

*Custer County - Idaho
Wildland/Urban
Interface Fire Mitigation Plan*



*Review and Update
February 2009*

**CUSTER COUNTY IDAHO
WILDLAND/URBAN INTERFACE FIRE MITIGATION PLAN
UPDATE 2009**

PROMULGATION OF ADOPTION

Be it known that the Custer County Idaho Board of County Commissioners do hereby approve the Adoption of the Custer County Idaho Wildland/Urban Interface Fire Mitigation Plan Review and Update dated June 2008 and direct its implementation through the Custer County Wildland/Urban Interface Advisory Committee, Mr. Doug Hammond, Chairman.

This Plan has been developed, evaluated, and updated in the interest of providing fire mitigation protection to populations living in the wildland/urban interface. Through adoption of this Plan Update, all county and private agencies are requested to continue to develop directives, Standard Operating Procedures, checklists or other supplemental guidance to insure its maximum effectiveness.

CUSTER COUNTY COMMISSIONER REPRESENTATIVE

DATE

RURAL FIRE DEPARTMENT REPRESENTATIVE

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IDAHO DEPARTMENT OF LANDS

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Custer County - Idaho

Wildland/Urban Interface Fire Mitigation Plan

Review and Update

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Executive Summary

Wildfires are a part of the natural ecological cycle of forest ecosystems. However, as humans encroach onto forested lands, the risk of catastrophic disaster increases. These areas of risk are known as the wildland/urban interface. They can be sharp geographical edges or zones of ever increasing risk potential. Regardless, they pose a threat to human life and property. The National Fire Plan calls for reducing this risk through a variety of measures including the creation of local wildland/urban interface fire mitigation programs. In 2003 Custer County Emergency Management received a grant through the High Country Resource Conservation and Development Program (RC&D) to prepare the Wildland/Urban Interface Fire Mitigation Plan that documents programmatic goals, identifies implementing actions, and sets priorities for reducing wildfire risk.

The Plan was completed and issued in 2004. Under the direction of the County Board of Commissioners and the Director of Custer County Emergency Management this Plan was reviewed and updated during the fall of 2005 and provided for adoption by the County Board of Commissioners during December 2005. This Plan was again reviewed and updated in 2008 and 2009. The Plan Update does not replicate all information provided in the initial planning effort, but rather provides updates in appropriate sections such as the hazard analysis and focuses primarily on the review of existing mitigation actions, adds new actions, and provides a status of ongoing activities.

Initially a project Interagency Planning Group (IPG) assembled to guide the process of developing the Plan. In addition three public meetings were conducted to gather information that was used to assess the natural hazard and resulting actions outlined further in the body of the Plan. The final meeting of the IPG was held on February 6, 2004. Continued follow up is being lead by the Custer County Wildland Advisory Committee lead by the Director of Custer County Emergency Management. This Plan evaluation and update was conducted as required and under their direction.

The Four Key Issues identified initially be the IPC continue to be the primary focus of this effort.

- ❑ **Reduce Fire Loading**
- ❑ **Improve Equipment**
- ❑ **Increase available water storage**
- ❑ **Develop Zoning and Building Codes**

The Custer County Wildland/Urban Fire Mitigation Program is entering its third year and continues to promote public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from Wildfires. This mission is being achieved by partnering with federal agencies to increase public awareness, documenting the resources for risk reduction and loss-prevention, and identifying activities that are moving the county towards building/maintaining a safer, more sustainable community.

Hazard, Vulnerability, and Risk Assessment

The original hazard analyses conducted as part of the IPG mitigation planning effort identified the largest wildfire risks within the wildand/urban interface areas in Custer County as the SNRA/private subdivision areas. The largest threat to life continues to be the recreation sites such as Red Fish Lake, but certainly the highest property loss would occur within the privately owned subdivisions where loss of life could also be significant. Another serious risk area is the Riparian Zone below the Mackay Reservoir along the Big Lost River. The conditions within this area are not as well managed as the SNRA's and SCF's Red Tree treatment areas. The Federal Government does not have ultimate responsibility for the treatment program and so the County and homeowners may well have to face this risk alone.

Five Year Action Plan

Specific implementing and ongoing actions comprised the *Custer County Wildland/Urban Interface Fire Mitigation Fire Year Plan*. Additional short and long term implementing actions were categorized in Section 5 of the Plan into the following categories:

- ❑ Establish Partnerships
- ❑ Funding Needs
- ❑ Education and Training
- ❑ Data Collection

Implementation has occurred as funding and resources are made available.

The tables below provide current status of implementing activities that county and federal agencies and private property owners have taken over the past year to reduce risk.

Existing Actions	X In Progress
1. Revision of the Custer County Emergency Operations Plan into the NIMS format.	X
2. Installation of static water supply tanks in Stanley.	X
3. SNRA Red Tree Reduction Project.	X
4. Fuel Reduction Projects in the Iron Creek, Crooked Creek, Cow Camp, Basin Creek, Fisher Creek, and Buckhorn Subdivisions. Project includes thinning, removal and replanting of dead lodgepole pine.	X
5. Rural Addressing of Custer County.	
6. Mechanical and prescribed burning to conduct fuels reduction in the dead and dying stands of trees northeast of Lower Stanley, around the Camp Bradley Boy Scout Camp, the Cape Horn Power Line, ranch, and egress/ingress roads. The SCF is also taking action to salvage dead and dying trees in Harden Creek and reducing fuels in the municipal watershed for Challis.	X X
7. Procurement of new fire apparatus in South and North Custer and Stanley Fire Districts.	X

Short Term Actions	X In Progress
Develop Partnerships	
1. Establish subcommittees to investigate and lead the implementation of mitigation projects.	
2. Identify all organizations within Custer County that have programs or interests in wildland/urban interface fire mitigation including private business and other joint planning groups and investigate if common issues are being addressed. Invite them to assist in the implementation mitigation projects.	
3. Develop, approve and promote Fire Protection Agreements and	

Short Term Actions
✘ In Progress

- partnerships to clarify roles and responsibilities and to provide for fire mitigation activities and suppression preparedness. ✘
4. Develop partnerships with Water Districts to improve the water storage facilities and delivery capabilities in development within and outside of Fire Protection Districts.
 5. Integrate requirements for water drafting into Annual Operating Plans developed between the Fire Districts and the Federal Agencies.
 6. Revise the Hazard/Vulnerability Analysis to include a definition of the WUI Zone, develop maps depicting the zones, analyze slope and vegetation. ✘

Education and Training:

1. Provide training for Advisory Committee members on current and developing issues related to the wildland/urban interface fire hazards loss reduction field.
2. Develop a brochure that addresses fire and relating watershed issues in the wildland/urban interface that can be used by the general public and private businesses. ✘
3. Encourage the development of unifying organizations to ensure communications and dissemination of the wildland/urban interface mitigation information such as planned programs and results from mitigation actions. ✘
4. Develop the capability to apply for grant funding for the implementation of mitigation actions through training of grant writers and the monitoring of available grant opportunities. ✘
5. Conduct joint training and exercises between the Fire Districts, the Forest Service, Bureau of Land Management, and SNRA to improve communications and coordination during fire suppression. ✘
6. Provide public education of the need to improve water storage and distribution capacity within the County including improved mapping of existing water storage.
7. Improve knowledge of causes and effects of landslides resulting from wildfires including hazards vulnerabilities, and risks to life and property in hazard prone areas.
8. Enhance outreach and education programs aimed at interface fire hazards through cooperation with existing programs within the Forest Service, BLM, and State Department of Lands. ✘

Data Collection:

1. Working within the partnerships created above, gather information and propose the development of building codes and a permit process to ensure that defensible space has been properly planned for in new construction. ✘
2. As part of the Rural Addressing Project, identify critical facilities, such as wireless communications repeaters and bridges used for evacuation, within the interface areas at risk from wildfire events.

Short Term Actions
✘ In Progress

3. Assess bridges and roadways for their ability to support fire apparatus ingress and egress.
4. Map and evaluate the landslide prone areas of the county for possible land movements. **2008**
5. Map bridges and their load limits for the county to determine accessibility.

Specific Implementing Actions Projects:

1. Implement Section 7 of the Wildland/Urban Interface Fire Mitigation Plan through Plan adoption and Advisory Committee establishment. **✘**
2. Implement re-vegetation programs in landslide areas affected by previous wildfires.
3. Develop and disseminate maps showing the fire hazard to help in the education and preparedness of the community. Use the GIS layers developed as part of the Rural Addressing Project. **✘**
4. Complete the Rural Addressing Project.
5. Improve fire protection ratings in Stanley through the construction of a new fire station and improvements in water storage and distribution.
6. Improve fire protection ratings in Mackay, the South Custer Fire District, the City of Challis, and North Custer Fire District through the construction of a new fire station and improvements in the water storage and delivery infrastructure such as dry hydrants, portable tankers, underground, draft capable, tanks, private property access, and other required fire fighting equipment. **Mackay 2008**
7. Continue to assist homeowner associations to apply for grants for the purposes of reducing fuel loading and improvements in fire protection infrastructure. **✘**
8. Conduct workshops for public and private sector organizations to raise awareness of mitigation activities and programs.
9. Place the Custer County Wildland/Urban Interface Fire Mitigation Plan on the County Web Site. **2008**
10. Implement the SNRA Community Evacuation Plan.
11. Develop Evacuation Plans for sites along the Custer Motorway Adventure Road including the historical sites along the Yankee Fork of the Salmon River.
12. Plan and/or implement fuels reduction projects in the North Fork of the Big Lost River, Sawmill Canyon, in the East Fork of the Salmon River, Squaw/Kinnickinic Creeks, Poverty Flats and in the municipal watersheds of Challis and Mackay. **✘**

Long Term and Ongoing Actions
✘ In Progress
Establish Partnerships:

1. Coordinate the maintenance of emergency transportation routes through communications with the County Interagency Transportation Working Group and neighboring jurisdictions.
2. Work with community planning organizations and other neighborhood groups to establish Community Emergency Response Teams (CERT).
3. Develop Quick Response Units for medical response in sparsely populated areas.
4. Develop Memoranda of Understanding with existing Emergency Medical Services in the County to increase coverage.

Completed
Funding Needs/Support:

1. Purchase and equip a mobile command unit to improve emergency response communications between public agencies, response entities, and the County Emergency Operations Center.
2. Hire a County Fire Prevention Officer to oversee public education programs.
3. Develop a structured Fire Prevention Education Program based on the community hazards.
4. Develop and equipment additional Emergency Medical Services Organizations in areas not covered.
5. Rural Fire Departments need to upgrade their rural water supplies and capabilities. This would include portable pumps, tankers and pumps for filling them, drop tanks and PPEs.

✘
✘
Education and Training

1. Educate private property owners on limitations of physical infrastructure and dangers associated with them following wildfire events.
2. Develop a process to encourage private property owners to upgrade their bridges and roadways to support ingress and egress of fire apparatus.
3. Encourage individual and family preparedness through public education projects such as safety fairs and fire prevention month.
4. Develop or enhance existing outreach materials to include focus on protecting natural ecosystems and watersheds as a mitigation activity.
5. Improve training for existing Emergency Medical Services.

✘
Data Collection:

1. Conduct risk analysis incorporating data and hazard mapping using GIS technology to identify vulnerable sites and to further assist in the prioritization of mitigation activities.
2. Identify watersheds and develop a watershed protection program.

✘
✘

Long Term and Ongoing Actions
✘ In Progress

Specific Implementation Projects:

1. Clear trimmings, trees, brush, and other debris completely from sites when performing routine maintenance and landscaping to reduce fire risk ✘
2. Expand Fire Districts to provide fire protection to residences within the County.
3. Plan and/or implement Fuels Reduction Projects in the municipal watersheds of Mackay (Rio Grande, Taylor, Cliff, Black Daisy and Alder Creeks) and Challis (Garden and Daugherty Creeks) as well as the Big Hill area, Lo-Elly, North Fork Big Lost, Morgan Summit Salvage, Cape Horn Meadows, Big Gulch, Dead Cat, Mosquito Lake, Copper Basin Front, Twin Bridges, Harden Road, Sulfur/Morgan, Upper Yankee Fork, and around recreation residences, resorts and organization camps on the SNRA. These projects are in or adjacent to municipal watersheds, in the response to dying stands of trees, or are near subdivisions and other private lands. ✘

Ongoing Actions:

1. Encourage single-family residences to have fire plans and practice evacuation routes.
 2. Encourage fire inspections in residential areas by fire departments to increase awareness and establish relationships between homeowners and firefighters.
 3. Continue the development of adult and child education programs and incorporate them into the public libraries, community service groups, the media, and other civic forums. ✘
 4. Continue to update and improve the SNRA Community Evacuation Plan. ✘
 5. Improve Fire District capabilities through an aggressive program focusing on resources acquisition, training, and coordination. ✘
 6. Employ mechanical thinning and prescribe burning in Red Tree Areas. (Lo-Elly, Job, Cow Camp) ✘
 7. Fuels reduction projects are ongoing in the municipal watershed for Challis and Mackay as well as in Morgan, Harden, Kelly, Basin, North Fork Big Lost and Eddy Basin. ✘
 8. Weed treatments and site rehabilitation is ongoing on the lands administered by the Challis Field Office BLM to reduce cheatgrass and increase native grasses (changes flammability of fuels). ✘
 9. Continue partnerships between federal agencies and Salmon River Electric Coop for line transmission clearing. Seven miles have been cleared in the Cape Horn area. ✘
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The Board of County Commissioners (BCC) is responsible for adopting the Updated Custer County Wildland/Urban Interface Mitigation Plan. The Advisory Committee, working with private property holders, is responsible for coordinating implementation of additional Plan actions and undertaking the formal evaluation process. The Plan will continue to be evaluated on an annual basis to determine the effectiveness of programs, provide status on implementation actions, and to reflect changes in land development or programs that may affect mitigation priorities.

Custer County is dedicated to involving the public directly in the continual review and updates of the Wildland/Urban Interface Fire Mitigation Plan. Copies of the plan will be catalogued and kept at all of the public libraries in the county. The existence and location of these copies will be publicized annually, following each annual review of the plan, in the local area newspaper.

Table of Contents

Section 1: Planning Process 15

Section 2: Custer County, Idaho..... 19

Section 3: Hazard, Vulnerability and Risk Assessment 21

Section 4: Public Participation 27

Section 5: Mitigation Implementing Actions 29

Section 6: Economic Analysis..... 36

Section 7: Plan Maintenance 41

Appendices

- Appendix 1: Custer County Fuels Reduction Projects
- Appendix 2: Maps
- Appendix 3: Accomplishments

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Section 1: Introduction and Planning Process

Wildfires are a part of the natural ecological cycle of forest ecosystems. However, as humans encroach onto forested lands, the risk of catastrophic disaster increases. These areas of risk are known as the wildland/urban interface. They can be sharp geographical edges or zones of ever increasing risk potential. Regardless, they pose a threat to human life and property. The National Fire Plan calls for reducing this risk through a variety of measures including the creation of local wildland/urban interface fire mitigation programs. In 2003 Custer County Emergency Management received a grant through the High Country Resource Conservation and Development Program (RC&D) to prepare the Wildland/Urban Interface Fire Mitigation Plan that documents programmatic goals, identifies implementing actions, and sets priorities for reducing wildfire risk. The Plan was completed and issued in 2004. Under the direction of the County Board of Commissioners and the Director of Custer County Emergency Management this Plan was reviewed and updated as required during the fall of 2005 and provided for adoption by the County Board of Commissioners during December 2005. The Plan Update does not replicate all information provided in the initial planning effort, but rather provides updates in appropriate sections such as the hazard analysis and focuses primarily on the review of existing mitigation actions, adds new actions, and provides a status of ongoing activities. It was reviewed and updated in 2008 and 2009.

Wildfire Hazard Mitigation

Wildfire hazard mitigation is the development and implementation of activities designed to reduce or eliminate losses resulting from wildfires. Wildfire mitigation can be used in conjunction with other county plans, including the County Comprehensive Land Use and Emergency Operations Plans.

The Custer County Wildland/Urban Interface Fire Mitigation Plan, hereafter referred to as the Plan, addresses privately held unincorporated urban and rural areas of the county and their interface points with Federal or State Lands such as the Salmon Challis National Forest, the Sawtooth National Recreation Area. While this Plan does not establish requirements for the cities in the county or the Federal or State held lands, it does provide them with a framework for planning for common impacts from wildfires. The resources and background information in the plan is applicable countywide, and the goals and recommendations lay groundwork for local mitigation plans and partnerships.

All mitigation is local, and the primary responsibility for development and implementation of risk reduction strategies and policies lies with local jurisdictions. Local jurisdictions, however, are not alone. Partners and resources exist at the state and federal levels. No plan is complete until it is implemented. This Plan describes prescriptive programmatic actions that will bring about mitigation. These mitigation actions, if implemented over the next several years, will help reduce the damages caused by wildfire in the wildland/urban interface. However, it is up to the community to ensure that these actions are taken.

Background

Most Counties within the state have developed a simple Wildland/Urban Interface Fire Mitigation Plan. These plans as well as the Custer County WUI Plan are required to contain at least the following five elements:

- 1) Documentation of the process used to develop the mitigation plan. How the plan was developed, who was involved and how the public was involved.
- 2) A risk assessment to identify vulnerabilities to wildfire in the wildland urban interface (WUI).
- 3) A prioritized mitigation strategy that addresses each of the risks. Examples of these strategies could be:
 - ❑ Training for fire departments
 - ❑ Public education
 - ❑ Hazardous fuel treatments
 - ❑ Equipment
 - ❑ Communications

- ❑ Additional planning
- ❑ New facilities
- ❑ Infrastructure improvements
- ❑ Code and/or ordinance revision
- ❑ Volunteer efforts
- ❑ Evacuation plans, etc.

4) A process for maintenance of the plan, which includes monitoring, and evaluation of mitigation activities.

5) Documentation that the plan has been formally adopted by the involved agencies.

In Custer County existing assessments and planning documentation have fulfilled many of the recommendations made above however, the purpose of the initial planning activity was to integrate existing relevant information into a single place and to develop a strategic pathway to fire mitigation implementation.

Project Requirements

The Plan has been written to establish the jurisdiction's commitment to reduce risks from disasters and technological hazards, and serve as a guide for decision-makers as they commit resources to reduce the effects of wildfires upon private property within the designated wildland/urban interface areas.

The Plan has been develop in accordance with the request from the State of Idaho Bureau of Homeland Security to cover the following format.

1. Develop and Document Planning Process
2. Assess the Risk
3. Develop Mitigation Strategies
4. Develop a Maintenance Process for the Plan

Meetings

Three planning meetings were conducted to gather information and develop natural hazard actions for this plan. Additional meetings will be held with the County Commission, homeowners and the general public during the month of January.

Date	Group	Purpose
2/25/05	LEPC Meeting	Discuss Review and Update of Plan
11/2/05	LEPC Meeting	Evaluate and Review Plan Update
12/13/05	LEPC Meeting	Accept Review and Update of Plan

Mitigation Alternatives

The Five Year (*implementation*) Action Plan resulting from the initial planning and subsequent reviews is the most important product developed by the process. The Five Year Action Plan contained in Section 5 identifies who is responsible for implementation of the action, what resources are required for implementation, when the implementation is expected to be complete, and current status of actions taken to implement the mitigation activity.

Plan Update Adoption

The Custer County Board of County Commissioners is responsible for adopting the updates and revisions to the Plan. Once the Plan has been adopted, the County Emergency Management Director is responsible for submitting it to the State Hazard Mitigation Officer at the Idaho Bureau of Homeland Security who will then submit the plan to the Federal Emergency Management Agency (FEMA) for information and review. This review will assess how the plan meets the federal criteria outlined in FEMA Interim Final Rule 44 CFR Part

201. Upon acceptance by FEMA, Custer County will gain eligibility for Wildfire Mitigation Grant Program funds. A formal Plan Update adoption form is included as the first page of the Plan.

Advisory Committee

The Advisory Committee is comprised of the following and has been responsible for coordinating the implementing the Five Year Action Plan and has undertaken this formal review process. The Advisory Committee will meet regularly to continue to examine opportunities to implement specific mitigation actions and to take and evaluate the implementation process.

Name	Representing
Cliff Hansen	Custer County Commissioner
Lin Hintze	Custer County Commissioner
Wayne Butts	Custer County Commissioner
Doug Hammond	Custer County Disaster Coordinator
Randy Ivie	City of Mackay Fire Chief
Will Marcroft	US Forest Service Lost River FMO
John Fowler	USFS – South Zone Fuels Spec
Bill Baer	Challis BLM
Fritz Cluff	Salmon BLM
Launna Gunderson	Challis Fire
Andy Gunderson	Sawtooth Valley Rural Fire Department
Matt Filbert	Sawtooth N.F.

Subcommittees may be formed under the direction of the Advisory Committee, to further evaluate actions as established and categorized in Section 5. Recommendations will then be made as to specific implementation processes including acquisition of funding and other necessary resources.

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Section 2: Custer County Idaho

The rising cost of disasters has led to a renewed interest in identifying effective ways to reduce vulnerability to wildfires. Wildland/urban interface fire mitigation planning assists communities in reducing risk from wildfires by identifying resources, information, and strategies for risk reduction, while helping to guide and coordinate mitigation activities throughout the county

Program Mission

The mission of the Custer County Wildland/Urban Fire Mitigation Program is to promote public policy designed to protect citizens, critical facilities, infrastructure, private property, and the environment from Wildfires. This can be achieved by increasing public awareness, documenting the resources for risk reduction and loss-prevention, and identifying activities to guide the county towards building a safer, more sustainable community.

Program Goals

The Custer County Wildland/Urban Fire Mitigation Program establishes goals that describe the overall direction that Custer County agencies, organizations, and citizens are taking to work toward mitigating wildland/urban interface risks from wildfires. The goals continue as stepping-stones between the broad direction of the mission statement and the specific recommendations outlined in the implementing actions.

Protect Life and Property

- ❑ Implement activities that assist in protecting lives by making homes, businesses, infrastructure, critical facilities, and other property more resistant to losses from wildfire hazards.
- ❑ Reduce losses and repetitive damages for chronic hazard events while promoting insurance coverage for catastrophic hazards.
- ❑ Improve hazard assessment information to make recommendations the creation of County wide zoning and building codes and standards for new developments and encouraging preventative measures for existing development in areas vulnerable to wildfire hazards.

Public Awareness

- ❑ Develop and implement education and outreach programs to increase public awareness of the risks associated with wildfire hazards.
- ❑ Provide information on tools, partnership opportunities, and funding resources to assist in implementing mitigation actions.

Natural Systems

- ❑ Balance watershed planning, natural resource management, and land use planning with wildfire mitigation to protect life, property, and the environment.
- ❑ Preserve, rehabilitate, and enhance natural systems to serve wildfire mitigation functions.

Partnerships and Implementation

- ❑ Strengthen communication and coordinate participation among and within public agencies, citizens, non-profit organizations, business, and industry to gain a vested interest in implementation.
- ❑ Encourage leadership within public and private sector organizations to prioritize and implement local, county, and regional hazard mitigation actions.

Emergency Services

- ❑ Establish policy to ensure mitigation projects for critical facilities, services, and infrastructure
- ❑ Strengthen emergency operations by increasing collaboration and coordination among public agencies, non-profit organizations, business, and industry.

- Coordinate and integrate wildfire mitigation activities, where appropriate, with emergency operations plans and procedures.

Section 3: Hazard/Vulnerability and Risk Assessment

The following section provides information on wildfires and how they may affect the Custer County's ability to respond. This initial assessment is the baseline for developing a more in-depth disaster data tracking system, which will provide a more accessible and accurate profile for risk assessments in the future. .

Hazard Assessment

Sawtooth National Recreation Area

The Sawtooth National Recreation Area (SNRA) has been experiencing severe drought conditions for several years throughout the forest. The mountain pine beetle epidemic in the Sawtooth Valley and Stanley Basin and the high number of homes in the wildland/urban interface increase the potential for large wildfires that put community and firefighter safety at risk. In addition, there is high public usage in this area and abandoned campfires were one of the main ignition causes in 2002. The long-term fire weather forecast is predicted to remain hot and dry, with the possibility of extreme fire behavior.

Large areas of the SNRA, as well as a portion of the Yankee Fork Ranger District of the Salmon/Challis National Forest, continue to experience significant increases in hazardous fuel loading, primarily created from a very active attack of Mountain Pine Beetle (MPD). In some areas, nearly 70-80% of the lodgepole pine trees are dead or dying. This is a naturally occurring phenomenon, brought about by successive years of drought coupled with a "short-lived" species of trees that has reached and exceeded the age of maturity.

Salmon Challis National Forest

The Wildland/Urban Interface Fire Management Unit within the Salmon Challis National Forest is 626,450 acres in size and is scattered across the Forest primarily along river and stream corridors. It covers areas in both Lemhi and Custer Counties. Included within the unit are areas bordering the Salmon River, Owl Creek, Panther Creek, Napias Creek, Silver Creek, Spring Creek, Indian Creek, North Fork of the Salmon River, Sheep Creek, Dahlenoga Creek, Fourth of July Creek, Hayden Creek, Big Timber Creek, Little Timber Creek, Williams Creek, Williams Lake, Morgan Creek, Challis Creek, Garden Creek, Pass Creek, Wet Creek, Big Lost River, East Fork of the Big Lost River, Rio Grand Canyon and Antelope Creek.

Lands within or in close proximity to this Fire Management Unit are classified as Wildland Urban interface areas. Included are the at risk communities identified by the State of Idaho as a part of the National Fire Plan as well as other communities and developed areas that qualified as Wildland Urban Interface and Wildland urban intermix communities using the Forest Wildland Urban Interface definition. The specified suppression strategy for fires occurring within this area is full suppression. Fire management direction comes from either the Challis National Forest or Salmon National Forest Land and Resource Management Plan.

Big Lost Drainage

Severe Drought has significantly impacted the Big Lost Drainage. Even though the Big Lost Drainage experienced a slightly higher runoff season riparian lands along the Big Lost River have been severely impacted due to previous low stream flows during the ongoing drought. Naturally occurring vegetation has died leaving dead trees and brush within the Riparian Zones below Mackay Reservoir.

Private Lands, held along the Big Lost River, are vulnerable to Wildfires within the Riparian Zone. There has been a significant increase in construction of homes within the Riparian Zone within the past 10 years. These homes are surrounded with high levels of fuel due to the dead and dying trees and natural vegetation. The South Custer and Big Lost Fire Districts provide fire Suppression within the Big Lost River Riparian Zone.

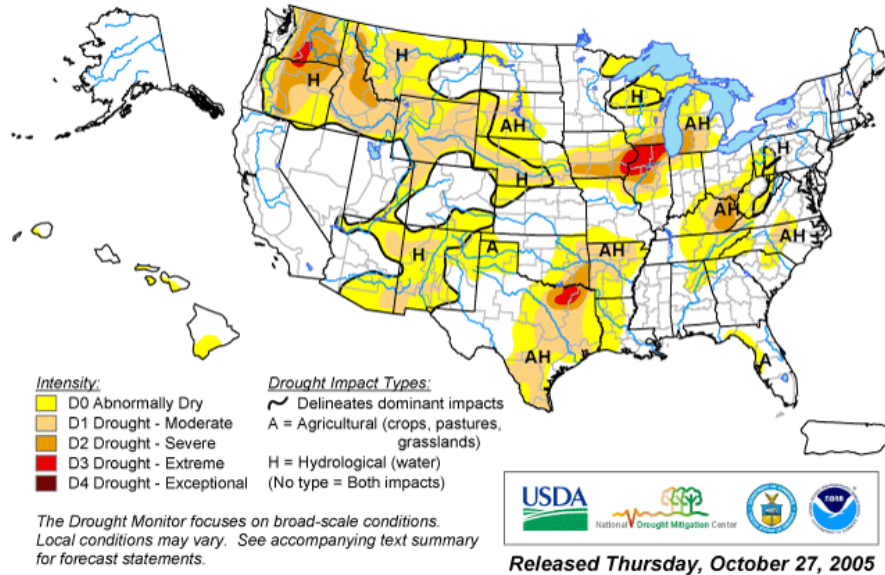
Drought

Drought conditions have existed in Custer County since 1999. The County Commissioners requested a Drought Disaster Declaration from the Idaho Department of Water Resources in April 2001, which was approved by Governor Dirk Kempthorne. The County has been under declaration status since that time with the declaration renewed annually by the Governor. Custer County's declaration was renewed on March 28, 2005 by the Governor.

According to the National Weather Service it is expected that in the drought will continue with below normal snow pack below normal water supplies. See the Figures below for current drought condition throughout United States and for 2006 Drought Condition Forecast.

U.S. Drought Monitor

October 25, 2005
Valid 8 a.m. EDT

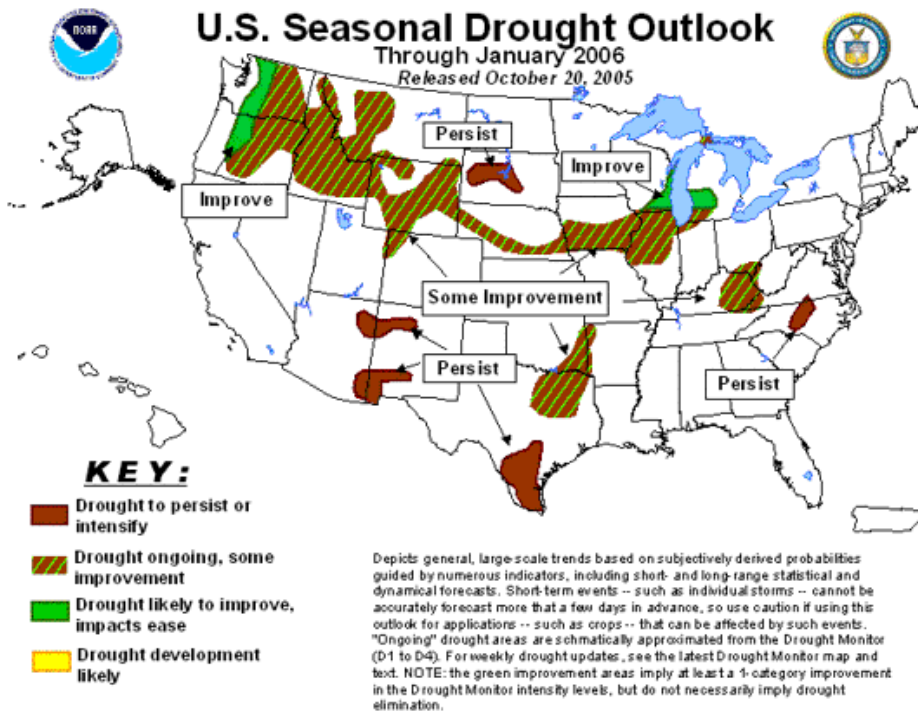


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<http://drought.unl.edu/dm>

U.S. Seasonal Drought Outlook

Through January 2006
Released October 20, 2005



Landslide

Landslides occur when masses of rock, earth, or debris move down a slope. *Debris flows*, also known as *mudslides*, are a common type of fast-moving landslide that tends to flow in channels. Landslides are caused by disturbances in the natural stability of a slope. They can accompany heavy rains or follow droughts, earthquakes, or volcanic eruptions. Mudslides develop when water rapidly accumulates in the ground and results in a surge of water-saturated rock, earth, and debris. Mudslides usually start on steep slopes and can be activated by natural disasters. Areas where wildfires or human modification of the land have destroyed vegetation on slopes are particularly vulnerable to landslides during and after heavy rains.

Landslides resulting from the removal of vegetation during a wildfire incident are common. The most vulnerable area within Custer County for damage due to landslides is the Salmon River Corridor from Stanley to Challis and beyond into Lemhi County along State Highway 75. This area is currently within the “Red Tree” treatment area discussed above. Work to remove dead and dying lodgepole pine along the Salmon River Corridor is underway however; the process is difficult because of the increasing requirements brought about by the Clean Water Act and issues related to fisheries.

Vulnerability Assessment

A vulnerability assessment identifies areas in the county that may be affected, individuals in the county who may be subject to injury or death, and what facilities, property, or environment may be susceptible to damages should a wildfire occur.

Electrical Power:

The Salmon River Electric Cooperative (SREC) transmission system has only one line into Custer County with limited redundancy outside of the county. This situation, while usually reliable, is very vulnerable to wildfires. For example, in July of 2003 a wildfire on the Idaho National Engineering Laboratory damaged power lines running from the Goshen Substation, near Idaho Falls, to Custer County. The County experienced two power outages as a result of the line damage, one on the 27th lasting 5 hours and one on the 28th lasting 3 hours. A map of the electrical supply system for Custer County is included in Appendix 12. As experience in July 2003, a wildfire anywhere between the Goshen substation and Custer County as the “end of the line” has a potential to interrupt electrical power.

Transportation Routes:

The main transportation routes through Custer County are U. S. Highway 93 and State Highways 75 and 21. These highways are two-way, opposing traffic roadways. The highest times of use are in the summer months during the tourism season. While U. S. Highway 93 essentially traverses the open valleys of Custer County between Mackay and Challis, it crosses the Big Lost River riparian zone between Mackay and Leslie. This riparian area has a high concentration of dead trees and vegetation.

Highway 75 follows the Salmon River from Stanley to Challis and then into Lemhi County. The highway between Stanley and Challis winds through narrow river gorges filled with dead and dying lodgepole pines as described above. A wildland fire, or a resulting landslide, could easily close this major east/west corridor. Highway 75 leaves Stanley and turns south through the heart of the SNRA into Blaine County.

Highway 21 comes from the North into Stanley through the SNRA and passes through designated Red Tree treatment areas as well and has the same vulnerabilities as highway 75.

Many of the improved roads in the County leave the main arteries described above to reach into remote areas within the confines of the two national forests. These roads, for the most part, end as unimproved roadways. Discussion within the Interagency Planning Group has focused on the width of these roadways, the narrow bridges, and lack of clearances for fire apparatus. Additionally there is concern that evacuation from high mountain areas, recreations areas, and in many instances, housing subdivisions have a single access road that could easily be blocked by wildfire or landslides.

Recreation Sites:

There are several significant recreation sites within Custer County. The most frequently mentioned area of concern is Red Fish Lake, the Red Fish Lake Lodge, and the Red Fish Lake Camp grounds and trail heads. Other areas include but are not limited to, Eddy Lake, Copper Basin, and campgrounds along the Salmon River. The SNRA has developed some evacuation plans for the Red Fish Lake Area. These areas are of significant risk due to the high fuel loading, the continued drought, and the high instance of visitation by the general public.

Custer Idaho and the Custer Motorway Adventure Road

In 1966, the Challis National Forest took ownership of the few remaining building of Custer, Idaho. Established in 1870s along the Yankee Fork of the Salmon River, this City was home to gold miners and other adventures. The City, essentially a ghost town, was placed on the National Registry of Historic Places. In 1990, the Idaho Department of Parks and Recreation joined the Forest Service in managing Custer. This led to the establishment of the “Land of the Yankee Fork” State and National Forest Historic Area.

Additional Historic Sites along the Custer Motorway Adventure Road include the City of Challis, Cartwright Gulch, Corkscrew Grand and Slab Barn, Greenwood Station, Tollgate Station, Homestead Station, Twelve-mile Station, Eleven Mile Barn, Yankee Fork Fisheries, Custer Cemetery, General Custer Mill Site, Jordan Creek, Yankee Fork Gold Dredge, Bonanza City, Dredge Tailings, Sunbeam Store and Sunbeam Dam. Any and all of these sites are within the boundaries of the Salmon-Challis National Forest and are considered part of the Urban Interface because of their relationship to Tourism. The State of Idaho has recently purchased the old town site of Bayhorse, another historic mining “ghost town”, to add to the Land of the Yankee Fork State Park.

Housing Subdivisions:

There are eleven major subdivisions and the Red Fish Lake Lodge within the SNRA and Custer County boundaries that are of specific concern. These subdivisions are within the Red Tree Treatment Areas. Many have not completed any fuel reduction activities and in some instances the fuel reduction activities are in direct conflict with their building certificates with the SNRA. These subdivisions are all vulnerable for significant loss due to wildfire. Most have only one-way in and out, narrow bridges, and various other obstructions. Because of the drought and the MPB infestation there is significant fuel loading with little, if any, water available for suppression actions. Private Subdivisions and property of concern include but are not limited to the following:

- Valley View
- Fisher Creek
- Stanley Basin /Buckhorn
- Iron Creek
- Goat Creek
- Crooked Creek
- Homestead
- Cow Camp Area
- Red Fish Lake Lodge
- West Fork Yankee Fork
- Ramey Creek

Local Fire Response:

The challenges facing the Custer County Fire Districts are not unlike those facing most rural fire districts throughout the U.S. The need for additional manpower, vehicles, equipment, and training are all common challenges facing rural departments. The Custer County Fire Districts face these challenges and others listed

above. The current response capability, while it could be improved, is adequate for most of the response areas within the county. There are however, significant challenges in dealing with the hazards facing the County in the wildland/urban interface areas within the South Custer, North Custer/Challis, and Stanley Fire Districts.

The largest vulnerability is the access to water for suppression actions. Much of the water used in the wildland/urban interface is either transported in or comes from streams, the Salmon River, and mountain lakes. The Fire Districts indicate an inadequate “tender” capacity. The ongoing drought has lowered natural flows, additionally these flows are not available during the late fall, winter, and early spring due to freezing of natural water supplies.

The second largest vulnerability is access to residences and structures within the wildland/urban interface. Most subdivisions have a single, unimproved roadway leading in and out of the area. These roadways are narrow, clearances are poorly maintained, and in some instances have bridges that are impassable. Responders have a difficult time getting response equipment to the structures to be protected.

A third vulnerability, and one that could be easily addressed, is the lack of an integrated planning, preparedness and response. While this issue is easily addressed, if left unresolved it could be the most serious of all the vulnerabilities. The lack of a coordinated response capability can lead to ineffective protection, potentially resulting in significant property loss and a reduction in public safety.

Risk Assessment

Table 1 is the evaluation of risk probability versus consequence. It continues to be used as a discussion tool with the Advisory Committee in establishing mitigation action priority. The table compares the identified hazard with the potential threat to life, property, and the environment. The ranking criteria are presented in Table 2.

Table 1 Risk Ranking

Identified Hazards	Risk Analysis			
	Life Safety	Property Damage	Environmental Damage	Economic Impact
Wildfires within the Big Lost River Riparian Zone	Medium	High	Medium	Medium
Wildfire Adjacent to Subdivisions within SNRA Boundary	High	High	High	High
Wildfire Adjacent to Challis	Low	Low	Low	Low
Landslide Along the Salmon River/ Highway 75	Low	Low	Medium	Medium
Lack of Integrated Planning, Preparedness and Response	Medium	High	Medium	Medium

Table 2 Ranking Criteria

Consequence Criteria		
Life Safety	Low	Injuries limited to the area of effect. < 10
	Medium	Serious injuries >10
	High	Multiple fatalities, critical and serious injuries
Property Damage	Low	Minimal damages
	Medium	Structural damages evident
	High	Loss of structure
Environmental Damages	Low	Minimal impact at area of effect
	Medium	Regional damage
	High	Long-term recovery. Requires significant after action
Economic Impact	Low	Economic impact minimal
	Medium	Loss of business
	High	Regional long term loss

Summary

Based on the analysis conducted to date as part of the mitigation planning effort the largest risk within the wildland/urban interface areas from wildfires in Custer County is in the SNRA/private subdivision areas. The largest threat to life may well be the recreation sites such as Red Fish Lake, but certainly the highest property loss would occur within the privately owned subdivisions where loss of life could also be significant. Another serious risk area is the Riparian Zone below the Mackay Reservoir along the Big Lost River. The conditions within this area are not as well managed as the SNRA's Red Tree treatment areas. The Federal Government does not have ultimate responsibility for the treatment program and so the County and homeowners may well have to face this risk alone.

Section 4: Public Participation

The *key to successful implementation* of the goals of the Fire Mitigation Program is involvement from the private property owners in Custer County and the general public who participate in the recreation and tourism within the confines of the County. The public participation process will continue to be conducted in three specific ways.

- 1) Public Information and Data gather previously by the High County RC&D and the SNRA during prevention related activities will continue to provide a basis for public comment..
- 2) Continued involvement of the general public, from the communities served by this process, on the planning and advisory committees.
- 3) A local news article will be published in the Challis Messenger announcing the availability and opportunity to review updates to the Custer County WUI Plan on the State of Idaho Department of Lands Web Site and seeking public input on the Plan by the Advisory Committee.

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Section 5: Mitigation Implementing Actions

The **implementing actions** are a listing of activities that the county agencies and citizens have proposed and agreed upon as those if implemented will reduce the risk in the wildland/urban interface.

- ❑ **Existing actions** - are activities that are currently in progress.
- ❑ **Short-term actions** - are activities that county agencies may implement with existing resources and authorities within one to two years.
- ❑ **Long-term actions** - may require new or additional resources or authorities, and may take between one and five years to implement.
- ❑ **Ongoing actions** – actions that have, or will begin as part of the mitigation process that will be ongoing over the course of the five-year planning window.

Existing Implementing Actions

1. Revision of the Custer County Emergency Operations Plan into the NIMS format.

Responsible Individual: Doug Hammond
 Due Date: November 2005
 Resources: BHS Planning Grant
 Status: Plan is being reviewed and updated in 2008.

2. Installation of static water supply tanks in Stanley.

Responsible Individual: Andy Gunderson
 Due Date:
 Resources: Fire District Funding
 Status: Two tank systems were installed. Additional Funding for 5 more tank systems was applied for unsuccessfully in 2004.

3. SNRA Red Tree Reduction Project.

Responsible Individual: Sawtooth National Forest
 Due Date:
 Resources: Forest Service Funding
 Status: Continue more Red Tree reduction projects

4. Fuel Reduction Projects in the Iron Creek, Crooked Creek, Cow Camp, Job Creek, Fisher Creek, and Buckhorn Subdivisions. Project includes thinning, removal and replanting of areas where the lodgepole pine have died.

Responsible Individual: Homeowners Associations
 Due Date:
 Resources: Community Grants through Sawtooth National Forest
 Status:

5. Rural Addressing of Custer County.

Responsible Individual: Chris James
 Due Date: December 2004

Resources: RC&D Managed BLM Grant
Status: Addresses are currently being assigned using new GIS Software.

6. Mechanical and prescribed burning to conduct fuels reduction in the dead and dying stands of trees northeast of Lower Stanley, around the Camp Bradley Boy Scout Camp, the Cape Horn Power Line, ranch, Lola, Kelly Creek (Lo-Elly) and egress/ingress roads. The SCF is also taking action to salvage dead and dying trees in Harden Creek and reducing fuels in the municipal watershed for Challis and Mackay.

Responsible Individual: John Fowler
Due Date: Begin Fall 2004
Resources: Salmon-Challis Forest Service Funding
Status: Projects underway.

7. Procurement of new fire apparatus in South and North Custer Fire Districts.

Responsible Individual: District Fire Chiefs
Due Date: Summer 2004
Resources: FEMA Assistance to Firefighters Grant
Status: The South Custer and Mackay Fire Departments were both successful in obtaining grant funding to procure fire engines. Both Engines have arrived and are in service.

Short Term Actions

Responsible Individual: Custer County Wildland/Urban Interface Advisory Committee

Develop Partnerships:

1. Establish subcommittees to investigate and lead the implementation of mitigation projects.
Status: None to Report
2. Identify all organizations within Custer County that have programs or interests in wildland/urban interface fire mitigation including private business and other joint planning groups and investigate if common issues are being addressed. Invite them to assist in the implementation mitigation projects.
Status: None to Report
3. Develop, approve and promote Fire Protection Agreements and partnerships to clarify roles and responsibilities and to provide for fire mitigation activities and suppression preparedness.
Status: The South Custer and Mackay Fire Departments have merged into a single operation.
4. Develop partnerships with Water Districts to improve the water storage facilities and delivery capabilities in development within and outside of Fire Protection Districts.
Status: None to Report
5. Integrate requirements for water drafting into Annual Operating Plans developed between the Fire Districts and the Federal Agencies.
Status: None to Report
6. Revise the Hazard/Vulnerability Analysis to include a definition of the WUI Zone, develop maps depicting the zones, analyze slope and vegetation.
Status: Working with BLM and the Custer County LEPC to identify funding for this activity.

Education and Training:

1. Provide training for Advisory Committee members on current and developing issues related to the wildland/urban interface fire hazards loss reduction field.

Status: None to Report

2. Develop a brochure that addresses fire and relating watershed issues in the wildland/urban interface that can be used by the general public and private businesses.

Status: None to Report

3. Encourage the development of unifying organizations to ensure communications and dissemination of the wildland/urban interface mitigation information such as planned programs and results from mitigation actions.

Status: None to Report

4. Develop the capability to apply for grant funding for the implementation of mitigation actions through training of grant writers and the monitoring of available grant opportunities.

Status: The Fire Districts are applying for grants using existing resources.

5. Conduct joint training and exercises between the Fire Districts, the Forest Service, Bureau of Land Management, and SNRA to improve communications and coordination during fire suppression.

Status: **In Progress with some joint training already accomplished and more planned for 2009.**

6. Provide public education of the need to improve water storage and distribution capacity within the County including improved mapping of existing water storage.

Status: None to Report

7. Improve knowledge of causes and effects of landslides resulting from wildfires including hazards vulnerabilities, and risks to life and property in hazard prone areas.

Status: None to Report

8. Enhance outreach and education programs aimed at interface fire hazards through cooperation with existing programs within the Forest Service, BLM, and State Department of Lands.

Status: None to Report

Data Collection:

1. Working within the partnerships created above, gather information and propose the development of building codes and a permit process to ensure that defensible space has been properly planned for in new construction.

Status: The Sawtooth Valley Rural Fire District has submitted a WUI Code for adoption by the County Commission.

2. As part of the Rural Addressing Project, identify critical facilities, such as wireless communications repeaters and bridges used for evacuation, within the interface areas at risk from wildfire events.

Status: In Progress

3. Assess bridges and roadways for their ability to support fire apparatus ingress and egress.

Status: None to Report

4. Map and evaluate the landslide prone areas of the county for possible land movements.

Status: Done

Specific Implementing Actions Projects:

1. Implement Section 7 of the Wildland/Urban Interface Fire Mitigation Plan through Plan adoption and Advisory Committee establishment.

Status: Updating Annually

2. Implement re-vegetation programs in landslide areas affected by previous wildfires.

Status: Planning on re-vegetating steep slopes and riparian areas that burned.

3. Develop and disseminate maps showing the fire hazard to help in the education and preparedness of the community. Use the GIS layers developed as part of the Rural Addressing Project.

Status: None to Report

4. Complete the Rural Addressing Project.

Status: Project 75% Complete.

- 5.. Improve fire protection ratings in, the City of Challis, and North Custer Fire District through the construction of a new fire station and improvements in the water storage and delivery infrastructure such as dry hydrants, portable tankers, underground, draft capable, tanks, private property access, and other required fire fighting equipment.

Status: A new fire station has been built for Mackay and South Custer combined fire departments. Planning stages for new fire house in Challis.

6. Continue to assist homeowner associations to apply for grants for the purposes of reducing fuel loading and improvements in fire protection infrastructure.

Status: None to Report

7. Conduct workshops for public and private sector organizations to raise awareness of mitigation activities and programs.

Status: None to Report

8. Place the Custer County Wildland/Urban Interface Fire Mitigation Plan on the County Web Site.

Status: Done

9. Implement the SNRA Community Evacuation Plan.

Status: None to Report

10. Develop Evacuation Plans for sites along the Custer Motorway Adventure Road including the historical sites along the Yankee Fork of the Salmon River.

Status: None to Report

11. Plan and/or implement fuels reduction projects in the North Fork of the Big Lost River, Lola Creek, Kelly Creek (Lo-Elly), Upper Yankee Fork, Sawmill Canyon, Squaw/Kinnickinic Creeks, Poverty Flats and in the municipal watersheds of Challis and Mackay.

Status: The Salmon Challis Forest is working on development of fuels reduction projects in proximity to the municipal watershed for Mackay and Garden Creek Fuels Reduction Project (Challis Municipal Watershed) is being implemented. The other projects are in the planning stage by the SCF, SNRA and BLM – Challis Field Office.

Long Term and Ongoing Actions

Responsible Individual: Custer County Wildland/Urban Interface Advisory Committee

Establish Partnerships:

1. Coordinate the maintenance of emergency transportation routes through communications with the County Interagency Transportation Working Group and neighboring jurisdictions.

Status: None to Report

2. Work with community planning organizations and other neighborhood groups to establish Community Emergency Response Teams (CERT).

Status: None to Report

3. Develop Quick Response Units for medical response in sparsely populated areas.

Status: None to Report

4. Develop Memoranda of Understanding with existing Emergency Medical Services in the County to increase coverage.

Status: Completed

Funding Needs/Support:

1. Purchase and equip a mobile command unit to improve emergency response communications between public agencies, response entities, and the County Emergency Operations Center.

Status: In progress

2. Hire a County Fire Prevention Officer to oversee public education programs.

Status: None to Report

3. Develop a structured Fire Prevention Education Program based on the community hazards.

Status: None to Report

4. Develop and equip additional Emergency Medical Services Organizations in areas not covered.

Status: None to Report

5. Rural Fire Departments need to upgrade their rural water supplies and capabilities. This would include portable pumps, tankers and pumps for filling them, drop tanks and PPEs.

Status: Ongoing by all Departments with constant upgrades.

Education and Training

1. Educate private property owners on limitations of physical infrastructure and dangers associated with them following wildfire events.

Status: None to Report

2. Develop a process to encourage private property owners to upgrade their bridges and roadways to support ingress and egress of fire apparatus.

Status: None to Report

3. Encourage individual and family preparedness through public education projects such as safety fairs and fire prevention month.

Status: None to Report

4. Develop or enhance existing outreach materials to include focus on protecting natural ecosystems and watersheds as a mitigation activity.

Status: None to Report

5. Improve training for existing Emergency Medical Services.

Status: Constant upgrades and ongoing.

Data Collection:

1. Conduct risk analysis incorporating data and hazard mapping using GIS technology to identify vulnerable sites and to further assist in the prioritization of mitigation activities.

Status: None to Report

2. Identify watersheds and develop a watershed protection program.

Status: Salmon Challis Forest is working with the municipalities on this project and has defined some fuel reduction projects that are proximity to municipal watersheds. Implementation of Fuels Reduction in the municipal watershed for Challis has been initiated and planning for Fuels Reduction projects in the municipal watershed for Mackay (White Knob) is ongoing..

Specific Implementation Projects:

1. Employ mechanical thinning and prescribe burning in Red Tree Areas.

Status: SNRA has begun this process and has implemented numerous Red Tree projects and will continue into the future.

2. Clear trimmings, trees, brush, and other debris completely from sites when performing routine maintenance and landscaping to reduce fire risk

Status: Ongoing

3. Expand Fire Districts to provide fire protection to residences within the County.

Status: None to Report

4. Plan and/or implement Fuels Reduction Projects in the municipal watershed for Mackay (Rio Grande, Taylor, Cliff, Black Daisy and Alder Creeks) as well as the Big Hill area, Morgan Creek (Morgan Wild), Cape Horn (Lo-Elly), Mosquito Lake, Copper Basin Front, Twin Bridges, North Fork of the Big Lost (Slide/Hunter), Upper Yankee Fork, and around recreation residences, resorts and organization camps on the SNRA. These projects are in or adjacent to municipal watersheds, in the response to dying stands of trees, or are near subdivisions and other private lands.

Status: SCF and SNRA are working to develop funding for these projects.

Ongoing Actions:

1. Encourage single-family residences to have fire plans and practice evacuation routes.

Status: None to Report

2. Encourage fire inspections in residential areas by fire departments to increase awareness and establish relationships between homeowners and firefighters.

Status: None to Report

3. Continue the development of adult and child education programs and incorporate them into the public libraries, community service groups, the media, and other civic forums.

Status: None to Report

4. Continue to update and improve the SNRA Community Evacuation Plan.

Status: None to Report

5. Improve Fire District capabilities through an aggressive program focusing on resources acquisition, training, and coordination.

Status: All Fire Departments in the County are combining resources to improve fire protection in their respective jurisdictions.

Section 6: Economic Analysis

Using the guidance found below the Interagency Planning group will evaluate all implementing actions to establish a prioritizing ranking. In addition to examining the estimated economic cost benefit analysis implementing actions must also be ranked based on the impacts to the community or social structure of Custer County as a whole. Once the economic analysis is completed the results will be reported in this section of the plan and the guidance will be moved to the Appendices Section for future reference. The Guidance is included in the plan at this point simply to identify procedural steps necessary to establish implementation priorities.

Fire Mitigation Economic Analyses Guidance

Benefit/cost analysis is a key mechanism used by the Idaho bureau of Disaster Services, the Federal Emergency Management agency, and other state and federal agencies in evaluating wildfire mitigation projects, and is required by the Robert T. Stafford disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended. This guide outlines several approaches for conducting economic analysis of wildfire mitigation projects. It describes the importance of implementing mitigation activities, different approaches to economic analysis of mitigation strategies, and methods to calculate costs and benefits associated with mitigation strategies. Information in this section is derived in part from: The Federal Emergency Management Agency Publication 331, Report on costs and benefits of Wildfire Mitigation.

This guide is not intended to provide a comprehensive description of benefit/cost analysis, nor is it intended to provide the details of economic analysis methods that can be used to evaluate local projects. It is intended to (1) raise benefit/cost analysis as an important issue, and (2) provide a description of how economic analysis will be used to evaluate fire mitigation implementing actions discussed in section 4.

Mitigation Strategies

Mitigation activities reduce the cost of disasters by minimizing property damage, injuries, and the potential for loss of life, and by reducing emergency response costs, which would otherwise be incurred. Evaluating wildfire mitigation provides decision-makers with an understanding of the potential benefits and costs of an activity, as well as a basis upon which to compare alternative projects.

Evaluating mitigation projects is a complex and difficult undertaking, which is influenced by many variables.

- Wildfires affect all segments of the community they strike, including individuals, businesses, and public services such as fire, utilities, and schools.
- While some of the direct and indirect costs of disaster damages are measurable, some of the costs are non-financial and difficult to quantify in dollars.
- Many of the impacts of such events produce “ripple-effects” throughout the community, greatly increasing the disaster’s social and economic consequences.

While not easily accomplished, there is value, from a social and public policy perspective, in assessing the positive and negative impacts from mitigation activities, and obtaining an instructive benefit/cost comparison. Otherwise, the decision to pursue various mitigation options would not be based on objective understanding of the net benefit or loss associated with these actions.

Economic Analysis approaches for Mitigation Strategies

The approaches used to identify the costs and benefits associated with wildfire mitigation strategies, measures, or projects fall into general categories: benefit/cost analysis and cost-effectiveness analysis. The distinction between the two methods is the way in which the relative costs and benefits are measured. Additionally, there are varying approaches to assessing the value of mitigation for the public sector and private sector activities.

Benefit/cost Analysis

Benefit/cost analysis is used in wildfire mitigation to show if the benefits to life and property protected through mitigation efforts exceed the cost of the mitigation activity. Conducting benefit/cost analysis for a mitigation activity can assist communities in determining whether a project is worth undertaking now, in order to avoid disaster related damages later. Benefit/cost analysis is based on calculating the frequency and severity of a hazard, avoided future damages, and risk. In benefit/cost analysis, all costs and benefits are evaluated in terms of dollars, and a net benefit/cost ratio is computed to determine whether a project should be implemented (i.e., if net benefits exceed net costs, the project is worth pursuing). A project must have a benefit/cost ratio greater than 1 in order to be funded.

Cost-Effectiveness Analysis

Cost-effectiveness analysis evaluates how best to spend a given amount of money to achieve a specific goal. This type of analysis, however, does not necessarily measure costs and benefits in terms of dollars. Determining the economic feasibility of mitigating wildfire can also be organized according to the perspective of those with an economic interest in the outcome. Hence, economic analysis approaches are covered for both public and private sectors as follows.

Investing in public sector mitigation activities

Evaluating mitigation strategies in the public sector is complicated because it involves estimating all of the economic benefits and costs regardless of who realizes them, and potentially to a large number of people and economic entities. Some benefits cannot be evaluated monetarily, but still affect the public in profound ways. Economists have developed methods to evaluate the economic feasibility of public decisions that involve a diverse set of beneficiaries and non-market benefits.

Investing in private sector mitigation activities

Private sector mitigation projects may occur on the basis of one of two approaches: it may be mandated by a regulation or standard, or it may be economically justified on its own merits. A building or landowner, whether a private entity or a public agency, required to conform to a mandated standard may consider the following options:

- 1) Request cost sharing from public agencies;
- 2) Dispose of the building or land either by sale or demolition;
- 3) Change the designated use of the building or land and change the wildfire mitigation compliance requirement; or
- 4) Evaluate the most feasible alternatives and initiate the most cost effective mitigation alternative.

The sale of a building or land triggers another set of concerns. For example, real estate disclosure laws can be developed which require sellers of real property to disclose known defects and deficiencies in the property, including earthquake weaknesses and hazards to prospective purchases. Correcting deficiencies can be expensive and time consuming, but their existence can prevent the sale of the building. Conditions of a sale regarding the deficiencies and the price of the building can be negotiated between a buyer and seller.

Conducting Economic Analysis

Benefit/cost analysis and cost-effectiveness analysis are important tools in evaluating whether or not to implement a mitigation activity. The framework, which will be used for evaluating the Custer County Urban/Wildland Fire Mitigation alternatives, is outlined below:

1. Identify the Alternatives

Alternatives for reducing risk from wildfires can include structural projects to enhance disaster resistance, education and outreach, and acquisition or demolition of exposed properties, among others. Different mitigation projects can assist in minimizing risk to wildfires, but do so at varying economic costs.

2. Calculate the Costs and benefits

Choosing economic criteria is essential to systematically calculating costs and benefits of mitigation projects and selecting the most appropriate alternative. Potential economic criteria to evaluate alternatives include:

- **Determine the project cost**

This may include initial project development costs, and repair and operating costs of maintaining projects over time.

- **Estimate the benefits**

Projecting the benefits or cash flow resulting from a project can be difficult. Expected future returns from the mitigation effort depend on the correct specification of the risk and the effectiveness of the project, which may not be well known. Expected future costs depend on the physical durability and potential economic obsolescence of the investment. This is difficult to project. Estimating the costs and benefits of a hazard mitigation strategy can be a complex process. Employing the services of a specialist can assist in this process and these considerations will also provide guidance in selecting an appropriate salvage value. Future tax structures and rates must be projected. Financing alternatives must be researched, and they may include retained earnings, bond and stock issues, and commercial loans.

- **Consider costs and benefits to society and the environment**

These are not easily measured, but can be assessed through a variety of economic tools including existence value or contingent value theories. These theories provide quantitative data on the value people attribute to physical or social environments. Even without hard data, however, impacts of structural projects to the physical environment or to society should also be considered when implementing mitigation projects.

- **Determine the correct discount rate**

Determination of the discount rate can be the risk-free cost of capital, but it may include the decision maker's time preference and also a risk premium. Including inflation factors should also be considered.

3. Analyze and Rank the Alternatives

Once costs and benefits have been quantified, economic analysis tools can rank the alternatives. Two methods for determining the best alternative given varying costs and benefits include net present value and internal rate of return.

Net present value

The net present value of the expected future returns of an investment minus the value of expected future cost expressed in today's dollars. If the net present value is greater than the project costs, the project may be determined feasible for implementation. Selecting the discount rate, and identifying the present and future costs and benefits of the project calculates the net present value of projects.

Internal Rate of Return

Using the internal rate of return method to evaluate mitigation projects provides the interest rate equivalent to the dollar returns expected from the project. Once the rate has been calculated, it can be compared to rates earned by investing in alternative projects. Projects may be feasible to implement when the internal rate of return is greater than the total costs of the project. Once the mitigation projects are ranked on the basis of economic criteria, decision-makers can consider other factors, such as risk, project effectiveness, and economic, environmental, and social returns in choosing the appropriate project for implementation.

Calculating Economic Benefits of Mitigation

The estimation of economic returns, which accrue to building or landowner as a result of wildfire mitigation, is difficult. Owners evaluating the economic feasibility of mitigation should consider reductions in physical damages and financial losses. A partial list follows:

- Building damages avoided
- Content damages avoided
- Inventory damages avoided
- Rental income losses avoided
- Relocation and disruption expenses avoided
- Proprietor's income losses avoided

These parameters can be estimated using observed prices, costs, and engineering data. The difficult part is to correctly determine the effectiveness of the wildfire mitigation project and the resulting reduction in damages and losses. Equally as difficult is assessing the probability that an event will occur. The damages and losses should only include those that will be borne by the owner. The salvage value of the investment can be important in determining economic feasibility. Salvage value becomes more important as the time horizon of the owner declines. This is important because most businesses depreciate assets over a period of time.

Additional Costs from Wildfires

Property owners should also assess changes in a broader set of factors that can change as a result of a large wildfire. These are usually termed "indirect" effects, but they can have a very direct effect on the economic value of the owner's building or land. They can be positive or negative, and include changes in the following:

- Commodity and resource prices
- Availability of resource supplies
- Commodity and resource demand changes
- Building and land values
- Capital availability and interest rates
- Availability of labor
- Economic structure
- Infrastructure
- Regional exports and imports

- Local, state, and national regulations and policies
- Insurance availability and rates

Changes in the resources and industries listed above are more difficult to estimate and require models that are structured to estimate total economic impacts. Total economic impacts are the sum of direct and indirect economic impacts. Total economic impact models are usually not combined with economic feasibility models. Many models exist to estimate total economic impacts of changes in an economy. Decision-makers should understand the total economic impacts of natural disasters in order to calculate the benefits of a mitigation activity. This suggests that understanding the local economy is an important first step in being able to understand the potential impacts of a disaster, and the benefits of mitigation activities.

Additional Considerations

Conducting an economic analysis for potential mitigation activities can assist decision-makers in choosing the most appropriate strategy for their community to reduce risk and prevent loss from wildfires. Economic analysis can also save time and resources from being spent on inappropriate or non-feasible projects. Benefit/cost analysis is complicated, and the numbers may divert attention from other important issues. It is important to consider the qualitative factors of a project associated with mitigation that cannot be evaluated economically.

There are alternative approaches to implementing mitigation projects. Many communities are looking towards developing multi-objective projects. With this in mind, opportunity rises to develop strategies that integrate wildfire mitigation with projects related to watersheds, environmental planning, community economic development, and small business development, among others. Incorporating wildfire mitigation with other community projects can increase the viability of project implementation.

Section 7: Plan Maintenance

The Plan maintenance process includes a schedule for monitoring and evaluating the programmatic outcomes established in the Plan annually and producing a Plan revision every five years. This section describes how the county will integrate public participation throughout the Plan maintenance process.

Formal Review Process

The Plan has been evaluated as required for 2005 to determine the effectiveness of programs, and to reflect changes that may affect mitigation priorities. The evaluation process included updates to the annual schedule and timeline, updates on mitigation implementation actions, and identified the local agencies and organizations participating in Plan evaluation. The Director, Custer County Emergency Management as project facilitator was responsible for contacting the Wildland/Urban Mitigation Advisory Committee members and organizing the annual review. Group members continue to be responsible for monitoring and evaluating the progress of the mitigation strategies in the Plan.

The Committee has reviewed the goals and action items in relationship to changing situations in the county, as well as changes in State or Federal policy, and to ensure they are addressing current and expected conditions. The Committee also reviewed the risk assessment portion of the Plan and added updated available data. The coordinating organizations responsible for the various action items provided updated reports on the status of their projects, the success of various implementation processes, difficulties encountered, success of coordination efforts, and which strategies should be revised or removed.

Whisper Mountain Professional Services, Inc was contracted to review and update the Plan by the Custer County Emergency Management Director. Once the Plan is adopted by the County Board of Commissioners the Committee will notify all holders of the county plan and private property owners that an update is available. The updated plan will be submitted to the State Wildfire Mitigation Officer and the Federal Emergency Management Agency for review.

Continued Public Involvement

Custer County is dedicated to involving the public directly in review and updates of the Plan. The Committee is responsible for the annual review and update of the plan. The public will also have the opportunity to provide input into Plan revisions and updates as described in Section 4. Copies of the Plan will be catalogued and kept at all of the appropriate agencies in the county. The existence and location of these copies will be publicized in the local newspaper as required in Section 4.

Rather than holding a public meeting after the annual evaluation by the Committee and article will be published in the Challis Messenger announcing that the Updated Plan is available for review and can be found online at the Department of Lands Website and Custer County Website. This online review will provide the public a virtual forum where they can express concerns, opinions, or new alternatives that can then be included in the next Plan Update.

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Custer County - Idaho

Wildland/Urban Interface Fire Mitigation Plan

Appendices

February 2009

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**USDA-Forest Service, Salmon-Challis National Forest,
Sawtooth National Recreation Area and USDI-Bureau of Land
Management
Custer County Fuels Reduction Projects
In conjunction with the National Fire Plan**

Appendix 1

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USDA-Forest Service, Salmon-Challis National Forest Custer County Fuels Reduction Projects In conjunction with the National Fire Plan

Projects in Progress:

Garden Creek Fuels Reduction – As discussed with the County Commissioners, the Challis City Council and water users, this project was initiated to conduct management in Challis's municipal watershed. The Garden Creek Fuels Reduction Project is now ongoing and prescribed burns have been initiated under management conditions to remove and lessen fuels in the higher elevations and steeper portions of the watershed and thinning has been ongoing for two years and will continue for another year, on the lower portions of the drainage closer to private land. Slash created has been and will continue to be piled and burned. Both commercial and noncommercial mechanical treatments are being conducted to remove smaller ladder fuels from the dense timber stands. This project is 20% complete.

Basin Creek Prescribed Burn - Continue treating the landscape with prescribed fire from Basin Creek to Basin Butte Lookout including Sunday, Copper and Elkhorn Creeks just down river from Lower Stanley to reduce ground and ladder fuels. This project is 85% complete.

NE Stanley Interface – As requested by the County, continue treating bug infested timber stands northeast of Lower Stanley by salvaging dead trees and prescribe burning between cut stands to create fuels reduction areas capable of lessening chance of a crown fire moving towards Stanley. This project is 85% completed.

Eddy Basin Prescribed Burn – Continue reintroducing fire under management conditions to a fire dependent landscape in the Eddy Creek drainage west of Challis Idaho. A project suggested during the Challis Creek watershed analysis to continue creating a secondary firebreak west of Challis. This project is 30% completed.

Herd Creek Prescribed Burn – Continue prescribed burns the upper reaches of Taylor, McDonald and East Pass Creek in the East Fork of the Salmon. A project suggested in the East Fork of the Salmon River watershed analysis which is 100% completed.

Harden Loop Salvage and PICO – Ongoing projects to continue addressing the dead and dying insect and disease infested vegetated stands between the Yankee Fork of the Salmon River drainage and Banner Summit as requested by the County in the original Fire Mitigation Plan. The projects will remove, by mechanical means, dead, dying and vulnerable trees and treat the slash created.

Capehorn Road Fuels Reduction – A thinning and salvage proposal to continue removing dead and vulnerable lodgepole pine along the Capehorn road and around private land at Capehorn, Blind Boundary, and the historic Camp Bradley boyscout camp. This project supplements the Sawtooth's Red Tree project as the mountain pine beetle infestation migrates west through Capehorn. A proposed commercial removal project.

Custer Townsite Fuels Reduction - A fuels reduction project to address two forested areas up-wind from Custer. The two stands will be thinned to lessen crown density and resulting slash will be piled and burned. The purpose of this project is to keep a crown fire from running through the stands towards Custer. The historic townsite receives 30,000 visitors per year. NEPA complete.

Projects slated for the near future (1 - 5 yrs):

Lo-elly/Thatcher Fuels Reduction – A fuels reduction thinning project to work on the egress and ingress of three developed campgrounds in the Capehorn area. With the bug infestation and chance of a wildfire, the project proposes to address the dense stands of lodgepole pine by mechanically thinning along the access roads. As proposed, trees will be removed commercially.

White Knob Fuels Reduction – A fuels reduction project in and surrounding the municipal watershed for Mackay. Fuels and Stand data has been collected and projects are being developed to address the dense stands of timber, decadent sagebrush, and areas with excessive dead and down fuels on the ground. It is expected that there will be thinning done with commercial and non-commercial methods and other areas prescribe burned under management conditions.

Morgan Creek Wild – A fuels reduction project in the Morgan Creek drainage that will treat landscapes near and abutting private land. There will also be some treatment along the Morgan Creek road. Prescribed burning will occur and thinning both commercially and non-commercially is planned. The stands being treated primarily are stands of aspen and dead and dying lodgepole pine.

Bonanza Fuels Reduction – A fuels reduction project around the town site of Bonanza, the West Fork subdivision, the Bonanza Guard Station, the Bonanza Group camping site and the Volunteer group living area at Bonanza. The Potato wildfire showed how vulnerable this area is with all the dead lodgepole pine surrounding the historical site. Lodgepole pine stands would be thinned by commercial sale and the resulting slash piled and burned by the Forest Service when conditions are in prescription.

North Fork of the Big Lost Fuels Reduction – A fuels reduction project to treat dying aspen and lodgepole pine stands in the North Fork of the Big Lost River drainage. The stands would be thinned and resulting slash treated either with a broadcast prescribed burn or piled and burned.

Upper Yankee Fork Prescribed Burn – A fuels and tree reduction project planned to break up the continuous stands of primarily dead and dying lodgepole pine along the ridge between the Custer Motorway and Trapper Creek in the wilderness. The stands have dead lodgepole pine crisscrossed on the ground under standing dead and dying lodgepole pine and subalpine fir.

Sawmill Wildlife Thinning Project – A wildlife and fuels project to improve an aspen stand by removing competition from conifers and lessen chance a wildfire would move through the aspen stand. Pure aspen stands under many conditions can act as a natural fire barrier.

John Fowler
South Zone Fuel Specialist, Salmon-Challis National Forest

February 4, 2009

USDA-Forest Service, Sawtooth National Recreation Area Custer County Fuels Reduction Projects

North Zone Structures:

Planning for this project will be initiated in the fall of 2008. The intent of the project is to reduce wildfire threat to recreation residences, resorts and organizational camps on the SNRA. Additionally, a few individual homes that have not had treatment near them may be incorporated. We will continue the fuel reduction projects around clusters of homes and subdivisions. We will be working with Summer Home permittees to provide clearance around there structures.

Planning to increase prescribed fire program to begin restoring fire adapted ecosystems within Custer County and to lessen the chance of large undesirable wildfires moving from Non-WUI into WUI areas. An example of this will be the East Fork Prescribed Burn.

Bureau of Land Management, Challis Field Office
Custer County Fuels Reduction Projects
In conjunction with Custer County and the National Fire Plan
2008 Update

Projects in Progress:

- 1) **Noxious weed treatments-** BLM will continue to treat noxious weeds in WUI and non-WUI areas in conjunction with the CWMA's. This will prevent establishment of flashy fuels (ie: cheatgrass) which could increase risk of fire.
- 2) **Cheatgrass reseeding-** Projects will be to reseed areas that are or may become cheatgrass dominated sites in order to reduce or prevent hazardous fuels.
- 3) **Morgan Creek Project-** Multiple year project. Involves lop and scatter of conifer encroachment, thinning of timber stands through sales or stewardship contracts and use of prescribed fire to reduce hazardous fuels. This project is 10% complete.
- 4) **Aspen Maintenance** – Improvement of aspen stands by removing competing conifers. May involve sale of wood products, lop and scatter or girdling. Ongoing project occurring across the field office.
- 5) **Birch Creek Burn-** Wildlife habitat improvement of the Birch Creek drainage through prescribed burning. This project is 80% complete.

Projects Proposed:

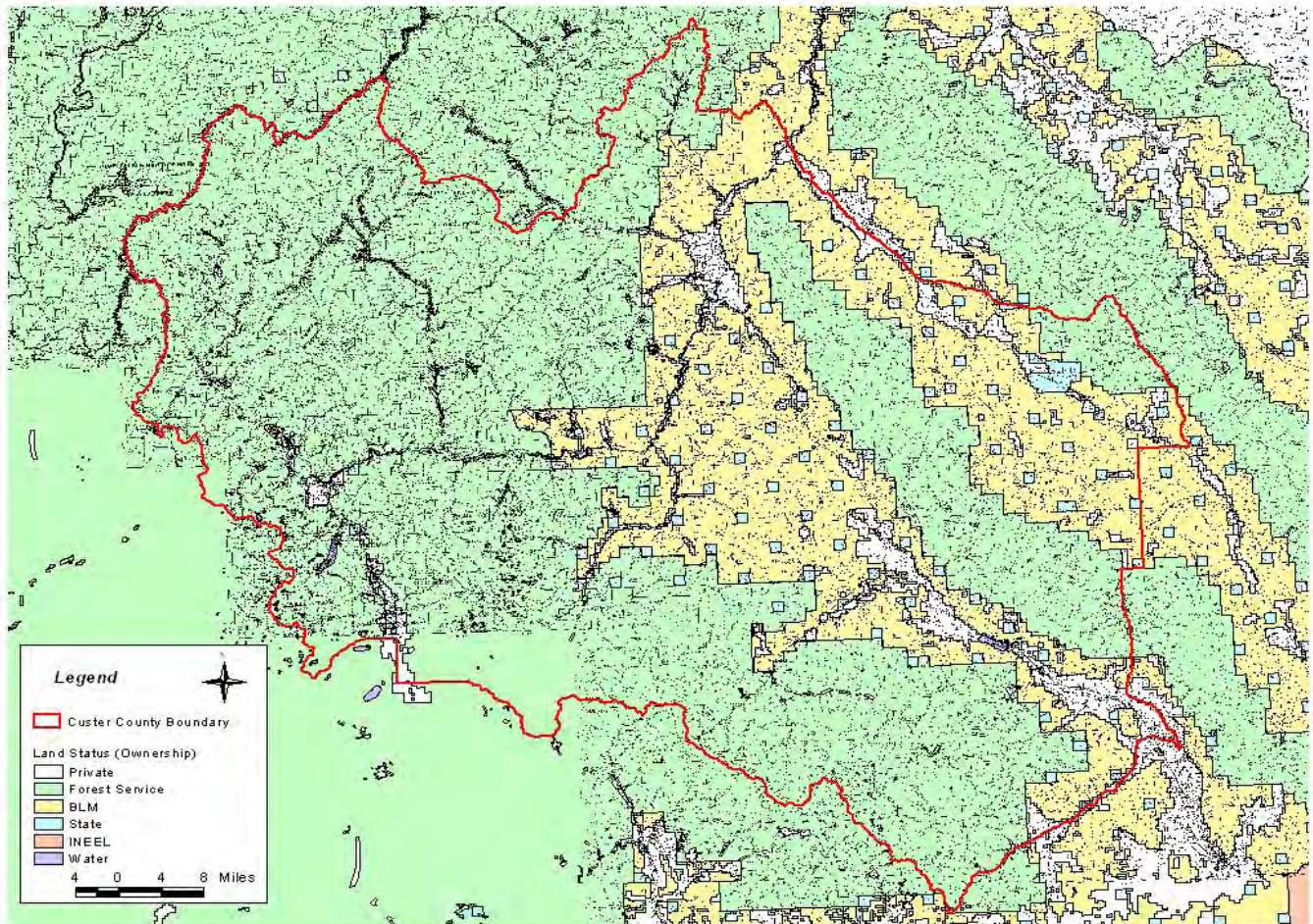
- 1) **Poverty Flat** – Whitebark pine improvement project. Involves thinning and/or burning to reduce competition.
- 2) **Sage Steppe Improvement-** Crushing of decadent sagebrush to increase perennial grass cover and young sagebrush. Sage grouse habitat improvement. Proposed projects in the Pahsimeroi and Big Lost.
- 3) **Donkey Hills Thinning and Prescribed burn** – Thinning and or burning of forested sites in the Donkey Hills to reduce hazardous fuels and promote forest health.
- 4) **Double Springs Grouse Thinning-** Reduction of hazardous fuels in the Grouse Creek area of the Pahsimeroi Valley.
- 5) **Kinnikinic/Squaw Creek Project-** Involves thinning and/or burning to promote aspen restoration. May produce commercial products.

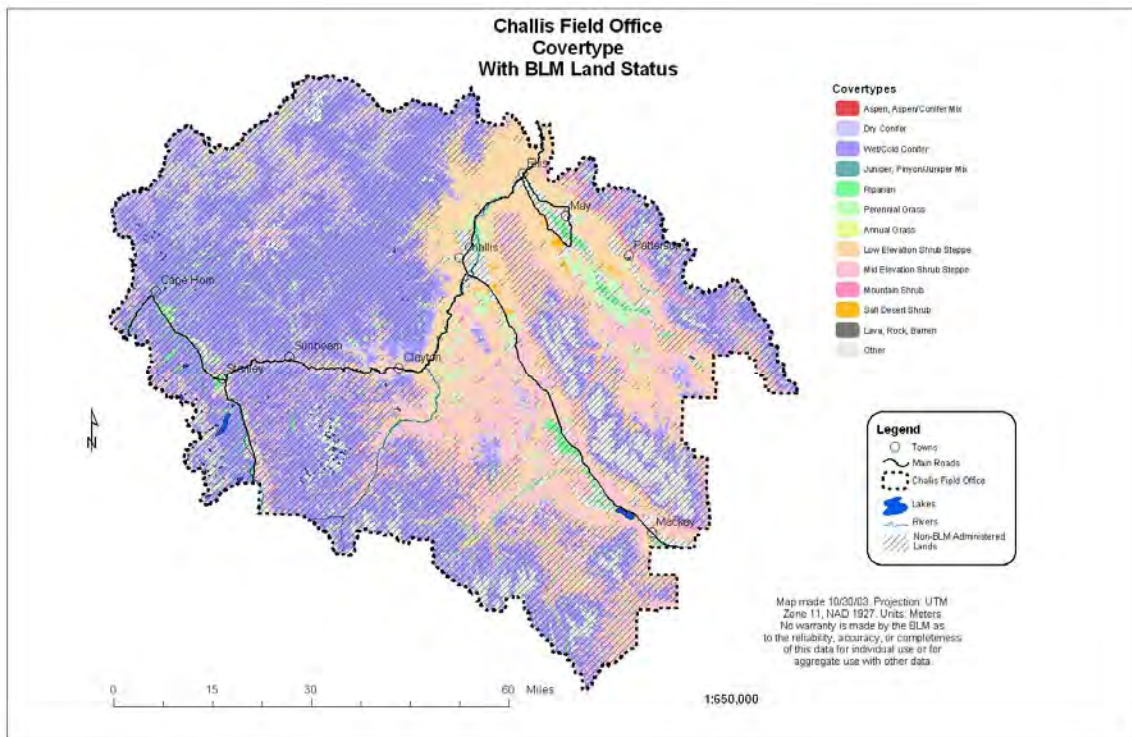
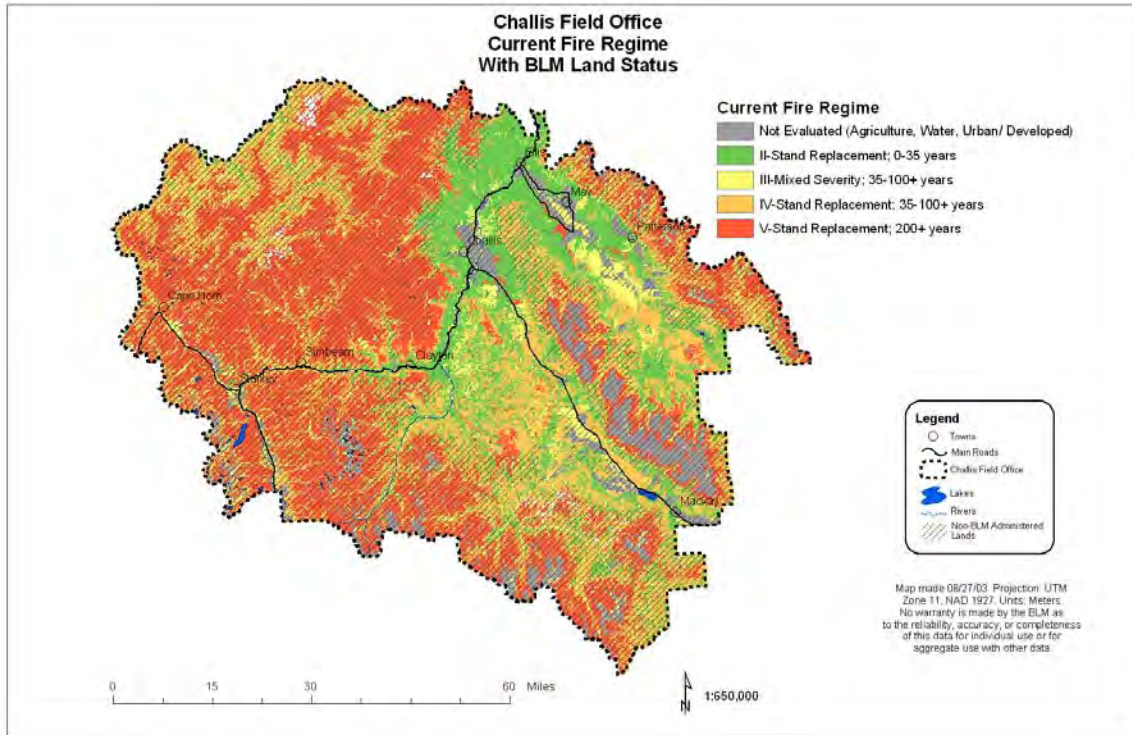
Appendix 2

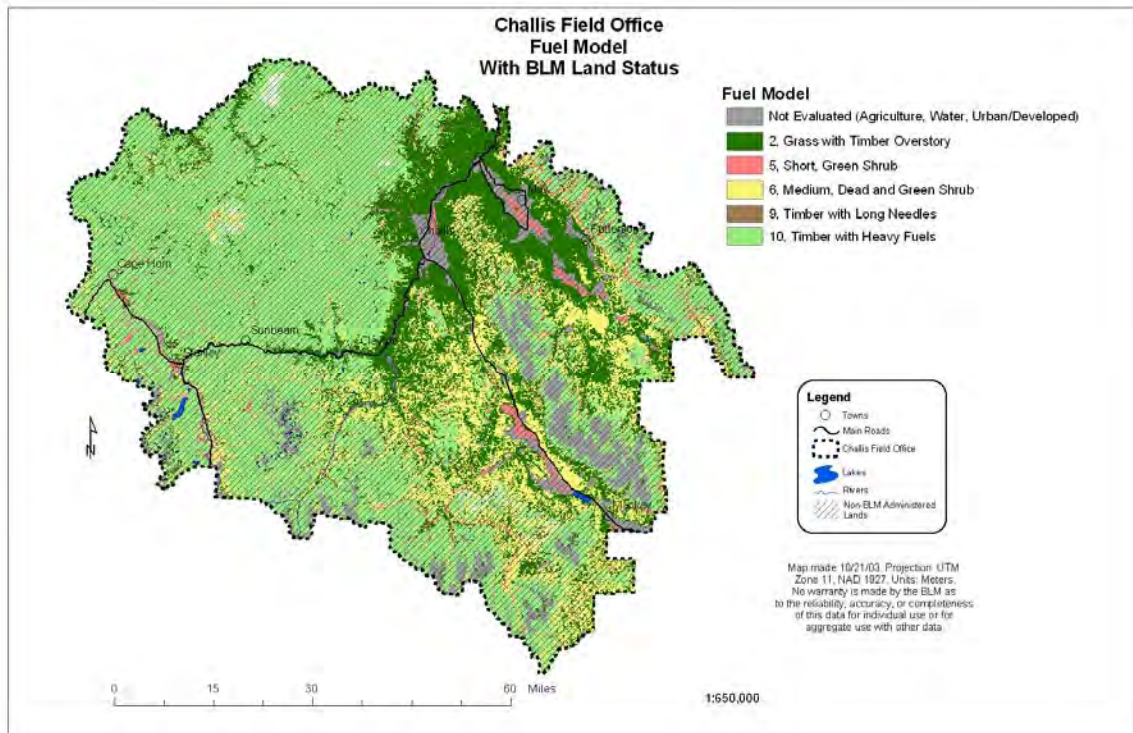
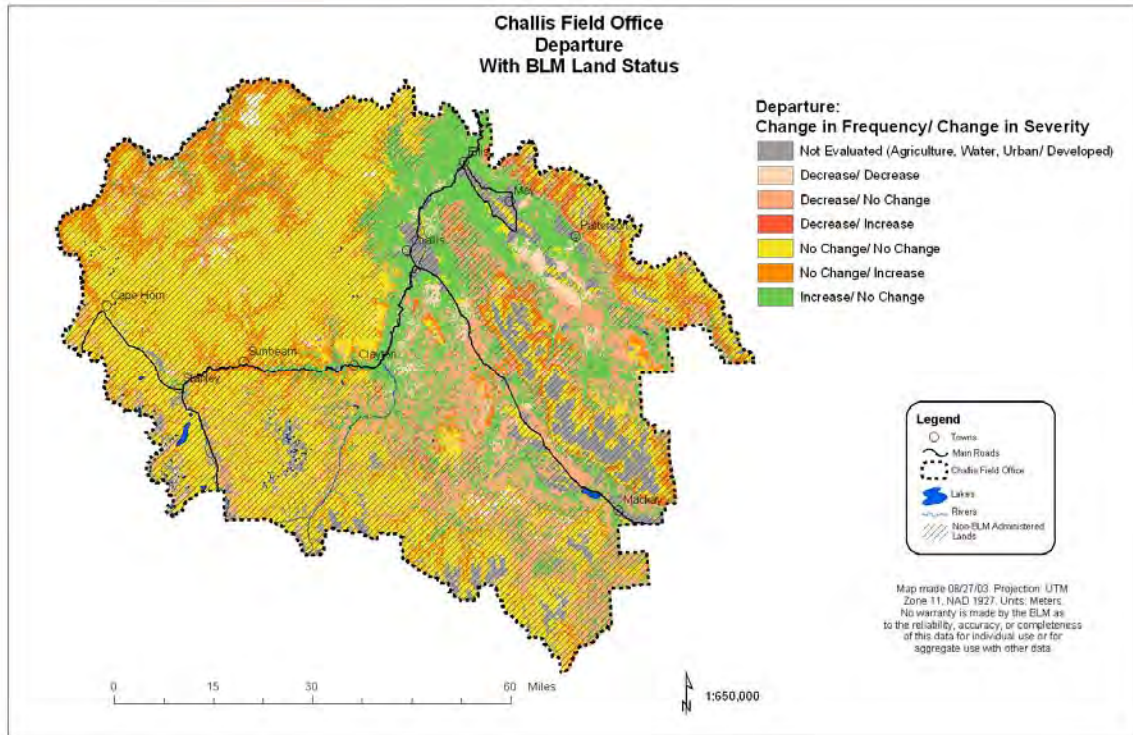
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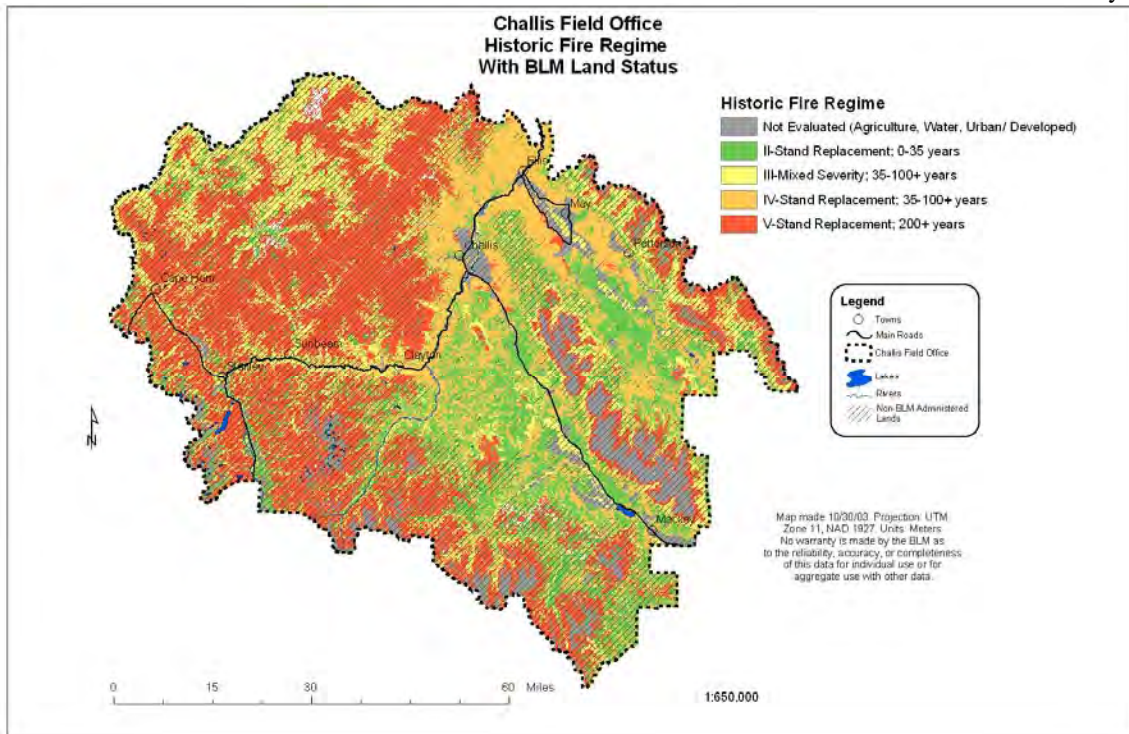
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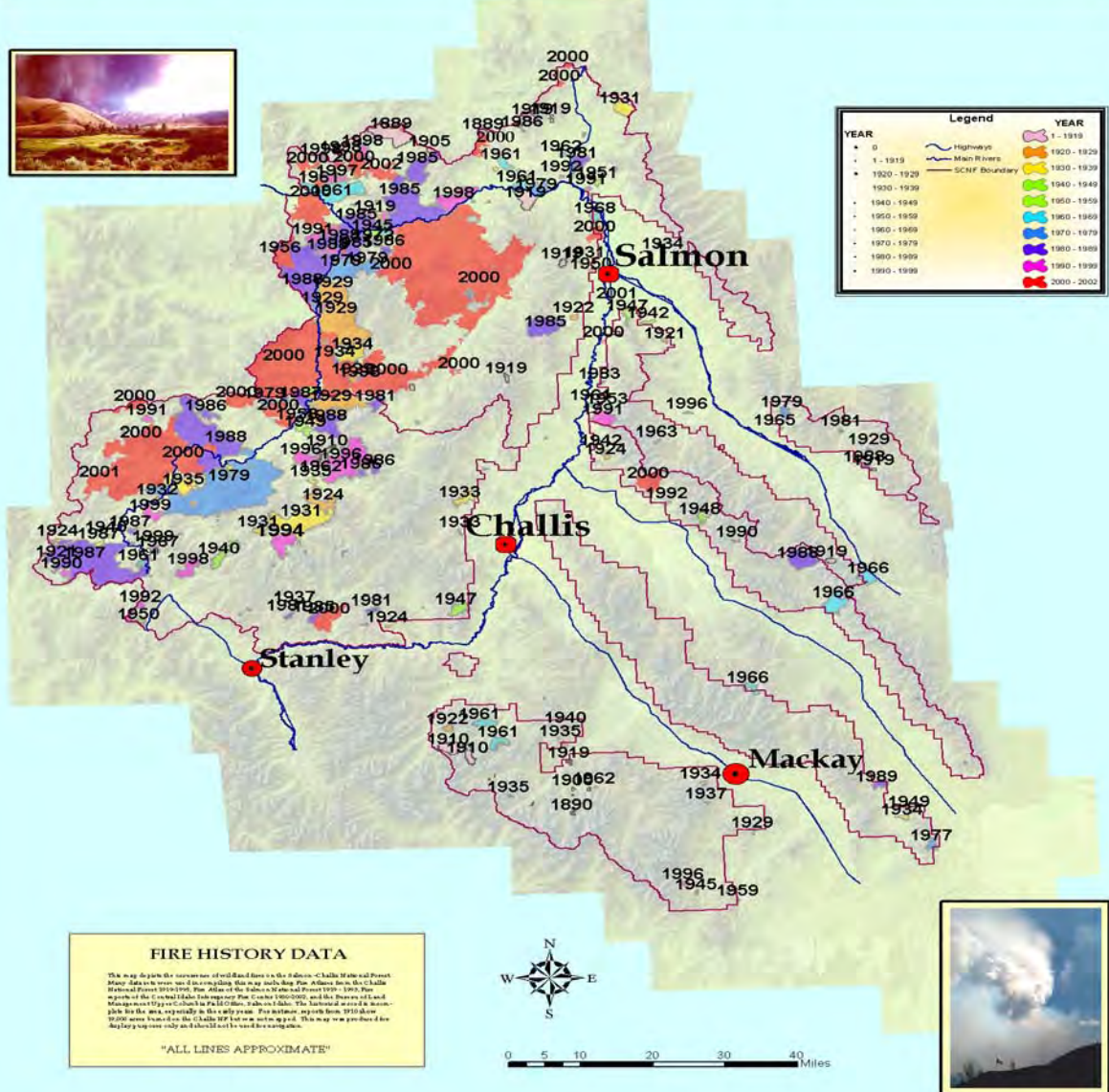








Fire History of the Salmon-Challis National Forest 1919 - 2002

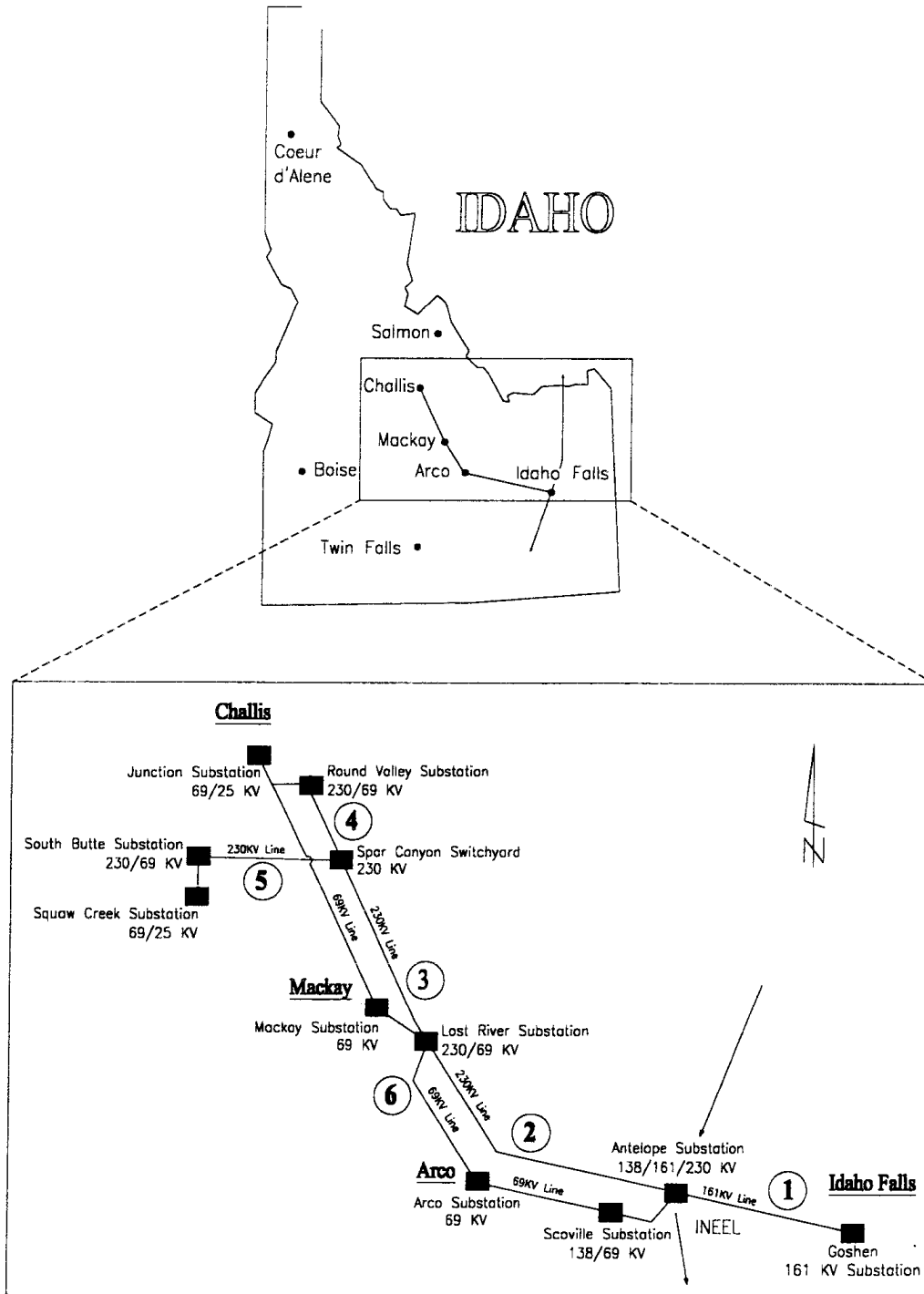


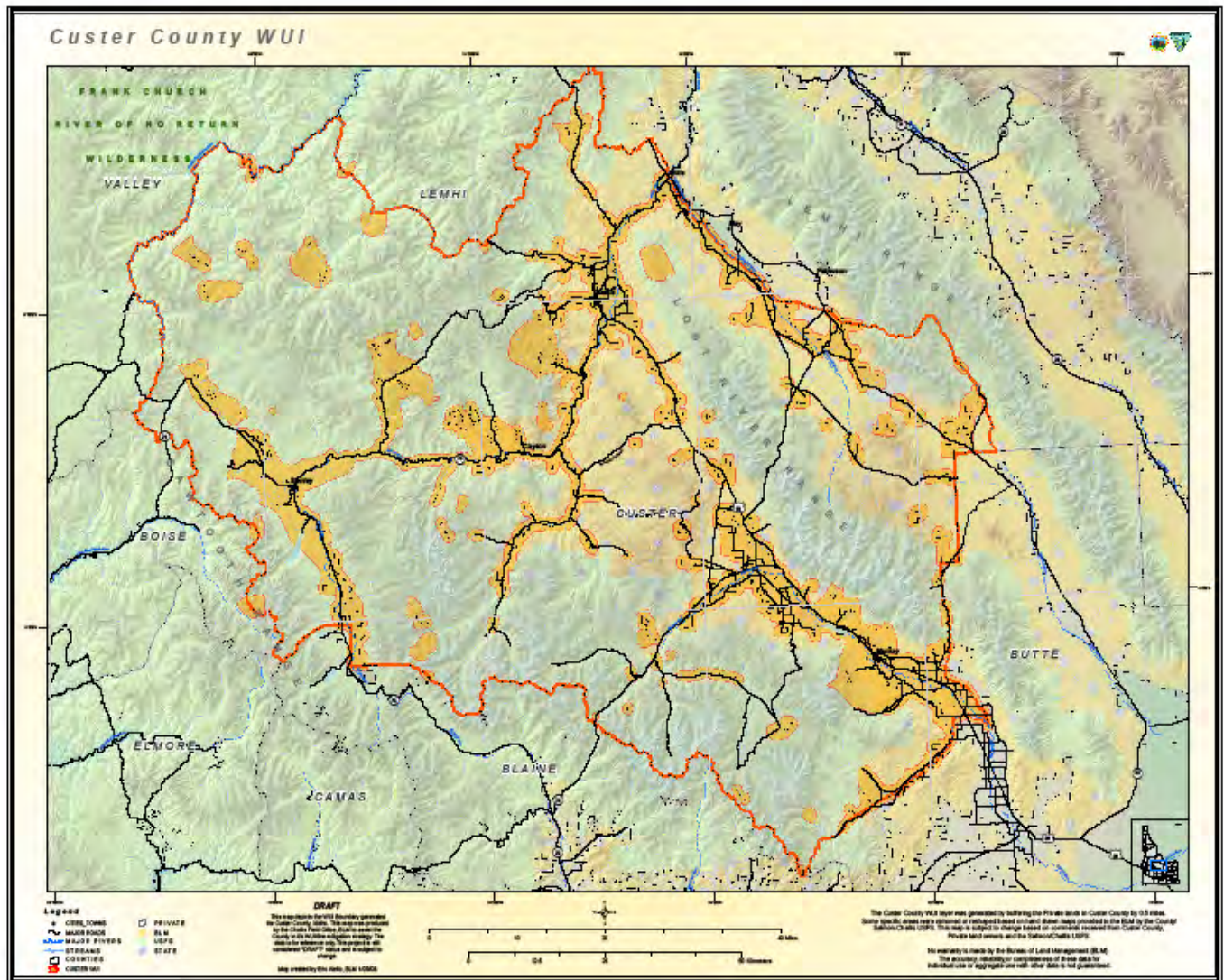
FIRE HISTORY DATA

This map depicts the occurrence of wildland fires in the Salmon-Challis National Forest. Many data sources were used in compiling this map including the Atlas Series, the Challis National Forest 1919-1999, Fire Atlas of the Salmon-Challis National Forest 1919 - 1999, Fire Atlas of the Central Idaho Intermountain Pine Conifer 1900-2000, and the Bureau of Land Management's Big Bend and Pacific States Fire Atlas. The historical record for the map is the best available in the early years. For further reports from 1910 down to 2000 were obtained from the Challis NF but were not mapped. This map was prepared by the display system only and should not be used for mapping.

"ALL LINES APPROXIMATE"







Accomplishments
since the Fire Mitigation Plan
was Established
in 2004

Appendix 3

Appendix 3

Accomplishments

- The Custer County – Idaho Wildland/Urban Interface Fire Mitigation Plan was completed in 2004 and has been reviewed and updated as required.
- Mackay and Stanley – New Fire Stations.
- Landslide prone areas of the County have been mapped.
- The Custer County – Idaho Wildland/Urban Interface Fire Mitigation Plan has been placed on County web site.
- MOU developed with EMS in the County.
- Installation of two static water supply tanks. Still more needed.
- South Custer and Mackay procured two new engines.
- Numerous trainings have been completed and more are planned in 2009 and the coming years. Inter-group (joint) training accomplished and more planned in 2009.
- Revegetation of some burned areas has occurred and more is planned for 2010.
- Mackay and south Custer combined fire departments.
- Red Tree Project in and around Stanley has had hundreds of acres of dead tree removal completed and is continuing around more subdivisions and other infrastructure.
- The Salmon-Challis National Forest (SCF) has completed 209 acres of thinning along the road and private land in Challis Creek (municipal watershed for Challis). Three hundred and fifty acres have been prescribe burned (RX) in the watershed and more thinning and RX is scheduled for 2009. A timber sale of 15 acres is available in Garden Creek with no buyers.
- Northeast of Lower Stanley, 300 acres of dead lodgepole have been removed and the resulting slash treated. RX burning has been completed on 600 acres to lessen the chance of a crown fire moving through the area.
- Prescribed burning has occurred northwest of Challis in the Eddy basin drainage to begin reducing fuel loadings across 2,600 acres.
- Eight thousand acres have been treated with prescribed fire north of Stanley between Sunbeam and Cape Horn over the last six years to introduce fire back into fire dependent communities.
- Seven thousand acres have been treated with prescribed fire in the Taylor and East Pass Creek drainages since the Fire Mitigation Plan was established.
- Timber sales have been sold in the Cape Horn area and harden Creek to remove dead and dying trees.
- Thinning and understory ladder-story removal is complete on 250 acres surrounding the Camp Bradley Boy Scout camp. A timber sale will thin the remaining stand of dead and dying lodgepole pine.
- 1050 acres of prescribed burning was accomplished in Cherry Creek to change stand structure in another fire dependent habitat.
- Seven miles of Salmon River Electric Coop transmission line were extensively cleared in 2008.

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