Chapter 6
Toward Community and Land Recovery

New growth in burned area. (USDA Forest Service photo)

Introduction

While the predominant features of the Bitterroot National Forest—those striking and diverse geographic landmarks, the abundant natural resources, and the strong feelings that connect people to the land—remain unchanged, one quickly recognizes that change has occurred here, and in a big way.

Over 307,000 acres of the Bitterroot National Forest burned, nearly half of that with stand-replacing intensity. Another 49,000 acres of State managed and private land burned. Seventy homes and 170 other structures were lost. Seventy miles of range fences were destroyed. About 1,500 residents were evacuated from their homes, many for over two weeks; some repeatedly as different wildfires swept towards their homes.

While losing one home is one too many, over 1,700 homes were directly threatened and successfully protected.

Of equal importance is what didn't happen. While 55,000 acres in the wildland-urban interface burned, 124,000 did not. Many of those acres remain choked with unnatural fuel loads. While losing one home is one too many, over 1,700 homes were directly threatened and successfully protected. Well over 10,000 people from local, tribal, state, federal, military, and international agencies worked on fires in the Bitterroot Valley this summer; none were killed or seriously injured.

Few who lived or worked here this summer will forget the impacts of the 2000 fire season. Most want to move forward, to support the recovery of individual families and their properties, communities, and the natural resources.

Rocky Mountain Maple sprout. (USDA Forest Service photo)

Just a brief week into what would eventually be the worst fire season in 90 years, crews were mobilizing and moving into position, fires were uncontained, uncontrolled, and their impact unimaginable. But even this early, Bitterroot Forest Supervisor Rodd Richardson knew the importance of looking through the smoke to the devastation and possible despair when the fires died and the air cleared.

"After August 6 it was clear how great the impacts were going to be," Richardson said. "I had personal experience with the 1988 fires in Yellowstone to draw from. I knew how to tackle the resource recovery, but the community recovery was new to me."

"We knew the Forest Service couldn't do it alone and we knew the community had to be involved in every aspect of what we did," Richardson recalled. "Two things were born that day—the Bitterroot Interagency Recovery Team (BIRT) concept and a commitment to start planning recovery while the flames were still burning."

Richardson remembers the enthusiasm and spirit of cooperation that bloomed into life that day.

"It was exciting to start crafting plans for when the fires would be over. Pulling together everyone under one roof to provide help that would be needed in areas we hadn't even considered at that time," Richardson said. "Those first meetings went late into the night. Sometimes people didn't even go home."

Richardson's primary purpose was to bring agencies together and get the planning process off the ground. The stories of those BIRT members and the help they pulled together form a part of this report. Also important are the individual stories of community members. All are pieces in the mosaic of lives and land affected by the fires of 2000.

Appreciation for Firefighters

As the fire danger finally subsided, the Bitterroot community honored firefighters at a Labor Day rally. Thousands of people gathered to say thanks to the men and women who risked their lives to save the lives, property and possessions of the people in the Bitterroot Valley. The brave actions of firefighters were recounted again and again with profound appreciation. A young girl came to the rally to thank the firefighter who "came all the way up to our house just to save us."

Firefighters from rural volunteer fire departments and various agencies from across the nation and other countries were honored for their efforts.

"We came to hug a fireman," Ileene Parsons told the *Bitterroot Star*. "We have a huge appreciation for those guys and gals in yellow. We have a lot of brand new best friends."

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'We knew the Forest Service couldn't do it alone and we knew the community had to be involved in every aspect of what we did.'

Rodd Richardson
Bitterroot National Forest Supervisor

Yellow ribbons adorned shirts, car antennas and dog collars throughout the community in support of firefighters who came from throughout the nation and even other countries to help the people of the Bitterroot during the summer of 2000.

"It feels good we're being appreciated," Joseph Jackson told the *Ravalli Republic*. "For all the firefighters, all the different agencies, this is amazing."

Speakers tallied the damages, the land and houses saved from flames; and noted that throughout it all, not one single life was lost. Stories were told of neighbors helping neighbors by caring for family members, pets, and protecting each other's property.

"These past few months, nobody stopped to ask those in need what political party they were from, or what religion they were environmentalists or loggers," said Larry Campbell, a local environmental activist who came close to losing his home to fire. "The power of fire helped us transcend the labels that divide us."

'The fires brought out the best in people, who became nothing but neighbors worrying about one another's well-being.'

Pat Connell

Sawyers doing post-fire restoration. (USDA Forest Service photo)

"The fires brought out the best in people, who became nothing but neighbors worrying about one another's well-being," said logger Pat Connell.

Interagency Rehabilitation Efforts

Margie Ferguson Mikesell grew up on the southernmost ranch in the Bitterroot Valley. Her parents, George and Juanita Ferguson, bought the ranch at the base of Lost Trail Pass in 1942, during the Second World War. They raised cattle, hay and kids, becoming a vital part of the Sula community.

In 1975, while Margie and her husband John were still teaching school in the upper reaches of Alaska, they signed a long-term contract to purchase the family ranch.

"We stayed up there and taught for another 15 years to pay for the place," Margie remembered. "But coming home to the ranch was always our long-term goal. We finally were able to do that in 1990."

For the past decade, the Mikesells have ranched, watching their two sons grow up and leave home,

settling into the community as Margie's parents had. In 1996, to help supplement their ranch income, the Mikesells built a guest cabin on the ranch.

Tourist season was in full swing at the Mikesell ranch last summer when the fires struck. New friends from Washington had enjoyed two weeks at the cabin and left just before the lightning storm that started dozens of fires the night of July 31.

On August 6 firestorms raged out of control the entire length of the East Fork Canyon. From the middle of an irrigated pasture, Margie stood and watched the fire burning just behind her home. The Mikesells had to be escorted up and over Lost Trail Pass with a convoy of other refugees.

When the Mikesells were allowed to return—to a home and cabin miraculously unburned—their friends from Washington also came back two separate times to help clean up, round up scattered cattle, and remove burned trees for safety.

The Mikesells are facing an uncertain future, but that's the nature of ranching in the Bitterroot, Margie says philosophically. The cows all survived and made it back home. The calves were sold two months early, in September, to preserve scarce hay and pasture for the mother cows. Those may have to be sold before spring.

"We got hay from the "I Care a Ton" program (donations from ranchers in other states), which really helped because there was no August crop," Margie said. "We lost about three miles of ranch fence and that has to be replaced. We lease a section from the state and all the fences on that are gone. We can't afford to fence it and no one knows if it will be available for lease next year or not. We don't know if the Forest Service will let us turn cows out next year or not. Right now, we're hanging on and waiting."

Concern for others has been a watchword in Sula for a century. It remains the same these days.

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Gary and Janice Palmer are both volunteers with the Sula Fire Department. During the fires they put in 14- and 16-hour days on structure protection. Janice took a leave of absence from her job at the local hospital. Gary was out of work—the August 6 firestorm destroyed the family-owned sawmill he and his father worked together. Now that the fires are over, rebuilding has begun on the mill and Gary's father's home.

The first Saturday of November is traditionally the Sula Firemen's Ball, the small volunteer fire department's only fundraiser of the year. This year, tickets were just a dollar and keg beer was provided for a free-will donation. Despite a sleet storm, bad roads, and plunging temperatures, the Sula Clubhouse was packed to the rafters with Sula families, supporters and well-wishers.

'We want the kids to realize fire are part of the natural process all around us.'

Karen Hedges, Darby school teacher

"People came all the way from Missoula and we made more money than we ever have before," said Karen Hedges, who was evacuated from her home near Warm Springs Creek that fateful August Sunday. "People were giving $20 bills and not taking any change. It was a true community celebration. We had all survived and we were all together and we will go on."

Karen teaches junior high science in Darby. She and Darby High School science teacher Nate Olson were not only greatly impacted by the fires, they see them as a unique teaching opportunity for their classes—a way for their students to learn and help and heal themselves. Students have participated in a number of BIRT projects, spreading straw, building debris dams, and reseeding slopes on Andrews, Praine and Laird Creeks. "We had the entire junior high out

Straw bales ready for volunteers to spread for mulch. (photo Roland Emetaz)

spreading straw and mulching," Karen said. "It makes them feel so good about what they are doing. When they were done, they knew they had done something to help." Nate Olson agrees. His students have developed a series of long-term plans and projects and intend to carry their studies forward through their entire high school careers. Nate has a special reason to be grateful to the Darby students. Some of their projects are on and adjacent to his property on North Fork Rye Creek, where his home burned to the ground while he worked with volunteer firefighters in East Fork Canyon. "The kids are planning monitoring projects to follow the forest over time – what plants come back first, the effect of disease and insects on the forest over time, the mortality rate of the remaining trees," he said.

In the spring Karen and Nate will take their classes into the burns again. One day will be a tour through a series of burns—the newest one, one 2 years old, one 12 years old, and one from the 1960s. All are within a few miles of the Darby School. "We want the kids to realize that fire and recovery from fire are part of the natural process all around us," Karen said. "This summer was on a massive scale, but it is still a part of nature we all live with here."

Rebuilding, rehabilitation, and logging efforts are moving forward in the North Fork Rye Creek drainage. Other BIRT volunteers, including students from Boulder High School (150 miles

Straw erosion dam. (USDA Forest Service photo)

Erosion dams of straw and down timber have been anchored in place to help prevent serious mudslides during next spring's runoff.

away) joined Darby students. Erosion dams of straw and down timber have been anchored in place to help prevent serious mudslides during next spring's runoff.

Robert Searle, a Corvallis–area logger, was one of the first to begin salvage logging his 120 acres of private property on Rye Creek in early October. Because he had the equipment and experience, Searle was able to begin clearing and preparing his family's land for rehabilitation as soon as the Forest restrictions were lifted. The Searles lost a cabin, which was not insured, but the sale of salvaged timber from the property should help cover the costs of rehabilitation and restoration. Searle is one of hundreds of private landowners impacted by the fires. He is more fortunate than many because he had equipment ready to move in to begin salvage as soon as he was allowed back onto the property.

Many other private property owners have spent the last two months making arrangements to salvage their property and begin rehabilitation work. According to Cary Hegreberg, executive

director of the Montana Wood Products Association, there has been a lively "scramble" of landowners trying to market the fire-killed timber. For many property owners, it will be their way of financing the needed reclamation work on their property.

At the center of the valley, similar efforts are underway to help people whose homes and property were in the path of the Blodgett fire.

No work crew could ever be more enthusiastic or energetic than 90 nine- and 10-year-olds who took a day off from the "three Rs" at Corvallis Elementary School to spread out across Bill and Wilma Andrews' property on Mill Creek.

As part of the BIRT rehab project, the students made homemade grass seeders out of three-pound coffee cans, watched videos on the fires, and rehabilitation and restoration work, had a safety lesson and then boarded busses to their special site.

In the course of several hours, the young volunteers dug erosion barriers around a pond and spread about 250 pounds of grass seed across the fire scar, which stretched, literally, down to the Andrews' back door.

The bright orange safety vests and over-sized yellow hard hats may not have fit too well, but the students from Barbara Engler's and Sande Larson's fourth-grade classes weren't concerned about the fashion statement they were making

Student volunteers garbed in safety vests and hard hats spread straw. (USDA Forest Service photo)

Both teachers agreed the day was filled with a multitude of lessons. The children learned about fire ecology, erosion, rehabilitation and what it means to help neighbors.

just about helping on a small section of their neighborhood. Both teachers agreed the day was filled with a multitude of lessons. The children learned about fire ecology, erosion, rehabilitation and what it means to help neighbors.

And the Andrews, who would have spent weeks trying to accomplish the work that nearly 100 volunteers managed in a few hours, smiled and took pictures and offered grateful thanks to everyone involved. Many of the students are eager to return in the spring to see the effects of their day of work.

Interagency Team Brings Community Help and Hope

At a crowded table in a small conference room at the USDA building on the north edge of Hamilton, help for Bitterroot Valley residents

affected by the fires and their precursor, the drought, is discussed weekly. Present at the table are a dozen representatives of local, state and federal agencies whose main concern is helping the people, their communities and the land recover from the devastating effects of the summer of 2000 (Figure 21).

Figure 21: BIRT Volunteer Accomplishments

BIRT Volunteer Accomplishments Fall 2000	
Number of Volunteers	826
Number of Hours	3,864
In-kind Services Dollar Value	$38,635
Tons of Straw	179
Acres Stabilized	123.5
Landowners Assisted	23

Since early August the BIRT leaders have met to share ideas, frustrations, triumphs and defeats. By mid-November, the activities are winding down. Fall activities have been put on hold by the early snows and unseasonable cold temperatures, but the cooperative spirit is still strong. Whatever these groups can do to mitigate effects, they are still doing, despite the limiting effects of weather and budgets.

And the players in BIRT have been pretty much the same since the first meeting was held – state, local and federal agencies and volunteer groups working together. BIRT coordination is led by the Bitterroot Resource Conservation and Development Agency (RC&D). Kit Sutherland, coordinator of RC&D, has been involved since the earliest meetings built on the foundation of Richardson's idea.

"We had been active in 'defensible space' work for years," Sutherland explained. "BIRT exists because when the fires started hitting, Rodd Richardson said, 'What can we do?' People needed help and the efforts to help needed to be coordinated. Some of those early nights, during the evacuations, we never left the office. We didn't want to miss phone calls from people who needed our help."

BIRT has focused on bringing experts and agencies together to help individuals impacted by the fires with initial funding provided by the Forest Service.

"We set some targets and we didn't always meet them," Sutherland said frankly. "But we made sure that everyone who called in looking for help got some sort of a response. We found a lot of programs weren't funded. We just had to keep looking."

'We knew with BIRT it was important to work across boundaries on private and public land.'

Kit Sutherland, Bitterroot Resource Conservation and Development Agency Coordinator

"We knew with BIRT it was important to work across boundaries on private and public land," Sutherland said. "For a lot of people on fixed incomes, the 25 percent match has come from BIRT—organized volunteers going out to their property and doing the actual work.

And more importantly, the BIRT work organized on public lands, such as the first projects in the hills west of Pinesdale, gave community members a hands-on opportunity to help begin the healing process on their National Forest. It invested them in the long-term rehabilitation efforts, Sutherland said. "It was beneficial for people to be able to help with work on the land," he said.

Sutherland sees a "great anxiety level" in many of the homeowners in the burned-over drainages. The BIRT recovery work has included spreading straw mulching, installing structures and contour felling of trees to stabilize soil. Work done this fall is designed to reduce possible erosion, floods and mudslides next spring. It helps reduce the possibility of rocks rolling off hillsides to crash into homes, or burned trees toppling onto structures and vehicles.

In many drainages, the natural building spaces are on the flatter areas at the mouths of gulches. And those are the areas that are most vulnerable to any earth- or water-moving events.

"These people need some attention from someone and many feel they haven't really gotten any from agencies they turned to for help," Sutherland said. "This is neighbor helping neighbor, the community coming together."

As the fires spread around the valley and the enormity of the situation became more apparent, Jim Freeman of the Urban/Wildlands Interface Task Force knew his group had to focus on defensible space issues during and after the fires. For the better part of a decade, Freeman has worked tirelessly with the All-Valley Fire Council and the Forest Service to spread the word about the dangers of living in the forest and how to minimize those risks.

"We have a narrow window of opportunity now," Freeman said. "We need to get the message out while the sights and smells are still in everyone's minds. People forget too quickly."

The Task Force has helped create a "defensible space" video, and copies of the video are available through the Ravalli County Extension Office.

Freeman's group has also contracted with the state nursery to purchase 3,000 pine trees to be delivered and planted next spring. The coming trees are specifically earmarked for small landowners who want to replace trees lost in the fires. For landowners with 10 acres or more, the Montana Department of Natural Resources and Conservation offers tree-replacement programs and grants. Freeman hopes to be able to provide replacement shrubs that are attractive to elk and deer also.

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Jim Freeman
Urban/Wildlands Interface Task Force

"My fear was that if we didn't buy the trees now, there wouldn't be any left next spring," Freeman explained. "We need to think about the smaller private landowners in all this too."

Terry Streit and her staff at the local Farm Service Agency (FSA) have worked hard to secure funds to help the farming and ranching community, and as of the end of October had managed to obtain a $20,000 grant earmarked for spring development to alleviate drought-related problems.

FSA has also worked closely with the County Extension Office and the "I Care A Ton" program, which is coordinated locally by the Bitterroot Fire Relief Fund. "I Care A Ton" provides hay to local stockmen who lost hay because of the fires and drought. Fellow agriculture producers from all across the country have donated hay and money to cover shipping costs. Before the winter is over, an estimated 35 rail carloads of hay will find its way onto local ranches. Hundreds of tons of hay were also hauled in by truck. In many cases, local ranchers and farmers had to be convinced to accept the help. Many feel there are others worse off than they are and they don't want to accept help others may need.

"I hated to take hay when there might be folks who need it more than I do," said Sula rancher Jerry Ehmann. "But a few years ago when there was a drought in Georgia I sent hay down there—just like all the neighbors did. Now, I guess that kindness is coming back again."

The Federal Emergency Management Agency (FEMA) moved in quickly during August as the fires grew in size and intensity. An office opened in the state capitol, Helena, and FEMA field representatives provided information and reams of paperwork to those who applied for assistance. In August a toll-free number was available specifically for Ravalli County residents. By November drought coordinators in Texas were answering the same number. The initial response from Ravalli County residents was significant—more than 460 asked for help.

FEMA has spent almost $3 million in Montana, and nearly $200,000 benefited Ravalli County residents. The Disaster Housing Program received 115 requests for assistance and approved 54 of those for $66,247 in emergency housing allocations. Under the individual and family grant programs, 20 of 87 requests were approved and $136,908 was distributed. Many of those who applied were ineligible because of insurance policies or eligibility in other programs, according to Jim McWilliams of the regional FEMA office in Denver, Colo.

Money has been available through other programs. According to a November report to the Federal Reserve Board prepared by Emil Erhardt, CEO of Citizens State Bank in Hamilton, more than $1 million in Small

"I Care A Ton" provides hay to local stockmen who lost hay because of the fires and drought.

Business Administration loans have been contracted in the past two months with local residents. The breakdown included 10 home loans for $596,700, five business loans totalling $75,700, and 14 economic loss loans for $367,600. Additional loan requests are pending.

Ravalli County's government has been an active participant in the firefighting and recovery programs from the beginning. Kevin Schreier, county grant manager, has administered the county's portion of the programs since early August when the county commissioners passed an emergency two-mill levy for $83,000, making the county eligible for state and federal disaster assistance.

'Cleanup was the logical start to the healing process.'

Kevin Schreier, County Grant Manager

One of the most visible post-fire county activities was providing massive mobile dumpsters for families to clear away the burned debris on their properties and start over.

"Cleanup was the logical start to the healing process," Schreier said. "We had to help people get out from underneath the debris graveyard down there."

By the end of November, most of that work was completed and dumpsters were no longer stacked at a staging point on Highway 93 south of Conner, but before the program ended, tons of twisted metal, glass, and partially burned wood had been hauled away.

Ravalli County Extension Agent Rob Johnson and County Weed Supervisor John Day put in long days as well. Using leftover weed board funds, an ATV-mounted seed spreader was purchased for use by local area landowners. Many types of seed can be spread on top of snow, according to Day. The seed lies dormant in winter, and washes into the ground and germinates with the spring thaw.

Getting a cover of grass on the ground to prevent the spread of noxious weeds is a top priority with Day and Johnson. Johnson researched the best grass types for the various areas of the valley that burned and provided information about soils, moisture in specific areas and optimum seeding times.

Day travels to landowners' properties and offers on-site planning and handles the loan of seeding equipment. Assistance money is available though the state's Weed Trust Fund, Day said.

"I'd do it regardless if I was asked, but it's even more critical now as we try to fight weeds in the burned-over areas," Day said. "The recovery has to come from everybody, not just one person. It has to be good for everybody too."

Landowners need to be aware of the potential for trouble and report any signs of new weed infestation as soon as it appears next spring, Day said. Hay that is coming to the Valley through the "I Care A Ton" program is a blessing to

livestock owners. However, Day and Johnson recommend feeding that hay in one particular spot and then monitoring the area closely for the next two years to ensure no new weeds establish themselves in the Valley.

"If you see something new that you're not sure of, report it," Day said. "We'll be there to help right away. Recovery will be hampered if noxious weeds get a stronghold in the burns."

The Natural Resource and Conservation Service (NRCS) has the same concerns. In the past two months the agency has assisted about 250 landowners and the federal government with aerial reseeding of about 6,700 acres. The seed of choice was slender wheat grass, a species that establishes itself quickly and will provide critically needed stability next spring during the thaw. It is not a long-lived species; its lifespan is four to six years, so it is a natural early grower that can be replaced with native grasses as they recover over time.

"We used Forest Service helicopters and put it down at about 13 pounds per acre," explained John Blaine, a resource conservationist with NRCS. "We needed a decent short-term cover."

The seeding took place in the areas that burned the hottest, Blaine explained. If trees in the reseeding areas still had needles on them, those needles interfered with the seed reaching the ground. The optimum areas for the aerial work were those that had burned everything off the trees. Hand seeding took place on steep ground where the fires didn't burn as fiercely—in many cases with the help of BIRT volunteers.

Helicopter with seed bucket. (USDA Forest Service photo)

Blaine estimated the reseeding program will spend between $650,000 and $1 million before it ends. Although the majority of the proposed work was completed by fall of 2000, the agency planned to gear up again in spring to catch people who may have been missed, he said. The program is another 75–25 match with the landowner's portion coming in either cash or in-kind work.

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Trapper Creek Job Corp students have worked with NRCS to place log barriers, straw bale dams, and wattles.

Log barrier construction. (USDA Forest Service photo)

Again, help from BIRT volunteers has made it possible for a number of landowners on fixed incomes to take advantage of the program, Blaine said.

"Most of the landowners are pretty happy about what we're doing," he said. "Some are still pretty beat up by the fires and we have to expect that. But we've gotten a lot of work done."

Log barrier construction. (USDA Forest Service photo)

Trapper Creek Job Corp students have worked with NRCS to place log barriers, straw bale dams, and wattles (straw-filled barriers that snake along the contours of the ground) in many of the steeper drainages to help minimize damage from the inevitable rapid runoff in the spring. But there are more drainages in need of rehab work and more people to contact, Blaine said.

Wattles placed on hillside. (USDA Forest Service photo)

"It seems amazing but we were contacted in mid-November by a landowner who lives in Idaho. Despite all the publicity and news reports, he didn't know his property had burned," Blaine said. "There may be more folks like that out there that we'll have to pick up in the spring."

Another major part of the NRCS work is replacing culverts to handle increased water flows and to protect homes from possible flooding.

"Our focus with the culvert replacement projects is to protect life and property," Blaine said. "We've done a lot of cross-slope barriers too. Our biggest concerns are two- or three-inch rain events in these burned drainages next July or August. The possibility of serious mudflows is very real."

Putting a dollar figure on the economic effects of the fire on Bitterroot Valley life has been extremely difficult. The stifling smoke and land closures caused some people to change their plans to vacation in the Valley and others to lose work opportunities. Federal funds were made available to pay unemployment benefits to people who would not ordinarily qualify for them, such as independent contractors and business people.

According to Don Gilbert of the Montana Job Service in Helena, the state has paid out more than $600,000 in unemployment benefits under that program but no final figures are available on a county-by-county breakdown yet. Individuals were eligible for up to eight weeks of assistance but many only claimed a week or two, Gilbert said. Analysis of the program and where it was most heavily used will be a winter project, he added. "We've been busy verifying and distributing the money so far," he said.

At the local Job Service office, DeLynn Gardner said the fires had an economic benefit in the Valley as well as a liability. The Forest Service and rehabilitation efforts employed hundreds of local individuals, many of them small contractors, during and after the fires. Job Service will compile a new list of available workers in the spring when rehabilitation work begins again, Gardner said.

In addition, Ravalli County is eligible for a share of a $4.3 million federal grant that will be administered by the State Department of Labor. The grant will be used for fire rehabilitation work across the entire state. About 650 jobs will be created for up to six months for workers who were displaced because of the fires. Each eligible worker can earn up to $12,000 under the funding from this program. Eligibility will be based on how the applicant's former job was impacted by the fires. A portion of the grant may fund much of next spring's rehab work in the Bitterroot Valley.

Rehabilitation Work Begins on National Forest Lands

BAER is not the misspelling of a large North American mammal. It is the acronym for Burned Area Emergency Rehabilitation, mitigation work that follows fires so quickly the ground is still smoking as BAER teams cross it during the planning process.

Rehabilitation work received the highest priority from top agency officials as crews raced to fulfill tasks before the weather halted operations for the winter. Plans were developed by the initial BAER teams on the high intensity burns scattered over

The Forest Service and rehabilitation efforts employed hundreds of local individuals, many of them small contractors, during and after the fires.

more than 292,000 acres of the Blodgett fire, the Skalkaho Complex, and the Valley Complex. The first plans were approved and implemented in September.

The BAER teams are as diverse as the occupations within the Forest Service—hydrologists, engineers, fishery and wildlife biologists, geologists, archaeologists, pilots, botanists, soil scientists, computer and mapping technicians. Resource advisors walked the ground, observed it from surrounding hilltops and flew over it. Using every piece of modern equipment available and years of experience, they developed plans to stabilize and rehabilitate high–risk areas. Using Geographic Information Systems (GIS) technology, maps were created and as each stage of erosion control was implemented, that information was added to the maps.

Experience with other major fires has proven repeatedly that, if left untreated, the most severely burned areas are at risk for flooding and mudslides.

Crew placing logs on hillside. (USDA Forest Service photo)

BAER was only part of the equation. For every short-term plan created and implemented, a long-term recovery plan was being developed as well. Those plans are living documents. They will be added to and modified over the years as recovery work continues. Each plan was tailored for the area it encompassed. The Blodgett fire plan was, of necessity, very different from the Valley Complex plan.

It was a massive undertaking. Incident Command Teams, just like those that fought the fires, worked to implement the rehabilitation plans before bad weather halted the work.

More than 1,200 people worked to stabilize stream banks, install oversized culverts in drainages, fall trees and place them on hillsides to slow erosion, create debris dams of straw bales and rebar, and contour wattles along the slopes to hold soil and moisture.

Experience with other major fires has proven repeatedly that, if left untreated, the most severely burned areas are at risk for flooding and mudslides. With the proximity of homes on the wildland-urban interface so close to—and sometimes inside—the burned areas, attempts are made to prevent the potential loss of property. In spite of the tremendous stabilization effort, with the right conditions of intense rain and burned soils, there is nothing that can be done to stop landslides from occurring.

Bulldozers that created fire lines just weeks before were back on those same strips of earth, repairing the damage done in the effort to save homes from wildfires. The work was being done a second time for the same purpose—protecting those same homes from the possible threat of spring and summer floods. On the Skalkaho Complex bulldozers and excavators had punched in more than 47 miles of fireline. Across the four burn complexes, the total was hundreds of miles. And there were many more miles of narrower hand-dug line that required the same careful attention.

Extremely hot fires burn so severely they can create water–repellent (hydrophobic) soils. The chemical composition of the soil changes and repels water, rather than absorbing it. Initial surveys indicated that 20 to 40 percent of the lands within the various burns are now hydrophobic and needed treatment.

Wattles placed on hillside. (USDA Forest Service photo)

Wattles,15-foot long by 1-foot diameter mesh tubes filled with straw, were anchored along the slopes.

Given a fast spring thaw or a heavy summer thunderstorm, such untreated soils have the potential to trigger flash floods and earth slips, threatening streams and property in the valleys below.

Thousands of burned trees were felled, anchored by trees less intensely burned or with rebar. Thousands of straw bales were used in the same way. Wattles, 15-foot long by 1-foot diameter mesh tubes filled with straw, were anchored along the slopes. As they fill with moisture, they become amazingly heavy and immobile, keeping back the debris that washes up against them.

Aerial reseeding was supplemented with ground-based hand seeding and mulching. Straw was

Figure 22: Highlights from BAER Accomplishments.

BAER Accomplishments	
Culverts Replaced	316
Acres of Slope Stabilization	4,384
Acres Seeded	254
Miles of Fireline Rehab	200
Acres of Weeds Sprayed	195
Streambank Stabilization (ft.)	300
Acres Straw Wattle Placement	269
This list highlights some BAER accomplishments and is not a complete listing of all projects.	

spread over severely burned areas to a depth of two or three inches and worked into the ground as much as possible with hand tools.

Many miles of roads that were opened to allow access to the fires, or that were damaged by the heavy fire suppression traffic or by the fires themselves, were reclaimed or repaired. Many culverts were replaced with larger culverts to handle anticipated higher runoffs from the fire-bared slopes.

Many culverts were replaced with larger culverts to handle anticipated higher runoffs from the fire-bared slopes.

Community Engagement and Fire Recovery

An important step, taken early and often throughout the assessment process, was conversations within the communities affected. During October and November, the Bitterroot National Forest hosted twelve meetings in six different communities. The "Community Opportunity Series: Learning Together From Fire Season 2000" meetings were set up in two "rounds."

Darby community meeting. (USDA Forest Service photo)

The goals of the Community Engagement Program were to create an opportunity for residents to give input into the direction and content of the assessment of post-fire conditions, and to continue and enhance positive interaction between the Forest Service and local communities.

Darby community meeting. (USDA Forest Service photo)

The thoughts, concerns, and priorities generated by community members and agency resource specialists during the meeting series are summarized below:

The 2000 Fire Season

- Understand that fire is a natural and essential process.
- Determine how to manage the risks of fire in unburned areas.

- How will national laws and policies affect management of our local Forests?

Community Needs

- Collect public's desires and priorities from a broad cross-section of opinions.
- Determine ways communities can help in recovery, and work on mobilizing communities.
- Learn how other people and places recovered from similar events.

Data Needs Regarding Fire Effects

- Results from past monitoring of similar events.
- Information about the effectiveness of forest management in reducing fires.
- Effects on water yield both with and without management, and both pre-and post-fire.
- Data on how many burned trees are going to live and how many won't; and whether dead trees should be salvaged.
- Determine where we are going to reseed and replant.

Planning Needs

- Burned area recovery options, immediate and long-term, and what is the best approach to take.

Some Priorities for Forest and Community Recovery

- Watershed Protection—are water protection measures working?
- Erosion—protect land from erosion, control run-off, prevent flooding.
- Weed control - control weeds in burned areas; use herbicides.
- Communication—two-way dialogues between the Forest Service and communities.
- Local economic opportunities - use local labor for rehabilitation work; provide economic opportunities.
- Reforestation and revegetation
- Salvage logging—don't let dead trees go to waste; determine what should be done with dead trees based on science.
- Public education—provide public with information regarding home/property protection.
- Defensible space—don't let people forget about taking action to reduce the risk of fire to homes in the interface; be responsible for ourselves.

In addition to the community engagement activities described above, the University of Montana, Bureau of Business and Economic Research is doing a Public Opinion Poll to gather more information about what management activities people think should be done by the Forest Service, and to identify worthwhile ways to involve the community in planning these activities. Results of the Poll will be available early in 2001.

. . .don't let people forget about taking action to reduce the risk of fire to homes in the interface.

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