



THE CITY OF SALMON

WILDLAND URBAN INTERFACE

ANALYSIS

December 2006

THIS DOCUMENT WAS DEVELOPED FOR THE CITY OF SALMON BY



PLAN ACKNOWLEDGEMENTS

With grateful acknowledgement to the dedicated volunteers, professionals and area residents who generously contributed their insight and expertise for this document.

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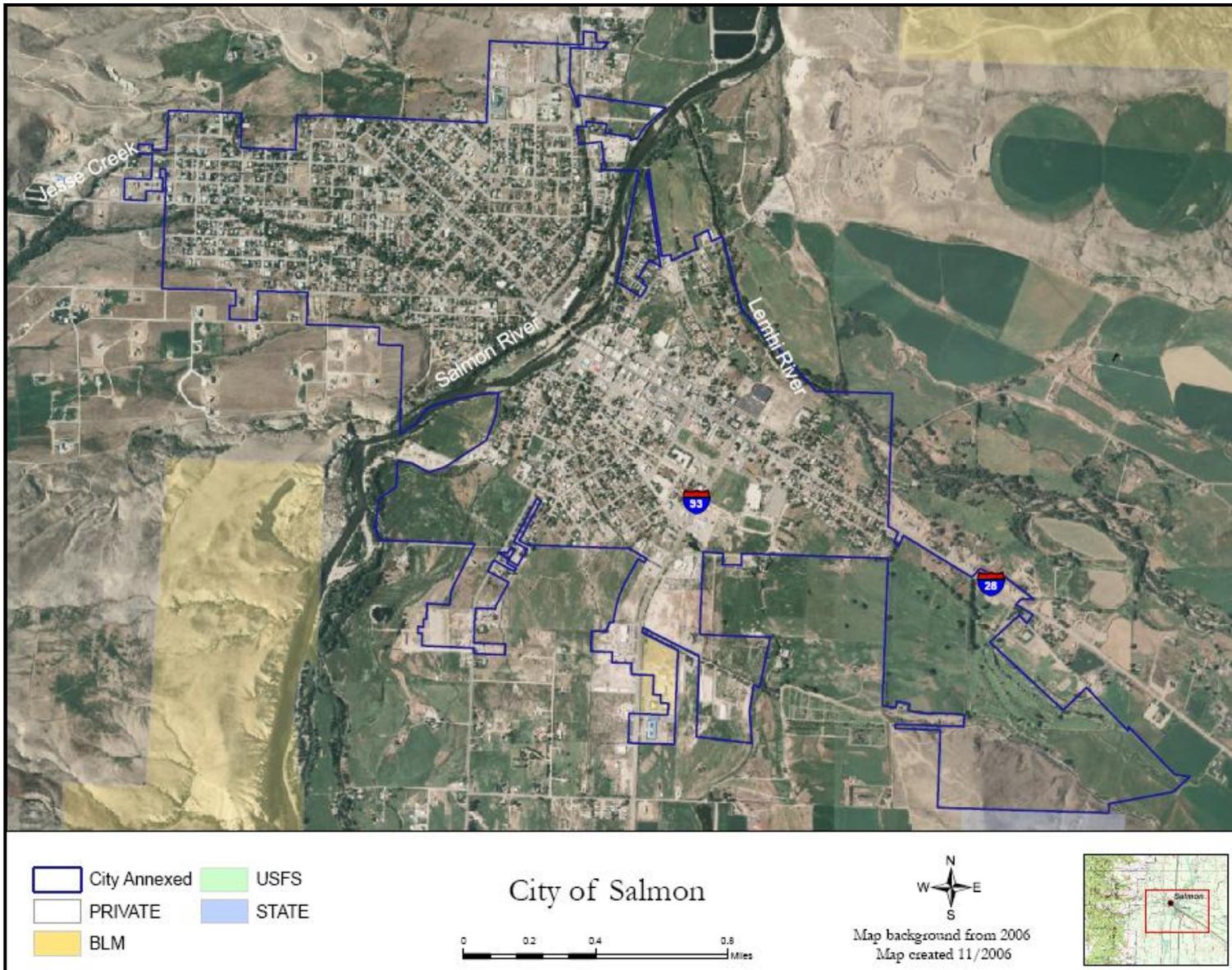
EXECUTIVE SUMMARY

The intent of this document is to assess the City of Salmon's emergency preparedness and ability to respond to wildland fire within the Wildland Urban Interface (WUI). This report does not represent all of the aspects of Salmon's WUI preparedness. However, it does contain information, suggestions and alternatives for the current status of Salmon's emergency systems.

Key recommendations of this analysis are:

- Reduce wildland fire hazards within the city by enforcing existing codes.
- Collaborate with interested groups and agencies to promote community awareness of wildland fire.
- Utilize existing guidance and authority to develop landscape-level treatment priorities.
- Prioritize and allocate funding for transportation and access problems within the City, such as the US-93 Bridge and Courthouse Drive intersection.
- Promote public awareness and individual responsibility for WUI fire prevention through educational programs.
- Ensure that the community emergency dispatch center and radio communication systems are adequately funded and staffed.
- Employ a full-time salaried fire chief for the Salmon area Fire Departments.
- Consider consolidating the City and County Fire Departments to prevent duplication of services and provide for a more efficient system.
- Increase financial support for local volunteer emergency services.

Data is derived from interviews and an extensive review of existing guidance. The interview pool included professionals and volunteers who are directly responsible for the safety and planning of the community. This analysis identifies individual strengths, perceptions and concerns regarding Salmon's emergency response capabilities and provides recommendations for future planning efforts.



SECTION I: BACKGROUND

The ecological stability of public lands has drastically decreased during the last century due to the exclusion of wildland fire and well intentioned land management efforts. Today, the forests and rangelands of the West have unnatural accumulations of fuel. This coupled with drought, is creating unstable ecosystems highly vulnerable to wildland fire.

Fuel accumulations have increased so significantly that wildland fires no longer burn at natural temperatures or rates. These catastrophic fires grow rapidly and often exceed suppression capabilities. They typically burn at extreme temperatures, which consume and destroy all vegetative cover while sterilizing soils.

The recent trend for the migration of American populations away from urban areas has resulted in the rapid development of rural communities. This demographic change is increasing the size of the WUI.

THE WUI IS DEFINED AS THE AREA WHERE STRUCTURES
AND OTHER HUMAN DEVELOPMENT MEET OR INTERMINGLE
WITH UNDEVELOPED WILDLAND

The expansion of WUI has significant implications for wildland fire management. It creates an environment in which fire can move readily between structures and wildland fuel. This expansion has increased the threat of wildland fire to rural communities and people.

In recent years, wildland fire has consistently increased in total acres burned nationally, the number of communities threatened and structures lost. The result in rural communities has been a loss of property, damage to resources and disruption of community services.

A. NATIONAL DIRECTIVES

THE NATIONAL FIRE PLAN (NFP) - 2000

The NFP plan was developed in direct response to a landmark wildland fire season and its devastating impact to communities. The NFP laid the foundation for a long-term program to reduce fire risk and restore healthy fire adapted ecosystems. It is intended to provide technical, financial and resource guidance for wildland fire management across the country.

The U.S. Forest Service (USFS) and the Department of the Interior are tasked with successfully implementing the NFP by assisting State, rural and volunteer fire departments. Prior to the creation of the NFP, agencies and groups representing all levels of government made policy decisions and distributed grant funding independently, sometimes without direct consultation with other associated groups.

The 10-Year Comprehensive Strategy and Implementation Plan, a significant part of the NFP, call for active forest and rangeland management. These significantly increase the level of input required from state and local governments with regards to wildland fire mitigation and suppression.

THE HEALTHY FORESTS INITIATIVE (HFI) - 2002

The HFI plan was designed to accelerate unnecessary delays and remove barriers to forest and rangeland restoration activities. It establishes a framework for protecting communities and the environment through local collaboration on thinning, prescribed burns and forest restoration projects.

HEALTHY FORESTS RESTORATION ACT (HFRA)- 2003

The HFRA is intended to provide the federal land management agencies with legislative tools to expedite forest and rangeland restoration projects. It focuses on federal lands:

1. Adjacent to communities in the WUI.
2. In high-risk municipal watersheds.
3. In watersheds that provide habitat for threatened and endangered species.
4. In areas where insect and disease epidemics are destroying ecosystems and increasing the threat of catastrophic wildland fire.

HFRA provides for a timely judicial review of forest health projects and ensures that the courts consider both short and long-term effects of such projects before issuing an injunction to stop them.

NATIONAL ENVIRONMENTAL POLICY ACT (NEPA) – UNDER HFI

Under HFI, high priority fuel treatments and post fire restoration projects may proceed without further individual analysis and lengthy NEPA documentation. The new procedures are limited to projects of a certain size and must be outside environmentally sensitive areas. Collaboration between federal agencies and interested parties is required.

ENDANGERED SPECIES ACT (ESA) – UNDER HFI

HFI guidance for ESA was issued to improve the consultation process required by NEPA on hazardous fuel treatment projects. It considers the net benefit of hazardous fuel treatments through a long-term view when consulting on these projects. This is intended to help agencies consider long term benefits versus short term impacts.

STEWARDSHIP CONTRACTING - 2003

Congress enacted legislation expanding stewardship contracting authority to allow federal agencies to enter into long term (up to 10 years) contracts with small businesses, communities and nonprofit organizations in order to reduce wildland fire risk and improved forest health. These contracts are intended to help stretch fuels project funding by allowing for the utilization and monetary profit of materials removed, such as small diameter timber.

B. STATE DIRECTIVES

IDAHO STATEWIDE IMPLEMENTATION STRATEGY

In 2002, a collaborative group representing federal, state, and local interests in Idaho developed the Idaho Statewide Implementation Strategy for the NFP. This document outlines how fire mitigation plans will be developed within Idaho counties. Perhaps most importantly, the document directs counties to take an active role in implementing the NFP in Idaho.

The Statewide Implementation Strategy recommends that each county develop a Wildland Fire Mitigation Plan. Counties have been given the option of either completing their plans in-house or hiring a contractor. All but a handful of Idaho counties have chosen to hire outside consultants to write their plans. The BLM Community Assistance program has provided funding for the development and writing of many of these plans, as well as planning at other local levels.

County Wildland Fire Mitigation Plans were originally intended to allow counties to identify areas most susceptible to catastrophic wildland fire. Soon after the Idaho Statewide Implementation Strategy was written, however, the newly formed State Working Group recognized that County Wildland Fire Mitigation Plans could be expanded to meet wildland fire pre-disaster planning needs.

INTERNATIONAL FIRE CODE

The International Fire Code was formally adopted by the State of Idaho with minor exclusions. This comprehensive code outlines regulations governing the safeguarding of life and property from

all types of fire. Topics include general precautions against fire, emergency planning and preparedness, fire department access, fire hydrants, hazardous materials storage and use, and fire safety requirements for new and existing buildings and premises.

C. LOCAL GUIDANCE

The City of Salmon covers approximately 1,600 acres, with the total Area of Impact of nearly 3,700 acres. City population is estimated at 3,056. It is the largest community in Lemhi County, population 7,820 (U.S. Census, 2004). A recent drop in population growth for the City (approximately -1.6% since 2000) has been offset by an increase in county residents (approximately 1.3%). Home construction has increased dramatically



in the past few years in the Salmon area. Much of this development has been in the unincorporated Area of Impact surrounding the City.

The federal government owns nearly 91 percent of the land base in Lemhi County. Government, services, family ranching and agriculture are cornerstones of the economy with tourism rapidly becoming a key focus.

The City of Salmon was identified as a WUI Community At Risk in the Federal Register (*Urban-Wildland Interface Communities in the Vicinity of Federal Lands That Are at High Risk From Wildfire*, 2001). Communities were ranked according to fire behavior potential, values at risk and infrastructure. The BLM Community Assistance program has provided funding for planning, education and project development and implementation within these communities.

The Lemhi County Wildland Fire Mitigation Plan was completed in-house, in 2003 and amended in 2006. This document represents a collaborative effort between a wide variety of organizations and members of the community. A committee was established to collect information on wildland fire hazard risks and priorities within Lemhi County and the surrounding infrastructure. It was comprised of local fire departments, emergency response personnel, county commissioners, the USFS and BLM representatives and local citizens.

This WUI Analysis project, for the City of Salmon, was funded by BLM Community Assistance

funds. It provides the City with an opportunity to assess their current emergency response system, development plans and WUI preparedness. It is the result of further collaboration between land management agencies and local governing entities.

Management of wildland fire is the responsibility of the BLM and the USFS when fires threaten or occur on public lands. Agreements and Memorandums of Understanding (MOUs) are in place with all fire departments in Lemhi County. Salmon exists in a fire dependent ecosystem. As the community grows and WUI expands, cooperative efforts are essential to the safety and economic stability of area residents.

SECTION 2: PROJECT GOALS AND THE INTERVIEW PROCESS

This section contains observations, suggestions and recommendations identified during the interview process. Key concerns were developed by City officials. This data can help Salmon to prioritize planning efforts and establish goals for improving City infrastructure and emergency preparedness, and updating the Comprehensive Plan.

Another benefit of interviewing individuals, responsible for planning and emergency services, was to consolidate information and identify areas where efforts are being duplicated or possibly ignored. Community efforts will be best served behind a united and shared commitment.

The interview team was composed of City officials, federal managers, local emergency response team members and individuals from other private and public sectors. This collective team expertise reflects decades of practical experience. This information is combined with an extensive review of pre-existing guidance and previous planning efforts.

ORIGINAL KEY CONCERNS AND PROJECT GOALS

- Assess existing Area of Impact and potential expansion areas for WUI hazards/concerns.
- Assess current evacuation plans for all local emergency services and consolidate recommendations that can be easily shared and disseminated.
- Analyze water treatment facility for defensible space including potential improvements relative to wildland fire suppression.
- Provide recommendations addressing water sources and for wildland fire suppression within the City and adjacent areas.
- Assess the City Comprehensive Plan and Development Code for issues and concerns relevant to WUI.
- Assess current transportation concerns, address and signage inadequacies within City limits.
- Analyze the area commonly known as the Bar for a location suitable for a remote fire cache that would serve to store emergency equipment.
- Research additional funding opportunities for WUI.

Each of these Project Goals are discussed in detail in the following sections.

A. AREA OF IMPACT

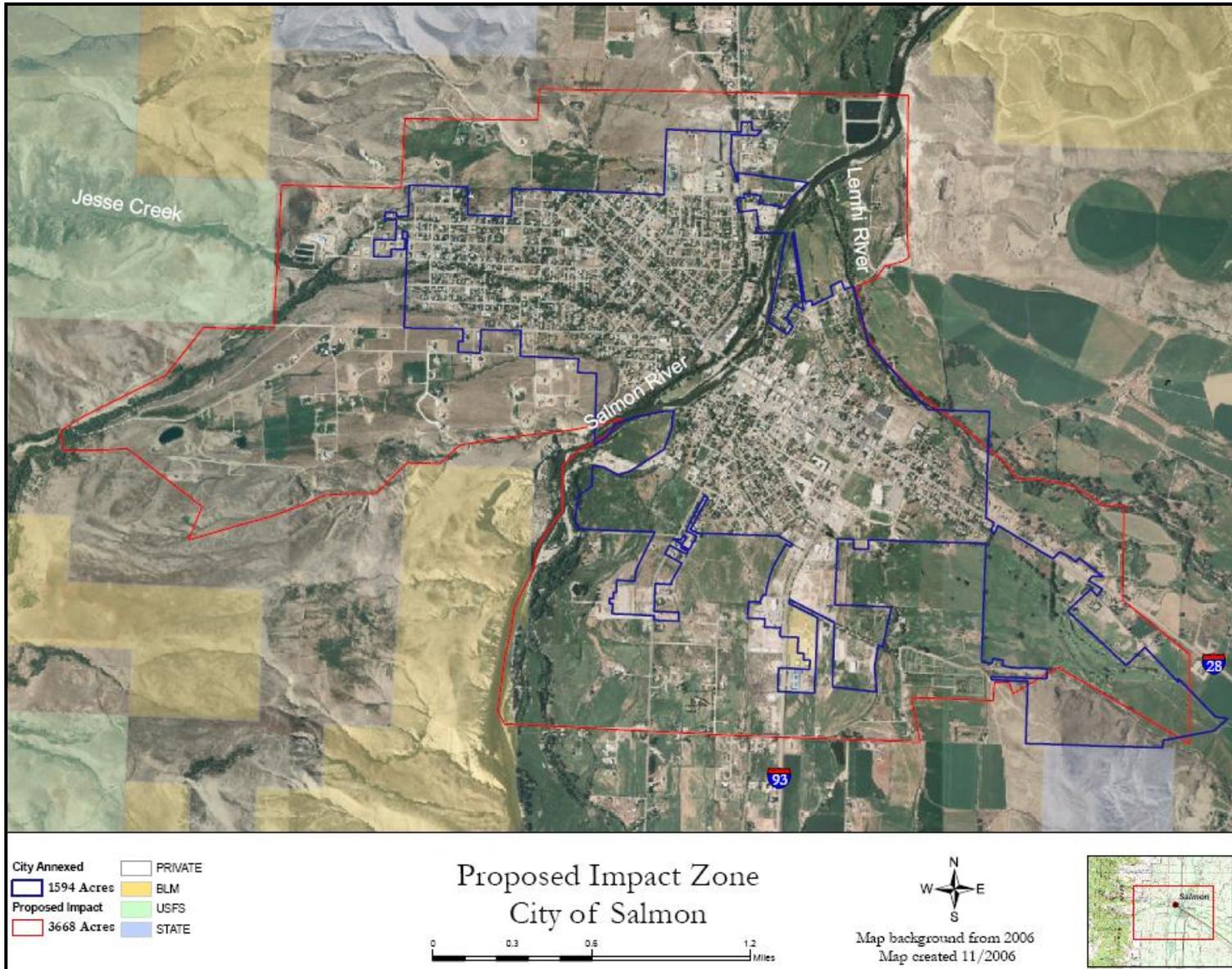
As required by Idaho Statute 67-6508, local land use planning shall be conducted through a comprehensive planning process. Plans shall include all land within the jurisdiction of the local governing board (Chapter 65, Local Land Use Planning). Salmon's City Planning and Zoning Commission is the designated authority for conducting comprehensive planning for the City and area of City impact.

THE AREA OF IMPACT AS DEFINED BY IDAHO CODE 67-6526:
THE GOVERNING BOARD OF EACH COUNTY AND EACH CITY
THEREIN SHALL ADOPT BY ORDINANCE FOLLOWING THE NOTICE
AND HEARING PROCEDURES PROVIDED IN SECTION 67-6509,
IDAHO CODE, A MAP IDENTIFYING AN AREA OF THE CITY
IMPACT WITHIN THE UNINCORPORATED AREA OF THE COUNTY.

The Area of Impact was developed through an agreement between the City of Salmon and Lemhi County. Control over development of the City and Area of Impact is through a joint City and County Planning and Zoning Commission. Both the Lemhi County Development Code and the Salmon Development Code define performance standards for development in this area. These Codes state that within the Area of Impact, both the Salmon Development Code and the Lemhi County Development Code shall apply. Perhaps more importantly, conflict resolution concerning development in the Area of Impact, **requires the most restrictive code to be applied.**

In 1992, a Preliminary Area of Impact map and associated ordinances were adopted by the City and County. Drawn on a topographic quadrant, this map has not been formally recorded or officially signed. The City boundaries delineated on this map do not reflect the State accepted annexed properties of 2006. For this analysis, a new digitized map was created, with the assistance of a BLM GIS specialist, from a digitized layer of the hand drawn map over the official City Boundary map approved by the State in 2006.

Comments concerning the existing Area of Impact and potential expansion into the WUI expressed a similar concern among the respondents: there is a perception that a lack of coordination exists between the City and County, specifically relevant to new development standards such as water, signage and access. Additionally, a majority of the individuals interviewed were frustrated by the lack of enforcement for codes within the City's residential areas.

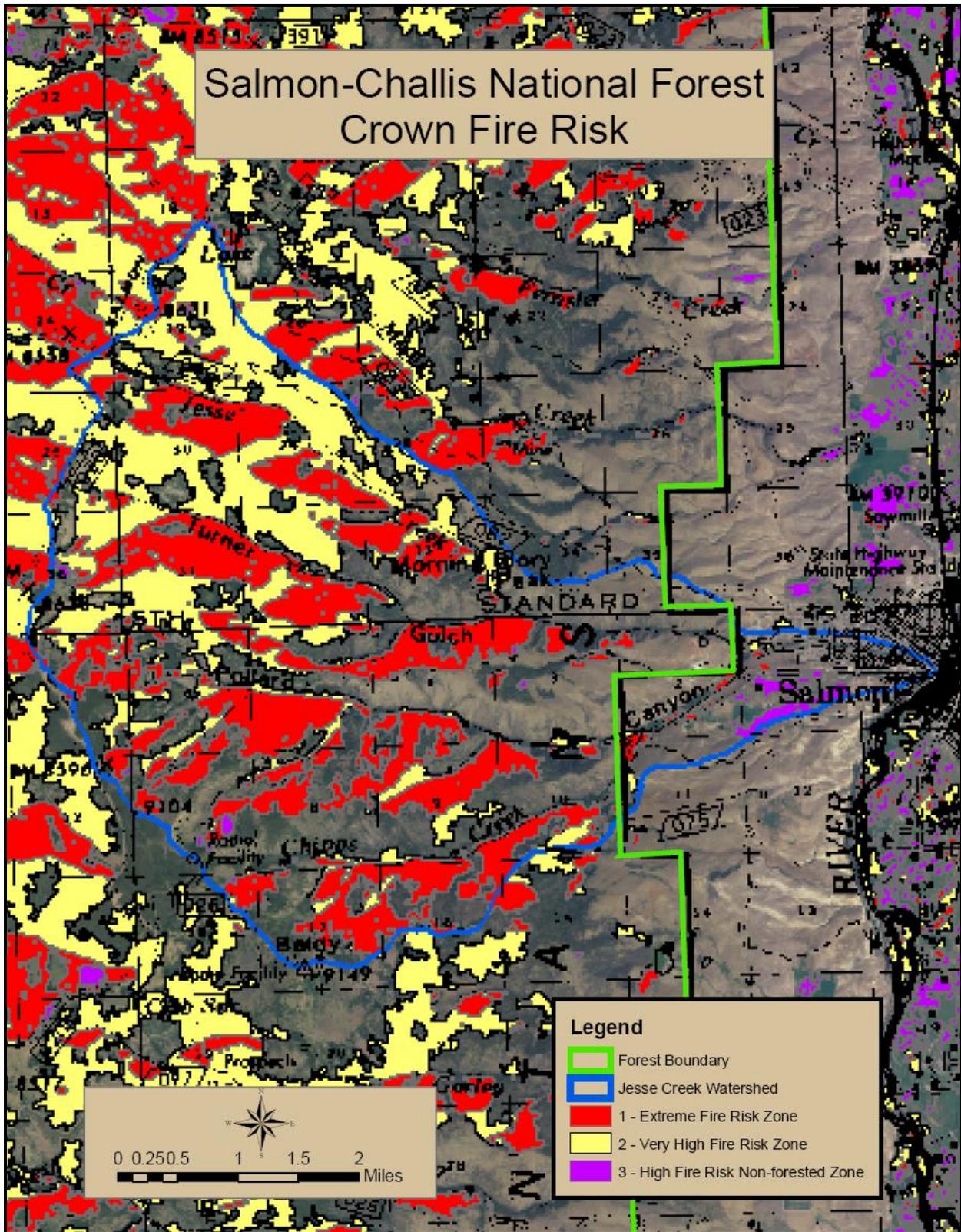


Concern was repeatedly expressed for code violations regarding the buildup of hazardous fuels including noxious and invasive weeds, as well as abandoned vehicles, discarded equipment and garbage that occur within the City limits and Area of Impact. These sites are difficult to protect and put the safety of area residents and emergency personnel at risk. Additionally, fuel loading increases the possibility of fire spreading from one residence to another and from within the City out into the WUI.

Access into the rapidly growing Area of Impact, particularly Smedley and Black Rock, by emergency responders was a key concern. Single road ingress/egress into these residential areas complicates access to, and evacuation from, these areas by emergency service vehicles. During high traffic periods, such as an evacuation scenario, accessibility by emergency service vehicles would be impeded due to these limited transportation routes.

“In 2003, the majority of new home construction in the Salmon vicinity is occurring along the northwestern and southern edges of the City and within the County. Specifically, growth is occurring in the Smedley Estates area of the Bar and areas adjacent to SH-28. The anticipated 3% annual growth translates into approximately 686 new dwelling units to be constructed from 2003 – 2020. The net result of this growth in the Smedley area alone is projected to yield 210 new dwelling units by the year 2020.” (Transportation Plan 2003)

Overall, comments received reflect the opinion that the Area of Impact would not be difficult to defend from a low intensity, encroaching wildland fire. These opinions were based on fuel type and terrain. (NOTE: This opinion is in exception to a large scale, catastrophic fire with heavy spotting potential.)



B. EVACUATION

Local Resources

All of Lemhi County is served by an enhanced 911 system, dispatched from the Lemhi County Sheriff's Office. The Lemhi County Sheriff's Office supports six full-time and one part-time law enforcement position. The City Police Department is located at City Hall and consists of eight officers and two reserve officers. Both of these departments operate under a joint powers agreement. Salmon's Fire Department is an all-volunteer organization consisting of approximately 30 volunteer firefighters. The Search and Rescue and Emergency Medical Technicians (EMTs) are also completely volunteer organizations.



Emergency Operations Plan for Lemhi County

In 2005, the County adopted the Emergency Operations Plan for Lemhi County (EOP). This plan outlines protocols, guidelines and procedures during an emergency response effort. It defines major emergency and disaster incidents as unique events, which present extraordinary problems to the community and emergency personnel. These events are challenges that cannot be adequately addressed within the routine operations of government.

“The purpose of the EOP is to develop a comprehensive emergency management program that will provide a system to mitigate the effects of an emergency, preserve life, minimize damage, respond during emergencies, provide necessary assistance, and establish a recovery system, in order to return the community to its normal state of affairs.” (EOP, 2005)

Operational procedures are not detailed in the EOP in favor of a streamlined, all hazards preparedness approach. This plan assumes that the National Interagency Incident Management System (NIIMS) and the Incident Command System (ICS) will be used during an emergency operation. This standardized response allows for an interagency approach to managing crisis situations. The EOP is a systematic approach, providing an outline for appropriate actions by local emergency responders.

The emergency services department is required to annually review the plan and participate in mutual training exercises. Those interviewed considered emergency response training, such as those required by the EOP, vital to the safety of emergency responders. However, these exercises were reported as difficult to complete due to time constraints, budgets and the volunteer status of many of the emergency response members.

To be of value, it is essential for the responsible emergency services personnel to familiarize themselves with the content of the EOP. During the interview process, it became apparent that individual confidence in the County plan was lacking. Many were aware of the current EOP; but had not reviewed content, or were uncertain of its value for their department.

Neighborhoods West of the Salmon River

Comments received during the interview process and a review of area planning documents were united regarding a concern for a potential evacuation of the neighborhoods west of the Salmon River, commonly known as the Bar.

The US-93 Bridge is the only structure crossing the Salmon River within or near City limits. It is a two-lane roadway and typically a point of high traffic during peak traffic hours. City and emergency services, the hospital, police and fire stations, lie east of the bridge. This single point river crossing would inhibit emergency service response to the Bar and quickly become congested should an evacuation of neighborhoods on or near the Bar occur. Concern has also been expressed about the reliance on a single river crossing should a blockage or failure of the existing bridge occur.

Courthouse Drive intersects US-93 near the west end of the US-93 Bridge and is the primary access route to the Bar. Traffic counts taken in 2002 indicate that roughly 5,800 vehicles per day use Courthouse Drive, making it the most heavily trafficked City street, excluding US-93 (Transportation Plan 2003). This intersection also serves as a major intersection for through traffic on US-93. Improvement to this intersection was listed as the number one priority in the City's Capital Improvement Plan (2000).

“This intersection is the “bottleneck” of the City’s transportation network during peak traffic periods, particularly for southbound US-93 traffic that is stop controlled, resulting in extensive traffic queuing.” (Transportation Plan 2003).

The evacuation of residences from the Bar area would not be easily accomplished without new and improved access roads capable of handling a high volume of traffic. Without exception, interview responses indicated a critical need for an alternate evacuation route, not only across the Salmon River, but also off the Bar.

Within the individual subdivisions on the Bar, many concerns over access and emergency response time exist. Single point ingress and egress, blind intersections, inadequate signage, and dead end roads were emphasized a safety hazards. Unmarked streets and residences and single access neighborhoods with inadequate turnarounds delay response times for emergency vehicles.



CLEAR CREEK FIRE, 2000

Communication

According to the different agencies and departments, the current radio communication system is considered very effective. Tactical and command channels are well established and understood. All emergency response entities have access to these pre-established emergency frequencies.

Concern was raised for the new radio communication requirements for federal systems, P-25 Digital Banding. As digital systems require line-of-sight to operate properly, it is unclear how effective this

new system will be in mountainous country or how compatible it will be with other local systems. The P-25 Digital Banding system is scheduled to be fully implemented by 2009.

Some concern was raised for the current radio communication system used by the City and County departments and agencies. A standardized system does not exist in Idaho. The current system is compatible with the Salmon's neighboring agencies in Montana and Southeastern Idaho. However, at least one comment considered the system obsolete compared to other non-federal systems used within the State.

The Lemhi County Sheriffs Office is responsible for communication and dispatch of nonfederal resources during an evacuation procedure. This office is also responsible for the Enhanced 911 Communication System for the Salmon area. It is staffed 24 hours. Currently, the County employs 12 part-time dispatchers, who also double as jailors. Comments received reflect that the number of dispatchers is not sufficient to effectively support the Enhanced 911 System and that additional positions are needed to safely operate the system and prevent employee burn out. Updates to this system also need to be implemented regularly.

The working relationship and communication between the different emergency response organizations was reported by all to be very positive. A majority of these organizations maintain MOUs and appear confident with one another's capabilities. Responses reflect a high level of cohesion during emergency response situations.

Steele Memorial Medical Center

Constructed in 2004, Steele Memorial Medical Center consists of an 18-bed Critical Access Hospital and associated Rural Health Clinic. This center provides general medical and surgical care for inpatient, outpatient, and emergency room procedures. The medical center maintains an adjoining helicopter pad for Life Flight. Fixed wing aircraft land approximately four miles south of the City at the county airport. Steele Memorial Center is the only trauma facility within 100 miles.

Comments reflect a concern for the capacity of the medical center to adequately service patients during a major catastrophic event. Steele Memorial does not have the capacity nor is it equipped to handle a large number of evacuees. Suggestions include predetermining and designating other triage stations and accessible resources, such as a sufficient supply of oxygen that would alleviate a large demand for hospital and clinic services.

Secondary Effects

Large wildland fires often create a series of secondary effects such as heavy smoke, excessive erosion, economic instability, sterile soils and a loss of wildlife habitat. These effects and their impact on area residents have the potential to exist long after the fire season has passed. Salmon residents are very familiar with the negative, secondary effects of wildland fire. Some recent examples include heavy smoke filling the valley for weeks and frequent, large mud slides along the Salmon River below North Fork.

Secondary impacts are a primary concern for a majority of the individuals surveyed. Many responses reflect a belief that the secondary effects of a fire in the interface, specifically, to the west of the City above the Bar, are potentially more dangerous than the fire itself. Reduced visibility and smoke-filled skies not only decrease the number of summertime visitors, but also compromise the health of area residents. These comments conclude that smoke, water contamination, filtration problems for the water treatment facility and impacts to the municipal watershed are as large a problem as the actual fire front.



SMOKE COLUMN CLEAR CREEK FIRE, 2000

Public Education

Education is a key component of WUI planning and fundamental cornerstone of the National Fire Plan. Wildland fire prevention begins with education. Residents must clearly understand the cause and effects of fire and how their actions or inactions influence the entire community's vulnerability to it. According to City and County Code, residents are responsible for maintaining their own properties in a safe manner that does not threaten other residents.

In the City and Area of Impact, an aggressive noxious and invasive weed and fuel reduction program is essential. Many comments reflect the need for increased public education, particularly for evacuation plans and development codes. The Lemhi County Development Code is the only code that speaks to property maintenance relative to wildland fire. It requires that a 30-foot wildland fire defensible space be maintained,

“A defensible space is one in which trees are thinned so that crowns do not overlap or touch, woody brush is removed or substantially thinned and dead fuel is removed. Maintenance of defensible space is a requirement for continuing compliance with this ordinance.” (Lemhi County Development Code, 2001)

The City refers burn permit requests to the Lemhi County dispatch center, as they are responsible for dispatching emergency service resources. A burn permit program or burning restrictions do not currently exist within City limits, with one exception. City ordinance does prohibit the burning of household trash. The Central Idaho Coordination Center, located in the USFS-BLM building, records State burn permits for County residents. However, they have no enforcement authority and provide this only as a courtesy service. Many comments reflect a need for better local control of an enforceable burn permit program that would also provide an avenue for public education.

FIRE PROGRESSING DOWN RIDGE CLEAR CREEK FIRE, 2000



Community Trail System

Currently, City planning includes a multi-purpose community trail system. A pedestrian bridge across the Salmon River near the US-93 Bridge is part of the trails system plan. This bridge would accommodate a 5,000 pound load and be wide enough to allow passage of a single vehicle in times of emergency. All responses concerning an additional pedestrian crossing are positive and consider it a safe alternative for relieving congestion, while providing for safety, on the Salmon River Bridge.

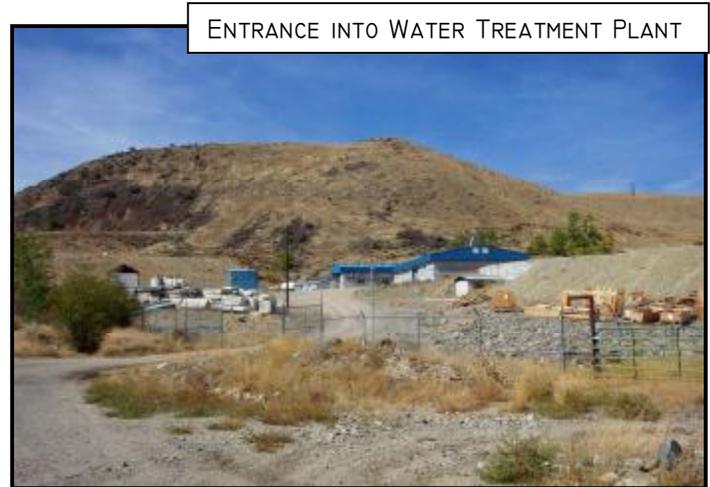
C. WATER TREATMENT FACILITY

Salmon draws its water supply from Jesse and Pollard creeks on the west edge of town. The City’s water treatment facility is located on the upper Bar along the Jesse Creek Drainage. It has recently undergone an extensive renovation that will allow it to support future community growth.

The water treatment plant is accessed by a single point ingress/egress dirt road. Some recommendations reflect the need to pave this road and secure a secondary access route to the facility. Other comments suggest that the single point access is desirable in light of recent homeland security threats.

Currently, a service road is under construction between the treatment plant and Pollard Creek for water line maintenance. However, delays with USFS easement agreements have delayed completion. Completion of this road would provide an additional evacuation route.

When asked for suggestions regarding wildland fire defensibility, all comments



indicate that the facility itself is highly defensible due to adjacent light fuels and fuel breaks. (NOTE: This opinion is in exception to a large scale, catastrophic incident with heavy spotting potential).

This facility maintains a 1,500 gal/min, 500 psi booster pump for fire suppression within and around the facility and can be operated directly from the water treatment ponds.

The City is to be commended for utilizing an annual goat grazing program to control fine fuels near the treatment plant. The use of pesticides is prohibited near a public water supply. This is an innovative treatment for noxious and invasive weed buildup.

The area immediately above the treatment plant is closed to public access. The perimeter is not fully fenced or signed. People frequent this area, and may be found walking dogs, driving four-wheelers or trapping small fur-bearers. Allowing unauthorized access into this area increases the risk of human caused wildland fire.



D. CITY MUNICIPAL WATERSHED AND WATER SOURCES

Municipal Watershed

The City watershed is located in the Salmon/Challis National Forest west above Salmon. It includes Jesse, Pollard and Chipps creek drainages. Dry forest ecosystems occupy the lower and mid elevations of this landscape. Historically, frequent, low intensity wildland fires maintained this ecosystem.

Due to several decades of wildland fire suppression and exclusion of natural disturbance, the municipal watershed is now lacking in structural and age-class diversity. As a result, there is an increase in ladder fuels, dead fall and crown density. This compounds the risk of severe fire behavior including stand-replacing fires in the watershed.

The City watershed is designated as a roadless area. Twenty-five years ago, the City requested this designation with the intent of protecting the watershed. It would take a federal action to change this designation.

Public interest and concern for the City watershed is extremely high. It is commonly agreed that a wildland fire within or adjacent to this watershed has the potential to burn rapidly, spread quickly and be difficult to suppress. A catastrophic wildland fire has the potential of irrevocably damaging the watershed as a water source for the City of Salmon.



DIPPING INTO SALMON RIVER 2000

Water Sources for Fire Suppression

The International Fire Code clearly outlines requirements for fire suppression water sources such as fire water flows for buildings, fire apparatus access roads and fire hydrants. The Salmon Public

Works Department is responsible for maintaining City owned public utilities including these systems. They maintain a 24 hour, on-call emergency system outside of regular working hours. Comments reflect hydrant maintenance is adequate.

Water sources available for suppression within the City consist of 139 gravity fed hydrants. Water pressure is more than adequate and includes two Pressure Reducing Valves (PRVs) between the water treatment facility and the Salmon River. During times of low water in the municipal watershed, the City has the capacity to pump water from the Salmon River, using two pumps (totaling 2,000 gal/min) located on the Island. The lines in this system are continually charged and water is readily accessible.

The International Fire Code requires periodic inspections and continual maintenance of fire hydrants. The Salmon Public Works Department conducts inspections on this system annually. Comments reflect a concern that some fire hydrants are unreliable, especially in the winter months. Emergency response personnel emphasized that the Salmon River is the single most reliable water resource for fire suppression activities.

Future demands for water, relative to new developments within the Area of Impact are considered sufficient by the Public Works Department. Future developments above the water treatment plant, such as the Smedley and Leesburg Road areas, will require additional pumping systems as gravity flow will not be an option. The current system would also require additional pumps if services were extended beyond Lovers Lane.

The Smedley area does have an adequate water source for fire suppression. A large, high water irrigation reservoir exists on the upper west end of the development. This reservoir is free of aerial obstructions with existing road access. Fire engines and pumpers could easily draft water here and it could also be used for helicopter water buckets.



MIXING FIRE RETARDANT 2000



Map Courtesy of Arrowhead Water District and Wade Surveying

E. DEVELOPMENT CODE

The Salmon Development Code was most recently amended in September, 2001. This ordinance outlines planning and zoning regulations for the City and its Area of Impact. According to State law, the Salmon Development Code must be consistent with State authority.

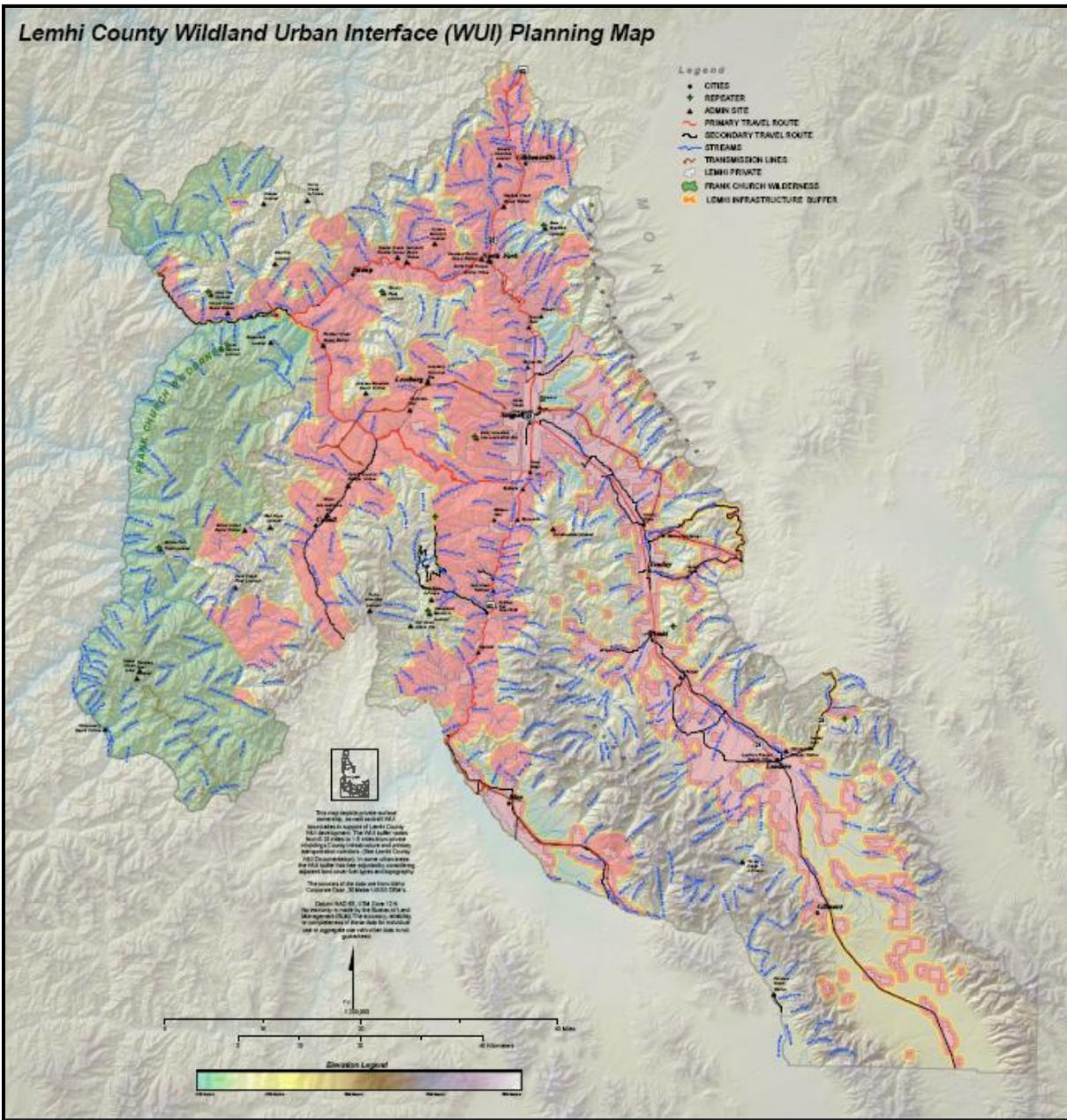
Specifically relevant to WUI planning, the State has formally adopted the International Fire Code and the International Building Code (2003 and subsequent versions). Topics addressed within these codes include fire department protocol, fire hydrant standards and maintenance, fire alarm systems, fire hazards, safety, hazardous materials storage and use, provisions to protect and assist first responders, industrial processes, and fire-safety requirements for new and existing developments.

Many comments reflect a high level of frustration concerning the lack of enforcement of existing codes. Throughout the City and Area of Impact, it is not uncommon to encounter abandoned cars, a heavy build up of invasive and noxious weeds, old equipment and dilapidated structures. Nuisance laws and codes that are not enforced, increase the City's liability to lawsuits, risk to emergency responders and damage to adjacent properties.

“After a very cursory look at City codes and a short conversation with staff, it appears that the issue is not that adequate codes aren't in place, but rather adequate staff resources and public support for code enforcement are not in place.” (Salmon Community Review, 2004).

It is the responsibility of the property owner to maintain their property according to code. Education for residents on building and maintaining fire safe and defensible structures was considered a necessary and positive approach to protecting neighborhoods.

Some interviews reflect a desire to promote development within the infrastructure that is already established. They felt this could avoid a rapid checkerboard sprawl into the Area of Impact before adequate infrastructure could be established. The City Comprehensive Plan and Development Code are in the process of being updated. These plans are tools that could focus development within the City.



F. ADDRESS SYSTEM AND STREET SIGNAGE

A lack of enforcement or standardization of a community address and signage system can slow the response time of emergency services. In a WUI fire scenario, suppression resources commonly include firefighters from out of the area; inadequate addressing and signage may hinder fire suppression efforts and needlessly endanger emergency responders.

Enhanced 911 is a feature of the 911 emergency-calling system that automatically associates a physical address with the caller's telephone number. The enhanced 911 system has been in service in Salmon for two years. Some feel the establishment of this system has provided a mechanism for targeting inconsistencies in street names and addressing systems within the community.

Concerns were expressed regarding the different addressing systems used by the City and County at their common boundary. This transition between systems can create problems for emergency responders and may result in poor response times. Confusion is compounded for emergency responders from out of the local area.

Within the City, comments recommend that address labels be consistent in type, style and location on each residence. Respondents stated that it is difficult to respond to emergency calls when residential streets are unmarked and addresses are unreadable or non-existent. No standard currently exists for residential addresses within the City.

The City has recently been enhancing their street sign program. This has alleviated many problems at intersections where only one side of the street sign existed and readable from only one direction. Many responses applauded these efforts and hope to see this standard applied to all City streets.

“Public Works and Safety Committee Chairman Leo Marshall reported to the Salmon City Council January 18th that City crews have replaced and/or added a total of 56 double sided street signs, with street names printed on both sides. More signs have been ordered. The new signs were purchased by the City in response to citizen requests that streets be more clearly identified from both directions.” (City of Salmon Committee Reports, January 26, 2006)

As part of WUI planning, the County has made great strides toward improving the presence of addresses and street names in the remote and rural areas of the County. However, concern was raised for the lack of signage within the Area of Impact, prior to and during development as required by the County Development Code. Enforcement jurisdiction for the Area of Impact resides with the County.

G. REMOTE FIRE CACHE

The majority of comments received felt that a remote fire cache, particularly on the Bar, was not necessary. A few comments voiced concerns about spreading already limited resources too far. A suitable helicopter landing site, designated within the Bar area, was requested. Throughout the City, preestablished helicopter landing sites, free from aerial obstructions and having adequate road access could be established.

H. ADDITIONAL FUNDING

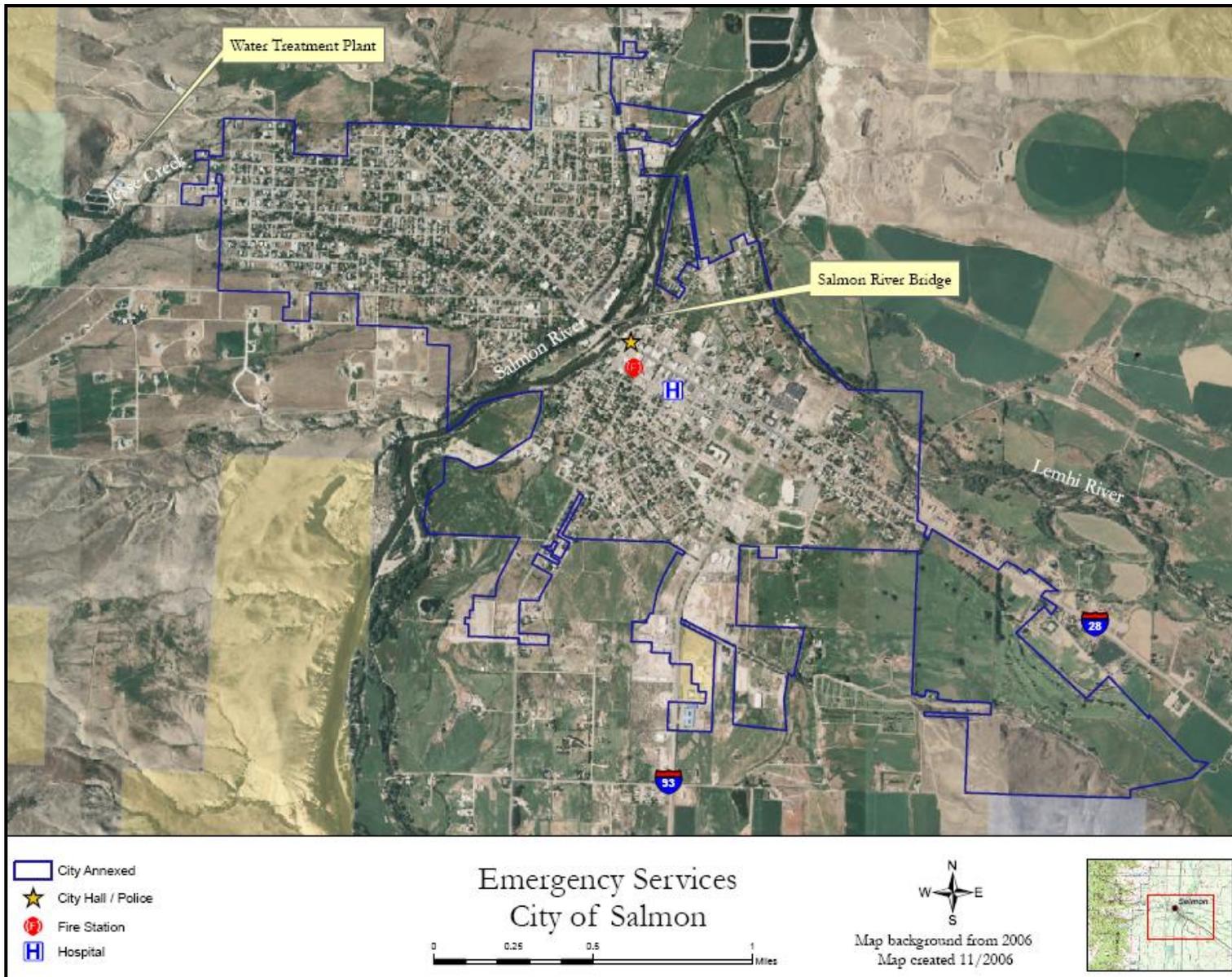
An emergency response team heavily reliant on volunteerism is indicative of small, remote communities with limited economic resources. The following local emergency service organizations are entirely comprised of volunteers; the City and County Fire Departments (which includes the Fire Chief), Search and Rescue, and Salmon Advanced Emergency Medical Technicians (EMTs), who staff the ambulance and two reserve police officers.

The majority of these volunteers have served as emergency responders for many years. All of these individuals are to be commended for their dedication and service to the community. With few new recruits, concerns were expressed for the heavy reliance on a limited pool of emergency volunteers.

As the City and County fire departments utilize the same group of local volunteer firefighters, paperwork and equipment are the defining factors that differentiate these two organizations. The average firefighter age is 49, with only two volunteers younger than 40.

All of these organizations operate on minor annual budgets from the City and County, which they utilize for training and equipment. Volunteer burn out is not uncommon, especially in light of limited enforcement resources, aging equipment and personal costs incurred by volunteers for training and safety equipment.

Most responders reflected a strong desire to help and strengthen the community. Their commitment is solid and they give a tremendous amount of personal time to provide Salmon with adequate emergency services. A small community with limited financial resources is typically reliant on supplemental federal and grant assistance. These resources requires a great deal of planning, administration and follow-up.



SECTION 3: ADDITIONAL FINDINGS AND RECOMMENDATIONS

The value of interviewing local emergency responders quickly became apparent. Issues presented as key concerns, at the onset of the project, were often considered irrelevant by many of our contributors. Beyond the original Project Goals, the following addresses additional findings and recommendations.

A. HAZARDOUS FUEL REDUCTION

The City of Salmon is faced with two distinct issues regarding WUI preparedness and hazardous fuels:

1. City infrastructure and emergency response capabilities
2. Ecological stability of surrounding landscape

City infrastructure and emergency response capabilities are key features of effective WUI planning. However, consideration for the fuel loading and ecologic stability of the surrounding landscape is paramount.

Landscape Level Planning

Findings

Very recent history has seen the effect of catastrophic wildland fire very near the Salmon community. Within the past seven years, the Clear Creek, Pistol and Fenster fires have all demonstrated extreme fire behavior and unprecedented rates of spread. These wind-driven fires with flame lengths exceeding 200 feet, spotted far ahead of the fire front and included tremendous runs within a single burning period (Clear Creek Fire ran 12 miles in one day). All of these fires occurred west of Salmon in similar terrain and vegetative features. These same features are representative of the landscapes adjacent to the City, including the municipal watershed.

The following has been adapted from the USFS, Salmon Interface Watershed Assessment (2004). This assessment is an ecosystem analysis at the watershed scale and recommendations addressing hazardous conditions to achieve desired future conditions.

A landscape approach for treatment of hazardous fuels and ecologically unstable plant communities would substantially change the behavior and effects of a large wildland fire, originating from the landscapes adjacent to Salmon. Wildland fire could still spread fairly rapidly in grass and shrub surface fuels, but would have a reduced risk of torching and spotting and sustaining a running crown fire. Initial attack would have a much greater chance of containing the fire. In the event of the fire escaping initial attack suppression efforts, the use of retardant lines or hand/dozer lines may be

effective. Spotting into urban interface structures would be decreased, thus reducing risk.

“For WUI areas located within the path of extreme fire behavior and treated with only “doughnut hole” style defensible space treatments, the high risk from an oncoming extreme fire event would not be effectively mitigated. In such a situation fire suppression crews would be unable to attack this wildfire at the head, even if the urban interface buffer areas had been treated for crown fire and fuel risk reduction, because of the mass fire brands raining into the area and fire jumping lines constructed by dozer or hand crews.”
(Salmon Interface Watershed Assessment, 2004)

Recommendations

- HFRA allows for hazardous fuel treatment near communities in the WUI, in high-risk municipal watersheds and in areas where insect and disease epidemics are increasing the threat of catastrophic wildland fire.
- The City must work with other agencies to promote community awareness and develop treatment priorities. The most important consideration addressing a landscape approach relative to WUI preparedness is collaboration.
- The City needs to take an active role in consolidating information and promoting community participation, to avoid duplication of efforts and prevent a misrepresentation of independent interests.
- Facilitating these varied interests and the significant amount of data generated, requires time and consistency. The Salmon Valley Stewardship, whose goals include initiating and coordinating citizen involvement, facilitating partnerships and building awareness of sustainable uses of natural resources, is a valuable resource for the community.

City Planning

Findings

Reducing hazardous fuel levels in the interface may reduce, but not eliminate, risks to WUI fire. Some risk is inherent to communities that exist in fire dependent ecosystems. However, private landowners may help decrease this threat by creating defensible space around their homes and businesses, by using fire-resistant building materials and by following established codes and ordinances regarding flammable materials.

In recent years, the City has promoted a citywide neighborhood clean up enabling residents to have trash removed from their property for free. The community should be commended for this program.

Recommendations

- Codes need to be strictly enforced to prevent hazards such as abandoned buildings, trash buildup and noxious and invasive weeds. Private property interests should not be allowed to override consideration for overall community health and standards.
- The City and County weed spraying program needs to maintain a standard and lead by example. Community education and awareness are important tools for an effective in noxious and invasive weed program.
- An improved advertising campaign could help raise awareness for the community clean up program, including civic groups.

B. TRANSPORTATION AND ACCESS

US-93 Bridge

Findings

The Salmon River creates unique access limitations as it winds through the valley. The US-93 Bridge is the sole connector across the river between the east and west sections of the City. It also serves as the only pedestrian and bicycle route over the river. An uncontrolled evacuation from areas west of the river could prevent critical emergency access.

Concurrently, a significant threat of WUI fire exists along the western landscape above town. This is due to fuel build up, slope and decreased ecological conditions. The City is particularly vulnerable to a limited response and potential isolation of the west side in the event of an emergency such as a WUI fire. Many options have been considered for expanding the current bridge or constructing a second bridge within or near the City limits.

Recommendations

- The US-93 Bridge should be a priority for future funding and City planning.
- A solution to the single river crossing needs to be determined and agreed upon by the entire community.
- Identify and allocate funding sources for a second bridge.
- Establish an emergency response plan for the onset of any emergency procedure to provide control at the US-93 Bridge.

Courthouse Drive Intersection

Findings

Courthouse Drive and US-93, near the west end of the Salmon River Bridge is the most critical intersection in the City. It provides the only direct link for west area residents to the east side of Salmon. It is also a major intersection for through traffic on US-93. East bound traffic approaches this intersection from a relatively steep approach. During peak traffic hours this intersection can quickly become congested. The Idaho Transportation Department was scheduled to construct a new traffic signal at this intersection in 2005; however, the project was postponed. A round-about traffic system is also being considered.

Two other routes exist from the Bar area to US-93, but they present important safety limitations. Ida Street has a steep gradient coupled with a very short approach to US-93 and the City closes it off in winter months due to unsafe, icy conditions. Elks Road, located on the north end of the Bar is a narrow, windy road with limited visibility. It provides a connection to both the upper and lower Bar areas. An alternative Elks Road plan was included in the Salmon Transportation Plan, however the study was delayed due to lack of funding.

Recommendations

- Establish an alternate access route on the north end of the Bar, wide enough to accommodate future development and emergency access for the west area of the City. Improving Elks Road may be a solution; however, much of the area below the road has been undermined by the excavation of a private gravel pit. This abandoned gravel pit will require a significant amount of restoration.

C. ADDRESSING SYSTEM AND STREET SIGNAGE

Findings

The location, style, size and visibility of addresses on residential buildings are not standard and often non-existent. This severely limits emergency response personnel when locating individual residences, particularly if responders are from out of the area.

Recent efforts by the City to identify and change street signs that are visible from only one direction have greatly improved the street system in Salmon.

In new subdivisions or annexations, the burden for adequate infrastructure, such as street width, signage and emergency access is placed on the developer. These standards are identified by the City and County development codes.

Recommendations

- With the impending updates to both the City Comprehensive Plan and the Development Code, local standards should be revisited to determine if they are adequate.
- New developments need to have strict enforcement for street signage at the onset of a project.
- Establish address standards within the City which include reflective numbers or adequate lighting, which would also be applied to the Area of Impact.
- All roads within the City and Area of Impact should follow the codes established in the International Fire Code, as required by the State. These standards allow for adequate turnarounds, approach and emergency service access.
- Additional standards for city streets may be applied at the local level that promote community safety such a loop roads and sidewalks.

D. EDUCATION AND PREVENTION

Findings

With the growing number of structures in interface areas, wildland fire management agencies and local fire departments struggle to adequately protect communities. It is critical that private landowners take steps of their own to protect their property. There are now many resources available to assist property owners with information on fire-resistant building materials, landscaping techniques and evacuation procedures.

In fire dependent ecosystems, wildland fires contribute to the overall health of the landscape by recycling and rejuvenating vegetation. An understanding of the natural role of wildland fire is an essential component of WUI planning.

“Until the public understands wildland fire, they cannot be expected to understand their effect on its occurrence or their role in prevention.” (Firewise, 2006)

Encouraging wildland fire education and prevention is vital to promote collaborative processes, and ensure the safety of the public and emergency responders. Many Salmon area residents do not understand their own importance in minimizing the effects of wildland fire.

Excellent resources exist for wildland fire education and prevention. The federal agencies have spent significant time and money developing educational campaigns relative to fire prevention and WUI. Federal, state and private community assistance funding is available for education materials and workshops.

Recommendations

- The City should encourage personal responsibility and take the lead in proactively planning for WUI fire management.
- Public WUI awareness should include an outreach by the City to provide education regarding building and development codes, evacuation procedures and defensible space around structures.
- Individual responsibility for safe home construction and design and maintenance should be enforced.
- The City should utilize the resources and information currently available, such as the Firewise program.
- The local school system should also be included in the prevention and education campaign. Teaching children about fire ecology will help them to understand many of the misconceptions created by the fifty year campaign of Smokey the Bear.

E. COMMUNICATION

Findings

The interrelationships between the emergency response organizations in Salmon seem very positive. Most of the individuals working in these fields have many years experience and have a high investment in the community. They are familiar of each other's organizations and capacities and reflect a high level of respect for each other. Communication is a strong feature of Salmon's emergency services.

The pay scale and staffing levels for dispatchers at the County dispatch center are not commensurate with other rural Idaho communities. Current staffing is below the recommended number of adequately trained dispatchers needed to safely operate the 911 system.

The most significant problems regarding communication are the result of inadequate funding. Limited cell phone service, outdated radio systems and an understaffed Enhanced 911 system are barriers to effective emergency response in Salmon.

Recommendations

- Prioritize and allocate funding, and collaborate with the County, for equivalent staffing and funding obligations at the community dispatch center.
- Conduct an inventory of the current systems, upcoming changes and new technology.

F. ENFORCEMENT

Salaried Fire Chief

Findings

Overwhelmingly, comments received insisted that a full-time, salaried fire chief is needed in Salmon. Currently this is an entirely volunteer position. While the local Fire Department is extremely dedicated to the welfare of our community, losses of personal time and income, to receive adequate training are tremendous. The dedication to the department is compounded for the fire chief and assistants, who must function for both the City and County departments. This division stretches many of the current resources. In addition, due to the volunteer status of our fire chief, code violations have been dismissed by the local court.

Throughout the interview process, lack of enforcement was brought up time and again, as the most limiting factor for emergency response. Enacting new or revising existing codes applicable to WUI is irrelevant if enforcement of those codes is minimal or non-existent. Trained, qualified personnel to stringently enforce current local laws and applicable fire codes are vital to the safety of a growing community.

Recommendations

- A full-time salaried fire chief would have the time and resources to effectively manage, promote and enhance the fire program. A full-time fire chief position could include the following duties:
 1. Respond as necessary to emergencies that threaten lives and property and direct volunteer personnel in the performance of their duties.
 2. Supervise the protection and maintenance of all fire department property.
 3. Supervise the development of fire department programs for the recruitment, training, and retention of volunteers.
 4. Supervise all fire department volunteers, and maintain appropriate training and personnel records.
 5. Work closely with the City and County in developing an annual budget and seek additional funding opportunities.
- Salmon needs to seek innovative solutions to retain the expertise of local emergency responders and recruit new candidates.

Consolidation of City and County Fire Departments

Findings

The community of Salmon currently supports two separate fire departments, the Salmon Volunteer Fire Department and the Lemhi County Fire Protection District #1. Both of these organizations function with the same pool of volunteers, utilize the same equipment and housed in the same building. Investment levels between the two organizations appear to be inconsistent. Frustration was voiced regarding a lack of City contribution for vital programs such as training and tuition for volunteers.

Recommendations

- Consolidate the Salmon Volunteer Fire Department into the Lemhi County Fire Protection District. This approach has greatly enhanced other similar community fire departments in rural Idaho.

An excellent example of this consolidation is the Post Falls Fire Department. The City should pursue consultation with this and/or similar fire departments to assess this approach. The consolidation of two separate county and City departments would be an important step in streamlining the responsibilities of a full time fire chief. Increased revenue generated from the City tax base could significantly offset the costs incurred by hiring a full-time fire chief.

Reserve City Police Officers

Findings

Recently, two Salmon residents completed Reserve Police Officer training. Reserves are part-time officers that supplement full-time commissioned law enforcement staff. Level I is the highest rating for Reserves. Level I Reserves are Police Officer Standards and Training (POST) certified and can work on their own. They must complete a 233-hour academy, must work 120 hours per year and train 20 hours per year.

Salmon currently has two Level I Reserve Police Officers. These individuals are entirely volunteer. During their training, they personally supplied their own safety equipment, including ammunition, in order to complete their course work. This is a valuable opportunity for the community to supplement limited law enforcement resources.

Recommendations

- The City should prioritize funding for basic equipment and training needs for these volunteers and incorporate this program into the budget.

DOCUMENTS REVIEWED, GUIDANCE AND OTHER RESOURCES

Capital Improvement Plan for the City of Salmon Idaho, 2000

City of Salmon Comprehensive Plan, 1992

Development and Conservation Priorities Study, Draft, 2005

Emergency Operations Plan for Lemhi County, 2005

Fire Management Plan, Salmon Field Office, BLM, 2004

Forest Stewardship Contracting and Healthy Forest Restoration Act Initiatives, BLM, Idaho State Office, 2004

Healthy Forests An Initiative for Wildfire Prevention and Stronger Communities, 2002

International Fire Code, 2003 and 2006

International Urban-Wildland Interface Code, 2003

Ketchum Rural Fire Protection District Fire Mitigation Plan, 2004

Land Use and Natural Resources in the Salmon Urban Area, 1991

Nevada County Fire Plan, 2004

Salmon Community Review, May 12-14, 2004

Salmon Development Code, 1992 , as amended 2001

Salmon Interface Watershed Assessment, Salmon-Challis National Forest, USFS, 2004

Salmon Transportation Plan, 2004

Technical Fire Management, FARSITE Modeling, 2005

Urban-Wildland Interface Communities in the Vicinity of Federal Lands That Are at High Risk From Wildfire. Federal Register, 751, Vol. 66, No. 3, January 4, 2001

Wildland Fire Hazard, Risk and Mitigation Plan, Lemhi County, as amended 2006