

# **WILDLAND-URBAN INTERFACE COMMUNITIES-AT-RISK PROGRAM**

**Final Mitigation Plan Report  
Lower Snake River District  
Mayfield/Orchard/Simco/Tipanuk Assessment Area**



**Work Assignment No.: BLM4-73  
BLM Contract No.: 1422-N660-C98-3003  
December 2001**



**DYNAMAC**  
**CORPORATION**

**FINAL  
WILDLAND-URBAN INTERFACE COMMUNITIES-AT-RISK  
MITIGATION ASSESSMENT REPORT**

**LOWER SNAKE RIVER DISTRICT  
MAYFIELD, ORCHARD, SIMCO, TIPANUK (MOST)  
ASSESSMENT AREA**

**Prepared for:**

**U.S. Department of Interior  
Bureau of Land Management  
Lower Snake River District  
Boise, Idaho**

**Prepared by:**

**Dynamac Corporation  
20440 Century Boulevard  
Suite 100  
Germantown, Maryland 20874**

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## 1.0 EXECUTIVE SUMMARY

During the 2000 fire season more than 6.8 million acres of public and private lands were burned by wildfire, resulting in loss of property, damage to resources, and disruption of community services. Many of these fires occurred in wildland-urban interface areas and exceeded fire suppression capabilities. To reduce the risk of fire in the wildland-urban interface, the President of the United States directed the Secretaries of the Departments of Agriculture and the Interior to increase federal investments in projects to reduce the risk of wildfire in the wildland-urban interface. The Bureau of Land Management (BLM), Lower Snake River District is currently in the process of forming partnerships with local governments to plan fuels reduction treatments and other mitigation measures targeted at the wildland-urban interface in the vicinity of Federal lands. These partnerships are indicative of a shared responsibility to reduce wildland fire risks to communities.

The wildland-urban interface occurs where human structures meet or intermix with wildland vegetation. In certain situations, specific actions such as fuels reduction around communities, forest and rangeland restoration, infrastructure improvements, and public education and outreach may reduce the risk of catastrophic fire in the wildland-urban interface. To this end, the BLM implemented the Communities-at-Risk Wildland-Urban Interface Program. The program seeks to reduce the hazard of wildland fires to communities through public outreach, reduce or prevent fuel buildup, and increase the fire protection capabilities of communities. The Mayfield, Orchard, Simco, and Tipanuk (MOST) community was selected by the BLM to assess the hazard of wildland fire and to identify specific actions that may reduce the risk.

Dynamac Corporation was contracted to support the BLM in their assessment of wildfire risk to the MOST community in the wildland-urban interface. Dynamac scientists conducted fuel surveys by categorizing the vegetation, slope, and aspect of the land in the MOST assessment area. The risk of wildland fire to homes, structures, and cultural resources on private land was also evaluated according to building materials, the presence of survivable space, road access, and the response time of the local fire department. Dynamac assessed the adequacy of the community's service infrastructure (including roads, water supplies, and fire fighting equipment) by systematic observation, and by interviewing community officials and fire prevention personnel. A community open house was held to disseminate information about the Communities-at-Risk-Wildland-Urban Interface Program to citizens, to afford them the opportunity to identify resources that are of value to the community, and to have them identify actions that may reduce the risk of wildland fire. The information gathered from the fuel

surveys, structural surveys, interviews, infrastructure assessments, and community profile was integrated into two reports: a hazard assessment report and a mitigation report. Subsequent to preparation and BLM review of the draft reports, a second community meeting was held in the MOST area on November 1, 2001 to present to local officials and community members the results of the surveys and interviews, and to present and discuss Dynamac's proposed recommendations to BLM for mitigation activities that can be undertaken to reduce risk from wildland fires in the MOST community. A summary of the second public meeting is included as Appendix B of this report.

The following actions items were identified to reduce the hazard of wildfire in the MOST assessment area based on the synthesis of the surveys, together with information from local officials and community residents:

- Support the ongoing development of a local fire department.
- Develop and maintain water-storage tanks or pumps for residents of the MOST area, to provide water for fire fighting purposes.
- Construct firebreaks and reduce flammable fuels at specific locations along the I-84 corridor.
- Develop an education and outreach program throughout the assessment area to encourage firewise practices, reducing risk to individual structures.

## **2.0 GOALS AND OBJECTIVES**

The goals of the MOST wildfire hazard assessment and mitigation plan are to evaluate the hazards of wildland fire within the assessment area and then identify specific actions that could reduce the risks. The objectives are to (1) decrease the chances of wildfire spreading from BLM lands onto private lands, while correspondingly, (2) decreasing the risk of wildfire spreading from private lands onto BLM lands; and (3) to protect structures and other valued resources in the community.

## **3.0 BACKGROUND**

Wildland fire is an integral component of many forest and rangeland ecosystems. In the conterminous United States before European settlement, an estimated 145 million acres were annually consumed by wildfire. In comparison, only about 14 million acres are currently burned annually due to increased agriculture, urbanization, habitat fragmentation, and fire suppression programs. This change from the historical fire regime to the present day has caused a shift in the native vegetation composition and structure of fire-prone ecosystems such as some forests and

rangelands resulting in a dangerously high accumulation of fuels. As a result, when wildland fires do occur, they may burn larger and hotter than those in the past and pose an increased risk to human welfare and ecological integrity.

The hazard of wildland fires is compounded by the increasing occurrence of human structures and activities in fire-prone ecosystems. The wildland-urban interface occurs where human structures meet or intermix with wildland vegetation. In certain situations, specific actions such as fuels reduction around communities, forestland and rangeland restoration, infrastructure improvements, and public outreach may reduce the risk of catastrophic fire in the wildland-urban interface. To this end, the BLM implemented the Communities-at Risk Wildland-Urban Interface Program. The program seeks to reduce the hazard of wildland fires to communities through public education and outreach, the reduction or prevention of fuel build-up, and increasing the fire protection capabilities of communities. The MOST community was selected by the BLM to assess the hazard of wildland fire and to identify specific actions that may reduce the risk.

#### **4.0 EXISTING SITUATION**

Mayfield, Orchard, Simco, and Tipanuk are unincorporated communities located in Ada and Elmore Counties, Idaho, approximately 25 miles Southeast of Boise. The MOST assessment area encompasses these communities and surrounding lands (**Map 1**); together they represent a loosely knit community, with no organized local government, no commercial area, and no population center. Only one small fire department exists within the assessment area, which was organized in late 2001. With the exception of one section in the Tipanuk area that has more than 50 homes, the population is widely dispersed through the assessment area, usually with no more than a few homes in any section of land. The area extends from the Danskin Mountains to the Snake River plain, with a general southwest aspect; elevation ranges from 3,070 to 5,000 feet. Several creeks drain the northern end of the area (Slater Creek, Indian Creek, Bowns Creek, and Squaw Creek), but as the elevation drops, these streams lose water to groundwater. None of the streams had flowing water during August 2001 field surveying, although Indian Creek Reservoir did have standing water. The area has mixed land ownership; BLM owns 37 percent of the land area in the assessment area, the Forest Service 1 percent, the State of Idaho 9 percent, with the remaining 53 percent privately owned. The assessment area has a total area of 173,000 acres (270 square miles), and occupies all or parts of T02N R03E; T02N R04E; T02N R05E; T01N R03E; T01N R04E; T01N R05E; T01N R06E; T01S R03E; T01S R04E; T01S R05E; T01S R06E; T02S R03E; T02S R04E; and T02S R06E. In developing this report, we regarded the

urban-wildland interface as including all private land in the assessment area. There is not any town or area of concentrated population in the area; highly flammable fuels are present throughout the area, and homes and ranch buildings are dispersed through the entire assessment area.

Much of the MOST assessment area lacks any kind of organized fire protection. The western portion of the assessment area (approximately one-third of the area) receives fire protection from Ada County, but residents regard that service as very slow and unreliable. In addition, a small subscription fire department was organized in the Oasis area, in the northern portion of the assessment area, late in 2001. This department provides service to members (i.e., subscribers) and may voluntarily provide coverage to other residents of the area. The balance of the assessment area is not part of any fire protection district. Local residents work together on an *ad hoc* basis to fight fires, but they lack training and equipment, and have access only to personally owned earth-moving equipment and water tanks. BLM provides fire-fighting crews to suppress wildfires when they occur on or pose a threat to public land, with support from the fire crew at the Orchard Training Area when possible. Residents have periodically attempted to organize a local fire department and the recent formation of the Oasis fire department may serve as a stimulus for other residents of the area to either join the Oasis department's subscription service or to form one or more additional volunteer departments elsewhere in the MOST area.

Land uses in the assessment area are varied. The economy of the area is based on ranching and much of the land in the assessment area is grazed. The area includes parts of the Idaho National Guard's Orchard Training Area, an area used for tank and artillery training. It also includes portions of the Snake River Birds of Prey National Conservation Area, home to the largest nesting population of raptors in North America. In recent years, there has been a notable influx of residents into new homes within the assessment area, especially in the northwestern portion.

Predominant vegetation in the assessment area includes annual grasses and forbs, along with sagebrush and bitterbrush. South of Interstate 84 (I-84), most of the area has a mosaic of grasses and sagebrush, especially cheatgrass. At higher elevations there are scattered growths of pine, cherry and snowberry, with willows and cottonwoods in riparian areas. Grasslands are heavily grazed in much of the area. Annual grasses and forbs, primarily cheatgrass and medusahead, are the primary fuels in the assessment area. The MOST area is subject to frequent range fires, and there is widespread evidence of recent fires in the area, including several areas burned during the summer of 2001. It is important to note that fire hazard in areas dominated by cheatgrass and

medusahead may be underestimated. While considered small, light fuels, these species are naturally more prone to burning than native plant species such as bunch grasses and sagebrush. Although wildfires are sometimes rapidly suppressed in cheatgrass and medusahead, the very dense, fine-textured nature of these grasses increases both the chance of ignition and the rate of spread of wildfires. During years when the production of cheatgrass and/or medusahead is high, resistance to control is extreme and it may be very dangerous to suppress wildfires in this fuel type. Native perennial grasses do not mature until late August and September whereas cheatgrass and medusahead mature in June. This changes the type of fires that occur with the dominance of these species, and extends the fire season for nearly 2 months. The presence of continuous stands of flammable annual grasses in and around the community probably makes for a higher hazard than the fuel surveys indicate.

Structures represent the value at highest risk in the MOST assessment area. The risk to structures is very high, in part because structures are interspersed with fuels on the landscape, with many structures in close proximity to fuels, and because many homes lack survivable space. Of greater concern, however, is that with much of the area lacking a fire department, fire suppression is problematic. A disproportionate share of fires in the MOST area occur in a narrow corridor along I-84; these fires have been attributed to a combination of sparks from vehicles and contact of vehicle exhaust systems with fuels when vehicles pull to the side of the road. Reducing fire frequency in the I-84 corridor must be an important goal of fire management programs for the MOST area.

Second only to structures, rangeland is a critical resource at risk to fire in the assessment area. Rangeland is important as grazing land and is important to the local economy. Rangeland is also important as habitat for wildlife, including raptors and their prey in the Snake River Birds of Prey National Conservation Area.

The Orchard Training Area, an Idaho National Guard installation used for training tanks and other artillery, along with equipment repair facilities, lies partly within the southwest corner of the assessment area and represents another resource at risk from fire. Fire in this area could result not only in loss of structures, but could also disrupt Guard training exercises.

The MOST assessment area includes an additional valued cultural resource, the Oregon Trail. The Trail bisects the assessment area, running roughly northwest to southeast across the northern portion of the assessment area. The Oregon Trail is a unique historic resource, a legacy of the

settlement of the American West, with wagon ruts and graves present in the assessment area. The threat from fire to cultural resources associated with the Oregon Trail is indirect, in that disturbances associated with fire suppression (e.g., cutting firelines, driving vehicles across wagon trails) could cause irreversible damage to Trail resources. Trail resources in the area are managed by BLM under an existing management plan, which addresses protection of cultural resources (specifically including the Oregon Trail) associated with wildfire suppression and reseeded projects. The plan directs that earth moving and reseeded equipment avoid Trail remnants and avoid the protective corridor as much as is feasible to avoid damaging Trail resources. Trail resources are not directly affected by the mitigation projects recommended in this report, but compliance with Section 106 of the National Historic Preservation Act may be required in planning for projects in this area.

The Hazard Report for the MOST assessment area presents and summarizes data for fuel and terrain conditions; those data can be summarized as follows:

- **Slope:** The assessment area was typified by ground with low slopes. Eighty-five percent of the survey sites had slopes that were less than 10 percent, while three percent sites had slopes between 10 and 30 percent. Twelve percent of sites had slopes of more than 30 percent.
- **Aspect:** A majority of sites (60 percent) were located on flat land or land that had an eastern exposure. Twenty-five percent of the sites had a southern or western exposure, and 15 percent had a northern exposure.
- **Elevation:** Most survey points (75 percent) were at an elevation below 3,500 feet amsl, with the balance at elevations between 3,500 and 5,500 feet amsl.
- **Vegetation Type:** Seventy-one percent of survey points had vegetation types scored as “A” (low hazard), with the remaining 29 percent scored as “B” (moderate hazard).
- **Fuel Type:** Nearly all survey points (95 percent) had fuels dominated by grasses or shrubs rated as light fuels. The remaining five percent of sites had brush or small trees and were rated as medium fuels.
- **Fuel Density:** Only a few sites (10 percent) had fuel densities rated as discontinuous (< 30 percent cover, Class A). Forty percent of sites had fuel density rated as broken moderate (30-60 percent cover, Class B), and half the sites had fuel density rated as continuous (>60 percent cover, Class C).
- **Fuel Bed Depth:** Consistent with the widespread occurrence of grass and annual species, most sites (67 percent) had an average fuel depth of less than one foot. Thirty-two percent

had an average depth of one to three feet, and only one percent of sites had an average depth greater than three feet.

A second component of the Hazard Assessment was to characterize structures in the assessment area, for structure density, building materials, proximity to fuels, presence of a survivable space, and roads/accessibility. Results of the structure survey can be summarized as follows:

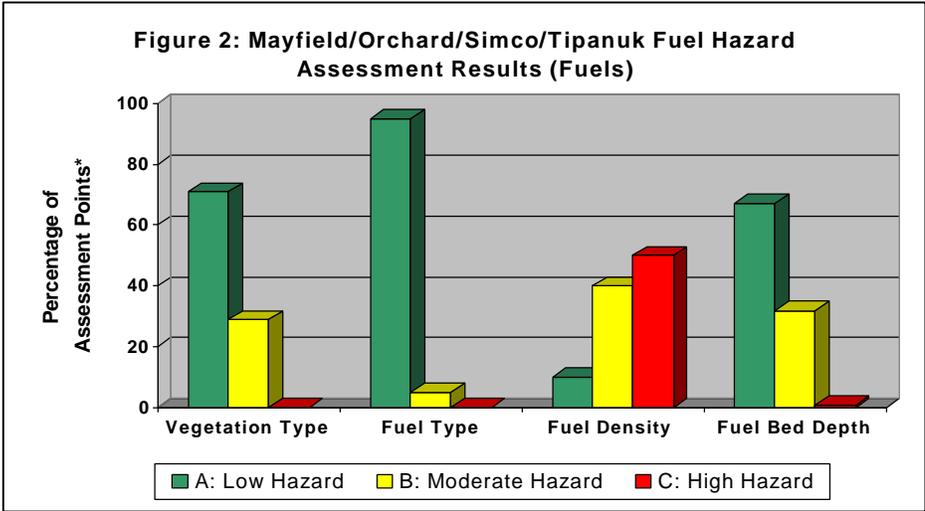
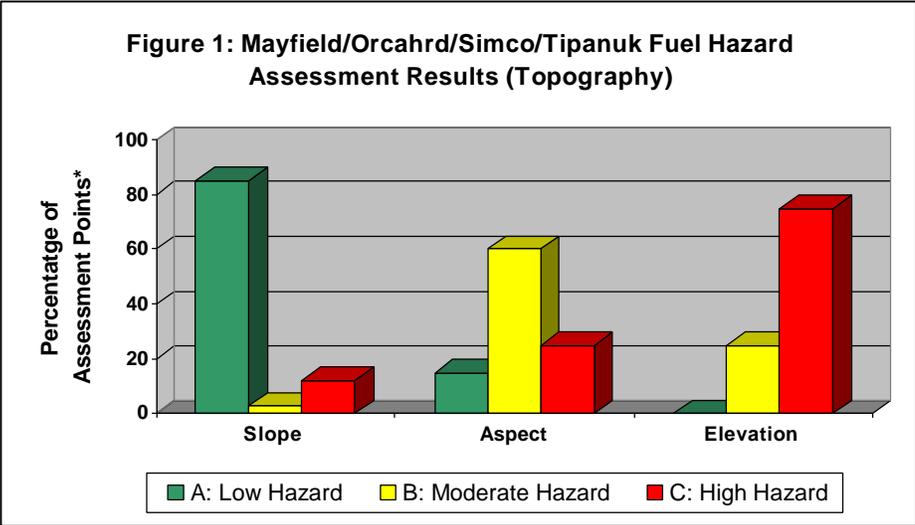
- **Structure Density:** Of 270 total sections, 269 had an average structural density of less than one structure per 10 acres. Two hundred and nine sections had no structures, including 68 sections wholly owned by the state or federal government. Only one section, in the Tipanuk area, had a higher density with more than one structure per ten acres (**Map 2**)
- **Proximity to Structures:** Data for most sections (77 percent) were classified as “not applicable” because of the lack of structures. Of the 62 sections with at least one structure, 37 percent were classified as having flammable wildland fuels, on average, less than 40 feet from the structures (Class C), and an additional 41 percent were classified as having fuels between 40 and 100 feet from structures (Class B). Only 22 percent of sections had structures, on average, more than 100 feet from flammable fuels. Many homeowners in the MOST area were observed to have plowed firebreaks around their homes and ranch buildings.
- **Predominant Building Materials:** A large majority of sections with structures (87 percent) had a majority of those structures built with fire-resistant materials (roofing and/or siding). Eight percent of sections had 10 to 50 percent of structures built using fire-resistant materials, and only six percent of the sections had less than 10 percent of buildings made using fire-resistant building materials (Class C).
- **Survivable Space:** The occurrence of survivable space was generally high in the assessment area. In 56 percent of the sections with structures, a majority of dwellings had survivable space, and an additional nineteen percent of the sections with structures had survivable space surrounding 10 to 50 percent of dwellings. Twenty-three percent of sections had survivable space for fewer than 10 percent of dwellings.
- **Roads:** For sections with structures, roads were classified as “A” (wide, well-maintained) in 32 percent of sections, and as “B” (maintained, but narrow two-lane roads with no shoulder) in 50 percent of the sections. Roads classified as “C” (narrow or minimally maintained) are present in 18 percent of sections with at least one structure.
- **Response Time:** Response times cannot be assigned for this assessment area because MOST has only a small subscription fire company that currently serves a few households.

As a practical matter, we describe all of the area as having a lengthy response time (Class C – greater than 40 minutes), since there is no organized entity to receive or respond to fire calls, so in general, response would not be expected to occur in less than 40 minutes.

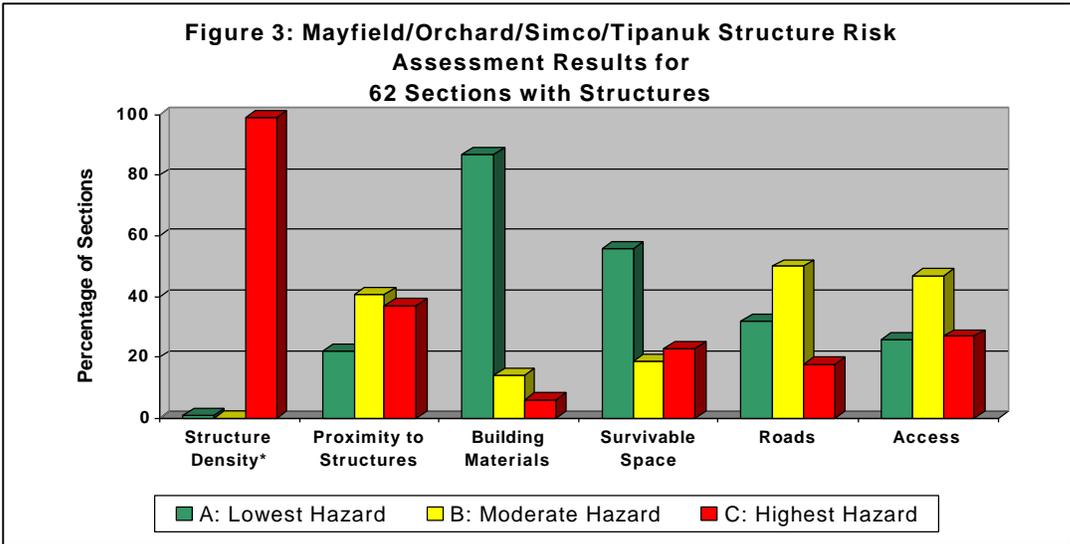
- **Access:** For sections with at least one structure, road accessibility to structures is highly variable. Access to 26 percent of sections was rated as good (Class A, multiple entrances to area and wide turn areas), as moderate (limited access, two ways in and out, moderate grades) in 47 percent of the sections, and poor (Class C, steep grades and/or dead-end roads) for 27 percent of sections. Access was generally worse in the northern portion of the assessment area, where dead-end roads and moderate to steep grades in stream valleys were common.

**Map 2** shows an overlay of data for the area with highest risk in terms of fuel with areas of low structure density. Only one point is identified by the overlay, identifying the section with the worst fuel conditions in the assessment area (ratings of B, C and C). For the MOST area, it is more effective to use other combinations of factors to identify areas of highest risk. The low density of structures throughout the area (red shading) renders this attribute relatively unimportant; in contrast, terrain, vegetation type, and road/access data (maps 3, 4, and 6 of the accompanying Hazard Report) all identify the northeastern portion of the assessment area as the area of highest relative risk.

The data from the fuels hazard assessment are also graphically depicted in **Figures 1 and 2**. The charts depict the percentage of assessment points, based on a total of 92 points surveyed, that received a high, moderate, or low hazard ranking. The percentages of assessment points for hazards to structures are graphically depicted in **Figure 3**. It should be noted that for all categories except “Structure Density,” the percentages in Figure 3 are based on 62 sections *with structures* in the assessment area, not all 270 sections that were surveyed (208 of which had no structures).



\* Percentage of assessment points is based on 92 assessment points surveyed.



\* Structure density is based on 270 assessed sections.

## **5.0 SUGGESTED ACTIONS TO ACHIEVE DESIRED CONDITIONS**

Based on the interviews with community officials and the discussions during the public meetings, Dynamac identified a number of conditions that community members in the MOST area would like to see, and actions to be taken in the assessment area:

- Nurture the development of the recently formed Oasis fire department, and expand that department or organize other volunteer fire departments in the area and ultimately establish a rural fire protection district. As fire department organization continues, establish cooperation between the department and BLM on wildland fire issues.
- Reduce fire frequency in the I-84 corridor; work with the Idaho Transportation Department to identify and implement strategies for reducing fires in this area.
- Establish firebreaks in the I-84 corridor to reduce the spread of fire, using existing road crossings where appropriate.
- Increase the ability to control wildland fires by having water pre-positioned and available at specific locations within the assessment area, and by supporting the acquisition of slip-on pump units by a fire department or private landowners for transporting water to fire sites.
- Increase the knowledge and understanding of residents regarding proper firewise activities such as landscaping, use of fire resistant building materials, proper access roads, and emergency evacuation procedures.
- Reduce the buildup of fuels on rangeland in the MOST assessment area.
- Improve the natural vegetation cover and wildlife habitat on BLM land.

## **6.0 NEED FOR ACTION**

Wildfires are common in the MOST assessment area and result from both natural and human causes. Several approaches are needed, including general actions to reduce the frequency and spread of fire and reduce the vulnerability of individual structures to fire risk. Several specific actions are also needed to reduce fire occurrence and to increase community capability to suppress wildfire.

General actions include activities that need to occur on a broad geographic scale and on an annual basis. These activities are targeted at reducing fuel loads in proximity to structures, and are important throughout the assessment area. Because homes are widely dispersed in the assessment area, firefighters (if even present in the area) cannot protect more than a handful of structures at any one time. The best approach for overall risk reduction in the community is for individual homeowners to improve the space around their own homes (and other structures) to

reduce the probability of rangeland fire moving from adjacent fuels to their homes. Specific actions needed include creation and maintenance of survivable space around homes, including creation of firebreaks to increase the distance between structures and flammable fuels. Many residents already have established a survivable space around their homes and have plowed firebreaks. More residents need to create survivable space, and many of the firebreaks need to be widened to be fully effective. BLM support will be crucial to the successful implementation of these activities, in part because there is no local fire department or other group to organize and manage these activities. Furthermore, BLM has materials to assist residents in creating survivable space and can provide logistical support for disposal of yard debris and cleared brush. Finally, BLM has can support MOST's community education programs through training and demonstration projects. Another long-term need for the community, in this instance, Elmore and Ada Counties, is to develop and enforce building codes that will reduce vulnerability to fire through mandated use of fire-resistant building materials, better roads, firewise landscaping, etc.

A second type of general action needed in the MOST community is to reduce the amount of highly flammable fuels. This is necessary to reduce fire risk and should be done as part of an overall strategy for improving the vegetation cover on rangeland in the area, both to reduce highly flammable fuels and to improve the quality of forage and of wildlife habitat. One approach that is already in use and that should be continued is the seeding of recently burned areas with native or introduced perennial grasses. Proactive approaches to remove cheatgrass in unburned areas prior to seeding of perennial vegetation (e.g., through mechanical or herbicide treatments) are probably less cost-effective for the MOST community than are other recommended actions, except for creation of firebreaks as discussed below. An alternative approach for fuel management that has been suggested by several area residents is to increase grazing intensity. While this approach reduces fuel loads, it may not be consistent with broader goals of rangeland restoration or of promoting a long-term decrease in the amount of cheatgrass, medusahead, and other highly flammable fuels.

Of several specific actions needed for the MOST community, none is more important than the need to establish fire department coverage for the entire community. The recent establishment of a volunteer fire department in the Oasis area is a critical first step in this direction, but much of the area still lacks any organized fire department and is not in a fire protection district. Community residents work on an *ad hoc* basis to fight fire, but they lack equipment and training for effective fire suppression. BLM provides firefighting capability to the MOST area when wildfire occurs on or threatens public land, with support from crews at the National Guard base,

if available. BLM is the logical choice for the best agency in the area that can effectively serve as a facilitator between MOST residents, county and state agencies, and planners to move the job of organizing broader fire department coverage for the area forward. Several groups of residents within the MOST area have expressed an interest in forming local a fire department; formation of the Oasis department can serve as an impetus, and perhaps a model, for other communities within the MOST area to move ahead.

A second specific action needed for the MOST area is for BLM to work with the Idaho Transportation Department and the State Police to identify and adopt strategies for reducing the incidence of fires in the I-84 corridor. Many of the fires occurring along this corridor may be unavoidable, as sparks from vehicles and accidents cannot be eliminated. On the other hand, Dynamac was told that current policies direct motorists with disabled vehicles to pull completely off the pavement. This practice makes sense in terms of highway safety, but it is perhaps the worst possible approach for preventing fires, as it forces motorists to pull vehicles into grasses and weeds along the highway, where heat from exhaust systems, especially catalytic converters, can easily ignite fires. A range of alternative solutions should be discussed, such as changing policies to advise motorists *not* to pull vehicles into vegetation during fire season; creation of pullouts where motorists can safely pull off the road without creating a fire hazard; and improved signage warning of fire dangers. As an important step to reduce fire risk, highway maintenance crews should also undertake a rigorous mowing program to reduce fuel density and fuel height along the highway, lessening the chance for cars to ignite dry grasses. The State and BLM should find a solution that will optimize highway safety while minimizing fire risk. If other solutions cannot be agreed to, BLM and the state should consider creating continuous greenstrips along both sides of the highway right-of-way using bunch grasses or other fire-resistant vegetation.

A third action recommended for the MOST area is to develop and maintain a series of firebreaks along the I-84 corridor to stop, or at least slow, wind-driven fire movement in a direction that parallels the highway. The firebreaks would be placed approximately perpendicular to the direction of the highway at several locations along I-84 through the MOST area. The firebreaks can be established along existing roads that cross the highway in a few cases, and at additional locations between roads. Firebreaks can be established by removal of flammable material by mowing, disking, or herbicide treatment, for an area approximately 100 feet wide on each side of the road. Strips should then be re-vegetated with perennial grasses, providing cover that would be much less flammable than the annual grasses and weeds that are currently common along the highway.

A fourth specific action recommended for the MOST community is to improve resources, specifically water supplies, available for fire suppression. Several community members have noted that water is unavailable in much of the assessment area for fire suppression. The actions proposed here will help alleviate this problem by pre-positioning water at several locations. The following measures were recommended to assist in pre-positioning water: 1) establish a pump system to make water already stored at the Boise Stage Stop conveniently available for transfer to a tanker and/or slip-on tank units; 2) working with Mr. Richard Millington or other local citizens to enhance a pump and tank system previously established on the Millington property, which can be used for filling a tanker or slip-on tanks; 3) establishing water tanks at two additional locations, one in the Simco Road-Cinder Cone Butte Road area and a second in the Tipanuk area. At the first two of the sites listed above, landowners have already offered to make water available and to work with BLM to obtain and set up equipment such as tanks and pumps. Specific locations have not been identified for the latter two locations, so the community and BLM must first identify water sources, and then BLM must negotiate access to the water sources with local landowners. Concurrent with these efforts, BLM or landowners could make slip-on water tanks so that water can be transported to fire sites.

## **7.0 METHODOLOGY**

The mitigation actions proposed herein for the MOST assessment area are based on information acquired from fuel and structure surveys, public meetings, and interviews of community officials. The majority of information presented in this report was gathered during the time period of August 27-31, 2001.

The fire hazard assessment area for MOST was defined by BLM. The BLM assigned 96 fuel survey points in the assessment area to be evaluated by Dynamac (**Map 1**). The fuel survey points were all located on lands owned or managed by the BLM. At each survey point, digital photographs were taken of the surrounding area in the four cardinal directions. A wildland fuels fire hazard assessment was also completed which rated the characteristic of land features and fuel sources. The rating elements included slope, aspect, elevation, fuel type, fuel density, and fuel bed depth, and were assigned to a risk category of low, medium, or high, as defined by BLM. These data are presented and summarized in a Hazard Assessment Report prepared for the MOST community by Dynamac, and are briefly described in section 4.0 of this report. The Final Hazard Assessment document will be available on request from the BLM, Lower Snake River District office.

Dynamac staff also collected information on the flammability and defensibility of structures on private land for 270 sections located within one mile of federal lands within the assessment area. The structural hazard assessment rated the structures based on the resistance of building materials to fire, and the distance of flammable fuels to the structures located within a section. The rating elements included structure density, proximity of flammable fuels to the structures, building materials, survivable space, and types of roads, response times, and accessibility. Each element was assigned a rating of low, medium, or high hazard category defined by BLM. These data are also presented and summarized in the Hazard Assessment Report for the MOST area.

A public meeting was convened on August 29, 2001, from 6 to 9 p.m. at the Boise Stage Stop. The community was invited to attend through a direct mailing to area residents by Dynamac and BLM personnel. Dynamac and BLM staff attended the public meeting to hand out firewise brochures, obtain information from the community on hazardous fire situations and desired conditions, and be an informational resource to those attending the meeting. In addition to the public meeting, a Dynamac Community Relations Specialist conducted interviews with numerous local residents and county officials; interview summaries are included in Appendix E of the Hazard Assessment Report for the MOST area.

A second public meeting was convened on November 1, 2001 at 7 p.m., also at the Boise Stage Stop. The community was again invited to attend through a direct mailing to residents of the assessment area. Following an introduction by BLM, Dynamac presented a summary of the results of fuel and structure surveys for the assessment area and of the MOST community profile. Based on this information, Dynamac then presented a summary of the desired conditions for the community and recommended mitigation projects to be undertaken by BLM and local cooperators. Following this presentation, there was a period for questions and answers and general discussion, followed by informal discussions between BLM, Dynamac, and members of the MOST community. The second meeting provided additional input for the final mitigation projects recommended to BLM.

## **8.0 PROPOSED PROJECTS AND PRIORITY**

The projects proposed are based on information obtained from the fuel and structure surveys, community meeting, and interviews. The following specific action items in order of priority were identified to reduce the hazard of wildfire in the MOST assessment area. Recommendations that BLM work with local citizens to enhance fire department coverage in the MOST area, and to work with the State Police/Highway Department to reduce the incidence of fires starting along

I-84, while considered very high priority actions, are not included below because they are not viewed as mitigation actions *per se*.

- Develop an education and outreach program throughout the assessment area to encourage firewise practices, which if implemented, will reduce the risk to individual structures.
- Develop and maintain four water-storage tanks or pumps for residents of the MOST area, to provide water for fire fighting purposes. Recommended locations for the tanks are: 1) the Boise Stage Stop; 2) the Richard Millington property; and 3) two as yet-to-be-determined locations in the southern part of the assessment area, one along Cinder Cone Butte Road and the other near Tipanuk. Additional investigation is necessary to identify sources of water and landowners where the latter two tanks can be installed.
- Conduct a fuel reduction (mowing) program and construct firebreaks to reduce flammable fuels at specific locations along the I-84 corridor.

The locations of recommended firebreaks and water storage tanks/pump stations are shown on **Map 3** (Appendix A). The highest priority project proposed for the area is to undertake a community outreach and education program to reduce the hazard of wildland fire for individual homeowners in the MOST assessment area. The fuel surveys and structure surveys demonstrated the widespread occurrence of cheatgrass and medusahead, both highly flammable fuels, throughout the assessment area. Furthermore, many structures in the assessment area have fuels in close proximity to structures and lack survivable space. Because of the highly dispersed nature of structures in most of the assessment area, reductions of fuels in the immediate vicinity of individual homes and other structures is viewed as the most efficient and effective method of reducing fire risk to structures. For this approach to be successful, a substantial, ongoing community education and outreach effort will be needed to explain to residents the importance of their individual efforts, to train and encourage homeowners to implement effective firewise approaches, and to provide logistical support for removal of debris. In the long run, an effective public education and outreach program, followed by property owner implementation, will likely prove to be the most effective approach to reducing the risks posed by wildfire in the MOST assessment area.

The second priority for the MOST area is to establish water storage tanks, to “pre-position” water where it will be available quickly to support fire suppression efforts. Community residents have noted that suppression activities are often limited by the lack of available water. Placement of tanks at strategic locations in the area will significantly increase the amount of water available

for suppression, as well as decrease turnaround time for refilling tanks used to carry water to fires in outlying parts of the assessment area.

The third priority for the MOST area is the creation of firebreaks along I-84, intended to slow or stop wind-driven fire movement parallel to the highway. The highway corridor has a disproportionately high number of fires, and their suppression is a major concern in the community. Mowing of vegetation along the interstate corridor, together with creation of fuel breaks by mechanical or herbicide treatment at several points along the interstate and subsequent re-vegetation with perennial grasses (or other fire-resistant vegetation), will provide a barrier which may significantly reduce the number of fire starts and slow movement along this corridor.

## **8.1 Community Education and Outreach**

**Purpose of Public Education and Outreach:** The purpose of the community-wide education program is to 1) educate the public of the dangers of wildfire in the area, 2) urge residents to take responsibility in reducing the risk of wildfire and to create defensible space around their residence, and 3) increase awareness of the natural role of fire in rangeland ecosystems and the benefits of prescribed burning or occasionally managing natural wildland fires to achieve ecological benefits, while maintaining firefighter and public safety as the top priority. The public education program should be established by BLM; if possible, through a partnership agreement with Elmore and Ada Counties.

**Outreach Occurrence:** An annual “Firewise Clean-Up Day” is one tool that is recommended to encourage residents to create defensible/survivable space around their residence. In conjunction with the Firewise Clean-Up Day, specific demonstration projects may be designed and utilized to educate residents about longer-term investments they could make to increase fire safety. The clean-up day would occur in conjunction with public demonstrations, education programs, and speakers on wildfire and firewise practices.

**Outreach Timing:** BLM generally times projects in the following manner: Year One is the year identification and justification of projects occurs, and treatment objectives are determined. Field surveys begin. In Year Two projects that require compliance with the National Environmental Policy Act (NEPA) are planned, analyzed, and designed. Projects that do not require NEPA compliance begin implementation. In Year Three, NEPA projects begin implementation. All steps are contingent on available funding. In Year Four, post-treatment monitoring begins. The annual “Firewise Clean-Up Day,” education program, and public

demonstrations would be most effective in the spring to remind people to prepare their properties for the coming fire season.

**Outreach Necessity:** Citizen involvement in wildfire mitigation in and around communities is a necessary element for success. Public education and outreach is an effective means of engaging the public in the process of reducing risks to a community. Such education and outreach has been shown to motivate homeowners to take measures around their individual property, thereby contributing to the reduction of wildfire hazards in a community. Further, a community education and outreach program will help identify problems and solutions for both federal and private landowners, and offer opportunities for partnerships and agreements.

## 8.2 Water Storage Facilities

**Construction of Water Storage Facilities:** The BLM and the residents of MOST, through partnerships, would establish and maintain three water storage tanks and a pump site for accessing underground water storage tanks (**Map 3**). If there are not an adequate number of slip-on tanks for transport of water to fire sites, BLM can also support acquisition of slip tanks for use by local residents, as resources are available and it is practical to do so. Until such time as a fire department or other local government is established with whom BLM can establish partnerships in all parts of the MOST assessment area, agreements will need to be established with individuals or with an appropriate county agency. Residents of the MOST area recommended locations of the tanks. In two of four cases, landowners have offered space and facilities for this purpose. Approximate locations of the tanks include:

- 1) The Boise Stage Stop. The owner of this property maintains large supplies of water for drinking and washing purposes as well as for a truck wash (including gray water storage), and has offered to make water available for fire suppression. The site is located at the southwest corner of the intersection of I-84 and Orchard Road. Pumps and fittings will be needed to make water accessible.
- 2) Ranchland owned by Mr. Richard Millington already has three water tanks with a storage capacity of 4,500-5,000 gallons; he has a well and pump for refilling tanks and is constructing a parking area where trucks can load water. Mr. Millington has offered to make water available for fire suppression. BLM must coordinate with Mr. Millington to ensure that hoses and fittings are appropriate to use with his water supplies, and to set forth responsibility for maintenance of the site.
- 3) A third site is proposed for installation of a tank in the southern end of the assessment area, in the vicinity of the intersection of Cinder Cone Butte Road and Simco Road.

Several irrigation wells are located in the area, which could be fitted with adapters for transferring water to a tank, or possibly for direct transfer to vehicles. Investigation will be needed to identify a source of water and, if on private land, a landowner to provide access to water and space for the tank.

- 4) Residents have expressed the need for a water supply in the Tipanuk area; this area has the highest density of housing in the MOST area, but is not known to have a reliable water supply for fire fighting. Investigation will be needed to identify a source of water. If the water source is on private land, a landowner must be identified who can provide access to water and the space for the tank.
- 5) Other possible options with landowners may also be explored. As an example, the existing water tank along the Union Pacific Railroad tracks at Orchard has been suggested as a water re-supply point; however, limited water supplies in the area might preclude use of this site.

**Type of Water Storage Facilities:** The proposed water storage tanks should be 8,000 to 10,000 gallons in size and be properly equipped for direct attachment of hoses and for filling tanker trucks. The BLM may be responsible for establishing new tank sites. In cases where private landowners have already developed water storage capacities on their own property (i.e., Stage Stop and Millington properties) and because there is no organized local government or fire company to share costs, BLM would be responsible for costs of installation of additional equipment. A possible alternative is pay-for-use of private water sources by BLM.

**Project Timing:** Generally adhering to the timing guidelines set forth in Section 8.1, the water tanks should be installed in spring 2002 or as soon as practical.

**Project Necessity:** Readily available water sources have been shown to be effective in reducing the risk of wildland fire. An assessment of specific hazards and threats to the MOST community showed the area to be dominated by highly flammable fuels, and showed homes in the area to be at high risk. There are no public water supplies in the area, streams are often dry in the summer, and little water is available during the fire season for fire suppression. Improving fire suppression capabilities will help protect the area from wildland fire.

## 8.3 Fuels Reduction and Firebreaks

### 8.3.1 Create Firebreaks

**Construction of Firebreaks:** The BLM and private landowners, through a partnership, will construct firebreaks and undertake fuels reduction. Fuel reduction will include reducing the buildup of cheatgrass and weedy species on both sides of roads that cross I-84 for a distance of 100 feet on either side of those crossroads, extending approximately one-half mile from the freeway. Where there are not roads crossing the highway, firebreaks should be established perpendicular to I-84; they will be approximately 200 feet wide and would extend up to one-half mile on either side of I-84 (**Map 3**).

**Type of Fuel Treatment:** Mechanical treatments are recommended to reduce the amount of fuels in areas selected for firebreaks, accomplished by mowing or disking. Alternatively, herbicide treatment may be used, as could greenstripping and re-planting with fire resistant species such as bunchgrasses. The vegetation conversion will reduce the amount of flammable annual grasses and weeds, replacing them with perennial vegetation that is considerably less flammable. The total area for firebreak treatments will be approximately 150 acres. The firebreaks will be located in positions that will slow the movement of wind-driven fires parallel to I-84 and will improve wildfire suppression efforts in the assessment area.

**Locations of Firebreaks and Fuel Treatments:** Map 2 shows the locations of six proposed firebreaks. The BLM and private landowners will each be responsible for their portion, based on ownership, of costs for establishing the firebreaks.

**Project Timing:** The firebreaks and fuel treatments should be initiated as soon as practical, based on funding and planning requirements, and generally adhering to the guidelines set forth in Section 8.1. Mechanical or herbicide treatments should be done in the spring, followed by seeding of grasses in late fall.

**Project Necessity:** The combination of fuel reduction and construction of firebreaks has been shown to be effective in reducing the risk of fire at the urban-wildland interface. If implemented, these treatments may significantly reduce the threat of wildfire and risk of loss to approximately 100 homes in the vicinity of the treatments.

### 8.3.2 Fuels Reduction along Highways

**Fuels Reduction:** The BLM and State and County Highway Departments, should develop a fuels treatment program of mowing or an equivalent method to reduce fuel density and height along the I-84 right-of-way. Mowing would be designed to cut grasses along the highway for a width of approximately 25 feet along each side of the road to the lowest practical height, with mowing scheduled for late spring or early summer, after the primary growing season has finished. If wet weather conditions result in significant growth of grasses after mowing, treatment should be repeated in later in the summer to ensure that grass heights are sufficiently low that they will not come into contact with exhaust systems of vehicles pulled off the roadway. The highway area included in the mowing program is identified on **Map 3**.

**Type of Fuel Treatment:** Mechanical treatment (i.e., mowing) should be used to reduce the height of grasses and weedy species growing along highways. Two to three weeks after mowing, fuel heights will be spot-checked to determine if there has been significant re-growth of grasses. If so, mowing will be repeated. The total linear length of treatment will be approximately 30 miles, and the total treatment area will be approximately 200 acres. If mowing is deemed unfeasible, other appropriate treatments should be considered, including replacement with fire-resistant vegetation. If mowing occurs, care must be taken to prevent fires during the implementation, as mowing equipment has been known to start fires.

**Locations of Fuel Treatments:** Map 3 shows the location for which mowing is proposed, consisting of the I-84 corridor for its entire length within the assessment area. The BLM and the appropriate state or county highway department will each be responsible for the implementation of the mowing program on their property along the right-of-way.

**Project Timing:** Adhering to the guidelines above, mowing should be initiated in late spring or early summer, 2002, and repeated if significant re-growth of grasses occurs after mowing. This schedule should be repeated on an annual basis.

**Project Necessity:** Fuel treatment by mowing should be effective in reducing the occurrence of fire in areas close to highway, where accidental ignition from vehicles is an important cause of fire. In addition, the combination of roads and mowed highway margins will also act as a firebreak, slowing or stopping the progress of wind-driven fires. This treatment will protect structures and rangeland by reducing fire frequency, and by contributing to better fire suppression.

## 9.0 POTENTIAL SOURCES OF STATE FUNDING

Idaho Department of Lands representative Kurt Houston, who is based out of IDL's Boise office, provided the following information. Communities-at-Risk may benefit from these State-administered grant programs, which provide financial assistance for various types of fire safety-, fire suppression- and fire education-related projects, as well as stewardship activities.

**Idaho Fire Assistance Program:** A cost-share program designed to assist fire service organizations with organizing, training, and purchasing equipment for fire protection and suppression. Open application period is from May 1 through June 15 each year. Contact Fire Warden Kurt Houston at the Idaho Department of Lands office in Boise at (208) 334-3488 for more information and applications.

**Volunteer Fire Assistance Program:** A cost-share program with federal funds administered by the State of Idaho. The rural community must have a population of less than 10,000. Only those projects to organize, train, and equip fire service organizations qualify for financial assistance. Open application period is from October 1 through December 31 each year. Contact Fire Warden Kurt Houston at the Idaho Department of Lands office in Boise at (208) 334-3488 for more information and applications.

**Federal Excess Personal Property Program:** An equipment loaning program for fire service organizations with populations less than 10,000 residents. Usable fire related equipment is loaned to the organization until such time the organization no longer wants it. Titles for vehicles remain with the federal government. Applications are continuously accepted. Contact Fire Warden Kurt Houston at the Idaho Department of Lands office in Boise at (208) 334-3488 for more information and applications.

**Forest Incentive Program:** Federal cost-share funds administered by the Natural Resources Conservation Service (NRCS). The Forestry Incentives Program (FIP) supports good forest management practices on privately owned, non-industrial forest lands nationwide. FIP is designed to benefit the environment while meeting future demands for wood products. Eligible practices are tree planting, timber stand improvement, site preparation for natural regeneration, and other related activities. FIP is available in counties designated by a Forest Service survey of eligible private timber acreage. Depending on funding, the open application period varies. Contact the nearest NRCS or Tim Kennedy at the Boise IDL for more information and

applications. Additional information on the program and NCRS contacts is available at <http://id.nrcs.usda.gov/programs.htm>.

**Stewardship Incentive Program:** Federal cost-share funds administered by the NRCS. The Stewardship Incentive Program provides technical and financial assistance to encourage non-industrial private forest landowners to keep their lands and natural resources productive and healthy. Qualifying land includes rural lands with existing tree cover or land suitable for growing trees and which is owned by a private individual, group, association, corporation, Indian tribe, or other legal private entity. Eligible landowners must have an approved Forest Stewardship Plan and own 1,000 or fewer acres of qualifying land. Authorizations may be obtained for exceptions of up to 5,000 acres. Depending on funding, the open application period varies. Contact the nearest NRCS or Tim Kennedy at the Boise IDL for more information and applications.

Additional information on the program and NCRS contacts is available at <http://id.nrcs.usda.gov/programs.htm>.

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## **APPENDIX A: Maps**