BITTERROOT

Community Wildfire Protection Plan

October 2009 Update

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Bitter Root Resource Conservation & Development Area, Inc.

Bitterroot Community Wildfire Protection Plan

Participated in and Reviewed by the following signatories:

Chief – Corvallis Fire District	Chair – Conservation District
Chief – Darby City Rural Fire District	Commissioner Chair- Ravalli County
Chief – Florence Rural Fire District	Commissioner – Ravalli County
Chief – Hamilton Volunteer Fire Dept.	Commissioner – Ravalli County
Chief – Painted Rocks Fire District	Commissioner – Ravalli County
Chief – Pinesdale City Fire Department	Commissioner – Ravalli County
Chief – Stevensville Volunteer Fire Dept.	OEM Coordinator – Ravalli County
Chief – Stevensville Rural Fire District	Supervisor – Bitterroot National Forest
Chief – Sula Rural Fire District	Manager – Hamilton Unit, DNRC
Chief – Three Mile Rural Fire District	President – Bitter Root RC&D
Chief – Victor Rural Fire District	Forester – Bitter Root RC&D
Chief – West Fork Volunteer Fire District	Sheriff – Ravalli County
	Wildland Urban Interface Task Force

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Our Purpose

The Bitter Root Resource Conservation and Development Area, Inc. received a grant from the USDA Forest Service – State & Private Forestry to facilitate the development of a Community Wildfire Protection Plan, or "Community Fire Plan."

Diverse groups of valley residents met repeatedly during the winter of 2002-2003 to brainstorm and prioritize potential actions to address the most pressing issues that affect the Valley's ability to reduce the risks associated with wildland fires. The strategy was a cooperative effort of volunteer fire chiefs, county officials, conservationists, community-based non-profit organizations, realtors, tourism and timber industry leaders, federal and state land managers, business people, and interested residents.

The purpose of this plan is to position fire protection agencies, county leaders, rural communities, valley residents, and forest owners and managers to be better prepared to protect the County's residents and its natural resources from the potentially devastating impacts of wildfire and promote the natural role of fire in the ecosystem.

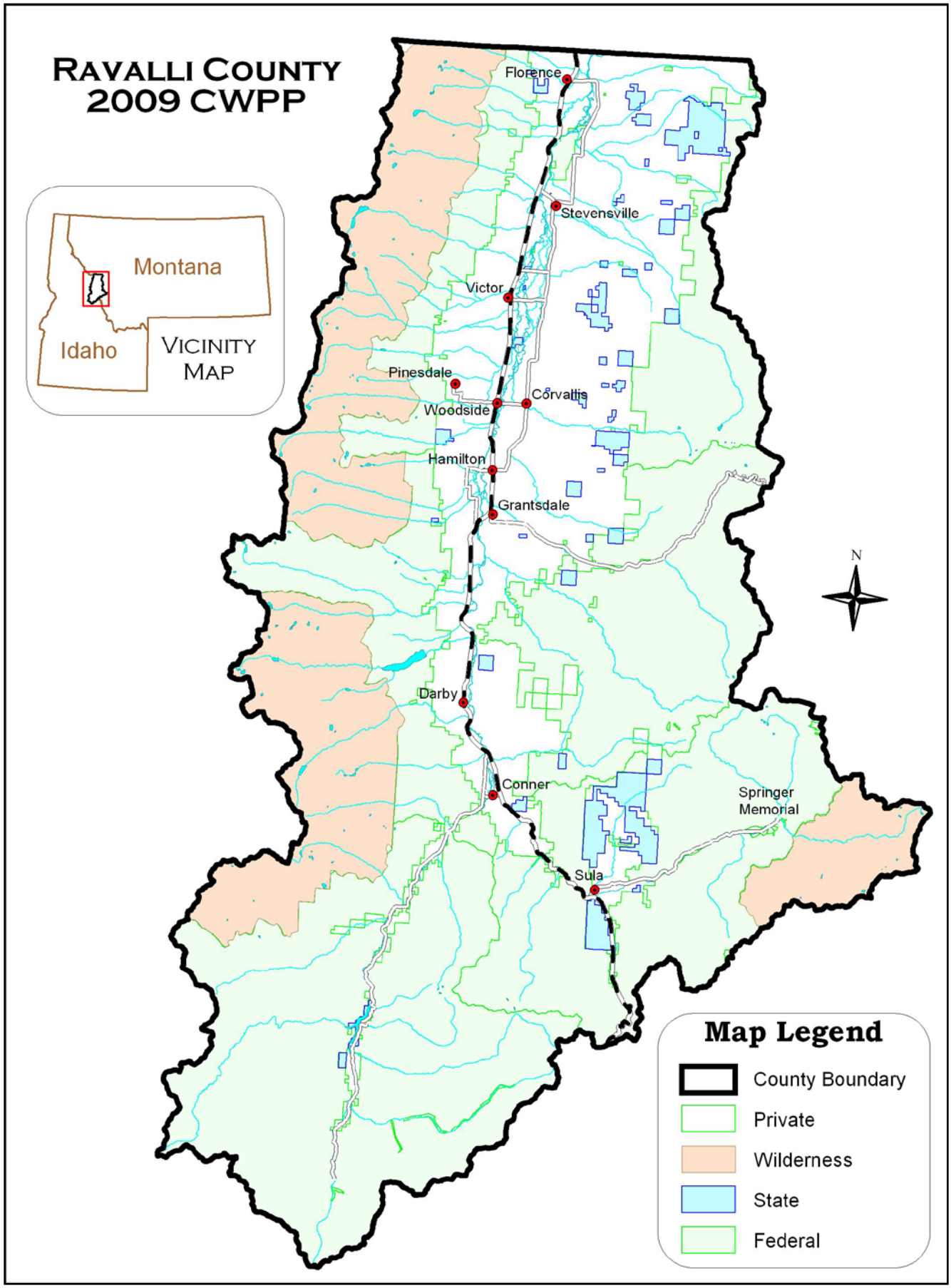
The Community Wildfire Protection Plan (CWPP) identifies and serves the following At-Risk Ravalli County communities: Florence, Stevensville, Victor, Pinesdale, Corvallis, Hamilton, Darby, West Fork, Sula, and other areas where numerous residents live in the Wildland Urban Interface in Ravalli County. The resulting revised CWPP reflects consensus among those who participated in its development, updates and among those who, by signing, support the approaches outlined within.

Issues and actions fit into one or more of four primary areas of emphasis. These four primary areas of emphasis are also the main emphasis items identified in the National Fire Plan 10 year Comprehensive Strategy and in the Healthy Forest Restoration Act of 2004:

- Fire Prevention and Suppression
- Hazardous Fuel Treatment
- Restoration of Fire-adapted Ecosystems
- Community Assistance

Our plan is founded on, and will guide the implementation of, the National Fire Plan and the related 10 Year Comprehensive Strategy and Implementation Plan, in the Bitterroot Valley.

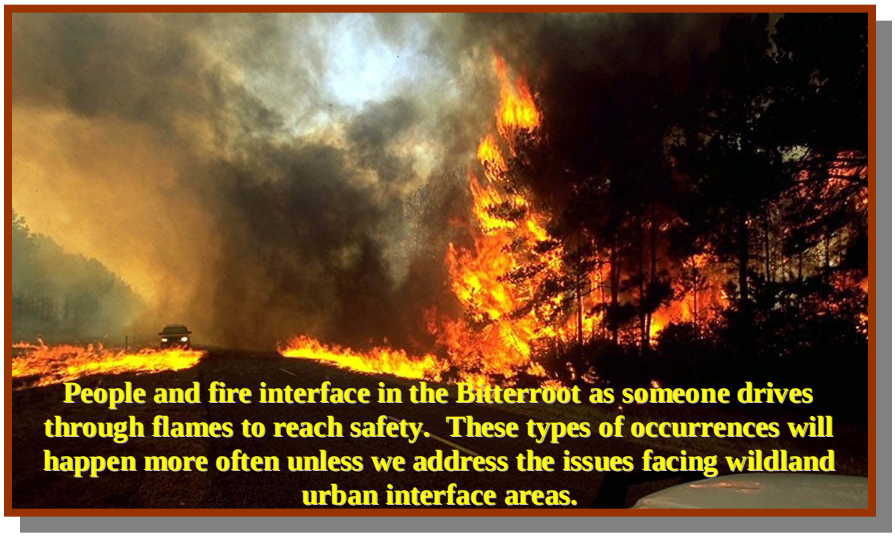
This plan is intended to be an adaptive document; one that will continue to be updated annually or as needed, to reflect our accomplishments and the newly emerging needs, issues, and opportunities surrounding wildland fire management in Ravalli County. The Bitter Root RC&D, Bitterroot National Forest, St. of Montana DNRC, Wildland Urban Interface Task Force, and All Valley Fire Council will share responsibility for facilitation of annual updates. Our CWPP has been updated to reflect the accomplishments of our collaborative efforts this past year, our community's most current priorities for the coming year, as well as the guidance provided by Congress in the Healthy Forest Restoration Act. Reference the Ravalli County Vicinity Map on the next page to view area covered by this CWPP. Also, reference Map #1 in appendix E to view land ownership within Ravalli County.


RAVALLI COUNTY
2009 CWPP
Montana
Idaho
VICINITY MAP
Florence
Stevensville
Victor
Pinesdale
Corvallis
Woodside
Hamilton
Grantsdale
Darby
Conner
Springer Memorial
Sula
N
Map Legend
County Boundary
Private
Wilderness
State
Federal

Our Challenge

Few areas in the West have been harder hit in recent years by wildfire than the Bitterroot Valley. During the 2000 fire season, wildland fires burned over 356,000 acres of federal, state, and private lands in and near Ravalli County. More than 1,500 people in Ravalli County were evacuated from their homes. Private property losses were high ranging in the millions of dollars. There were 70 homes, 170 other structures, and 94 vehicles consumed by the fires. Millions of dollars were spent on the suppression efforts with more than 10,000 people supporting our firefighting efforts. Suppressing the fires is only the beginning. Rehab and recovery can take a decade or more and require additional financial resources.

While catastrophic, the magnitude of wildfire in 2000 and again in 2002, 2003, 2006, and 2007 was not entirely unexpected. According to the Federal Wildland Fire Management Policy and Program Review adopted by the Federal land management agencies in December 1995, "nearly every state has experienced wildland urban interface fire losses." The Federal Fire Policy further states that the wildfire hazard "has become a major fire problem that will escalate as the nation moves into the 21st century…it is clear from recent episodes that losses will increase in the future".



People and fire interface in the Bitterroot as someone drives through flames to reach safety. These types of occurrences will happen more often unless we address the issues facing wildland urban interface areas.

Following the 2000 fire season, Congress has supported the development of the "National Fire Plan" and the "Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment's 10-Year Comprehensive Strategy and Implementation Plan" by the many state and federal agencies involved with wildland fire management. Our Community Wildfire Protection Plan is tiered to these national plans and strategies, and reflects how entities within the Bitterroot will collaborate to accomplish the goals established in the national policies and direction.

Decades of fire suppression have altered the fire dependent ecosystem in which we live, and have inadvertently created heavy fuels that are more susceptible to intense burning. Despite the number of acres burned in 2000, over 1.3 million acres of state, private, and national forest land in the Bitterroot are in a condition that could contribute to future catastrophic wildfires. Map #5, Insects and Disease & #6 Condition Class in Appendix E have been updated to reflect current conditions, and illustrates the susceptibility of forests within the valley to intense wildfire, based on the condition, density of vegetation, and insect and disease infestations.

Fires originating in relatively remote areas can be driven by winds for long distances in a short time. The east-west orientation of many of the drainages in the Valley coupled with the prevailing westerly winds and the historic lightning patterns often support fires that start on National Forest lands and, when the conditions are right, move into the wildland-urban interface where they may threaten private property. Recent examples of fires that burned into the wildland-urban interface, and required evacuations of private lands include the Gash Fire of 2006, and the Rombo Fire of 2007. Both of these fires were long-term events that displaced homeowners from their residences for days. Reference Appendix E Maps #4, Large Fire Occurrences to see patterns of fire starts and historic large fires.

Census data from 2000 establish that Ravalli County is the fastest growing county in Montana. Many of the new homes in the County are being constructed in the wildland-urban interface and as more people move into the interface, the potential impacts from wildland fires increase, as does the complexity of protection issues faced by fire protection agencies. Map #3, Ravalli County Rural Fire District Boundaries in Appendix E illustrates the proximity of populated areas within the valley, to areas of heavy fuels on forested lands.

After the wildfires of 2000, 2002, 2003, 2006 and 2007, many valley residents better understood the potential risks associated with living in a fire-dependent ecosystem. Many anticipate that it is a matter of time before another serious wildfire season again threatens homes and communities in Ravalli County. In order to protect lives and property when the fires do occur, residents and community leaders developed this strategy to identify the proactive actions, which can be taken to mitigate the risks as much as possible, thus better preparing people in the Bitterroot Valley for the potential of future wildland fires.

Resources for fighting fire will continue to be taxed as we move into the implementation of National Fire Plan goals.

Defensible space around a home is not a guarantee of success but it does increase the odds of a home being able to withstand the combined effects of wildfire.

BIRT-MAC Meeting, Spring 2001

Strategic planning has been demonstrated in community meetings all over Ravalli County to help develop this Community Wildfire Protection Plan. Revision and implementation will continue through the combined efforts of community groups and organizations.

Our Strategic Actions

The issues and actions developed by our community teams fit into one or more of four primary areas of emphasis. These four emphasis items are:

- Improve Wildland Fire Prevention and Suppression
- Reduce Hazardous Fuels
- Restoration of Fire-Adapted Ecosystems
- Community Assistance

Within each area of emphasis, one or more actions are designed to address the need or the opportunity identified. None of the collaborating entities, which have signed this document, are formally required to support these actions, but rather are agreeing that as resources can be secured, these actions are worth pursuit.

Leadership to guide the implementation and monitoring of this strategic plan will be provided by the Ravalli County Wildland Urban Interface (WUI) Task Force. Information about how to become more involved with this strategic plan and with the WUI Task Force can be secured from the Bitter Root RC&D.

The areas for which we emphasize action for the Bitterroot Valley relate directly to one or more of the four goals established in National Fire Plan's 10-Year Comprehensive Strategy & Implementation Plan. Refer to Appendix A, Frequently Asked Question #8 for a further discussion of the relationships between our goals and those of the National Fire Plan.

Note: The CWPP was also updated/revised after the first year (spring 2004). The new "Preparing a Community Wildfire Protection Plan" handbook for Wildland-Urban Interface Communities guidelines were incorporated into the update of our fire plan.

These participants on a fire camp tour are the future generation that we hope will benefit from our strategic planning and follow-through actions.

Fuel conditions in the Bitterroot Valley have changed over several decades due to exclusion of fire, as shown in these two photos. The left photo was taken in 1909. The right photo was taken from the same photo point in 1989. Many ponderosa pine stands in the WUI are in the same hazardous condition as the 1989 photo, ripe for a catastrophic fire.

A. Improve Wildland Fire Prevention and Suppression

Public and firefighter safety is the first priority in all wildland fire management activities. The intent of the Community Wildfire Protection Plan is to improve Federal, State, and local firefighting resource capability and readiness to protect Ravalli County communities from wildland fires. There is a need to reduce the risks to homes and private property by expanding outreach and education to homeowners and communities about fire prevention and "FIREWISE" principles. The DNRC and US Forest Service have most of the wildland fire prevention education and suppression responsibilities in the Valley. Each Ranger District has a prevention technician and fire suppression personnel.

Ravalli County has 12 Volunteer Fire Departments serving 13 Fire Districts. The Ravalli County Fire Council, a cooperative organization with representatives from each of the volunteer departments, works to resolve issues common to all of the members. The elected president of the fire council acts as the county fire warden and the main coordinating agent between the volunteer fire departments, county officials, and other fire agencies.

The accomplishments since 2004 for Fire Prevention and Suppression can be found in the notes & updates section of each action item table.

Action Item A-1: **Communication between Fire Council and County Commissioners**			
Description	During the development of this strategic plan, members of the All Valley Fire Council realized they should discuss several topics with the County Commissioners. A primary need is to discuss the status of the properties and residences that are not in a fire district, and approaches to communicate with the landowners and achieve broader coverage.	**Resources Needed**	**Who is Responsible**
Tasks	Work with the County Commissioners to: Add statement "No Structural Fire Protection" to tax statement for residents who are not located within a fire district nor served by a volunteer fire department. ********** Send a letter from County Commissioners to unprotected property owners explaining their "non-protected" status, ramifications of the status, and process for changing status if desired.	Support to prepare materials for presentation(s)	The President of the All Valley Fire Council with support from the RC&D Community Forester
Notes & Updates	**Accomplishments:** This action item has not been accomplished to date.		

Each Fire District needs to identify potential sites and priorities for water sources (pump stations, more tenders, dry hydrants, and/or wet hydrants); map existing water sources; identify needs where water sources are not adequate, and negotiate with landowners to secure access to water or develop new water sources.

Volunteers need to be trained to meet ICS standards and their training and qualifications entered into the ICS system as appropriate. The goal is to qualify and make available more instructors within departments to teach basic and intermediate wildland fire classes up through engine and crew boss. Most volunteers spend 2 to 4 hours a week in training at their department, not counting weekends and outside classes. Classes need to be scheduled to meet the volunteer's schedules, and compensation should be considered for missed work during the week. Many higher level classes, Strike Team Leader and above, are only scheduled during the week. Where internal instructors cannot be found, grants should be requested to bring in outside instructors. An additional goal is to qualify more fire fighters at Strike Team Leader and IC3 levels. Explore options to send and compensate fire fighters to higher-level wildland classes (Strike Team Leader and above).

In order to attract new volunteers, incentives such as exemption from jury duty or state tax exemption need to be explored. Nearly all of the volunteer fire departments have a continuous need to recruit additional fire fighters**.**

Each fire district should have an urban interface engine to be able to respond to fires that may be inaccessible to larger equipment. There is a continual need to upgrade or replace PPE (fire shelters, hand radios, etc.).

Action Item A-2: **Volunteer Fire Department needs**			
Description	Each fire district operates on tax monies generated by a mill levy, donations, and grants. The need for training, equipment, resources, and public education is continuous.	**Resources Needed**	**Who is Responsible**
Tasks	Identify and develop additional water sources in each fire district to protect resources. ********** Improve VFD wildland fire and structural training opportunities. ********** Develop an outreach strategy to attract & recruit additional volunteer fire fighters. ********** Upgrade VFD firefighting equipment. ********** Continue to provide grant research and writing assistance to VFD's. ********** Provide technical Tools to allow VFD's to access County GIS data. ********** Allow for more opportunities for local VFD's to participate in prescribed fire opportunities in support of private land fuel reduction activities with the USFS on projects adjacent to private land on National Forest.	Funding source to support the activities. Unify grant writing capability within VFD's	Each Fire Chief using his/her VFD with staff support from RC&D grant writer as available if needed.
Notes & Updates	**Accomplishments:** Each Volunteer Fire Department has been working on their own to secure grants for equipment purchases and providing training for their people.		

Sula Volunteer Fire Department worked in partnership with the Bitter Root RC&D Department of Labor crews to finish a hazardous fuel removal project in Springer Memorial, Sula, MT. This project is adjacent to a completed USFS hazardous fuels removal project. This type of collaboration is successful and we hope to see it expand throughout the valley.

Action Item A-3: **Monitor and update County Pre-disaster Mitigation Plan**			
Description	While there are many organizations with their own policy and procedures, there is a continuing need for one coordinated plan for the Valley. A coordinated approach with clear roles and expectations would enable all emergency response units to work more efficiently together.	**Resources Needed**	**Who is Responsible**
Tasks	Keep state and local emergency response plans on file. ********** Work with Local Emergency Planning Committee (LEPC) to guide coordination for Ravalli County. ********** Review and update as needed Ravalli County Disaster and Emergency Services plans for operating procedures and/or standards. ********** Incorporate the CWPP into the County Pre-disaster Mitigation Plan		County OEM Coordinator
Notes & Updates	**Accomplishments:** The Ravalli County Pre-Disaster Mitigation Plan has been completed and approved.		

Action Item A-4: **Review and Revise the Mutual Aid Agreements.**			
Description	Mutual aid agreements exist between many of the cooperators in the Valley. These need to be reviewed on an annual basis and updated if necessary.	**Resources Needed**	**Who is responsible**
Tasks	Identify all mutual aid agreements. ********** Review to determine status and need for updates. ********** Coordinate updates and new signatures.		VFD's, FS, DNRC, County Commissioners
Notes & Updates	**Accomplishments:** A review has been completed and updates are done on an as needed basis between the U.S. Forest Service, the All Valley Fire Council, and the DNRC.		

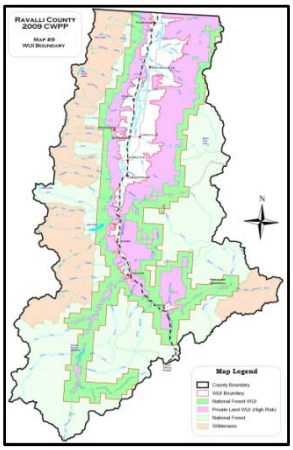
More than a dozen organizations and agencies can be involved in emergency responses in Ravalli County yet there is no centralized communication strategy for the Valley. Each organization has communication and coordination needs and capabilities that do not always mesh with other groups. Each group has been meeting its needs the best it can but all recognize that sharing resources and defining responsibilities is critical in the event of another catastrophic wildland fire in the Valley.

Action Item A-5: **Initiate efforts to develop a Communication Plan for Ravalli County**			
Description	Initiate a comprehensive review of communication capabilities among emergency responders throughout the valley.	**Resources Needed**	**Who is Responsible**
Tasks	Identify communication coverage and equipment that is currently in place. Inventory equipment to identify narrowband compatibility. Create plan and deadlines for transitioning to narrowband public safety radio system. ********** Continue upgrading of radio system to enable all emergency services to communicate to dispatch with mobile radio coverage of 95% of geography and 97% of roadways in Ravalli County. ********** Explore potential communications sites and equipment that can be utilized to upgrade the communications system. Identify funding sources for upgrade projects.		The Ravalli County 911 Advisory Board Ravalli County 911/OEM Ravalli County OEM
Notes & Updates	**Accomplishments:** Ravalli County is currently a member of the Western Interoperable Communications Consortium (WICC) along with four other counties. Upgrades to the radio system have continued, including replacing many of the mountaintop repeaters with P-25 compliant units and a frequency cutover and equipment upgrade of dispatch equipment to enable simultaneous communication of any of four fire, EMS, and Law channels. Planning has begun for the transition to narrowband channels that is federally mandated in 2013. Planning has begun for a potential remote site that will improve radio and digital paging coverage for the valley.		

Action Item A-6: **Bitterroot N.F. – Develop Stevi West Wildland Fire Response Guide**			
Description	The Bitterroot N.F. will develop a Wildland Fire Response Guide in cooperation with Ravalli County, local Volunteer Fire Departments, Bitter Root RC&D, DNRC, and other agencies. This guide will address specific guidelines on the management of wildland fire from Big Creek to Lolo along the Bitterroot Face on National Forest system lands. This guide will be coordinated and become a part (addendum) of this Bitterroot Community Wildfire Protection Plan	**Resources Needed**	**Who is Responsible**
Tasks	Identify the planning area and include the affected VFD's. ********** Produce a display that explains the need for a comprehensive response plan for the planning area utilizing lessons learned from past fires. ********** Assign a team leader for the over-all project. ********** Develop a "course of action" and timeline to complete the response plan and CWPP. ********** Develop public/cooperator involvement plan and implement. ********** Determine the need to conduct a NEPA analysis to develop the response plan. If NEPA is needed, implement process. ********** Coordinate the development of the response plan with the development of the Bitterroot CWPP and incorporate appropriate information into the CWPP.		Bitterroot Forest, VFD's, RC&D Bitterroot Forest personnel Bitterroot Forest & Regional Office (RO) Bitterroot Forest, RO, & RC&D Bitterroot Forest Bitterroot Forest and RO Bitterroot Forest, Team Leader, RC&D
Notes & Updates	**Accomplishments:** The process for development of the Stevi West Wildland Fire Response Plan has begun. Currently coordination is taking place to accomplish all of the tasks outlined under this action item.		

Action Item A-7: **Develop Population Protection Plans for all Rural Volunteer Fire Districts in Ravalli County**			
Description	Develop Population Protection Plans (POP plans) for all Rural Volunteer Fire Districts in Ravalli County addressing evacuation plans, ingress and egress issues, and other pertinent information.	**Resources Needed**	**Who is Responsible**
Tasks	Designate a team leader for leading the effort for development of the POP plans with the individual fire districts ********** Coordinate with all Ravalli County fire districts the need for development of these plans. ********** Include the Ravalli County Sheriff's Office and the County DES Coordinator in the development of the POP plans. ********** Communicate the need for POP plans with the County Commissioners. ********** Coordinate the development of the POP plans with the Stevi West Response Plan development in order to ensure both efforts are addressing the issues that are similar in scope. ********** Utilize existing POP plans as a template for the development of additional plans. Maintain consistency of POP plans developed by all fire districts.		RFD's, Bitterroot Forest, County Team Leader Team Leader, RFD's Team Leader Team Leader, RFD's, Bitterroot Forest, RC&D Team Leader, RFD's, Bitterroot Forest
Notes & Updates	**Accomplishments:** There are some POP plans that have been developed as a result of the 2006 Gash Creek fire and some older plans that were developed during the 2000 fire season for several fires in the Bitterroot Valley.		

Action Item A-8: **Develop a Map of the Wildland-Urban Interface for Ravalli County.**			
Description	The 2009 Montana legislative session passed an act, SB 131, which requires the Department of Natural Resources and Conservation to designate the wildland-urban interface in each county within the state. The act encourages each county to develop a map that designates the WUI boundaries. If Ravalli County fails to designate the WUI boundary by January 1, 2011, the DNRC is authorized to establish a WUI boundary for Ravalli County.	**Resources Needed**	**Who is responsible**
Tasks	The Bitterroot RC&D will facilitate the completion of the WUI map within Ravalli County as a process during the 2009 update of the Bitterroot Community Wildfire Protection Plan. The RC&D will develop a draft WUI map of those areas where flammable wildland fuels are adjacent to homes and communities. The RC&D will meet with each individual Rural Fire District Chief to review the draft WUI map. The Ravalli County RFD Chiefs will be responsible to designate the final WUI map boundaries within their respective fire district. RC&D will also work with the Bitterroot National Forest and DNRC to determine the WUI boundaries on BRF and state lands adjacent to private lands.		RC&D, RFD's, USFS, DNRC, County Commissioners
Notes & Updates	**Accomplishments:** The process to develop a WUI map for Ravalli County has been followed as described above (refer to appendix D for further exploration of the WUI mapping process). The map has been completed. The map should be reviewed for needed modifications during the CWPP update process.		



This map to the left shows the Wildland Urban Interface for Ravalli County as it was mapped in 2009. Refer to Map #9 in appendix E to view the WUI at a larger scale.

B. Reduce Hazardous Fuels

Treatment of hazardous fuels is one of the most proactive ways to reduce the potential impacts from wildland fire. Treating fuels reduces the fire risk in an area, while increasing the chance that fire protection agencies can control a fire before it gets out of hand. Defensible space practices and forest fuel treatments are effective ways of protecting residential homes, neighborhoods, communities, and watersheds.

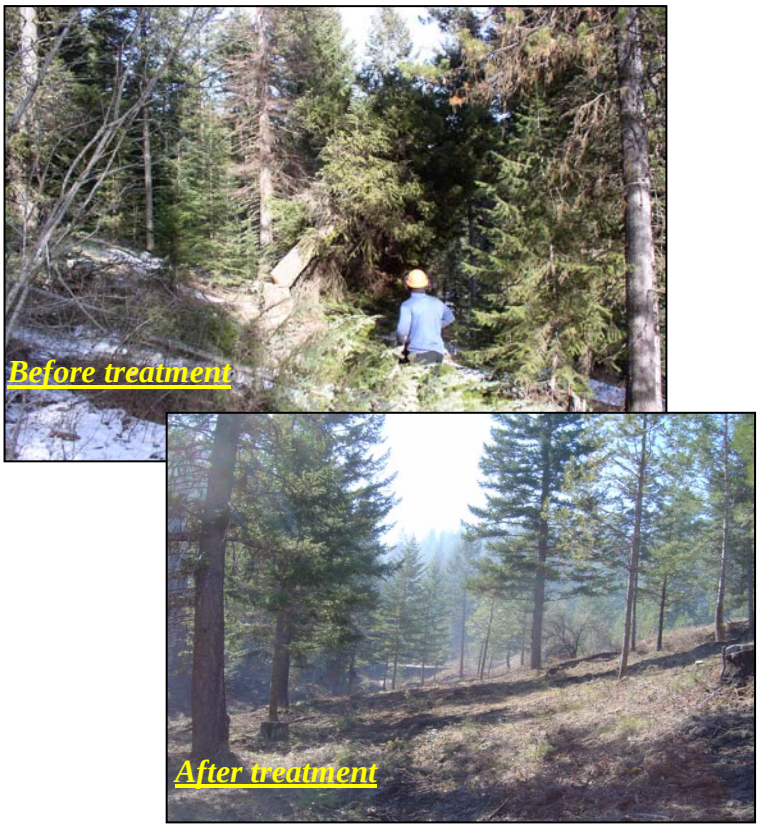
Tens of thousands of acres of fuel treatment have occurred on private, state, and federal lands over the past decade but there is much more to do. One study done by the Montana DNRC and the Forest Service estimated over 162,000 acres of high-risk forested areas within the Valley's interface need some kind of treatment to adequately lower fire risk and protect area residents. Once treated, regular maintenance is necessary to maintain the conditions that contribute to lower fire risks.

Final selection of areas to be treated will be the responsibility of the landowner or land manager, but the decision will be guided by collaborative input generated by this process. This process will be particularly instrumental in determining where potential grant dollars or funds allocated to agencies should be invested. Map #7 and #8 in Appendix E shows the planned hazardous fuel treatment areas on the Bitterroot National Forest near the Wildland Urban Interface and the completed hazardous fuel treatment areas in the past 10 years on Bitterroot National Forest and those treated on private lands through grant programs administered by the Bitter Root RC&D since 2001.

Accomplishments for Reducing Hazardous Fuels can be found in the notes & updates section of each action item table.

Hazardous fuels reduction projects that cross ownership boundaries reap the greatest benefit. This photo shows the fuel reduction area that borders private and federal lands in the Springer Memorial area. We will continue to look for projects that cross the boundaries of private, state, and federal land.

Action Item B-1: **Identify, Maintain, & Update High Priority Fuel Treatment areas within the WUI for Hazardous Fuel Treatment and revise as needed.**			
Description	The VFD's, State, and Federal agencies should work together to identify hazardous fuels projects in high-risk areas within the valley.	**Resources Needed**	**Who is Responsible**
Tasks	Continue identifying and updating the high risk/hazard areas within the WUI in the Bitterroot Valley. ********** Utilize GIS technology to map & display the high risk/hazard areas. ********** Establish criteria to guide prioritization of high risk/hazard areas within the WUI for hazardous fuels treatment. ********** Continue to apply the criteria to guide prioritization of areas to be considered for treatment.	Personnel to evaluate and identify high-risk areas; GIS technical assistance to map the areas;	VFD's, DNRC, Forest Service, RC&D Community Forester
Notes & Updates	**Accomplishments:** The private land high-risk areas within the WUI were updated during the spring of 2009 as a part of the revising/updating of the Bitterroot Valley CWPP. Refer to Appendix B, Attachment B-1 for a list of high priority areas within the WUI.		



Action Item B-2: **Support Hazardous Fuel Treatment Projects Within the WUI.**			
Description	Support expansion of hazardous fuel treatment projects in the WUI areas in the Bitterroot Valley with emphasis on private landownership. (i.e., Western States grant, Community Protection Fuel Mitigation grant, and other grant opportunities)	**Resources Needed**	**Who is Responsible**
Tasks	Continue maintaining a list of hazardous fuel treatment contractors and forestry consultants. Update requirements as needed ********** Improve contractor/cooperator effectiveness and fire qualifications through training and sign-up. Develop and put on a workshop for contractors that want to perform hazardous fuel treatment work. ********** Maintain a list of fuel treatment techniques and costs. ********** Provide landowner/manager training pertaining to fuels management methods and techniques (including the use of grazing to keep fuels at low levels), forestry skills, utilization of wood products, accounting, and record keeping skills. ********** Update and use Hazardous Fuel Treatment Grant Application procedures and process. ********** Secure matching grants to provide financial assistance to private landowners for reducing fire risk on their properties in high-risk areas. ********** Concentrate fuel reduction work in areas of highest priority and effectiveness (highest values, greatest hazards, highest population density, and high fire occurrence frequency) and where the negative impacts of wildland fire would be greatest. ********** Secure services of an additional community forester(s) for expanding the hazardous fuel program throughout the Bitter Root RC&D area (Ravalli, Missoula and Mineral Counties)	Field personnel with forestry or fuels mgmt knowledge. Skilled grant writer to research and secure grant funds. Money for salaries, mileage, materials, and supplies.	RC&D Community Forester

Notes & Updates	**Accomplishments:** Continually engaging partners for support. Continue applying for grants and secure funding for hazardous fuels treatment on private lands. From 2001-2009 the Bitter Root RC&D has obtained over 3.5 million dollars in grant funding through the USFS State & Private Forestry and State of Montana DNRC under the Western States grant and Community Protection Fuel Mitigation (Stevens) grant. These grants cover Ravalli, Mineral, and Missoula Counties as well as four other RC&D's in other parts of Montana.

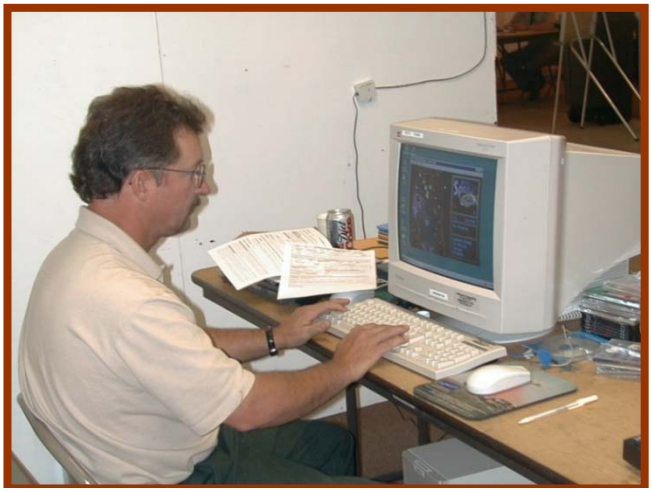
Action Item B-3: **Coordinate hazardous fuel treatment projects between private landowners, state, and federal land managers.**			
Description	Ensure the effectiveness of hazardous fuel treatments is maximized by coordinating efforts across private-public landownership boundaries and supporting hazardous fuels treatment programs on public lands within and near the interface.	**Resources Needed**	**Who is Responsible**
Tasks	Coordinate, at a minimum, semi-annual discussions regarding hazardous fuel treatment programs with Forest Service, DNRC, and Bitter Root WUI Task Force (pursue grants, i.e., Western States & Community Protection Fuel Mitigation grant funding, etc.) where appropriate on cross boundary projects ********** Engage volunteer fire departments and neighborhood groups in identifying desirable cross-boundary projects. ********** U.S. Forest Service Forest Health Protection group to provide information to contractors and homeowners on minimizing tree damage and mortality in conjunction with fuels reduction treatments and slash disposal.	Commitment of FS and DNRC Fire managers	RC&D Community Forester RC&D Community Forester in coordination w/ local fire chiefs.

Notes & Updates	**Accomplishments:** Have held and attended joint meetings to coordinate projects with neighborhood and homeowner associations, DNRC, U.S. Forest Service and other organizations and agencies. Currently coordinating projects with the USFS and DNRC in Ravalli County; projects in Mineral County; projects in Missoula County; and in the Seeley Lake area of Missoula County through various private lands hazardous fuel mitigation grants. Currently have five community foresters (3 in Ravalli County, 1 in Mineral County, and 1 for Seeley Lake/Missoula County) to work with various private groups, state agencies and federal agencies to coordinate efforts. The U.S. Forest Service is continuing to develop and implement fuel reduction projects on the Bitterroot National Forest using a combination of commercial thinning to open the crown spacing, pre-commercial thinning to reduce and remove ladder fuels, and a combination of piling and chipping. The FS worked with several adjacent private landowners, which have already treated fuels on their properties or are planning to treat fuels to coordinate fuel mitigation efforts. As of 11/20/09, the Bitter Root RC&D has successfully treated 2,473 acres of fuel treatment on private land through various grant programs in Ravalli County. A total of 341 landowners and 66 lease holders have been or are currently under agreements to treat a total of approximately 3,150 acres in Ravalli County in high risk areas. There will be more acres added to this total as more grant dollars become available and additional landowners are signed up under these programs.

Action Item B-4: **Update and encourage use of Fuel Treatment Guidelines for New Subdivisions in Ravalli County.**			
Description	Fuel treatments may vary on each individual property, depending on owner's goals, but should be compatible across boundaries.	**Resources Needed**	**Who is Responsible**
Tasks	Update and provide support for high priority "defensible space" designs and regulations for new developments. ********** Work with County Commissioners on encouraging guidelines for new subdivisions.		RC&D Community Forester
Notes & Updates	**Accomplishments:** We have a copy of the guidelines have been provided to the Ravalli County Commissioners and County Planning Board for their review and action.		

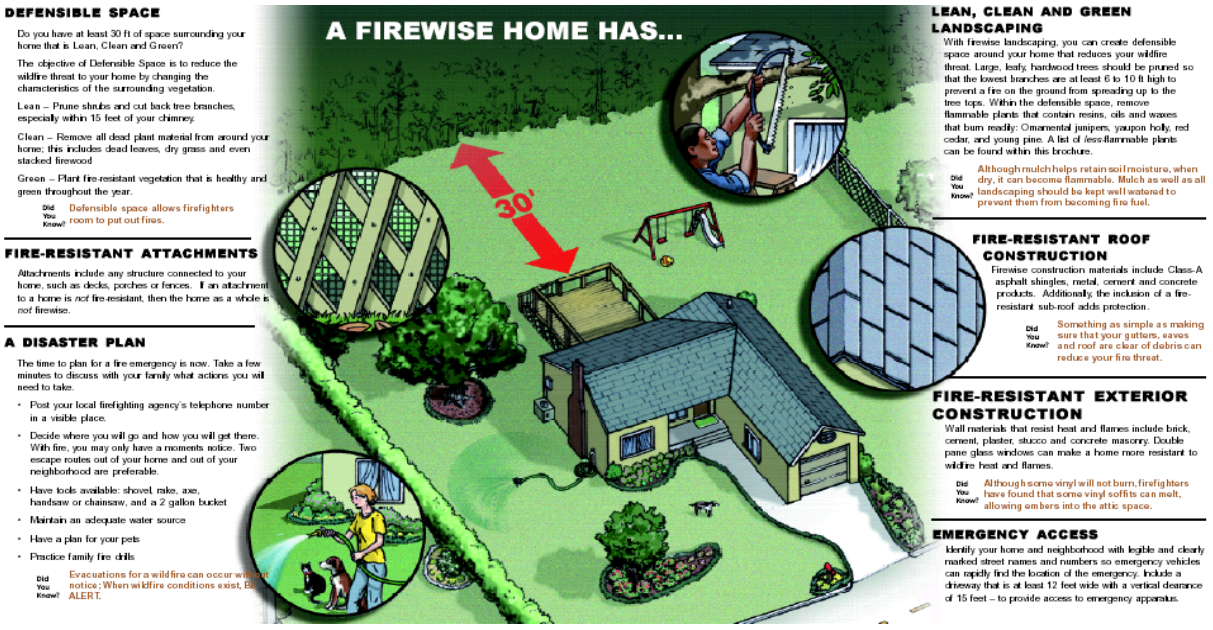
Action Item B-5: **Mitigate the Slash Disposal Problem.**			
Description	Reducing the standing fuel is just part of the job. Using fire to remove the fuels is usually the most cost effective method but air quality guidelines may limit the use of fire to dispose of the slash. The slash may have commercial value if there is enough quantity and at the right location.	**Resources Needed**	**Who is Responsible**
Tasks	Tie into Fuels for Schools and address alternative methods as well as working with State agencies/legislators in discussing options regarding Air Quality Issues. ********** Identify chipping costs (contract vs. buying a chipper). ********** Identify other equipment and techniques to assist in mitigating the burning issue (i.e., air curtain burner – EPA approved, designated disposal sites, etc.)	List of chippers available.	Bitter Root WUI Task Force. Chipper Committee RC&D President
Notes & Updates	**Accomplishments:** Currently working with a group made up of Bitter Root RC&D, private Industry, state and federal agencies to develop ideas for mitigating the Slash Disposal problem and better utilization of residual biomass and improve costs and efficiency for treating fuels.		

Action Item B-6: **Maintain year-end and quarterly Fuel Treatment Accomplishment Reporting System**			
Description	Utilize current DNRC quarterly reporting system and grant tracking spreadsheet for keeping track of accomplishments	**Resources Needed**	**Who is responsible**
Tasks	Maintain guidelines specifically for residents in Ravalli County. ********** Ensure coordination with key local, county, state, & federal entities that will have an interest. ********** Record in Arc View GIS all of the fuel treatment acreages on private lands that have been accomplished and are planned through grants and other individual efforts. ********** Explore ways to fund GIS capabilities w/other agencies (FS) and resource organizations. ********** Report CWPP accomplishments on an annual basis with memo's and sent to cooperating agencies		Volunteer or staff person to facilitate discussions, conduct research and development guidelines for Ravalli County
Notes & Updates	**Accomplishments:** CWPP accomplishment reporting has been completed as part of the annual updates to the CWPP. The DNRC reporting system is already in use to record accomplishments for hazardous fuel projects through normal quarterly reporting required by the grants. Accomplishments are also reported to the USFS annually.		



Updating and tracking information, sharing of information between partners, and exploring new opportunities will continue to be a large part of the Community Fire Plan.

Action Item B-7: **Conduct Wildfire Home Assessments for landowners to understand actions needed to reduce the "ignitability of structures" in Ravalli County.**			
Description	Evaluations of home construction (new and existing) should be conducted along with wildland fuel assessments to provide the full range of FIREWISE evaluations for homeowners living in the Wildland Urban Interface. www.firewise.org	**Resources Needed**	**Who is Responsible**
Tasks	Conduct site evaluations of homes in the WUI when conducting wildland fuel assessments. Utilize the NFPA Form 1144 for documenting these home evaluations. In addition, use the DNRC "Home Evaluation Form" in assessing private land and residences in the WUI. This form is provided to each homeowner to give advice on what fire safe practices they need to do in order to reduce the risk of their homes in the WUI. ********** Submit all completed forms to DNRC for inclusion in the Statewide database.		RC&D Forester, Community Forester, VFD's, DNRC
Notes & Updates	**Accomplishments:** As private land hazardous fuel projects are developed, field administrators are visiting with homeowners about FIREWISE landscaping and construction techniques as part of the process for educating the public about making their homes fire safe.		



Check out the FIREWISE website www.firewise.org for more information.

C. Restoration of Fire-Adapted Ecosystems

The guiding principles to restore fire-adapted ecosystems are to:

- Prevent invasive species and restore watershed function and biological communities through short-term rehabilitation.
- Restore healthy, diverse, and resilient ecological systems to minimize uncharacteristically severe fires on a priority watershed basis through long-term restoration. Eradicate or minimize the rate of spread of invasive species that negatively impact natural fire cycles and fire-adapted ecosystems.
- Promote the development and use of the best available science along with local and indigenous knowledge.
- Monitor restoration and rehabilitation projects for effectiveness and share the results in order to facilitate adaptive implementation.

Accomplishments for Restoration of Fire-Adapted Ecosystems can be found in notes & updates section of each action item table.

Action Item C-1: **Provide Insect and Disease Assessment (mapping) and information brochures/workshops to private landowners in the Valley.**			
Description	Mapping of Insect and Disease infestations in the Bitterroot Valley will assist land management agencies and private landowners in trying to concentrate forest health practices in those areas. Providing information through brochures and workshops to private landowners in the County.	**Resources Needed**	**Who is Responsible**
Tasks	Conduct an I&D flight and map areas with current I&D infestations. ********** Coordinate assessment of I&D infestations between agencies to begin understanding the I&D problems and issues facing the Bitterroot Valley. ********** Forest Health Protection, FS, will provide information for private woodlot owners in the form of brochures and workshops on forest health, insect and disease concerns in the Bitterroot Valley and I&D conditions related to fuels reduction programs.		Forest Service on NF lands and RC&D President in coordination with State & Federal agencies. FS Forest Health Protection Group
Notes & Updates	**Accomplishments:** This has been completed by the USFS and will be made available to the CWPP update. A current Insect and Disease infestation map (map # 5 Appendix E) will be included in the 2009 update to this CWPP. The Forest Health Protection Group is working on providing information for private woodlot owners in the form of brochures and workshops on forest health, insects, and disease concerns in the Bitterroot Valley and insect and disease conditions related to Fuel Reduction programs.		

Action Item C-2: **Monitor and update as needed post-wildland fire disaster mitigation guidelines for private landowners.**			
Description	As a result of the 2000 and 2003 fire seasons, it has become evident that post-fire disaster mitigation guidelines are needed to assist landowners with rehabilitation efforts on private lands.	**Resources Needed**	**Who is Responsible**
Tasks	Review and update the guidelines for on an as needed basis. ********** Advertise that the guidelines exist and make them known to Bitter Root RC&D area residents.		RC&D
Notes & Updates	**Accomplishments:** This was accomplished in July 2004, and is maintained current at the Bitter Root RC&D office. It is named "Montana Interagency Coordination Guide: Working with communities and private landowners before, during, and after wildfires" and is available through the Bitterroot National Forest, DNRC, and Bitter Root RC&D offices.		

Action Item C-3: **Help landowners identify and understand how noxious weeds affect the ecosystem.**			
Description	This is an effort to help private landowners start or continue dealing with the noxious weed problems in the Bitterroot Valley. Provide information on the spread of noxious weeds from disturbance activities (hazardous fuels work, wildfire, etc.).	**Resources Needed**	**Who is Responsible**
Tasks	Work with the County Weed Board in identifying the high risk and highly infested areas within the County. ********** Continue developing ways, like, brochures and pamphlets that help the County landowner's better deal with the weed infestations. ********** Develop other educational efforts to get the word out on landowner responsibilities in dealing with noxious weeds on their properties.		RC&D in cooperation with the County Weed Board.
Notes & Updates	**Accomplishments:** Continue to coordinate with the County Weed Board and informing landowners on all hazardous fuel treatment grant projects of noxious weed concerns. Facilitate coordination between County Weed Board and landowners.		

Action Item C-4: **Work with private landowners on Hazardous Fuel Reduction projects to incorporate Best Mgmt Practices, Streamside Management Zone Guidelines, as well as addressing Forest Health issues.**			
Description	Hazardous fuel treatment projects need to incorporate HRA's, BMP laws, SMZ guidelines and address forest health issues.	**Resources Needed**	**Who is Responsible**
Tasks	Ensure HRA's, BMP laws and SMZ guidelines are used in applicable hazardous fuel treatment projects. Coordinate with the DNRC Service Forester and RC&D Forester. ********** Address Forest Health issues when designing hazardous fuel treatment prescriptions on private lands. ********** Provide information, engage, and coordinate with private landowners as to their responsibilities regarding HRA's, BMP's, SMZ guidelines, and Forest Health. Demonstrate how fire risk is tied into forest health issues.		RC&D Forester and RC&D Community Forester
Notes & Updates	**Accomplishments:** The RC&D Forester and RC&D Community Forester and Assistants have worked closely with the DNRC to ensure that all State guidelines are incorporated into Hazard Reduction projects on private lands. Improving the forest health on private timberlands is one of the main goals of the hazardous fuel reduction grants. The RC&D has incorporated language into private landowner agreements that addresses the requirements of meeting best management practices, SMZ guidelines, and HRA requirements.		

The photo to the left shows the bug pitch outs that are made when a tree is infested. The photo below shows some of the weed infestation that will be taking place after fire. Bugs and weeds will be a continuing issue.

D. Community Assistance

As residents' understanding of the risks associated with wildland fire increases, their interest in learning more about living in a fire- dependent ecosystem and actions that can be taken to reduce the risk to lives and property expands.

Through this strategic planning effort, we want to expand our collective abilities to meet these growing interests. An emphasis will be placed on sharing information that enables valley residents and community leaders to understand actions they can take to reduce the "ignitability of structures" and other potential negative impacts of wildfires.

Our **target audiences** include:

- Wildland Urban Interface property owners
- Students and Educators
- Industry Specific Groups such as realtors, contractors, landscapers, insurance agents, and power companies and cooperatives.
- Non-Interface homeowners, conservation groups, Non-Government Organizations, and local, county, state, and federal government agencies.
- Tourists traveling through/to the Valley.

As we work with each of these groups, we will focus on **four goals**:

- Engage people in learning more about the intricacies of ~ and the benefits and risks of living in ~ fire dependent ecosystems.
- Increase awareness and understanding of what landowners can do to enhance their enjoyment and reduce the risks, and how we can collectively work together to accomplish some of these things.
- Develop support for hazardous fuels treatments on all lands.
- Encourage utilization of traditionally un-merchantable material.

Accomplishments for Community Assistance can be found the notes & updates section of each action item table.

The FireSMART Wagon is on fire information duty at the Sula Ranger District parking lot during the Rombo Complex fires in September of 2007. Residents and interested parties stopped by the wagon to get the latest information on fire activity and road closures from wagon staff.

Action Item D-1: **Maintain the Fire Plan website to disseminate information**			
Description	It is imperative to have one website that people can go to for correct, current, relevant information.	**Resources Needed**	**Who is Responsible**
Tasks	Utilize Bitter Root RC&D website www.bitterrootrcd.org adding links to www.cybernet1.com/fire, www.fs.fed.us/r1/bitterroot and www.dnrc.state.mt.us ********** Create and add additional links to all CWPP partners' sites to ensure easy access to "Living with Fire" information. ********** Develop goals and objectives for website. ********** Arrange for design and maintenance. Consider student involvement in this task. ********** Review and update as needed the Communities-at-Risk List for Ravalli County		RC&D
Notes & Updates	**Accomplishments:** This was accomplished early in 2003. The website is located at www.bitterrootfireplan.org This website has been maintained and added to over the past year. Even though the website manager has moved, he is still available to do whatever work is needed to update and maintain the site.		

Action Item D-2: **Expand awareness of need for hazardous fuels treatment and defensible space programs, and encourage engagement of community leaders and landowners, especially in high-risk areas.**			
Description	Community Fire Plan partners will work to expand community understanding and engagement for an active hazardous fuels treatment program in the Bitterroot Valley. Public awareness will be expanded to provide a variety of Forest Health and Fuels Reduction a workshop(s) for landowners in Ravalli County.	**Resources Needed**	**Who is Responsible**

Tasks	Expand awareness of areas in need of treatments among neighboring landowners ********** Invite community/neighborhood champions (local landowners) to assist in gaining support for hazardous fuels treatments in high-risk areas. ********** Coordinate with signatory partners and others to develop options for cross-boundary projects ********** Provide Landowner Workshops to expand private landowner knowledge and awareness of Forest Health and Fuels Reduction issues.	Coordinator for task(s) CWPP Partners	RC&D Community Forester in cooperation with the VFD's. Bitter Root RC&D and other cooperators
Notes & Updates	**Accomplishments:** Have worked with landowners on previous grants and are currently working with landowners on new grants in high risk areas within Ravalli County. Relying on landowners to assist in expanding awareness. Have conducted an RC&D Forestry Expo that covered forest health and fuel reduction topics. This workshop was aimed at providing management information to woodlot owners and geared towards children to increase their awareness of forest health issues.		

Fire SMART Wagon

A Multiagency Community Resource Delivering the Fire Message

Action Item D-3: **Staff, Operate, and Maintain the "Living on the Edge" FIRE SMART Wagon.**			
Description	The Fire SMART wagon is an excellent tool to use at community and other functions to help spread the word about wildland fire.	**Resources Needed**	**Who is Responsible**
Tasks	Develop marketing/utilization strategy for FIRE SMART Wagon. Continue to promote use. ********** Increase use for general public/school education. ********** Use during prescribed burns and wildland fire suppression activities.		RC&D

Notes & Updates	**Accomplishments:** The Fire *Smart* Wagon is proving to be a valuable resource for communities all around the Northwest. It is estimated that over 10,000 people have visited the wagon at 60+ community venues where they picked up information, asked questions, participated in games, and got Smokey Bear items for their children while checking out hazardous fuels programs. A list of all events can be seen or obtained from the Bitter Root RC&D or Becki Koon. During the summer of 2003, 2006, 2007, and most recently in 2009 the wagon was dispatched on fires in the Bitterroot Valley becoming the vehicle for daily updates on fire activity, evacuation areas, area road closures, and an all around place for sharing personal stories, fears, and concerns. The staff in the Fire *Smart* Wagon was always courteous, professional and of utmost help to visitors who sought out the most recent fire information from the Fire Smart Wagon during those fire occurrences. The plan is to continue booking appointments for the Fire *Smart* Wagon in the future but the need to look for funding to support that effort will continue. Up to this point in time, the Bitter Root RC&D was able to provide staff support with grant monies, which was part of what made the wagon such a success. Quality staff is critical to the validity of the information being dispensed from the wagon. The availability of funding going forward is not known.

People moving into the Valley or to the wildland urban interface should be fully informed about fire protection, and which fire district they would be in (if any) before they buy a place in the woods.

Action Item D-4: **Work with Realtors, Building Contractors, Insurance Industry, and Landscaping Companies to ensure they have knowledge and resources to support FIREWISE projects and actions.**			
Description	There is much information available to assist industry in addressing building in the WUI.	**Resources Needed**	**Who is Responsible**
Tasks	Engage and share information, presentations, landscaping ideas, and building design ideas with local businesses/contractors. ********** Work with Insurance Companies to encourage their involvement in private landowners' defensible space efforts. ********** Continue to engage Home Builders Association in homeowner's awareness campaign. ********** Outreach to new valley residents – involving the real estate and insurance industry for assistance. ********** Encourage direct communication between the Fire Council and area realtors to ensure property protection is well understood. Fire Council develops and sends a letter to the		Fire Council and RC&D.

	Board of Realtors, the C of C, and the Home Insurance Underwriter industry (i.e., State Auditor's Office) urging this action. Re-establish delivery of message through the Welcome Wagon program.		
Notes & Updates	**Accomplishments:** The Fire *Smart* Wagon team worked with the Bitterroot Valley Builders Association in 2003 and 2004 to participate in the annual Tour of Homes. The partnership with the association proved to be a valuable outreach. In 2003, Becki Koon worked with wildland urban interface landowners to provide a Fire Wise re-design to their landscape that blended with their newly remodeled home. This endeavor was successful in the 2003 and 2004 Tour seasons but was not repeated because the Fire Smart Wagon Team was engaged with fire details and also because of a lack of funding.		

Action Item D-5:

Produce and disseminate information products such as newsletters and news articles on a regular basis.

Description	Develop a regular series of information articles on the wildland fire risks, ongoing projects, and any other pertinent topics.	**Resources Needed**	**Who is Responsible**
Tasks	Develop schedule, topics, and venue for information sharing on a quarterly basis. ********** Coordinate creation of articles - person responsible would not have to write the articles but would be responsible to schedule who would write them, when the articles would be due, and arrange for them to be distributed.		RC&D Community Forester
Notes & Updates	**Accomplishments:** Hazardous fuel program information has been provided to RC&D annual report. Completed several articles for local newspapers on hazardous fuel treatment programs. The Wildland Urban Interface Task Force has developed Landowner assistance packets that have many helpful documents and information for landowners interested in wildland fire and protecting their lives, property, and neighbors.		

Home assessments and homeowner awareness are critical components to the overall success of the fire plan.

Action Item D-6: **Continue to produce, improve, maintain, and deliver environmental education curriculum to students and increase awareness/ knowledge of students and teachers in these areas.**			
Description	Develop curriculum for variety of grades and classes, integrating information about "living on the edge" in a fire dependent ecosystem with school-based classes.	**Resources Needed**	**Who is Responsible**
Tasks	Produce an interactive curriculum for students. ********** Establish a schedule for presentations, exhibits, tours, and field classes for as many schools in the Valley as possible. ********** Work with teachers to get acceptance.	Grant funds to support position, and to purchase supplies and equipment.	RC&D and USFS Education Coordinator's
Notes & Updates	**Accomplishments:** Environmental education learning trunks have been developed and are maintained for classroom use. Becki Koon, Faye Mentzer, Julie Schreck, and Janeen Curtis have developed curriculum for the "Healthy Kids~Healthy Forests" campaign adopted by the Bitter Root RC&D, the Bitterroot USFS, and Montana DNRC. Currently portions of the Fuels for Schools Curriculum are being used in the Darby and Victor schools. The curriculum is also available to any school district to utilize and is available at the RC&D website www.bitterrootrcd.org		

January 2006 — Bitterroot National Forest

Healthy Kids ☼ Healthy Forests

Active Partners:
Darby Public Schools
Hamilton Public Schools
Bitterroot Valley DEC—Drug Endangered Children Task Force
Bitterroot National Forest
Bitter Root RC&D—Resource Conservation & Development Area, Inc (NRCS)

Likely Partners:
Blue Cross—Blue Shield
CAOS—Committee for Arts in Our Schools
City/County Parks & Rec Departments
City/County Law Enforcement
City/County Child Services
Department of Justice
Healthy Family Coalition
Kids First
Local Civic Organizations
MT Fish, Wildlife & Parks

(continued …)

An Exciting New Partnership…

Partners within the Bitterroot Valley are recognizing the great benefits that can be generated by combining our interests in children's health issues with the hopes and concerns we share regarding the health of the natural resources surrounding our communities.

Getting young people engaged in the natural world is an excellent way to promote healthy lifestyles. It is also an excellent way to expand the pool of concerned and knowledgeable citizens who recreate and volunteer in our forests today – and who, as future voters and policy makers, will become the guardians of our forests tomorrow.

Addressing the "8th Intelligence"

Of Howard Gardner's 9 Multiple Intelligences, the 8th is labeled "The Naturalist". Sensitivity to the environment is its hallmark, while skills to observe, understand and organize patterns in the natural environment are key components. Promoting these skills in our next generation of citizen leaders will benefit students and natural resources.

Primary Goals of our Partnership

We are working to enhance the:

- Short- & long-term physical, mental, emotional and spiritual health of valley children, along with the…
- Short- & long-term health of National Forests by engaging kids in the care and enjoyment of their National Forests.

We want to get kids out into the woods! They can help land managers monitor the condition of the Forest and restore unhealthy components of the ecosystem through activities that are physically, intellectually and mentally stimulating. The end results will improve the health of both the Bitterroot Valley's children and the National Forests.

Contacts:

DEC—Drug Endangered Children
Terry Moran (406) 363-7656
Darby Public Schools
Becki Linderman (406) 821-3643

Bitterroot National Forest
Julie Schreck (406) 375-2606
Nan Christianson (406) 363-7113

Students are participating in community education (above) while still other students learn to test the moisture content of wood chip fuel (below), all part of a larger campaign known as Healthy Kids ~ Healthy Forests.

Action Item D-7: **Engage Bitterroot Builders Association in homeowner's awareness campaign.**			
Description	There are many products available that would reduce the risk to a home in the WUI from a wildfire. The Bitterroot Builders Association is a good source of the latest technology in home construction materials that would reduce the chance of the home burning in a wildland fire and their Tour of Homes would be an excellent forum to demonstrate defensible space practices.	**Resources Needed**	**Who is Responsible**
Tasks	Work with Association to develop interest in becoming engaged. ********** Coordinate with builder and landscaper to have a defensible space home on Tour of Homes.	Handouts, displays, and lists of fire resistant materials	RC&D in conjunction with VFD's.
Notes & Updates	**Accomplishments:** The RC&D Fire Smart Wagon will continue to be scheduled to appear at the Tour of Homes to dispense Fire Wise information pending Fire Smart Wagon availability. The RC&D will continue to look for ways to increase opportunities to utilize the Fire Smart Wagon to enhance the homeowner's awareness program.		

Action Item D-8: **Communicate Fire Plan accomplishments.**			
Description	There have been many successful accomplishments in the hazardous fuel treatment grant programs since the fire plan was first adopted. We need to provide information about these successes to everyone.	**Resources Needed**	**Who is Responsible**
Tasks	Design self-guided information to address public concerns/questions about what hazardous fuel treatments will look like. ********** Engage other groups/individuals to tell our story.		RC&D Community Forester
Notes & Updates	**Accomplishments:** Fire Plan accomplishments have been made known through meetings and newsletters to the public and various state and federal agencies. Newspaper articles and radio interviews have taken place to highlight the hazardous fuel grant program accomplishments and programs. The U.S. Dept. of Agriculture Asst. Secretary cited the Bitterroot Community Fire Plan as one of the most successful and best fire planning efforts in the Western United States.		

Action Item D-9: **Continue support of Small Diameter Utilization and Biomass Utilization Opportunities.**			
Description	Push for increased utilization of small diameter wood and biomass products.	**Resources Needed**	**Who is Responsible**
Tasks	Target markets for increased utilization of wood products and by-products (fuels for schools, Stone Container, etc.) ********** Educate contractors and landowners about ways to better utilize wood products and by-products. ********** Conduct local and regional workshops on utilization, encouraging attendance.		RC&D President
Notes & Updates	**Accomplishments:** The Darby and Victor Fuels for Schools projects have and will continue in the future supporting the utilization of biomass from various sources such as but not limited to slash and wood residue from private land hazardous fuels projects. The hazardous fuel mitigation grants continue to look for ways to utilize small diameter material and slash from thinning and pruning operations by encouraging landowners to hire contractors that will utilize this material, which will assist the landowner in financing these projects. Woody biomass workshops have been conducted to find ways of better utilization and educate the public, agencies, and organizations about biomass utilization. One local contractor has developed a container system that can be provided to landowners. This system removes slash from a site and is collected into a central stockpile yard where it is chipped for various products. In 2005, the Bitter Root RC&D along with other cooperators, conducted a three day Small Woody Biomass Conference in Missoula in October. This conference was a great success and was well attended with over 207 participants hearing presentations from over 40 qualified speakers in the field of biomass utilization and forest health issues.		

The Forest Service is revising the Bitterroot National Forest – Forest plan. The County has recently adopted a Growth Policy. Various agencies and entities are developing organizational strategic plans to guide their work in coming months.

With the variety of planning efforts occurring at any given time throughout our Valley, there is a critical need to ensure that issues relevant to community fire planning are visible ~ and integrated in the various planning efforts.

Action Item D-10: **Monitor and Coordinate Local Policies & Planning Efforts.**			
Description	Monitor and Coordinate local policies and planning efforts to insure issues relevant to Community Fire Planning efforts are considered effectively.	**Resources Needed**	**Who is Responsible**
Tasks	Address Key issues & coordinate cross boundary projects as much as possible. ********** Tie public awareness/engagement efforts into other related meetings (Forest Plan Revision meetings, County Planning, etc.) ********** Increase our capabilities to meet the full range of opportunities.		Wildland Urban Interface Task Force
Notes & Updates	**Accomplishments:** The Wildland Urban Interface Task Force meets monthly to discuss issues related to wildland fire protection, fuel mitigation, public education and other issues facing the implementation of the CWPP. Partners have been cooperating and coordinating joint planning efforts for hazardous fuels treatment as evidenced by numerous large hazardous fuel treatment projects throughout Ravalli County, Western States and other grants. Continued coordination with the Bitterroot National Forest on Forest Planning and establishing the 5-year timber/fuels projects on the forest. Hazardous fuels addressed in the Ravalli County Growth Policy planning effort.		

There are many worthwhile endeavors outlined in our Community Wildfire Protection Plan and we greatly appreciate the generosity of volunteers who are willing to provide leadership for specific aspects or action items of this Plan. We also recognize the value in having a staff person who is assigned the responsibility of coordinating all of these efforts, and providing leadership in areas that require specific knowledge and skills.

Many homes in the wildland-urban interface do not have ingress/egress suitable for fire protection vehicles. Bridges are inadequate; roads can be too narrow or too steep and may not be plowed in the winter; and turn-around space near the residences may be inadequate to accommodate the emergency vehicles.

Often, landowners are not aware of these problems until they need protection assistance. Guidelines explaining access standards could benefit all interface landowners. While

Volunteer Fire Departments may consider acquiring fire equipment that can access tough places, the real incentive needs to be placed on the shoulders of the landowners to improve the condition of their access.

There is also a need to address the efficiency of sharing access information needs among agencies/groups. Sharing will help control costs and will complement the enhanced 911system.

Finding avenues and opportunities to further education and the sharing of information will be a goal of all of the partners and agencies involved in the fire plan.

Appendix A

Frequently Asked Questions

Questions ~ and answers ~ pertaining to the following subjects can be found in this section.

1. **Wildland-Urban Interface and Communities at Risk**
2. **Defensible Space vs. Hazardous Fuels Treatments**
3. **"Good" and "Bad" fire**
4. **Vegetative Condition Class**
5. **Fire Behavior**
6. **Values at Risk**
7. **Wildland Fire Protection Agencies**
8. **National Fire Plan**
9. **Permits for Burning**

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1. What is the Wildland-Urban Interface and At-Risk Communities?

For the purposes of the CWPP, the Wildland Urban Interface (WUI) is defined as the zone where structures or other human development meets to intermingle with undeveloped wildland or vegetative fuels. The width of the zone is determined on a site-specific basis to protect values at risk from wildland fire.

At-Risk Communities are those communities identified and addressed in the CWPP that are considered at risk by wildland fire. At-Risk Communities, as defined in the Healthy Forest Restoration Act 2004, are comprised of:

- An interface community as defined in the notice "Wildland Urban Interface Communities Within the Vicinity of Federal Lands That Are at High Risk From Wildfire" issued by the Secretary of Agriculture and the Secretary of Interior in accordance with Title IV of the U.S. Dept. of Interior and Related Agencies Appropriations Act, 2001. **OR**
- A group of homes and other structures with basic infrastructure and services (such as utilities and collectively maintained transportation routes) within or adjacent to Federal land **AND**
- In which conditions are conducive to large-scale wildland fire disturbance event **AND**
- For which a significant threat to human life or property exists as a result of a wildland fire disturbance event.

At-Risk Ravalli County communities include: Florence, Stevensville, Victor, Pinesdale, Corvallis, Hamilton, Darby, West Fork, Sula, and other areas where numerous residents live in the Wildland Urban Interface in Ravalli County that meet the above mentioned criteria.

2. Is it necessary to treat fuels throughout the Interface or can we limit hazardous fuel treatments and focus more on creating defensible space within 120 feet of homes? U.S. Forest Service research has studied how structures are ignited during a wildfire, with particular attention given to the home ignition zone. One researcher suggests that in order to protect structures it is only necessary to establish defensible space within 120 feet of a house. Is this a viable option?

A persistent question relates to the need to treat extensive forest areas beyond the immediate vicinity of about 120 feet adjacent to a structure. It is very important that forest county residents understand the needs for maintaining healthy forests in their neighborhood. (Forest Health and Fire. NAFSR 2002)

In the long run one of the major strategies for dealing with destructive fire in our forests is to endeavor to re-establish forest conditions that facilitate the natural role of fire in the forest ecosystems. It is easy to become fixated on the idea that the entire objective of the Fire Plan is to reduce fire losses to human structures. Focusing exclusively on protecting human structures ignores the values that a healthy forest provides to our communities and our quality of life. Severely burnt forests are not sustainable forests and healthy sustainable communities need sustainable forests for life, health, social comfort, and mental equanimity. Sustainable, healthy forest values include stable watersheds, pleasant and productive habitat for humans and wildlife, scenic vistas that not only are pleasant to view but that contribute to a healthful air shed and that contribute to the role of the forest in carbon sequestration and climate moderation. Very intense fires fed by excessive hazardous fuel build-ups and dried by lingering drought destroy these values for extended periods of time. It is essential that we treat extensive areas so that fires of moderate to low intensity can be tolerated without contributing to excessive soil movement and unacceptable loss of native plants. We must also keep in mind that the invasion and establishment of noxious weed species often is accelerated by intensive wildfire that destroys the pre-fire existing vegetation.

Another factor that must be borne in mind in this plan is that many land and property owners expect this plan to provide information on the most effective methods of protecting their lives and property. This plan cannot, in all good conscience, recommend protective measures that are not the most effective measures known at the time of the plan preparation. Whereas, providing “defensible space” areas around structures may indeed prevent some structures from ignition, and indeed, there are no guaranteed “safe” techniques to provide to people who chose to live in the Wildland/Urban Interface (WUI) this plan must provide the most effective measures that are known to the authors. In any case, there are no guarantees. Living in the WUI involves accepting a measure of risk of loss due to wildfire. As seasons and forest conditions evolve, that risk varies. Where there are forests in the inland west there is fire. Our challenge is to deal with that natural factor in the most positive manner possible.

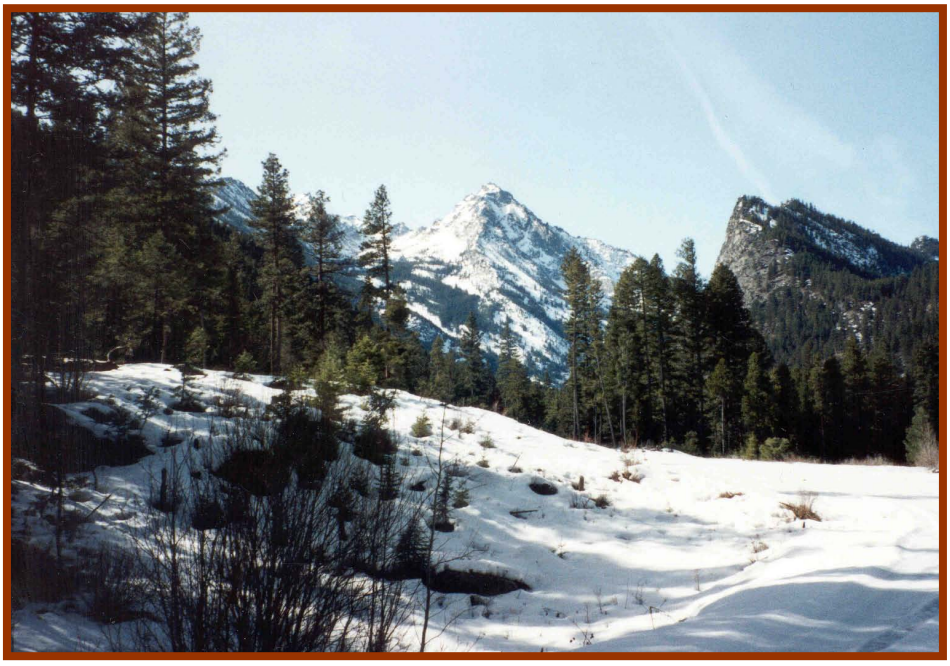
Strong agreement was reached during the development of our Community Wildfire Protection Plan that simply preserving a structure provides a very limited and unacceptable approach to protecting the attributes of the interface that valley resident’s value so strongly. Our values include:

- Firefighter and public safety
- Homes and community
- Healthy watersheds and forests

Firefighter and Public Safety: Few of us – and certainly none of the agencies charged with providing fire protection – would be comfortable allowing a wildfire to move off the mountain ridges and burn towards our communities without attempting to deploy firefighters; instead, trusting that the defensible space created around individual structures would be all that is necessary to ensure the safety of homes, communities and people. Without hazardous fuels treatments on lands near and within the interface, the potential intensity of wildfires create such dangerous conditions that it becomes difficult to engage in effective firefighting strategies and tactics. With our expanded understanding of the already dangerous job of firefighting, we, as a community, are unwilling to not take prudent steps to reduce the fuels thus giving firefighters a safer and more likely chance to successfully protect us.

Homes and Communities: During the fires of 2000 and 2003, we heard from many people who felt that their homes are much more than simply a house or a structure. The setting in which the home exists is as important to some as the structure itself. Fewer are choosing to live in a landscape highly susceptible to fire when it is possible to reduce the fuel loads and thus the fire danger without compromising too greatly, the aesthetic values of the forests surrounding their homes.

Healthy Watersheds and Forests: Many in the Bitterroot can attest to the trials of surviving the wildfires of 2000 only to be threatened by post-fire mudflows near streams and overland sediment flows, which clog access roads, irrigation ditches, and ponds. Others are concerned about changing patterns in water storage and run off in drainages heavily burned and the potential impacts this will have on wells and irrigation systems. Some, looking further out in time, view the tens of thousands of acres of standing dead as tinder for the next wildfire that may roar off the mountain and into the interface and our communities. Businesses and residents in our valley value the health of the forests and watersheds, which were established in recent research, contribute importantly, to our quality of life and the quality of our economy.



Trapper Peak **Darby, MT**

3. How can we distinguish between "good fire" and "bad fire" or balance the negative impacts with the positive benefits of returning fire to this ecosystem?

The difference between "good fire" and "bad fire" relates to a subjective judgment based on values at risk and the intensity of fires.

The Bitterroot Valley ecosystem is fire dependent. Prior to 1900, fire occurred unsuppressed on a regular cycle cleaning the litter mat, down woody material and under story in ponderosa pine stands. Some of these same fires would either reduce fuels or completely replace stands in Douglas fir and lodge pole pine. From about 1940, humans started effectively suppressing fire, thus trying to eliminate fire, a natural change agent in the Bitterroot Forest ecosystem. The results of effectively removing fire from the ecosystem are that the ecosystem is no longer naturally cleaned by fire and fuel continues to build up to the point of becoming hazardous. Unsuppressed fire no longer plays its traditional cleaning role in much of our ecosystem but now produces lethal stand replacement rather than non-lethal under burning or mixed severity fires. Because of the buildup of hazardous fuels, fires are also much larger (1,000's of acres rather than 100's of acres) than occurred historically in the ponderosa pine and Douglas fir habitats. Fires of these intensities and sizes cause greater damage to the natural resources within these ecosystems and threaten lives and property within the Wildland Urban Interface. Wildland fires under these conditions are termed as "bad" fires because of their negative impacts. When these fires occur, they are controlled by fire protection agencies.

The use of fire as a tool is called prescribed fire. Prescribed fire is used to return fire into the ecosystem under controlled conditions. Fire introduced back into these ecosystems is done during times of the year and weather conditions that do not give the high intensities that an uncontrolled wildland fire would give under normal summer fire season conditions. Prescribed fire or "good" fire cleans up the forest floor of the downed woody debris that accumulates over a period of years, reduces the ladder fuels that cause high intensity fires, rejuvenates plant species used by a multitude of animal species for food, recycles nutrients back into the soil, and puts fire back into an ecosystem that always had fire prior to man's intervention through fire suppression.

It is important to note that a combination of wildland fire suppression (controlling of "bad" fire) and application of prescribed fire ("good" fire) will allow the proper balance of fire into the ecosystem, over time. Fire is a force of nature that will never be eliminated. We need to understand fire and work toward "Living with fire" in order to reduce the negative impacts of fire and reap the positive benefits of fire in the ecosystem. Refer to Maps #1, #2, and #3 in Appendix E.

4. How can I better understand "Vegetative Condition Class" and what this means to forest health and fire risk?

The vegetative Condition Class is one approach to define and interpret the importance of fire frequency in ecosystems. Current "Condition Class" is defined in terms of departure from the historic fire regime, as determined by the number of missed fire return intervals. Fire has always been a part of the wildland, changing and shaping the structure and composition of vegetation in an area.

Many of the Wildland Urban Interface areas in the Bitter Root Valley were historically maintained by fire. Because of the predominance of Ponderosa Pine on these sites, fire helped maintain them. Low intensity surface fires burned, keeping ground vegetation from becoming ladder fuels. As fire became less of a factor (fire suppression) in maintaining the vegetation in these areas, the vegetation has changed. As a result, there are more vegetation, ladder fuels, and ground fuels (litter mat and down woody materials) that contribute to higher intensity fires than occurred historically. This has increased the risks, hazards, and threats to today's growing population within the Wildland Urban Interface.

There are three "Condition Classes" that have been developed to categorize the current condition with respect to each of the five historic Fire Regime Groups. The relative risk of fire-caused losses of key components that define the system increases for each respective higher numbered condition class, with little or no risk at Condition Class 1 level.

The following table describes each Condition Class. Map # 6, the Condition Classes in the Bitter Root Valley can be seen in Appendix E. Careful study of this map shows how the lower elevations, adjacent to and within the Wildland Urban Interface have changed and are currently in Condition Class 2 and/or 3.

Condition Class 3 would normally be stands classified as "high-risk."

Condition Class	Description
1 Low Departure	Forested areas with an historically short fire return interval usually have frequent fires of low intensity
2 Moderate Departure	One or more fire return intervals have been missed, possibly resulting in increased fire sizes and intensities and decreased landscape mosaics and diversity
3 High Departure	Multiple fire return intervals have been missed resulting in dramatic departure from historical conditions

5. How does Fire Behavior influence wildland fires in the Bitterroot?

Fire Behavior describes the way fires ignite and spread. Topography, fuel conditions, and weather all influence fire behavior and how wildland fires burn in the Bitterroot Valley. Fuel is the only factor influencing fire behavior that we have the ability to manage. The following fire behavior assessment shows fire intensities and fire spread rates in different fuel types/models that are found in the Bitterroot Valley. It is important to understand this information to determine what areas contribute to the fire protection problems in the Valley and thus may need treatment.

The following fuel types/models were used for analyzing potential fire behavior:

Fuel Type/Model	Fuel Model Description
1	Grass that is dominated by short grass where very little shrubs or timber is present over less than 1/3rd of the area. The fine, porous, and continuous fuels that have cured or are nearly cured govern fire spread. This model represents the harvested or recently burned over land that is now covered with grasses and/or newly regenerated timber, the high mountain meadows, and low lands covered with short grass.
2	Grass with open timber overstory that cover 1/3rd to 2/3rd's of the area. This model represents the open grass and ponderosa pine/Douglas fir stands and harvested areas where an overstory of timber remains. Fire spread is primarily by surface fire through the curing or dead grasses with the litter and dead down wood from the open shrub or timber overstory contributing to fire intensity. These would represent areas where Condition Class 1 is present.
5	Predominantly shrubs with an overstory of timber. The live fuel moisture in the shrubs normally has a dampening effect on any surface fire. Surface fire normally burns in the dead and downed woody fuels on the forest floor. Under drought conditions, live fuel moistures are less than normal, causing shrubs to be more flammable.
6	Predominantly shrubs such as sage mixed with grasses and other associated species. The fire carries through the shrub layer where the foliage is flammable. The fire spread is dependent on moderate wind, greater than 8 mph at mid-flame height, and/or steeper slopes. Fuel loading is approximately 10 tons per acre.
8	A closed canopy timber stand of short-needled conifers with a compact litter layer of needles, leaves, and twigs that has little undergrowth present in the stand. This model is represented in the areas of immature lodge pole pine, Douglas fir stands that have little down-dead ground fuels and the higher elevation stands of white bark pine. Slow burning ground fires with low flame lengths are generally the case, although a fire here may encounter an occasional "jackpot" or heavier fuel buildup that can flare up. Late season fires in drought years may cause this fuel type to burn with stand replacement intensities.

10	Older mature timber stands that have large loads of dead material on the forest floor. This would include areas that are insect and disease ridden, wind-thrown stands, and over mature situations with deadfall or heavy accumulations of debris. Ladder fuels are usually present. Fires burn in the surface and ground fuels with greater intensity than the other timber types. Crowning, spotting, and torching of individual trees are more frequent in this fuel type. This is typical of some Condition Class 2 stands and most Condition Class 3 stands.

Fire behavior calculated for these six fuel types/models were made using the fuels, weather, and topographic conditions prevalent for the Bitterroot Valley. Two scenarios were developed. One for normal August fire season conditions, called Normal Case, and one for extreme August fire season conditions, called Most Severe Case. The most severe case also takes into consideration severe drought conditions. These conditions would be present in August and September when all the vegetation has cured and dried.

Weather	Normal Case	Most Severe Case
High Temperature	**80 degrees**	**90 degrees**
Low Relative Humidity	**20%**	**10%**
Mid Flame Wind Speed	**5 mph**	**15 mph**
Fuel Moistures		
Fine Fuels, 0-1/4 in. dia.	**6%**	**3%**
Small Fuels, ¼-1 in. dia.	**9%**	**4%**
Medium Fuels, 1-3 in. dia.	**10%**	**5%**
Large Fuels, >3 in. dia.	**14%**	**8%**
Shrubs, Live Fuel Moisture	**80%**	**50%**
Trees, Live Crown Moisture	**100%**	**60%**

The following table shows the fire behavior interpretations that should be used for the fire behavior outputs.

Flame Length	Fireline Intensity	Interpretation
Less than 4 feet	Less than 100 Btu/ft/s	Persons using hand tools can generally attack fire at the head or flanks. Handline should hold the fire.
4-8 feet	100 - 500	Fires are too intense for direct attack on the head by persons using hand tools. Handline cannot be relied on to hold line. Equipment such as plows, dozers, pumpers, and retardant can be effective.
8-11 feet	500 - 1000	Fires may present serious control problems – torching, crowning, and spotting. Control efforts at the fire head will probably be ineffective.
Greater than 11 ft.	Greater than 1000	Major fire runs are probable. Control efforts at the head of the fire are ineffective.

Fires are classified according to the fuels they are burning in; ground fires, surface fires, and crown fires. Each burns with different intensities and spread rates depending on fuel, wind, and topography. The following fuel types/models were used for analyzing potential fire behavior:

Fire Behavior Outputs
Normal and Most Severe Cases

Fuel Type/ Model	Rate of Spread (Chains/hour)		Flame Length (Feet)		Fire Size after 1 hour (Acres)	
	Normal	Most Severe	Normal	Most Severe	Normal	Most Severe
1	101	446	5	10	385	4,812
2	40	372	7	20	61	2,333
5	31	212	7	18	57	752
6	35	194	6	15	47	631
8	2	8	1	2	<1	2
10	10	68	6	15	4	77

The transition from a fire burning in the surface fuels on the forest floor to a fire that burns in the crowns of the trees is determined by the amount of available fuel, the fire intensity, or flame length, the presence of ladder fuels to carry the fire into the standing trees, and the wind. A fire may start out torching a single tree or small group of trees. When a fire becomes established in the tree crowns, the wind will usually carry the fire in the crowns creating fire intensities that cannot be dealt with by fire suppression forces.

Crown fires are normally driven by the wind but as experienced in the Bitterroot Valley during the 2000 fire season, the dryness of the fuels and tree crowns caused what is known as a plume dominated crown fire. These kinds of crown fires take off because of the dry, explosive, and drought conditions present in the forest. A plume dominated crown fire does not necessarily need wind to keep it sustained.

Burning embers carried aloft by the wind and smoke column and dropped ahead of the main fire front cause spot fires. Spot fires need a dry fuel bed to ignite and it is not uncommon for these fires to start ¼ to ¾ of a mile ahead of the main fire front. These fires create serious problems for fire suppression forces trying to protect lives and property well ahead of an advancing fire. As spot fires start and gain intensity, they can become as active as the main fire front. This was experienced during the fires in the Bitterroot Valley in 2000. Some fires traveled so quickly through a combination of crowning and spotting that there was absolutely no way for fire suppression forces to gain control of them before they did their damage.

Many of the timber stands in the Bitter Root Valley are ripe for crown fires because of the presence of ladder fuels and heavy, down woody debris on the forest floor. These high-risk stands are shown on Condition Class Map #6 in Appendix E. This is exactly why private landowners, county, city, state, and federal agencies in the Valley need to implement a hazardous fuels treatment program.

6. What are the "Values at Risk" or those things which are important to Valley residents which are most threatened by wildfire?

The whole intent of fire protection is to protect the values at risk and maintain healthy forests. The purpose of a successful fire management program is to reduce the risks associated with values that are important to communities, people, and the natural resources. Values at risk will be used to assist fire protection agencies in prioritizing areas for hazardous fuels treatments.

Some of the values at risk in the Bitterroot Valley are:

- Health & Safety – Public & Firefighters
- Air Quality
- Endangered Species
- Recreation
- Property, Improvements & Facilities – Private & Public
- Community Impacts – Economic & Social
- Forest/Ecosystem Health
- Historical/Cultural
- Aesthetics/Scenery
- Soils
- Timber/Lumber
- Water Quality
- Wildlife

There are multiple threats from a wildland fire occurring in the Bitterroot Valley. The **immediate threats** are to:

- **Homes and other Infrastructure** – Few wildfires burn where there is not some threat to homes, structures, fences, power lines, communication sites, or some other type of infrastructure. Treatments in the immediate area around structures, designed to reduce fire intensity, can dramatically improve their survival potential. However, restricting treatments to these areas does little to protect other values-at-risk, some of which may be equally or more important from a neighborhood and/or a community standpoint.
- **Public Fear** – Wildfires can induce fear, concern, and panic. This can result in a marked increase in call volume at the local dispatch center, thereby reducing the ability to service other emergency calls. In addition, access routes into an incident may be clogged as people either flee the scene, attempt to return home to protect their property, or remove other family members or pets.
- **Public Health** – During the 2000 & 2003 fire seasons, the Bitterroot Valley provided dramatic evidence of the danger of living in a fire-zone. Besieged by numerous fires, residents of the area were exposed to heavy smoke for several weeks during August and into early September. This resulted in a dramatic increase in both doctor visits and hospital admissions during and immediately after the fires. Many of those affected lived miles from the actual fires.
- **Firefighter Safety** – In 1997, the "TriData Study: Wildland Firefighter Safety Awareness Study" was commissioned to find ways to improve firefighter safety. Of the 114 recommendations, the #1 was to "Implement a large-scale, long-range fuel management program." Fire protection agencies, county officials, and the public must insist on hazardous fuel reduction efforts on a landscape-basis if they are truly serious

about improving safety of not only firefighters but also the public in general. Treating small areas do not provide the level of protection necessary.

The **secondary threats** from a wildfire occurring in the Bitterroot Valley are:

- **Financial** – Every fire season, stories emerge about the loss of revenue suffered by local businesses attributed to an ongoing fire in the area. This can be particularly acute during the height of a summer tourist season. Multiplied throughout a community, the result can be very serious.
- **Transportation –** Fires can disrupt travel corridors. This may involve air or vehicle routes. After fire effects can also, impact vehicle travel from debris flows crossing roadways.
- **Recreation** – Opportunities to enjoy the outdoor recreation activities can also be severely hampered by wildfire. Areas can become closed to the public because of fire activity or fire danger. After fire, effects include impacts to popular recreation sites from the fire leaving areas "blackened" which reduces visitor popularity.
- **Rebuilding –** For most areas, structures and infrastructure damaged or destroyed during a wildfire will need to be repaired or replaced. For many communities, this involves re-zoning requests, public hearing, *issuance* of new permits, and necessary work-related inspections. Building and engineering Departments can be quickly overtaxed.
- **Environmental –** A devastating wildfire can affect a variety of environmental concerns. One of the most obvious is wildlife and plant habitat. Some of the sites most at risk are home to various Threatened and Endangered Species. Watershed values can be severely damaged by wildfire. Soil erosion can be a major impact after a wildfire along with the rehabilitation work that needs to take place to prevent further damage. After a wildfire, increased insect and disease activity can impact forest health.
- **Public Confidence/Support –** Following a major incident, public review of officials and programs can occur. Confidence in individuals, institutions, and activities may be questioned and or supported. This can also be directed to private groups who have either opposed or advocated a particular course of action contrary to the public's desire. These examinations should focus on how to constructively improve programs.
- **Scenic –** Picturesque long-distance vistas are an important component of our landscape; many travel great distances to partake of experiencing the Bitterroot Valley. Wildfires affect the aesthetics of an area, which can further influence individual landowner property values. Many moved into the Bitterroot Valley and bought property for the view.
- **Emotional/Spiritual –** Many individuals and groups may have intense bonds to a particular site or area. This bond is often overlooked and under-appreciated; nonetheless, it is true and powerful. Damage, real or perceived, to these sites/areas can cause mental or even physical pain.

7. Who are the "Wildland Fire Protection Agencies" and how are their efforts coordinated?

There are three kinds of wildland fire protection agencies in the Bitterroot Valley: Ravalli County Fire Departments, Bitterroot National Forest, and Montana DNRC. Through mutual aid agreements, firefighters from each of these agencies are able to unify and assist each other with wildfires in the Valley. Every effort is made to stop wildfires before they reach housing areas but only county volunteer departments are qualified to provide direct structure fire suppression. A map of the fire protection boundary for each agency is included in Appendix D. The wildland fire protection agencies are:

- **Ravalli County City and Rural Fire Districts** -Ravalli County has an all-volunteer fire fighting force. There are thirteen fire districts and twelve fire companies or departments. All fire departments train in both Wildland and Structural fire fighting and maintain mutual aid agreements through the All Valley Fire Council.
    - Corvallis Volunteer Fire Department
    - Darby Volunteer Fire Department
    - Florence Volunteer Fire Department
    - Hamilton Volunteer Fire Department
    - Painted Rocks Volunteer Fire Department
    - Pinesdale Volunteer Fire Department
    - Stevensville City Volunteer Fire Department
    - Stevensville Rural Volunteer Fire Department
    - Sula Volunteer Fire Department
    - Three-Mile Volunteer Fire Department
    - Victor Volunteer Fire Department
    - West Fork Volunteer Fire Department

- **Bitterroot National Forest** – All four of the ranger districts (Stevensville, Darby, Sula, and West Fork) within the Bitterroot NF provide direct wildland fire protection and suppression services for the National Forest lands within Ravalli County. The Forest Service also has direct protection responsibility for some state and private lands in the County. Each ranger district also supports one fire prevention specialist, who works individually and cooperatively with the Bitter Root RC&D and its WUI Task Force as well as other cooperators within the County to promote public fire awareness.

- **State of Montana** – Department of Natural Resources and Conservation – The Montana DNRC is responsible for fire protection on state and private lands statewide. The Hamilton Unit of the Southwestern Land Office (SWLO) -Montana DNRC is not responsible for direct fire protection on state and private land in Ravalli County. However, the Missoula Unit of SWLO has some direct protection responsibilities in the northern portion of the valley. The SWLO has a fire prevention specialist, who promotes public fire awareness. The DNRC's primary mission is to manage School Trust land (State land) to generate long-term income to the School Trust. The Hamilton Unit provides forestry staff for the Bitter Root RC&D, which includes membership in the WUI Task Force.

8. Over the past few years, we have heard a great deal about the National Fire Plan and the related 10-Year Comprehensive Strategy and Implementation Plan. What are these? Does our Community Wildfire Protection Plan follow the guidelines established in these national documents? Moreover, how do they affect what can or may occur in the Bitterroot Valley?

The planning process for this plan was guided by direction in the National Fire Plan, the National Fire Plan Comprehensive Strategy and 10-Year Implementation Strategy/Action Plan, and the March 2004 Handbook for Wildland-Urban Interface Communities entitled "Preparing a Community Wildfire Protection Plan as follows:

The Core Principles for the comprehensive strategy:

- **Collaboration:** Facilitate a collaborative approach at the local, regional, and national levels.
- **Priority Setting:** Emphasize the protection of communities, municipal, and other high-priority watersheds at risk. Long-term emphasis is to maintain and restore fire prone ecosystems at the landscape scale.
- **Accountability:** Establish uniform and cost–effective measures, standards, reporting processes, and budget information in implementation plans that will fold into the Government Performance and Results Act process.

The goals and guiding principles for the 10-year Comprehensive Strategy:

1. Improve Prevention and Suppression efforts and reduce the threat to lives and property due to wildfire.
    - Firefighting Readiness – Public and firefighter safety is the first priority in all fire management activities.
    - Prevention through Education – Reduce the risks to homes and private property through prevention education.

2. Reduce Hazardous Fuels and concentrate fuel reduction work in areas of highest priority and effectiveness (highest values, greatest hazards, highest population density, high fire occurrence frequency)
    - Prioritize hazardous fuels reduction where the negative impacts of wildland fire are greatest.
    - Concentrate fuel reduction work in areas of highest priority and effectiveness (highest values, greatest hazards, highest population density, and high fire occurrence frequency).

3. Restore Fire-adapted Ecosystems
    - Rehabilitation: Prevent invasive species and restore watershed function and biological communities through short-term rehabilitation.
    - Restoration: Restore healthy, diverse, and resilient ecological systems to minimize uncharacteristically severe fires on a priority watershed basis through long-term restoration.
    - Using science and information: Promote the development and use of the best available science along with local and indigenous knowledge.

- Monitoring: Monitor restoration and rehabilitation projects for effectiveness and share the results in order to facilitate adaptive implementation.

4. Promote Community Assistance by providing for seamless cooperation between agencies and individuals.
    - Increase Local Capacity: Where appropriate, stimulate local capacity to accomplish hazardous fuels reduction and rehabilitation work.
    - Incentives: Promote better fire prevention planning and actions in local communities through technical assistance and cost-sharing incentives.
    - Biomass Utilization: Employ all appropriate means to stimulate industries that will utilize small-diameter, woody material resulting from hazardous fuel reduction activities, such as for biomass electric power, pulp and papermaking, and composite structural building materials.
    - Provide for seamless cooperation between agencies and individuals

Priorities for Restoration within the 10-year Comprehensive Strategy:

- **Wildland Urban Interface.** WUI areas include those areas where flammable wildland fuels are adjacent to homes and communities.

- **Readily accessible municipal watersheds.** Clean water is the most critical resource in many western states. Watersheds impacted by uncharacteristic wildfire effects are less resilient to disturbance and unable to recover as quickly as those that remain within the range of ecological conditions characteristic of the fire regime under which they developed.

- **Accountability:** Establish uniform and cost–effective measures, standards, reporting processes, and budget information in implementation plans that will fold into the Government Performance and Results Act process.

- **Threatened and endangered species habitat.** The extent of recent fires demonstrates that in fire-adapted ecosystems few areas are isolated from wildfire. Dwindling habitat for many threatened and endangered species will eventually be impacted by wildland fire. The severity and extent of fire could eventually push declining populations beyond recovery.

- **Maintenance of existing low risk Condition Class 1 areas.** This is especially important in the Ponderosa Pine habitat types where invasion by more shade tolerant species can eliminate the effects of treatment in 5-12 years. Recent droughts have caused severe wildland fire problems in the forestlands of the Western United States.

Preparing a Community Wildfire Protection Plan

This Bitterroot Community Wildfire Protection Plan meets the minimum requirements for a Community Wildfire Protection Plan as described in the Healthy Forest Restoration Act. These requirements are:

1) **Collaboration:** A CWPP must be collaboratively developed by local and state government representatives, in consultation with federal agencies and other interested parties.
2) **Prioritized Fuel Reduction:** A CWPP must identify and prioritize areas for hazardous fuel reduction treatments and recommend the types and methods of treatment that will protect one or more at-risk communities and essential infrastructure.
3) **Treatment of Structural Ignitability:** A CWPP must recommend measures that homeowners and communities can take to reduce the ignitability of structures throughout the area addressed by the plan.

9. If I treat the hazardous fuels on my property and want to burn them, do I need a burn permit, and if I do, how do I get one?

Because of poor smoke ventilation, no burning is allowed from December 1 through February 28 of each year. The general open burning season starts March 1 and runs through November 31. Montana State law requires burning permits during the fire season; from May 1 to September 30, (fire season may be extended depending upon conditions). This law states "During the forest fire season or an expansion thereof, a person may not ignite or set a forest fire, slash-burning fire, land-clearing fire, debris-burning fire, or an open fire within forest lands without an official written permit to ignite or set the fire from the recognized protection agency for that protection area."

Although permits are not required during the entire open burning season, contacting your local fire protection agency can provide information on drought and fire conditions and may help avoid an escaped fire and potential liability. It also allows local protection agencies to know where burns are taking place and avoid false alarm callouts to non-emergency situations. Before you burn at any time, you should call the non-emergency Sheriff's Office phone number (363-3033) to let them know you will be burning.

This photo shows the burning of hazardous fuels pile in Springer Memorial, Sula, MT in the fall of 2002.

Appendix B

Priority Fuel Treatment Areas Within the WUI

Fire crew monitoring burn piles in a wildland urban interface hazardous fuels reduction project.

Hazardous fuel mitigation reduces the risk of wildland wildfire to private lands but it certainly will not guarantee that fire will not threaten or damage private lands under severe burning conditions.

Attachment B-1

BITTERROOT COMMUNITY WILDFIRE PROTECTION PLAN **GRANT APPLICATION RATING FORM**			
LAND OWNER NAME:		TOTAL ACRES TO TREAT:	
Values At Risk: *(Check all that apply)*		**X**	
Structures present	15		
Known Historic/Cultural site present on land	10		
Landowner Merchantable Timber Value at Risk	10		
Old Growth Timber at Risk	10		
Water Quality/SMZ/Riparian Areas at risk on land	15		
Forest Health Issues (Insects and/or Disease)	15		
Fire Risk: *(Choose only one from CWPP WUI Map)*		**X**	
High – within the WUI	25		
Moderate – Within ¼ mile of the WUI	10		
Low – Outside the WUI	1		
Access: *(Choose only one)*		**X**	
Most of Area is Difficult/Unsafe to access w/High Fire Potential	20		
Combination of Difficult and Easy Access w/High Fire Potential	15		
Most of Area is Easy/Safe to access w/High Fire Potential	5		
Structure Density: *(Choose only one)*		**X**	
High Density - Wildland Urban Interface	20		
Moderate Density - Wildland Urban Intermix	10		
Low Density - Single Dwellings with possible large acreages	5		
Joint Projects: *(Choose only one)*		**X**	
Qualifies for existing or multiple funding sources	10		
Potential for Agency/private cross boundary project(s) (within ¼ mile of NF)	20		
Multiple private Land owner project(s)	20		
Single land owner project	5		
Fire Protection/Suppression: *(Check all that apply)*		**X**	
Critical potential fire control point	10		
Creates above average aid in protecting adjacent property	10		
Adjacent to potential safety zone and/or escape route	10		
Creates significant enhancement of public access/egress	10		
Willing to meet thinning, pruning and slash treatment specifications:		**X**	
Wholeheartedly	10		
Somewhat with reservations	5		
Not at all, skeptical	0		
Subjective Professional Input: Factors such as: Potential to influence others in neighborhood. Strong socio/political influence and any other pertinent factors not considered in the scoring criteria above. Must be documented on reverse.		1-20	
		TOTAL POINTS	

95+ = High 80-95 = Moderate <80 = Low

1. Values at Risk: Check all values at risk that may be threatened by wildfire in that area. Only check values at risk if moderate or high fire potential exists and if value applies to that area.
2. Fire Risk: This rating can be obtained from the CWPP for the area. Use the fire risk map that is a part of this local plan to obtain the risk factor for that specific area.
3. Access: Difficult access would be those areas that are inaccessible where the fire risk/hazard is high and/or those areas where bridges, road widths, road grades, and one-way in and out may hamper ability of fire departments to access the area for protection.
4. Structure Density: Use the structure density map to determine or determine structure density in areas by on-the-ground survey.
5. Joint Projects: If area is adjacent to National Forest or State lands where joint projects can take place, the area would receive the highest rating. If area is over ½ mile from these boundaries and it is known that very few landowners may participate, no points should be given.
6. Fire Protection/Suppression: Determine after reviewing the project area and understanding all of the factors that may apply.
7. Willingness: Rate in terms of the current interest area residents have shown. If current interest is unknown then give it a low rating. If you know about some interest but only a few residents, give middle rating. If it is known that, there are very strong advocates in an area and they continually want to know about programs to reduce fire risk, rate as high. Use what is written in the grant application as a basis for rating this factor.

All ratings can change over time as conditions change and people become more actively involved in this program. These area ratings can be done annually to understand the changes that have taken place.

How this form is used: As grants are received by Bitter Root RC&D to treat hazardous fuels on private lands, private residents are encouraged to apply for these grants to reduce the fire risk on their properties. A grant application is filled out by interested landowners and sent to Bitter Root RC&D. This form is used to rate individual applications in order to determine where grant dollars should most effectively and efficiently be spent.

NFPA 1144 **Attachment B-2**

Wildland Fire Risk and Hazard Severity Assessment Form

Assign a value to the most appropriate element in each category and place the number of points in the column.

ELEMENT

A. MEANS OF ACCESS

1. Ingress & Egress
   - a. Two or more roads in/out 0 ____
   - b. One road in/out 7 ____

2. Road Width
   - a. ≥ 7.3 m (24 ft) 0 ____
   - b. ≥ 6.1 m (20 ft) and < 7.3 m (24 ft) 2 ____
   - c. < 6.1 m (20 ft) 4 ____

3. All-season road conditions
   - a. Surfaced road, grade <5% 0 ____
   - b. Surfaced road, grade >5% 2 ____
   - c. Non-surfaced road, grade <5% 2 ____
   - d. Non-surfaced road, grade >5% 5 ____
   - e. Other than all season 7 ____

4. Fire Service Access
   - a. ≤ 91.4 m (300 ft) with turnaround 0 ____
   - b. > 91.4 m (300 ft) with turnaround 2 ____
   - c. < 91.4 m (300 ft) with no turnaround 4 ____
   - d. ≥ 91.4 m (300 ft) with no turnaround 5 ____

5. Street Signs
   - a. Present 10.2 cm (4 in.) size & reflective 0 ____
   - b. Not Present 5 ____

B. VEGETATION (FUEL MODELS)

1. Characteristics of predominant vegetation within 91.4 m (300 ft)
   - a. Light (e.g. grasses, forbs, sawgrasses, and tundra) NFDRS Fuel Models A, C, L, N, S, and T 5 ____
   - b. Medium (e.g. light brush & small trees) NFDRS Fuel Models D, E, F, H, P, Q, and U 10 ____
   - c. Heavy (e.g. dense brush, timber, and hardwoods) NFDRS Fuel Models B, G, and O 20 ____
   - d. Slash (e.g. timber harvesting residue) NFDRS Fuel Models J, K, and L 25 ____

2. Defensible Space
   - a. More than 30.48 m (100 ft) of vegetative treatment from the structure(s) 1 ____
   - b. 21.6 m to 30.48 m (71 ft to 100 ft) of vegetative treatment from structure(s) 3 ____
   - c. 9.14 m to 21.3 m (30 ft to 70 ft) of vegetative treatment from structure(s) 10 ____
   - d. < 9.14 m (30 ft) of vegetative treatment from structure(s) 25 ____

C. TOPOGRAPHY WITHIN 91.4 m (300 ft) OF STUCTURES)
   - A. Slope < 9% 1 ____
   - Between 10 and 20% 4 ____
   - Between 21 and 30% 7 ____
   - Between 31 and 40% 8 ____
   - Greater than 41% 10 ____

D. ADDITIONAL RATING FACTORS (rate all that apply)

1. Topographical features that adversely affect wildland fire behavior 0-2 ____
2. Areas with a history of higher fire occurrence than surrounding areas due to special situation such as heavy lightning, railroads, escaped debris burning, arson, etc. 0-5 ____
3. Areas that are periodically exposed to unusually severe fire weather and strong dry winds 0-5 ____
4. Separation of adjacent structures that can contribute to fire spread 0-6 ____

E. ROOFING MATERIAL

1. Class A roof (slate, rock shingle concrete tile, fiberglass based shingles) 0 ____
2. Class B roof (aluminum shingles, aluminum or steel panels) 3 ____
3. Class C roof (felt-tar based shingles & rolled roofing, asphalt tar gravel) 15____
4. Non rated (Wood Shake) 25____

F. EXISTING BUILDING CONSTRUCTION

1. Materials (predominate)
   a. Non combustible fire resistive siding, eaves, and deck 0 ____
   b. Non combustible fire resistive siding and combustible wood deck 5 ____
   c. Combustible siding and deck 10____
2. Building setback relative to slopes of 30% or more
   a. > 9.14 m (30 ft) to slope 1 ____
   b. < 9.14 m (30 ft) to slope 5 ____

G. AVAILABLE FIRE PROTECTION

1. Water source availability
   a. Pressurized water source availability
      1892.7 L/min (500 gpm) hydrants < 304.8 m (1000 ft) apart 0 ____
      946.4 L/min (250 gpm) hydrants ≤ 304.8 m (1000 ft) apart 1 ____
   b. Nonpressurized water source availability (off site)
      ≥ 946.4 L/min (250 gpm) continuous for 2 hrs. 3 ____
      < 946.4 L/min (250 gpm) continuous for 2 hrs. 5 ____
   c. Water unavailable 10____
2. Organized response resources
   a. Station ≤ 8 km (5 mi) from structure 1 ____
   b. Station > 8 km (5 mi) from structure 3 ____
3. Fixed fire protection
   a. NFPA 13, 13R, 13D sprinkler system 0____
   b. None 5 ____

H. PLACEMENT OF GAS AND ELECTRIC UTILITIES

1. Both underground utilities 0 ____
2. One underground, one aboveground 3 ____
3. Both above ground 5 ____

I. **TOTALS FOR HOME OF SUBDIVISION** (TOTAL OF ALL POINTS) _____

HAZARD ASSESSMENT

Low Hazard	**=**	**<49**
Moderate Hazard	**=**	**49-69**
High Hazard	**=**	**70-112**
Extreme Hazard	**=**	**>112**

Note: This form along with the State of Montana DNRC Home Evaluation Form will be used to assess structure ignitability on private land structures.

Attachment B-3

PROCEDURE FOR INCLUDING YOUR PROPERTY IN A RURAL FIRE DISTRICT

1. Determine if your home/property is currently included in a Rural Fire District.

    a. Find the location of your property on a map of the Rural Fire Districts.
    (Maps can be viewed at the Rural Fire District stations or at the Ravalli County Courthouse.)
    If your property is clearly within the mapped boundaries of a Rural Fire District, the job is finished. You can check by following the subsequent procedure.

    OR

    b. Check your latest property tax bill.
    Under "School District," you will find a code.
    Example:
    9-1 Town of Darby
    9-2 Darby rural less rural fire
    9-3 Darby rural including Darby rural fire
    9-4 Darby rural including Sula rural fire
    9-5 Darby rural including Hamilton rural fire
    0-7 Darby rural including West Fork rural fire
    If your tax bill reads: "Darby rural less rural fire"
    Then check under "Special Codes": 92 (means "forest protection")
    (This means you have no structural fire protection)

<u>On lands that are outside the boundaries of the Rural Fire Protection Districts</u>:

The Forest Service or the MT Dept of Natural Resources often respond, and are trained and equipped to fight grass and wildland fires, but they are not trained to fight structural fires.

If conditions permit and they are not otherwise committed within their Rural Fire District or on a Mutual Aid response, the appropriate Rural Fire District *may* respond to a fire outside their District but, although rare, *may* leave a fire that is outside their Rural Fire district to respond to a fire that is within their Rural Fire District Area or to Mutual Aid commitments. Homeowners located outside the Rural Fire District may be billed for the costs incurred by the responding Rural Fire Company.

2. If you are in doubt about your rural fire protection situation, check with the Clerk and Recorders' Office in the Ravalli County Courthouse. DO NOT TAKE YOUR RURAL FIRE PROTECTION FOR GRANTED.

IF YOU ARE NOT IN A RURAL FIRE DISTRICT AND WANT TO BE IN A RURAL FIRE DISTRICT:

Contact the Chief of your Rural Fire District. Then:

1. Prepare a request of intent for annexation into the local rural Fire District. (This is simply a letter stating your desire to be included within the appropriate Rural Fire District.)
2. Contact neighbors and adjacent landowners. Get names in writing and legal description of properties. They may wish to include in the proposed action.
3. Lands must be contiguous. (Lands must be adjacent and also adjacent to the Rural Fire District boundary).
4. Take this written request to the local District Rural Fire Chief.
5. He or she approves the request or identifies needed changes.
6. The Fire Chief then presents the request to the County Commissioners.
7. The County Commissioners act on the request.

Our Fire Districts are VOLUNTEER fire districts. The volunteer members of our rural fire districts are anxious to provide the maximum level of protection of life and property to residents within their respective Fire Districts. This unselfish purpose is the reason that they have volunteered to serve their community through your local Fire District.

We as landowners, residents, and property owners owe them the safest and best opportunity to do their job at minimum risk to their lives and safety.

In working with the rural Fire Chief to have your property included in his/her fire district, they are thinking about your safety as well as that of your neighbors and of the members of his/her Rural Volunteer Fire Company. They have the best interests of our community at heart. Please work with them with understanding and cooperation. You will be glad you did.

BE FIREWISE!

Attachment B-5

Code for School Districts

CODE	SCHOOL DISTRICT
1	**Pinesdale, town of**
1-2	**Corvallis, less rural fire**
1-3	Corvallis, including rural fire
1-4	Corvallis, including Stevensville rural fire
1-5	Corvallis, including Hamilton rural fire
2-1	**Town of Stevensville**
2-2	Stevensville rural, less rural fire
2-3	Stevensville rural, with rural fire
2-4	Stevensville rural, with Three Mile fire
2-5	Stevensville rural, with Victor fire
3-1	**City of Hamilton**
3-2	Hamilton rural, less rural fire
3-3	Hamilton rural, with rural fire
3-4	Hamilton rural, with Darby fire
7-2	**Victor, less rural fire**
7-3	Victor, with rural fire
7-4	Victor, with Stevensville fire
9-1	**Town of Darby**
9-2	Darby rural, less rural fire
9-3	Darby rural, including Darby rural fire
9-4	Darby rural, including Sula rural fire
9-5	Darby rural, including Hamilton rural fire
9-7	Darby rural, including West Fork rural fire
13-2	**Lone Rock, less rural fire**
13-3	Lone Rock, including rural fire
13-E3	Lone Rock Elementary, including rural fire
13-4	Lone Rock, including Stevensville rural fire
15-2	**Florence, less rural fire**
15-3	Florence, including rural fire
	SPECIAL CODE – DISTRICTS
92	Forest protection

Bitter Root RC&D

Hazardous Fuel Reduction Program

List of Hazardous Fuel Reduction Contractors/Forestry Consultants

A list of private forestry consultants and contractors will be kept and maintained with the Bitter Root RC&D. This list will be made available to any landowner for work involving the reduction of fire risk through the treatment of hazardous fuels on their property. Bitter Root RC&D does not endorse any one contractor over another on this list and this list is certainly not all-inclusive. Probably other contractors who would do this kind of work have not been contacted and have not been put on this list. Bitter Root RC&D will strive to update this list several times annually in order to list new contractors and add names missed during previous updates.

It is each individual landowner's responsibility to select a contractor that will accomplish the work to their satisfaction and meet the grant program fuel treatment standards/requirements. It is recommended that landowners evaluate the past work of these contractors before deciding on a contractor and using them on their project. This can be done by asking for references and calling other landowners who have had work done by a specific contractor. It is also important to ensure that the contractor is licensed, bonded and provides for OWCP benefits for all employees if needed.

To help the contractors or cooperators be more effective, the RC&D will work to improve their fire qualifications through training and sign-up.

When implementing fuel reduction projects through grants, cooperators will normally work on a cost-share basis meaning they will be responsible for a percentage of the costs, either through cash or through work-in kind.

Lodge pole pine stand with hazardous fuels piled and ready for disposal.

Attachment B-7

Ranges of Costs per Acre of

Hazardous Fuels Treatment Practices

Fuel Management Practice	Range of Costs	
	Low	**High**
Pre-commercial Thinning/acre	$100	$500
Pruning/acre	$50	$400
Lop and Scatter Slash/acre	$35	$70
Hand Piling and burning/acre	$200	$1,200
Machine Piling and burning/acre	$100	$500
Slash Pullback from Residual Trees/acre	$35	$70
Chipping/acre	$300	$1,200
Prescribed Under-burning/acre	$20	$300
Fire line Construction/chain	$20	$100
Holding and Mop-up/acre	$15	$300

The difference between the low and high costs for each of these practices depends on many factors, such as:

- **Accessibility:** The less accessible the area, generally the higher the cost.
- **Percent Slope:** The greater the average slope of the area, the higher the cost.
- **Density of the trees:** The greater the density of trees, generally higher cost.
- **Amount of Downed Fuel:** The more down fuels, the higher the cost.
- **Size of area to be treated:** Generally the larger the area, the less cost per acre.
- **Amount of Cleanup:** The more thorough cleanup that needs to be done, the higher the cost.
- **Weather Conditions:** The dryer the weather conditions, the higher the costs will be for burning because more protection measures will need to be used, i.e., pumps, engines, extra personnel, etc.

Attachment B-8

Mutual Aid Agreement

The Cooperative Fire Management Annual Operating Plan (AOP) is made and entered into by and between the Montana Department of Natural Resources - Southwest Land Office (DNRC), Ravalli County Fire Districts (Darby, Florence, Hamilton Rural, Painted Rocks, Pinesdale, Stevensville Rural, Sula, Corvallis, Three Mile, Victor and West Fork), Hamilton and Stevensville City Volunteer Fire Departments, and the Bitterroot National Forest under the provisions of the Cooperative Fire Management Agreement executed March 31, 1998.

The purpose of the AOP is to document the relationship and define the details of implementing the Cooperative Fire Management Agreement. The plan defines Structure Protection, Structure Suppression, Mutual Response Zone, and the Mutual Aid Zone.

The AOP is developed, updated, and approved annually by May 1st. Billing is discussed in operating procedures. Fire notification, command, support actions, communication, and equipment availability are discussed in Mutual Aid in Wildland Fire Protection. Fire protection – Wildland/Residential Interface issues, training and out of area mobilization are addressed in the document.

The following exhibits are attached as part of the AOP:

- Protection Zone Map
- Forest Service Equipment
- Ravalli County Inventory Guide
- Southwest Montana Zone Equipment Mobilization Board
- Principal Contacts

Each of the above listed parties maintains copies of the AOP.

Activity Monitoring

Attachment B-9

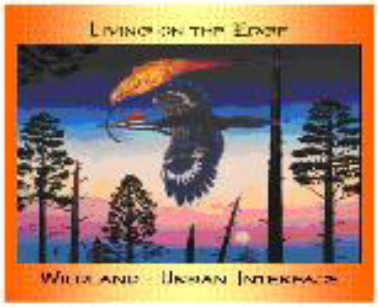
A. Fire Prevention and Suppression Action Items			
	Who Takes the Lead	Timeframe Agreed To	Monitoring Notes
A-1. Communication between Fire Council and County Commissioners			
A-2. Volunteer Fire Department needs			
A-3. Monitor and update County Pre-disaster Mitigation Plan			
A-4. Review and Revise the Mutual Aid Agreements.			
A-5. Initiate efforts to develop a Communication Plan for Ravalli County			
A-6. BRF – Develop Stevi West Wildland Fire Response	Bitterroot Forest		
A-7. Develop Population Protection Plans for RFD's in Ravalli county	RFD's BRF, County		
A-8. Develop a Map of the WUI for Ravalli County	Bitterroot RC&D	2009	

B. Hazardous Fuel Treatment Action Items			
	Who Takes the Lead	Timeframe Agreed To	Monitoring Notes
B-1. Identify, Maintain, & Update High Risk/Hazard areas for Hazardous Fuel Treatment and revise as needed.			
B-2. Support Hazardous Fuel Treatment Projects Within the Interface.			
B-3. Coordinate hazardous fuel treatment projects between private landowners, state, and federal land managers.			
B-4. Update and encourage use of Fuel Treatment Guidelines for New Subdivisions in Ravalli County.			
B-5. Mitigate the Slash Disposal Problem.			
B-6. Implement a year-end Reporting System to show accomplishments.			
B-7. Conduct Home Evaluations for FIREWISE construction techniques.			

C. Restoration of Fire-adapted Ecosystems Action Items			
	Who Takes the Lead	Timeframe Agreed To	Monitoring Notes
C-1. Insect and Disease Assessment (mapping) in the Valley.			
C-2. Develop post-wildland fire disaster mitigation guidelines for private landowners.			
C-3. Help landowners identify and know how noxious weeds affect the ecosystem.			
C-4. Work with private landowners on Hazardous Fuel Reduction projects to incorporate Best Mgmt Practices, Streamside Management Zone Guidelines as well as addressing Forest Health issues.			

D. Community Assistance Action Items			
	Who Takes the Lead	Timeframe Agreed To	Monitoring Notes
D-1. Maintain the Fire Plan website to disseminate information			
D-2. Expand awareness of need for hazardous fuels treatment programs and encourage engagement of landowners, especially in high-risk areas.			
D-3. Staff, Operate, and Maintain the "Living on the Edge" FIRE SMART Wagon.			
D-4. Work with Realtors, Building Contractors, Insurance, and Landscaping Companies			
D-5. Produce and disseminate information products such as newsletters and news articles on a regular basis.			
D-6. Continue to Produce, Improve, and Maintain curriculum for students.			
D-7. Engage Bitterroot Builders Association in homeowner's awareness campaign.			
D-8. Communicate better about Fire Plan accomplishments.			
D-9. Continue support of Small Diameter Utilization and Biomass Utilization Opportunities.			
D-10. Monitor and Coordinate local Policies & Planning Efforts.			

Bitterroot Valley
NATIONAL FIRE PLAN
Implementation



Fire SMART Wagon

A Multiagency Community Resource Delivering the Fire Message

The Bitter Root Resource, Conservation & Development Area, Inc. (RC&D) and the USDA Forest Service-State & Private Forestry have developed a mobile, user-friendly information and education trailer that contains the following three elements of the *National Fire Plan:*

- preparedness
- hazardous fuels mitigation
- fire prevention education

Public unveiling of the Fire SMART Wagon, May 6, 2003

The 16-ft. trailer is a state-of-the-art, technological classroom. Available to the public through this venue is a collection of innovative, cutting-edge interpretive materials, promoting messages related to fire ecology, responsibly living in a fire-dependent ecosystem, defensible space, and hazardous fuels reduction.

Kit Sutherland, Bitterroot RC&D
2709 N First St, Hamilton, MT
59840
406-363-2444
www.bitterrootrcd.org

Nan Christianson, Bitterroot NF
1801 N First St, Hamilton, MT
59840
406-363-7103

Bitterroot National Forest – State & Private Forestry Montana Dept. Natural Resource & Conservation

Bitter Root Resource Conservation & Development Area, Inc.

Appendix C

Reference Materials

The following documents were used or referenced in the writing of this community fire plan. If you would like a copy of one or all of these documents please contact the Bitter Root RC&D, 1709 N 1st, Hamilton, MT, 59840, (406) 363-1444 ext. 5 and they will either be able to provide you with a copy or direct you to a website (www.bitterrootrcd.org) that has the information.

1. Fire Protection Guidelines for Wildland Residential Interface Development – Montana DNRC & Department of Justice Fire Prevention & Investigation

2. A Collaborative Approach for Reducing Wildland Fire Risks to Communities and the Environment – 10-Year Comprehensive Strategy

3. A Cohesive Strategy – To Protect People and Sustain Resources in Fire-Adapted Ecosystems

4. Healthy Forests – An Initiative for Wildfire Prevention and Stronger Communities

5. A Report to the President In Response to the Wildfires of 2000

6. Bitterroot National Forest Fire Management Plan - Appendix K-11 to the Bitterroot National Forest Plan (revised yearly)

7. Preparing a Community Wildfire Protection Plan – A Handbook for Wildland-Urban Interface Communities – March 2004

8. Healthy Forest Restoration Act - 2003

Appendix D

ADDENDUM TO THE BITTERROOT CWPP
November 2009

This documentation serves as an addendum to the Bitterroot Community Wildfire Protection Plan (CWPP) for 2009. This fulfills the requirement as the annual update to the CWPP. Included in this addendum is additional information that the Bitterroot Wildland Urban Interface Task Force felt was important to address in the CWPP as well as the accomplishments from the past year. Also included are the accomplishments from 2003 thru 2006 as well as 2007, 2008 and 2009 as documentation.

Landownership in Ravalli County – CWPP Area

Owner	Acres	Sq. Miles	% of Total
U. S. Forest Service	1,118,036	1,746.9	72.8%
Private	366,861	573.2	23.9%
State Land Trust	29,516	46.1	1.9%
Other State Land	8,703	13.6	0.6%
Plum Creek Timberlands	6,914	10.8	0.5%
U.S. Fish & Wildlife Service	2,677	4.2	0.2%
Water	2,006	3.1	0.1%
Total	1,534,713	2,397.9	100%

Other Information pertinent to the CWPP

Permanent Population of Ravalli County	36,070 people
Seasonal Population of Ravalli County	Unknown

Wildland-Urban Interface Acres on Bitterroot National Forest Lands

Wildland-Urban Interface Acres in Ravalli County on National Forest Lands	262,239
Percent of National Forest Lands in Ravalli County in the Wildland-Urban Interface	31%

Wildland-Urban Interface Acres in Ravalli County on Private Land

Rural Fire District	Total WUI Acres	Acres within WUI	Acres outside WUI	% of RFD within WUI	% of RFD outside WUI
Florence	27,786	16,922	10,864	61	39
Stevensville	67,798	46,660	21,138	60	40
Victor	33,694	15,140	18,554	45	55
3 Mile	31,541	18,331	13,210	58	42

Rural Fire District	Total WUI Acres	Acres within WUI	Acres outside WUI	% of RFD within WUI	% of RFD outside WUI
Corvallis	51,316	23,046	28,270	45	55
Pinesdale	826	661	165	80	20
Hamilton	77,564	51,636	25,928	67	33
Darby	41,169	31,773	9,396	77	23
Westfork	8,402	8,402	0	100	0
Sula	34,490	32,663	1,827	94	6
Painted Rocks	21,355	21,355	0	100	0
Total	395,941	266,842	129,099	67	33

Acres of Fuel Mitigation in Ravalli County

Bitterroot NF Fuel Treatment Summary (Acres)				
Treatment	**2003 Through 2006**	**2007**	**2008**	**2009**
Piling	3,190	1,999	661	547
Pile Burning	1,091			2,311
Slashing	1,741	710	551	829
Under-burning	5,398	847	700	259
Thinning (Pre-commercial)	3,165	1,329	1,706	1,454
Thinning (Commercial)	3,859	269	68	258
Lop & Scatter	15	0	0	597
Total	18,459	5,154	3,686	6,255
Above Acres in WUI	10,429	3,092	2,211	4,479
Other Acres outside WUI	8,030	2,062	1,475	1,776
Wildland Fire Use	39,536	19,793	8,079	12,049
Wildfires	37,365	31,174	23	3,132
Total Acres of Treatment and Disturbance on the BNF	95,360	56,121	11,788	21,436

Bitter Root RC&D Hazardous Fuels Grant Programs (Acres)				
Treatment	**2003 Through 2006**	**2007**	**2008**	**2009**
Thinning, Pruning and Slash Disposal	1503.3	137.7	406.3	425.7

Total Acres Accomplished and Planned to Accomplish through 11/20/2009 is Approximately 2,473 acres. There have been 341 landowners under agreements to accomplish these acres.

There are several hundred other acres that have been accomplished in Ravalli County that are not accounted for under the Bitter Root RC&D programs that have been done by landowners without grant funding over the past several years.

Process used to identify the Wildland-Urban Interface on Private Land And High-Risk Priority Fuel Treatment Areas in Ravalli County

During the 2009 Montana State Legislative Session, SB 131 was passed. This act requires the Department of Natural Resources and Conservation to designate the wildland-urban interface (WUI) parcels in each county. This requires the county to create and maintain maps of the WUI parcels within Ravalli County. The WUI maps are to be included in the Bitterroot Community Wildfire Protection Plan (CWPP).

As part of the CWPP update for 2009, the Bitter Root Resource Conservation and Development Area Inc. (BRCD) CWPP update Committee developed a process that each Fire District in Ravalli County was to use to identify high-risk, moderate-risk and low-risk WUI areas on private lands within the county.

The BRCD developed a draft map of the WUI boundary on private land within each rural fire district (RFD) in Ravalli County. Utilizing aerial photographs, and various other mapping products, areas of high-risk fuel conditions were identified, and a draft WUI map was completed. Once the first draft WUI map was completed, BRCD staff met with each of the RFD Fire Chiefs to personally review the entire WUI boundary within each RFD boundary. By using all the years of fire experience and considering the access, slope, fuel loads, aspect, elevation, population and fire history & behavior (as observed from previous calls), adjustments to the draft WUI map were made. All modifications suggested by the RFD chiefs were immediately made and documented. When all of the RFD chiefs had the opportunity to review and approve the WUI boundaries for their respective RFD, a final WUI map was completed.

The area of highest priority for fuel reduction projects on private land in Ravalli County continues to be the entire West side of the Bitterroot Valley. This means that fuel reduction projects could occur in any of the high-risk WUI areas each RFD delineated on the WUI map, but if there was more individual landowner support on the West side of the valley, that is where the work should occur first.

Process to Identify the Wildland-Urban Interface And Priority Fuel Treatment Areas on the Bitterroot National Forest for the CWPP

Because of the need to protect private land values and to provide for public safety, all of the approximately 1 to 1 1/2 Mile deep wildland- urban interface area along the Forest boundary was reviewed by Bitterroot National Forest fire managers for potential future fuels treatment. The condition of this area varies greatly, but all areas that have been identified for potential future fuel treatments are considered priority areas. In the future, each priority area will be individually analyzed to determine the need, potential, and sequence for future fuel treatment projects.

In general, the following rational will be used to filter future priorities for fuel treatments:

Low and medium priority areas, in general, will include areas that had recently burned (as in 2000), areas that had already had considerable treatment completed, areas with poor access adjacent to low density population areas, and areas with or surrounded by irrigated agricultural lands.

High priority areas will include those lands within the WUI that had not yet burned, were adjacent to high-density population areas, and/or required considerable treatment in order to bring fuel/vegetation conditions to levels that are more acceptable.

Bitterroot National Forest
Acres Within the WUI

Ranger District	Total Acres	RD % of Total
Darby	81,011	33%
Stevensville	51,152	41%
Sula	59,465	34%
West Fork	70,611	24%
Total	**262,239**	**31%**

Appendix E

Maps

#1 – Ravalli County Land Ownership Map

#2 – Ravalli County Addressed Structures Map

#3 – Ravalli County Rural Fire District Boundaries

#4 – Large Fire Occurrence Map (100+ acres)

#5 – Insects and Disease Map

#6 – Condition Class Map

#7 – USFS Planned Fuel Mitigation Map

#8 – Completed Fuel Treatment USFS and Private

#9 – Ravalli County WUI Map