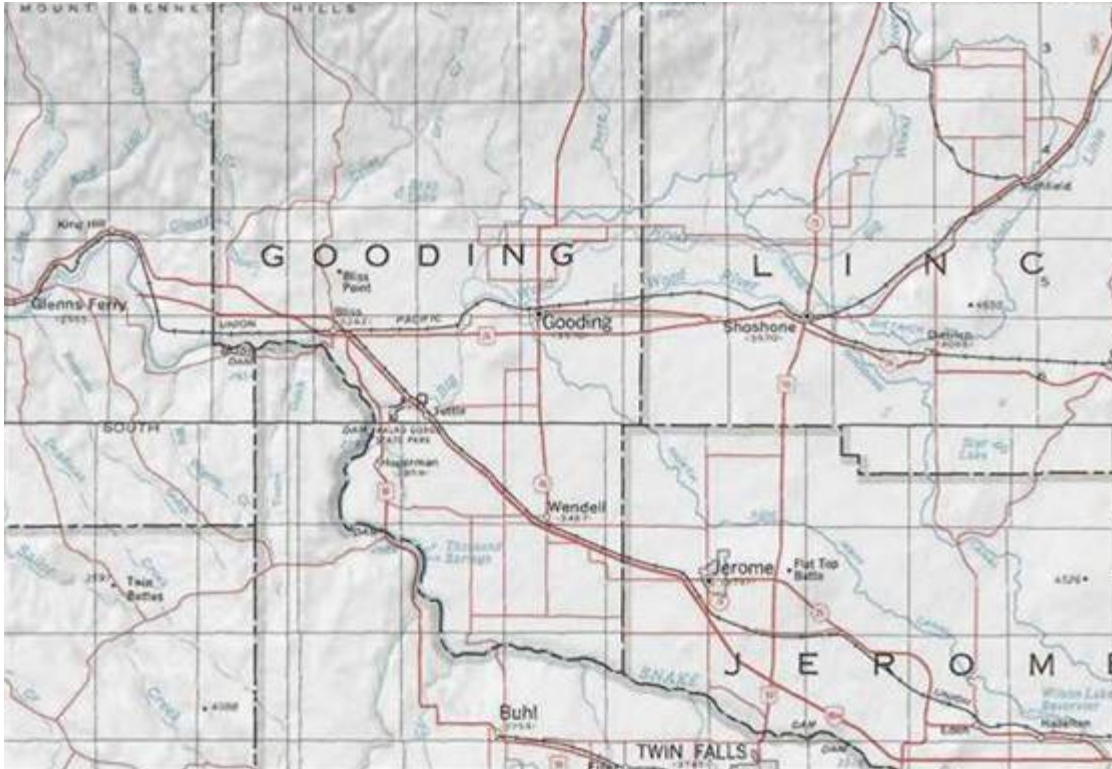


GOODING COUNTY, IDAHO

Wildland Fire Hazard Mitigation Plan

Implementation of the National Fire Plan for Community Assistance
for Protection from Catastrophic Wildland Fires




Prepared for the Board of Commissioners
Gooding County
Gooding, Idaho 83330

Prepared by



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September 2004

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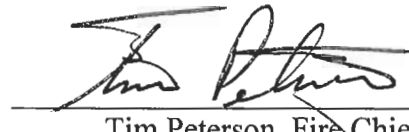

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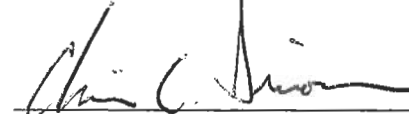

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Table of Contents

1.0	INTRODUCTION	2
2.0	PURPOSE AND GOAL	2
3.0	GENERAL DESCRIPTION OF ASSESSMENT AREA	3
4.0	EXISTING CONDITIONS AND RESOURCES	8
	FIRE HAZARD ASSESSMENT DESCRIPTION FORM	18
	STRUCTURE HAZARD ASSESSMENT DESCRIPTION FORM.....	19
	COMMUNITY ASSESSMENT DESCRIPTION FORM.....	20
5.0	MITIGATION.....	25
	FUELS MITIGATION FOR BLISS FIRE DEPARTMENT	26
	BLISS FIRE DEPARTMENT EXISTING NEEDS AND COSTS.....	28
	FUELS MITIGATION FOR WENDELL FIRE DISTRICT.....	29
	WENDELL FIRE DISTRICT EXISTING NEEDS AND COSTS	31
	FUELS MITIGATION FOR GOODING FIRE DISTRICT	32
	GOODING FIRE DISTRICT EXISTING NEEDS AND COSTS.....	35
	HAGERMAN FIRE DISTRICT EXISTING NEEDS AND COSTS	40
	OPEN AREAS	40
	ENVIRONMENTAL EFFECTS	41
	FIRE PREVENTION PROGRAMS – PUBLIC EDUCATION	43
	REFERENCES	50
	APPENDIX A – NATIONAL FIRE PROTECTION STANDARDS.....	52

List of Tables

TABLE 1. LAND STATUS OF GOODING COUNTY, IDAHO	3
TABLE 2. POPULATIONS OF MAJOR CITIES IN GOODING COUNTY, IDAHO.....	4
TABLE 3. MONTHLY CLIMATE SUMMARY FOR GOODING, IDAHO FOR YEARS 1948 TO 1997	7
TABLE 4. MONTHLY CLIMATE SUMMARY FOR BLISS, IDAHO FOR YEARS 1931 TO 2000.....	7
TABLE 5. MONTHLY CLIMATE SUMMARY FOR HAGERMAN, IDAHO FOR YEARS 1982 TO 2003	7
TABLE 6. GOODING COUNTY FIRE HISTORY FOR YEARS 1994 TO 2001*	9
TABLE 7. LANDOWNERSHIP IN ACRES FOR GOODING COUNTY FIRE PROTECTION DISTRICTS	12
TABLE 8. SUMMARY OF THE GOODING FIRE DISTRICT ASSESSMENT.	14
TABLE 9. SUMMARY OF THE WENDELL FIRE DISTRICT ASSESSMENT.....	14
TABLE 10. SUMMARY OF THE HAGERMAN FIRE DISTRICT ASSESSMENT.....	15
TABLE 11. SUMMARY OF THE BLISS FIRE DISTRICT ASSESSMENT.....	16
TABLE 12. FIRE HAZARD ASSESSMENT DESCRIPTION.....	18
TABLE 13. STRUCTURE HAZARD ASSESSMENT DESCRIPTION	19
TABLE 14. COMMUNITY ASSESSMENT DESCRIPTION.....	20
TABLE 15. SUMMARY TABLE OF FIRE AND STRUCTURAL HAZARD ASSESSMENT FORMS.....	22
TABLE 16. SUMMARY TABLE OF COMMUNITY ASSESSMENT FORMS.....	23
TABLE 17. OVERALL VALUES FOR FIRE/STRUCTURE AND COMMUNITY ASSESSMENTS.....	24
TABLE 18. BLISS FIRE DEPARTMENT EXISTING NEEDS: PERSONNEL AND CAPITAL EXPENSES.....	28
TABLE 19. BLISS FIRE DEPARTMENT EXISTING NEEDS: TRAINING AND CERTIFICATION	28
TABLE 20. BLISS FIRE DEPARTMENT EXISTING NEEDS: COMMUNICATION.....	29
TABLE 21. BLISS FIRE DEPARTMENT EXISTING NEEDS: PREVENTION AND INSPECTION	29
TABLE 22. BLISS FIRE DEPARTMENT EXISTING NEEDS: PUBLIC EDUCATION	29
TABLE 23. WENDELL FIRE DISTRICT EXISTING NEEDS: CAPITAL EXPENSES.....	31
TABLE 24. WENDELL FIRE DISTRICT EXISTING NEEDS: TRAINING AND CERTIFICATION	31
TABLE 25. WENDELL FIRE DISTRICT EXISTING NEEDS: COMMUNICATION	31
TABLE 26. WENDELL FIRE DISTRICT EXISTING NEEDS: PREVENTION AND INSPECTION	32
TABLE 27. WENDELL FIRE DISTRICT EXISTING NEEDS: PUBLIC EDUCATION.....	32
TABLE 28. GOODING FIRE DISTRICT EXISTING NEEDS: CAPITAL EXPENSES	35
TABLE 29. GOODING FIRE DISTRICT EXISTING NEEDS: TRAINING AND CERTIFICATION	35
TABLE 30. GOODING FIRE DISTRICT EXISTING NEEDS: COMMUNICATION	35

TABLE 31. GOODING FIRE DISTRICT EXISTING NEEDS: PREVENTION AND INSPECTION	35
TABLE 32. GOODING FIRE DISTRICT EXISTING NEEDS: PUBLIC EDUCATION	36
TABLE 33. HAGERMAN FIRE DISTRICT EXISTING NEEDS: CAPITAL EXPENSES.....	40
TABLE 34. HAGERMAN FIRE DISTRICT EXISTING NEEDS: TRAINING AND CERTIFICATION	40
TABLE 35. HAGERMAN FIRE DISTRICT EXISTING NEEDS: COMMUNICATION.....	40
TABLE 36. HAGERMAN FIRE DISTRICT EXISTING NEEDS: PREVENTION AND INSPECTION	40
TABLE 37. HAGERMAN FIRE DISTRICT EXISTING NEEDS: PUBLIC EDUCATION....	40
TABLE 38. A CHECKLIST FOR HOMEOWNERS	44
TABLE 39. MITIGATION SUMMARY FOR GOODING COUNTY.....	46

List of Figures

FIGURE 1. GOODING COUNTY LAND OWNERSHIP, COUNTY ROADS, AND FIRE DISTRICTS.	5
FIGURE 2. GOODING COUNTY VEGETATION MAP.....	6
FIGURE 3. HISTORICAL FIRE PERIMETERS FOR YEARS 1970 TO 2003	10
FIGURE 4. SLOPE RISK MODEL FOR GOODING COUNTY.	13
FIGURE 5. BLISS FIRE DEPARTMENT SHOWING RADIO DEAD ZONE AND PROPOSED FUEL BREAKS	27
FIGURE 6. HEAVY FUELS AND NO SURVIVABLE SPACEAROUND HOME ALONG OLD HIGHWAY 30 JUST INSIDE BLISS FIRE DEPARTMENT BOUNDARY.	28
FIGURE 7. WENDELL FIRE DISTRICT SHOWING PROPOSED FUEL BREAKS AND DRY HYDRANT.....	30
FIGURE 8. HILLTOP SUBDIVISION SHOWING DENSE SAGEBRUSH FUELS.	31
FIGURE 9. GOODING FIRE DISTRICT SHOWING PROPOSED FUEL BREAKS AND DRY HYDRANT.....	33
FIGURE 10. FUELS ADJACENT TO HOME IN THE PAULIN ADDITION.....	34
FIGURE 11. FUELS ADJACENT TO HOME IN SANDHILL SUBDIVISION.	34
FIGURE 12. DRY HYDRANT LOCATION ALONG THE BIG WOOD RIVER.....	35
FIGURE 13. HAGERMAN FIRE DISTRICT SHOWING THE LOCATION OF NUMEROUS PROPOSED FUEL BREAKS.	37
FIGURE 14. NATIONAL FISH HATCHERY SHOWING RESULTS OF MARCH 20, 2004 BURN.	38
FIGURE 15. HEAVY FUEL LOADS SEEN AT THE STATE FISH HATCHERY.....	38
FIGURE 16. HEAVY FUEL LOADS SEEN DOWNSLOPE FROM THE HUNTERS POINT ESTATES.	38
FIGURE 17. BELL RAPIDS SUBDIVISION – HEAVY FUEL LOADS ON STEEP SLOPES WITH LITTLE SURVIVABLE SPACE.....	39
FIGURE 18. BELL RAPIDS SUBDIVISION - STEEP ACCESS ROAD ALLOWING PASSAGE ONLY FOR A COMMAND OR WILDLAND TRUCK.....	39

DISCLAIMER

North Wind, Inc. has prepared this Wildland Fire Hazard Mitigation Plan solely for Gooding 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 Gooding 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 Gooding County, Idaho by North Wind, Inc. North Wind, Inc. shall not be held liable for problems or issues associated with implementing the actions contained in this report.

1.0 INTRODUCTION

After the record-breaking wildfire season of 2000, Congress approved funds for federal and state agencies and local communities to develop and implement a national strategy for preventing the loss of life, natural resources, private property and livelihoods. The result of that planning and preparation is commonly known as the “National Fire Plan” (NFP) (U.S. Department of Agriculture [USDA] 2002). This plan was approved in September 2000 and is fully titled *Managing the Impacts of Wildfire on Communities and the Environment: A Report to the President in Response to the Wildfires of 2000*. The NFP includes five key points: 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. For this effort, the *Idaho Statewide Implementation Strategy for the National Fire Plan* (Kempthorne et al. 2002) was developed. It was approved in May 2002 and involved cooperation and collaboration of the Secretary of Interior, Secretary of Agriculture, the Governors of Montana, Wyoming, Idaho, and Oregon, and the Director of the Council on Environmental Quality. The primary goals of the Idaho Plan are to improve prevention and suppression of wildfire, reduce hazardous fuels, restore fire-adapted ecosystems, and promote community assistance.

2.0 PURPOSE AND GOAL

The purpose of this mitigation plan is to identify and mitigate wildfire risks and negative consequences in communities and Wildland Urban Interface (WUI) areas within four Fire Districts (Figure 1) of Gooding County, Idaho. For the purpose of this plan a WUI is defined as “the geographical area where structures (subdivisions and additions) and other human development meets or intermingles with wildland or vegetative fuels.” The mitigation plan addresses Federal Emergency Management Agency (FEMA) criteria contained in 44 CFR Part 201.6 and follows guidance from the *Idaho Statewide Implementation Strategy for the National Fire Plan* (Kempthorne et al. 2002) by:

- Identifying fire hazards that affect Gooding County and its residents
- Providing sufficient information to make mitigation decisions
- Discussing existing resources that are most current and best available
- Describing the process used to develop the plan
 - How it was prepared, who was involved in the process, and how the public was involved
- Maintaining the plan
 - How it will be monitored, evaluated, and updated annually within a five-year cycle

The plan will be maintained by a group of Gooding County residents or Wildland Fire Interagency Group. The group will be represented by agencies countywide with wildland fire suppression experience and responsibilities. County Commissioners will take the lead for monitoring the plan while the other group members evaluate the risks and vulnerabilities to wildland fire within their area of concern. The maintenance process will allow local governments, when appropriate, to incorporate the requirements of the plan into other planning

mechanisms such as comprehensive or capital improvement plans which will include public participation through scheduled hearings and meetings.

The overall goal of this plan is to reduce the frequency of wildfires spreading from city or private property to public lands and from spreading from public lands to municipal property. Fire fighter safety will always come first. This goal will be achieved by reducing fuels in high risk areas and conducting public education and the training programs throughout the county.

3.0 GENERAL DESCRIPTION OF ASSESSMENT AREA

Gooding County was established January 28, 1913 with its county seat at Gooding. It encompasses 733 square miles. The topography of the county is relatively flat with some rolling hills. Gooding County is predominately made up of rural and agricultural areas with a few smaller urban developments. The cities of Gooding, Bliss, Hagerman and Wendell have experienced growth and development. The majority of the development has occurred along the major highways and the two Union Pacific rail lines that travel through the county. Most of the industries within the county are related to agriculture products, their production, harvest or shipping.

Landownership

Gooding County contains approximately 469,997 acres divided among four landowners (Table 1). Figure 1 shows Gooding County land ownership and the four fire districts. State and federal lands located north are covered by mutual aid agreements including BLM and both Camas and Gooding fire districts. Figures 5, 7, 9 and 13 show individual fire districts.

Table 1. Land Status of Gooding County, Idaho

Owner	Acres	Percent
BLM	252,461	54
USFWS	84	>1
Water	2,427	>1
Private	195,347	42
State	19,678	4
TOTAL	469,997	100

Population and Demographics

There are 14,155 people, 5,046 occupied households, and 3,719 families in Gooding County (2000 Census). Nearly half or 6,652 persons reside in one of the major cities (Table 2), while the other half resides in rural areas comprised of farmers, ranchers and persons desiring a rural lifestyle. The population density is 19.3 persons per square mile. The city of Gooding is the county seat and also contains the largest number of persons.

Table 2. Populations of major cities in Gooding County, Idaho

Major Cities – Gooding County, Idaho	2000 Population Census
Non-City	7,503
Gooding	3,384
Bliss	276
Hagerman	656
Wendell	2,336
Total	14,155

Topography and Vegetation

Gooding County is located in the Snake River Plain of South Central Idaho. The topography is generally flat with some rolling hills. The majority of the private land (Table 1) has been developed for agricultural use where seed crops such as alfalfa hay, potatoes, beets, and grains are produced. The public lands are primarily used for grazing and are undeveloped. The elevation of the community ranges from 2,900 to 5,025 feet. The northern extents of the county contain an area known as the City of Rocks, which is named for its geologic formations. The undeveloped public lands in Gooding County are dominated by sagebrush steppe and grassland habitats. Some of the more common plant species that occur in these habitats include: Wyoming big sagebrush (*Artemisia tridentata* spp. *wyomingensis*), basin big sagebrush (*Artemisia tridentata* spp. *tridentata*), mountain big sagebrush (*Artemisia tridentata* spp. *vaseyana*), low sagebrush (*Artemisia arbuscula*), green rabbitbrush (*Chrysothamnus viscidiflorus*), bluebunch wheatgrass (*Pseudoroegneria spicata*), Idaho fescue (*Festuca idahoensis*), Sandberg bluegrass (*Poa secunda*), Thurber needlegrass (*Achnatherum thurberianum*), and arrowleaf balsamroot (*Balsamorhiza sagittata*).

Gooding County FMP

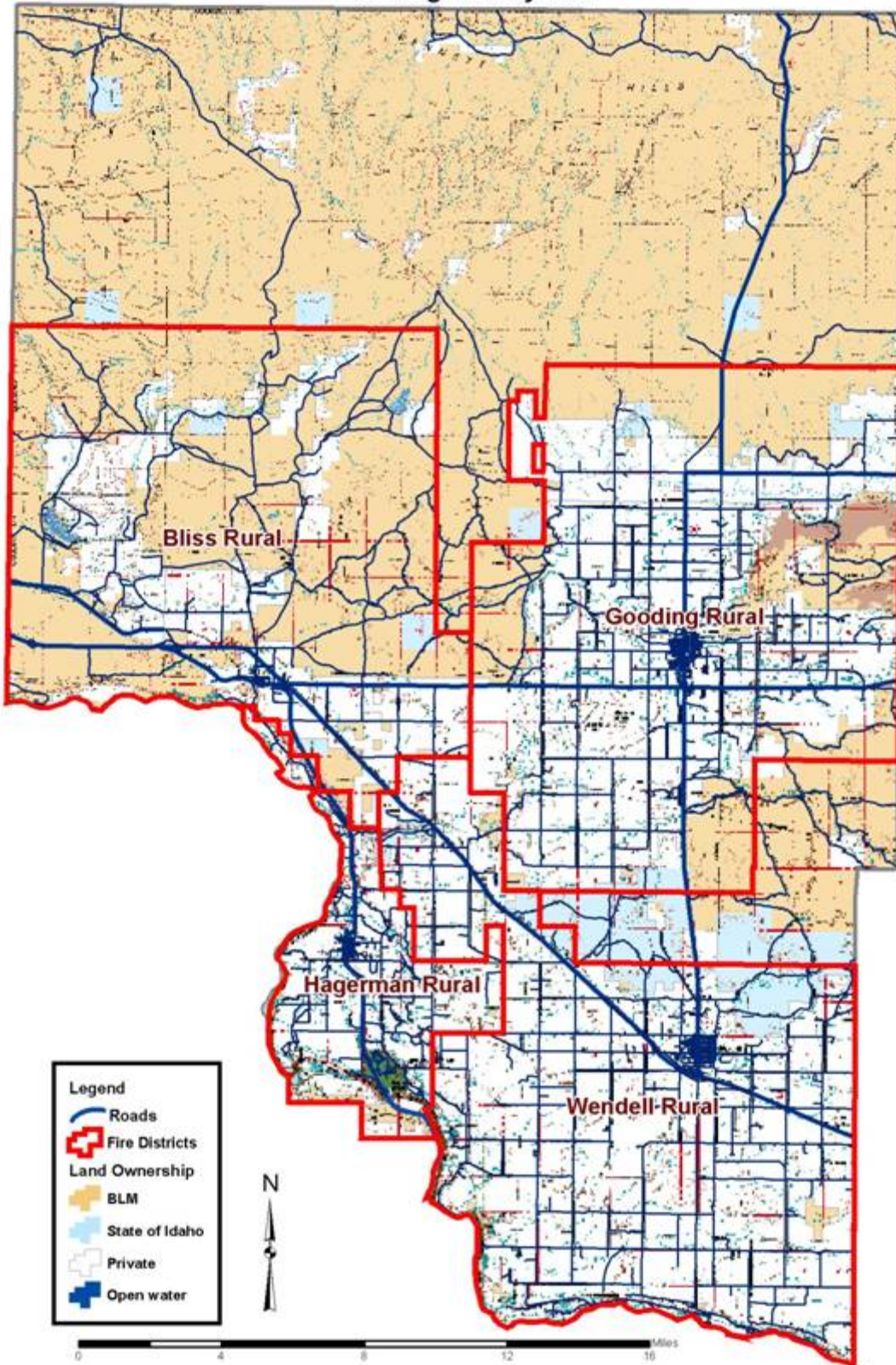


Figure 1. Gooding County land ownership, county roads, and Fire Districts.

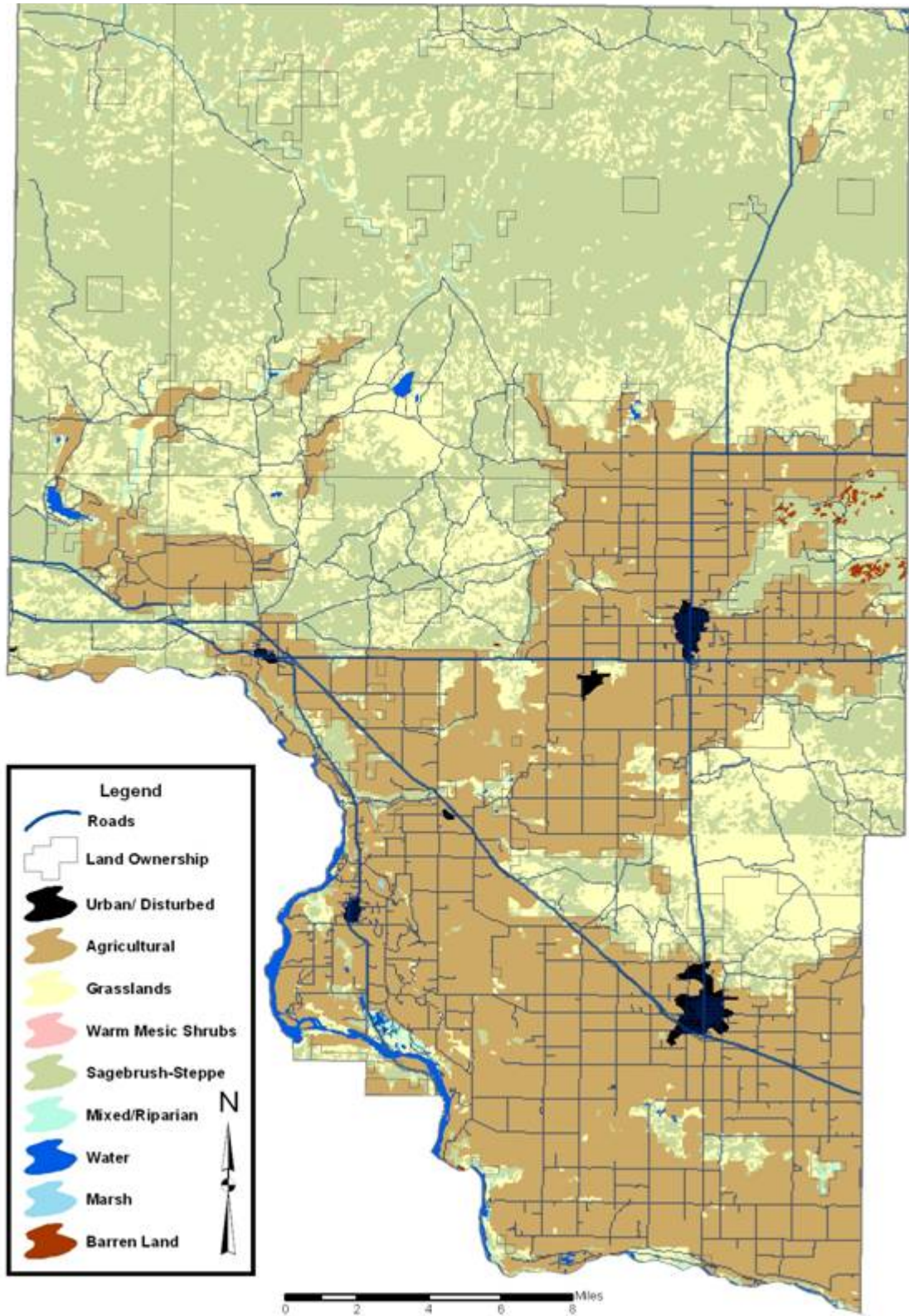


Figure 2. Gooding County vegetation map.

Climate

Climate in Gooding County is generally consistent with other counties located along the Snake River Plain. In winter the average daily maximum temperatures is 40 degrees Fahrenheit (F) and the average daily minimum is 21 degrees F. In summer the average daily maximum temperature is 86 degrees F and the average minimum temperature is 50 degrees F. In general the summer days are hot and the nights are fairly cool. Precipitation during the summer months is limited to isolated showers and thunderstorms that produce localized precipitation. Months of July through October represent the lowest average total precipitation recorded and coincide with the peak fire season when summer storms likely occur. Winter conditions usually arrive in mid-November. Snowfall is the primary source of precipitation for the county. Snow levels in the county vary between communities due to elevation.

Tables 3 and 5 summarize long-term climatic data for Gooding, Bliss, and Hagerman, ID. Data from these weather stations provide a good cross-section of the lower portions of Gooding County’s weather patterns.

Table 3. Monthly Climate Summary for Gooding, Idaho for years 1948 to 1997

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	33.9	41.0	50.3	62.1	70.8	79.9	89.9	88.2	79.0	65.7	48.1	37.6	62.2
Average Min. Temperature (F)	18.4	22.1	27.9	35.1	42.1	49.2	56.2	54.0	46.3	36.9	26.5	21.4	36.4
Average Total Precipitation (in.)	1.45	0.84	0.91	0.61	1.00	0.70	0.18	0.23	0.50	0.51	0.99	1.44	9.36
Average Total Snowfall (in.)	10.2	5.0	1.7	0.1	0.1	0.0	0.0	0.0	0.0	0.0	2.1	6.9	26.2
Average Snow Depth (in.)	3	3	1	0	0	0	0	0	0	0	0	1	1

Table 4. Monthly Climate Summary for Bliss, Idaho for years 1931 to 2000

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	36.7	43.3	53.2	64.5	73.8	82.2	92.2	90.6	80.4	67.6	49.8	39.3	64.5
Average Min. Temperature (F)	19.2	23.2	28.2	34.3	41.6	48.7	54.6	52.1	43.8	35.0	26.9	21.4	35.7
Average Total Precipitation (in.)	1.33	0.97	0.92	0.74	0.85	0.72	0.22	0.23	0.42	0.60	1.28	1.18	9.45
Average Total Snowfall (in.)	7.2	4.0	1.4	0.3	0.0	0.0	0.0	0.0	0.0	0.1	2.8	4.7	20.5
Average Snow Depth (in.)	2	2	0	0	0	0	0	0	0	0	0	1	0

Table 5. Monthly Climate Summary for Hagerman, Idaho for years 1982 to 2003

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	41.6	48.7	58.3	66.7	76.3	85.1	93.6	92.8	82.8	70.5	52.3	40.1	67.4
Average Min. Temperature (F)	21.6	24.1	30.7	35.7	43.4	49.9	54.3	51.7	42.8	33.7	26.7	19.7	36.2
Average Total Precipitation (in.)	1.21	1.12	1.10	0.73	0.96	0.70	0.23	0.34	0.42	0.62	1.34	1.42	10.21
Average Total Snowfall (in.)	2.7	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.5	4.4
Average Snow Depth (in.)	0	0	0	0	0	0	0	0	0	0	0	0	0

4.0 EXISTING CONDITIONS AND RESOURCES

This section focuses on wildland fire issues and how they impact current conditions in Gooding County. Existing conditions and resources were determined by: (1) interviews with all local fire chiefs, as well as local, state, federal employees, and county residents. (2) surveying and photographing subdivisions within a WUI that were identified by fire chiefs as areas of concern, (3) documenting and photographing fuel loads within these subdivisions and along subdivision access roads, (4) recording all information on specific forms (see Field Assessment Forms and Ratings - Tables 11, 12, and 13) and in accordance with a Assessment Ignition Model (Cohen, 1995) and, (5) locating potential fire fighting water sources such as hydrants, ponds, live streams, and irrigation mainline access points (Figures 5, 7, 9, 12, and 13).

Risk of Fires and Fire Frequency

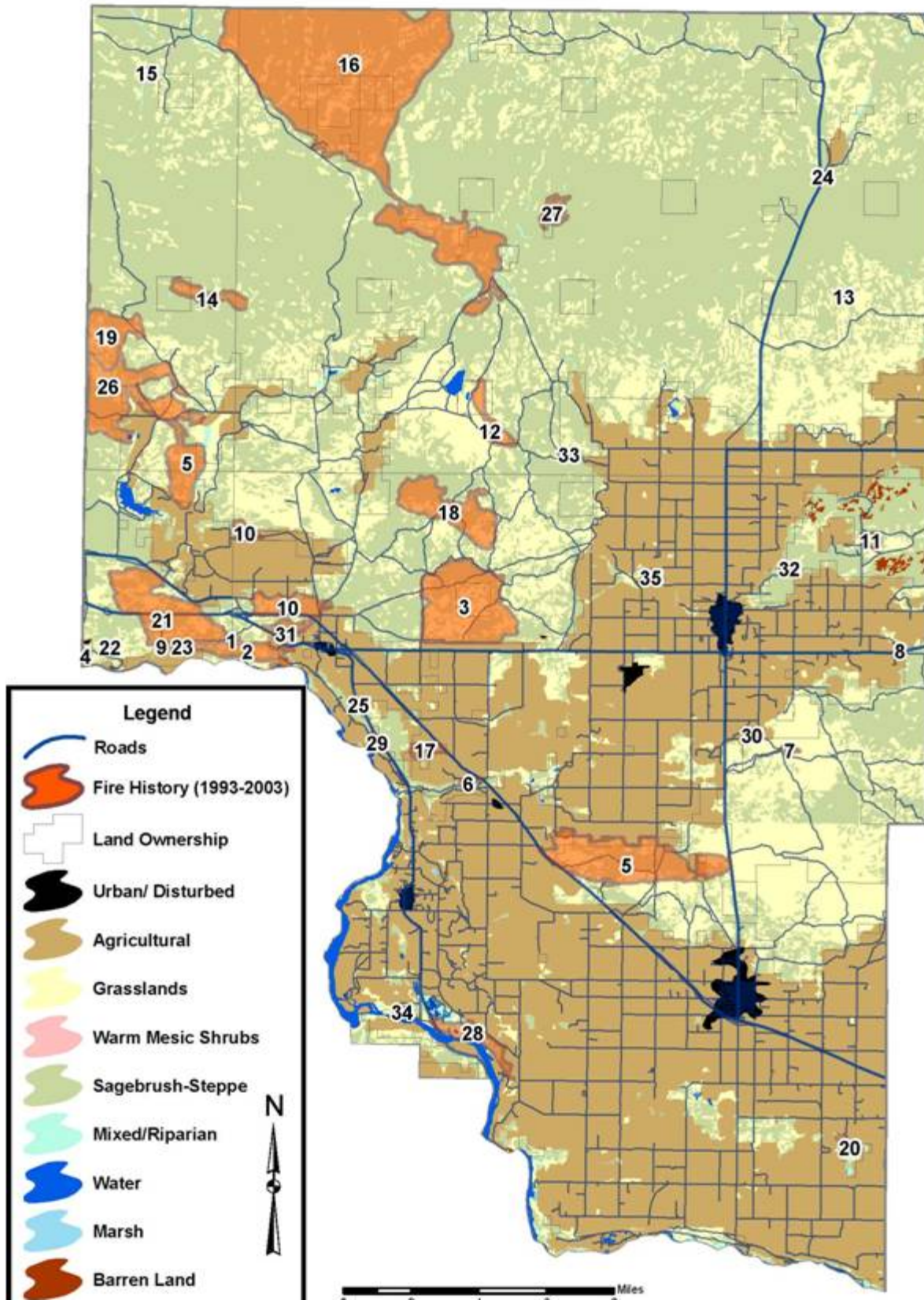
Wildfire risk within and around Gooding County is generally moderate due to the proximity of large areas of agricultural land. Areas adjacent to the Snake River Canyon are high risk due to fuel loads, lack of survivable space around structures, and higher population density during the fire season. Areas of Gooding County are not included in a designated Fire District but are included in mutual aid agreements with BLM and Buhl Fire District. Figure 3 shows fuel loads and historical fire perimeters. Table 6 shows a number corresponding to the location of a particular fire seen on Figure 3; fire years; individual fires; and, acres burned (10 or more) for years 1994 to 2001. These data represent only wildland mutual aid fires on BLM and do not include grass and brush fires, structural or other fires. However, fire records are available by contacting district fire chiefs. Overall, the highest fire frequency is shown in the northern portion of the county in sagebrush-grassland vegetation types. It is likely this trend will continue in these vegetation types due to the accumulation of flammable fuels over the past decade.

Table 6. Gooding County fire history for years 1994 to 2001*

Number*	Year	Fire**	Acres
1	1994	Bliss 1W	22
2	1995	Bliss Canyon	717
3	1995	Indiana Lot	3,482
4	1995	Swiss Valley	25
5	1996	North Wendell	3,308
6	1996	Malad GSP1	53
7	1996	Gooding SE	31
8	1996	Main Canal	15
9	1996	Ticeska East	95
10	1996	Pioneer	910
11	1996	Avonmore	137
12	1996	Dead Horse	436
13	1996	Turkey	22
14	1996	Calf Creek	485
15	1996	Dempsey Creek	12
16	1996	Davis Mountain	15,617
17	1996	Calderon 1	176
18	1996	Bray	1,775
19	1997	Calf Creek	1,023
20	1997	Wendell IST	88
21	1997	Wood Tick	2,601
22	1998	Ticeska	21
23	1998	UPRRMP 355	18
24	1999	Rattlesnake	12
25	1999	2 S Bliss	15
26	1999	Bell Mare	3,950
27	2000	Dry Creek	297
28	2000	Ostler Pond	576
29	2000	Bliss Rim	33
30	2001	Canal	11
31	2001	West Bliss	231
32	2001	Poor Man	43
33	2001	McKinney	25
34	2001	Rural Assist #11	58
35	2001	Rural Assist #6	64
		Total	36,364

*See Figure 3, page 10

**BLM mutual aid fires only



Slope Risk Model

Figure 4 shows the Slope Risk Model for Gooding County. Steep slopes cause fires to spread rapidly because of convection and radiant heat and the fact that the flames are closer to the fuels. With the exception of the Snake River corridor within the Hagerman Fire District the steepest slopes are located in the northern portion of the county. There is a correlation between the historical fire perimeters (Figure 3) and the agricultural lands seen in slope risk model (Figure 4). Most of the wildland fires have burned up to the agriculture land or the ignition point was at the agriculture land. There is also a correlation in the north end of the county (BLM land) between total acres burned (Figure 3) and the steepness of slopes (Figure 4). This would suggest a longer response time to the fires and a greater effort to suppress these fires.

Mutual Aid Agreements

Mutual aid agreements exist among the four FPDs and Jerome County Fire Protection District (signed January 23, 1976). This allows for temporary equipment and personnel assignments to other districts on an as needed basis. Hagerman FPD has mutual aid agreements with Shoshone and Buhl fire (signed October 7, 1996) districts and training requirements consistent with these fire departments. The Magic Valley Emergency Response Team Mutual Aid Agreement exists within the Gooding County Fire Districts. This agreement includes Fire Districts and fire agencies from surrounding counties and is overseen by the Operations Committee of the Region IV Local Emergency Planning Committee. The Districts also have mutual aid agreements with the Buhl FPD, U.S. Park Service, and the Bureau of Land Management.

Parcels vs. Subdivisions

The County and State subdivision regulations cover dividing of lands within the county, but there are many pieces of land, or parcels that have homes on them that in some cases predate existing regulations. These parcels are not part of a legal subdivision and may have different regulations covering their future development. The corner lands not covered by center pivot irrigation systems will most likely be developed for single homes under the regulations covering parcels.

Description of Assessment Areas

Gooding County assessment area includes four Fire Districts that encompass 291,718 acres of 469,997 acres in the entire county. The remaining 178,279 acres are BLM lands. Gooding County Fire Districts are Gooding, Wendell, Hagerman, and Bliss. The major population centers within the county are the cities of Gooding, Wendell, Hagerman, and Bliss, ID. Figure 1 illustrates the boundaries of the Fire Districts within Gooding County.

Table 7. Landownership in acres for Gooding County Fire Protection Districts

	BLM	USFWS	NPS	State	Private	Water	Total
Gooding	28,491		224	1,874	66,495		97,084
Wendell	1,168			5,158	76,947	692	83,965
Hagerman	974	84		817	19,032	845	20,107
Bliss	58,835			1,348	28,268	466	88,917
Total	89,468	84	224	9,197	190,742	2,003	291,718
Non-District (Open Areas)	162,993			10,481	4605	424	178,279
Total	252,461	0		19,678	195,347	2,427	469,997

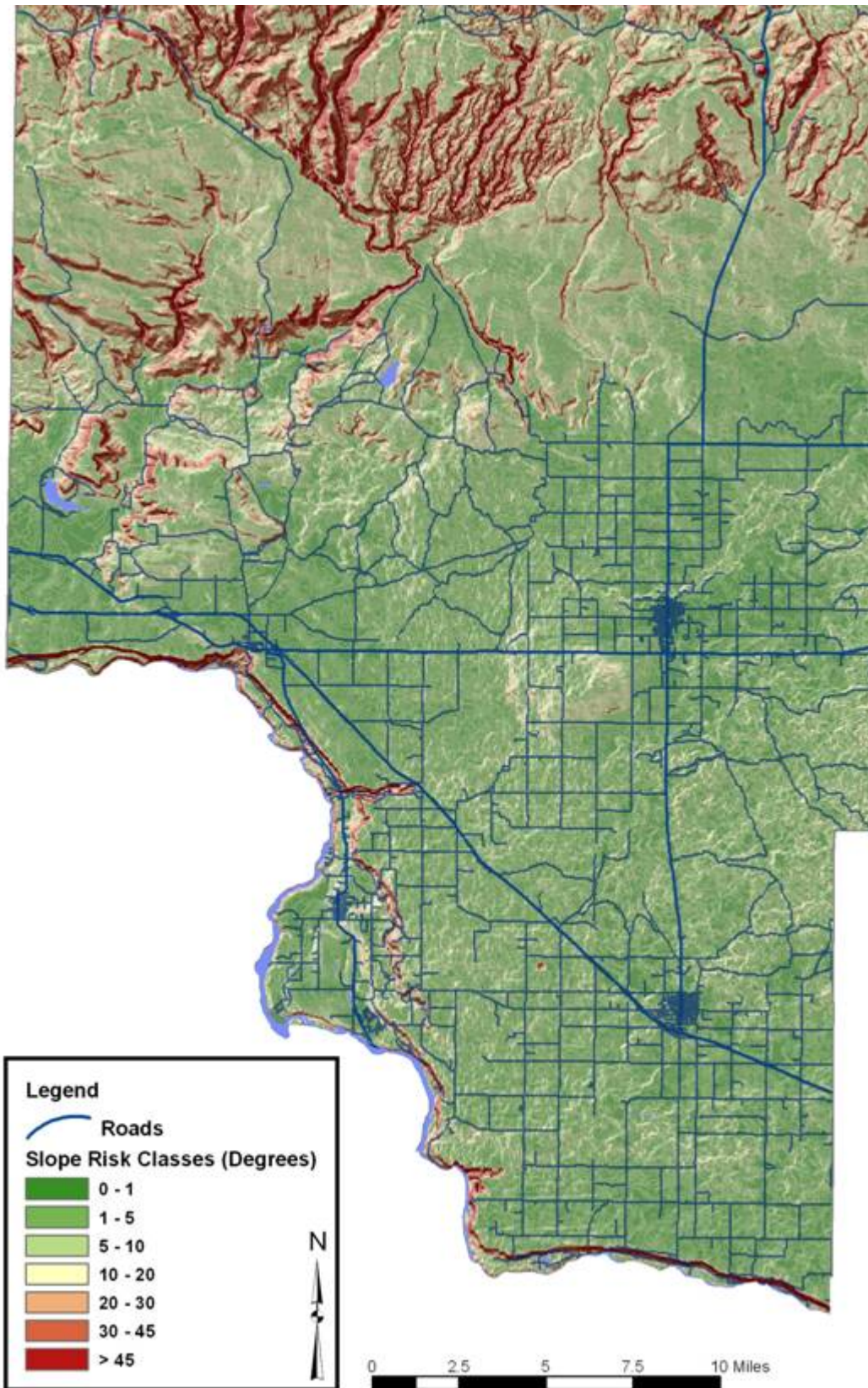


Figure 4. Slope risk model for Gooding County.

Fire District Current Resources and Assets

Standardized forms were created to assess current Fire District resources and assets. These forms provide accuracy and consistency in the evaluation process and will be updated as new information becomes available.

Gooding Fire District

Table 8. Summary of the Gooding Fire District Assessment.

Gooding Fire District Assessment Overview – Resources and Assets	
Facilities	The main fire station, located in Gooding, ID is the only permanent fire facility in this Fire District. It houses all district and city fire fighting apparatus, offices and training facilities.
Response Area	Gooding Fire District includes the northeast quarter of Gooding County. It is comprised of agricultural land with areas of sagebrush/grasslands interspersed with residential developments. The north end of the Fire District is BLM land with mutual aid agreements in place with that agency.
Budget and Funding	The primary portion of the Fire District funding comes from taxes.
Grants	This Fire District has received grants from AFF and DHS sources.
Records Management	This Fire District has a computerized RMS program, personnel training records database, and inventory data base program in place.
Hazardous Materials Program	This district does not have a Hazmat team. MVERT mutual aid agreement and ISP provide Hazmat response teams to this Fire District.
EMS Program	First responder training has been completed and is in use.
Training and Certification	Training records for fire personnel are available at the Gooding Fire District. The records include: Names and training history (hours, courses, refresher courses, and certification) of all volunteer employees back to at least 2000.
Communications (see Table 37)	All emergency fire-fighting vehicles have radio communications. Handheld radios are available when needed. Dispatch duties are handled through Southern Idaho Regional Communication Center (SIRCOM).
Prevention and Inspection	Authorized Fire District personnel perform fire code enforcement and fire inspections.
Public Education	Fire personnel provide programs in structural, wildland, and home fire safety. Fire personnel conduct annual visits to grade schools to promote fire prevention and home fire safety programs.

Wendell Fire District

Table 9. Summary of the Wendell Fire District Assessment.

Wendell Fire District Assessment Overview – Resources and Assets	
Facilities	The main fire station, located in Wendell, ID is the only permanent fire facility in this Fire District. It houses all district and city fire fighting apparatus, offices and training facilities.
Response Area	Wendell Fire District is located in the southeast corner of Gooding County. It is comprised of agricultural lands interspersed with sagebrush/grasslands. The main agricultural activities are potato, hay and dairy farming. The southern boundary of Wendell Fire District lies along the Snake River, with the eastern boundary being shared with Jerome County, the western boundary is Hagerman Fire District, and the northwest boundary is shared with Bliss Fire District the northern

	boundary is shared with Gooding Fire District and an area of BLM and state land. There are 17 miles of Interstate 84 within this Fire District.
Budget and Funding	Funding for this Fire District is derived from 76% taxes, 23% grants and 1% donation.
Grants	This Fire District has received grants from FEMA, Idaho State Department of Health and Welfare, Southern Idaho Fire Co-op and The Office of Highway Safety Assistance Programs.
Records Management	This Fire District has a computerized personnel training records database, emergency call volume, fire fighting agreements and equipment maintenance.
Hazardous Materials Program	This district does not have a Hazmat team. MVERT mutual aid agreement and ISP provide Hazmat response teams to this Fire District.
EMS Program	EMS services are separate from Fire District activities and are managed by a separate board of directors.
Training and Certification	Training records for fire personnel are available at the Wendell Fire District. The records include: Names and training history (hours, courses, refresher courses, and certification) of all volunteer employees back to at least 2000.
Communications (see Table 37)	All emergency firefighting vehicles have radio communications. Handheld radios are available when needed. Dispatch duties are handled through Southern Idaho Regional Communication Center (SIRCOM).
Prevention and Inspection	Trained fire personnel enforce fire codes in accordance with the International Fire Code. The Fire District is in the process of training additional inspectors for enforcement and education activities.
Public Education	Fire personnel conduct annual visits to the fire station for grade school children to promote fire prevention and home fire safety programs. Fire personnel conduct public awareness programs about WUI environments annually.

Hagerman Fire District

Table 10. Summary of the Hagerman Fire District Assessment.

Hagerman Fire District Assessment Overview – Resources and Assets	
Facilities	The main fire station, located in Hagerman, ID is the only permanent fire facility in this Fire District. It houses all district and city fire fighting apparatus, offices and training facilities.
Response Area	Hagerman Fire District is located in the southwest corner of Gooding County. The shared boundaries are Twin Falls County to the south and west, Bliss Fire District to the north, and Wendell Fire District to the east. The west side of this district is private lands interspersed with homes and recreational properties. Hagerman Fire District has a large seasonal recreational population that occupies homes and cabins along the Snake River. The east side above the Snake River Canyon is agricultural properties with potato and dairy farms comprising most of the properties. There are small vineyards along the Snake River to the north of the town of Hagerman, ID where the fire department is located.
Budget and Funding	The primary portion of the Fire District funding comes from taxes.
Grants	This Fire District has received grants from FEMA, Idaho State Department of Commerce, BLM Rural Assistance and Nation Fish and Wildlife Rural Assistance Programs.
Records Management	This Fire District has a computerized personnel training records database, emergency call volume, fire fighting agreements and equipment maintenance.

Hazardous Materials Program	This district does not have a Hazmat team. MVERT mutual aid agreement and ISP provide Hazmat response teams to this Fire District.
EMS Program	EMS services are separate from Fire District activities. Funding is provided through the Fire District for these services.
Training and Certification	Training records for fire personnel are available at the Hagerman Fire District. The records include: Names and training history (hours, courses, refresher courses and certification) of all volunteer employees back to at least 2000.
Communications (see Table 37)	All emergency firefighting vehicles have radio communications. Handheld radios are available when needed. Dispatch duties are handled through Southern Idaho Regional Communication Center (SIRCOM).
Prevention and Inspection	Three state certified Fire District personnel perform fire code enforcement and fire inspections.
Public Education	Fire personnel conduct annual visits to grade schools to promote fire prevention and home fire safety programs.

Bliss Fire District

Table 11. Summary of the Bliss Fire District Assessment.

Bliss Fire District Assessment Overview – Resources and Assets	
Facilities	The main fire station, located in Bliss, ID is the only permanent fire facility in this Fire District. It houses all district and city fire fighting apparatus, offices and training facilities.
Response Area	Bliss Fire District is located in the northwest corner of Gooding County. This Fire District shares boundaries with Elmore County on the west BLM lands on the north and east, Gooding Fire District on the southeast, Wendell Fire District on the south, and Hagerman Fire District to the south. This Fire District is comprised mostly of agriculture and BLM lands with areas of recreational properties along the Snake River Canyon. Bliss Fire District has several residential areas that are associated with agricultural activities such as dairy, potato farming, and ranching. Interstate 84 and Union Pacific Railroad lines traverse this district along the southern edge from east to west.
Budget and Funding	The primary portion of the Fire District funding comes from taxes.
Grants	This Fire District has received grants from FEMA, Homeland Security, and BLM Rural Assistance.
Records Management	This Fire District has a computerized personnel training records database, emergency call volume, fire fighting agreements and equipment maintenance.
Hazardous Materials Program	This district does not have a Hazmat team. MVERT mutual aid agreement and ISP provide Hazmat response teams to this Fire District.
EMS Program	EMS services are separate from Fire District activities and are managed by a separate board of directors.
Training and Certification	Training records for fire personnel are available at the Bliss Fire District. The records include: Names and training history (hours, courses, refresher courses, and certification) of all volunteer employees back to at least 2000.
Communications (see Table 37)	All emergency firefighting vehicles have radio communications. Handheld radios are available when needed. Dispatch duties are handled through Southern Idaho Regional Communication Center (SIRCOM).
Prevention and Inspection	Four state certified Fire District personnel perform fire code enforcement and fire inspections.
Public Education	At this time this Fire District has no formal public education program in place.

Fire Fighting Apparatus

The following equipment lists are by Fire District and includes only serviceable, fully equipped apparatus. The four Fire Districts have fire fighting equipment required for structure and wildland fires. Hagerman, Wendell, and Gooding Fire Districts also have equipment for extrication rescue operations. All active fire/emergency personnel have pager and/or radio communication to respond to an emergency call. VHF radios are in wildland fire vehicles to communicate with BLM and other government emergency responders.

Gooding Fire District Equipment

1986 Chevrolet Heavy Wildland Fire Engine
1990 Ford Light Wildland Fire Engine
1978 Ford 2000gal Tanker
1988 International 3800gal Water-tender
1982 Welch/GMC Type 1 Structure Engine 1000gpm
1988 Ford Type 1 Structure Engine 1000gpm (county/city co-owned)

Hagerman Fire District Equipment

1996 Saber class A Pump truck 750gal tank, 1500gpm,
2002 International Tanker 2000gal, 250gpm
1978 Chevrolet Tanker 1500gal, 250gpm
1976 Dodge Tanker 1000gal, 250gpm
1986 Chevrolet 4x4 Heavy Brush Truck 860gal, 250gpm
1981 GMC 4x4 Light Brush Truck 250gal, 150gpm
1989 Dodge Power Ram 100 4x4 Command Truck

Wendell Fire District Equipment

2001 Dodge Dakota Pickup Command/Support Vehicle
1976 Ford L-900 2000gal. Type 3 Wildland Engine
2003 F-450 Rescue Truck
1964 Chevrolet 1200gal. Type 3 Wildland Engine
1981 Ford F-700 1500gal. Type 3 Wildland Engine (co-owned)
1989 Freightliner 3000gal. Water-tender
1998 International Structure Engine (co-owned)
1994 Chevrolet Type 6 Wildland Engine 200gal
1973 International 1510 Wildland Engine 220gal. . Class A foam (co-owned)
1992 Ford Basic Life Support Ambulance

Bliss Fire District Equipment

1986 Chevy Type 4 Wildland Engine
1967 Ford Type 1 Structure Engine
1952 GMC Type 4 Wildland Engine
1973 White Water Tender 3000 gal
1976 Ford Type 1 Structure Engine w/metered foam
1992 Ford Command Pickup
1989 International Type 4 Wildland Engine
1982 Ford Command Van

Field Assessment Forms and Ratings

Standardized Field Assessment Forms were used to assess subdivisions within each Fire District. The assessment (Tables 12, 13, and 14) show the rating elements (Classes A-C) for each area of concern. Tables 15 and 16 show areas of concern, the corresponding rating element, and the overall assessment value (1-3) assigned to each subdivision. Table 17 shows the overall results for all subdivisions. In conclusion, the lower the value the lower the fire risk to that particular subdivision. The higher the overall assessment value, the higher the fire risk for that subdivision. In addition, Table 15 shows an overall risk value assigned to each subdivision. These values were derived by soliciting the fire chiefs and county commissioners during a public meeting. The higher the value, the higher the fire risk for that subdivision. **Note:** Fire Chiefs from Hagerman and Gooding participated in this exercise. Wendell and Bliss Fire Chiefs were absent.

Table 12. Fire Hazard Assessment Description

FIRE HAZARD ASSESSMENT DESCRIPTION FORM			
Rating Element	Class A*	Class B**	Class C***
Vegetation Type	S/G= Sagebrush/Grassland, L/P/G= Locust/Pine/Grassland, R/J/G= Russian Olive/Juniper/Grassland		
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 conducive 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 13. Structure Hazard Assessment Description

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 improved survivable space around property	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 (20 min 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

**Class B (2) = medium fire risk

***Class C (3) = high fire risk

Table 14. Community Assessment Description

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 by 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.	Some wildland firefighting	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.	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.	On 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.
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

**Class B (2) = medium fire risk

***Class C (3) = high fire risk

Table 15. Summary Table of Fire and Structural Hazard Assessment Forms

Subdivisions/ Additions/ Fire District	Bell Rapids Addition Hagerman	Sportsman's Lodge Hagerman	Nat. Fish Hatchery Hagerman	Norwood SD Hagerman	Malad SD Hagerman	Spring Acres SD Hagerman	Sand Creek SD Hagerman	Paulin Addition Gooding	Riverview SD Gooding	Sandhill SD Gooding	Hilltop SD Wendell
Vegetation Type	S/G	S/G	L/P/G	L/P/G	S/G	R/J/G	S/G	S/G	S/G	S/G	S/G
Slope	B	A	A	C	B	A	A	A	A	A	A
Aspect	B	A	A	B	C	B	B	B	B	B	B
Elevation	B	B	B	B	C	C	C	B	B	B	C
Fuel Type	B	B	C	C	B	B	A	A	B	B	B
Fuel Density	B	B	C	C	B	B	A	A	B	B	B
Fuel Bed Depth	B	B	C	C	B	C	B	B	B	B	B
Structure Density	A	A	A	A	A	B	A	A	A	A	A
Proximity of Fuels	A	B	A	C	C	A	B	B	B	B	A
Building Materials	B	B	A	C	C	C	B	B	B	B	B
Survivable Space	A	A	B	B	B	A	A	A	B	A	A
Roads	A	C	B	B	C	C	A	A	A	B	A
Response Time	A	B	B	B	B	B	A	A	B	B	A
Access	A	C	B	C	C	C	A	A	A	B	A
Overall Assessment Value	22	26	26	35	34	30	21	20	24	25	22
Overall Risk Value*	8	10	7	9	6	5	4	9	8	10	10

* Numbers derived from fire and emergency personnel

Table 16. Summary Table of Community Assessment Forms

Subdivision s/ Additions/ Fire District	Bell Rapids Addition Hagerman	Sportsmans Lodge Hagerman	Nat. Fish Hatchery Hagerman	Norwood SD Hagerman	Malad SD Hagerman	Spring Acres SD Hagerman	Sand Creek SD Hagerman	Paulin Addition Gooding	Riverview SD Gooding	Sandhill SD Gooding	Hilltop SD Wendell
Community Description	B	B	B	C	C	C	A	C	B	B	A
Firefighting Capability	A	A	A	B	A	A	A	A	A	A	A
Water Supply	B	B	B	B	B	B	A	C	B	B	B
LEOG*	C	C	B	B	B	B	B	C	C	C	B
Community Planning Practices	B	B	B	B	B	C	B	C	B	B	B
Fire Mitigation Ordinances	B	B	B	B	B	B	A	B	B	B	B
Fire Department Equipment	A	A	A	A	A	A	B	A	A	A	A
Fire Department Training/ Experience	B	B	B	B	B	B	B	B	B	B	C
Community Fire Safe Programs	B	B	B	B	B	B	B	B	B	B	B
Community Support	B	B	B	B	B	B	B	B	B	B	B
Overall Assessment Value	19	19	18	20	19	20	16	22	19	19	18

*LEOG=Local Emergency Operations Groups

Table 17. Overall values for Fire/Structure and Community Assessments

Subdivisions/ Additions/ Fire District	Bell Rapids Addition Hagerman	Sportsman's Lodge Hagerman	Nat. Fish Hatchery Hagerman	Norwood SD Hagerman	Malad SD Hagerman	Spring Acres SD Hagerman	Sand Creek SD Hagerman	Paulin Addition Gooding	Riverview SD Gooding	Sandhill SD Gooding	Hilltop SD Wendell
Fire/Structure Hazard Assessment											
Overall Value	22	26	26	35	34	30	21	20	24	25	22
Community Assessment											
Overall Value	19	19	18	20	19	20	16	22	19	19	18
Results from Fire and Emergency Personnel											
Overall Risk Value	8	10	7	9	6	5	4	9	8	10	10

Fire/Structure Hazard Assessment Summary

Fire Rating Scale	
Low	13-19
Low/medium	20-26
Medium	27-31
Medium/High	32-38
High	39 or greater

The overall values for Fire/Structure Assessment (Table 17) show subdivisions ranging from 20 to 35. The subdivision overall value is assigned a fire risk by comparing the value to the Fire Rating Scale.

Community Assessment Summary

Fire Rating Scale	
Low	10-14
Low/medium	15-19
Medium	20-24
Medium/High	25-29
High	30 or greater

The overall values for Community Assessment (Table 17) show subdivisions ranging from 16 to 22. The subdivision overall value is assigned a fire risk by comparing the value to the Fire Rating Scale.

Overall Risk Value Summary

A fairly strong correlation exists between the fire/structure assessment overall values and the overall risk values for five subdivisions (Sportman's Lodge, National Fish Hatchery, Norwood SD, Malad and Spring Acres) considered medium to high fire risk (Table 17).

5.0 MITIGATION

This section discusses fuels mitigation and needs and associated costs for each Fire District. The environmental effects and public education programs are included under one section and apply to all Fire Districts within Gooding County. See Table 39 (page 46) for a Mitigation Summary for Gooding County Fire Districts. **Note:** The Hagerman and Gooding Priority Rating shown in Table 39 was generated by soliciting Fire Chiefs from these two fire districts during a public meeting. Wendell and Bliss Fire Chiefs were absent from this meeting; therefore, the recommended mitigations for their fire districts were not rated.

Fuels Mitigation – Hazardous fuel buildup resulting in wildland fires represent the primary risk to homeowners, businesses, and state and federal facilities located outside of city limits. Fuel break locations are identified in this section based on recommendations provided by each fire chief, input from county commissioners and BLM, assessments of subdivisions and additions determined to be of importance and, review of other Wildland Fire Hazard Mitigations Plans for Gooding County. The size of fuel breaks required and associated costs to construct these fuel breaks will vary, depending on hazardous fuels present, distance to transport construction equipment, and actual dimensions of fuel break. As an example, a 100-foot wide fuel break was created around the 160-acre Carson City Nevada campus by using a machine that mowed up sage brush creating mulch that helped save the campus from the Waterfall Fire that forced an evacuation (Reno Gazette Journal, July 16, 2004).

Needs and Associated Costs – Tables of Fire District needs and associated costs obtained from each fire chief.

Environmental Effect – Environmental effects (weed establishment, soil and surface water disturbance) resulting from fuel break construction and other land surface disturbances and the installation of dry hydrants.

Fire Prevention Programs - Public Education – Introduces Gooding County residents to the FIREWISE public education program, offers homeowners a checklist to avoid wildfire damage and, presents relevant public education web sites.

Ordinances and Codes - Subdivision Ordinance No. 80 was adopted and passed by the county commissioners on March 8, 2004. Building permits are required for new residents within subdivisions and, if a new driveway is needed accessing the highway, the highway district or state highway department must approve plans for said driveway before construction begins. In addition, an uninterrupted year round adequate fire protection water source is required in accordance with the appropriate fire district standards. The 2000 International Fire Code,

Uniform Building Code and International Building Code apply to Gooding County residents. At this time the International Fire Code has not been adopted by Gooding County.

Red Zone Fire Program mitigation standard procedures should be implemented by the County and BLM to ensure the completion and long-term maintenance of fuel hazard reduction work on all new developments within the county. Fuel mitigation practices that would be involved include, but are not limited to: sagebrush thinning, fuel-breaks, and additional management measures around individual home-sites.

Fuels Mitigation for Bliss Fire Department

R&S Enterprise (2002) evaluated six fuel survey points defined by the BLM and included areas surrounding the community of Bliss. The Bliss Fire Department recommended construction of fuel breaks and the establishment of less flammable perennial vegetation over an estimated 775 acres (Figure 5). Flammable fuels would be removed through prescribed burning, mowing, mulching, disking, and/or herbicide application and seeding. R&S Enterprise (2002) provided estimated costs. **Note:** These costs do not necessarily reflect today's costs.

Coordination/Administrative Costs:	\$25,000
Civil Survey Flag Project Areas	\$10,500
Fence Materials (2.5 miles@ \$1,500/mile)	\$3,750
Fence Construction (2.5 miles@ \$4,000/mile)	\$10,000
Brush Cutting (775 acres)	\$22,700
Prescribe Burn Plan	\$3,000
Prescribe Burn	\$6,000
Herbicide Purchase: (97 gallons@ \$40.00/gallon)	\$4,000
Herbicide Application (775 acres@ \$12/acre)	\$9,300
Seed Cost (775 acres@ \$13/acre)	\$11,000
Drill Seeding (775 acres@ \$10.50/acre)	\$9,000
Contingency (success/failure)	<u>\$61,000</u>
Subtotal: (project costs)	\$175,250

In addition, a fuel break is recommended along old highway 30 just inside the Bliss Fire Department's southern boundary (Figure 5) to protect homes located just inside the Bliss Fire Department's southern boundary and upslope (Figure 6).

Radio Dead Zone – The northwest section of the Bliss Fire District boundary (Figure 5) contains a radio dead zone or area where there is no communication between fire-fighting personnel. The installation of a new repeater is needed near the Bennett Hills and/or the replacement of existing fire department radios with next generation digital mobile radios.

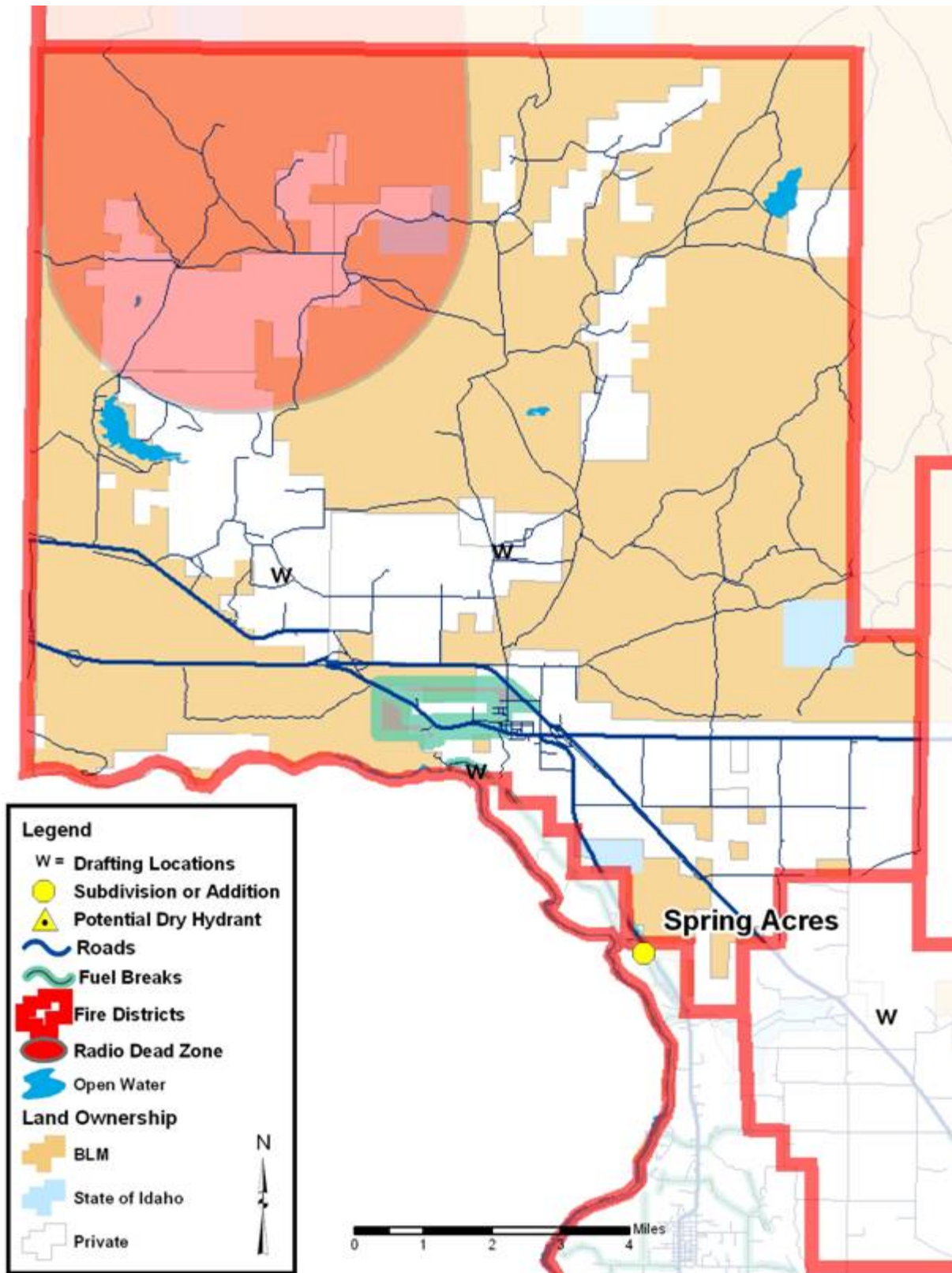


Figure 5. Bliss Fire Department showing radio dead zone and proposed fuel breaks



Figure 6. Heavy fuels and no survivable space around home along old highway 30 just inside Bliss Fire Department boundary.

Bliss Fire Department Existing Needs and Costs

Table 18. Bliss Fire Department Existing Needs: Personnel and Capital Expenses

Needs	Costs
Full-time fire chief	\$20-50,000.00 per year
Firefighting Vehicle Acquisition Programs (see Table 39, Mitigation Summary, p. 47)	TBD
Modifications to Fire Stations and Facilities (see Table 39, Mitigation Summary, p. 47)	TBD
Second Fire Station or addition to existing Fire Station	300,000
Class A Pumper Truck	500,000
Two Light Brush Trucks	200,000
Two Heavy Brush Trucks	300,000
New Tanker	150,000
Extrication Truck	50,000
Command Truck	50,000

Table 19. Bliss Fire Department Existing Needs: Training and Certification

Needs	Costs
Operations and firefighter safety programs (see Table 39, Mitigation Summary, p. 47)	TBD
Distance Learning Opportunities	TBD
Certified Fire Fighter Training	TBD
Certified Instructor Training	TBD
Certified Arson/Fire Investigation Training	TBD
Certified Extrication Training	TBD
Certified EMS Training	TBD
Miscellaneous Training	TBD

Table 20, Bliss Fire Department Existing Needs: Communication

Needs	Costs
Replace Digital Radios (40 @\$1,500.00 Each)	60,000

Table 21. Bliss Fire Department Existing Needs: Prevention and Inspection

Needs	Costs
Computerized Records	TBD
Training Grants	TBD
Establish and Improve City Code Enforcement	TBD

Table 22. Bliss Fire Department Existing Needs: Public Education

Needs	Costs
Code Enforcement and Inspector Certification	TBD
Homeowners Education (FIREWISE - See Websites For Homeowners, p.48)	100,000

Fuels Mitigation for Wendell Fire District

Fuel breaks would be constructed adjacent to the Hilltop subdivision and in the southern end of the Fire District near Banbury Springs, Clear Lakes, and along the main north-south road to access these areas (Figure 7). An example of heavy fuel loads adjacent to the Hilltop Subdivision is shown in Figure 8.

Install dry hydrant system and/or drafting locations for engines and tenders on the Snake River in the extreme southern end of the Fire District (Figure 7).

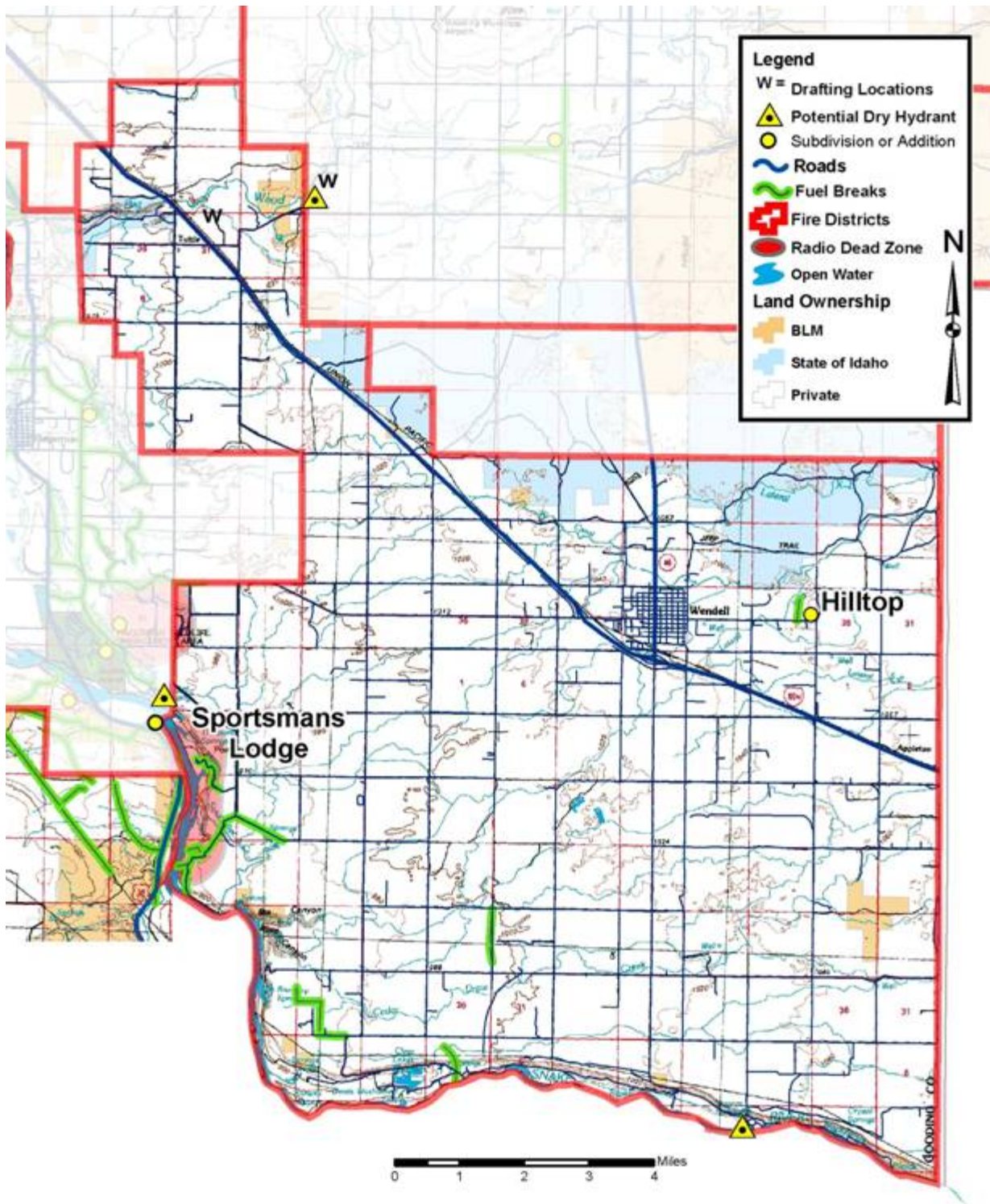


Figure 7. Wendell Fire District showing proposed fuel breaks and dry hydrant.



Figure 8. Hilltop Subdivision showing dense sagebrush fuels.

Wendell Fire District Existing Needs and Costs

Table 23. Wendell Fire District Existing Needs: Capital Expenses

Needs	Costs
Firefighting Vehicle Acquisition Programs (see Table 39, Mitigation Summary, p. 47)	TBD
Modifications to Fire Stations and Facilities (see Table 39, Mitigation Summary, p. 47)	TBD
New Fire Station	TBD
Portable Cutoff Saw and Blades	2,000
Chainsaw with Spare Chain and Bar	2,000
LDH (600 feet)	7,000
Portable Deluge Monitors	10,000
Thermal Imaging Camera	15,000
Class A Foam Injection System (including foam)	30,000
Portable Dump Tanks	12,000
New Brush Truck	100,000
Water Truck (3000 gallon)	100,000

Table 24. Wendell Fire District Existing Needs: Training and Certification

Needs	Costs
Operations and firefighter safety programs (see Table 39, Mitigation Summary, p. 47)	TBD
Computer-Based Individualized Training	17,000

Table 25. Wendell Fire District Existing Needs: Communication

Needs	Costs
New Radios	TBD

Table 26. Wendell Fire District Existing Needs: Prevention and Inspection

Needs	Costs
Additional Training for Inspector training/Code Enforcement	TBD

Table 27. Wendell Fire District Existing Needs: Public Education

Needs	Costs
Continue “Safe Area” Training	TBD
Homeowners Education (FIREWISE, See Websites For Homeowners, p. 48)	100,000

Fuels Mitigation for Gooding Fire District

R&S Enterprise (2002) describes the need to install 75 acres of fuel breaks, up to 2,500 feet wide on both sides of existing roads and around structures located within the Wood River Narrows Subdivision located north and east of Gooding (Figure 9). Flammable fuels would be removed through prescribed burning, mowing, mulching, disking, and/or herbicide application. The resulting fuel break would be “green-stripped” with a fire resistant perennial grass species (see Soil Erosion – Green-stripping). R&S Enterprise’s (2002) estimated costs are shown below.

Coordination/Administrative Costs:	\$15,000
Civil Survey Flag Project Areas	\$10,500
Brush Cutting (75 acres)	\$7,700
Herbicide Purchase: (10 gallons@ \$40.00/gallon)	400
Herbicide Application (75 acres@ \$15/acre)	1,125
Seed Cost (75 acres@ \$13/acre)	1,000
Drill Seeding (75 acres@ \$10.50/acre)	1,200
Contingency (success/failure)	<u>\$31,000</u>
Subtotal: (project costs)	\$67,925

Additional fuel breaks are recommended along the west and south edges of Riverview and Sandhill Subdivisions and the south and east edges of Paulin Addition (Figure 10). Figures 11 and 12 show heavy fuels and the lack of survivable space around homes in the Paulin Addition and Sandhill Subdivision.

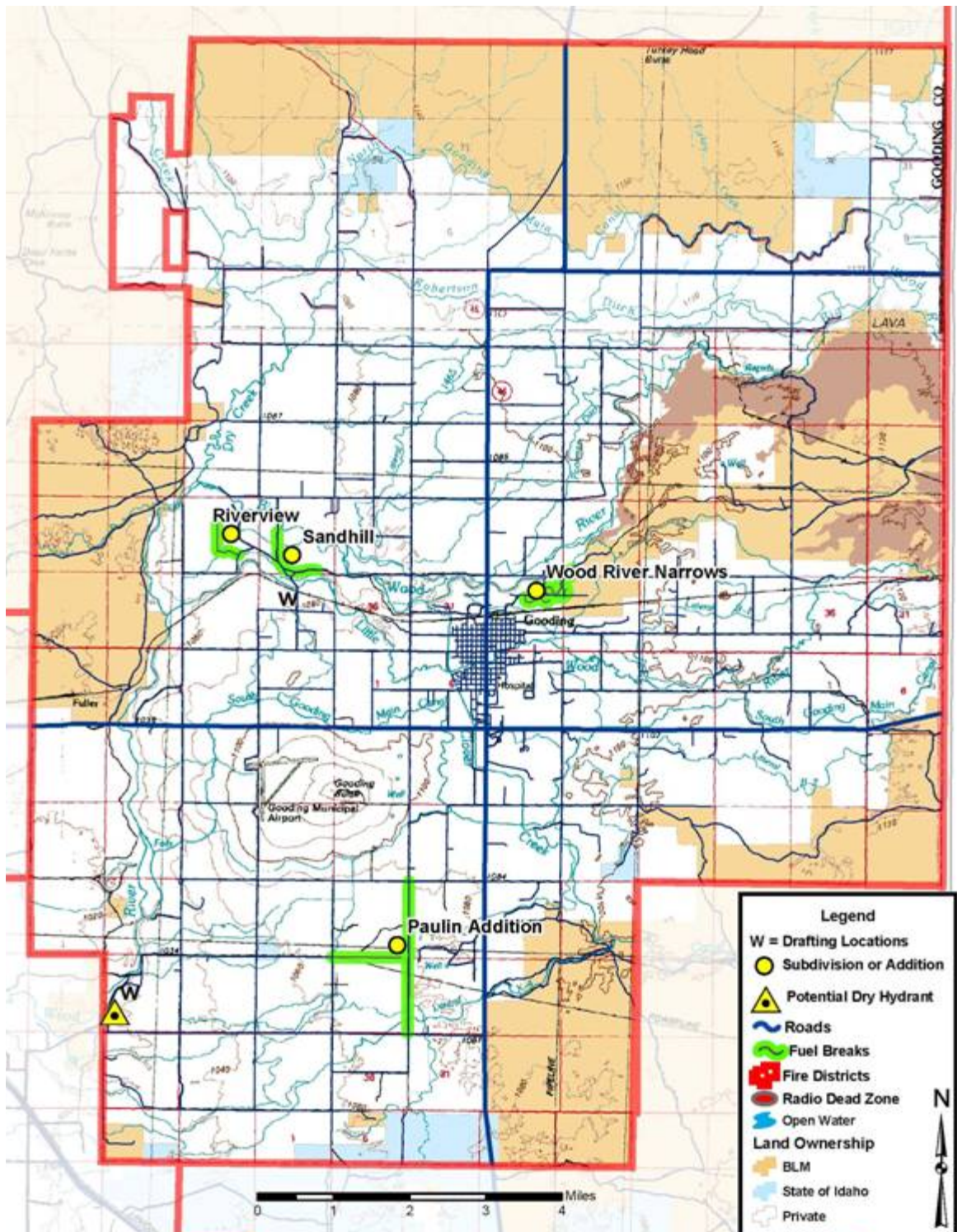


Figure 9. Gooding Fire District showing proposed fuel breaks and dry hydrant.



Figure 10. Fuels adjacent to home in the Paulin Addition.



Figure 11. Fuels adjacent to home in Sandhill Subdivision.

Install a dry hydrant system and/or drafting locations for engines and tenders approximately 2 miles northeast of Tuttle and along the Big Wood River (Figure 9 and 12).

Cooperation with landowners to allow access to irrigation mainline valves. This would require a 3-4 inch valve with a fire hose connection adapted to the valve to be used with tenders and engines.



Figure 12. Dry Hydrant location along the Big Wood River.

Gooding Fire District Existing Needs and Costs

Table 28. Gooding Fire District Existing Needs: Capital Expenses

Needs	Costs
Firefighting Vehicle Acquisition Programs (see Table 39, Mitigation Summary, p. 47)	TBD
Modifications to Fire Stations and Facilities (see Table 39, Mitigation Summary, p. 47)	TBD
Heavy Brush Truck	125,000
Light Brush Truck	75,000
Tanker (2,000 gallon)	135,000

Table 29. Gooding Fire District Existing Needs: Training and Certification

Needs	Costs
Operations and firefighter safety programs (see Table 39, Mitigation Summary, p. 47)	TBD
Certified FF Training	16,000
Advanced Wildland Training	10,000

Table 30. Gooding Fire District Existing Needs: Communication

Needs	Costs
New Mobile and Handheld Radios	75,000
Digital Paging System	20,000

Table 31. Gooding Fire District Existing Needs: Prevention and Inspection

Needs	Costs
Additional Training for Inspector training/Code Enforcement	35,000

Table 32. Gooding Fire District Existing Needs: Public Education

Needs	Costs
Homeowners Education (FIREWISE - See Websites For Homeowners. p. 48)	100,000

Fuels Mitigation for Hagerman Fire District

Fuel breaks are highly recommended and should extend along the upwind side of roads located in the southwestern portion of the district (Figure 13). Heavy fuel loads have accumulated throughout the Hagerman Fire District resulting in fires as recent as 2001 and May 2004 (Figures 14, 15, and 16). These burned areas should be monitored for weed invasion and possibly restored (see Restoration Guidelines, page 43). Hagerman Fire District contains most of Gooding County's topographical relief resulting in numerous homes located against slopes of varying degrees (Figure 17). Homes located on these slopes typically have steep roads (Figure 18) restricting access only to wildland fire equipment and small tenders.

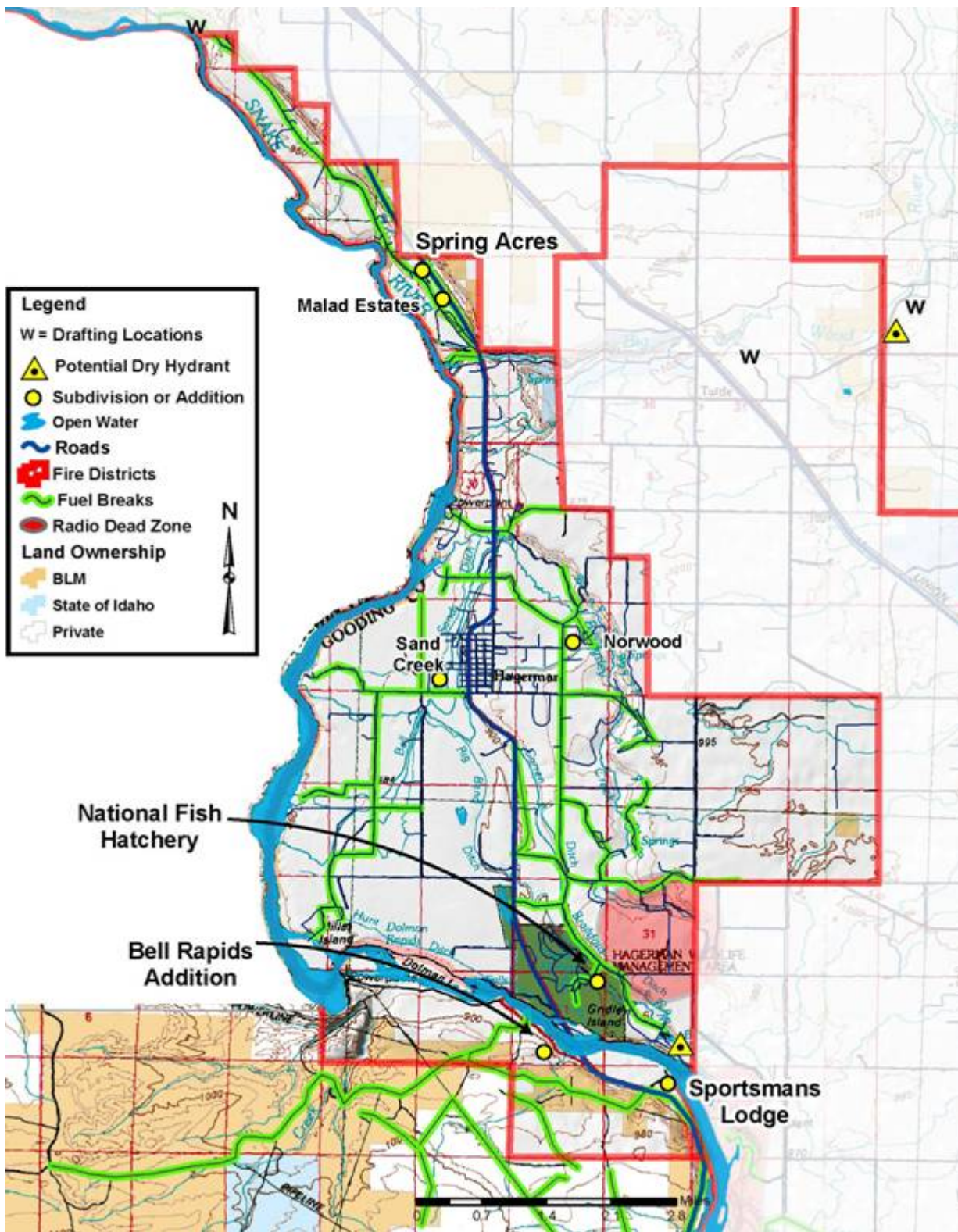


Figure 13. Hagerman Fire District showing the location of numerous proposed fuel breaks.



Figure 14. National Fish Hatchery showing results of March 20, 2004 burn.



Figure 15. Heavy fuel loads seen at the State Fish Hatchery.



Figure 16. Heavy fuel loads seen downslope from the Hunters Point Estates.



Figure 17. Bell Rapids Subdivision – Heavy fuel loads on steep slopes with little survivable space.



Figure 18. Bell Rapids Subdivision - Steep access road allowing passage only for a Command or wildland truck.

Hagerman Fire District Existing Needs and Costs

Table 33. Hagerman Fire District Existing Needs: Capital Expenses

Needs	Costs
Firefighting Vehicle Acquisition Programs (see Table 39, Mitigation Summary, p. 47)	TBD
Modifications to Fire Stations and Facilities (see Table 39, Mitigation Summary, p. 47)	TBD
Heavy Brush Truck	90,000
Tender (3-4,000 gallon)	100,000
CAFS System for Pumper	50,000

Table 34. Hagerman Fire District Existing Needs: Training and Certification

Needs	Costs
Operations and firefighter safety programs (see Table 39, Mitigation Summary, p. 47)	TBD
Wildland-Urban Interface Training for Structural Firefighters	TBD
Rural Water Supply	TBD

Table 35. Hagerman Fire District Existing Needs: Communication

Needs	Costs
New Handheld Radios (20)	TBD

Table 36. Hagerman Fire District Existing Needs: Prevention and Inspection

Needs	Costs
Additional training for Inspector Training/Code Enforcement	35,000.00

Table 37. Hagerman Fire District Existing Needs: Public Education

Needs	Costs
Homeowners Education (FIREWISE – (See Websites For Homeowners, p. 48)	100,000
Programs for Children and Senior Citizens	TBD

Open Areas

An estimated 38% or 178,000 acres of the land in Gooding County is designated as “open area” or not within one of the four fire district boundaries (Table 7). The BLM administers an estimated 92% or 163,000 acres of these lands and, has mutual aid agreements with the four fire departments for fire protection on BLM lands. At present, there are no mutual aid agreements and fire protection for private property owners in this area (see Table 39 – Mitigation Summary for Gooding County).

Environmental Effects

Weed Establishment

Mowing, disking or other surface disturbance used to or resulting from the construction of fuel breaks could result in the additional spread of noxious weeds and/or invasive annual weeds or exotic grasses. Therefore, the following weed mitigation is recommended.

Confirmed sightings of the following noxious weeds have been identified in Gooding County (Prather et al. 2002) and personal communication (T. Blanchard, July 2004): Diffuse knapweed (*Centaurea diffusa*), rush skeletonweed (*Chondrilla juncea*), leafy spurge (*Euphorbia esula*), hoary cress (*Cardaria draba*), buffalobur (*Solanum rostratum*), Canada thistle (*Cirsium arvense*), field bindweed (*Convolvulus arvensis*), musk thistle (*Carduus nutans*), and Scotch thistle (*Onopordum acanthium*) and yellow starthistle (*Centaurea solstitialis*). Some species, such as halogeton (*Halogeton glomeratis*), and downy brome (cheatgrass) (*Bromus tectorum*), are not listed as noxious but do impact the environment. Cheatgrass has increased the extent and frequency of wildland fires in the Great Basin and Upper Columbia River Basin with significant impacts in natural and fiscal resources (Billings 1994). Cheatgrass as well as other invasive species can affect native ecosystems by changing fuel properties, which, in turn, affect fire behavior and, ultimately, alter fire regime characteristics such as frequency, intensity, extent, type, and seasonality of fire (Brooks et al. 2004). **Note:** This list is not all inclusive and will require updating as new information becomes available.

Before Construction of Fuel Breaks, Mowing, Disking or Other Land Disturbance

- Survey and map invasive and noxious weeds occurring on site scheduled for construction.
- ◆ Determine infestation size and control weeds with appropriate methods. *Use a State-certified pesticide applicator for specific recommendations and chemical treatment.*
 - ◆ Train equipment operator on weed issues prior to start date. This training should include:
 - Consequences of disturbance.
 - Reasons for and methods of prevention including cleaning equipment.
 - Identification of problem plants in the immediate area.
 - What to do when an invasive or noxious weed is sighted.
 - ◆ Decontaminate vehicles and equipment entering construction site to remove weed seeds and other propagules.
 - Inspect equipment before entering project area.
 - Wash equipment (if possible) to remove all plant parts including seeds and root.
 - Prevent equipment from leaving site until inspections have been preformed.
 - ◆ Minimize soil disturbance.

During Construction of Fuel Breaks, Mowing, Disking or Other Land Disturbance

- ◆ Control all infestations on construction site.
 - Consult State-certified pesticide applicator.
- ◆ Minimize and control vehicular traffic entering and exiting construction site, especially

those within the decontamination boundaries.

- Decontaminate vehicles, equipment, and personnel.
 - Wash (if possible) equipment to remove all plant parts.
 - Inspect vehicles, equipment, and clothing.
- ◆ Take precautions to prevent the spread of weeds.
 - Avoid entering areas infested with weeds.
- ◆ Minimize soil disturbance.
 - Restrict vehicles to specified pathways.
- ◆ Conduct surveys of project area every two weeks during the growing season (April - October) to confirm weed free status or identify new weed infestations.

After Construction of Fuel Breaks, Mowing, Disking or Other Land Disturbance

- ◆ Decontaminate all outgoing equipment before permitting them to leave.
- ◆ Survey all disturbed areas, adjacent areas, and destination areas for noxious weeds.
 - Map infestations, critical sites, and sensitive areas.
 - Treat weeds with appropriate method in a timely fashion.
 - Use a State-certified pesticide applicator for specific recommendations.
- ◆ Establish native perennial vegetation in all disturbed areas and monitor for emergence of non-native species (see Greenstripping below).
- ◆ Continue to monitor construction site and treat infestations until weeds no longer appear or are controlled equal to or better than before the commencement of the project.

Document all monitoring and treatment of noxious weeds.

Soil Erosion

To prevent soil erosion and establish permanent vegetation that is fire resistant Greenstripping is recommended. Greenstripping, or establishing strips of fire-resistant vegetation to reduce the spread of wildfire, is an established practice on BLM lands in Idaho (Pellant 1992).

Greenstripping reduces wildfire spread by disrupting fuel continuity, reducing fuel accumulations and volatility and increasing the density of plants with higher moisture content. The reduction of the overall fuel load reduces the flame lengths and heat intensity produced on the greenstrips, but the increase in annual species composition and fine fuels produces increased rates of spread. Therefore, the following characteristics are important when selecting species for greenstripping on semiarid rangelands such as Gooding County: 1) adaptability to the range sites, 2) competitiveness with annual weeds, 3) ease of establishment, 4) low flammability, 5) open canopy and spacing, 6) palatability by livestock and wildlife (for efficient removal and control of litter and fine fuel buildup), and 7) resilience and re-growth capabilities.

Construction of Dry Hydrants

Environmental Effects to be considered:

- Potential impact to riparian landowner.
 - How much water is needed?
 - Where is the available water and is there a land use agreement needed/required between the landowner and the Fire District?

- Is a permit for a dry hydrant required by the state or a federal agency? If so, can the application for the permit be obtained at the county level?
- Does the hydrant location require certain water depth, composition of streambed or lake bottom, ease of digging, protection of hydrant during winter?
- Does this location pose a threat to terrestrial or aquatic wildlife species?
- Will the location survive winter temperatures?

The National Interagency Fire Center (NIFC, 2004) discusses the process of planning to insure adequate water supplies and distribution in the fire district. This booklet covers the design features and installation of dry hydrants.

Restoration Guidelines Following a Wildland Fire

Areas that generally burn hot are likely to have the greatest alterations in soil characteristics to the landscape (Graham 2003). These alterations include but are not limited to: (1) loss of surface soil organic matter, (2) reduced ground cover resulting in decreased infiltration of water and increased surface runoff and peak flows, and (3) the formation of pedestals, rills, and gullies.

The NFP and the Idaho Plan address rehabilitation and restoration of burned areas and fire-adapted ecosystems. Consider the following site restoration guidelines:

- Fill in deep and wide fire containment lines
- Water bar newly created roads or containment lines, as necessary, to prevent erosion
- Install sediment controls to prevent sedimentation of waterways
- Restore all fire staging areas with native seed mixes approved by BLM, NRCS, or other local experts
- Control all noxious weed invasions
- Evaluate the necessity to revegetate all or portions of the burn or areas impacted by fire suppression activities using native species by broadcast seeding, drilling, containerized stock or wildlings
- Encourage the use of plant stock from local collections of site-adapted stock
- Base decision to revegetate an area on inventories of affected areas for natural recovery that approaches pre-fire densities of native species
- Preclude off-road vehicle use in burned area for at least two growing seasons
- Continue monitoring until restoration is complete
- Conduct surveys of burned areas to assess damage to cultural resources.

Fire Prevention Programs – Public Education

FIREWISE – A Community-wide Outreach Program

The National Wildfire Coordinating Group (NWCG) sponsors the FIREWISE Program. Members of the NWCG are responsible for wildland fire management in the United States and are represented by the USDA-Forest Service, the Department of Interior, the National Association of State Foresters, the U.S. Fire Administration and the National Fire Protection

Association. FIREWISE promotes fire wise practices by 1) educating the public of the dangers of a wildfire in the area, 2) encouraging residents to take responsibility in reducing the risk of a wildfire and to create survivable space around their residence, and 3) increasing awareness of the natural role of low-intensity fires and the benefits of prescribed burning or occasionally managing natural wildland fires to achieve ecological benefits while maintaining firefighter and public safety as top priority. The estimated cost is \$10,000.00 per program. See Websites For Homeowners. In addition, a new program titled “Red Rock – Green Rock” is available to homeowners. Basically the local fire department visits individual subdivisions and determines which homes are at risk (red rock placed on front porch) and which homes show good survivable space (green rock placed on front porch). This program works well by informing homeowners immediately and generally action is taken if the home has a red rock.

A Checklist for Homeowners

Many Idaho residents desire to live in rural areas adjacent to or surrounded by hazardous fuels. The fuels have the potential to ignite a wildland fire and possibly a structural fire. In some cases homeowners have little to no understanding of the risks to themselves or to the emergency personnel who must respond to these fires. It is the homeowner’s responsibility to protect their property.

The following checklist was developed to aid Gooding County homeowners residing within subdivisions and additions. The checklist contains standard questions used by FEMA (2004) and the FIREWISE Program. These questions have been modified, based on earlier assessments of subdivisions and additions and interviews with homeowners and fire chiefs.

Table 38. A Checklist for Homeowners

Do you know your wildfire risk?
Learn about the history of wildfire in your area, local fire laws and building codes and protection measures. This information is available from but no limited to: 1) Shoshone District BLM office, 2) Fire District office , 3) county offices and, Fire Districts adjoining Gooding County. Consider having a professional inspect your property and offer recommendations for reducing the wildfire risk. Determine your Fire District’s ability to respond to a wildfire. <ul style="list-style-type: none"> • Are ingress and egress roads to your property clearly marked? • Are the roads wide enough to allow passage by firefighting equipment? • Can the Fire District find your house (house no., grid location)?
What should I do if a wildfire threatens my neighborhood?
<ul style="list-style-type: none"> • Contact the fire department or district fire warden immediately • Close all windows, doors and other openings to the outside to prevent sparks from blowing inside • Locate family members and pets • Wear non-flammable cotton or wool clothing • If you have time, wet down the roof and the area adjacent to the house
Do you have an evaluation plan for your family?
Plan several alternate routes for family members in the event wildland or a structural fire. <ul style="list-style-type: none"> • Establish where young family members will immediately go in the event of a fire and in the absence of adult supervision. • Establish “staging areas” for family members and/or community/subdivision members in the event normal evaluation routes become blocked, especially if the ingress and egress road is limited, that is, one road in, one road out • Prepare your vehicle for evacuation.
Should I create ‘survivable space’ around my home?

<p>Create a 30-foot safety zone around the house.</p> <ul style="list-style-type: none"> • Keep volume of vegetation in this zone to a minimum. If you live on a hill, extend this zone on the downhill side. The steeper the slope, the more open space you will need to protect your home. • Remove vines from the walls of the house • Move shrubs and other landscaping away from the sides of the house • Prune branches and shrubs within 15 feet of chimneys and stove pipes • Remove tree limbs within 15 feet of the ground • Thin a 15-foot space between tree crowns • Replace highly flammable vegetation (e.g., juniper, sagebrush, pine) with lower growing, less flammable species • Replace vegetation that has living or dead branches from the ground-level up (these act as ladder fuels for the approaching fire). • Keep lawns mowed frequently • Clear all areas of leaves, brush, dead limbs and fallen trees. <p>Create a second zone at least 100 feet around the house. This zone should begin about 30 feet from the house and extend to at least 100 feet</p> <ul style="list-style-type: none"> • Reduce or replace as much of the most flammable vegetation as possible. If you live on a hill, you may need to extend the zone for several hundred feet to provide the desired level of safety.
When selecting landscaping materials, how do I make the right choices?
<p>Choose plants that are acclimated to your area of the country. Avoid resinous varieties and look for those with a high amount of moisture in their leaves. Note that deciduous trees are generally less flammable than coniferous ones. Check with your State Foresters office, or with your extension agent because some areas of the country have regional plant lists available. A healthy, well-maintained landscape is very important, so:</p> <ul style="list-style-type: none"> • Space plants carefully • Prune them regularly • Remove dead leaves and other litter from around trees, shrubs and vines • Provide the landscape with sufficient moisture.
Are combustible materials away from the house?
Stack firewood 100 feet away and uphill from the house. Keep gas grills and propane tanks at least 15 feet from the house.
Are porches enclosed underneath?
<p>Any porch, balcony or overhang with exposed space underneath is fuel for an approaching fire. Overhangs ignite easily by flying embers and by the heat and fire that gets trapped underneath. If vegetation is allowed to grow underneath or if the space is used for storage, the hazard is increased significantly.</p> <ul style="list-style-type: none"> • Clear all flammable materials away from underneath sun decks and porches. • Extend ½-inch mesh screen from all overhangs down to the ground. • Enclose wooden stilts with non-combustible material such as concrete, brick, rock, stucco or metal. • Use non-combustible or fire-resistant materials for new porch or sun deck construction. If possible, build the structure to the ground so that there is no space underneath.
Are eaves and overhangs enclosed?
Are house vents covered with wire mesh?
Is the roof constructed of non-flammable materials?
<p>The roof is especially vulnerable in a wildfire because firebrands and flaming debris can travel great distances, land on your roof, and start a new fire.</p> <ul style="list-style-type: none"> • Avoid flammable roofing materials such as wood, shake and shingle. • Use fire resistant materials such as single-ply membranes, fiberglass shingles, slate, metal, and clay and concrete tile. • Keep gutters clean of debris. • Apply SHINGLE SAFE Fire Retardant on wood shake shingles.
My wood-shake roof was treated with fire retardant some years ago. How can I tell if retardant needs to be reapplied?
Chop a small piece of wood from the edge of one of the shakes and hold a lighted match under it. If the shake ignites, roof retardant needs to be reapplied.
Are chimneys and stovepipes covered with spark arrestors?
<p>Install spark arrestors on all chimneys, stovepipes and vents for fuel-burning heaters. Check with the Fire District for spark arrestor specifications</p> <ul style="list-style-type: none"> • Use non-combustible or fire-resistant materials for new chimney construction and follow chimney-building specifications.
Is the house siding fire resistant?
Use fire-resistant materials in the siding of your home, such as stucco, metal, brick, cement shingles, concrete and rock. Existing wood siding can be treated with UL-approved fire retardant chemicals (not a permanent fix).
Have windows been treated to reduce the risk?
<p>Windows allow radiant heat to pass through and ignite combustible materials inside. Dual-or triple-pane thermal glass, and fire resistant shutters or drapes, help reduce the wildfire risk.</p> <ul style="list-style-type: none"> • Close shutters or drapes while away from home to prevent the ignition of combustible materials and to keep home warmer in the winter and cooler in the summer.

Table 39. Mitigation Summary for Gooding County.

Hagerman and Gooding Fire District*	Wendell and Bliss Fire District**	Potential Problems/Risks	Responsible Agency/Recommended Mitigation
H		Transition from wideband to narrowband with communications equipment and operations has the potential to adversely affect firefighter safety and performance, specifically in the initial and extended action environment (NIFC, 2004).	Federal, State, Fire Districts <ul style="list-style-type: none"> • Accelerate local conversion to narrowband to match Federal timeline • Firefighters and aerial resources must withdraw from fire operations activities if positive communication with their forces, supervisor, or adjoining forces are compromised • Ensure local frequency management plans are in place and understood to support initial and extended action activities, and include contingencies for cooperator and aviation resources • If communication problems become an issue, the fall back position is to revert to wideband mode • Report problems with specific details through SAFENET or SAFECOM reporting systems
H		Hazardous fuels within subdivisions	Homeowners <ul style="list-style-type: none"> • Request grant funding to purchase an industrial chipper • Create survivable space • Host cleanup days and offer incentives for removal of hazardous fuels (chipping services, free dump days at the landfill) • Place evacuation plan map and map of readily available water sources for each subdivision within a lockable container and positioned at the entrance of subdivision • Place safety flags on standpipes used for drafting at each water source • Construct fuel breaks at designated locations (see map) • Maintain fuel breaks (periodic mowing, greenstripping, noxious and invasive weed removal (see Environmental Effects, p. 34) • Widen roads for better ingress and egress
		No RedZone program	Federal, Fire Districts, Home owners <ul style="list-style-type: none"> • Conduct surveys identifying potential hazards a home may pose to firefighters during a wildland fire • Conduct surveys identifying measures

H			<p>a home owner will take to reduce risks of their home igniting during a wildfire</p> <ul style="list-style-type: none"> • Conduct surveys identifying water sources, access concerns (bridges/road width), and utility location information needed by firefighters • Mail surveys to homeowners for review. Include Firewise documents in the mailing to aid the homeowner in creating survivable space around the home
H		Reduce human-caused fires	<p>County, Fire Districts</p> <ul style="list-style-type: none"> • Work with its federal cooperators to develop grass roots fire prevention efforts to reduce the occurrence of person caused fire ignitions through public education and participation in community events. • Develop partnerships with local businesses to promote fire prevention. Some examples are Sporting goods dealers will display materials relating to campfires and outdoor activities, Landscaping companies will display information relating to survivable space and fire resistant plants, Agriculture related businesses will display information related to agricultural burning, Off road vehicle dealers will display information related to fire prevention as it relates to OHV • Cooperate with Union Pacific Railroad in fuel reduction programs
H		Lack of survivable space around homes	<p>Homeowners</p> <ul style="list-style-type: none"> • See Table 38: A Checklist for Homeowners
H		No enforcement of state regulations regarding burning permits outside of city limits	<p>Federal, State DEQ, County, Fire Districts</p> <ul style="list-style-type: none"> • Call local fire department before you burn • Educate public concerning the State of Idaho's burn policy • Create county ordinance regarding burning • Notify sheriff's office of controlled burns • Coordinate with state and federal agencies using fire restrictions
H (Hagerman)		Lack of National Fire Protection Association (NFPA) standards for entire county. Note: The cost of enforcement is prohibitive for small rural communities	<ul style="list-style-type: none"> • Adopt all or portions of, 2003 NFPA 1141 Standard for Fire Protection in Planned Building Groups (See Appendix A) • Adopt all or portions of, 2003 NFPA 1143 Standard for Wildland Fire

Fire District) M (Gooding Fire District)		(personal communication – Gooding County fire chiefs).	Management (See Appendix A) <ul style="list-style-type: none"> • Adopt all or portions of 2002 NFPA 1144 Standard for Protection of Life and Property from Wildfire (See Appendix A) • Fire Districts should meet and discuss the current system of building permit review and identify problems that exist and implement solutions
H (Hagerman Fire District) M (Gooding Fire District)		Lack of detailed information for facility modification	Fire Districts <ul style="list-style-type: none"> • Need information on sprinkler systems • Exhaust venting systems • Smoke and fire alarm systems and emergency facility generators • Details of occupancy and frequency of use of existing facilities
H (Hagerman Fire District) L (Gooding Fire District)		Lack of Mutual Aid Agreements and fire protection for private property in Open Areas	County, Landowners <ul style="list-style-type: none"> • Create new fire protection district for open areas • Develop Mutual Aid and Cooperative agreements with landowners and fire districts. • Check the legal issues associated with spending fire district funds on fires in open areas.
H (Hagerman Fire District) L (Gooding Fire District)		Lack of agreements with landowners to allow access to irrigation mainline values	BLM, Fire Districts <ul style="list-style-type: none"> • Cooperate with landowners by obtaining a written agreement allowing access to irrigation wells or pipes. This would require proper pipefitting on tenders and engines.
H (Hagerman Fire District) L (Gooding Fire District)		Lack of detailed firefighting vehicle acquisition programs	Fire Districts <ul style="list-style-type: none"> • Comply with NFPA 1901 or 1906 standards • Need total number of vehicles in fleet • Mileage or hours of engine operation and total number of vehicles in this category • Incident activities (call volume) • Vehicle equipment status and condition
M (Hagerman Fire District)		Inadequate permanent water supply and drafting locations	County, Fire Districts <ul style="list-style-type: none"> • Pursue grant opportunities to purchase additional water tenders • Request grant funding to develop dry hydrant systems and drafting locations as delineated (see map) • Require storage tanks (cisterns) and/or hydrant systems in new subdivisions
L (Hagerman)		Lack of detailed training records for individual firefighters	Fire Districts <ul style="list-style-type: none"> • Conduct instructor-led training that results in national or state certification in basic, operational level firefighting, operational level rescue, driver

			training or first responder training or officer training
L (Hagerman Fire District)		No power pole protection	County <ul style="list-style-type: none"> • Install fireproof sleeves around power poles at designated locations. This will require cooperation and coordination with Idaho Power

*Fire Chief Priority Rating

**No Fire Chief Priority Rating

WEBSITES FOR HOMEOWNERS

FIREWISE programs

<http://www.firewise.org/>

Red Zone Software

<http://www.redzonesoftware.com/index2.html>

FireWars/NOVA

http://www.pbs.org/wgbh/nova/teachers/programs/2908_fire.html

Taking a Stand: Pros and Cons of Forest Fires

<http://www.thirteen.org/wnetschool/origlessons/fire/index.html>

FEMA for Kids

<http://www.fema.gov/kids/wldfire.htm>

Living with Fire

http://www.fs.fed.us/rm/fire_game/

Pikes Peak Wildfire Prevention Partners

<http://www.ppwpp.org/>

Smokey Bear

<http://www.smokeybear.com/>

Sparky's Home Page

<http://www.sparky.org/>

Woods on Fire

National Institute for Science Education and the National Science Foundation

http://whyfiles.news.wisc.edu/018forest_fire/index.html

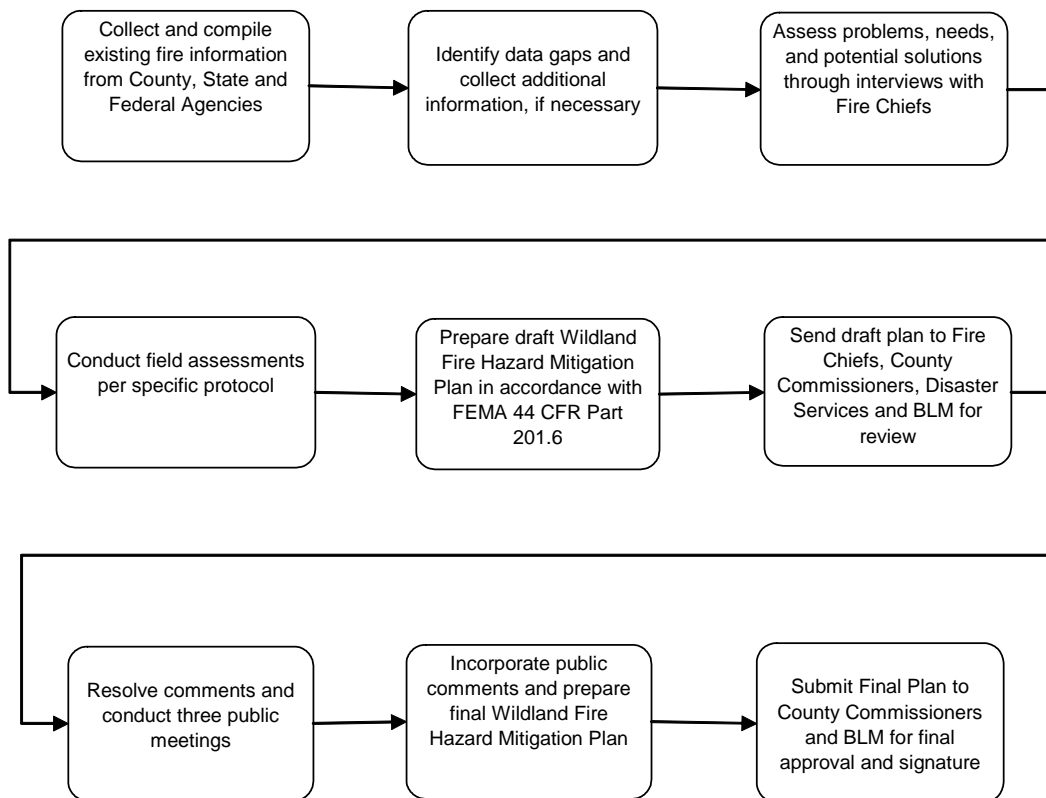
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PERSONNEL CONTACTED

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Curtis Jensen	BLM
Tim Peterson	Hagerman Fire Chief
Gary Tussey	Hagerman Fire District

PROCESS USED TO DEVELOP WILDLAND FIRE HAZARD MITIGATION PLAN



APPENDIX A – NATIONAL FIRE PROTECTION STANDARDS

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

Definitions:

3.3.6 Survivable 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 determines 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 accessway, 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 governmental 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 m (120 feet) outside diameter of traveled way.

6.2.1 Structure Separation: Any structure of a planned building group shall be separated from another structure by at least 9.1 m (30 feet) and shall be set back at least 9.1 m (30 feet) from the property line.

7.1.3 A wildland fire risk hazard severity assessment shall be performed for all structures and groups of structures adjacent to wildland fuels.

7.3.1 Only roof covering assemblies rated class A or B shall be used. The specific class shall be consistent with the wildland fire risk and severity assessment as determined by the Authority Having Jurisdiction (AHJ).

9.1.1 Water supply systems