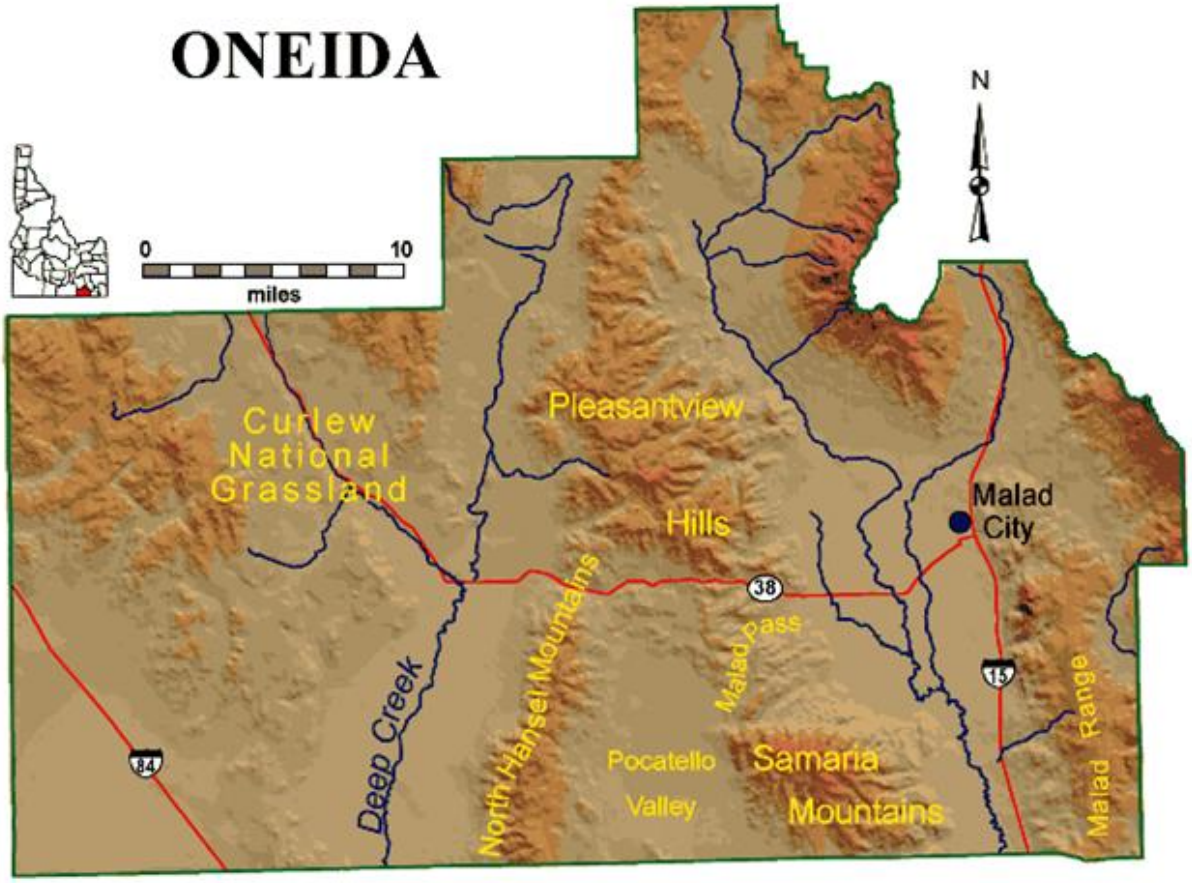
ONEIDA COUNTY, IDAHO
Wildland Fire Hazard Mitigation Plan

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



Prepared for the Board of Commissioners
Oneida County
Malad City, Idaho 83433

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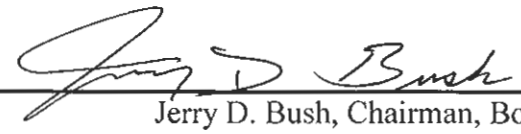
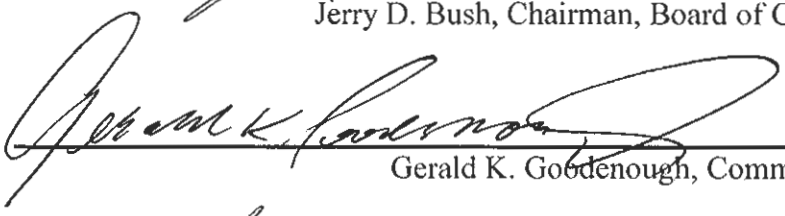
This plan has been reviewed and approved by the following individuals.

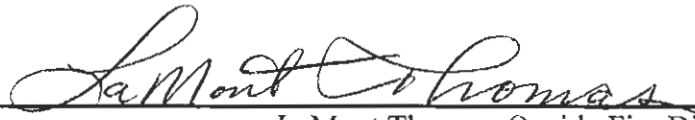


Jerry D. Bush, Chairman, Board of Commissioners

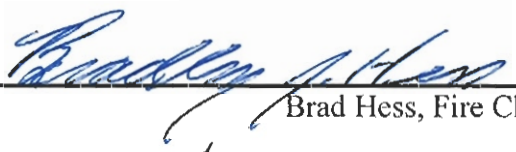


Gerald K. Goodenough, Commissioner

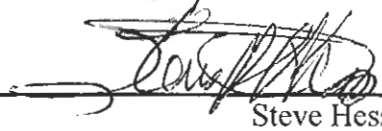
E. Gene Caldwell, Commissioner



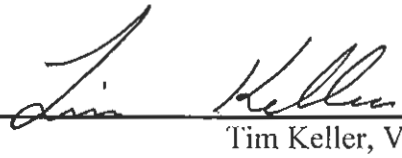
LaMont Thomas, Oneida Fire District Chairman



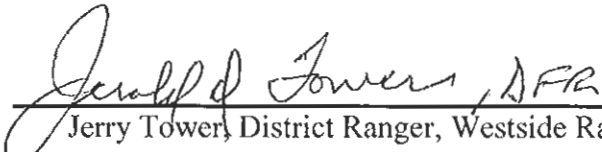
Brad Hess, Fire Chief, Malad Protection District



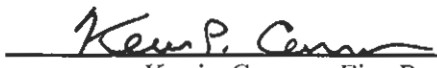
Steve Hess, Secretary, Holbrook Protection District



Tim Keller, Volunteer Fire Chief, Stone Fire Department



Jerry Tower, District Ranger, Westside Ranger District, Caribou-Targhee National Forest



Kevin Conran, Fire Prevention and Education, Bureau of Land Management

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DISCLAIMER

North Wind, Inc. has prepared this Wildland Fire Hazard Mitigation Plan solely for Oneida County, Idaho. The technical information contained herein should not be released without the written consent of the County Commissioners or 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 Oneida 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 Oneida 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 Oneida 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). It accomplishes this by:

- Identifying fire hazards that affect Oneida County and its residents.
- Providing sufficient information to make mitigation decisions.
- Discussing existing resources that are most current and the 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 Oneida County residents or Wildland Fire Interagency Group (Table 1). 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.

Table 1. Oneida County Wildland Fire Interagency Group.

Name	Agency
Jerry D. Bush	Chairman, Oneida County Commissioners
Gerald K. Goodenough	Oneida County Commissioner
Gene Caldwell	Oneida County Commissioner
Ceylon Reeder	Oneida County Emergency Services
LaMont Thomas	District Chief, Oneida Fire District (OFD)
Brad Hess	Fire Chief, Malad City Fire Department
Steve Hess	Secretary, Holbrook Fire Department
Tim Keller	Fire Chief, Holbrook Fire Department
Jeff Hill	U.S. Forest Service, Caribou-Targhee National Forest
Kevin Conran	USRD, Bureau of Land Management
Don Gosswiller	USRD, Bureau of Land Management
Sarah Heidi	USRD, Pocatello Field Office, Bureau of Land Management

3.0 GENERAL DESCRIPTION OF ASSESSMENT AREA

Population and Demographics

According to the 2000 census, there are 4,125 people, 1,130 households, and 1,092 families residing in the county. Nearly 52 % (2,158) of these persons reside in Malad City while 48% (1,967) persons reside in the rural communities outside of Malad City (Table 2). The population density of Oneida County is 3.4 persons per square mile. The county's only airport is located outside of Malad City and, with its one mile long runway, serves various needs including helicopter support during the fire season.

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

Major Cities – Oneida County, Idaho	2000 Population Census
Malad City	2,158
Rural Population	1,967

Landownership

Oneida County contains approximately 768,438 acres divided among four landowners (Table 3 and Figure 1).

Table 3. Land Status of Oneida County, Idaho.

Owner	Acres	Percent
BLM	267,230	34.8
USFS	138,140	18
Private	348,634	45.4
State	13,658	1.7
Open Water	776	>1
TOTAL	768,438	100.0

Topography and Vegetation

Oneida County has a varied topography including the Elkhorn Mountains (north), the Oxford Range (east), Samaria Mountains (south), Curlew and Juniper Valleys (west) and the Pleasantview Hills (central). Elevation ranges from 4,444 feet in the Malad Valley and along the Malad River to 9,092 feet at the summit of Elkhorn Peak located in the Elkhorn Mountains. Figure 2 shows the overall vegetation types for Oneida County.

An estimated 70,000 acres of the private land have been developed under the Conservation Reserve Program (CRP). This is a voluntary program for agricultural landowners who receive annual rental payments and cost-share assistance to establish long-term, resource conserving covers on eligible farmland. The public lands are primarily used for grazing and are undeveloped.

The Curlew National Grassland (CNG) is located in the Greater Curlew Valley west of Malad City and encompasses approximately 47,000 acres of National Forest System lands. These lands, managed by the Caribou-Targhee National Forest, include private land purchased by the

government in the 1920's to 1940's. Of the 47,000 acres, only 12,000 acres remain in native vegetation. The dominant vegetation on the remaining acreage is a mix of introduced grass species, crested wheatgrass and bulbous bluegrass, with an overstory of big sagebrush subspecies. All of the vegetative communities on the CNG are associated with high elevation desert shrubs. The Caribou-Targhee National Forest Land Resource Management Plan requires suppression of all natural fires occurring on the CNG. In addition the Plan calls for the following: (1) within 10 years of the Record of Decision (ROD), treat 2,500 acres of bulbous bluegrass and reseed with native and non-native grass, forb, and shrub seed mixtures and, (2) within 10 years of the ROD, treat 9,600 acres of sagebrush with herbicides or other appropriate methods to reduce canopy cover to less than 25% and to achieve other resource objectives.

Outside of the CNG and throughout the county some of the more common plant species include: Basin big sagebrush (*Artemisia tridentata* spp. *tridentata*), mountain big sagebrush (*Artemisia tridentata* spp. *vaseyana*), low sagebrush (*Artemisia arbuscula*), black sagebrush (*Artemisia tridentata nova*), threetip sagebrush (*Artemisia tripartita*), green rabbitbrush (*Chrysothamnus viscidiflorus*), rubber rabbitbrush (*Chrysothamnus nauoseosus)*, brome (*Bromus* spp.), festuca (*Festuca* spp.), poa (*Poa* spp.), stipa (*Stipa* spp.), wheatgrass (*Agropyron* spp.), Rocky mountain juniper (*Juniperus scopulorum*), Utah juniper (*Juniperus osteosperma*), rocky mountain maple (*Acer glabrum*), subalpine fir (*Abies lasiocarpa*), curlleaf mountain mahogany (*Cercocarpus ledifolius*), lodgepole pine (*Pinus contorta*), Douglas fir (*Pseudotsuga menziesii*), quaking aspen (*Populus tremuloides*), and numerous forbs. For a complete plant species list contact the Malad City BLM office.

Climate

Climate in Oneida County is generally consistent with other counties located in Southeastern Idaho. In winter the average daily maximum temperatures is 40° Fahrenheit (F) and the average daily minimum is 21° F. In summer the average daily maximum temperature is 86° F and the average minimum temperature is 50° 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 4, 5 and 6 summarize long-term climatic data for Arbon, Malad City and Malta, ID. Data from these weather stations provide a good cross-section of Oneida County's weather patterns.

Table 4. Monthly Climate Summary for Arbon, Idaho for years 1962 to 2002.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	30.3	35.8	45.4	56.6	67.2	76.5	86.4	85.4	75.1	61.8	43.8	32.2	58.0
Average Min. Temperature (F)	14.1	17.5	24.2	30.1	36.7	43.3	49.3	48.3	40.0	31.2	23.5	14.7	31.1
Average Total Precipitation (in.)	1.63	1.42	1.48	1.44	1.73	1.39	0.93	0.89	0.93	1.07	1.50	1.64	16.04
Average Total Snow Fall (in.)	13.5	10.0	5.1	1.7	0.3	0.0	0.0	0.0	0.1	0.7	6.5	12.9	50.7
Average Snow Depth (in.)	9	2	0	0	0	0	0	0	0	0	0	2	1

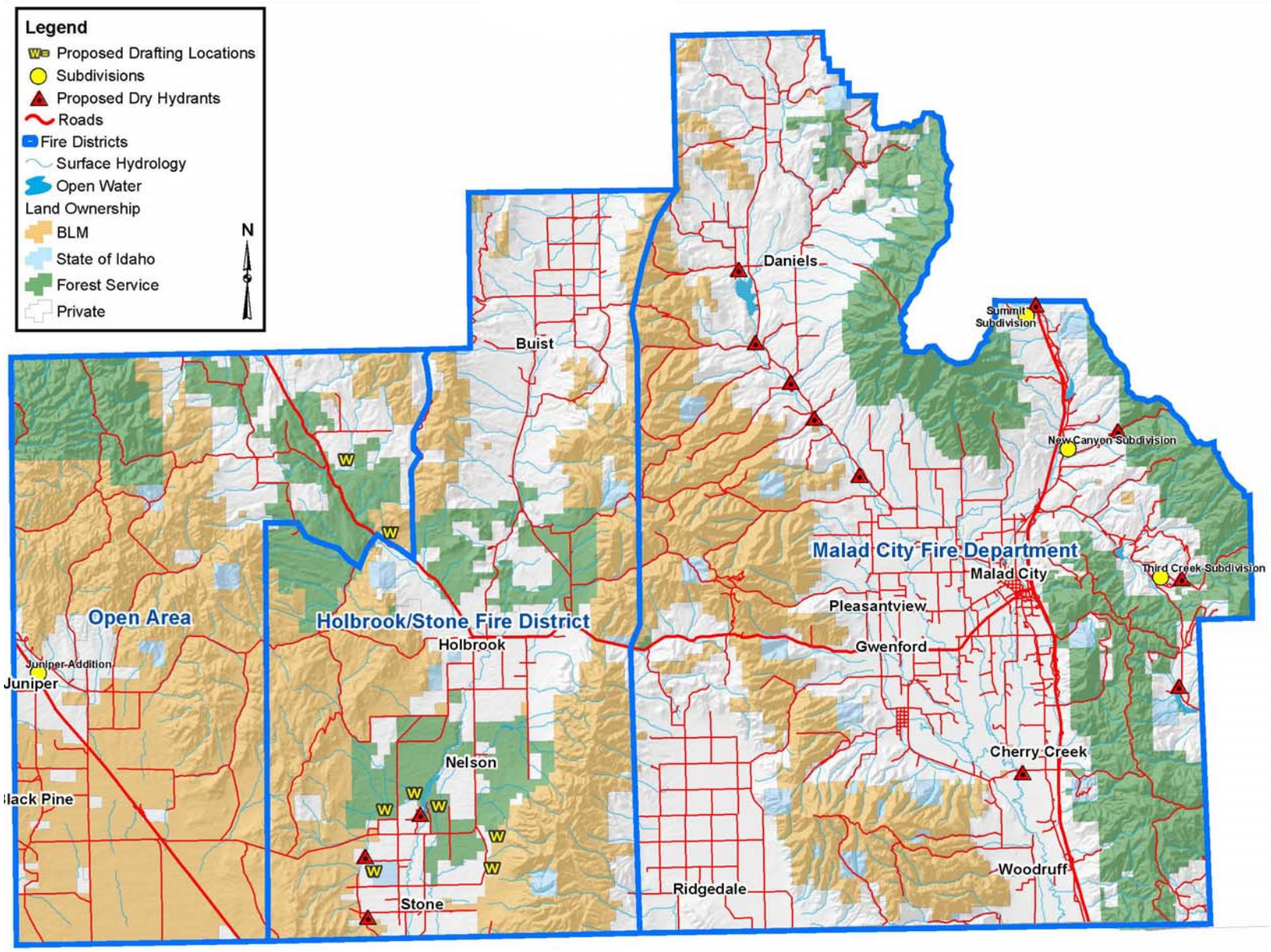

Figure 1. Oneida County landownership, subdivisions, and proposed drafting and dry hydrant locations.

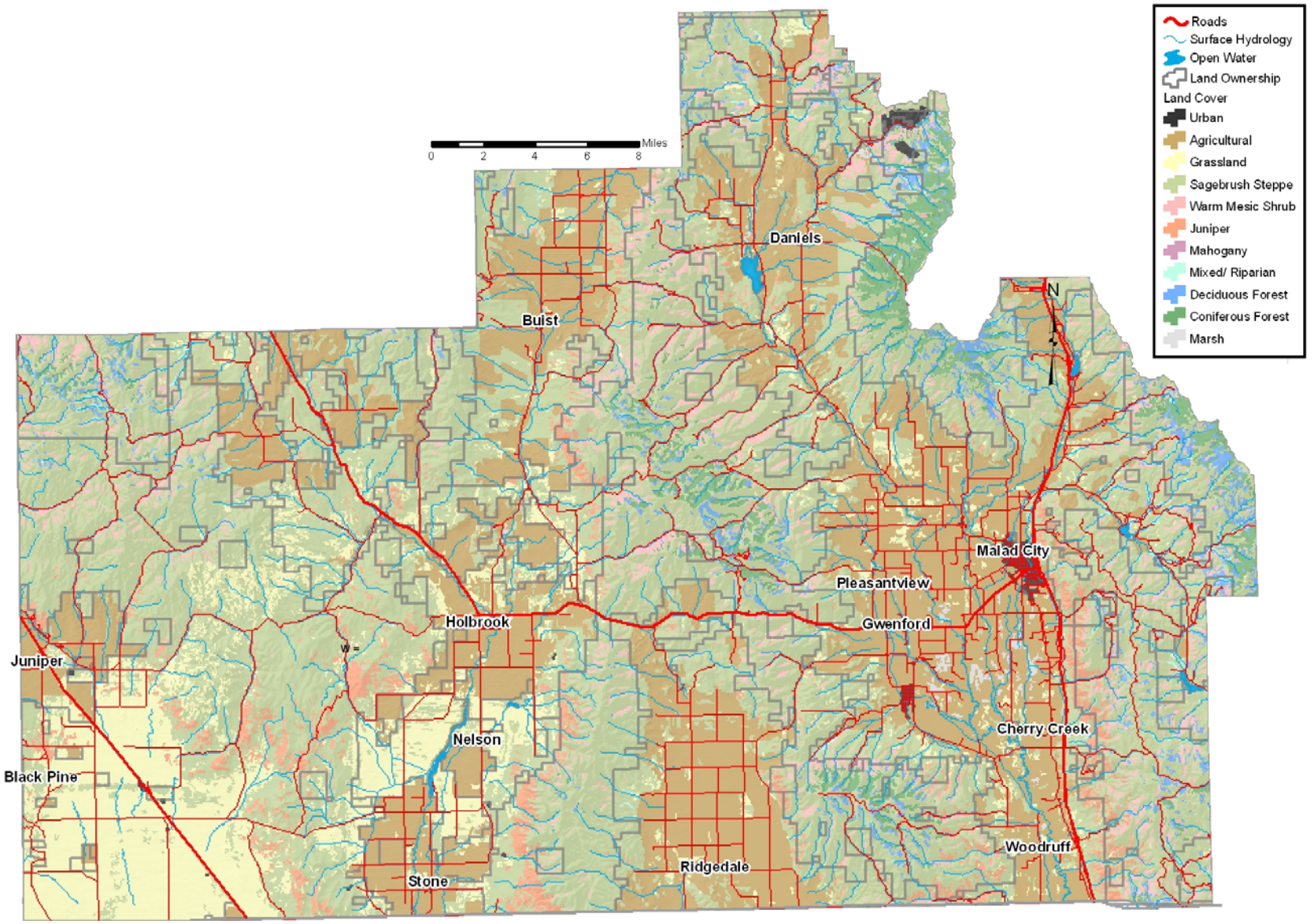

Figure 2. Oneida County vegetation map.

Table 5. Monthly Climate Summary for Malad City, Idaho for years 1948 to 2004.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	32.5	38.6	48.9	59.7	69.9	79.8	89.6	88.4	78.2	64.7	46.5	34.7	61.0
Average Min. Temperature (F)	10.9	15.0	23.3	30.1	37.6	43.7	49.3	48.2	39.3	29.7	21.9	13.6	30.2
Average Total Precipitation (in.)	1.16	1.03	1.02	1.15	1.79	1.21	0.91	0.85	0.93	1.01	1.02	1.07	13.14
Average Total Snow Fall (in.)	11.2	7.2	4.1	1.5	0.1	0.0	0.0	0.0	0.0	0.4	4.0	9.5	38.1
Average Snow Depth (in.)	6	6	2	0	0	0	0	0	0	0	0	3	1.0

Table 6. Monthly Climate Summary for Malta, Idaho for 1963 to 2002.

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Average Max. Temperature (F)	37.0	42.8	51.7	61.0	69.6	79.1	88.9	87.9	77.6	65.1	48.1	37.7	62.2
Average Min. Temperature (F)	16.8	20.7	26.2	31.5	37.9	43.7	49.8	48.1	40.0	31.5	24.1	16.5	32.2
Average Total Precipitation (in.)	0.72	0.58	0.86	1.09	1.64	1.23	0.93	0.89	0.84	0.72	0.76	0.74	11.01
Average Total Snow Fall (in.)	4.1	1.7	1.6	0.7	0.4	0.0	0.0	0.0	0.0	0.1	1.5	3.1	13.1
Average Snow Depth (in.)	2	1	0	0	0	0	0	0	0	0	1	2	1

4.0 EXISTING CONDITIONS AND RESOURCES

This section focuses on wildland fire issues and how they impact current conditions in Oneida County. Existing conditions were determined by: (1) Outcome and recommendations resulting from a planning meeting involving fire chiefs, emergency services personnel, U.S. Forest Service and BLM, (2) Assessing fuel loads using Wildland Fire Hazard Assessment and Community Assessment standard forms (Tables 9-14) within subdivisions considered a risk and photographing these potential fire risks, and (3) identifying potential dry hydrant and drafting water sources and irrigation mainline access points.

Fire History and Frequency

Wildfire risk within and around Oneida County is generally high with most fires over 500 acres in size. The fire season is usually longer than other locations in eastern Idaho. Fire history data are shown in Figure 4 for years 1993 through 2003.

Mutual Aid Agreements

Currently the Oneida Fire District does not have mutual aid agreements with the U.S. Forest 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. On May 12, 2003, Oneida County Board of Commissioners adopted the current Oneida County Development Code. The Code established a Planning and Zoning Commission and formulated the following policies:

- Provide protection to people and property in recognized hazardous areas.
- Provide for the respect and diversities of people in the implementation of community design.
- Protect existing farm operations.
- Assure provision of adequate on-site facilities in all new developments.
- Maintain the comprehensive plan with regular updates of background studies and amendments.
- Require participation in the National Flood Insurance Program.
- Cooperate with Malad City in managing areas of city impact earlier identified, and assist the city in adoption and administration of the county plan and development code.

Description of Assessment Areas

Oneida County assessment area includes the Oneida Fire District with fire stations at Malad City and Holbrook. The district is divided east and west (Figure 1).

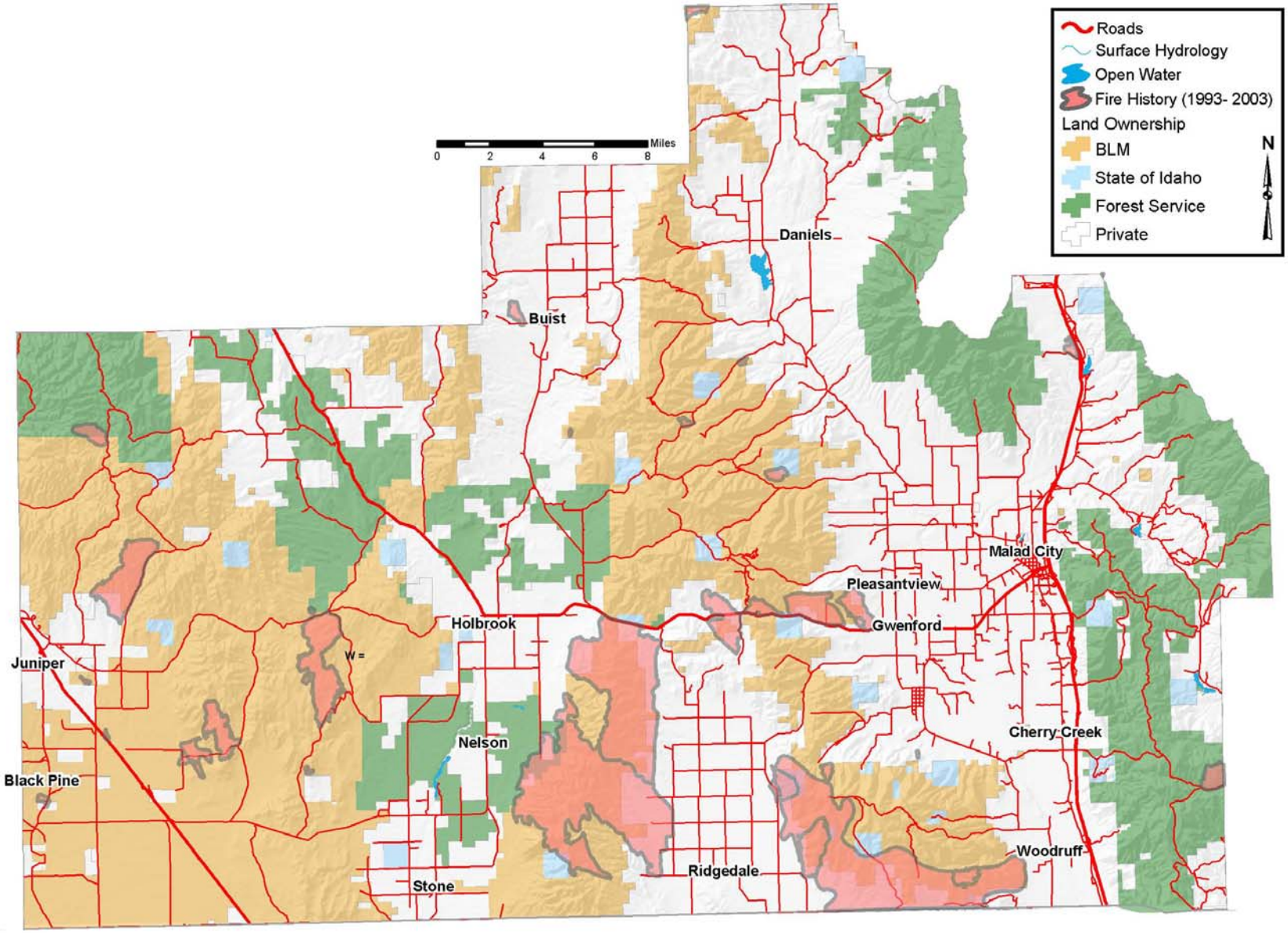

Figure 3. Historic fire perimeters within Oneida County.

Oneida Fire District Current Resources and Assets

Fire chiefs and emergency services personnel completed the following assessment forms showing an overview of each fire department. These forms provide accuracy and consistency in the evaluation process.

Malad City Fire Department

Table 7. Summary of the Malad City Fire Department Assessment.

Malad City Fire Department Assessment Overview – Resources and Assets	
Facilities	The fire station located in Malad is the only permanent fire facility for the east side of the Fire District. It houses district and city fire fighting apparatus.
Response Area	The fire district is comprised of agricultural lands (hay, grain, and safflower with several acres of dry land farming adjacent to federal lands. Figure 1 shows the fire district boundary which encompasses an estimated 88 square miles of response area including an estimated 25 miles of Interstate 15.
Budget and Funding	Funding for the Fire District is derived from 19% grants, 80% taxes, and 1% donations.
Grants	The Malad fire department has received grants from FEMA, BLM, and Idaho Department of Lands.
Records Management	Training records for volunteer fire fighters are maintained at Malad Fire Department and each volunteer is responsible for updating their training.
Hazardous Materials Program	The fire district does not have a Hazmat team. The State Regional Response Team has agreed to respond when requested by the fire district.
EMS Program	EMS services are separate from the fire district activities and are managed by a separate board of directors.
Training and Certification	Training records are managed through each individual volunteer fire fighter and may include only certification issued following the completion of a training class.
Communications	All emergency fire fighting vehicles have radio communication and all volunteers are issued a handheld radio and pager. Dispatch duties are handled through the Oneida County Sheriff and 911 Center. The fire district operates on its own VHF frequency and uses the Oneida County Search and Rescue frequency, as needed.
Prevention and Inspection	At present, there is no training for code enforcement due to the volunteer status of the department.
Public Education	Volunteer fire fighting personnel conduct annual visits to the Fire station for pre-school and grade school children to promote fire prevention and home fire safety.

Holbrook City Fire Department

Table 8. Summary of the Holbrook Fire Department Assessment.

Holbrook Fire Department Assessment Overview – Resources and Assets	
Facilities	The Holbrook Fire Department building is located in Holbrook. It is a two bay building that is co-shared with the ambulance crew. There is space for the heavy structure truck and three small brush trucks along with the ambulance. Also at this facility is a small, unmanned office which serves as a public meeting room as well as the office for the fire department.
Response Area	Holbrook Fire Department extends from the Utah/Idaho border on the south to the Power County line to the north, which is a 38 mile run. From the hills on the west of the valley east to the intersection with the Malad District at the top of the Holbrook divide on highway 37. The fire department is strictly on a volunteer basis.
Budget and Funding	For 2004, $36,000 for whole Oneida Fire District. Funding for the Holbrook Fire Department mainly is through tax assessment and grants. Holbrook Fire Department's budget is handled by "Red" Monte Thomas, district chief of the Oneida Fire District (OFD). Funds are not allocated to the Holbrook/Stone district but repairs are paid for through the OFD.
Grants	No grants have been received for 2004.
Records Management	Monthly meeting records and fire response records are hand written and are kept by the secretary of the Holbrook Fire Department. Truck repair records are kept by the repair shops that do the work.
Hazardous Materials Program	Holbrook Fire Department does not have a hazmat response team. The responsibilities are taken care of by the EMS and State of Idaho Hazmat response teams.
EMS Program	EMS services are separate from this district and are handled by a separate board of directors.
Training and Certification	Due to the nature of the Holbrook Fire Department being an all volunteer organization there has not been any training or certification at this time.
Communications	Each volunteer fire fighter has a hand held radio; the district chief stated that each fire fighter would also receive a pager. The operating brush trucks have radios that are tuned into the hand held and also to the Oneida County Sheriff office dispatch who does the dispatching for this district.
Prevention and Inspection	At present, there is no training for code enforcement due to the volunteer status of the department.
Public Education	At present, there are no public education programs.

Fire Fighting Apparatus

The following equipment lists were provided by fire chiefs and emergency services personnel and includes only serviceable, fully equipped apparatus. Both fire department within the Oneida Fire District have the basic fire fighting equipment required for structure and wildland fires. At this time 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. All fire personnel are on Fire Phones from the Oneida County Sheriff's dispatch. This phone is activated by dispatch and will continue to ring until it is answered. This is generally used when contact cannot be made by radio or pager.

Malad City Fire Department Equipment

2004 International 3,000 gallon pumper with 1,250 gpm/tanker with Dump Tank 3,000
1991 Dodge light wildland fire truck
1993 Dodge light structure/wildland truck
1980 Ford heavy structure truck
1978 Chevrolet 750 gallon pumper with 750 gpm
1,500 gallon folding drop tank

Holbrook Fire Department Equipment

1976 Dodge brush truck 200 gallon
1985 Dodge brush truck 250 gallon
1990 Chevrolet brush truck 150 gallon
1989 Dodge brush truck 250 gallon
1968 Chevrolet 550 gallon structure truck 750 gpm pump

5.0 FIELD ASSESSMENT FORMS AND RATINGS

Standardized Field Assessment Forms were used to assess subdivisions within each Fire District. The assessment (Tables 9, 10, and 11) show the rating elements (Classes A-C) for each area of concern. Tables 12 and 13 show areas of concern, the corresponding rating element, and the overall numerical assessment value for each subdivision. The numerical value was obtained by assigning each rating element a number (Class A=1, B=2, C=3) and totaling the numbers in each column. Table 14 shows the overall results for all subdivisions.

Table 9. Fire Hazard Assessment Description.

Fire Hazard Assessment Description Form			
Rating Element	**Class A***	**Class B****	**Class C*****
Vegetation Type	S/R/G=Sagebrush/Riparian/Grassland, A/S=Agriculture/Sagebrush, R/G=Riparian/Grassland, J/S/G=Juniper/Sagebrush/Grassland		
Slope	Flat to little slope (< 10%	Moderate slopes (10-30%)	Steep Slopes (> 30%)
Aspect (facing)	North (N, NW, NE)	East or level	South and West (SE,S,SW,W)
Elevation	>5500 feet	3500-5500 feet	<3500 feet
Fuel Type	Small, light fuels (grass, weeds, shrubs)	Medium Fuels. (brush, medium shrubs, small trees)	Heavy Fuels. (timber, woodland, large brush or heavy planting of ornamentals)
Fuel Density	Non-continuous fuel bed. Grass and /or sparse fuels adjacent to federal land (<30% cover)	Broken Moderate fuels adjacent to federal land (31 to 60% cover	Continuous fuel bed. Composition conductive to crown fires or high intensity surface fires (> 60% cover)
Fuel Bed Depth	Low (average < 1 foot)	Moderate (average 1-3 feet)	High (average > 3 feet)

*Class A = low fire risk
**Class B = medium fire risk
***Class C = high fire risk

Table 10. 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 = low fire risk
**Class B = medium fire risk
***Class C = high fire risk

Table 11. 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.	Inadequate fire department. Limited personnel, and or equipment but with some wildland firefighting experience and training.	Fire department non-existent or untrained and/or equipped to fight wildland fire.
Water Supply	Adequate supply of fire hydrants and pressure, and/or open water sources (pools, lakes, reservoirs, rivers, etc.).	Inadequate supply of fire hydrants, or limited pressure. Limited water supply.	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.

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

*Class A = low fire risk
**Class B = medium fire risk
***Class C = high fire risk

Table 12. Summary of Oneida County Fire and Structural Assessment Forms.

Subdivisions/Additions	Summit SD	New Canyon SD	Third Creek SD	Juniper Addition
Vegetation Type*	S/R/G	A/S	R/G	J/S/G
Slope	B	B	A	B
Aspect	B	C	C	C
Elevation	C	B	B	B
Fuel Type	B	A	B	B
Fuel Density	B	B	B	C
Fuel Bed Depth	A	A	A	C
Structure Density	B	B	A	A
Proximity of Fuels	B	B	C	B
Building Materials	C	C	C	B
Survivable Space	B	B	A	B
Roads	B	B	B	B
Response Time	B	B	A	A**
Access	B	B	C	C
Overall Assessment Value***	27	26	25	28

* S/R/G=Sagebrush/Riparian/Grassland, A/S=Agriculture/Sagebrush, R/G=Riparian/Grassland, J/S/G=Juniper/Sagebrush/Grassland

** Response time 20 minutes or less only if MAA with Snowville Fire Department is in place.

*** For determining overall assessment value, a low fire risk (A) was given a value of 1, a medium fire risk (B) was given a value of 2, and a high fire risk (C) was given a value of 3.

Table 13. Summary of Oneida County Community Assessment Form.

Subdivisions/Additions	Summit SD	New Canyon SD	Third Creek SD	Juniper Addition
Community Description	B	A	B	B
Firefighting Capability	A	A	A	B
Water Supply	B	B	B	C
Local Emergency Operations Groups	C	C	C	C
Community Planning Practices	B	B	B	C
Fire Mitigation Ordinances	B	B	B	C
Fire Department Equipment	A	A	A	B
Fire Department Training/ Experience	B	B	B	B
Community Fire Safe Programs	B	B	B	B
Community Support and Attitudes	B	B	B	B
Overall Assessment Value*	21	19	20	24

* See footnote on Table 12.

Fire/Structure Hazard Assessment Summary

The overall values for Fire/Structure Assessment (Table 14) show subdivisions ranging from 25 to 28. The Fire Rating Scale shows these subdivisions would be rated medium fire risk.

Community Assessment Summary

The overall values for Community Assessment (Table 14) show subdivisions ranging from 19 to 24. The Fire Rating Scale shows these subdivisions would be rated a medium fire risk.

Table 14. Overall Values for Fire/Structure and Community Assessments.

Subdivisions/Additions	Summit SD	New Canyon SD	Third Creek SD	Juniper Addition
Fire/Structure Hazard Assessment*				
Overall Assessment Value	**27**	**26**	**25**	**28**
*Scale: Low 13-19; Low/medium 20-26; Medium 27-31; Medium/high 32-38; High 39+				
Community Assessment**				
Overall Assessment Value	**21**	**19**	**20**	**24**
**Scale: Low 10-14; Low/medium 15-19; Medium 20-24; Medium/high25-29; High 30+				

6.0 MITIGATION

Mitigation Summary for Oneida County

Table 15 is a summarization of potential problems/risks and recommended mitigation for all areas of concern within Oneida County. The priority rating for each area of concern was established based on interviews with fire chiefs and emergency services personnel.

Table 15. Mitigation Summary for Oneida County.

Oneida County Priority rating	Potential Problems/Risks	Responsible Agency/Recommended Mitigation
High	Hazardous fuels on private land	County, Homeowners • Participate in educational programs funded by grants to reduce fuels by creating 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. • Widen roads for better ingress and egress.
High	Hazardous fuels on Conservation Reserve Program (CRP) land (approximately 30,000 acres) with approximately 7,300 acres designated as State Priority area or occupied habitat for sharptailed grouse	CRP members • Educate seasonal and absentee property owner as to fire risks. • Conduct fuel treatment within older stands of grass and shrubs to reduce hazardous fuels and to improve sharptailed grouse habitat. • Create fuel breaks around newly seeded acreage • Utilize grazing, mowing, haying and other approved methods to reduce fuel loads • Develop a water source (dry hydrant) in the immediate area. • Contact NRCS for guidance and further recommendations.
High	No Red Zone program	Federal, Fire Districts, Homeowners • Conduct surveys identifying potential hazards a home may pose to firefighters during a wildland fire. • Conduct surveys identifying measures a home owner will take to reduce risks of their home igniting during a wildfire. • 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.

Oneida County Priority rating	Potential Problems/Risks	Responsible Agency/Recommended Mitigation
High	Inadequate fire fighting apparatus	County (upgrade or purchase new) • Personal Protective Equipment – Turnout Gear.
High	Inadequate communication system	County, State, Federal, Fire Districts • Require compatible communication system for all parties involved in fire protection.
High	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 • Accelerate local conversion to narrowband to match Federal schedule. • Firefighters and aerial resources must withdraw from fire operations activities if positive communication with their forces, supervisor, or adjoining forces is 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.
High	Inadequate fire fighting apparatus	County (upgrade or purchase new) • Two-medium or heavy engines to BLM specifications. • 4000 gallon tender. • CAFS units for two engines.
High	Inadequate access for Firefighting apparatus	County, Fire Districts • Hire a full time Fire Marshall to inspect and enforce fire related codes. • Pass an ordinance that all new construction will meet county road standards. • Inspect bridges and post weight ratings. • Adopt a county wildland fire code-identifying road and construction standards. This should include provisions for requiring more than one access route into subdivisions. • Require that all roads be clearly marked with road name signs on metal poles. • Ensure adequate access in winter time months. • Provide turnarounds within each subdivision to accommodate the largest fire district apparatus.
High	Inadequate winter water supply and drafting locations	County, Fire Districts • Pursue grant opportunities to purchase additional water tenders. • Request grant funding to develop dry hydrant systems as delineated (see map). • Require storage tanks (cisterns) and/or hydrant systems in new subdivisions.

High	No regulation regarding burning permits	Federal, State DEQ, County, Fire Districts
		• Create county ordinance regarding burning.
		• Educate public.
		  • Notify sheriff's office of controlled burns.
		  • Coordinate with state and federal agencies using fire restrictions.

Oneida County Priority rating	Potential Problems/Risks	Responsible Agency/Recommended Mitigation
Medium	Lack of National Fire Protection Association (NFPA) standards for new subdivisions	County, Fire Districts • Adopt, as needed, portions of NFPA 1141 Standard for Fire Protection in Planned Building Groups (2003.) • Adopt, as needed, portions of NFPA 1143 Standard for Wildland Fire Management (2003). • Adopt, as needed, portions of NFPA 1144 Standard for Protection of Life and Property from Wildfire (2002). • Fire Districts should meet and discuss the current system of building permit review and identify problems that exist and implement solutions.
Medium	Lack of GIS standards on fire district maps	County, Fire Districts • Develop color-coded standards for fire district maps showing water sources, grain elevators, gas depots, chemical and hazardous materials, sewer lagoons, and natural gas lines, to name a few.
Medium	Hazardous fuels between improved property and defined boundary (WUI) and within improved property	County, Homeowners, State and Federal Agencies • Adopt Urban-Wildland Interface Code that applies to the construction, alteration, moving, repair, maintenance and use of any building, structure or premises within the wildland interface areas in this jurisdiction (**see Appendix A**). • Construct fuel breaks at designated locations (see map). • Maintain fuel breaks (periodic mowing, greenstripping, noxious and invasive weed removal). • Widen roads for better ingress and egress. • Public Education Programs.
Medium	Hazardous fuels on public land	Caribou-Targhee National Forest, County, Fire Districts • Hazardous fuels reduction project involving the area within Oneida County. Activities include but are not limited to: 1) thinning of small diameter noncommercial size trees, 2) hand piling of thinned trees and other slash followed by burning, 3) public firewood gathering, 4) removal of fuels by private contractors, 5) commercial timber sales, and 6) prescribed burning where safe and at minimal risk to private property. • County and local fire cooperators will help the Forest Service identify other areas of concern and promote the need for doing this type of work. • Idaho Department of Lands will assess the state owned sections for opportunities to do fuel reduction projects on their lands. • County will comply with Development Code adopted August 17, 2000 and amended May 12, 2003 concerning setback standards for new construction adjacent to public lands.
Medium	Reduce human-caused fires	County, Fire Districts • 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,

Oneida County Priority rating	Potential Problems/Risks	Responsible Agency/Recommended Mitigation
		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.
Low	Excess debris created by the fuels reduction project	County • Request grant funding to purchase an industrial chipper or make arrangements to use the Forest Service chipper. • Provide chips to the general public and local entities for heating and power generating operations. • Identify areas where people can dump debris. • Offer free dump passes.
Low	No power pole protection	County • Install fireproof sleeves around power poles at designated locations. This will require cooperation and coordination with Utah Power and Electric and/or Rural Electric Association.
Low	Open areas with no fire protection	County Fire Commissioners, State Tax Commission, Fire Districts • Create new fire protection district for open areas.
Low	Inadequate bridges and culverts	County, Fire Districts • Designate alternate routes for emergency vehicles. • Provide turnarounds to accommodate the largest fire district apparatus.

Fuels Mitigation for Oneida Fire District

This section identifies specific hazards and mitigations within the Oneida Fire District. Mitigations were developed in consultation with the fire department and the public during the planning meeting and tow public meetings.

I-15 Corridor

Hazards: Flammable materials thrown from passing vehicles, semi-trucks with hot brakes and vehicle accidents.

Mitigation: Educate traveling public to fire danger, Install **Fire Danger** signs at the State line and encourage the use of engine braking devices on Malad Summit.

Hansel Mountains

Hazards: No Access, frequent lightning started fires, high priority area for sage and sharptailed grouse limit fire fighting capabilities during certain times of the year and on suitable grouse habitat.

Mitigation: Work with Federal agencies and private landowners to create public access, work with U.S. Forest Service on the management plan for the area to clearly state what can,

and what cannot be accomplished, and attempt to resolve conflict with the management plan for that area.

Stone and Holbrook Area

Hazards: The identified hazard within the city of Holbrook is a buildup of fine fuels and no survivable space (Figures 8 and 9, Mitigation Summary, Table 15). Response time is lengthy because 911 calls go to Box Elder County Utah and not Oneida County.

Mitigation: Develop a Mutual Aid Agreement with Box Elder County and formalize with a written agreement.

Noxious and Invasive Weeds

Hazards: Flashy fuels that will continue under a fire regime, and loss of productivity from the species on public and private lands.

Mitigation: Identify areas on the maps where large concentrations exist (Cow Hollow, Cove Burn, and South Bull Canyon) and work with BLM and FS to graze the areas at times that cheatgrass is most susceptible to control. Move turn out dates to May and early June and not mid- to late June. Increase funding through grants and agreements for County crews to treat weed infestation areas. For additional information see Environmental Effects – Weed Establishment.

Federal Land – Fuels Reduction Program

Hazards: Currently the Caribou-Targhee National Forest is conducting a fuels reduction project on the north end of the county and within the Summit Campground. In addition, the Forest Service has recently released a public scoping statement proposing to treat up to 600 acres in the Spring Canyon area. The Forest Service will continue to identify problem areas with heavy fuel buildup and treat these areas in accordance with the 2003 Revised Forest Plan for the Caribou National Forest.

Mitigation: The BLM has identified Samaria, the Deep Creek Mountains, and Pleasantview Hills as project sites. The objectives of these projects are: (1) to protect wildland-Urban interface where it exists (Samarias) and (2) improve forest and mountain shrubland health (e.g. thinning conifer stands, reducing the number of standing dead and down trees, rejuvenation of aspen and mountain shrub stands). The treatments would include commercial logging, non-commercial cutting of smaller diameter trees, and prescribed burning (both pile burning and broadcast burning).

Conservation Reserve Program (CRP)

Hazards: Portions of CRP land within this fire district are designated as State Priority area or occupied habitat for both sage grouse and sharptailed grouse (personal communication, James Kumm, BLM, 2004). Lightning, water availability, fine flashy fuels, seasonally occupied homes, and no regulation to stop fires from coming off of the CRP land.

Mitigation: (see Table 15, Mitigation Summary).

Survivable Space

Hazards: Examples of homes with moderate to low survivable space are shown in Figures 4 through 9. Figure 10 is an example of a home in the Third Creek Subdivision with good survivable space.

Mitigations: (see Table 18. A Checklist for Homeowners).

Power lines

A power line bisecting Oneida County from south to north and heavy fuel loads exist at the base of the poles (Figure 11).

Mitigation: Install metal sleeves on the poles and sterilize the soil at the base of each pole.

Dry Hydrant, Cisterns, and Drafting Locations

New subdivisions should assess property owners a fee to develop a community water source such as a cistern for fire use. Adopt County Codes and Ordinances to set construction materials, water sources, road widths, height clearances and bridge standards.
Dry hydrant and drafting locations are identified (Figures 1 and 12). Also see Table 15, Mitigation Summary, Mitigation summary, and Environmental Effects). For additional information see *Planning for Water Supply and Distribution in the Wildland/Urban Interface* (2004).

Figure 4. Summit Subdivision showing heavy fuel loads and low survivable space.

Figure 5. New Canyon Subdivision showing fine fuels and moderate survivable space.

Figure 6. New Canyon Subdivision home showing fine fuels and moderate survivable space.

Figure 7. Juniper Addition showing fine fuels, heavy juniper and no survivable space.

Figure 8. Holbrook home showing fine fuels and low survivable space.

Figure 9. Abandoned structures within Holbrook showing fine fuel buildup and low survivable space.

Figure 10. Third Creek Subdivision home showing adequate survivable space.

Figure 11. Heavy fuels at base of power poles.

Figure 12. Devil Creek Reservoir outlet showing dry hydrant or drafting location.

7.0 WILDLAND/URBAN FIRE MODELING

Figures 13 through 16 show models developed by BLM's Upper Snake River District (USRD) Geographic Information Systems (GIS) team and the GIS Training and Research Center (GISTReC) at Idaho State University (ISU) (Frank 2004), to predict potential wildfire risk areas for Oneida County.

Figure 13 illustrates the fuel loads derived from field training sites and Landsat 7 ETM+ satellite imagery. Fuel Load class 2-4 tons/acre received the highest fire risk value, because of its high load of fine, low-standing fuels. Fuel Load class >4 tons/acre received the lowest fire risk value since these fuels are of a larger size and higher moisture content, so they will not ignite as quickly.

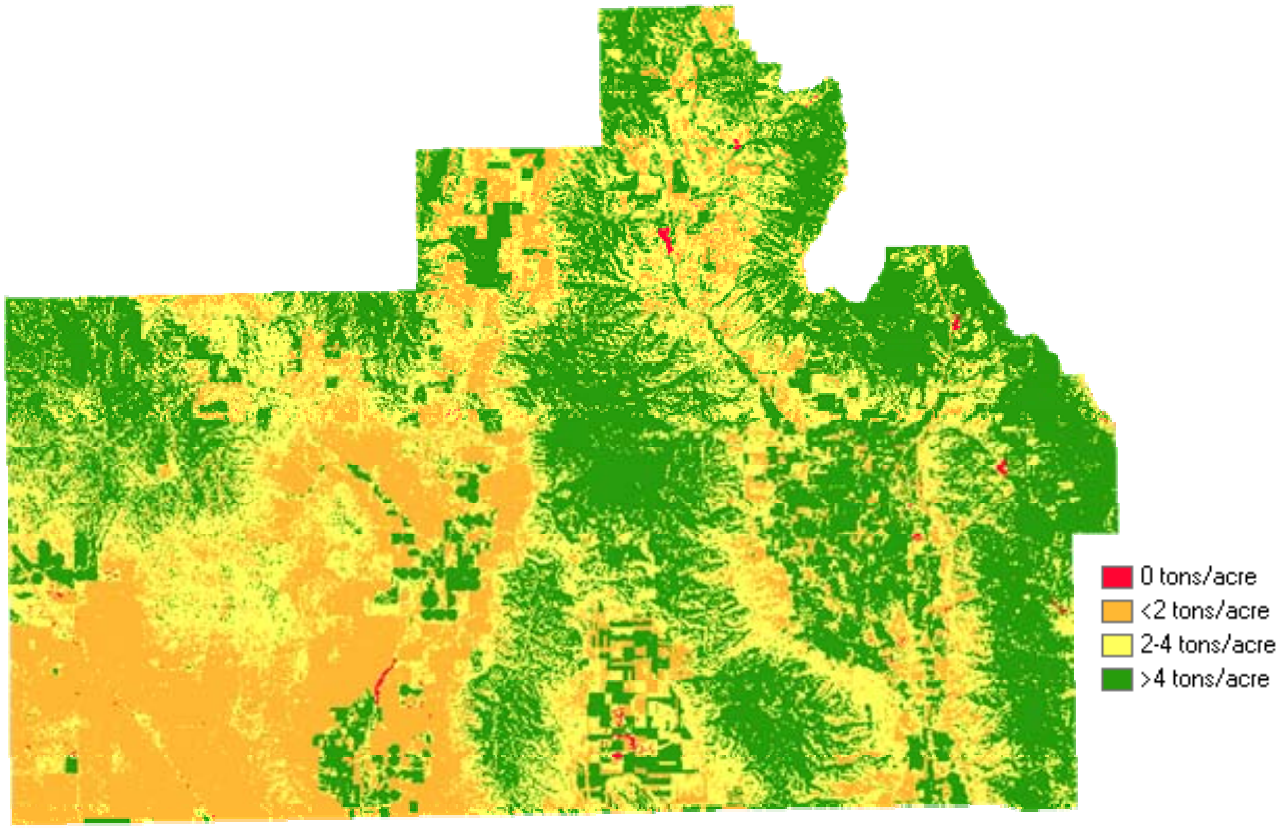

Figure 13. Fuel load model and the distribution of different fuel load classes.

Figure 14 illustrates the vegetation moisture showing irrigated and riparian areas contain the lowest risk values, while the grasses, shrubs, and mountainous areas contain the highest values. The high risk areas are due to the low moisture content associated with sagebrush steppe that dominates the area.

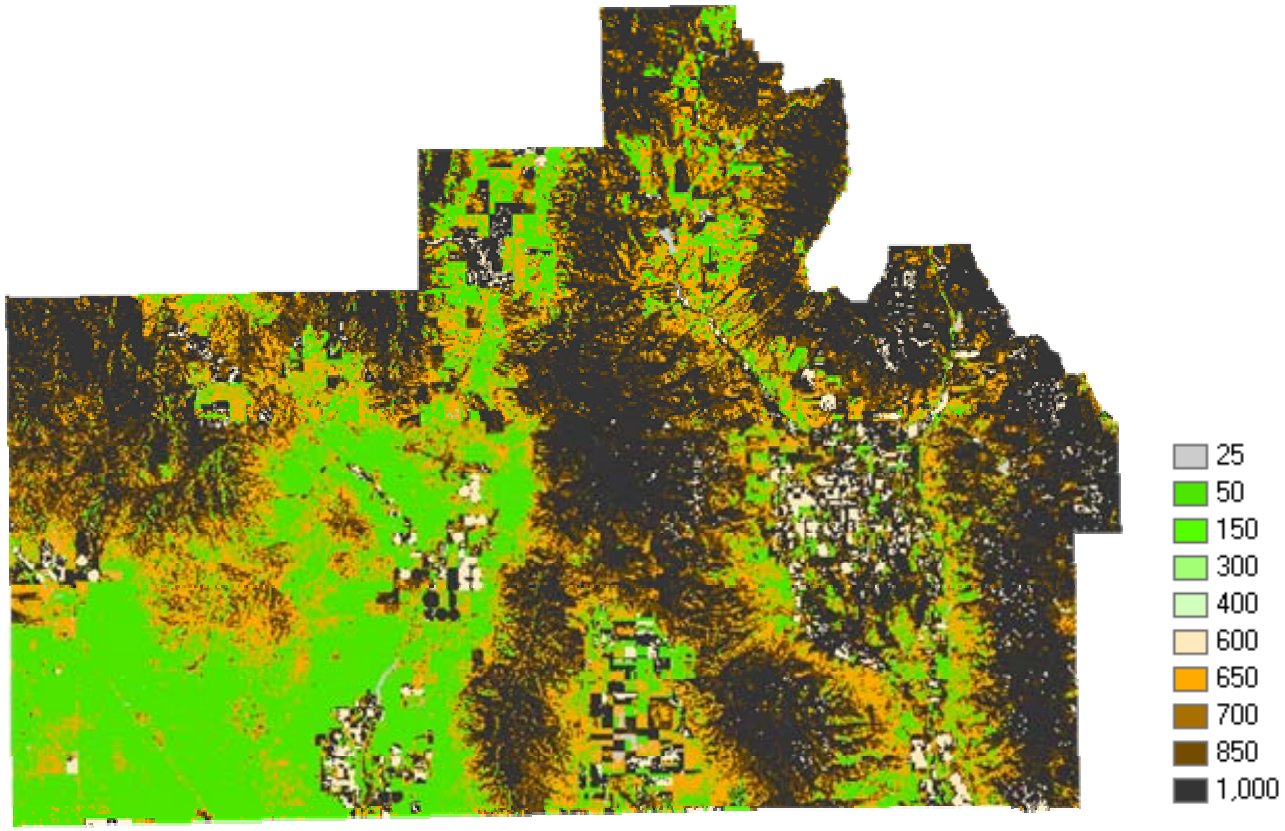

Figure 14. Fuel moisture compared to different fuel load classes. (The lower the number the lower the fire risk value.)

Figure 15 illustrates the fuel load and rate of spread and takes into account how fast a fire will spread depending on different fuel load classes. The lower fuel load classes were considered to be the primary carrier of fire (e.g. grasses) and have the fastest spread rate. Mountainous areas, with larger fuel loads, contain the lowest values, where grasses and shrubs in the southwestern portion of Oneida County contain the highest values.

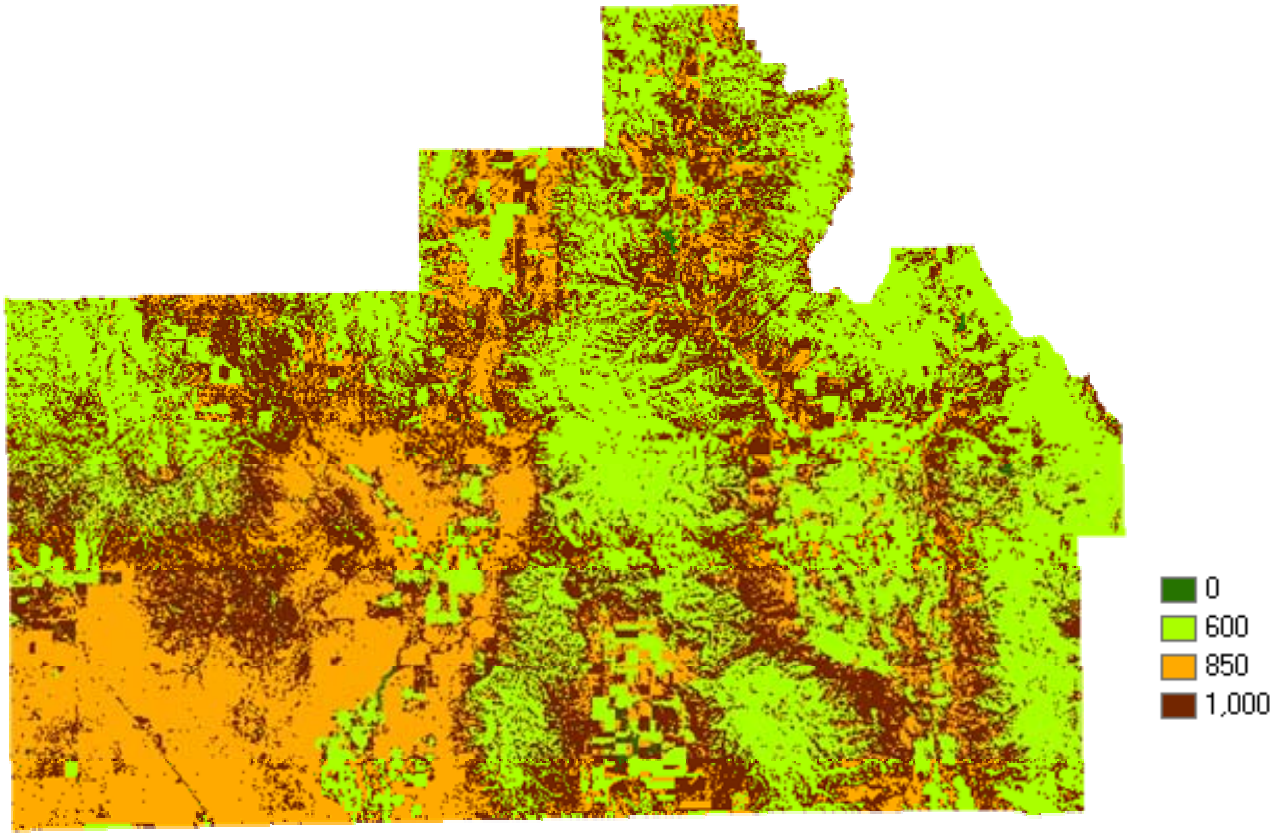

Figure 15. Fire risk associated with the spread rate of different fuel load classes. (The lower the number the lower the fire risk value.)

Figure 16 takes into account how intense a fire of different fuel load classes affects fire risk. Intensity is considered the amount of energy a fire produces. The more energy the fire produces, the more difficult it is for the firefighters to suppress it. Intense fires create their own wind system, drying out fuel ahead of the fire. This intensity depends on fuel load and other factors such as wind and ground conditions at the time of the fire. Thus, if firefighters do not suppress the fire, it will keep spreading.

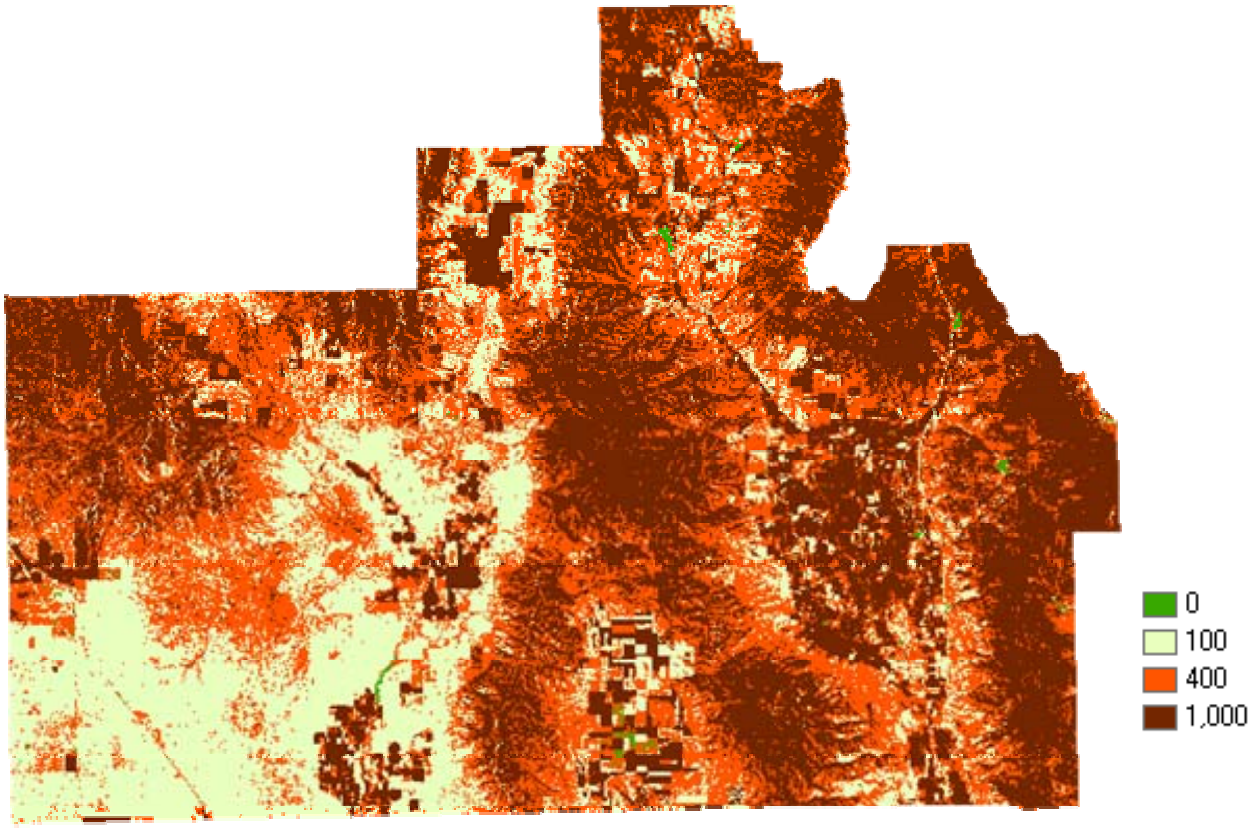

Figure 16. Fire risk compared to the amount of energy (intensity) each fuel produces. (The lower the number the lower the fire risk value.)

Figure 17 represents the wildland fire hazard rating for Oneida County based on field assessments and the models presented above.

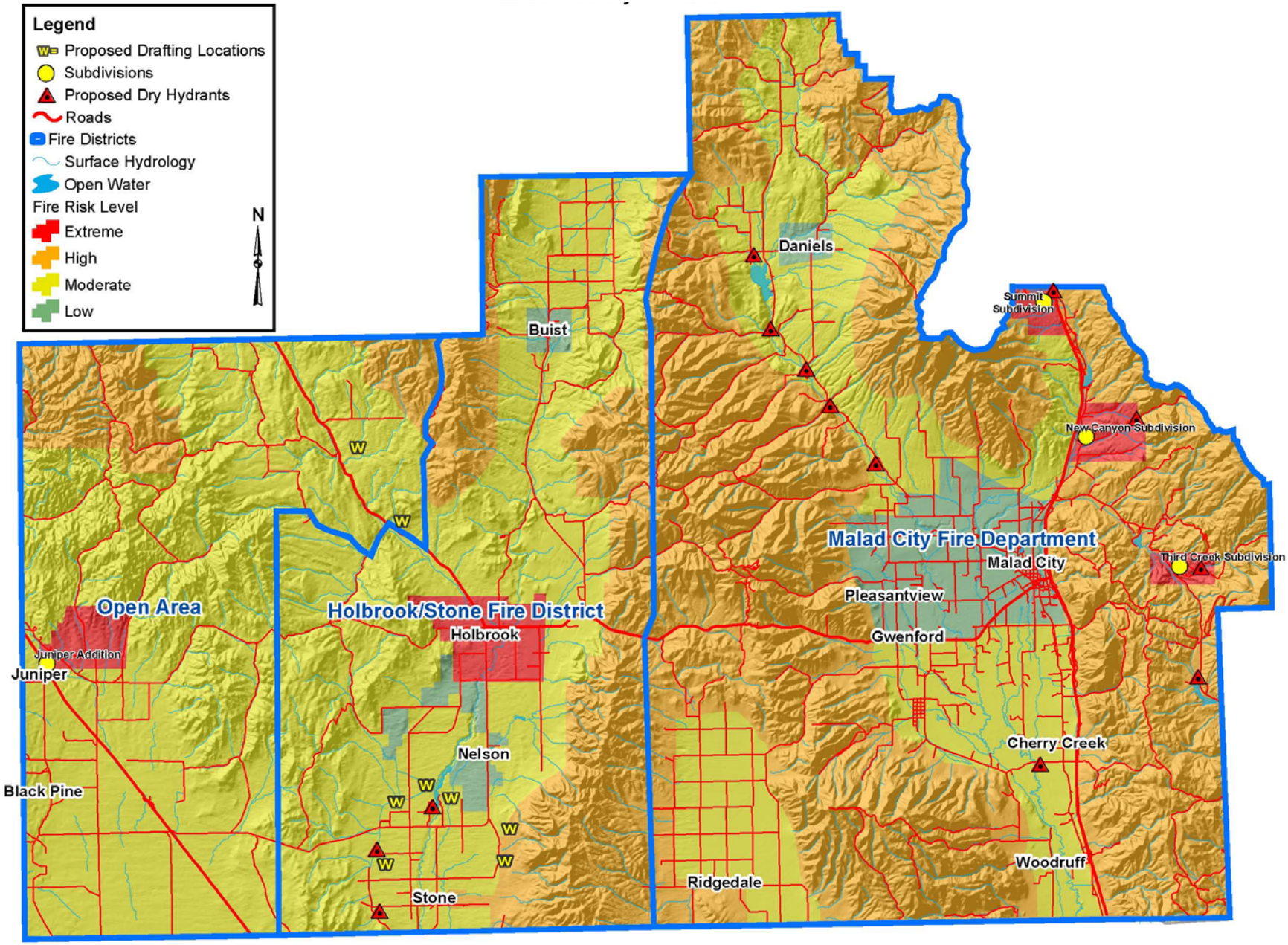

Figure 17. Wildland Fire Hazard Rating.

8.0 FIRE DEPARTMENT NEEDS AND COST

Tables 16 and 17 show needs and costs for Malad City Fire Department and Holbrook Fire Department.

Malad City Fire Department Needs and Costs

Table 16. Malad City Fire Department Existing Needs and Costs.

	Needs	Costs
Personnel and Capital	Full-time fire fighter	$40-60,000 per year
	Fire Fighting Vehicle Acquisition Program	$50,000 per year
	Modifications to fire district facilities	$50,000
	New fire station	$400,000
	Thermal imaging camera	$17,000
	New rescue/fire fighting vehicle	$150,000
Training and Certification	Annual wildland firefighter training	$1,500
	Annual firefighter essentials training	$1,500
	Hazardous materials training	$1,000
	Operations and firefighter safety programs	$17,000
	Management training for full-time fire fighter	$10,000
	Training policy	$5-8,000
Communication	Programming and re-programming software	$2,000
	County radio technician	$20,000 per year
Prevention and Inspection	Training for Inspector and full-time fire fighter	$8-10,000 per year
Public Education.	Grade/preschool fire station visits	$1,500
	Homeowners educational programs	$10,000 per year

Holbrook Fire Department Needs and Costs

Table 17. Holbrook Fire Department Existing Needs and Costs.

	Needs	Costs
Personnel and Capital	Heavy brush truck with 1000 gallon capacity	$150,000
	Firefighting apparatus	$150,000
	Personal firefighting clothing	$6,000
	Hoses and fittings for transfer pump	$4,000
Training and Certification	Annual wildland firefighter training	$1,500
	Annual firefighter essentials training	$1,500
	Hazardous materials training	$1,000
	Operations and firefighter safety programs	$17,000
	Management training for full-time fire fighter	$10,000
	Training policy	$5-8,000
Communication	New radio for existing heavy	$2,000
	Pagers for each firefighter for immediate contact	$4,000
Prevention and Inspection	Training for inspector and full-time fire fighter	$8-10,000 per year
Public Education.	Homeowner green space training seminars	$10,000

9.0 ENVIRONMENTAL EFFECTS

Weed Establishment

Confirmed sightings of the following noxious weeds have been identified in Oneida County (Prather et al. 2002): black henbane (*Hyoscyamus niger*), Canada thistle (*Cirsium arvense*), Dyer's woad (*Isatis tinctoria*), leafy spurge (*Euphorbia esula*), field bindweed (*Convolvulus arvensis*), musk thistle (*Carduus nutans*), and Russian knapweed (*Acroptilon repens*). 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 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.
  - 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 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 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.
- 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 Oneida 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
- Waterbar 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.

10.0 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 per program.

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 Oneida 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 18. A Checklist for Homeowners.

Oneida County 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) Idaho Falls District BLM office, 2) County offices, and 3) Fire Districts adjoining Oneida 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. • 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?
• 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. • 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?
Create a 30-foot safety zone around the house. • 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 hour 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.

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.
- 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?

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:
- 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?

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.
- Clear all flammable materials away fro 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?
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. • 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.
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?
Install spark arrestors on all chimneys, stovepipes and vents for fuel-burning heaters. Check with the Fire District for spark arrestor specifications • 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?
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. • 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.

Web Sites for Homeowners that Describes Fire Safety Practices and Procedures

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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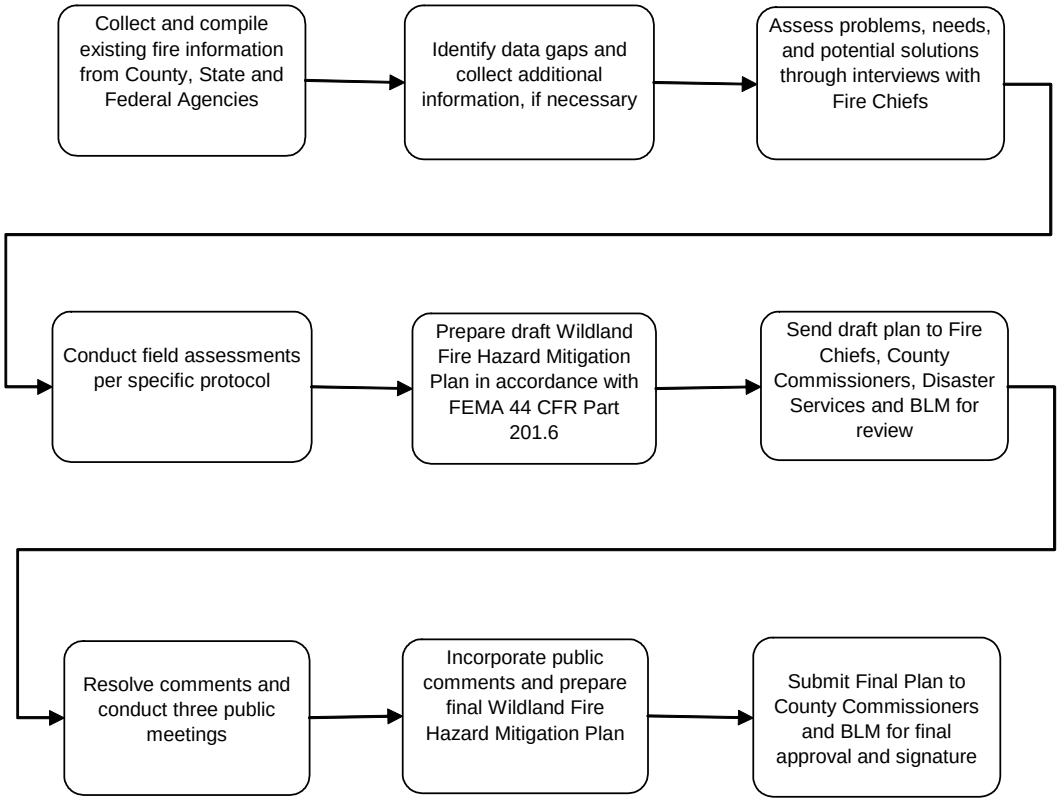
12.0 PERSONNEL CONTACTED

Jerry D. Bush	Chairman, Oneida County Commissioners
Gerald K. Goodenough	Oneida County Commissioner
Gene Caldwell	Oneida County Commissioner
Dallan Nalder	Oneida County Planning and Zoning Commissioner
Shirlee Blaisdell	Oneida County Clerk
LaMont Thomas	District Chief, Oneida Fire District (OFD)
Ceylon Reeder	Emergency Services
Brad Hess	Fire Chief, Malad City Fire Department
Steve Hess	Secretary, Holbrook Fire Department
Tim Keller	Fire Chief, Holbrook Fire Department
Jeff Hill	US Forest Service, Caribou-Targhee National Forest
Jerry Tower	US Forest Service, Caribou-Targhee National Forest
Sarah Heide	Fire Ecologist, BLM
Don Gosswiller	Fire Mitigation and Education Specialist, BLM
Kevin Conran	Fire Mitigation and Education Specialist, BLM
Keith Birch	Idaho Department of Lands

13.0 PROCESS USED TO DEVELOP WILDLAND FIRE HAZARD MITIGATION PLAN



An Agreement was made between Oneida County and North Wind, Inc. to provide a Wildland Fire Hazard Mitigation Plan that meets the requirements of the National Fire Plan, FEMA Fire Mitigation Plan, and state and local ordinances. This plan involved the County Commissioners, Fire District Chiefs, and other local officials.
The scope of work included:

- Collecting and compiling existing fire information from County, State, and/or Federal land management agencies.
- Identify any data gaps and collect field information.
- Assess problems, needs, and potential solutions through interview with Fire District personnel as well as elected county officials.
- Assess problems, needs, and potential solutions by 1) receiving input from the general public through a minimum of three (3) public meetings.
- Create an individual Wildland Fire Hazard Mitigation Plan for Oneida County by completing the following:

- Evaluate the date and information from the Hazard Assessment.
- Meet with Fire District personnel and elected officials.
- Hold a planning meeting and two public meetings to receive input related to mitigation planning and discuss findings from the Hazard Assessment.
- The Wildland Fire Hazard Mitigation Plan will include the following items:
  - Recommended action or actions.
  - Location of mitigation projects.
  - Discussion of physical, biological, and social resources that may be affected.
  - Alternatives that were considered.
  - Time frame for implementation and priority of mitigation projects.
  - Funding anticipated and potential sources.
  - Implementation of the specific mitigation projects.

14.0 PUBLIC PARTICIPATION IN THE DEVELOPENT OF THE WILDLAND FIRE HAZARD MITIGATION PLAN

A planning meeting and two public meetings were conducted to solicit input of public agencies, state and local agencies and private citizens in the development of the plan. Sixteen persons attended the planning meeting held July 22, 2004 and the following topics were discussed:

- Identify areas within the county and ranking these areas as to high, medium or low fire risk areas.
- Identify the hazards in these areas.
- Prioritize the risks and hazards a identifying mitigation measures for each.
- Discuss plan maintenance.

Public meetings were held on September 8 and 9, 2004 in Malad City and Holbrook. Nine persons attended on the 8th and the Plan was discussed page by page resulting in several comments that were incorporated into the Plan the following day. Eight persons attended on the 9th and generated little discussion. The main concern at this meeting focused on the Curlew National Grasslands (CNG) and the Caribou-Targhee National Forest Land Resource Management Plan addressing fire suppression and other treatments for the CNG. These concerns were later addressed by the Forest Service and incorporated into the Plan.

APPENDIX A

Example Codes for Fire Protection Requirements for Residential Development in Hazardous Fire Areas, taken from Proposed Codes for Bannock County (2004).

Chapter 1
Administration

Section E101 – General

E101.1 Title. These regulations shall be known as the Urban-Wildland Interface Code, may be cited as such and will be referred to herein as "this code".

E101.2 – Scope. The provision of this code shall apply to the construction, alteration, moving, repair, maintenance and use of any building, structure or premises within the wild-land interface areas in this jurisdiction.

Buildings or conditions in existence at the time of the adoption of this code are allowed to have their use or occupancy continued, if such condition use or occupancy was legal at the time of the adoption of this code, provided such continued use does not constitute a distinct danger to life or property.

Buildings or structures moved into or within the jurisdiction shall comply with the provisions of this code for new buildings or structures.

E101.3 – Objective. The objective of this code is to establish minimum regulations consistent with nationally recognized good practice for the safeguarding of life and property. Regulations in this code are intended to mitigate the risk to life and structures from intrusions of fire from wildland fire exposures and fire exposures from adjacent structures and to mitigate structure fires from spreading to wildland fuels.

The unrestricted use of property in the urban-wildland interface areas is a potential threat to life and property from fire and resulting erosion. Safeguards to prevent the occurrence of fires and to provide adequate fire-protection facilities to control the spread of fire in urban-wildland interface areas shall be in accordance with this code.

This code shall supplement the jurisdiction's building and fire codes, to provide for special regulations to mitigate the fire and life safety hazards of the urban-wildland interface areas.

El01.4 – Maintenance. All buildings, structures, landscape materials, vegetation, survivable space or other devices or safeguards required by this code shall be maintained in conformance with the code edition under which installed. The owner or owner's designated agent shall be responsible for the maintenance of buildings, structures, landscape materials and vegetation.

E101.5 – Compliance Alternatives. When there are practical difficulties involved in carrying out the provisions of this code, the code official is authorized to grant modifications for individual cases on application in writing by the owner or a duly authorized representative. The code official shall first find that a special individual reason makes the enforcement of the strict letter of this code impractical, the modification is in conformance with the intent and purpose of this code, and the modification does not lessen any fire protection requirements or any degree of structural integrity. The details of any action granting modifications shall be recorded and entered into the files of the code enforcement agency.