

Chapter 7 Bitterroot National Forest Recovery Priorities



Blodgett Canyon from Westside Road. (Photo by Marion Deeths)

The Bitterroot National Forest, with community input, has identified five program areas that are the highest priorities for fire response work in the next three to five years. This program is an integrated and balanced approach to post-fire management that protects and enhances resources, recognizes economic considerations, and will hopefully meet a majority of public expectations. The highest priority work is:

- Managing fuels
- Revegetation and reforestation
- Reducing weeds
- Protecting and improving watersheds
- Restoring fire-damaged infrastructure such as roads and trails

Some of the recommended work is believed to be essential in the near term. Other recovery work will also be implemented with time, but is considered less critical or immediate. The ability to work together will help ensure the accomplishment of the priorities discussed in this section.

Criteria established to set priorities include:

- **Achieving Forest Plan goals and objectives.** The Bitterroot Forest Plan guides all management actions on the Forest.
- **Public health and safety protection.** Where human safety and property risks are present, greater importance is assigned.

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- **Restoring or maintaining ecosystem function.** Projects that directly contribute to improving ecological integrity, including providing for recovery of threatened, endangered, and sensitive species, are considered high priority.
- **Timing considerations.** Some work requires more immediate attention than other work. For example, reforestation needs to occur before competing vegetation dominates certain sites.
- **Public desires.** Preferences expressed by those who participated in our community involvement series during the fall of 2000 and those who will participate in ongoing community dialogues are an important consideration.
- **Cooperatively developed projects.** Projects that are developed in partnership with neighborhoods and communities will be given priority consideration.
- **Financial and funding realities.** Appropriations from Congress and budgets allocated from higher levels in the Agency will directly influence the extent and types of recovery work accomplished.

Five Priority Recovery Work Items for the Next Few Years

1. Manage Fuels in Burned Areas and in Green Wildland-Urban Interface

Fuels should be reduced in certain areas to minimize the extent and severity of future fires. The top priorities for fuel management work are reducing fuel threats and future “uncharacteristic” fire effects in warm, dry forest communities (ponderosa pine and Douglas-fir forest type) and near where people live. Concerns about extent and severity of future fires due to the vast expanses of large fuels that will accumulate over the next few decades also need to be addressed.

Fuel Reduction Priorities in Burned Areas

Burned Wildland-Urban and Rural Interface Lands. Reducing fuels in burned areas in the wildland-urban and rural interface is a high priority. Forgoing fuel treatment in these areas could result in more widespread damage to homes and private property values than occurred in 2000. There are approximately 14,000 acres in which all or most trees were killed and another 14,000 acres where the fires killed a smaller percent of the trees. Desired fuel loadings are 5 to 15 tons per acre, compared to the 100 or more tons per acre that will accumulate on the ground in the future if fuel reduction is not accomplished.

Burned Warm, Dry Forested Habitats. Warm, dry forested habitats that burned are also a high priority for fuel reduction work. The warm dry forested habitats are sites dominated by ponderosa pine and Douglas-fir. Unnaturally heavy fuels predisposed many of these stands to uncharacteristically hot fires compared to the way fire historically affected them. Historically, a pattern of more frequent, low intensity fires reduced fuels, kept stands more open, and maintained ponderosa pine as the dominant species. As burned trees fall, fuels will accumulate on the ground in the more intensely burned stands over the next two or more decades. The potential for future unnaturally severe fires on these sites, and the accompanying effects to soils, future vegetation, and the organisms that inhabit them is of concern. Similar to interface lands, desired fuel loadings are 5 to 15 tons per acre, compared to the 100 or more tons per acre that will accumulate on the ground in the future if fuel reduction is not accomplished.

There are about 10,000 acres of warm, dry habitats located outside the wildland-urban interface where the fires of 2000 killed most or all of the trees. Another 7,000 acres had less intense fire that killed a smaller percentage of the trees.

It is important to recognize that much of the burned interface lands discussed above are also in the lower elevation, warm, dry habitats. In both

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areas, retaining historic amounts of snags and logs for wildlife and soil organic matter while reducing fuel loadings is recommended.

Landscape Fuel Extent. Concerns exist for the potential extent and severity of future fires that will visit the areas burned in 2000. Standing dead trees will pile up on the forest floor if no action is taken to reduce them. Because of our dry climate, these large fuels will not decay rapidly and will most likely remain on the landscape until it burns again. When that happens, the vast area, scores of thousands of acres, of heavy fuels could set the stage for even larger and more severe fires than occurred in 2000.

It is not good stewardship to leave such a legacy for future decades and the next generation. Action needs to be taken to break up the continuity of this vast expanse of heavy fuels. These actions could reduce the probability of several key watersheds being adversely impacted at one time.

How We Hope to Meet Fuel Management Needs in Burned Areas. Fuel management work should be accomplished using the entire range of tools available including contracting services, manual and mechanical methods, and timber sales. In some areas there is an opportunity to use the value of the fire-killed trees to finance a portion of the above work in the wildland-urban interface, ponderosa pine forest areas, and to reduce huge expanses of fuels. An urgency exists

to reduce woody material based on capturing economic value and reducing long-term fire hazard. The urgency comes from removing wood before it decays, becomes less economically feasible to remove, and makes further reductions in fuel loading more expensive to taxpayers. Concerns about “wasting” the economic opportunity to salvage fire-killed trees was expressed repeatedly at community meetings. There is an opportunity to design projects that are cost effective, environmentally sensitive, and, where possible, utilize the wood products market (firewood, sawlogs, houselogs, etc.) to reduce costs to taxpayers. Alternatively, money appropriated to the Forest could be used where the market for wood products would not generate enough value to meet the desired conditions.

Fuels Reduction Priorities in Unburned Wildland-Urban Interface

Western Montana forests are being plagued by larger, more intense wildfires with increasing frequency. In 2000, more than 292,000 forested acres were charred by wildfires in Ravalli County alone. Many neighborhoods and communities were threatened by fire, hundreds of residents were evacuated, and many homes were lost or damaged. Fires on the Bitterroot National Forest cost around sixty million dollars to suppress, and rehabilitation has cost about seven million dollars more to date. The personal trauma and impacts to natural resources were significant.

Wildland-urban interface lands that did not burn in the fires of 2000 need priority attention. There is a need to take a proactive and preventive approach to fuel accumulations in interface lands. Fuel reduction work is needed in these areas to reduce the intensity, severity, and undesirable effects of future fire events.

As stated above, many of the interface lands are also in the ponderosa pine and Douglas-fir forest type, which are recognized as having the most altered characteristics, due largely to fire absence in the 20th century. The tremendous increase in fuels on these lands has created explosive fire conditions that now threaten these forests that once thrived on more frequent, lower intensity fire, as well as threatening the people and their property that have settled in and near them.

Areas with the highest population density adjoining the Forest should be given priority. At the Forest scale, the west side of the Bitterroot Valley is considered the highest priority for interface fuel reduction work. Prevailing winds, heavy fuels, limited access, and population density all point to this area as communities and neighborhoods most at risk to future fires.

There is a need and opportunity for the Forest to bolster the local defensible space campaign, assist with landowner education, and provide assistance to private landowners to accomplish fuel treatments and structure protection measures on private lands. More outreach to

neighborhoods and communities is needed to increase awareness of opportunities to work collaboratively to accomplish fuel reduction or other shared objectives. Similarly, there is a need to improve defensible space around developed recreation sites and administrative facilities on the Forest.

2. Revegetate Burned Areas

Reestablishing vegetation in some areas is also considered priority fire recovery work. This work will enhance many resource values including longer-term watershed protection, reduced weed populations, improvement of visual quality and wildlife habitat as well as many other ecosystem values. The term “revegetation” includes planting or seeding native trees, shrubs, and grasses.

Tree seedlings need to be planted in burned areas where natural regeneration is not expected to meet species or stocking objectives. Priority areas include plantations that burned, burned wildland-urban interface lands, and warm, dry forest habitat types to ensure ponderosa pine dominance. Natural regeneration can be relied on more in some plant communities, particularly in lodgepole pine stands at mid to upper elevations.

Fuel reduction work in some priority reforestation sites should, to the degree possible, be completed prior to planting to protect

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reforestation investments against future fires. This includes reducing fuels in older (20+ years) burned plantations prior to replanting. Several considerations such as budgets, workload, timing with seedling availability, and competing vegetation regrowth will be factors in how much of this work can actually be accomplished before reforestation must occur.

Establishing shrubs or trees on steep and sensitive landforms that burned hot and are at increased risk of erosion or mass soil movement is desirable.

Some formerly forested sites should not be artificially reforested. To do so would “undo” some of the diversity restoration work that fires accomplish. Fires lead to plant communities that are present early after disturbance, and some habitats that have been in short supply due to fire absence in the 20th century. Examples include mountain grasslands that have become forested, aspen that has been reduced due to competition from evergreens (conifers), and streamside shrubs that have been overtopped and shaded out by mature vegetation. These plant communities provide valuable habitat for species such as bighorn sheep and many resident and migratory birds.

Spruce and other conifer species should be replanted along certain portions of streams that experienced very high severity fire or have high landslide risk. In some of these areas conifer seed sources are entirely lost. In other burned

streamside areas, planting trees should be the exception, and allowing natural recovery is preferred to maintain shrub diversity. Within the next few decades, conifers are likely to shade out and replace most of the shrub-dominated streamside areas that have been created by the fires.

Seeding grasslands with native grasses may be needed, particularly in those heavily infested with weeds where natural grasses have been suppressed and may not respond adequately following weed control.

3. Manage Weeds

Burned grasslands and adjacent burned forested stands are now more susceptible to weed infestations. Noxious weeds spread quickly to fire-disturbed land, especially where tree canopy cover has been reduced below 40 percent. The priority will be to reduce noxious weed threats and encourage native vegetation restoration, especially on big game winter range. Clean grasslands are especially important on elk and bighorn sheep winter range. Grassland areas are particularly noteworthy and important on the eastern and southeastern portions of the Forest.

The Forest-wide strategy is to keep weeds out of relatively weed-free areas, contain weeds in currently infested areas, and aggressively tackle new weed species before they become established. Rehabilitation efforts will be focused on

protecting grasslands that are relatively clean and that are now more susceptible to infestations after the fires. Another priority is grasslands that have been infested with weeds but still have a viable native plant community left. These areas exist both within fire perimeters and areas that were not visited by fire in 2000. In order to accomplish this work on a scale that is most effective, efficient and safe for applicators, aerial herbicide application using helicopters may be appropriate. About 2,000 acres of grasslands have been identified where using aerial herbicide application should be considered.

Weeds should also be controlled along roadsides in and through burned areas, as roads are a major source of weed spread. This work is particularly needed in areas at greatest risk of invasion by new weeds that may have been imported by fire suppression traffic from elsewhere. A rapid control response for new weeds is needed before small populations expand and create a much more significant problem. Similarly, conducting trailside inventory and monitoring, and treating weeds in and through burns will be needed.

Weeds significantly threaten wilderness areas and their ecological integrity. Education efforts should be increased and additional methods of prevention need to be instituted. New weed infestations need to be aggressively controlled while they're still small. Emphasis areas include trail corridors and areas of concentrated use.

Treatment and containment strategies need to be developed for existing weed infestations in wilderness lands, especially those that occur near burned areas. Ongoing weed inventory, monitoring, and treatment needs to be maintained in the Anaconda-Pintler Wilderness, especially at Kurtz Flat, Swift Creek, East Fork Trail corridor, and the McCart Lookout. An integrated weed control program already is in place in the Frank Church-River of No Return Wilderness. There is a need to similarly plan and address weeds in the Selway-Bitterroot Wilderness.

4. Protect Watersheds

Monitor Roads. More attention will need to be given to monitoring roadbeds and culverts and ditches, especially during or soon after major rainstorms. The objective is to keep road drainage functioning properly so that landslides or severe erosion events are not triggered by culverts and ditches that have become plugged by debris. Areas of most concern are the road systems in the following drainages: Cow Creek, North Rye/Blacktail, Skalkaho, Rye, French Basin east side, French Basin west side, Laird Creek/Lord Draw, Andrews/Maynard, Moonshine/Medicine Tree, Upper Camp Creek, Little Blue Joint, and Overwhich Creek.

Evaluate Flood and Landslide Potential and Mitigate to the Extent Possible. The threat of landslides exists until vegetation recovers and

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begins to stabilize soils. Landslides have been so infrequent in the past, it is difficult to predict with certainty where they may occur. We have estimated where they could likely occur, based on a worst-case scenario. Landslide prone areas have been mapped. Much of the emergency rehab work accomplished this past fall was designed to stabilize hillsides, and prevent—to the extent possible—massive soil movement.

Aerial photography of burned areas was not available at the time BAER teams conducted their assessments, but imagery is now available. Hazards to structures and private property need to be further delineated using the recent aerial photos. One example is the Cow Creek drainage in the Blodgett fire area, which burned hot and has several residences in its lower reaches.

Finish Burned Area Emergency Response (BAER) Work. A significant amount of emergency stabilization work was accomplished during the fall of 2000. Due to weather limitations, some work still remains and needs to be completed in 2001. Monitoring of emergency rehabilitation work completed last fall will be ongoing.

Survey and Implement Watershed Improvement Projects. Watershed improvement projects should be conducted in drainages where pre-fire watershed health is

ranked low or moderate and where burn severity was more than 25% moderate and high. The following drainages are considered the highest priorities with numbers in parentheses indicating the percent of the drainage that experience moderate or high burn severity: Cameron (60%), Lower East Fork (50%), Meadow (46%), Rye (45%), Sleeping Child (44%), Camp (34%), and Slate (33%).

Segments of certain roads should be graveled, particularly where roads closely parallel streams. About 63 miles of roads that are sediment contributors have been identified for gravel surfacing. Of that total, about 24 miles are in the East Fork drainage. Three road segments that closely follow streams in burned areas should be considered for closure and restoration, with provision for traffic to be re-routed on less impactful roads. If it's not feasible to close these roads, gravel surfaces would reduce sediment.

Fish Habitat Improvement. Replacing or removing culverts that are fish barriers in the burned drainages would benefit fisheries, especially those that are in key bull trout habitat. Several site-specific recommendations have been identified.

Opportunities to reduce irrigation ditch effects on fisheries should also be pursued. Cooperation with local irrigation districts is needed to

reconnect fish populations in the Skalkaho and Sleeping Child drainages to the Bitterroot River by retrofitting and screening existing irrigation diversions for fish passage.

Constructing new, or modifying existing woody debris fish habitat structures in several areas of streams that lacked woody debris prior to the fires has also been recommended.

5. Restore Roads, Trails, and Infrastructure

Restoring infrastructure damaged by fire is also a high priority. Damaged infrastructure includes roads, trails, range improvements, recreation facilities, fire facilities, landlines and corner monuments. Road maintenance and reconstruction needs have been inventoried.

Further analysis is needed to identify trails to retain on the system. A few trails that were greatly impacted by fire have relatively low use and would require expensive reconstruction and maintenance. These low use trails need further review and a decision on whether they should be kept on the system and maintained, or dropped from the trail system.

Extensive road and trail maintenance will be needed during the next two decades, especially with safety hazard tree removal and clearing downfall on roads and trails. Removing hazard trees around recreation sites is also needed.

Damaged infrastructure will need to be restored. Damaged recreation signs and structures need to be replaced, as does the burned Sula Peak Fire Lookout, and radio repeaters. Most of the 70 miles of range fence and more than 10 water developments destroyed occurred in the East Fork, and many of these improvements also need to be restored.

Significant damage to posted landlines and monument survey corners occurred and is a priority to restore. Previously unsurveyed boundaries will likely also need to be established to support recovery work.

Conclusion

These five priority program areas are intended to provide needed focus for the Forest's program of work for the next three to five years. Project level analyses and further study of more specific issues will be necessary to implement much of the needed work. The magnitude of fire restoration needs and the complexity of multiple priorities will be a challenge for the Bitterroot National Forest for years to come.

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Trapper Peak. (photo by Cass Cairns)

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