



BITTERROOT

Community

Wildfire

Protection

Plan

January 2006 Update

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Bitterroot Community Wildfire Protection Plan

Participated in and Reviewed by the following signatories:

Chief – Corvallis Rural Fire District

Chief – Darby City Rural Fire District

Chief – Florence Rural Fire District

Chief – Hamilton Volunteer Fire Dept.

Chief – Pinesdale City Fire Department

Chief – Stevensville Volunteer Fire Dept.

Chief – Stevensville Rural Fire District

Chief – Sula Rural Fire District

Chief – Three Mile Rural Fire District

Chief – Victor Rural Fire District

Chief – West fork Volunteer Fire District

Forester – Bitter Root RC&D

Commissioner Chair – Ravalli County

Commissioner - Ravalli County

Commissioner - Ravalli County

Supervisor – Bitterroot National Forest

Manager – Hamilton Unit, DNRC

President – Bitter Root RC&D

Sheriff – Ravalli County

DES Coordinator – Ravalli County

Wildland Urban Interface Task Force

Chief – Painted Rocks Fire District

Chair – Conservation District

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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 is 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.

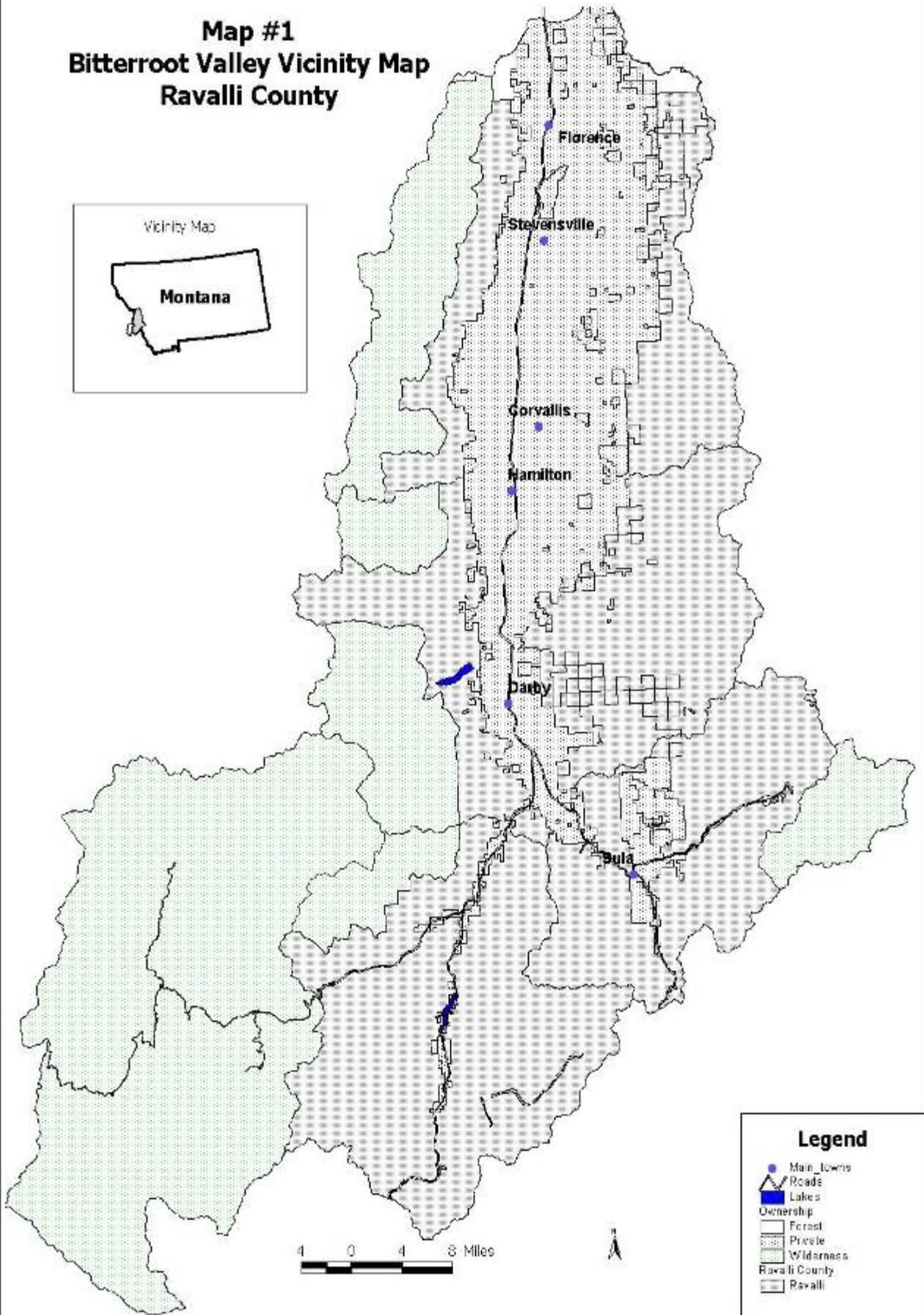
Issues and actions fit into one or more of four primary areas of emphasis. These four primary areas of emphasis are also the main emphasis items identified in the National Fire Plan 10 year Comprehensive Strategy and in the Healthy Forest Restoration Act of 2004:

- ✘ 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, and also, the guidance provided by Congress in the Healthy Forest Restoration Act. Reference Map #1 on the next page to view area covered by this CWPP.

Map #1 Bitterroot Valley Vicinity Map Ravalli County



Legend

- Main_towns
- Roads
- Lakes
- Ownership
 - Forest
 - Private
 - Wilderness
- Ravalli County
- Ravalli

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 and 2003 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”.



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 & #10 in Appendix D 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. Reference Appendix D Maps #2 and #3 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 #4 in Appendix D illustrates the proximity of populated areas within the valley, to areas of heavy fuels on forested lands.

After the wildfires of 2000, many Valley residents better understand 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.



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.



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

**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.

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 far left photo was taken in 1909. The other 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.

2004 accomplishments 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 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	2004 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.

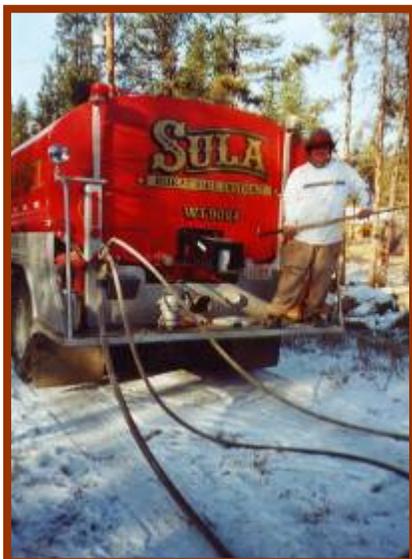
Volunteers need to be trained to meet ICS standards and their training and qualifications entered into the ICS system as appropriate. The goal is to qualify and make available more instructors within departments to teach basic and intermediate wildland fire classes up through engine and crew boss. Most 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	2004 Accomplishments: Each Volunteer Fire Department has been working on their own to secure grants for equipment purchases and providing training for their people. Example: Victor VFD has received approximately \$162,000 in grant funding for equipment purchases over the past three years.		



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 DES Coordinator
Notes & Updates	2004 Accomplishments: The Ravalli County Pre-Disaster Mitigation Plan has been completed and sent into the Department of Homeland Security for approval.		

Updated Mutual Aid agreements would improve initial attack and extended attack capability in the County.

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	2004 Accomplishments: A review has been completed and updates are done on an as needed basis between the U.S. Forest Service and the All Valley Fire Council.		

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 don't 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	<p>Identify communication problems, players involved, and the communication coverage presently in place and what is needed. A grant funded radio communication evaluation will be conducted for emergency responders in Ravalli County through the County DES Office. *****</p> <p>Explore grant funds to support additional needs. *****</p> <p>Enable all emergency services to communicate with 911 dispatch from anywhere in the County at any time. *****</p> <p>Identify equipment or personnel needs in the County and seek ways to meet those needs, and especially on fire, need to work with the Sheriff on evacuation procedures/ documentation and security in fire camps. *****</p> <p>Clearly identify roles and responsibilities of all those involved in emergency response.</p>	Single organization or small task force to take lead and coordinate this effort.	<p>The Communications Advisory Board will coordinate and lead this effort.</p> <p>Local Emergency Planning Committee</p> <p>Ravalli County DES Coordin.</p>
Notes & Updates	<p>2004 Accomplishments: A grant-funded communication evaluation will be conducted shortly for emergency responders in Ravalli County through the County DES Office. This evaluation will assist in identifying necessary steps in the introduction of P-25 digital communications. Homeland Security funding is continuing to support interoperable communication goals. 911 phone system was completely replaced with 4-station interoperable/E911 compliant Zetron system. This was made possible through county and grant funding.¹</p>		

¹ The mobile repeater will be available to the Sheriff's Office in an emergency and will be located at the Fire Department and can be used by the All Valley Fire Department and DES. The van is separate and is run by the Search and Rescue. The mobile communications center is part of the Sheriff's Office equipment.

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 #8 and #9 in Appendix D show 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.

2004 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 Risk/Hazard areas 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 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 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	2004 Accomplishments: The private land high-risk areas were updated during the spring of 2005 as a part of the revising/updating the Bitterroot Valley CWPP. The All Valley Fire Council has reviewed these areas and made slight changes to them for this CWPP update. The U.S. Forest Service, Bitterroot National Forest has developed a priority hazardous fuel treatment map as a part of this update. This map is also included in the updated CWPP for Ravalli County.		



This photo shows the areas that were mapped and identified by hazardous fuels teams in 2002. High Risk areas will continue to be mapped and assessed. Projects will be tracked and we will continue to look for success through various hazardous fuels treatment projects and state and federal programs.

Action Item B-2:

Support Hazardous Fuel Treatment Projects Within the Interface.

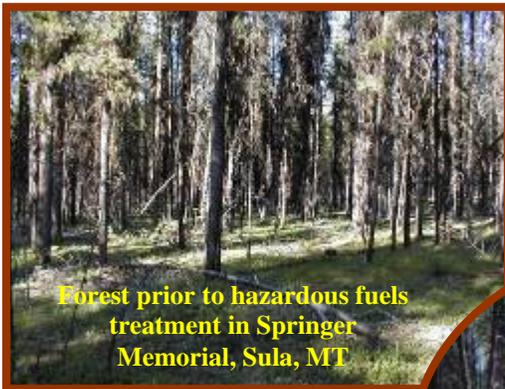
Description	Support expansion of hazardous fuel treatment projects in the high risk/hazard areas in the Bitterroot Valley with emphasis on private landownership. (i.e., Western States grant, Community Protection Fuel Mitigation grant, and other grant opportunities)	Resources Needed	Who is Responsible
Tasks	<p>Continue developing and maintain a list of hazardous fuel treatment contractors and forestry consultants. Set and update requirements *****</p> <p>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. *****</p> <p>Develop and maintain a list of fuel treatment techniques and costs. *****</p> <p>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. *****</p> <p>Update and use Hazardous Fuel Treatment Grant Application procedures and process. *****</p> <p>Secure matching grants to provide financial assistance to private landowners for reducing fire risk on their properties in high risk areas. *****</p> <p>Concentrate fuel reduction work in areas of highest priority and effectiveness (highest values, greatest hazards, highest population density, high fire occurrence frequency) and where the negative impacts of wildland fire would be greatest.</p>	<p>Field personnel with forestry or fuels mgmt knowledge. Skilled grant writer to research and secure grant funds. Money for salaries, mileage, materials, and supplies.</p>	<p>RC&D Community Forester</p>
	<p>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)</p>		

Notes & Updates	2004 Accomplishments: Continually engaging partners for support. Continue applying for grants and secure funding for hazardous fuels treatment on private lands. In 2004 the Bitter Root RC&D obtained approximately 1.3 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.
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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., Steven's money, 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	2004 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 on the Fred Burr 80, Painted Rocks, East Fork, other Bitterroot Valley area projects in Ravalli County; projects in Mineral County; projects in Hayes Creek and Pattee Canyon in Missoula County; and in the Seeley Lake area of Missoula County through various private land hazardous fuel mitigation grants. Have hired four fuel mitigation coordinators (2 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 worked with private landowners and the Bitterroot Back Country Horsemen to reduce fuels on about 500 acres of NF system lands in the		

<p>Notes & Updates (Continued)</p>	<p>Hayes Creek Fuels Reduction project using a combination of commercial thinning to open the crown spacing, non-commercial thinning to reduce and remove ladder fuels, and a combination of piling and chipping. The FS worked with an adjacent landowner, which had already treated fuels on his property, for access across his property to remove the merchantable timber.</p> <p>The Forest Service is conducting a hazardous fuel treatment project on an 80 acre parcel of National Forest land surrounded by about 20 parcels of private property, it includes a trailhead, has ditch easements, and ditch/dam access roads. Cooperating with the RAC, the FS reduced the fuels on the 80-acre parcel. Many of the private landowners surrounding this 80-acre area are working with Bitter Root RC&D to reduce fuels on their properties through grant programs.</p> <p>As of 3/31/05, the Bitter Root RC&D has successfully treated 1,047 acres of fuel treatment on private land through various grant programs in Ravalli County. A total of 118 landowners and 66 lease holders have been or are currently under agreements to treat a total of 1,691 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.</p>
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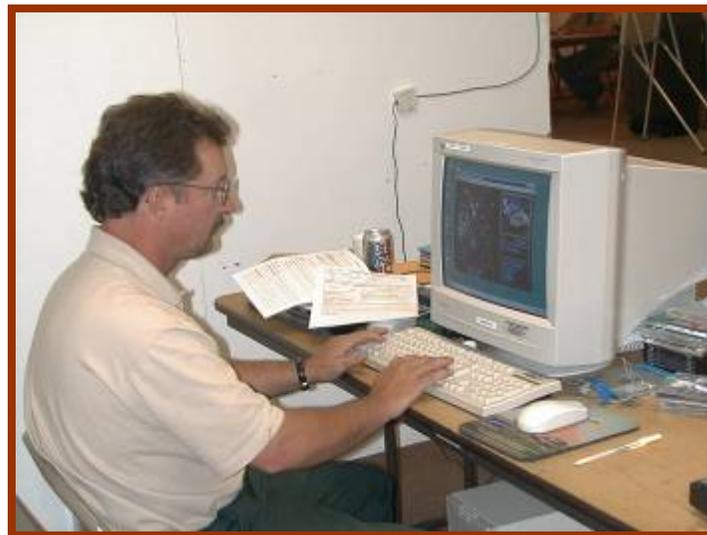
Action Item B-4: Update and encourage use of Fuel Treatment Guidelines for New Subdivisions in Ravalli County.			
Description	Fuel treatments may vary on each individual property, depending on owner's goals, but should be compatible across boundaries.	Resources Needed	Who is Responsible
Tasks	Update 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	2004 Accomplishments: We have a copy of the guidelines that were developed over 3 years ago but have not taken this action item any further. Copies have been given to the County Commissioners and Planning board.		

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	2004 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:

Implement a year-end Reporting System to show accomplishments.

Description	Resources Needed	Who is responsible
<p>Tasks</p> <p>Explore similar guidelines in place in other areas. *****</p> <p>Craft guidelines specifically for residents in Ravalli County. *****</p> <p>Ensure coordination with key local, county, state, & federal entities that will have an interest. *****</p> <p>GIS all of the previous fuel treatments on private lands that have been accomplished through grants and other individual efforts. *****</p> <p>Explore ways to fund GIS capabilities w/other agencies (FS) and resource organizations.</p>		<p>Volunteer or staff person to facilitate discussions, conduct research and development guidelines for Ravalli County</p>
<p>Notes & Updates</p>	<p>2004 Accomplishments: This accomplishment report is one way to record CWPP accomplishments. There are other ways already in use to record accomplishments for hazardous fuel projects through normal quarterly reporting required by the grants.</p>	



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	2004 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.		

DEFENSIBLE SPACE
Do you have at least 30 ft of space surrounding your home that is Lean, Clean and Green?
The objective of Defensible Space is to reduce the wildfire threat to your home by creating the characteristics of the surrounding vegetation.

LEAN, CLEAN AND GREEN LANDSCAPING
Wildfire behavior depends on the fuel available. Defensible space around your home that reduces your wildfire threat. Large, leafy, hardwood trees should be pruned so that the lowest branches are at least 6 to 10 ft high to prevent a fire on the ground from spreading up to the tree tops. Remove the deadwood in trees, remove the undergrowth that catches fires, and remove flammable plants that burn readily. Ornamental juniper, yucca, yew, red cedar, and young pine. A lot of low flammable plants can be found within 10 ft of houses.

FIRE-RESISTANT ROOF CONSTRUCTION
Roofing construction materials include Class A asphalt shingles, metal, concrete and concrete products. Add benefits: the installation of a fire-resistant underlayment product.

FIRE-RESISTANT EXTERIOR CONSTRUCTION
Wildfire-resistant exterior materials include brick, concrete, plaster, stucco and concrete masonry. Double-pane glass windows can make a home more resistant to wildfire heat and flames.

EMERGENCY ACCESS
Identify your home and neighborhood with highly visible, clearly marked street names and numbers so emergency vehicles can quickly find the location of the emergency. Include a driveway that is at least 12 feet wide with a vertical clearance of 15 feet – to provide access to emergency apparatus.

Check out the FIREWISE website www.firewise.org for more information such as the above brochure.

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.

2004 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	2004 Accomplishments: This has been completed by the USFS and will be made available to the CWPP update. An Insect and Disease infestation map will be included in the 2005 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	2004 Accomplishments: This was accomplished in July 2004. 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.

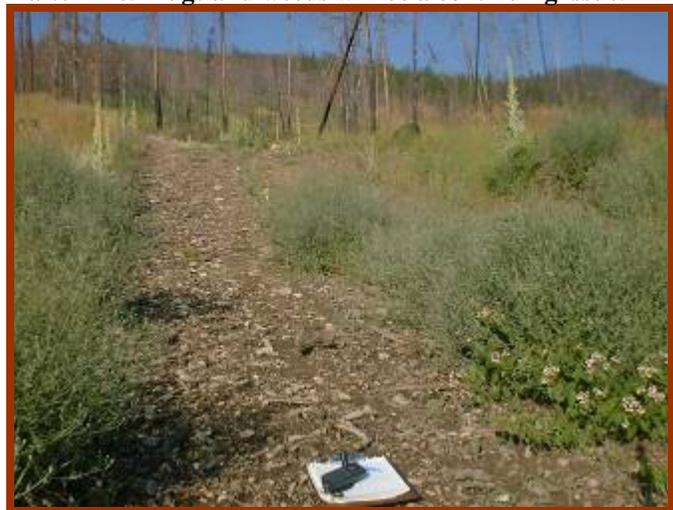
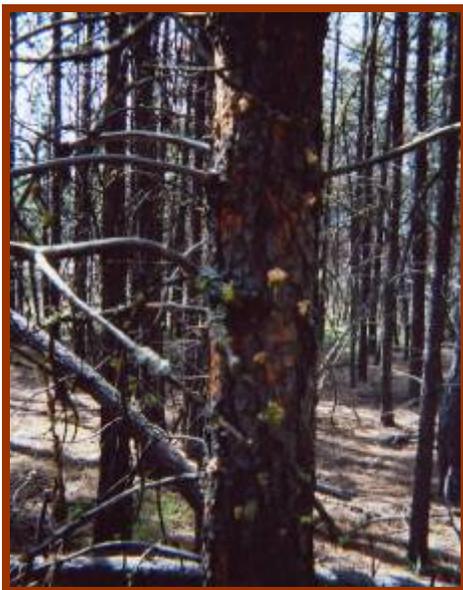
Description	This is an effort to help private landowners start or continue dealing with the noxious weed problems in the Bitterroot Valley. Provide information on the spread of noxious weeds from disturbance activities (hazardous fuels work, wildfire, etc.).	Resources Needed	Who is Responsible
Tasks	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	2004 Accomplishments: Coordinating 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. ***** 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	2004 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 timber lands 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.

2004 accomplishments for Community Assistance can be found the notes & updates section of each action item table.



Brooke Thompson is staffing the FireSMART Wagon at an event in Lewiston, Idaho September 2003.

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	2004 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

Notes & Updates	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 Linderman. During the summer of 2003, 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 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 those visitors who sought out the information wagon that summer. We plan to continue booking appointments for the Fire <i>Smart</i> Wagon in 2005 but we will need to continue looking for money to support that effort. We were able to provide staff support with this grant, 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.
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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		Resources Needed	Who is Responsible
Tasks	<p>There is much information available to assist industry in addressing building in the WUI.</p> <p>Engage and share information, presentations, landscaping ideas, and building design ideas with local businesses/contractors. *****</p> <p>Work with Insurance Companies to encourage their involvement in private landowners' defensible space efforts. *****</p> <p>Continue to engage Home Builders Association in homeowner's awareness campaign. *****</p> <p>Outreach to new valley residents – involving the real estate and insurance industry for assistance. *****</p> <p>Encourage direct communication between the Fire Council and area realtors to ensure property protection is well understood. *****</p> <p>Fire Council develops and sends a letter to the 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.</p>		Fire Council and RC&D.

Notes & Updates	2004 Accomplishments: The Fire <i>Smart</i> 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 is proving to be a valuable outreach. In 2003 Becki Linderman, Idaho Landscape Architect, worked with wildland urban interface landowners to provide a Fire Wise re-design to their landscape that would blend in well with their newly remodeled home. The owners worked hard to get ready for the tour. Although the wagon was on fire duty during the tour, the team provided numerous brochures that were left for tour attendees to take home. The Bitterroot Valley Tour of Homes in 2004 was the showcase for a beautiful new home nestled in the wildland urban interface just outside Darby, MT. The homeowners worked with the builder to provide an example of Fire Wise landscape design. The Fire <i>Smart</i> Wagon was parked near the home during the tour and attendees were treated to a plethora of information and Smokey Bear trinkets from the wagon staff.
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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	2004 Accomplishments: Hazardous fuel program information has been provided to RC&D annual report. Completed article for Painted Rocks newsletter and many individuals provided information for hazardous fuels survey conducted by the Rocky Mountain Research Station. Regular newsletters have not been published. The Wildland Urban Interface Task Force is also working on developing a Landowner assistance packet that will 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
<p>Tasks</p>	<p>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.</p>	<p>Grant funds to support position, and to purchase supplies and equipment.</p>	<p>RC&D and USFS Education coordinator’s</p>
<p>Notes & Updates</p>	<p>2004 Accomplishments: Some environmental education learning trunks have been developed for classroom use. Becki Linderman and Faye Mentzer have developed curriculum for a portion of the “Healthy Kids~Healthy Forests” campaign adopted by the RC&D and the Bitterroot USFS. Currently portions of this curriculum are being used in the Darby school. Victor school is also interested in this curriculum.</p>		



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	2004 Accomplishments: This will need to be an emphasis item for this coming year but the RC&D Fire Smart Wagon will continue to be scheduled to appear at the Tour of Homes to dispense Fire Wise information.		

Action Item D-8:
Communicate better about Fire Plan accomplishments.

Description	There have been many successful accomplishments in the year 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	2004 Accomplishments: Fire Plan accomplishments have been made known through meetings and newsletters to the public and various state and federal agencies. The U.S. Dept. of Agriculture Asst. Secretary recently 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	Resources Needed	Who is Responsible
<p>Tasks</p> <p>Push for increased utilization of small diameter wood and biomass products.</p> <p>*****</p> <p>Target markets for increased utilization of wood products and by-products (fuels for schools, Stone Container, etc.)</p> <p>*****</p> <p>Educate contractors and landowners about ways to better utilize wood products and by-products.</p> <p>*****</p> <p>Conduct local and regional workshops on utilization, encouraging attendance.</p>		
<p>Notes & Updates</p>	<p>2004 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.</p>	

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	Resources Needed	Who is Responsible
<p>Tasks</p> <p>Monitor and Coordinate local policies and planning efforts to insure issues relevant to Community Fire Planning efforts are considered effectively.</p> <p>*****</p> <p>Address Key issues & coordinate cross boundary projects as much as possible.</p> <p>*****</p> <p>Tie public awareness/engagement efforts into other related meetings (Forest Plan Revision meetings, County Planning, etc.)</p> <p>*****</p> <p>Increase our capabilities to meet the full range of opportunities.</p>		<p>Small Task Force??</p>

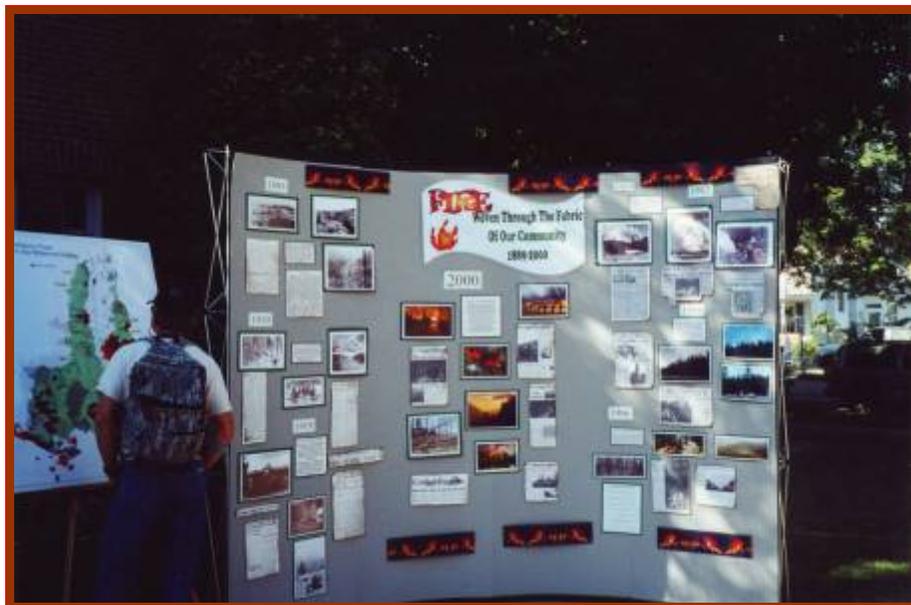
Notes & Updates	2004 Accomplishments: Partners have been cooperating and coordinating joint planning efforts for hazardous fuels treatment as evidenced by Painted Rocks, Fred Burr 80, Hayes Creek, Western States and other grants. Continued coordination with the Bitterroot National Forest on Forest Planning and establishing the 5 year timber/fuels projects on the forest. Hazardous fuels addressed in the Ravalli County Growth Policy planning effort.
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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 911 system.



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**
-

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 meet 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 as 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 build up 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 #2, #3, and #4.

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. A map of the Condition Classes in the Bitter Root Valley follows on the next page. 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	Forested areas with an historically short fire return interval usually have frequent fires of low intensity
2	One or more fire return intervals have been missed, possibly resulting in increased fire sizes and intensities and decreased landscape mosaics and diversity
3	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 1/3 rd 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 1/3 rd to 2/3 rd '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.
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 lodgepole pine, Douglas fir stands that have little down-dead ground fuels and the higher elevation stands of whitebark 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 dead fall 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 five 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, 1/4-1 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 can't 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
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.

Spot fires are caused by burning embers carried aloft by the wind and smoke column and dropped ahead of the main fire front. 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 #5 in this plan. 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 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 impact the aesthetics of an area, which can further impact 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've 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? And 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 paper-making, 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 April 30 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 31 (fire season may be extended depending upon conditions). This law states that “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.



Burning of hazardous fuels pile in Springer Memorial in the fall of 2002.

Appendix B

Attachment B-1

Initial Results of Priority Fuel Treatment Identification

Fire Department	Priorities within Volunteer Fire Districts		
Corvallis VFD	Birch Cr.	Willow Cr.	Soft Rock
Darby VFD	Tin Cup-Darby West	Bunkhouse Cr. To Rock Creek	
Florence VFD	Bass Creek to Carlton Creek	8 Mile Creek to 3 Mile Creek	
Hamilton VFD	Blodgett Creek to Roaring Lion Cr.	Roaring Lion Cr. To Lost Horse Cr.	Little Sleeping Child Cr.
Painted Rocks FD	Mud Creek South	Overwhich Creek	
Pinesdale VFD	Sheafman		
Stevensville VFD	Bass Creek to Big Creek	W. Burnt Fork to Willoughby	
Sula VFD	Middle East Fork	Hot Springs	
Three Mile VFD	None identified		
Victor VFD	Bear Creek	Fred Burr Creek	Big Creek
West Fork VFD	Nez Perce/Fox Lane Area	Christiansen Cr. – Boulder Cr.	Rambo C.G.



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



Bitterroot Community Wildfire Protection Plan
FIRE RISK/HAZARD AREA RATING FORM

RATING AREA LOCATION NAME:			
FIRE PROTECTION DISTRICT:			
1. Purpose of Project: <i>(Use all that apply)</i>	Reduce High Fire Risk/Hazard	5	
	Maintain Area Previously Treated but needing Maintenance	3	
	Fire Rehabilitation	1	
2. Values At Risk: <i>(Check all that apply-Add up # of checks for total score)</i>			
	Landowner Residences/Homes Present		
	Multiple Landowners within <1/8 mile		
	Protect Adjacent High Value Improvements (Utilities, etc.)		
	Other Structures Present such a businesses, barns, etc.		
	Known Historic/Cultural sites on land		
	Timber Values/Lumber <i>(Merchantable timber at risk)</i>		
	Water Quality/Watersheds/Riparian Areas at risk		
3. Fire Risk: <i>(Choose only one from Fire Plan Map)</i>			
	High	10	
	Moderate	5	
	Low	1	
4. Access: <i>(Choose only one)</i>			
	Most of Area is Difficult to Access w/High Fire Potential	10	
	Combination of Diff. and Easy Access w/High Fire Potential	7	
	Most of Area is Easy to Access w/High Fire Potential	5	
6. Population Density: <i>(Choose only one)</i>			
	High Population Density – Wildland Urban Interface	10	
	Moderate Population Density – Wildland Urban Intermix	7	
	Low Population Density – Single Dwellings with large undeveloped acreages between homes	3	
7. Previous Fuel Treatment: <i>(Choose only one)</i>			
	Yes	5	
	No	0	
8. Possible Joint Projects: <i>(Choose only one)</i>			
	Multi-agency/private cross boundary project(s)	10	
	Multiple private landowner project(s)	7	
	Single landowner project	1	
9. Condition Class: <i>(Choose only one)</i>			
	CC 3	10	
	CC 2	8	
	CC 1	5	
10. Willing to meet thinning, pruning and slash treatment specs:			
	Wholeheartedly	10	
	Somewhat with some reservations	5	
	Not at all, skeptical	0	

TOTAL POINTS H = >60 pts. M = 35-60 pts. L = < 35 pts	
FIRE PROTECTION DISTRICT: PRIORITY NUMBER AND RATING (H, M OR L):	

- 1. Purpose of Project:** Self explanatory
- 2. 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.
- 3. 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.
- 4. 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.
- 5. Population Density:** Use the population density map to determine. Predominance of black areas would rate high, gray areas would rate moderate, white areas would rate low.
- 6. Previous Fuels Treatment:** This is related somewhat to Community Buy-in but shows that residents are serious about fuels treatment and have demonstrated this in the past. Also shows that some protection measures have been taken and can be built on to further decrease fire risks in an area.
- 7. 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.
- 8. Condition Class:** Obtain general condition class of the area from the Condition Class map in the CWPP.
- 9. 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-3

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 STRUCTURES)

- 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.

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’ll 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)

On lands that are outside the boundaries of the Rural Fire Protection Districts:

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 Records’ 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'll be glad you did.

BE FIREWISE!

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. There are probably other contractors who would do this kind of work that 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 work-in kind.



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

Ranges of Costs per Acre of Hazardous Fuels Treatment Practices

<i>Fuel Management Practice</i>	Range of Costs	
	<i>Low</i>	<i>High</i>
Pre-commercial Thinning/acre	\$100	\$300
Pruning/acre	\$50	\$200
Lop and Scatter Slash/acre	\$35	\$70
Hand Piling/acre	\$200	\$600
Hand Pile Burning/acre	\$20	\$100
Machine Piling/acre	\$50	\$100
Machine Pile Burning/acre	\$20	\$100
Slash Pullback from Residual Trees/acre	\$35	\$70
Prescribed Under-burning/acre	\$20	\$200
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.

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 also 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

Copies of the AOP are maintained by each of the above listed parties.

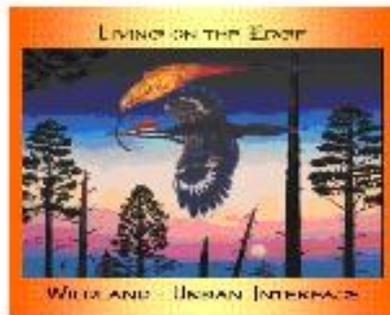
Activity Monitoring

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			
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 OR	Man Christensen, Bitterroot NF
1709 N First St, Hamilton, MT	1801 N First St, Hamilton, MT
59840	59840
406-363-1444	406-363-7113
kit@bitterrootrcd.com	man@bitterrootnf.com
www.bitterrootval.org	

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 January 2006

This documentation serves as an addendum to the Bitterroot Community Wildfire Protection Plan (CWPP) for 2006. 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 and 2004 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	2,397.9.0	100%

Other Information pertinent to the CWPP

Information Description	Figures
Permanent Population of Ravalli County	36,070 people
Seasonal Population of Ravalli County	Unknown
Area of High Risk Acres in Ravalli County on private land	74,049 acres
% of Area of High Risk Acres in Ravalli County of private land	20.2%
Priority High Risk Acres by Fire District:	
Florence VFD	9,540 acres
Stevensville VFD	12,959 acres
Victor VFD	7,826 acres
3 Mile VFD	None
Corvallis VFD	8,586 acres
Pinesdale VFD	3,702 acres
Hamilton VFD	16,052 acres
Darby VFD	7,951 acres
West Fork VFD	2,987 acres
Sula VFD	1,619 acres
Painted Rock VFD	2,827 acres
Total	74,049 acres

Acres of Fuel Mitigation in Ravalli County

Bitterroot NF Fuel Treatment Summary (Acres)				
Treatment	2003	2004	2005	2006 Planned
Piling	567	1,025	894	131
Pile Burning	203	391	497	580
Slashing			407	583
Under-burning	926	3,755	302	1,295
Thinning (Pre-commercial)	677	681	1,056	700
Thinning (Commercial)	1,349	1,712	542	*1,467
Lop & Scatter	15			
Total	3,737	7,564	3,698	4,756
* These acres do not reflect the Middle East Fork project. There is a potential for commercially thinning up to an additional 6,472 acres in the Middle East Fork project.				
Above Acres in WUI	2,430	3,592	2,620	**3,949
Other Acres outside WUI	1,307	3,972	1,078	807
** These acres do not reflect the Middle East Fork project. There is a potential for fire hazard reduction in WUI to occur up to an additional 5,700 acres with the Middle East Fork project.				
Wildland Fire Use	340	1,214	30,773	
Wildfires	12,969	1,566	14,810	
Total Acres of Treatment and Disturbance on the BNF	17,046	10,344	49,281	To Come
Bitter Root RC&D Hazardous Fuels Grant Programs (Acres)				
Treatment	2003	2004	2005	2006 Planned
Thinning, Pruning and Slash Disposal	431	213	629	400
Total Acres Accomplished and Planned to Accomplish through 2006 is Approximately 1,673 acres. There are currently 149 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 Private Land High-Risk Priority areas in Ravalli County

The CWPP Steering Committee developed a process that each Fire District in Ravalli County was to use to identify high-risk priority areas on private lands within the county. This process was outlined to the All Valley Fire Council. Representatives from all 13 fire districts were present at this meeting. Each fire chief was asked the following:

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), indicate and prioritize, on a map, those areas that the fire chiefs and fire departments felt were highest priority for fuels reduction work within each of their districts.

Each fire district's priority areas were combined into a county-wide map and matched up with the priority areas from the Bitterroot National Forest. The combined map was presented to the All Valley Fire Council for review. The All Valley Fire Council was asked which area in the county should have the highest priority. The consensus was that the entire West side of the valley was of the most concern. This meant that fuel reduction projects could occur in any of the areas each district delineated on the 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 Priority 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 interface area along the Forest boundary was considered for future treatment. The condition of this area varied greatly and this variability provided an opportunity to prioritize the need for treatment into 3 main categories: High, Medium and Low.

Low and medium priority areas, in general, included areas that had recently burned (as in 2000), areas that had already had considerable treatment completed and areas with poor access adjacent to low density population areas.

High priority areas included those 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 more acceptable levels.

Bitterroot National Forest Priority Fuel Treatment Areas

Ranger District	Priority #	Total Acres	RD % of Total	Priority % of Total
Darby	1	36,267	33.69%	32.15% of Priority 1
	2	40,178		43.56% of Priority 2
Stevensville	1	36,374	20.30%	32.25% of Priority 1
	2	9,682		10.5% of Priority 2
Sula	1	19,247	19.82%	17.64% of Priority 1
	2	8,451		9.16% of Priority 2
	3	17,271		79% of Priority 3
West Fork	1	20,906	26.19%	18.53% of Priority 1
	2	33,927		36.78% of Priority 2
	3	4,590		21% of Priority 3
Total	25 areas	226,893		

BITTERROOT
Community Wildfire Protection Plan

Action Item Accomplishments
January 2006

A. Fire Prevention and Suppression Action Items

A-1. Communication between Fire Council and County Commissioners.

Accomplishment: This action item has not been accomplished at this time, however, a letter of agreement is being drafted by the fire council for approval.

A-2. Volunteer Fire Department needs.

Accomplishment: Each Volunteer Fire Department has been working on their own to secure grants for equipment purchases and providing training for their people. Example: Victor VFD has received approximately \$162,000 in grant funding for equipment purchases over the past three years.

A-3. Monitor and update County Pre-Disaster Mitigation Plan

Accomplishment: The Ravalli County Pre-Disaster Mitigation Plan has been completed and approved by the Department of Homeland Security.

A-4. Review and revise the Mutual Aid Agreements

Accomplishment: A review has been completed and updates are done on an as needed basis between the U.S. Forest Service and the All Valley Fire Council. This occurs annually.

A-5. Initiate efforts to develop a Communication Plan for Ravalli County

Accomplishment: Ravalli County has entered into a four county consortium to be more competitive for communication grants. The consortium hired Northrop Grumman to complete a needs assessment which has been completed and published. The consortium is currently waiting for allocation of funding from the federal government through the State of Montana.

B. Reduce Hazardous Fuels Action Items

B-1. Identify, maintain, and update high risk/hazard areas for hazardous fuel treatment and revise as needed.

Accomplishment: The private land high-risk areas were updated during the spring of 2005 as a part of the revising/updating the Bitterroot Valley CWPP. The All Valley Fire Council has reviewed these areas and made slight changes to them for this CWPP

update. The U.S. Forest Service, Bitterroot National Forest has developed a priority hazardous fuel treatment map as a part of this update. This map is also included in the updated CWPP for Ravalli County.

B-2. Support Hazardous Fuel Treatment Projects within the Interface.

Accomplishment: Continually engaging partners for support. Continue applying for grants and secure funding for hazardous fuels treatment on private lands. Since 2001 the Bitter Root RC&D has obtained approximately \$1.92 million dollars in grant funding through the USFS State & Private Forestry and State of Montana DNRC under the Western States grant, Community Protection Fuel Mitigation (Stevens) grant, and other various grants. These grants cover Ravalli, Mineral, and Missoula Counties as well as four other RC&Ds in other parts of Montana. Community support has been strong in most areas covered by the grants. Of the \$1.92 million dollars, approximately \$930,000 has been and is being applied to treating hazardous fuels in Ravalli County. Bitter Root RC&D continues to receive applications from private landowners wanting to reduce the risk of fire on their lands. As projects become completed, other landowners see the results of the treatments and inquire about these programs. The Bitterroot National Forest, State of Montana DNRC, Bitter Root RC&D, local rural volunteer fire departments, private landowners, contractors, County officials, and local fuel mitigation committees have been working together to coordinate cross boundary projects and planning other fuel mitigation projects in Ravalli County.

B-3. Coordinate hazardous fuel treatment projects between private landowners, state and federal land managers.

Accomplishment: 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 on the Fred Burr 80, Painted Rocks, East Fork, other Bitterroot Valley area projects in Ravalli County; projects in Mineral County; projects in Hayes Creek and Pattee Canyon in Missoula County; and in the Seeley Lake area of Missoula County through various private land hazardous fuel mitigation grants. Have hired four fuel mitigation coordinators (2 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 has worked with private landowners and the Bitterroot Back Country Horsemen to reduce fuels on about 500 acres of NF system lands in the Hayes Creek Fuels Reduction project using a combination of commercial thinning to open the crown spacing, non-commercial thinning to reduce and remove ladder fuels, and a combination of piling and chipping. The FS worked with an adjacent landowner, which had already treated fuels on his property, for access across his property to remove the merchantable timber on NF land. The USFS has also provided wood residue from the slash piles on this project to the Fuels For Schools project.

The Forest Service is conducting a hazardous fuel treatment project on an 80 acre parcel of National Forest land surrounded by about 20 parcels of private property, it includes a trailhead, has ditch easements, and ditch/dam access road. Cooperating with the RAC, the FS reduced the fuels on the 80-acre parcel. Many of the private

landowners surrounding this 80-acre area are working with Bitter Root RC&D to reduce fuels on their properties through grant programs.

As of 1/25/06, the Bitter Root RC&D has successfully treated 1,273 acres of fuel treatment on private land through various grant programs in Ravalli County. A total of 149 landowners and 66 lease holders have been or are currently under agreements to treat a total of 1,835 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.

B-4 Update and encourage use of Fuel Treatment Guidelines for new subdivisions in Ravalli County.

Accomplishment: These guidelines that were developed over 3 years ago but have not taken this action item any further. Copies have been given to the County Commissioners and Planning board. The Bitter Root RC&D plans to present these guidelines to the County Commissioners in February/March of 2006.

B-5. Mitigate the Slash Disposal problem.

Accomplishment: 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. A group of interested people from the various groups mentioned above to discuss this issue in 2005. The Fuels for Schools project continues to work with contractors and landowners to utilize slash from private land hazardous fuels projects for this program.

B-6. Implement a year-end Reporting System to show accomplishments.

Accomplishment: This accomplishment report is one way to record CWPP accomplishments. There are other ways already in use to record accomplishments for hazardous fuel projects through normal quarterly reporting required by the grants. The Bitter Root RC&D publishes an Annual Report that addresses all of the hazardous fuel mitigation grant programs and accomplishments.

B-7. Conduct Home Evaluations for FIREWISE construction techniques.

Accomplishment: 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. All Ravalli County Volunteer Fire Departments participated in conducting FIREWISE home evaluations through the State of Montana DNRC. The assessments they conducted were compiled by the DNRC and are kept on record with them.

C. Restoration of Fire-Adapted Ecosystems Action Items

C-1. Insect and Disease Assessment (mapping) in the Valley

Accomplishment: This has been completed by the USFS and the Insect and Disease map has been included in the 2005 CWPP update. The Forest Health Protection Group from the USFS Regional Office is continuing to work 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.

C-2. Develop post-wildland fire disaster mitigation guidelines for private landowners.

Accomplishment: This was accomplished in July 2004. It is named “Montana Interagency Coordination Guide: Working with communities and private landowners before, during and after wildfires.” It is available through the Bitterroot National Forest, DNRC and Bitter Root RC&D offices.

C-3. Help landowners identify and know how noxious weeds affect the ecosystem.

Accomplishment: Coordinating with the County Weed Board and informing landowners on all hazardous fuel treatment grant projects of noxious weed concerns. Continuing to facilitate coordination between County Weed Board and landowners.

C-4. Work with private landowners on Hazardous Fuel Reduction projects to incorporate Best Management Practices, Streamside Management Zone Guidelines as well as addressing Forest Health issues.

Accomplishment: 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. No SMZ or HRA warnings or citations were issued on any completed RC&D fuels projects inspected by the DNRC service forester. BMP standards were implemented on all RC&D fuels projects inspected by the DNRC service forester. RC&D foresters and technicians continue to work closely and consult with DNRC foresters and agency specialists, e.g. USFS etomologists, on SMZ, HRA, BMP and forest health issues when setting up fuel treatment projects on private land.

D. Community Assistance Action Items

D-1. Maintain the Fire Plan website to disseminate information.

Accomplishment: 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. The Bitter Root RC&D also maintains their website at www.bitterrootrcd.org and has their grant applications posted on this site for private landowners. The CWPP website is also linked to several other fire management websites for information.

D-2. Expand awareness of need for hazardous fuels treatment programs and encourage engagement of landowners, especially in high-risk areas.

Accomplishment: Have worked with landowners on previous grants and are currently working with landowners on new grants in high risk areas such as Fred Burr, Painted Rocks, Florence and other areas in the RC&D area (Ravalli, Mineral and Missoula Counties). Relying on landowners to assist in expanding awareness. A Forestry Expo Workshop was developed and put on at Lake Como in May of 2005. This workshop covered forest health, fuel reduction and forest ecology topics. This workshop was aimed at providing management information to woodlot owners and geared towards children to increase their awareness of forest health issues. When landowners request a DNRC service foresters assistance, the RC&D/DNRC Forester has included a hazardous fuels assessment in these assistance visits. From these assessments comes advise on proper fuels treatment and resources available to the landowner. Approximately 100-150 of these assessments are made each year by the DNRC service forester.

D-3. Staff, operate and maintain the “Living on the Edge” FIRESMART Wagon.

Accomplishment: The *FireSmart* Wagon is proving to be a valuable resource for communities all around the Northwest. Almost 5000 people have visited the wagon through 2004 at 40+ 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 Linderman. During the summer of 2003, 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 all around place for sharing personal stories, fears and concerns. The staff in the FireSMART wagon was always courteous, professional and of utmost help to those visitors who sought out the information wagon that summer. In 2005, over 2,000 people visited the Wagon gathering brochures on things such as Firewise Landscaping, Hazardous fuels reduction programs and local resource news while children enjoyed Smokey Bear items and games. One of the things that we are very excited about is the opportunity to deploy the Wagon for fire information during the 2005 fire season. Through the Wagon, residents obtained up to date information on fire activity, road closures, along with other pertinent information on the impacts of fire to the community. We plan to continue booking appointments for the *FireSmart* Wagon in 2006 and beyond but we will need to continue looking for money to support that effort. We were able to provide staff support with this grant, 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.

D-4. Work with realtors, building contractors, insurance, and landscaping companies.

Accomplishment: The *FireSmart* 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 is proving to be a valuable outreach. In 2003 Becki Linderman, Idaho Landscape Architect, worked with wildland urban interface landowners to provide a Fire Wise re-design to their landscape that would blend in well

with their newly remodeled home. The owners worked hard to get ready for the tour. Although the wagon was on fire duty during the tour, the team provided numerous brochures that were left for tour attendees to take home. The Bitterroot Valley Tour of Homes in 2004 was the showcase for a beautiful new home nestled in the wildland urban interface just outside Darby, MT. The homeowners worked with the builder to provide an example of Fire Wise landscape design. The FireSmart Wagon was parked near the home during the tour and attendees were treated to a plethora of information and Smokey Bear trinkets from the Wagon staff.

D-5. Produce and disseminate information products such as newsletters and news articles on a regular basis.

Accomplishment: Hazardous fuels program information has been provided to the RC&D Annual Report. Completed article for Painted Rocks newsletter and many individuals provided information for hazardous fuels survey conducted by the Rocky Mountain Research Station. The RC&D publishes a quarterly newsletter, *Bitter Root RC&D Trails*, that addresses fire and fuels issues and programs of public interest. The Wildland Urban Interface Task Force has developed a landowner assistance packet that has many helpful documents and information for landowners interested in wildland fire and protecting their lives, property and neighbors. Worked with the Ravalli Republic on a newspaper article featuring the Bitterroot CWPP and hazardous fuel programs. Also worked with the University of Montana, Paul Lachapelle, on a research project regarding CWPPs in the State of Montana. This information will be available to the public in the near future.

D-6. Continue to produce, improve, and maintain curriculum for students.

Accomplishment: Some environmental education learning trunks have been developed for classroom use. Becki Linderman and Faye Mentzer have developed a curriculum called “Healthy Children, Healthy Forests” and are currently using portions of this curriculum in the Darby school. Victor school is also interested in this curriculum. Janeen Hetzler has been hired by the Darby school system to assist with this program.

D-7. Engage Bitterroot Builders Association in homeowner’s awareness campaign.

Accomplishment: This will need to be an emphasis item for this coming year.

D-8. Communicate better about Fire Plan accomplishments

Accomplishment: Fire Plan accomplishments have been made known through meetings and newsletters to the public and various state and federal agencies. The Bitterroot CWPP accomplishments are reviewed on an annual basis and documented. This information is made available to the stakeholders and general public and sent to various cooperating agencies, local officials, and other interested parties. The accomplishments are posted to the website.

D-9. Continue support of Small Diameter Utilization and Biomass Utilization opportunities.

Accomplishment: The Darby and Victor Fuels for Schools projects have, and will continue in the future, to support 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. 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 stock pile 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.

D-10. Monitor and Coordinate local policies and planning efforts.

Accomplishment: Partners have been cooperating and coordinating joint planning efforts for hazardous fuels treatment as evidenced by Painted Rocks, Fred Burr 80, Hayes Creek, Western States and other grants. Continued coordination with the Bitterroot National Forest on Forest and individual project Planning and establishing the 5-year timber/fuels projects on the forest. Hazardous fuels issues are addressed in the Ravalli County Growth Policy planning effort.

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.

Appendix E

Maps

- #1 – Bitterroot Valley Vicinity Map – Page 5 of this plan**
- #2 – Fire Starts from 1970-1999**
- #3 – Large Fire Occurrences (100 Acres of Larger)**
- #4 – Population Densities and WUI Boundary**
- #5 – Condition Class Map**
- #6 – Fire Protection Boundaries**
- #7 – Bitterroot NF Priority Areas and Fire District High Risk Areas**
- #8 – Bitterroot NF Planned Fuel Mitigation projects – 5 years**
- #9 – Areas Treated on Bitterroot NF (<10 yrs) and RC&D Grants (<4 yrs)**
- #10 – Insect and Disease Map**