local building and fire codes are necessary. Efforts should be undertaken to strengthen and streamline code enforcement in the planning process. An independent review panel should be selected /appointed to review and identify the present situation and make recommendations to county officials. Nations standards for code enforcement, Definitions, and Pertinent Standards are included in Appendix C.

Table 6. National Fire Protection Association (NFPA) Code Enforcement Element

Condition	Recommendation
Fire issues and safety concerns associated with new subdivision development are due to lack of enforcement. Many rural homes and subdivisions predate adopted code requirements Standard fire code requirements for new developments are not being included building permit approval process Fire Chiefs and Fire Commissioners are not being included in the preliminary process for "plat approval" before building permit is issued A great deal of concern exists about support, or the lack thereof at the county level, when it comes to code enforcement	County should consider adopting all, or portions of the 2003 NFPA 1141 Standard for Fire Protection in Planned Building Groups. (See Appendix C) County should adopt all, or portions of, 2003 NFPA 1143 Standard for Wildland Fire Management. (See Appendix C) County should adopt all, or portions of, 2002 NFPA 1144 Standard for Protection of Life and Property from Wildfire. (See Appendix C) Fire Districts should meet and discuss the current system of building permit review and identify problems that exist and recommend solutions for implementation

5.4 Unprotected (open) Areas

5.4a Condition: The majority of landowners in the four (4) major unprotected (open) areas is not included within a fire protection district and has no fire protection.

5.4b Recommendation:

5.5 Grant Writing

5.5a Condition: Throughout the Need and Assessment process nearly every emergency response department in Lincoln County expressed the need for proper training and efficient grant writing.

5.5b Recommendation: Lincoln County needs to develop grant-writing support. Many Federal and State agencies including FEMA, National Securities and RC&D hire Grant Writers to accept and process grant applications, and provide opportunities for training in proper application techniques as well. Appendix E.

5.6 Fuels Reduction

5.6a Condition: Approximately fifty five (55) miles of major roads throughout Lincoln County need additional maintenance to prevent wildfire from spreading to adjoining cropland, rural home sites, or entering public lands. Also, many private homes in the rural areas not only need increased education for defensible and survivable space, but have many fuel reduction needs as well.

5.6b Recommendation: Due to the rural nature of the majority of Lincoln County, fuels treatment programs are one of the most effective wildfire preventive measures that can be undertaken. Because roadways naturally serve as fuel breaks, fuels treatment or mowing alongside roads are recommended throughout the County. To be effective, treatments should not only include ROW's, but also extend one hundred fifty (150) feet into adjoining private or federal land. An additional 550 acres of fuel reduction needs on private land and adjoining public lands have been identified. (Tables 9-11) Cost estimates for fuel reduction needs are included in Appendix D.

5.7 Plan Implementation/Maintenance

5.7a Condition: In 2001 a Risk Mitigation Plan was written for the Shoshone City and Rural Fire Department, and the Richfield and Dietrich Fire Department's were involved in the Risk Planning process during 2002 and 2003. Presently all three (3) Lincoln County FPD's have approved Risk Mitigation Plans that have not been implemented, do in part to environmental and funding requirements.

5.7b Recommendation: Implement Lincoln County Wildland Fire Mitigation Plan upon approval and ensure it is maintained annually and updated every five (5) years.

Table 7. Summary of Conditions and Recommendations for Lincoln County

Objective	Condition	Recommendation	Budget	Priority
Infrastructure Improvement				
Radio Communications	**All county emergency response agencies have communication problems. Most departments have inferior quality radios and Lincoln County has several "dead spots" where communication is impossible or sporadic at best**	**Pursue appropriate funding for a P-25 Radio System by 2006. Seek shared services repeater site or creation of Lincoln County repeater site.**	**Appendix D**	**High**

Objective	Condition	Recommendation	Budget	Priority
Water Refill Stations	**Seasonal water sources (canals) shut down for the year and no longer available during the fire season.**	**Pursue year around, dedicated water sources, written agreement for access to wells or water lines, Install dry hydrants and cisterns in critical areas**	**“**	**High**
Facilities	**Major county facility needs include: Three (3) new fire stations; major upgrade of two (2) fire stations, and a emergency command center for FEMA**	**Pursue appropriate funding (county) and grant applications (Fire Chiefs) for replacement, upgrade, and new stations**	**“**	**High**
Equipment	**Much of the suppression equipment (structural and wildland) throughout the county is inefficient. Most are old, outdated, costly to maintain and repair, and after ten (10) years, very difficult to purchase replacement parts for.**	**Initiate and provide funding in support of ten (10) year replacement/rotation cycle for all emergency suppression equipment, provide adequate “grant application training” (County) to pursue matching grant applications with FEMA and NFMA (Fire Chiefs)**	**“**	**High**
Personal Protective Equipment (PPE), extraction tools	**None of the FPD’s has complete sets of PPE (structural and wildland) to ensure firefighter safety. Available PPE and extraction gear are most often “hand me downs”, and worn beyond repair or functional use.**	**Provide appropriate funding for necessary safety items, and basic extraction tools for all county emergency response agencies. Every emergency response vehicle should have the basic set of extraction tools**	**“**	**High**
Training	**Adequate training for upward mobility and maintaining an effective training cadre is available, but costly. The necessary advanced training courses for upward mobility of volunteers are out of town and out of state**	**Provide appropriate funding for basic and advanced fire training (structural and wildland), ten (10) year program. Initiate and support policy of paying volunteer firefighters to attend annual training sessions**	**Appendix D**	**High**
Limited Bridge Weights	**Assessments identified three (3) bridges in the county system in need of major repair or replacement. (Shoshone FPD (2 sites), (Dietrich FPD (1 site).**	**Pursue appropriate funding for adequate repair, replacement, and support of annual state inspections.**	**“**	**High**
Roads	**Assessments identified narrow, single lane roads with inadequate turn around space throughout the county. Adequate turn around space becoming a major problem in new sub divisions**	**Review, update, enforce subdivision codes to ensure preliminary subdivision plats include requirements to meet International Fire Code**	**“**	**Mod**

Objective	Condition	Recommendation	Budget	Priority
Mutual Aid	**Mutual Aid agreements are in place with all local and neighboring emergency response agencies, and are updated annually. Once a strong working agreement, now has little strength at the federal level.**	**Maintain existing agreements with state federal, and local emergency response agencies. Provide funding for advanced wildland fire training for volunteer firefighters.**	**“**	**High**
Unprotected Areas	**Four (4) major open areas and many private homes scattered throughout Lincoln County are not included in a fire protection district and have no fire protection**	**Consider incorporating four (4) open areas into protection district, Create additional (new) protection district for Hidden Valley/Kimama area, Extend protection district boundaries to county line, Pursue mutual aid agreements**	**“**	**Mod**
Code Enforcement	**Existing subdivision regulations are in place but lack support. Many existing parcels predate existing regulations**	**Increased support, enforcement and streamlining of county codes are necessary. (See codes and discussion Appendix C)**	**“**	**High**
Firewise	**There exist a considerable amount of interest and need among Lincoln County residents for further education and training in making private homes and outbuildings fire safe.**	**Upon plan implementation provide necessary funding to initiate “public outreach program” to educate the public of the dangers of wildfire and encourage residents to take responsibility in reducing the risk of wildfire and create defensible space around their residence**	**Appendix D**	**High**
High Fuel Loading	**Decades of fire suppression and accumulation of flammable fuels has resulted in hazardous situations in many rural areas throughout Lincoln county.**	**Pursue agreements and funding for annual maintenance of Right of Way’s on major highways and county roads. (55miles) Appropriate adequate funding to reduce fuel buildup on 550 acres of private land**	**“**	**High**
Implementation and Maintenance	**Three (3) Risk Mitigation Plans were written for the counties FPD’s in 2001-2003. These approved plans sit on the shelf awaiting environmental clearance and funding appropriations.**	**Provide funding and implement Lincoln County Wildland Fire Mitigation Plan immediately and ensure annual maintenance, and update every five years**	**“**	**High**

Objective	Condition	Recommendation	Budget	Priority
Grants	**All Lincoln County emergency response agencies expressed interest and desire to attend efficient grant writing training, to take advantage of available FEMA and Homeland Securities funding**	**Coordinate a group Grant Writing workshop, countywide, one central location, in the evening so volunteers may attend. Eligible categories for infrastructure acquisition included in Appendix E**	**“**	**High**
FEMA Compliance	**Local FEMA representation and Disaster Services, a refreshing, new entity for Lincoln County, with a multitude of service plans in various stages of development.**	**Upon approval, submit Lincoln County Wildfire Mitigation Plan to FEMA to document mitigation needs of Lincoln County. Support the development and maintenance of evacuation plans for subdivisions, farms, ranches recreational areas and cities in cooperation with disaster, emergency, and police agencies**	**“**	**High**

6.0 Assessment of Fire Protection Districts

The Lincoln County assessment area includes three (3) fire protection districts (FPDs) covering an estimated 525,000 acres, and four (4) major open areas (Figure 3) with private homes and family farm operations which are not included within a fire protection district. (Table 8) shows each FPD and the landownership within each district. (Figure 1) also shows the location of each FPD within Lincoln County.

Table 8. Landownership of Lincoln County Fire Protection Districts

	BLM	Private	State	Total
Dietrich	37,500	25,660	1,920	65,080
Richfield	9,726	38,400	1,200	49,326
Shoshone	259,600	151,400	846	411,846
Total Acres	306,826	215,460	3,966	526,252
Open Areas	196,832	32,500	16,000	245,332

Fire occurrence is primarily from lightning, however, each district contains a moderately traveled east-west corridor, so railroad and roadside starts are common. Incidents are from both natural and human causes.

6.0a Suppression Equipment

The following equipment lists are by Fire Protection District. Each list includes only available, fully equipped equipment maintained and ready for emergency response.

Dietrich Fire Protection District: **Hours/Miles**

1. 1956 Ford Type 2 Structure Engine, 500-gallon tank, with foam 17,304
2. 1986 International, water tinder, 2500-gallon tank 249,109
3. 1990 International Type 4 Wildland Engine, 900-gallon tank, with foam 63,260
4. 1980 Chevrolet Type 6 Wildland Engine, 300-gallon tank, with foam 114,924
5. 1984 Chevy Blazer 4x4 Support Vehicle 46,853

Richfield Fire Protection District **Hours/Miles**

1. 1971 Ford Type 1 Ladder Engine with a 750-gallon tank, with foam 35,977
2. 1965 Mack Type 2 Ladder Engine with a 500-gallon tank, with foam 16,815
3. 1989 International Type 4 Wildland Engine, 750-gallon tank, with foam 52,000
4. 1994 Chevrolet Type 6 Wildland Engine with a 250-gallon tank 42,400
5. 1974 White Tractor which tows a 3000-gallon milk trailer 292,000

Shoshone Fire Protection District

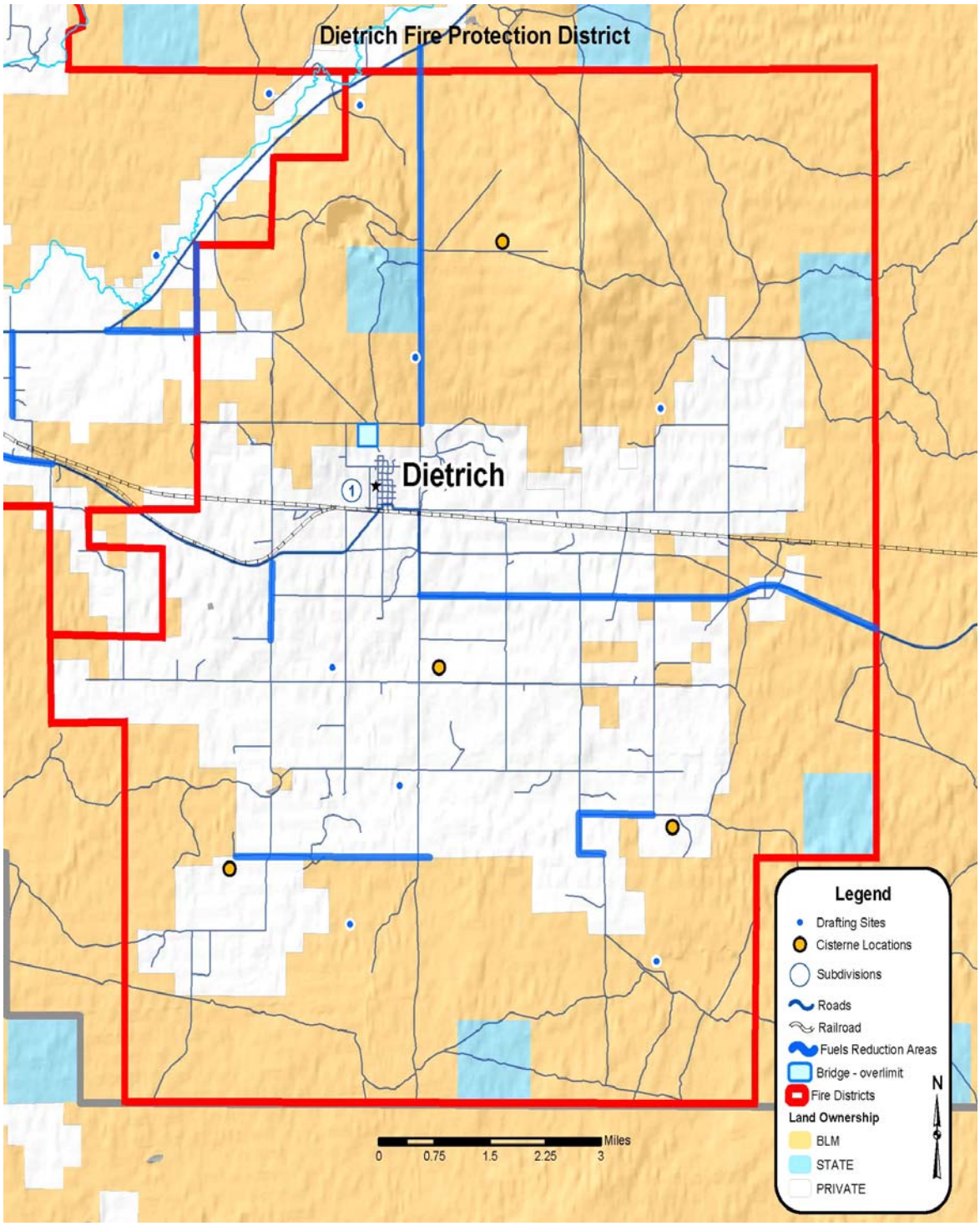
Station One: **Hours/Miles**

1. 1969 American LaFrance, 750 GPM, Type 2 Structural Engine 6,670
2. 1971 – Maxim – 1000 GPM – Type One Structural Engine, with foam 18,035
3. 1978 – American LaFrance – Type One Structural Engine 3,322/52,500
4. 1988 – Young – 1250 GPM – Type One Structural Engine, with foam 8,288/92,000
5. 1995 – International – 3000-gallon – Water Tender 7,080/233,500
6. 1984 – Chevy – 900-Gallon, Type 4 Wildland Engine, with foam 24,000
7. 1993 – Chevy – Half Ton – 4 Door Pickup – support truck 166,000

Station Two:

8. 1968 – American LaFrance – 500GPM – Type Two – Structural Engine 18,786
9. 1985 – Ford – 1200-Gallon – Water Tender 49,980
10. 1984 – Chevy – 250 – Type 6 – Wildand Engine 63,890
11. North Lincoln County Quick Response Unit 112,000

Figure 6. Dietrich Fire Protection District



6.1 Fire Protection District Infrastructure Needs

The Dietrich FPD (Figure 6) includes over 100 square miles of service area, which is moderately populated with private homes and ranches spread throughout the protection district. Most private lands are used for both grazing and crop production, while the Federal lands are used as summer grazing.

Open bodies of water or refill points include the, Richfield Canal, Dietrich Canal, Star Lake, and numerous smaller canals and laterals. (Figure 1)

The District responds to an average of nine (9) brush fires within the protection district annually (R&S Enterprise 2002), and since 1975 has been involved with eighty-nine (89) interagency wildfires for a total of 177,065 acres burned.

Table 9. Dietrich Fire Protection District Fire History Cause Determination

Year	Human	Natural	Structure	Vegetation	Vehicle	Other	Average Increase
2000	4	2	1	3	1	1	-0-
2001	5	1	2	3	-0-	1	-0-
2002	6	2	3	3	-0-	2	.75%
2003	6	3	2	4	1	2	.88%
Total	21	8	8	13	2	6	**.81%**

H=Human/Man Caused
N=Natural/Lightning Caused
Other= power lines, standby, fuel spills, false alarms, investigations, hazmat etc.

6.1a Field assessment forms and Ratings

The following Field Assessment Forms were used to assess each FPD and subdivision within Lincoln County. Assessment Tables ten (10), eleven (11) and, twelve (12) show the rating elements (Class A-C) for each area of concern. Tables 10 and 11 show areas of concern, the corresponding rating element, and the overall assessment value (1-3) assigned to each subdivision. Table 12 shows the overall results for all subdivisions. **The lower the value the lower the fire risk to that particular entity.**

Table 10. Fire Hazard Assessment Description Form

Rating Element	*Class A	** Class B	*** Class C
Vegetative Type	Annual grasses, forbs, some shrubs	Shrubs, annual cheat grass	Shrubs, Juniper mature trees
Slope	Flat to little slope < 10%	Moderate slopes (10-30%)	Steep Slopes (> 30%)
Aspect	North (N, NW, NE)	East or Level	South and West (SE,S,SW, W)
Elevation	>5500 feet	3500-5500 feet	<3500 feet
Fuel Type	Small, light fuels (grass, weeds, shrubs)	Medium Fuels, (brush, medium shrubs, small trees)	Heavy fuels, (timber, woodland, large brush or heavy planting of ornamentals)
Fuel Density	Non-continuous fuel bed. Grass and /or sparse fuels adjacent to federal land (<30% cover)	Broken Moderate fuels adjacent to federal land (31 to 60% cover)	Continuous fuel bed. Composition conductive to crown fires or high intensity surface fires (>60% cover)
Fuel Bed Depth	Low (average < 1 foot)	Moderate (average 1-3 feet)	High (average > 3 feet)

***Class A (1) = low fire risk**
****Class B (2) = medium fire risk**
*****Class C (3) = high fire risk**

Table 11. Structure Hazard Assessment Description Form

Rating Element	*Class A	**Class B	***Class C
Structure Density	At least one Structure per 0-5 acres	One structure per 5-10 acres	Less than one structure per 10 acres
Proximity of flammable fuels to Structures	> 100 feet	40-100 feet	Less than 40 feet
Predominant Building Materials/Flammability of Structures	Majority of homes have fire resistant roofs and /or siding	10-50% of homes have fire resistant roofs and/or siding	Less than 10% of homes have fire resistant roofs and/or siding
Survivable Space Actions on Private Property	Majority of homes have improved survivable space around property (>50%)	10-50% of homes have fire resistant roofs and/or siding	Less than 10%of homes have improved survivable space around property
Roads	Wide loop Roads that are maintained, paved or solid surface with shoulders	Roads maintained. Some narrow two lane roads with no shoulders	Narrow and or single lane, minimally maintained, no shoulders
Response Time	Prompt response time to interface areas (20min or less)	Moderate response time to interface areas (20-40 minutes)	Lengthy response to interface areas 40+ minutes
Access	Multiple entrances and exits that is well equipped for fire trucks with turnarounds	Limited access routes, 2 ways in and 2 ways out. Moderate grades	Narrow, dead end roads or 1 way in, 1 way out, Steep grades

*Class A (1) = low fire risk	16 or less	Low Fire Risk
**Class B (2) = medium fire risk	16 - 21	Moderate Fire Risk
***Class C (3) = high fire risk	22 - 27	High Fire Risk

Table 12: Community Assessment Description Form

Rating Element	*Class A	**Class B	***Class C
Community Description	There is a clear line where residential business, and public structures meet wildland fuels. Wildland fuels do not generally continue into the developed area.	There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area.	The community generally exists where homes, ranches, and other structures are scattered but adjacent to wildland vegetation.
Response Time	Prompt response time to interface areas (20 min or less).	Moderate response time to interface area (20-40 minutes).	Lengthy response time to interface area (40+ minutes).
Firefighting Capability	Adequate structural fire department. Sufficient personnel, equipment, and wildland firefighting capability and experience.	Inadequate fire department. Limited personnel, and or equipment but with some wildland firefighting experience and training.	Fire department non-existent or untrained and/or equipped to fight wildland fire.
Water Supply	Adequate supply of fire hydrants and pressure, and/or open water sources (pools, lakes, reservoirs, rivers, etc.).	Inadequate supply of fire hydrants, or limited pressure. Limited water supply. New Subdivisions	No pressure water system available near interface. No surface water available.
Local Emergency Operations Group (EOG)	Active EOG. Evacuation plan in place.	Limited participation in EOG. Have some form of evacuation process.	No EOG. No evacuation plan in place.
Structure Density	At least one structure per 0-5 acres.	One structure per 5-10 acres.	Less than one structure per 10 acres.
Community Planning Practices	County/local laws and zoning ordinances require use of fire safe residential design and adequate ingress/egress of fire suppression resources. Fire Department actively participates in planning process.	Local officials have an understanding of appropriate community planning practices for wildfire loss mitigation. Fire department has limited input to fire safe development and planning efforts.	Community standards for fire safe development and protection are marginal or non-existent. Little or no effort has been made in assessing and applying measures to reduce wildfire impact.
Fire Mitigation Ordinances, Laws, or Regulations in Place	Have adopted local ordinances or codes requiring fire safe landscaping, building and planning. Fire Department actively participates in planning process.	Have voluntary ordinances or codes requiring fire safe landscaping and building practices. Fire Department practices in planning process.	No local codes, laws or ordinances requiring fire safe building landscaping or planning processes.
Fire Department Equipment	Good supply of structure and wildland fire apparatus and miscellaneous specialty equipment.	Smaller supply of fire apparatus in fairly good repair with some specialty equipment.	Minimum amount of fire apparatus, which is old and in need of repair. None or little specialty equipment.

Rating Element	*Class A	**Class B	***Class C
Fire Department Training and Experience	Large, fully paid fire department with personnel that meet NFPA or NWCG training requirements, are experienced in wildland fire, and have adequate equipment.	Mixed fire department. Some paid and some volunteer personnel. Limited experience, training and equipment to fight wildland fire.	Small, all volunteer fire department. Limited training, experience and budget with regular turnover of personnel. Do not meet NFPA or NWCG standards.
Community Fire Safe Efforts and programs already in place	Organized and active groups (Fire Dept.) providing educational materials and programs for their community.	Limited interest and participation in educational programs. Fire Department does some prevention and public education.	No interest of participation in educational programs. No prevention/education efforts by fire department.
Community support and attitudes	Actively supports urban interface plans and actions.	Some participation in urban interface plans and actions.	Opposes urban interface plans and efforts.

***Class A (1) = low fire risk**	**16 or less**	**Low Fire Risk**
****Class B (2) = medium fire risk**	**16 - 21**	**Moderate Fire Risk**
*****Class C (3) = high fire risk**	**22 - 27**	**High Fire Risk**

6.1b Fire, Structural, and Community Assessment for Dietrich FPD

6.1c Fire Hazard Assessment

The following is a summary of the **Fire Hazard Assessment** for Dietrich FPD. Table13 Shows the complete results. The one (1) legal subdivision in this FPD received a **Class A (low-1) fire hazard assessment rating for three (3) out of 6 elements (50%)** and a Class B (moderate) fire hazard assessment rating for two (2) out of six (6) elements for (33.3%).

The **overall fire hazard rating** for the Dietrich West Subdivision is **"low-1"**. The only element of concern is the buildup of light fuels on undeveloped lots within the subdivision.

Vegetation Type – Sagebrush-grassland will be the primary carrier of any ignition to the wildland-urban interface.
Slope – Most slopes within the assessment are 10-30%.
Aspect – The majority of the structures within the assessment area face east.
Elevation – The elevation within the assessment area averages between 4000-4200 feet.
Fuel Type – Fuel types within the assessment area are primarily sagebrush/grass.
Fuel Density – Fuel density within the assessment area is moderate with a <30% canopy cover.
Fuel Bed Depth – Fuel bed depth with the assessment area light – moderate, averaging 1-3 feet.

Table 13. Fire Hazard Assessment for Dietrich FPD

Subdivision/Parcels	Vegetative Type	Rating Elements					
		Slope	Aspect	Elevation	Fuel Type	Fuel Density	Fuel Bed Depth
Dietrich West	Sagebrush/grass	A	A	A	B	B	A

A(1)=Class A low fire hazard assessment rating
B(2)=Class B medium fire hazard assessment rating
C(3) =Class C high fire hazard assessment rating

6.1d Structural Hazard Assessment

The following is a summary of the **Structural Hazard Assessment** for Dietrich FPD. Table 14 displays the assessment results. The Dietrich West subdivisions received a **Class A (low-1) fire hazard assessment rating for five (5) out of seven (7) elements for (71.4%)**; and a Class B (medium) hazard assessment rating for two (2) out of seven (7) elements for (28.5%).

The **overall Structural Hazard rating** for the Dietrich West Subdivision is **"low-1"**. The only element of concern is the buildup of light fuels on undeveloped lots within the subdivision.

Structure Density – The structure density within the subdivision is at least one structure per acre.
Proximity to fuels – This subdivision within the assessment area and adjacent to the wildland-urban interface has less than fifty (50) feet to flammable fuels.
Building Materials – More than 90% of the structures within the assessment area have fire resistant roofs and/or siding.
Survivable Space – 65% of the structures within the assessment area and adjacent to the wildland-urban interface have improved survivable space around the property.
Roads – Roads within the assessment area are adequate to support emergency suppression equipment.
Response Time – Response time to the West Dietrich subdivision area is 5 minutes or less.
Access – Access to the subdivision is very satisfactory for emergency suppression equipment.

Table 14. Structural Hazard Assessment for Dietrich FPD

Subdivision/Parcel	Rating Elements						
	Structure Density	Proximity Of Fuels	Building Materials	Survivable Space	Roads	Response Time	Access
Dietrich West	A	B	A	B	A	A	A

A(1) =Class A low fire hazard assessment rating
B(2) =Class B medium fire hazard assessment rating
C(3)=Class C high fire hazard assessment rating

6.1e Community Assessment for Dietrich FPD.

Table 15 Community Assessment Summary for Dietrich

Rating Element	Class A	Class B	Class C	Rating (A,B, or C)
Community Description	There is a clear line where residential business, and public structures meet wildland fuels. Wildland fuels do not generally continue into the developed area.	There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area.	The community generally exists where homes, ranches, and other structures are scattered but adjacent to wildland vegetation.	B
Response Time	Prompt response time to interface areas (? Minutes or less)	Moderate response time to interface area (? Minutes)	Lengthy response time to interface area (? Minutes)	A
Firefighting Capability	Adequate structural fire department. Sufficient personnel, equipment, and wildland firefighting capability and experience.	Inadequate fire department. Limited personnel, and or equipment but with some wildland firefighting experience and training.	Fire department non-existent or untrained and/or equipped to fight wildland fire	B
Water Supply	Adequate supply of fire hydrants and pressure, and/or open water sources (pools, lakes, reservoirs, rivers, etc.).	Inadequate supply of fire hydrants, or limited pressure. Limited water supply.	No pressure water system available near interface. No surface water available.	A
Local Emergency Operations Group (EOG)	Active EOG. Evacuation plan in place.	Limited participation in EOG. Have some form of evacuation process.	No EOG. No evacuation plan in place.	B
Structure Density	At least one structure per 0-5 acres.	One structure per 5-10 acres.	Less than one structure per 10 acres.	A
Community Planning Practices	County/local laws and zoning ordinances require use of fire safe residential design and adequate ingress/egress of fire suppression resources. Fire department actively participates in planning process.	Local officials have an understanding of appropriate community planning practices for wildfire loss mitigation. Fire department has limited input to fire safe development and planning efforts.	Community standards for fire safe development and protection are marginal or non-existent. Little or no effort has been made in assessing and applying measures to reduce wildfire impact.	B
Fire Mitigation Ordinances, Laws, or Regulations in Place	Have adopted local ordinances or codes requiring fire safe landscaping, building and planning. Fire department actively participates in planning process.	Have voluntary ordinances or codes requiring fire safe landscaping and building practices. Fire department participates in planning process.	No local codes, laws or ordinances requiring fire safe building landscaping or planning processes.	C

Rating Element	Class A	Class B	Class C	Rating (A,B, or C)
Fire Department Equipment	Good supply of structure and wildland fire apparatus and miscellaneous specialty equipment.	Smaller supply of fire apparatus in fairly good repair with some specialty equipment.	Minimum amount of fire apparatus, which is old and in need of repair. None or little specialty equipment.	C
Fire Department Training and Experience	Large, fully paid fire department with personnel that meet NFPA or NWCG training requirements, are experienced in wildland fire, and have adequate equipment.	Mixed fire department. Some paid and some volunteer personnel. Limited experience, training and equipment to fight wildland fire.	Small, all volunteer fire department. Limited training, experience and budget with regular turnover of personnel. Do not meet NFPA or NWCG standards.	C
Community Fire Safe Efforts and programs already in place	Organized and active groups (Fire Dept.) providing educational materials and programs for their community.	Limited interest and participation in educational programs. Fire department does some prevention and public education.	No interest of participation in educational programs. No prevention/education efforts by fire department.	B
Community support and attitudes	Actively supports urban interface plans and actions.	Some participation in urban interface plans and actions.	Opposes urban interface plans and efforts.	A

A(1) =Class A - low fire hazard assessment rating
B(2) =Class B medium fire hazard assessment rating
C(3) =Class C high fire hazard assessment rating

The following is a summary of the Community Assessment for the Dietrich FPD. Table 15 displays the assessment results. Overall the Dietrich FPD received a Class A (low) community assessment rating for four (4) out of twelve (12) elements for (33.3%); **a Class B (medium) assessment rating for five (5) out of twelve (12) elements for (41.6%),** and a Class C (high) assessment rating for three (3) out of twelve (12) elements for (25.0%).

The **overall Community Assessment rating** for the Dietrich FPD is **"medium or 2"** which reflects upon community support for firewise education and infrastructure needs throughout the FPD.

6.1f Dietrich Fire Department Infrastructure

Equipment: The department has a good variety of mechanized equipment to support structural and wildland fire incidents. However, the Structural Engines are outdated, in need of upgrading with new, state of the art equipment for less maintenance and more dependability. Upon equipment upgrade, the ten (10) year equipment rotation technique should be implemented to replace outdated emergency equipment

The department has the basic Personal Protective equipment (PPE) for necessary firefighter safety, however there is nothing available for new volunteers, personal protective items (nomex turnouts, and SCBA's) are expensive to maintain and difficult to replace when necessary.

Extraction tools are very expensive, but very important tools, when the needs arises. Extraction tools are considered "non-essential" equipment items; therefore normal funding is not available for purchase, maintenance or replacement. Every emergency service vehicle should have the basic set of extraction tools.

6.1g Personnel/Training

Presently Dietrich has a total of twelve (12) volunteers, of which, six (6) are active responders. (Table 5) The department needs more personnel to obtain the most efficient staffing levels on firefighting equipment. Also, a shortage exists for replacement firefighters to have available if an incident involves extended attack.

The proper management of an all-volunteer program requires a lot of skill and finesse. It is difficult for volunteers to take time off their regular full time jobs for needed fire training.

Volunteer firefighters require basic and advanced fire training annually, in an effort to meet training requirements of the National Wildfire Coordination Group (NWCG) and National Wildfire Firefighting Safety (NWFS) standards. Also additional wildland and structural training is necessary to maintain efficiency, maintain new volunteer upward mobility training ladders, and have an effective training cadre. The recommended standard ten (10) year training program, for each FPD is included in Recommendations: (narrative) basic – advanced training - matrix (Appendix B).

6.1h Facility

Presently, the Dietrich Fire Department is located in the old Dietrich Highway building. This facility was constructed in **1944** and is very inadequate. (Figure 7)

The facility has no restroom; no changing room; no office or training space, and very inadequate storage space. Two (2) of the four (4) department engines must be stored elsewhere or outside due to lack of space. J.R. Simplot donated the land for a new station in 2003. A new facility, with adequate space, including the QRU is the Dietrich Fire Department's top structural infrastructure priority.

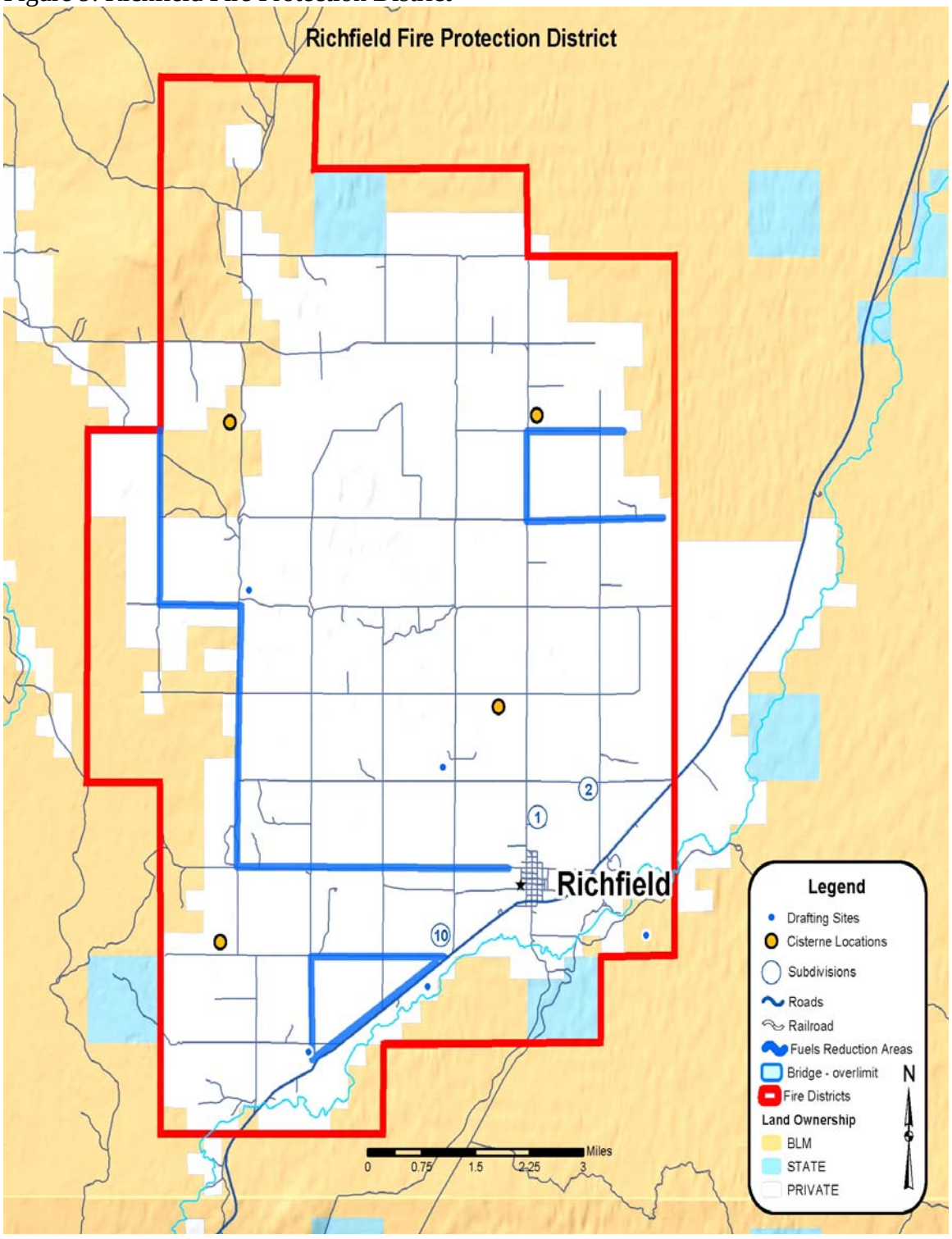
6.1i Prevention/Education

The results of the structural assessment revealed the need for a promotional program to further the understanding of firewise practices around homes and agricultural structures. Public education and outreach are effective means of engaging the community in the process of reducing risks. And, an education and outreach program will motivate homeowners to take measures around their individual homes and property, thereby contributing to the reduction of wildfire hazards in each community.

Figure 7: Dietrich Fire Station 2004 (new in 1944)

Figure 8: Fuel Loading Dietrich FPD Highway 24/Union Pacific Railroad ROW

Figure 9. Richfield Fire Protection District



6.2 Richfield Fire Protection District

6.2a Fire, Structural, and Community Assessment for Richfield FPD

The Richfield FPD includes over 94 square miles of service area, which is moderately populated with private homes and ranches spread throughout the PD. (Figure 1)

The Richfield Fire Department responds to an average of six (6) brush fires annually on public lands, and since 1975 have been involved with fifty (50) wildfires for a total of 173,027 acres lost. Incidents are from both natural and human causes.

Open bodies of water or refill points include the Little Wood River, Richfield Canal, Dietrich Canal, Jim Byrns Slough, and numerous smaller canals and laterals. (Figure 1)

Table 16. Richfield Fire Protection District Fire Cause Determination

Year	Human	Natural	Structure	Vegetation	Vehicle	Other	Average Increase
2000	8	2	2	4	-0-	4	-0-
2001	9	2	3	3	2	3	.90%
2002	9	3	2	4	2	4	.91%
2003	12	3	3	6	1	5	.80%
Total	38	10	10	17	5	16	**.87%**

H=Human/Man Caused
N=Natural/Lightning Caused
Other= power lines, standby, fuel spills, false alarms, investigations, hazmat etc.

6.2b Fire Hazard Assessment For Richfield FPD

The following is a summary of **the Fire Hazard Assessment** for Richfield FPD. Table 17 Shows the complete results. The two (2) subdivisions in this FPD received a **Class A (low) fire hazard assessment rating for five (5) out of seven (7) elements for (71.4%)** and a Class B (moderate) fire hazard assessment rating for two (2) out of seven (7) elements for (28.5%).

The **overall Fire Hazard Assessment rating** for the Richfield FPD is **"low or 1".** The only element of concern is the buildup of light fuels on undeveloped lots in and around the subdivision.

Vegetation Type – Sagebrush-grassland will be the primary carrier of any ignition to the wildland-urban interface.
Slope – Most slopes within the assessment are 10-30%.
Aspect – The majority of the structures within the assessment area face east.
Elevation – The elevation within the assessment area averages between 4000-4200 feet.
Fuel Type – Fuel types within the assessment area are primarily sagebrush/grass.
Fuel Density – Fuel density within the assessment area is broken moderate fuels with a 20-30% canopy cover.
Fuel Bed Depth – Fuel bed depth with the assessment area light – moderate, averaging 1-3 feet.

Table 17. Fire Hazard Assessment for Richfield FPD

Subdivision/Parcels	Vegetative Type	Rating Elements					
		Slope	Aspect	Elevation	Fuel Type	Fuel Density	Fuel Bed Depth
Desert #1	Sagebrush/grass	A	A	A	B	A	A
Desert #2		A	A	A	B	A	A

A=Class A low fire hazard assessment rating
B=Class B medium fire hazard assessment rating
C-Class C high fire hazard assessment rating

6.2c Structural Hazard Assessment

The following is a summary of the **Structural Hazard Assessment** for Richfield FPD. Table18 shows the complete results. Overall, the subdivisions received a **Class A "low-1" fire hazard assessment rating for six (6) out of seven (7) elements for (85.7%)**, and a Class B (medium) for one (1) out of seven (7) elements for (14.2%).

The **overall Structural Hazard rating** for Desert #1 and Desert #2 subdivisions in the Richfield FPD is **"low-1"**. The only element of concern is the buildup of light fuels on undeveloped lots, and along roads and ditch banks within the subdivision.

Structure Density – The structure density within the two subdivisions is at least one structure per acre.
Proximity to fuels – Structures within the subdivisions assessment area and adjacent to the wildland-urban interface have an average of forty (40) feet to flammable fuels.
Building Materials – Less than five (5) of the structures within the assessment area have no fire resistant roofs and/or siding.
Survivable Space – 93% of the structures within the assessment area and adjacent to the wildland-urban interface have improved survivable space around the property.
Roads – Roads within the assessment area are adequate to maintain emergency equipment.
Response Time – Response time to the assessment area is five (5) minutes or less.
Access – Access to the assessment area is adequate. There are no narrow, dead-end roads or 1 way in, 1 way out and steep grades.

Table 18. Structural Hazard Assessment for Richfield FPD

Subdivision/Parcels	Rating Elements						
	Structure Density	Proximity Of Fuels	Building Materials	Survivable Space	Roads	Response Time	Access
Desert #1	A	B	A	A	A	A	A
Desert #2	A	B	A	A	A	A	A

A(1)=Class A low fire hazard assessment rating
B(2)=Class B medium fire hazard assessment rating
C(3)=Class C high fire hazard assessment rating

Table 19. Community Assessment Summary for Richfield FPD

Rating Element	Class A	Class B	Class C	Rating (A,B, or C)
Community Description	There is a clear line where residential business, and public structures meet wildland fuels. Wildland fuels do not generally continue into the developed area.	There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area.	The community generally exists where homes, ranches, and other structures are scattered but adjacent to wildland vegetation.	A
Response Time	Prompt response time to interface areas (? Minutes or less)	Moderate response time to interface area (? Minutes)	Lengthy response time to interface area (? Minutes)	A
Firefighting Capability	Adequate structural fire department. Sufficient personnel, equipment, and wildland firefighting capability and experience.	Inadequate fire department. Limited personnel, and or equipment but with some wildland firefighting experience and training.	Fire department non-existent or untrained and/or equipped to fight wildland fire	B
Water Supply	Adequate supply of fire hydrants and pressure, and/or open water sources (pools, lakes, reservoirs, rivers, etc.).	Inadequate supply of fire hydrants, or limited pressure. Limited water supply.	No pressure water system available near interface. No surface water available.	A
Local Emergency Operations Group (EOG)	Active EOG. Evacuation plan in place.	Limited participation in EOG. Have some form of evacuation process.	No EOG. No evacuation plan in place.	C
Structure Density	At least one structure per 0-5 acres.	One structure per 5-10 acres.	Less than one structure per 10 acres.	B
Community Planning Practices	County/local laws and zoning ordinances require use of fire safe residential design and adequate ingress/egress of fire suppression resources. Fire department actively participates in planning process.	Local officials have an understanding of appropriate community planning practices for wildfire loss mitigation. Fire department has limited input to fire safe development and planning efforts.	Community standards for fire safe development and protection are marginal or non-existent. Little or no effort has been made in assessing and applying measures to reduce wildfire impact.	C
Fire Mitigation Ordinances, Laws, or Regulations in Place	Have adopted local ordinances or codes requiring fire safe landscaping, building and planning. Fire department actively participates in planning process.	Have voluntary ordinances or codes requiring fire safe landscaping and building practices. Fire department participates in planning process.	No local codes, laws or ordinances requiring fire safe building landscaping or planning processes.	B
Fire Department Equipment	Good supply of structure and wildland fire apparatus and miscellaneous specialty equipment.	Smaller supply of fire apparatus in fairly good repair with some specialty equipment.	Minimum amount of fire apparatus, which is old and in need of repair. None or little specialty equipment.	B

Rating Element	Class A	Class B	Class C	Rating (A,B, or C)
Fire Department Training and Experience	Large, fully paid fire department with personnel that meet NFPA or NWCG training requirements, are experienced in wildland fire, and have adequate equipment.	Mixed fire department. Some paid and some volunteer personnel. Limited experience, training and equipment to fight wildland fire.	Small, all volunteer fire department. Limited training, experience and budget with regular turnover of personnel. Do not meet NFPA or NWCG standards.	C
Community Fire Safe Efforts and programs already in place	Organized and active groups (Fire Dept.) providing educational materials and programs for their community.	Limited interest and participation in educational programs. Fire department does some prevention and public education.	No interest of participation in educational programs. No prevention/education efforts by fire department.	B
Community support and attitudes	Actively supports urban interface plans and actions.	Some participation in urban interface plans and actions.	Opposes urban interface plans and efforts.	A

A(1)=Class A low fire hazard assessment rating
B(2)=Class B medium fire hazard assessment rating
C(3)=Class C high fire hazard assessment rating

The following is a summary of the Community Assessment for the Richfield FPD. Table 19 displays the assessment results. Overall the Richfield FPD received a Class A (low-1) community assessment rating for four (4) out of twelve (12) elements for (33.3%); **a Class B (medium-2) assessment rating for five (5) out of twelve (12) elements for (41.6%),** and a Class C (high-3) assessment rating for three (3) out of twelve (12) elements for (25.0%).

The overall **Community Assessment rating** for the Richfield FPD is **"medium or 2"** which reflects upon community support for firewise education and infrastructure needs throughout the FPD.

6.2d Richfield Fire Department Infrastructure

6.2e Equipment

The Richfield Fire Department presently has two structure engines, two wildland engines and one refill trailer. The department has a good variety of mechanized equipment to support structural and wildland fire incidents. However, the structural engines and refill trailer are outdated and in need of upgrading with new, state of the art technical equipment for less maintenance and more dependability. Upon equipment upgrade, the ten (10) year equipment rotation technique should be implemented to replace outdated emergency equipment.

The department has the basic Personal Protective equipment (PPE) for necessary firefighter safety, however there is nothing available for new volunteers, personal protective items (nomex turnouts, and SCBA's) are expensive to maintain and difficult to replace when necessary.

Extraction tools are very expensive, but very important tools, when the needs arises. Extraction tools are considered “non-essential” equipment items; therefore normal funding is not available for purchase, maintenance or replacement. Every emergency service vehicle should have the basic set of extraction tools.

6.2f Personnel/Training

Presently Richfield FPD as a total of fourteen (14) volunteers, of which, ten (10) are active responders. The department needs more personnel to obtain the most efficient staffing levels on firefighting equipment and support personnel for replacement firefighters to have available if an incident involves extended attack. (Table 5)

The proper management of an all-volunteer program requires a lot of skill and finesse. It is difficult for volunteers to take time off their regular full time jobs for needed fire training.

The department needs basic and advanced fire training annually to bring volunteers up to National Wildfire Coordination Group (NWCG) and National Wildfire Firefighting Safety (NWFS) standards. Also additional wildland and structural training is necessary to maintain efficiency, maintain new volunteer upward mobility training ladders, and have an effective training cadre. A recommended, standard ten (10) year training program, for each PD will be included in the final mitigation plan. (Appendix B)

6.2g Facility

Recently, (1998) the Richfield Fire Department constructed a new facility/station which adequately houses all fire equipment plus the Richfield Quick Response Unit (QRU). The new facility (Figure 10) affords the opportunity to house emergency equipment inside, protected from harsh weather and ready for a response year around.

The new facility has no restroom; no changing room; no office or training space, no storage space, and a gravel floor. Upgrade, or improve upon the new facility is one of the Richfield Fire Department’s top equipment infrastructure priorities. Estimated upgrade costs are included in the budget spreadsheet. (Appendix D)

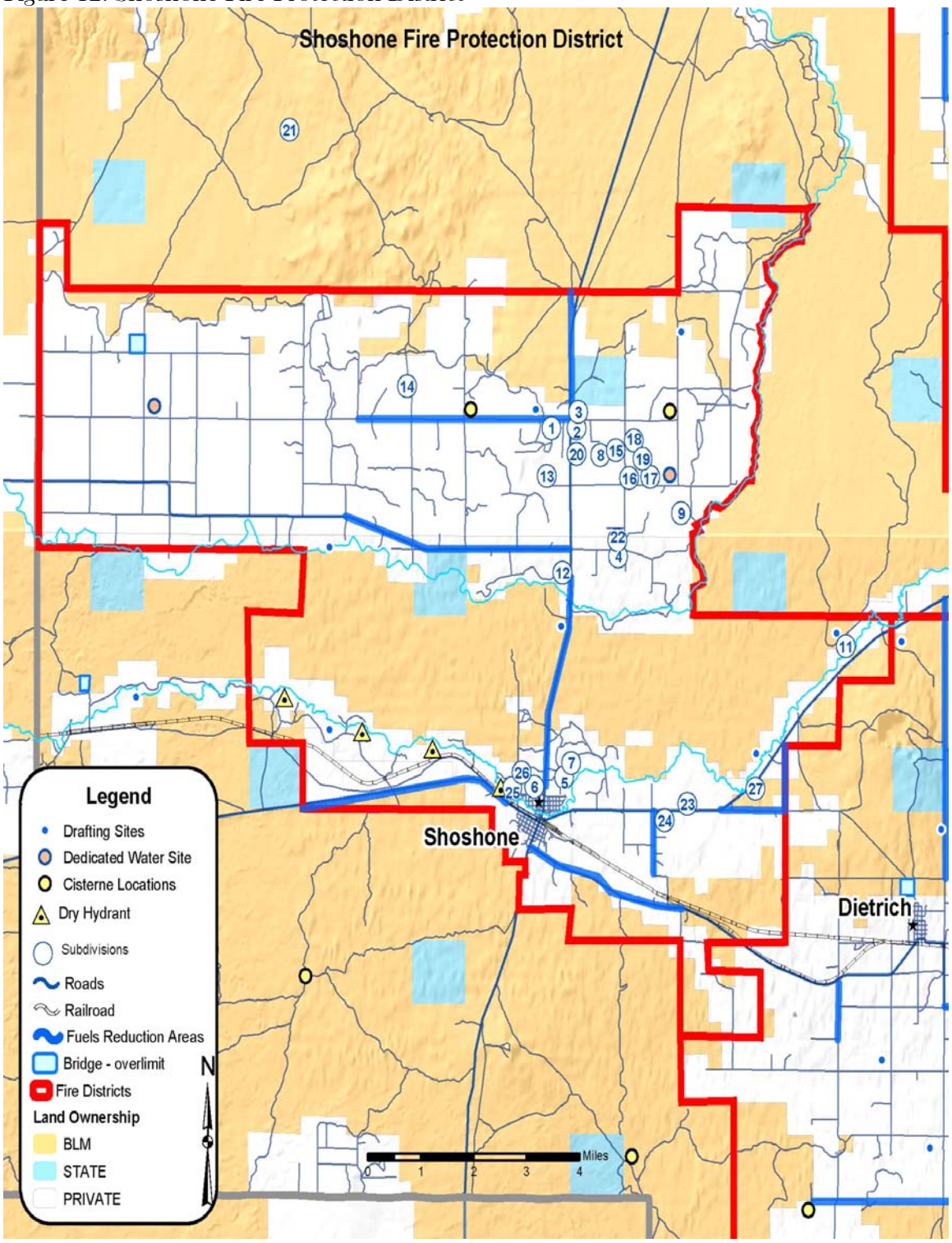
6.2h Prevention/Education

The results of the structural assessment revealed the need for a promotional program to further the understanding of firewise practices around homes and agricultural structures. Public education and outreach are effective means of engaging the community in the process of reducing risks. And, an education and outreach program will motivate homeowners to take measures around their individual homes and property, thereby contributing to the reduction of wildfire hazards in each community.

Figure 10: Richfield Fire Station, 2004

Figure 11: Highway 93/old UPRR ROW Typical Fuel Loading Richfield FPD

Figure 12. Shoshone Fire Protection District



6.3 Shoshone City and Rural Fire Protection District

The Shoshone FPD includes over 126 square miles of service area, which is moderately populated with private homes and ranches spread throughout the PD. (Figure 1)

Wildfire frequency in the Shoshone assessment area is high. The Shoshone City and Rural Fire Department responds to an average of forty-seven (47) brush fires within and near the city limits annually, and since 1975, have been involved with 126 wildfires for a total of 54,322 acres lost. Incident starts are from both natural and human causes. (Table 20)

Open bodies of water include Little Wood River, Big Wood River and the Milner-Gooding irrigation canal with numerous smaller canals, laterals and stock watering ponds.

Table 20. Shoshone Fire Protection District Fire Cause Determination

Year	Human	Natural	Structure	Vegetation	Vehicle	Other	Average Increase
2000	26	2	16	12	22	24	
2001	33	9	12	9	30	45	
2002	30	2	18	12	40	38	
2003	89	6	21	24	36	39	
Total	134	17	67	57	128	146	

H=Human/Man Caused
N=Natural/Lightning Caused
Other= power lines, standby, fuel spills, false alarms, investigations, hazmat etc.

6.3a Fire, Structural, and Community Assessment for Shoshone FPD

The following is a summary of the **Fire Hazard Assessment** and **Structural Hazard Assessment** for the Shoshone FPD. **Tables 21& 22** displays the complete results of each assessment process. Whereas, **Table 22** the **Structural Hazard Assessment** displays the overall **Risk Assessment Rating** for each subdivision.

Fire Hazard Assessment Attributes:

Vegetation Type – Sagebrush-grassland, annual grasses and forbs are the primary carrier of any ignition to the wildland-urban interface.
Slope – Most slopes within the assessment are 10-30%.
Aspect – The majority of the structures within the assessment area face north and east.
Elevation – The elevation within the assessment area averages between 4000-4200 feet.
Fuel Type – Fuel types within the assessment area are primarily sagebrush/grass and weeds.
Fuel Density – Fuel density within the assessment area is broken light -moderate fuels with a 20-30% canopy cover.
Fuel Bed Depth – Fuel bed depth with the assessment area light – moderate, averaging 1-3 feet.

Table 21. Fire Hazard Assessment for Shoshone FPD

Subdivision/Parcels	Vegetative Type	Rating Elements						
		Slope	Aspect	Elevation	Fuel Type	Fuel Density	Fuel Bad Depth	Total Rating
Six Mile	*SG Weeds	A	A	A	B	A	A	7
Stowell S	" "	A	A	A	B	A	A	7
Stowell N	" "	A	A	A	B	A	A	7
Vista Alegre	" "	A	A	A	B	A	A	7
Fruit Tract #1	" "	A	A	A	B	B	A	8
Fruit Tract #2	" "	A	A	A	B	B	A	8
Fruit Tract #3	" "	A	A	A	B	B	B	9
Parker	" "	A	A	A	B	A	A	7
Green Acres	Barren	-	-	-	-	-	-	-
Cowboy	SG Weeds	A	A	A	B	A	A	7
Crater Butte	" "	A	B	A	B	C	B	11
Edwards	" "	A	A	A	B	A	A	7
Hall	" "	A	A	A	B	A	B	8
Black Butte	" "	B	A	A	B	A	A	8
Sunny Slope	" "	A	A	A	A	B	A	7
Sky High Estates	" "	A	A	A	B	A	B	8
Sky High #2	" "	A	A	A	B	B	A	8
Sky High #3	" "	A	A	A	B	B	B	9
Sky High #4	Barren	-	-	-	-	-	-	-
Horseshoe Ranch	" "	A	A	A	B	B	A	8
Drum	Barren	-	-	-	-	-	-	-
Northview	SG Weeds	A	A	A	B	B	A	8
Harris	" "	A	A	A	B	B	A	9
Depew	" "	A	A	A	B	A	B	8
Riverview	" "	A	A	A	B	B	B	9
Sunset RV Park	" "	C	A	A	B	C	C	13
Urrutia Village	" "	A	A	A	B	A	A	7
Page 1 of 2 Assessment Rating								**207**

A(1)=Class A low fire hazard assessment rating
B(2)=Class B medium fire hazard assessment rating
C(3)-Class C high fire hazard assessment rating

Structural Assessment Attributes:

Structure Density – The structure density within the assessment area is at least one structure per 5 acres.
Proximity to fuels – The average distance to flammable fuels and adjacent to the wildland-urban interface of all the subdivisions in the assessment area is less than 40 feet.
Building Materials – Less than 12% of the structures within the assessment area have non fire resistant roofs and/or siding.
Survivable Space – 87% of the structures within the assessment area and adjacent to the wildland-urban interface have improved survivable space around the property.
Roads – Some roads within the assessment area are inadequate, narrow and/or single lane, minimally maintained, and contain no shoulders.
Response Time – Average response time to the majority of the subdivisions throughout the assessment area is 30 minutes or more.
Access – The average access throughout the assessment area is inadequate for suppression equipment. Many subdivisions have narrow roads, which are not maintained during winter months, and inferior turn around areas.

Table 22. Structural Hazard Assessment for Shoshone FPD

Subdivision Parcels	Rating Elements								
	Structure Density	Proximity Of Fuels	Building Materials	Survivable Space	Roads	Response Time	Access	Total Rating	Risk Rating
Six Mile	A	B	A	B	B	B	A	11	A-54%
Stowell S	A	A	A	A	B	B	B	10	A-69%
Stowell N	A	B	A	B	B	B	B	12	A-54%
Vista Alegre	A	B	A	A	B	B	B	11	A-62%
Fruit Tract #1	A	B	A	B	A	A	A	9	A-69%
Fruit Tract #2	A	B	A	B	A	A	A	9	A-69%
Fruit Tract #3	A	A	A	B	A	A	A	8	A-69%
Parker	A	B	A	A	B	B	B	11	A-62%
Green Acres	Barren	-	-	-	-	-	-	-	-
Cowboy	A	B	A	B	B	A	B	11	A-62%
Crater Butte	A	B	A	B	B	A	B	11	B-54%
Edwards	A	B	A	B	B	B	B	12	A-54%
Hall	A	B	A	B	B	B	B	12	B-54%
Black Butte	A	B	A	B	B	C	B	13	A-46% B-46%
Sunny Slope	A	B	A	B	B	B	A	11	A-62%
Sky High Estates	A	B	A	B	B	B	B	12	B-54%

Subdivision Parcels	Rating Elements								
	Structure Density	Proximity Of Fuels	Building Materials	Survivable Space	Roads	Response Time	Access	Total Rating	Risk Rating
Sky High #2	A	B	A	B	B	B	B	12	B-54%
Sky High #3	A	B	B	B	B	B	B	13	B-69%
Sky High #4	Barren	-	-	-	-	-	-	-	-
Horseshoe Ranch	A	A	A	B	B	B	B	11	A-54%
Drum	Barren	-	-	-	-	-	-	-	-
Northview	A	B	A	B	A	A	B	10	A-62%
Harris	A	A	A	B	B	A	B	10	A-62%
Depew	A	B	A	B	B	A	B	11	A-54%
Riverview	A	B	A	A	B	A	C	11	A-54%
Sunset RV Park	C	C	B	B	B	A	B	15	B-38% C-38%
Urrutia Village	A	B	A	B	A	A	A	9	A-77%
Page 2 of 2 Assessment Rating								**193**	

A(1)=Class A low fire hazard assessment rating
B(2)=Class B medium fire hazard assessment rating
C(3)=Class C high fire hazard assessment rating

Of the twenty seven (27) subdivisions in the Shoshone FPD, seventeen (17) received a Class A (low) risk assessment rating, six (6) subdivisions received a Class B (moderate) risk assessment rating, one received a Class C (high risk) rating, and three (3) subdivisions were undeveloped.

Issues and concerns common to most subdivisions include: Access and egress off main roads to individual home sites, Inadequate turn around space for emergency equipment, dedicated water for refill sites, fallow agriculture ground gone to weeds, homemade, unrecorded street signs.

Top ten (10) Lincoln County subdivisions representing the greatest risk:

1).Sunset RV Park, 2.) Skyhigh #3, 3.) Skyhigh Estates, 4.) Skyhigh 2, 5.) Fruit Tract #2, 6.) Hall, 7.) Edwards, 8.) Black Butte, 9.) Fruit Tract #1, 10.) Crater Butte.

Enforcement of standards and building codes upon permit approval has created a substantial amount of concern for safety during emergency fire suppression efforts. Some of the newer subdivisions have not adopted formal Codes, Covenants or Regulations, (CCR's) necessary to govern development.

To date Lincoln County has thirty-one (31) approved subdivisions in various stages of development, and several, additional applications forthcoming.

The following is a summary of the Community Assessment for the Shoshone FPD. Table 22 displays the assessment results. Overall the Shoshone FPD received a Class A (low-1) community assessment rating for three (3) out of twelve (12) elements for (25.0%); **a Class B (medium-2) assessment rating for eight (8) out of twelve (12) elements for (66.6%),** and a Class C (high-3) assessment rating for one(1) out of twelve (12) elements for (8.3%).

The overall **Community Assessment rating** for the Shoshone FPD is **"medium or 2"** which reflects upon strong community support for increased firewise education and emphasizes emergency response infrastructure needs throughout the FPD.

Table 23. Community Assessment Summary for Shoshone FPD

Rating Element	Class A	Class B	Class C	Rating (A,B, or C)
Community Description	There is a clear line where residential business, and public structures meet wildland fuels. Wildland fuels do not generally continue into the developed area.	There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area.	The community generally exists where homes, ranches, and other structures are scattered but adjacent to wildland vegetation.	B
Response Time	Prompt response time to interface areas (? Minutes or less)	Moderate response time to interface area (? Minutes)	Lengthy response time to interface area (? Minutes)	B
Firefighting Capability	Adequate structural fire department. Sufficient personnel, equipment, and wildland firefighting capability and experience.	Inadequate fire department. Limited personnel, and or equipment but with some wildland firefighting experience and training.	Fire department non-existent or untrained and/or equipped to fight wildland fire	B
Water Supply	Adequate supply of fire hydrants and pressure, and/or open water sources (pools, lakes, reservoirs, rivers, etc.).	Inadequate supply of fire hydrants, or limited pressure. Limited water supply.	No pressure water system available near interface. No surface water available.	B
Local Emergency Operations Group (EOG)	Active EOG. Evacuation plan in place.	Limited participation in EOG. Have some form of evacuation process.	No EOG. No evacuation plan in place.	B
Structure Density	At least one structure per 0-5 acres.	One structure per 5-10 acres.	Less than one structure per 10 acres.	A
Community Planning Practices	County/local laws and zoning ordinances require use of fire safe residential design and adequate ingress/egress of fire suppression resources. Fire department actively participates in planning process.	Local officials have an understanding of appropriate community planning practices for wildfire loss mitigation. Fire department has limited input to fire safe development and planning efforts.	Community standards for fire safe development and protection are marginal or non-existent. Little or no effort has been made in assessing and applying measures to reduce wildfire impact.	B

Rating Element	Class A	Class B	Class C	Rating (A,B, or C)
Fire Mitigation Ordinances, Laws, or Regulations in Place	Have adopted local ordinances or codes requiring fire safe landscaping, building and planning. Fire department actively participates in planning process.	Have voluntary ordinances or codes requiring fire safe landscaping and building practices. Fire department participates in planning process.	No local codes, laws or ordinances requiring fire safe building landscaping or planning processes.	A
Fire Department Equipment	Good supply of structure and wildland fire apparatus and miscellaneous specialty equipment.	Smaller supply of fire apparatus in fairly good repair with some specialty equipment.	Minimum amount of fire apparatus, which is old and in need of repair. None or little specialty equipment.	B
Fire Department Training and Experience	Large, fully paid fire department with personnel that meet NFPA or NWCG training requirements, are experienced in wildland fire, and have adequate equipment.	Mixed fire department. Some paid and some volunteer personnel. Limited experience, training and equipment to fight wildland fire.	Small, all volunteer fire department. Limited training, experience and budget with regular turnover of personnel. Do not meet NFPA or NWCG standards.	C
Community Fire Safe Efforts and programs already in place	Organized and active groups (Fire Dept.) providing educational materials and programs for their community.	Limited interest and participation in educational programs. Fire department does some prevention and public education.	No interest of participation in educational programs. No prevention/education efforts by fire department.	B
Community support and attitudes	Actively supports urban interface plans and actions.	Some participation in urban interface plans and actions.	Opposes urban interface plans and efforts.	A
Overall Assessment Rating				**21**

Class A (1) = low fire risk **16 or less = low fire risk**
Class B (2) = medium fire risk **17-21 = moderate fire risk**
Class C (3) = high fire risk **22-27 = high fire risk**

6.3b Shoshone Fire Department Infrastructure

6.3c Equipment

Station One and Station Two:

The department has a good variety of mechanized equipment to support structural and wildland fire incidents. However, the structural engines are outdated and in need of upgrading with new, state of the art technical equipment for less maintenance and more dependability.

Upon equipment upgrade the ten (10) year equipment rotation technique should be implemented to replace outdated emergency equipment.

The department has the basic Personal Protective equipment (PPE) for necessary firefighter safety, however there is nothing available for new volunteers, personal protective items (nomex turnouts, and SCBA's) are expensive to maintain and difficult to replace when necessary.

Extraction tools are very expensive, but very important tools, when the needs arises. Extraction tools are considered "non-essential" equipment items, therefore normal funding is not available for purchase, maintenance or replacement. Every Lincoln County Emergency Service vehicle should have the basic set of extraction tools.

6.3d Personnel/Training

Presently Shoshone FPD has a total of twenty- six (26) volunteer firefighters, of which, twenty (20) are active responders. The department needs more personnel to obtain the most efficient staffing levels on firefighting equipment and support personnel for replacement firefighters to have available if an incident involves extended attack.

The Department needs basic and advanced fire training annually to bring volunteers up to National Wildfire Coordination Group (NWCG) and National Wildfire Firefighting Safety (NWFS) standards. Also additional wildland and structural training is necessary to maintain efficiency, maintain new volunteer upward mobility training ladders, and have an effective training cadre. The recommended, standard ten (10) year training program, for each FPD is included in (Appendix B).

6.3e Facilities

Shoshone Station One (Figure 13) was constructed in 1949. The station affords the opportunity to house emergency equipment inside, out of inclement weather and ready for a response year around; however, the station is in need of a major upgrades including a changing room, additional storage space, ceiling insulation and new electrical wiring.

The necessary repair and upgrade of Station One is Shoshone City and Rural Fire Department's highest structural priority. For department efficiency and compliance with the National Fire Code, the appropriate funding support needs to be pursued.

Shoshone Station Two (Figure 14) is located four (4) miles north and twelve (12) west of the city of Shoshone. Constructed in 1946, station two (2) is nothing more than a long "single car garage". The station is not heated, has no restroom; no changing room; no office or training space, no storage space, and a gravel floor. Station two has adequate space for three (3) types of emergency equipment, as noted above; however, the limited space requires each piece of equipment to be backed in and stored "end to end". What piece of equipment is stored in first out position depends up the season and time of year.

Support the fund raising efforts presently underway to provide funding for a new facility for Station Two. Upgrade, and improve upon Shoshone's existing stations (1&2) is Shoshone City and Rural Fire Department's top equipment infrastructure priorities.

6.3f Prevention/Education

The results of the structural assessment revealed the need for a promotional program to further the understanding of firewise practices around homes and agricultural structures. Public education and outreach are effective means of engaging the community in the process of reducing risks. And, an education and outreach program will motivate homeowners to take measures around their individual homes and property, thereby contributing to the reduction of wildfire hazards in each community.

Figure 13: Shoshone Fire Station #1

Figure 14: Shoshone Fire Station #2

Figure 15: Sunset Subdivision Typical Fuel Loading Shoshone FPD

Figure 16: Sunset RV Park Typical Fuel Loading Shoshone FPD

6.4 Open Areas – Without Fire Protection

This section deals with private lands outside of the three (3) FPD's. Presently, there are four (4) major rural areas, within Lincoln County, not included in a Fire Protection District. Two (2) of the major areas are the farming communities of Hidden Valley and Kimama. These areas include an estimated 29,440 acres within Lincoln County, and are located in the extreme southeastern portion of Lincoln County. (Figure 3)

6.4a Condition: Presently, landowners residing within the Hidden Valley/Kimama unprotected areas receive fire protection from the West End FPD located in Paul, Idaho, in neighboring Minidoka County. Through personal interviews with landowners, it was apparent that the majority of landowners residing in the "open areas" (Hidden Valley/ Kimama) are satisfied with their current level of fire protection and expressed no interest in joining a fire protection district. See landowner contact list Appendix A.

This position taken by the private landowners imposes important liability considerations, as the West End Fire Station is the closest protection district (20 miles) vs. (24 miles from Dietrich) and will respond to emergency incidents in Hidden Valley and Kimama areas in a timely manner; however, these Lincoln County open areas are outside the West End's fire protection district.

Major concerns expressed by private landowners are the isolated tracks BLM manages for wildlife, scattered throughout Hidden Valley. (Figure 17) These tracks of native vegetation and moderate to heavy fuel loading require farmers to maintain a firebreak between their crops and wildland, thereby affecting their total crop yield, and it limits their flexibility with crop rotation.

Another major concern in the Kimama area is the increased traffic on the Carey–Kimama road (Figure 18) with the increased in popularity of the new craters of the moon national monument. The Carey-Kimama road should maintained to reduce the risk of roadside fire starts. If the fuels were maintained Carey-Kimama road would make an excellent fire break to stop large wildfires. See list of Hidden Valley/Kimama private landowner interviewed, Appendix A.

From decades of fire protection and suppression action heavy fuels have accumulated along the State Highway 24 and the UPRR Right of Way. Also the BLM manages several forty (40) acre plots in the Hidden Valley area for upland bird habitat. Upon ignition, these areas of concern have the potential to threaten adjoining agriculture and Public Lands.

6.4b Recommendation: A new BLM fireguard station is presently under construction in the Kimama area. (Figure 19) This new facility may lead to increased fire protection possibilities for the Hidden Valley and Kimama open areas. Presently, new BLM fireguard stations established in Rogerson and Carey are considered "multi-agency stations", which means the local FPD has the opportunity to utilize the new station for structural protection. A request from Lincoln County for this consideration should be taken to the BLM, Shoshone Field Office.

The multi-agency station would increase the fire protection needs of the two major "open areas" within Lincoln County. Also, consideration should be given to the possibility of Lincoln County incorporating these open areas into the Dietrich FPD, or the creation a fourth FPD and the construction of a satellite station in the Hidden Valley and Kimama area. A satellite station, equipped with a structural engine and proper training for local volunteers, would eliminate many fire protection concerns.

If no consideration is given to incorporating Lincoln County's open areas without fire protection, or placement of a satellite station in the general vicinity, then a Mutual Aid Agreement may improve upon the existing situation of no fire protection. Landowners and FPDs need to develop cooperative and mutual aid agreements. Mutual Aid would allow emergency equipment access to irrigation wells or hand lines.

Another alternative should be expanding existing FPD boundaries to the Lincoln County line. Thereby, including the four (4) major areas without fire protection and many individual home sites scattered throughout the county. If a particular landowner resists incorporation, they should be made aware of the consequences (paid response), and not included in the protection district.

County Commissioners also need to negotiate with Union Pacific Railroad (UPRR) and Idaho Department of Transportation (IDT) to promote a demonstration program that will reduce heavy grass and shrubs along respective right-of-ways, in an effort to reduce fire hazard along the interstate and risk of wildfire moving across the highway.

Develop fuel breaks at least 200 feet in width from edge of road to fence line, property boundary or highway right-of-way, along an estimated forty eight (48.0) miles of existing roads in the Hidden Valley and Kimama unprotected areas. (Figure 3)

Figure 17: Hidden Valley BLM isolated tracts

Figure 18: Carey-Kimama Road, (north view)

Figure 19: New Kimama BLM Station (Under Construction)

6.4.1Additional Lincoln County Open Areas

6.4.1a: Condition: Two (2) additional Lincoln County open areas without fire protection include the Double D Dairy in the southwest corner of the county, and approximately 1460 acres of private and leased state endowment land, located along State Highway 75 in the northern portion of Lincoln County.

Personal interviews were held with the following private landowners: the Double D Dairy, Shoshone Indian Ice Caves, Ice Caves Store, Chad Sluder, Gordon Sorenson, Castle Dairy, and Gene Goold.

Personal interviews revealed that these landowners and proprietors have little interest of being incorporated into a fire protection district. The general feeling shared by each proprietor and property owner is when emergency suppression equipment is located closer and response time decreases, they would petition for incorporation.

The Ice Caves Store (Figure 22) and Shoshone Indian Ice Caves (Figure 21) are surrounded by volcanic lava flows and sagebrush with a thirty five (35) percent canopy cover. The understory consists of annual grass and forbs. A wildfire would burn slowly and erratically through the lava outcrops, however due to the lack of ground cover, and light fuel loading a wildfire would be little or no threat to existing business structures.

The residential homes on the Sluder property is well maintained, with adequate defensible space, (Figure 23), however the equipment yard, in which a number of antique types of machinery is stored has a high level of fuels buildup and corresponding wildfire threat.

Fire protection needs associated with the Sorenson (Figure 24), Castle (Figure 25), and Goold (no picture available) properties are limited to structural needs only. Each parcel of private property is well maintained, has good defensible space, and is surrounded by agricultural ground.

The Double D Dairy (Figure 20) has a unique situation with their agriculture ground located in Jerome County and their dairy barns and stack yards being located in Lincoln County. The Double D Dairy is not included in a FPD, and therefore has no fire protection.

Presently, the owners of Double D Dairy have no interest in petitioning for incorporation into a FPD, even though both the Jerome Rural Fire Department, and the Shoshone City and Rural Fire Department have approached them.

Fire protection needs associated with the Double D Dairy property are limited to structural needs only. Each parcel of private property is well maintained, has good defensible space, and is surrounded by agricultural ground.

6.4.1b Recommendation: If Lincoln County proceeds with the recommendation to expand fire protection districts boundary to the Lincoln County Line. The PD line should not include the private ground in those open areas without fire protection where the residents are unwilling at this time to request incorporation. Additionally, each private landowner should be notified that, when an emergency response to their property is necessary, the closest fire department will respond, however they would be responsible for all suppression costs.

At a minimum, mutual aid agreements with private landowners in all open areas without fire protection should be pursued. A mutual aid agreement may improve upon the existing situation of no fire protection. Landowners and FPDs need to develop both cooperative and mutual aid agreements. This would allow access to irrigation wells or hand lines so emergency response agencies could obtain access to a water refill source for use during emergency responses.

Figure 20. Double D Dairy SW Lincoln County

Figure 21. Shoshone Indian Ice Caves – N. Lincoln County

Figure 22. Ice Caves Store – N. Lincoln County

Figure 23. C. Sluder residence – N. Lincoln County

Figure 24. Gordan and Tracy Sorensen residence – N. Lincoln County

Figure 25. Castle Dairy – N. Lincoln County

6.4c Fire, Structural, and Community Assessments for Lincoln County Open Areas

The following is a summary of the **Fire Hazard Assessment** for the Lincoln County Open Areas. Table23 Shows the complete results. The two (2) subdivisions in this FPD received a **Class A (low) fire hazard assessment rating for five (5) out of seven (7) elements for (71.4%)** and a Class B (moderate) fire hazard assessment rating for two (2) out of seven (7) elements for (28.5%).

The **overall Fire Hazard Assessment rating** for the Open Areas is **"low or 1".** The only element of concern is the buildup of light fuels along roads and adjacent to public land, and the response time of emergency fire equipment.

6.4d Fire Hazard Assessment Attributes:

Vegetation Type – Sagebrush-grassland will be the primary carrier of any ignition to the wildland-urban interface.
Slope – Most slopes within the assessment are 10-30%.
Aspect – The majority of the structures within the assessment area face east.
Elevation – The elevation within the assessment area averages between 4000-4200 feet.
Fuel Type – Fuel types within the assessment area are primarily sagebrush/grass.
Fuel Density – Fuel density within the assessment area is broken moderate fuels with a 20-30% canopy cover.
Fuel Bed Depth – Fuel bed depth with the assessment area light – moderate, averaging 1-3 feet.

Table 24. Fire Hazard Assessment for Lincoln County Open Areas

Subdivision/Parcels	Vegetative Type	Rating Elements					
		Slope	Aspect	Elevation	Fuel Type	Fuel Density	Fuel Bed Depth
Hidden Valley	Sagebrush/grass	A	A	A	B	B	B
Kimama	"	A	A	A	B	B	B
Double D Dairy	"	A	A	A	A	A	A
Shoshone Indian Ice Caves	"	A	A	A	B	B	A
Ice Cave Store	"	A	A	A	B	B	A
Sluder Property	"	A	A	A	B	B	B
Sorensen Property	"	A	A	A	B	B	B
Castle Dairy	"	A	A	A	A	A	A
Goold Property	"	A	A	A	B	B	A

A=Class A low fire hazard assessment rating
B=Class B medium fire hazard assessment rating
C-Class C high fire hazard assessment rating

6.4e Structural Hazard Assessment

The following is a summary of the **Structural Hazard Assessment** for Lincoln County Open Areas. Table 25 shows the complete results. Overall, the open areas received a **Class A "low-1" fire hazard assessment rating for six (6) out of seven (7) elements for (85.7%)**, and a Class B (medium) for one (1) out of seven (7) elements for (14.2%).

The overall **Structural Hazard rating** for the open areas is **"low-1"**. The most concern shared by most private landowners in the open areas, is the long response time for emergency equipment.

Structural Hazard Assessment Attributes:

Structure Density – The structure density is at least one structure per fifteen (15) acres.
Proximity to fuels – Structures in assessment area and adjacent to the wildland-urban interface have an average of forty (40) feet to flammable fuels.
Building Materials – All structures within the assessment area have fire resistant roofs and/or siding.
Survivable Space – 93% of the structures within the assessment area and adjacent to the wildland-urban interface have improved survivable space around the property.
Roads – Roads within the assessment area are adequate to maintain emergency equipment.
Response Time – Response time to the assessment area is forty (40) minutes or more.
Access – Access to the assessment area is adequate. There are some narrow roads, however turn around space is adequate.

Table 25. Structural Hazard Assessment for Lincoln County Open Areas

Subdivision/Parcels	Rating Elements						
	Structure Density	Proximity Of Fuels	Building Materials	Survivable Space	Roads	Response Time	Access
Hidden Valley	A	B	A	A	A	C	A
Kimama	A	B	A	A	B	C	A
Double D Dairy	A	A	A	A	A	B	A
Shoshone Indian Ice Caves	B	A	B	A	A	C	A
Ice Caves Store	B	A	A	A	A	C	A
Sluder Property	A	B	A	A	A	C	B
Sorensen Property	A	A	A	A	A	C	A
Castle Property	A	A	A	A	B	C	B
Goold Property	A	B	A	A	A	C	A

A(1)=Class A low fire hazard assessment rating
B(2)=Class B medium fire hazard assessment rating
C(3)=Class C high fire hazard assessment rating

6.4f Community Assessment for Open Areas

The following is a summary of the Community Assessment for the Lincoln County Open Areas. Table 25 displays the assessment results. Overall the Open or Unprotected Areas received a Class A (low-1) community assessment rating for one (1) out of twelve (12) elements for (8.3%). A Class B (medium-2) assessment rating for three (3) out of twelve (12) elements for (25%), and a **Class C (high-3) assessment rating for eight (8) out of twelve (12) elements for (66.6%).**

The overall **Community Assessment rating** for the Open Areas is **"high or 3"** which reflects upon community's concern of such a long response time for emergency fire equipment.

Table 26. Community Assessment Summary for Lincoln County Open Areas

Rating Element	Class A	Class B	Class C	Rating (A,B, or C)
Community Description	There is a clear line where residential business, and public structures meet wildland fuels. Wildland fuels do not generally continue into the developed area.	There is no clear line of demarcation; wildland fuels are continuous outside of and within the developed area.	The community generally exists where homes, ranches, and other structures are scattered but adjacent to wildland vegetation.	B
Response Time	Prompt response time to interface areas (? Minutes or less)	Moderate response time to interface area (? Minutes)	Lengthy response time to interface area (? Minutes)	C
Firefighting Capability	Adequate structural fire department. Sufficient personnel, equipment, and wildland firefighting capability and experience.	Inadequate fire department. Limited personnel, and or equipment but with some wildland firefighting experience and training.	Fire department non-existent or untrained and/or equipped to fight wildland fire	C
Water Supply	Adequate supply of fire hydrants and pressure, and/or open water sources (pools, lakes, reservoirs, rivers, etc.).	Inadequate supply of fire hydrants, or limited pressure. Limited water supply.	No pressure water system available near interface. No surface water available.	C
Local Emergency Operations Group (EOG)	Active EOG. Evacuation plan in place.	Limited participation in EOG. Have some form of evacuation process.	No EOG. No evacuation plan in place.	C
Structure Density	At least one structure per 0-5 acres.	One structure per 5-10 acres.	Less than one structure per 10 acres.	C
Community Planning Practices	County/local laws and zoning ordinances require use of fire safe residential design and adequate ingress/egress of fire suppression resources. Fire department actively participates in planning process.	Local officials have an understanding of appropriate community planning practices for wildfire loss mitigation. Fire department has limited input to fire safe development and planning efforts.	Community standards for fire safe development and protection are marginal or non-existent. Little or no effort has been made in assessing and applying measures to reduce wildfire impact.	C

Rating Element	Class A	Class B	Class C	Rating (A,B, or C)
Fire Mitigation Ordinances, Laws, or Regulations in Place	Have adopted local ordinances or codes requiring fire safe landscaping, building and planning. Fire department actively participates in planning process.	Have voluntary ordinances or codes requiring fire safe landscaping and building practices. Fire department participates in planning process.	No local codes, laws or ordinances requiring fire safe building landscaping or planning processes.	B
Fire Department Equipment	Good supply of structure and wildland fire apparatus and miscellaneous specialty equipment.	Smaller supply of fire apparatus in fairly good repair with some specialty equipment.	Minimum amount of fire apparatus, which is old and in need of repair. None or little specialty equipment.	C
Fire Department Training and Experience	Large, fully paid fire department with personnel that meet NFPA or NWCG training requirements, are experienced in wildland fire, and have adequate equipment.	Mixed fire department. Some paid and some volunteer personnel. Limited experience, training and equipment to fight wildland fire.	Small, all volunteer fire department. Limited training, experience and budget with regular turnover of personnel. Do not meet NFPA or NWCG standards.	C
Community Fire Safe Efforts and programs already in place	Organized and active groups (Fire Dept.) providing educational materials and programs for their community.	Limited interest and participation in educational programs. Fire department does some prevention and public education.	No interest of participation in educational programs. No prevention/education efforts by fire department.	B
Community support and attitudes	Actively supports urban interface plans and actions.	Some participation in urban interface plans and actions.	Opposes urban interface plans and efforts.	C

A(1)=Class A low fire hazard assessment rating
B(2)=Class B medium fire hazard assessment rating
C(3)=Class C high fire hazard assessment rating

7.0 Technical Information to Support Action Plan

This section evaluates important wildland fire-related issues and their relationship to existing conditions throughout Lincoln County. Existing conditions in Lincoln County were determined by: (1) interviewing local, state, and federal officials and county residents; (2) driving the main roads within each fire protection district; (3) determining fuel loads adjacent to roads and determining distance of maintenance needs; (4) reviewing bridge weight limits and needs, and road classifications for accessibility by large firefighting equipment such as tenders and pump trucks; (5) photographing representative structures and determining defensible space, proximity of fire hydrants and other water sources, and adherence to local building codes; and (6) a Wildland Fire Hazard Assessment, Structural Assessment, and Community Assessment has been completed within each fire district.

Structures were selected based upon: (a) there proximity to the wildland-urban interface, and (b) exhibiting a fire hazard or safety concern such as adjacent to highly flammable sources of flammable material. Structures are defined as homes and other buildings (e.g., barns, garages, or maintenance buildings) with economic value to the landowner, or historic buildings.

8.0 Environmental Effects

Environmental effects associated with wildfire to the physical, biological, and social resources include: air quality, water quality, soil erosion and displacement, sediment delivery to streams and reservoirs, cultural resources, threatened and endangered plant species, noxious weeds, fish, sensitive animal species, wildlife habitat, riparian areas, existing wetlands, Native American concerns, socioeconomic impacts such as BLM grazing allotments, subdivisions and isolated parcels, rural communities, and wilderness study areas.

An intense wildfire of short duration may have the greatest impact or alteration in soil characteristics to the landscape (Graham 2003). In Lincoln County these alterations may include: (1) loss of organic matter on soil surface, (2) reduced ground cover decreasing water infiltration and the potential for increased surface runoff, (3) the formation of pedestals, rills, and gullies, and (4) infestation of noxious or exotic weeds.

Noxious weed problems associated with Fuels Reduction projects is a legitimate concern. Upon implementation of Fuels Reduction projects associated with the 2001-2002 Community At Risk program, all noxious weed control (if necessary) was turned over to the local County Weed Control Board with funding support form the Community At Risk program. Local County Weed Control Boards possess the necessary expertise and technical equipment to mitigate noxious weed problems associated with Fuels Reduction projects.

9.0 Mitigation

This section discusses fuels mitigation and needs and associated costs for Lincoln County. The environmental effects and public education program are included under one section and apply to all FPD's in Lincoln County.

10.0 Mitigation Summary for Lincoln County

The following mitigation recommendations are intended to supplement Table 27., the Summary of Conditions and Recommendations for Lincoln County.

Fuels Mitigation – Hazardous fuel buildup resulting in wildland fires represents the primary risk to homeowners, businesses, and state and federal facilities located outside city limits. Fuel break locations are identified in this section based on recommendations provided by each fire chief, input form county commissioners and BLM. The size of the fuel breaks required and associated costs to construct the fuel breaks will vary, depending on the fuels present, distance, and dimensions of each fuel break.(See Budget Spreadsheet Appendix D)
The National and Idaho Fire Plan address rehabilitation and restoration of burned areas and fire-

adapted ecosystems. Consideration and site restoration guidelines are included within Appendix C.

In addition to the general mitigations, there are costs associated with ongoing training, prevention, and education efforts for Lincoln County and each Fire Protection District. Estimated costs for planning purposes, based upon need and priority, is included in Budget Spread Sheet. (Appendix D)

Enforcement of standards and building codes upon permit approval has created a substantial amount of concern for safety during emergency fire suppression efforts. Some of the newer subdivisions have not adopted formal Codes, Covenants or Regulations, (CCR's) necessary to govern development.

Issues and concerns common to most subdivisions include: Access and egress off main roads to individual home sites, Inadequate turn around space for emergency equipment, dedicated water for refill sites, fallow agriculture ground gone to weeds, homemade, unrecorded street signs.

Increased Fire Prevention and Public Education programs would introduce Lincoln County residents to the FIREWISE public education program, and offers homeowners firewise training and education to avoid wildfire damage in and around their homes.

Present Codes and Ordinances for subdivision development accepted by the county, needs more enforcement.

The 2000 International Fire Code, Uniform Building Code and International Building Code should be adopted by Lincoln County in their entirety.

Red Zone software should be made available to all FPD's to increase department effectiveness and dispatch efficiency.

Approximately thirty-eight (38) miles is in need of maintenance or major hazardous fuels reduction and has been identified alongside roads or property lines throughout the county. Also, approximately 550 additional acres on private and public ground need hazardous fuels reduction.

Develop fuel breaks at least 200 feet in width from edge of road to fence line, property boundary or highway right-of-way, along an estimated forty eight (48.0) miles of existing roads in the Hidden Valley and Kimama unprotected areas. (Figure 3)

More effective communication between emergency response agencies and neighboring counties is critical. Consideration should be given to creating Lincoln Counties own solar powered repeater site, a shared facility repeater site, or appropriating the necessary dollars to upgrade to digital mobile radios.

Table 27. Mitigation Summary for Lincoln County

Problems – Risks	Recommended Mitigation
Hazardous Fuels reduction needs	
No National Fire Protection Association (NFPA) standards for new subdivisions	
No detailed suppression equipment acquisition program in FPD's	

Appendix A

References:

Natural Fire Regime Classes from Hardy et al. (2001) and Schmidt et al. (2002)

National Wildfire Coordinating Group (NWCG) Fireline Handbook (NWCG Handbook

Graham ET al.2003Environmental Fire Effects

USDA. 2002. The National Fire Plan, Managing the Impact of Wildfires and Communities and the Environment, Miscellaneous Publication, Mp-1584, Department of Agriculture, Washington D.C.,

National Fire Plan (NFP) (U.S. Department of Agriculture [USDA] 2002)

Kempthorne, D., D. Rittenhouse, W. Wiggins, M. Ferguson, B. Estes, J. Foard, J. Stires, and J.W. Twitchell. 2002. Idaho Statewide Implementation Strategy for the National Fire Plan.

Pellant, M. 1992. History and applications of the Intermountain Green stripping Program, Symposium on Ecology, Management, and Restoration of Intermountain Annual Rangelands, Boise, Idaho, May 18-22.

R&S Enterprise. 2003a. Wildland-Urban Interface Communities-At-Risk Mitigation Assessment for Dietrich Assessment Area. Shoshone, ID.

R&S Enterprise. 2003b. Wildland-Urban Interface Communities-At-Risk Mitigation Assessment for Richfield Assessment Area. Shoshone, ID.

R&S Enterprise. 2002. Wildland-Urban Interface Communities-At-Risk Mitigation Assessment for Shoshone Fire Protection Assessment Area. Shoshone, ID.

Federal Emergency Management Agency (FEMA) Local Mitigation Plan Requirements June 2003

Idaho Census Bureau, 2004. 2002-2003 mid year census report for Lincoln County

The “zone” approach (Simmerman and Fischer 1989)

Emergency Service Personal Contacts:

Steve Stock, Chief
Shoshone City and Rural Fire Dept.

Ron Holland, Chief
Richfield Fire Department

Lyle Towne, Chief
Dietrich Fire Department

Mike Brite, Coordinator
Lincoln County Disaster Services

Gary Russell, CEO
Sims Ambulance, Inc.
Shoshone, Idaho

Steve Southwick, Sheriff
Lincoln County Sheriff's Department

Mark Southwick
Dietrich Quick Response Unit

Pam Ward
Richfield Quick Response Unit

David Davidson, Foreman
Shoshone Highway District

Lyle Towne, Foreman
Dietrich Highway District

Richard Kinsey, Foreman
Kimama Highway District

Curtis Jensen, Mitigation Specialist
BLM, Shoshone Field Office

Randy Sutten, Chief
West End Minidoka FPD

John Sabala, Mitigation Specialist
BLM, Shoshone Fire Operations

Personal Contacts Hidden Valley – Kimama Private Landowners

Mike Woodland	800 W Hwy 24	11. Mike Telford	1850 N 1450 W
2. Arron Telford	1775 W 1665 N	12. Ron Jones	500 W 1105 N
3. Layne Harper	1685 W 1443 N	13. Edna Neibaur	511 W 1200 N
4. Steve Neibaur	600 W 1125 N	14. Spencer Maughan	600 W 1361 N
5. Sam Large	1005 W Hwy 24	15. Doug Hartley	550 W 1000 N
6. Orlo Maughan	453 W 900 N	16. Rusty Gillette	650 W 1225 N
7. Daryl Serr	1050 W 28 S	17. Larry Blincoe	550 W 775 N
8. Paul Robertson	1755 W 1800 N	18. Ryan Robertson	1775 W 1762 N
9. Logan Robertson	1750 W 1800 N	19. Perry VanTassell	1650 W 1100 N
10. Lisa VanTassell	1650 W 1050 N	20. Dan Schaeffer	2800 E 169 S

Additional contacts with open area landowners

Double D Dairy, Shoshone Indian Ice Caves, Ice Caves Store, Chad Sluder, Gordon Sorenson, Castle Dairy, and Gene Goold.

Attendance Lists:

Lincoln County Fire Chiefs Meeting (4/1/04)

Steve Stock, Chief
Shoshone City and Rural Fire Department

Ron Holland, Chief
Richfield Fire Department

Lyle Towne, Chief
Dietrich Fire Department

Tom Blanchard
RC&D Project Coordinator

Lincoln County Emergency Response Agency's Meeting (4/21/04)

Mike Bright, Coordinator
Lincoln County Disaster Services

Steve Stock, Chief
Shoshone City and Rural FD

Gary Russell, CEO
Sims Ambulance Inc.
Shoshone, Idaho

Steve Southwick, Sheriff
Lincoln County Sheriff's Department

Curtis Jensen, Mitigation Specialist
BLM, Shoshone Field Office

Tom Blanchard, Coordinator
Tri-County RC&D Project

Randy Helsley, Commissioner
Dietrich Fire Protection District

Wendell Johnson
Lincoln County Planning and Zoning

Rusty Parker, Commissioner
Lincoln County

Polly Huggins
Wood River RC&D

Ron Holland, Chief
Richfield Fire Department

Jerry Nance, Commissioner
Lincoln County

Steve Southwick, Sheriff
Lincoln County

Ray Mitchell, Plan Coordinator
Lincoln County

Curtis Jensen, Mitigation Specialist
BLM, Shoshone Fire Operations

John Sabala, Mitigation Specialist
BLM, Shoshone Field Office

Emergency Response Agency – invited but unable to attend

Mark Southwick
Dietrich Quick Response Unit

Pam Ward
Richfield Quick Response Unit

David Davidson, Foreman
Shoshone Highway District

Lyle Towne, Foreman
Dietrich Highway District

Follow-up meetings with each individual were completed during May 2004.

APPENDIX B

Community education and prevention training should be implemented and orientated around the following three (3) excellent wildfire prevention programs:

1) Create and maintain Defensible Space around structures (Appendix A)

2) Create and maintain Survivable Space at each residence (Appendix A)

3) FIREWISE – A Community-wide Outreach Program (Appendix A)

4) REDZONE - A computerized program to increase dispatch efficiency (Appendix C)

5) New and unidentified programs to help communities

Training Program

The proposed ten (10) year training program would provide the opportunity for entry-level volunteers to become "Task Force Leaders" and achieve the organizational level of "Assistant Chief" thereby, maintaining leadership in the primary chief's absence, and maintaining an effective training cadre.

Officer and Crew Refresher Courses

Forty (40) hours @ $12.00/hour		$6,500.00
Instructor		$2,000.00
Equipment and Materials		$2,500.00
	Subtotal:	$11,000.00

Crew Level Training – New Recruits

Forty (40) hours @ 12.00/hour		$5,000.00
Instructor		$2,000.00
Equipment and Materials		$2,500.00
	Subtotal:	$9,500.00
	Total Program Needs:	**$20,500.00**

Appendix C

NFPA 1144 Standard for Protection of Life and Property from Wildfire 2002 Edition

Definitions:

3.36 Defensible Space: An area defined by the Authority Having Jurisdiction (AHJ) (Typically a width of 30 feet or more) between an improved property and a potential wildfire where combustible materials and vegetation have been removed or modified to reduce the potential for fire on improved property spreading to wildland fuels or to provide a safe working area for firefighters protecting life and improved property from wildland fire.

3.3.7 Dry Hydrant: An arrangement of pipe permanently connected to a water source other than a piped, pressurized water supply system that provides a ready means of water supply for firefighting purposes and that utilizes the drafting (suction) capability of fire department pumpers.

3.3.10 Fire Hazard: A fuel complex, defined by kind, arrangement, volume, condition, and location that determine the ease of ignition and/or resistance to fire control.

3.3.12 Fire Resistant Construction: Construction designed to offer reasonable protection against fire.

3.3.13 Fuel Modification: Any manipulation or removal of fuels to reduce the likelihood of ignition or the resistance to fire control.

3.3.14 Fuels: All combustible materials within the wildland urban interface or intermix, including but not limited to vegetation and structures.

3.3.15 Ground Fuels: All combustible materials such as grass, duff, loose surface litter, tree or shrub roots, rotting wood. Leaves, peat or sawdust that typically support combustion.

3.3.17 Mitigation: Action that moderates the severity of a fire hazard or risk.

3.3.18 Noncombustible: Any material that, in the form in which it is used and under the conditions anticipated, will not ignite and burn nor will add appreciable heat to an ambient fire.

3.3.20 Risk: The chance of a fire starting from any cause.

3.3.21 Road: Any access way, not including a driveway that gives access to more than one parcel and is primarily intended for vehicular access.

3.3.23 Structure: That which is built or constructed.

3.3.24 Turnaround: A portion of a roadway, unobstructed by parking, that allows for a safe reversal of direction for emergency equipment.

3.3.26 Water Supply: A source of water for firefighting activities.

3.3.27 Wildland Fire: An unplanned and uncontrolled fire spreading through vegetative fuels, at times involving structures.

3.3.28 Wildland Urban Interface: An area where improved property and wildland fuels meet at a well-defined boundary.

3.3.29 Wildland Urban Intermix: An area where improved property and wildland fuels meet with no clearly defined boundary.

Pertinent Standards:

5.1.2 Roads shall be designed and constructed to allow evacuation simultaneously with emergency response operations.

5.1.5 Roads shall be designed, constructed, and maintained to accommodate the load and turning radius of the largest apparatus typically used to respond to that location.

5.1.7 Dead end roads in excess of 91.4 m (300 feet) in length shall be provided with turnouts and turnarounds as approved by the Authority Having Jurisdiction (AHJ).

5.3.1 Any bridge on a road or required driveway shall be designed to accommodate the load of the largest apparatus typically used to respond to that location.

5.3.2 The load limit shall be clearly posted at the approaches to the bridge.

5.6.1 Roads, fire service access, dwellings, and commercial structures shall be identified by a consistent identification system that provides for sequenced or patterned numbering and non-duplicated naming within each jurisdiction.

5.6.1.2 All letters, numbers and symbols shall be a minimum of 102 mm (4 in.) in height, with a 12.7 mm (1/2 in.) stroke, and shall be reflectorized and contrasting with the background color of the sign.

5.6.1.4 Street and road name signs and supporting structures shall be of noncombustible materials.

8.2.1 The requirements for roof covering assemblies shall be as follows:
1) Only roof covering assemblies rated class A, B, or C shall be used.
2) The specific class shall be consistent with the wildland fire risk and hazard severity assessment as determined by the AHJ.

8.2.2 Vents shall be screened with a corrosion-resistant, noncombustible wire mesh with the mesh opening not to exceed nominal 6.3 mm (1/4 in.) in size.

8.2.3 Eaves shall be boxed in with 15.8 mm (5/8 in.) nominal sheathing or noncombustible materials.

8.7.2 Clearance: Vegetation shall not be allowed within 3.038 m (10 ft.) of a chimney outlet.

10.1.1 The AHJ shall be responsible for the adoption and maintenance of a multi-agency operational plan for the protection of life and property during wildland fires.

10.1.2 The primary goal of the plan shall be to protect people in the fire area, including emergency personnel responding to the incident, from injury or loss of life.

10.1.3 A secondary objective shall be to minimize or eliminate property loss from wildland fire.

10.2.6.2 Mutual assistance agreements shall be reviewed annually.

NFPA 1143 Standard for Wildland Fire Management 2003 Edition

Definitions:

3.3.23 Prevention: Activities, including public education, law enforcement, personal contact and reduction of fuel hazards, directed at reducing the incidence of fire.

3.3.25 Rural: Any area wherein residences and other developments are scattered and intermingled with forest, range, or farmlands and native vegetation or cultivated crops.

3.3.28 Values at Risk: Public and private values that the wildland fire protection system is created and funded to protect.

Pertinent Standards:

4.5.1.1 Based on the values, risk assessment, and hazard assessment, the AHJ shall develop a strategic plan identifying the required mitigation activities, responsible party, priorities, and implantation schedule.

4.5.3.1 The AHJ shall identify activities necessary to mitigate fire behavior characteristics through fuel modification.

5.1.1 The AHJ shall develop a written preparedness plan(s) for wildland fire control consistent with firefighter and public safety.

6.4.1.1 Entities involved in fire suppression: The AHJ shall prepare a written coordination and cooperative agreement plan that includes entities affected by or involved in wildland fire protection and related cooperative procedures.

NFPA 1141 Standard for Fire Protection in Planned Building Groups 2003 Edition

Definitions:

3.3.13 Fire Department: The government or other organization that is responsible for providing fire protection services to an area.

3.3.18 Fire Protection: All measures taken to reduce the burden of fire on quality of life. Fire protection includes measures such as fire prevention, fire suppression, built-in fire protection systems, and planning and building codes.

3.3.20 Fire Resistant: Construction designed to offer reasonable protection against fire.

3.3.24 Jurisdiction: Any governmental unit or political division or subdivision including, but not limited to, township, village, borough, parish, city, county, state, commonwealth, province, freehold, district, or territory over which the governmental unit exercises power and authority.

Pertinent Mitigation Standards:

4.1 Plans: As a minimum, the Authority Having Jurisdiction (AHJ) shall require anyone proposing to develop a planned building group to submit preliminary, working and as-built plans.

4.1.1 All Preliminary Plans: When submitted, shall contain, as a minimum, a site plan showing proposed water supply, roadway access, fire department access, and other items pertinent to the specific project.

4.1.2 Working Plans: Working plans, drawn to scale and signed by a licensed architect or engineer, shall be accurate and shall illustrate the final design of items required by this standard.

4.1.3 As-Built Plans: Drawings showing items listed in 4.1.1, building floor plans, and fire protection systems, as-built, shall be submitted to the fire department upon completion of the project.

5.1.2 Access to the property of the planned building group shall be provided by a minimum of two distinctly separate routes, each located as remotely from the other as possible.

5.2.1 Roadways shall be constructed of a hard, all-weather surface designed to support the heaviest piece of fire apparatus likely to be operated on the roadway.

5.2.2 Every dead-end roadway more than 91.5 m (300 feet) in length shall be provided at the closed end with a turnaround having not less than 36.5 (120 feet) outside diameter of traveled way.

Appendix D

Lincoln County Wildland Fire Mitigation Project/Budget Spread Sheet

Lincoln County

Plan Implementation:		$25,000.00
Coordination/Administration:		$15,000.00
Maintenance/Five (5) year Update:		$50,000.00
	Subtotal:	**$90,000.00**

Dietrich Fire Protection District

Plan Implementation:		$10,000.00

Infrastructure Needs

New Facility (Fire Station)		$250,000.00
Type one Structure Engine		$150,000.00
Type two Structure Engine		$100,000.00
Type six Wildland Engine		$50,000.00
	Subtotal:	**$560,000.00**

Volunteer Training		$20,000.00
Personal Protective Equipment (PPE)		$20,000.00
Specialty (Extraction) Equipment		$80,000.00
Misc. Equipment/Supplies		$15,000.00
	Subtotal:	**$135,000.00**

Richfield Fire Protection District

Shoshone Fire Protection District

Major Open – Unprotected Areas

Fuels Reduction:

Flammable fuels would be removed through prescribed burning, mowing, mulching, disking, and/or herbicide application and seeding. The estimated cost is $140.00 to $160.00 per linear mile including tractor, mower and operator.

Total costs for road ROW treatment is estimated at $100.00 to $150.00 per linear mile, and treatments should only be necessary once each year. Total cost for other fuels reduction treatments on private and public lands is approximately $600.00 to $800.00 per acre. Flammable fuels would be removed through prescribed burning, mowing, mulching, disking, and/or herbicide application and seeding.

Appendix E

Grant Information

Department of Homeland Security, eligible categories and some of the details requested were:

1) Operations and firefighter Safety Programs
   - Training: details on instructor-led training activities that lead to national or state certification; basic, operational level firefighting, operational level rescue, driver training or first responder training or officer training
   - Equipment acquisition: details on basic firefighting, rescue, EMS, and CBRNE preparedness equipment; equipment related to health and safety of firefighters or community, interoperability with neighboring departments, or statutory requirements; details on communications and monitoring systems; wireless and broadband mobile data systems, fixed communication systems including base stations, computer aided dispatch, pagers, and repeaters,
   - Personal Protective Equipment (PPE) details for each department: numbers to staff ratio, compliance with MMFPA and OSHA standards
   - Wellness and Fitness Activities: physical exam and immunization history, fitness and injury programs, wellness/fitness programs, equipment and incentives for participation.
   - Modification to Fire Stations and Facilities: details of need for facility modification to meet any of the above, including sprinkler systems, exhaust venting systems, smoke and fire alarm systems and emergency facility generators; details of occupancy and frequency of use of existing facilities

2) Fire Prevention Programs: details on current public education, public awareness, code enforcement and inspector certification, and arson prevention and detection activities. Details on the target communities and level of risk

3) Firefighting Vehicle Acquisition Programs
   -Data on non-compliance with NFPA 1901 or 1906 standards
   -Total vehicles in fleet
   -Vehicle mileage or hours of engine operation
   -Total vehicles in fleet of this type
   -Incident activities (call volume)
   -Vehicle equipment status and condition

4) General Conditions:
   a. Regional agreements: are training, programs, equipment and facilities consistent with current capabilities and requests of neighboring mutual aid partners
   b. Does the department promote inter-operational capacity of equipment/technology
   c. Identify all response to all hazards including flood, fire, seismic, atmospheric, or technological events

APPENDIX F

Hazard and Structural Assessment Forms by Protection District

201.6 FEMA Requirement: Local Mitigation Plans.

The local mitigation plan is the representation of the jurisdiction's commitment to reduce risks from natural hazards, serving as a guide for decision makers as they commit resources to reducing the effects of natural hazards. Local plans will also serve as the basis for the State to provide technical assistance and to prioritize project funding.

(a) *Plan requirement.* (1) For disasters declared after November 1, 2003, a local government must have a mitigation plan approved pursuant to this section in order to receive HMGP project grants. Until November 1, 2003, local mitigation plans may be developed concurrent with the implementation of the project grant.

(2) Regional Directors may grant an exception to the plan requirement in extraordinary circumstances, such as in a small and impoverished community, when justification is provided. In these cases, a plan will be completed within 12 months of the award of the project grant. If a plan is not provided within this timeframe, the project grant will be terminated, and any costs incurred after notice of grant's termination will not be reimbursed by FEMA.

(3) Multi-jurisdictional plans (e.g. watershed plans) may be accepted, as appropriate, as long as each jurisdiction has participated in the process and has officially adopted the plan. Statewide plans will not be accepted as multi-jurisdictional plans.

(b) *Planning process.* An open public involvement process is essential to the development of an effective plan. In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

(1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;

(2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and

(3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

(c) *Plan content.* The plan shall include the following:

(1) Documentation of the *planning process* used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

(2) A *risk assessment* that provides the factual basis for activities proposed in the strategy to reduce losses from identified hazards. Local risk assessments must provide sufficient information to enable the jurisdiction to identify and prioritize appropriate mitigation actions to reduce losses from identified hazards. The risk assessment shall include:

(i) A description of the type, location, and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

(ii) A description of the jurisdiction's vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community. The plan should describe vulnerability in terms of:

(A) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas;

(B) An estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate;

(C) Providing a general description of land uses and development trends within the community so that mitigation options can be considered in future land use decisions.

(iii) For multi-jurisdictional plans, the risk assessment section must assess each jurisdiction's risks where they vary from the risks facing the entire planning area.

(3) *A mitigation strategy* that provides the jurisdiction's blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools. This section shall include:

(i) A description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

(ii) A section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

(iii) An action plan describing how the actions identified in paragraph (c)(2)(ii) of this section will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

(iv) For multi-jurisdictional plans, there must be identifiable action items specific to the jurisdiction requesting FEMA approval or credit of the plan.

(4) A *plan maintenance process* that includes:

(i) A section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

(ii) A process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

(iii) Discussion on how the community will continue public participation in the plan maintenance process.

(5) *Documentation* that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council). For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has been formally adopted.

(d) *Plan review.* (1) Plans must be submitted to the State Hazard Mitigation Officer for initial review and coordination. The State will then send the plan to the appropriate FEMA Regional Office for formal review and approval.

(2) The Regional review will be completed within 45 days after receipt from the State, whenever possible.

(3) Plans must be reviewed, revised if appropriate, and resubmitted for approval within five years in order to continue to be eligible for HMGP project grant funding.

(4) Managing States that have been approved under the criteria established by FEMA pursuant to 42 U.S.C. 5170c(c) will be delegated approval authority for local mitigation plans, and the review will be based on the criteria in this part. Managing States will review the plans within 45 days of receipt of the plans, whenever possible, and provide a copy of the approved plans to the Regional Office.