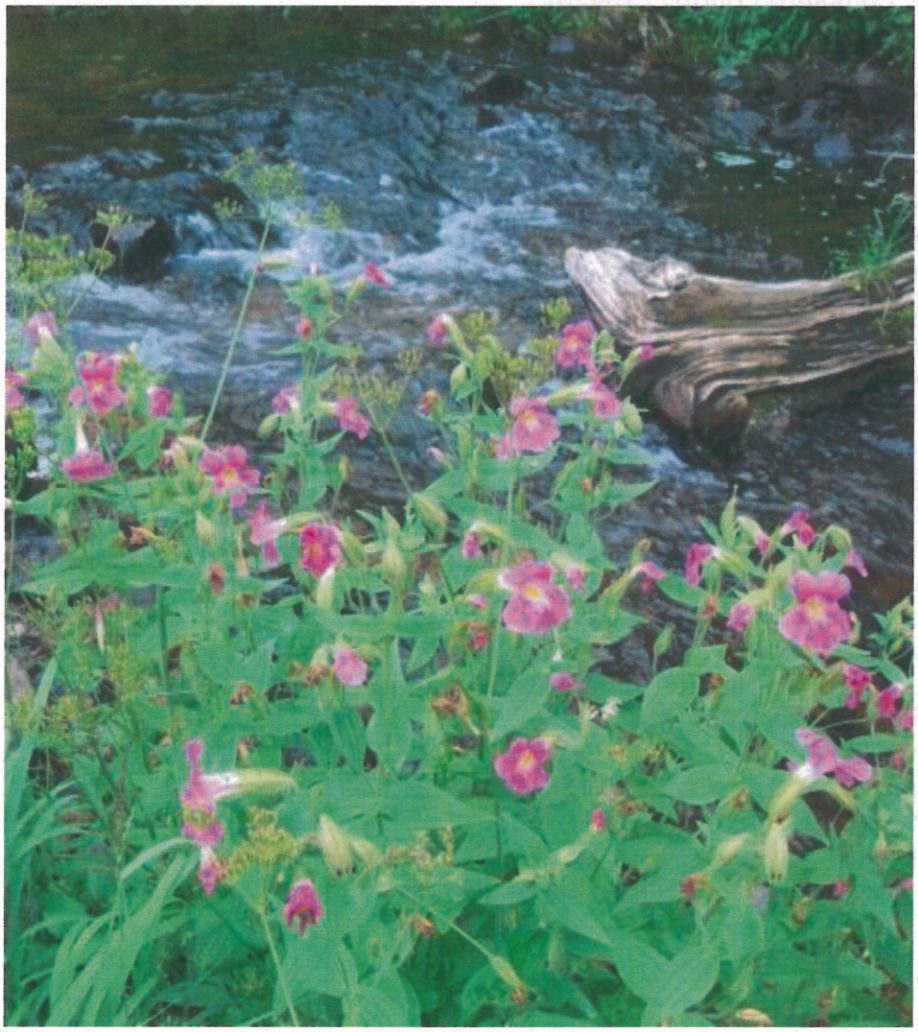
Medicine Bow National Forest
Routt National Forest

2009-2010 Annual Monitoring And Evaluation Report

October 1, 2008 through September 30, 2010

United States Forest Service
Rocky Mountain Region



April, 2010

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Cover photo is a clump of Pink Monkey Flowers on the North Fork Little Snake River..

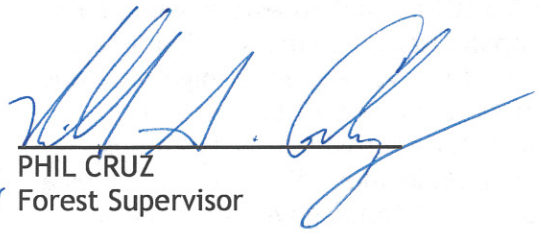
Certification

The Medicine Bow National Forest Land and Resource Management Plan (Medicine Bow Plan) Record of Decision (ROD) was signed on December 29, 2003. The Routt National Forest Land and Resource Management Plan (Routt Plan) Record of Decision (ROD) was signed on February 17, 1998. The Plans are dynamic documents, subject to change based on annual monitoring and evaluation as we implement them. Monitoring is intended to provide me with information necessary to determine whether the Plans are sufficient to guide management of the Medicine Bow and Routt National Forests for the subsequent year or whether modification of the Plans or if modifications of management actions are necessary.

Overall, the 2009 and 2010 Monitoring and Evaluation results indicate that the management of both Forests meets goals, objectives, standards and guidelines, and management area prescriptions. I have reviewed the 2009-2010 Annual Monitoring and Evaluation Report for the Medicine Bow and Routt National Forests that was prepared by the Forest Interdisciplinary Team (IDT). I believe that the results of monitoring and evaluation for FY09 and FY10 meet the intent of Chapter 4 of the two Forest Plans. I also believe that the monitoring and evaluation requirements displayed in Chapter 4 of the Forest Plans have been met, and that the decisions made in the Forest Plans are still valid.

The Forest IDT has not identified any modifications to the Plans or adjustments to management actions, except for the Management Indicator Species (MIS) amendment. This amendment was completed in February 2007, and was identified as a need through a 2001 Forest Service Region 2 review of MIS. Additionally, two administrative corrections to the Routt Plan, described below in the *Forest Plan and Policy Updates section* were completed in 2007. The Medicine Bow Plan and Routt Plan are sufficient to continue to guide management of the Forests.

Please contact Tony Smith at the Medicine Bow-Routt National Forests, 2468 Jackson Street, Laramie, Wyoming, 82070, or call (307) 745-2300, if you have any specific concerns, questions, or comments about this report.



PHIL CRUZ
for Forest Supervisor

10-17-2011
Date

Introduction

The Medicine Bow and Routt National Forests are managed under the administrative unit known as the Medicine Bow-Routt National Forests and Thunder Basin National Grassland extending into the states of Wyoming and Colorado. Since there are three Land and Resource Management Plans that provide guidance for the National Forest System (NFS) lands managed on this unit, we are required to prepare three annual monitoring and evaluation reports. In an effort to streamline costs for field work and report preparation and because the forested ecosystems are similar and provide for similar multiple uses, the Management Team decided to combine reporting for the Medicine Bow and Routt portions of the unit into a single annual monitoring report. This single report is intended to meet the requirements of monitoring and evaluation for the implementation of the two Forest Plans.

Beginning in the 2004 monitoring report, monitoring questions are combined from both Forests, where possible. Chapter 4 in each Forest Plan contains monitoring direction. Some of the monitoring direction is similar between Forest Plans and some is not. Over the next few years, we intend to combine direction wherever feasible.

The Medicine Bow National Forest contains 1,095,384 acres of National Forest System lands in southeast Wyoming. The Forest includes four units in three distinct mountain ranges; the Laramie Range, the Medicine Bow Mountains, and the Sierra Madre Mountains. The Continental Divide crosses the Forest for approximately 45 miles. The major river drainages are the Green River Basin that flows west into the Colorado River system and the western Dakota sub-Basin that flows into the Platte River to the east. Elevations range from 5,050 feet above sea level in the Laramie Range to 12,013 feet above sea level at Medicine Bow Peak. More than 50 percent of Wyoming's population lives in the vicinity of the Forest. Timber harvest and domestic livestock grazing have been historic uses on the Forest since before the turn of the century. The Forest provides a wide variety of recreation activities, including hunting, snowmobiling, skiing, hiking and camping.

The Routt National Forest contains 1,125,568 acres of National Forest System land within northwest Colorado. In addition to the management direction for the Routt National Forest, the 1997 Routt Revised Plan contains direction for the 85,350 acres of the Arapaho National Forest administered by the Routt National Forest; as well as the 104,744 acres of the Williams Fork Area of the Arapaho National Forest, administered by the Arapaho Roosevelt National Forest. The Forest is a varied mix of high plateaus, rolling foothills, and mountains. Many of the mountains exceed 13,000 feet in elevation. The Continental Divide crosses the Forest for approximately 113 miles. Though most of the Forest can be called "remote and undeveloped", it still provides a high level of multiple use values for people, including outstanding wildlife habitat, important watersheds, valuable recreational opportunities, timber, livestock, minerals, and other natural resources.

Goals and Objectives

The first chapters of both the Medicine Bow and Routt Plans, lists the Goals and Objectives to be accomplished through National Forest management. Goals and objectives provide broad, overall direction regarding the type and amount of goods and services the National Forests provide and focus on achieving ecosystem health and ecological integrity.

In the 2003 Medicine Bow Revised Forest Plan, most of the objectives are due to be accomplished over the life of the plan, usually considered to be 15 years. However, some objectives have earlier due dates, or are annual objectives. For the objectives due by 2007 or earlier, in addition to the annual objectives, the progress made toward these objectives is listed in Appendix 1. The Routt Plan does not give timelines for the goal and objective accomplishments, so progress to date is reported for all of the Routt objectives (Appendix 2).

Goals are concise statements that describe desired conditions, and expected to be achieved sometime in the future. They are generally timeless and difficult to measure. Goals describe the ends to be achieved, rather than the means of doing so.

Objectives are concise, time-specific statements of measurable, planned steps taken to accomplish a goal. They are generally achieved by implementing a project or activity.

The goals and objectives in the Medicine Bow Revised Forest Plan are tiered to the *USDA Forest Service Government Performance and Results Act Strategic Plan: 2000 Revision (GPRA)*. This strategic plan presents the goals, objectives and activities that reflect the Forest Service's commitment to a sustainable natural resource base for the American people. The Routt Forest Plan pre-dates the GPRA legislation; however the goals in the Routt Plan are consistent with the strategic plan. All goals and objectives fall under the overall mission of the Forest Service, which is to sustain the health, productivity, and diversity of the land to meet the needs of present and future generations. "Caring for the Land and Serving People" expresses the spirit of this mission. Implicit in this statement is the agency's collaboration with people as partners in caring for the nation's forests and rangelands.

The Forest Service's mission, strategic goals and objectives are derived from the laws defining and regulating the agency's activities. Goals and objectives describe tangible progress toward achieving the agency's mission through implementing land and resource management plans. These plans guide on-the-ground natural resource management to ensure sustainable ecosystems and to provide multiple benefits. The Forest Service is committed to achieving the stated goals and objectives.

Conclusions and Recommendations

The primary finding from the fiscal year (FY) 2008 report are still valid for the FY 2009-2010 report. These conclusions and recommendations are largely related to the ongoing bark beetle epidemic. More details can be found under the *Insect and Disease* monitoring item. The IDT developed Forestwide recommendations related to this and other resource areas. Numerous additional recommendations are contained within the monitoring items in this report concerning ways to improve both monitoring and forest resource management.

Conclusions

- The forests will have much larger areas of young forest and much less older forest resulting in changes to watersheds and habitats for wildlife species.
- The changes in habitats will reduce habitat for some management indicator species (MIS) and sensitive species (SS), while other species will gain habitat.
- The tree mortality and hazards from falling trees will have large effects on virtually all infrastructure on the forest which may result in increased safety hazards.
- Rangeland management will become much more difficult due to damage to fences, and from changes in transitory range and natural barriers.
- Invasive weed species will likely increase in coverage across the forests.
- Fire risk and fuel loading has changed and will continue to change over time as trees die and fall over.
- SIAs and RNAs with lodgepole pine stands may change, but current forest plan direction is still valid.

Action Recommendations

- Evaluate specific forest direction (desired conditions, goals, objectives, standards and guidelines) related to MIS/SS habitat, old growth (MBNF), and late successional forest (RNF) to determine if additional direction and/or modification is needed to make the plans relevant to the changed conditions.
- Incorporate the language and terminology found in the new federal wildland fire policy into the forest plans in order to avoid confusion while analyzing fire management strategies in any given area.
- Continue treating hazard trees around forest infrastructure and administrative sites.
- Modify plan direction relevant to fire suppression to reflect the full range of fire management strategies (direct, perimeter, and prescription control) for all affected management areas and geographic areas to ensure all wildland fire management options are available under these changed conditions.

- Complete a forestwide assessment of the watersheds which are most at risk of adverse effects to aquatic systems, public water supplies, and other infrastructure due to large scale fire.
- Continue to emphasis travel management, use of the recently created Motor Vehicle Use Maps, and an active restoration program are necessary to ensure properly functioning riparian and wetland conditions on the Forest.
- Develop a comprehensive strategy to address streamflows while still recognizing the need for additional consumptive uses of water.
- A sample of soil and water mitigation measures undertaken should be monitored during and after implementation to determine the effectiveness for protecting water quality.
- Review forest plan standards, in both forest plans, relating to snag retention in harvest units, in light of the amount of tree mortality from the MPB epidemic which will result in high densities of snags across the forests.
- Limit and/or reduce disturbance in remaining late successional forest habitats and near fen/wetland habitat to maintain certain elements of plant diversity.

Forest Plan and Policy Updates

Adjustments to the Forest Plans

The Medicine Bow Revised Forest Plan was approved in 2003. Since then, the Forest has issued six errata and one administrative correction. One amendment has been approved for the Medicine Bow Plan. This amendment was a site specific amendment issued in the Eastern Snowy Range Travel Management decision for Albany Trail. The amendment changed roughly 422.5 acres of Forest Plan Management Area (MA) 1.33 - Backcountry Recreation, Summer Non-motorized with Winter Snowmobiling north of Albany to MA 3.31 - Backcountry Recreation, Year-round Motorized. A link to this decision can be found at: http://www.fs.fed.us/r2/mbr/projects/trans/index.shtml

The Routt Plan was approved in 1998. Since then, four amendments, three administrative corrections and three errata have been issued. The latest amendment, issued in Feb 2007, updated the list of Management Indicator species (MIS) for the Routt National Forest. In 2007, two administrative corrections were issued. One correction is related to transferring the direction of the Williams Fork area from the Routt NF back to the Arapaho-Roosevelt NF. The other administrative correction adjusted wording of the Water and Aquatic Standards to be more consistent with applicable laws. As mentioned earlier, the Plans are dynamic and ever changing. To stay current with these Plans, please refer to the following internet website: http://www.fs.fed.us/r2/mbr/projects/forestplans/index.shtml

Routt MIS Amendment

The Routt Five-Year Review and 2003 Implementation and Monitoring Report identified the need for a Management Indicator Species amendment for the Routt Forest Plan. The Decision Notice for the amendment was signed in February 2007. The amendment

and Decision Notice can be found on the Medicine Bow - Routt (MBR) website: http://www.fs.fed.us/r2/mbr/projects/forestplans/in_progress/index.shtml

Southern Rockies Lynx Environmental Impact Statement (EIS)
The Supplemental Draft Environmental Impact Statement for the Southern Rockies Canada Lynx Amendment was released in November 2006. This amendment would amend eight forest plans to better conserve the threatened Canada lynx on national forests in Colorado and southern Wyoming, including both the Routt and Medicine Bow National Forests. The supplemental Draft EIS includes the analysis for the White River NF to supplement the 2004 Draft EIS which included analysis pertaining to the the other seven forests. Comments were due in February, 2007. The Final EIS and Record of Decision were expected in the fall of 08. More information can be found at the following website: http://www.fs.fed.us/r2/projects/lynx/.

New Laws and Regulations

Planning Rule Suspended
The U.S. District Court, Northern District of California (9th Circuit) final decision in Citizens for Better Forestry v USDA; Defenders of Wildlife v Johanns (case 3:04-cv-04512-PJH; filed 03/30/2007), with respect to the 2005 National Forest System Land Management Planning Rule, implementation and utilization of the 2005 Planning Rule has been enjoined until the "USDA has fully complied with pertinent statutes". To be in compliance with this decision, all land management plan revision processes associated with the 2005 Planning Rule have been suspended until further notice.

On December 17, 2009, Agriculture Secretary Tom Vilsack announced that the USDA Forest Service is beginning an open, collaborative process to create and implement a modern planning rule to address current and future needs of the National Forest System.
Throughout April and May 2010, the USDA Forest Service hosted a series of public meeting to provide opportunities for public input and dialogue on the development of a new planning rule. These meetings have been followed by additional conversations with Forest Service employees, the Fourth National Roundtable in July and the Second National Tribal Teleconference Call in August. The results from these meetings and the formal comments received on the Notice of Intent (NOI) are being used to develop the proposed planning rule and draft environmental impact statement (DEIS), which are expected in early 2011. For more information go to the following link:
http://www.fs.usda.gov/wps/portal/fsinternet/!ut/p/c4/04_SB8K8xLLM9MSSzPy8xBz9CP0os3gjAwhwtDDw9_AI8zPwhQoY6BdkOyoCAPkATIA!/?ss=119987&navtype=BROWSEBYSUBJECT&cid=FSE_003853&navid=091000000000000&pnavid=null&position=BROWSEBYSUBJECT&ttype=main&pname=Planning%2520Rule-%2520Home

Travel management
In November, 2005 the US Forest Service announced new travel management regulations. The new travel management policy requires each national forest and grassland to identify and designate those roads, trails and areas that are open to motor vehicle use.

The Routt National Forest published the Motor Vehicle Use Maps in September 2007. These maps display routes that are designated for motorized use.

In 2007, the Medicine Bow National Forest completed Travel Analysis and NEPA on the eastern Snowy Range Mountains and the Laramie Peak unit. Maps for all units on the Medicine Bow National Forest are scheduled to be published in September 2008.

More information can be found at the following website:
http://www.fs.fed.us/r2/mbr/recreation/travel_management/index.shtml

Roadless Area Conservation

Colorado Roadless Rulemaking
The State of Colorado and the US Forest Service have begun work on a state-specific rule that will guide management of over four million acres of roadless National Forest lands in Colorado.

The rulemaking process began with Under Secretary of Agriculture Mark Rey's acceptance of Governor Bill Ritter's petition to pursue state-specific rules. Rulemaking will continue with publication of a Notice of Intent in the Federal Register, joint development and release of a draft Rule and Environmental Impact Statement (EIS), then finalization and release of the final Rule, EIS, and Record of Decision. More information is available on the following website:
http://roadless.fs.fed.us/colorado.shtml

Wyoming Roadless Status
In 2001, the Forest Service enacted the Roadless Area Conservation Rule, which essentially prohibited road construction and reconstruction and timber harvesting, subject to certain limited exceptions, in inventoried roadless areas (IRAs) on a uniform nationwide basis.

In July 2003 the Wyoming District Court issued a nationwide permanent injunction against the Roadless Rule.

On May 5, 2005, the Forest Service adopted the State Petitions Rule, which is a process to provide Governors an opportunity to establish or adjust management requirements for National Forest System inventoried roadless areas within their States.

In October 2006 The State Petitions Rule was set aside by the Courts and the 2001 Roadless Rule was reinstated.

Recent courts cases on the Roadless Area Conservation Rule have led to NFS direction to forests that all decisions for projects in roadless areas must comply with the 2001 Roadless Rule. The current interim direction and other information regarding roadless area direction and management can be found at the following website:
http://www.roadless.fs.fed.us/

Projects and Ongoing Activities

Community Involvement

This section includes descriptions of the task forces, community groups and other working groups, working with or on issues associated with the Medicine Bow-Routt NFs.

Bark Beetle Epidemic

The aftermath of a landscape-scale mountain pine beetle and spruce beetle epidemic is a major focus for community involvement, education, and information. On November 6, 2009, the Regional Forester signed a delegation of authority with a National Incident Management Organization (NIMO), which assumed command of the bark beetle incident on the Medicine Bow-Routt, Arapaho-Roosevelt and White River National Forests for the next two years. In 2010, the organization became the Bark Beetle Incident Management Organization. 2010 aerial surveys show more than four million acres of lodgepole pine in northwest Colorado and southern Wyoming have been killed by the beetle epidemic.

The primary emergency is the eminent danger presented by dead and dying trees that are falling at an ever increasing rate across the impacted area. Secondarily, the threat of catastrophic wildfire continues to grow, putting communities and critical watersheds at risk. During 2010, only two small fires in beetle-kill were reported.

The Delegation of Authority outlines objectives, budget, and communication expectations for the next two years.

The **IMO's PAO and PAOs** from the three forests formed a Bark Beetle Task Force in 2010 and created interpretive signs, educational materials, magazine ads, and a new website to promote awareness of hazard tree dangers. The Future Forest message was included in educational efforts.

"Watch Out" hazard tree warning posters have been posted at major trailheads, campgrounds and other locations on the forests, in Forest Service offices, and other public buildings and private businesses.

The MBR Forests continue to work with the Wyoming State Forestry Division, the Society of American Foresters, the University of Wyoming, and the State Forest Services in Wyoming and Colorado on educational efforts, including interpretive signs, brochures and other publications.

The Routt NF produced a hazard tree awareness video that is a segment of a video loop at the luggage areas of the Yampa Valley Regional Airport.

The Bark Beetle Information Task Force (BBITF) was formed in the spring of 1999 to help residents of Routt County and surrounding areas understand potential effects of bark beetles on national forests and private land. The Task Force includes representatives from the State Forest Service, the Medicine Bow-Routt National Forests, Colorado State University Cooperative Extension, City of Steamboat Springs,

Routt County, Steamboat Ski and Resort Corporation, Steamboat Chamber Resort Association, Inc., Community Agriculture Alliance, and Colorado State Parks. The Task Force's mission is to provide the public with information about bark beetles and potential tree mortality so they can make informed decisions regarding protection of their private property and provide meaningful input regarding proposed actions on public lands. In 2001, the Task Force expanded its mission to include education about the role of fire in the ecosystem, fire prevention for homeowners, and fuel reduction projects in wildland urban interface areas.

Members of the Task Force participate in discussions with civic groups, homeowners' associations, Forest Service tours and meetings, and other gatherings of people interested in bark beetles, and provide information to the media.

In 2007, the group published "Our Future Forests," a publication about utilizing beetle kill wood and looking toward the future forests, after the beetle epidemics. In 2007, the BBITF received a grant from the City of Steamboat Springs for $7,000 to be used to explore uses for woody biomass in the wake of beetle epidemics.

In 2008 The BBITF embarked on a "Bluestain Campaign" to promote the use of blue-stain lodgepole pine. The group also hosted a series of educational presentations for the community about uses of beetle-kill trees.

The Task Force continued its education efforts. In 2009, it organized and participated in interviews for Homelink Magazine's special issue on the use of blue-stain wood. It also worked with Steamboat Springs High School videography students on the production of a hazard tree awareness video for use on websites and other venues.

In 2010, the group focused its efforts on helping to facilitate "Re-Tree Colorado," a tree planting effort funded by a National Geographic and Frito Lay grant. Trees were planted at Hinman Campground, along Spring Creek Trail and at the ski area on Hahns Peak-Bears Ears Ranger District.

In March of 2011, the BBITF decided that it had fulfilled its mission for "bark beetle information" and decided to meld its members into the Yampa Valley Sustainability Council. The BBITF had a final meeting in April 2011. Members brought items they want included in the BBITF Record which will be housed at the Hahns Peak-Bears Ears Ranger District in Steamboat Springs, Co.

Colorado Bark Beetle Cooperative - The Cooperative was formed in late 2005 and major efforts were embarked on in 2006 to bring attention to beetle epidemics and form short-term and long-term strategies to deal with beetle epidemics and prepare for the future forest. The Cooperative has a Steering Committee, Communications Team and an Implementation Team.

The Colorado Bark Beetle Cooperative is a collaboration of federal and state agencies, counties, municipalities and communities working together to develop and implement strategies to reduce forest mortality in high priority areas and associated adverse effects. Goals: To develop short-term (less than two years) and long-term (beyond two years) strategies for addressing tree mortality from bark beetle epidemics;

develop action plans necessary to implement the strategies; and work collaboratively to carry out the work.

Members of the Colorado Bark Beetle Cooperative participated in numerous media interviews, made trips to the Forest Service Washington Office and met with members of Congress to bring attention to the severe beetle epidemics being experienced in Northern Colorado. The group also conducted several tours for local and national elected officials and the media. The Cooperative's efforts continued in 2008 and 2009. This group was still active in 2010.

The **Routt County Public Information Officers** group was formed in 2006. It involves information officers from the county, city, schools, airport, hospital, emergency response, the Forest Service and others. The focus is to train together and share information, so that when an emergency (fire, plane crash, etc) occurs we are all set to work together. The group is still very active in 2010. We hope to be involved in a similar effort on the Wyoming side in 2011.

In 2010, the forests formed the **Medicine Bow-Routt Resource Advisory Committee (RAC)**. The 15-member RAC represents a wide range of interests. Committee duties include reviewing proposed land management projects on or adjacent to the Medicine Bow-Routt National Forests. The projects are funded through Title II of the Secure Rural Schools Act. The committee recommends which projects to fund and is responsible for coordinating with land management agencies and county officials. In 2010, the RAC approved 10 projects in Routt, Jackson, Albany and Carbon Counties.

Medicine Bow Forest Plan Cooperators
In 2006, Medicine Bow-Routt NFs and Thunder Basin NG Forest Supervisor Mary Peterson signed a Memorandum of Understanding (MOU) with the Southeastern Wyoming Conservation Districts. The conservation districts had a signed MOU with the Medicine Bow NF during the formulation of the revised Medicine Bow Land and Resource Management Plan. The Wyoming Cooperators continue to meet and provide input to the Forest Service.

- This MOU was established between the Medicine Bow NF and the Conservation Districts to provide for a cooperative working relationship during the implementation of the Medicine Bow National Forest Land and Resource Management Plan (LRMP).
- The Medicine Bow NF hosts two bi-annual meetings with the Conservation Districts and other interested agencies. One meeting is in the office to provide an opportunity to discuss past and upcoming projects. The second is a field day where we are able to visit projects that have occurred and discuss what has worked and what hasn't in the context of the revised plan.
- The biannual meetings are well attended with the field day having the most participation.
- During the spring meeting, this provides an opportunity for the District Rangers to present to the "Cooperators" upcoming projects that they may wish to be involved with.

- Two of the Conservation districts have been successful in acquiring two stewardship projects. One project is on the Brush Creek/Hayden Ranger District, and the second is on the Laramie Ranger District.
- In cooperation with the Conservation Districts we have used these stewardship projects to demonstrate to numerous interested parties how stewardship can work, and how it is a mutual benefit to both the Conservation Districts and the Medicine Bow NF.

The Colorado Roadless Areas Review Task Force - In 2005, a bipartisan 13-member group was created under Colorado Senate Bill 05-243 to help determine the future of roadless areas in Colorado. Based on public comment, the task force made recommendations to then-Colorado Governor Bill Owens, regarding how inventoried roadless areas should be managed. In November 2006, Governor Owens submitted a petition to the United States Forest Service on behalf of the State of Colorado with guidelines to manage the state's 4.1 million acres of roadless areas. The petition requests that ski area special uses be removed from the roadless inventory. It has special provisions for certain mineral interests and selectively allows some road construction and reconstruction, in addition to some new temporary roads, primarily for public safety. Tree harvest is selectively allowed. Colorado's new governor, Bill Ritter resubmitted the petition, with some modifications, to the USDA. The State of Colorado and the Forest Service are working on a state-specific rule that began with Under Secretary of Agriculture, Mark Rey's, acceptance of Governor Bill Ritter's petition to pursue state-specific rules. A Notice of Intent was published in the Federal Register December 26, 2007, this will be followed by joint development and release of a Draft Rule and Draft Environmental Impact Statement (DEIS), then finalization and release of the final Rule, Final EIS, and Record of Decision. In 2010, a new Colorado Roadless Rule is still pending, after several revisions.

Projects Completed During FY09-10

Tables 1 and 2 below list the environmental analysis projects completed on the Medicine Bow and Routt National Forests during Fiscal Year (FY) 2009-10. The types of decisions under the National Environmental Policy Act (NEPA) include Decision Memos (DMs) for actions that fall under categorical exclusions, Decision Notices (DN) for Environmental Analyses (EAs) and Record of Decisions (RODs) for Environmental Impact Statements (EIS). The project lists were generated from the database that produces the Schedule of Proposed Actions (SOPA). The SOPA quarterly report is available at the following internet website: http://www.fs.fed.us/sopa/forest-level.php?110206

Table 1. Medicine Bow NF Projects Completed in FY09-FY10

Name	Decision Type	Date Signed	Primary Purpose
Projects Covering the Entire Forest			
Forest Order for Bear-Proof Food Storage or Refuse Containment	DM	07/09/2010	Regulations/Directive/Orders/Wildlife/Fish/Rare Plants

Hazard Tree Reduction – Medicine Bow-Routt NFs	DN	08/12/2008	Vegetation Management/Fuels Management/Facility Management/Trail Management/Developed Site Management
Brush Creek/Hayden Ranger District (BCH)			
HWY 70/Nellie Ditch Erosion Rehab	DM	08/23/2010	Watershed Management/Road Management
Laramie Ranger District (LRD):			
Ewind Farm, Inc.	DM	07/01/2010	Special Use Authorization
Laramie District South – Wildland Urban Interface Project	DN	01/06/2010	Fuels Management
Snowy Range Scenic Byway Corridor Management Plan	DN	06/14/2010	Facility Management
Snowy Range Travel Management Analysis	DN	09/28/2007	Trail Management/Travel Management/Road Improvements-Construction/Road Maintenance/Road Decommissioning
Spruce Gulch Bark Beetle and Fuels Reduction Analysis	ROD	08/30/2009	Forest Products, Fuels Management
Tennant and Depew Mineral Exploration	DM	10/08/2009	Minerals
Douglas Ranger District (Laramie Peak Unit)			
Gunnysack and Cow Creek Mountain Permanent Repeater Sites	DM	09/03/2010	Facility Management
North Laramie River Analysis	DN	09/29/2010	Range
Sunset Ridge Trail and Trailhead Construction	DM	12/06/2008	Recreation/Trails

Table 2. Routt NF Projects Completed in FY09-10

Name	Decision Type	Date Signed	Primary Purpose
Hahns Peak-Bears Ears District (HPBE):			
Red Parks Rangeland Management Analysis	DN	09/03/2010	Range
Willow Creek Pass Fuel Reduction	ROD	08/16/2010	Fuels Management
Slater Creek Rangeland Management Analysis	DN	09/30/2009	Range
Recreation Residence Use of NFS Lands	DM	7/19/07	Special Use Authorization

Name	Decision Type	Date Signed	Primary Purpose
Yampa Ranger District:			
Flat Tops AMP	DN	01/28/2010	Range
Red Dirt Integrated Management Project	DN	03/26/2010	Fuels Management
Temporary Outfitter Guide Permit Renewals	DM	06/17/2010	Special Use Authorizations
Williams Fork AMP	DN	07/24/2008	Range
Coal Creek Fish Barrier	DN	09/18/2008	Wildlife/Fish/Rare Plants

Figure 1. Curious Black Bear on the Brush Creek/Hayden Ranger District

Monitoring items

The National Forest Management Act (NFMA) identifies specific legally required monitoring items for forest plan implementation as well as additional monitoring that is conducted based on the availability of funding and personnel. The discussion and results of the monitoring items are given below.

Ensure Sustainable Ecosystems

Soil Productivity

Routt Monitoring Item 1-1
Medicine Bow Item Subgoal 1.a 36CFR219.12(k)(2)
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

Are long-term soil health and productivity being maintained?

Monitoring Protocol/Data Collected

Forest Service Handbook 2509.18 Soil Management Handbook R2 Supplement No. 2509.18-92-1 Chapter 2 - Soil Quality Monitoring indicates that soil productivity is the inherent capacity of a soil to support the growth of specified plants, plant communities, or a sequence of plant communities to support multiple land uses.

Maintenance of productivity of the land and the protection and, where appropriate, improvement of the quality of the soil and water resources requires that detrimental changes in soil properties (physical, chemical, or biological) that result in the loss of the inherent ecological capacity or hydrologic function of the soil resource that lasts beyond the scope, scale, or duration of the project causing the change or a silvicultural rotation or land management planning period must be avoided and has far-reaching implications for watershed management in the National Forest System.

Based on available research and current technology, a guideline of 15 percent reduction in inherent soil productivity potential will be used as a basis for setting threshold values for measurable or observable soil properties or conditions. No more than 15 percent of an activity area will be left in a detrimentally compacted, displaced, puddled, severely burned, and/or eroded condition. The threshold values serve as an early warning signal of reduced productive capability.

This item is assessed using field observations of soil characteristics that indicate detrimental conditions related to soil productivity and health.

Results/Evaluation

Soil Quality Monitoring (Medicine Bow and Routt NFs)

In 2009-10, Road side hazard tree removal, one fuels reduction project and two timber sales were monitored to evaluate the effects of these activities on soil health and productivity across the Forest.

- Numerous Colorado and Wyoming Forestry Best Management Practices (BMPs) and design criteria from the Environmental Assessments were not followed repeatedly.
- All evaluations indicate that these management activities are probably not having a detrimental impact on soil health and productivity.
- All projects were under the soils standard of limiting detrimentally disturbed soil to no more than 15% of an activity area, which is included in both forest plans.

Follow-up from previous years' recommendations

No recommendations from the previous years' monitoring were considered or followed up on.

Conclusions

- Monitoring during 2009-10 indicates that long-term soil health and productivity is probably being maintained. Site-specific monitoring data is on file with the Forest Soil Scientist.

Recommendations

- Finish the Soil Surveys for the Forests.

Air Quality

Routt Monitoring Item 1-2
Reporting Period: Annual

This monitoring item asks the question:

Are management activities maintaining or improving air quality including the Mount Zirkel Wilderness?

Monitoring Protocol/ Data Collected: 2009 and 2010

There are two air-quality monitoring sites located in the Routt National Forest near the southern boundary of the Mount Zirkel Wilderness Area: Buffalo Pass, Dry Lake (CO93) and Buffalo Pass, Summit Lake (CO97). Both sites are components of the National Atmospheric Deposition Program (NADP) and are included in the National Trend Network (NTN). Each site monitors precipitation (rain and snow) chemistry; data are collected from the sites four times per month for each month of the year. Atmospheric-chemistry metrics (mg/L) collected at both sites are: Ca, Mg, K, Na, NH4, NO3, Cl, SO4, PO4, conductivity (µSiemens/cm), and pH. Additionally, CO97 is part of the Mercury Deposition Network (MDN) and collects precipitation samples that provide data about atmospheric-mercury concentrations (ng/L) and deposition (ng/m^2). The Buffalo Pass, Dry Lake site has collected precipitation-chemistry samples continuously since October 14, 1986. The Buffalo Pass, Summit Lake site has collected precipitation-chemistry samples continuously since July 2, 1984. All precipitation

samples are analyzed by the Central Analytical Laboratory (CAL), Illinois State Water Survey located at the University of Illinois, Urbana-Champaign.

In **2009** a substantial-equipment upgrade was made to CO93 and CO97 to improve the quality and reliability of precipitation data collected at the sites: state-of-the-art, electronic precipitation gages were installed to replace the old chart gages. In addition, the power supply at CO97 was reconfigured and upgraded so that the Forest can better track electricity use at the site. Precipitation-sample collection continued at CO93 and CO97 and the samples were submitted to the CAL for analysis.

In **2010,** precipitation-chemistry samples continue to be collected at CO93 and CO97 and submitted to the CAL for analysis.

Results/Evaluation: Some "growing pains" have been experience in 2009 and 2010 operating the new precipitation gages, especially in addressing the reliability of the wireless downloads between the new gages and the operator PDA. But, those issues have been, for the most part, resolved. During most of 2009 and all of 2010, the new gages appear to be providing reliable precipitation values.

Data from both sites are publicly available on the following website:

http://nadp.sws.uiuc.edu/sites/siteinfo.asp?net=NTN&id=CO93;

Substitute CO97 at the end of the URL to access data from the Buffalo Pass, Summit Lake site. Overall, the data indicate that the Class 1 Airshed in the vicinity of the Mount Zirkel Wilderness has been in compliance with state and federal air-quality standards from 2009 and 2010. Consequently, Forestwide standards and guidelines have been met during the first two years of the third five-year monitoring interval (2009-2013).

Recommendations

Continue to collect atmospheric-chemistry precipitation samples from CO93 and CO97. In addition, continue to implement prescribed-fire treatments within prescription and take other management actions conducive to reducing combustion products such as smoke and soot that result from post-harvest treatments (i.e. slash-pile burning).

Water Quality

Routt Monitoring Item 1-3
Medicine Bow Objective 1.a.2
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

Are management activities meeting state water quality standards and to what extent has water quality been restored, maintained or improved?

Monitoring Protocol/Data Collected

Water quality data on the Forest are collected by various Federal, State and local governments as well as non-governmental entities and individuals. The States of Colorado and Wyoming produce biennial comprehensive summaries of water quality conditions in each State.

Water quality is restored, maintained, or improved largely through soil and water improvement projects, and stream and lake enhancement projects. Implementation of these projects focuses largely on reducing sedimentation to streams and lakes to protect the State designated beneficial use of aquatic life. Some projects also help to protect water quality by reducing input of pathogens such as E.Coli, or inorganic compounds such as metals. Cooperative watershed plans with conservation districts and state agencies provide a strategic approach to maintaining and improving water quality, usually with a focus on streams where specific water quality concerns have been identified.

Results/Evaluation

Water quality restoration and improvement: Watershed, Soil and Fisheries improvement project accomplishments are shown in Table 2 and summarized over time in Figure 2. Acres treated through the Soil and Watershed improvement program continue to be high and in 2009 the Forest treated the most acres since at least 2004. The amount of soil and watershed improvement acres accomplished varies based on the complexity and cost of a project, available funding, and staffing to implement the project. The significant increase in past few years was due primarily to road decommissioning on Laramie Ranger District with the use of substantial grant funding and NFS Legacy Roads and Trails funding. Grants and integrated Forest Service funds have also been used to accomplish many other projects (Table 3). Some program funds were available to accomplish soil and watershed improvement projects in 2009; no program funds were available to accomplish soil and watershed improvement projects in 2010. The miles of stream restored or enhanced also continues to be high and in 2009 the Forest treated the most miles since at least 2004. The recent increases in accomplishments were primarily due to projects at road/stream crossings to improve aquatic organism passage, improvements to stream crossings through road decommissioning, and non-native fish removal. Acres of lakes restored or enhanced have varied over the years, but have remained relatively low in the past five years.

Table 3. 2009/10 Soil, Watershed, and Fisheries Improvement Accomplishments

Project	HUC	Ranger District	WSI Acres	Lake Acres	Stream Habitat Improved (Miles)
FY2009					
Turnbull Gulch Mine Recl	101800020205	BCH	2	0	1
Green Ridge/Deep/Savery Road Decomm	1405000304	BCH	40	0	10
South Fk Big Creek Bridge - erosion work	101800020301	BCH	1	0	0
Lincoln Creek Dispersed Campsite Rehab	101800020402	BCH	1	0	0.5
Little Snake River - riparian fence	140500030106	BCH	0	0	1
Laramie Peak Travel Mgmt - Road Decomm.		DRD	5	0	0
Barber Lake - temporary water use	101800100603	LRD	0	1	0
Eastern Snowy Range Road Decomm.	1018000402	LRD	127	0	22
Sunset Mine Recl	101800020107	LRD	4	0	0.5

Project	HUC	Ranger District	WSI Acres	Lake Acres	Stream Habitat Improved (Miles)
Colorado Cr culvert[1]	101800010102	PARKS	1	0	2
Crosby Cr culvert	101800010301	PARKS	1	0	2
SF Slater Creek culvert replacements	140500030302	HPBE	3	0	3
First Cr culvert	140500010601	HPBE	1	0	2
NFSR 249 - Road Decommission	140100011001	YAMPA	2	0	0
Grizzly Creek snowmobile route crossings	101800010102	HPBE	3	0	0
Grizzly Park hardened crossings	140500030302	HPBE	3	0	0
Newcomb Cr trail reroute	180100010302	PARKS	1	0	0
Non-native fish removal	140500010103, 140500010102; 140500030302	HPBE/YAMPA	0	0	4
California Park Toad fence	140500010601	HPBE	0	0	1
Coal Creek Fish Barrier	140500010102	YAMPA	0	0	8
	FY2009 Totals:		**196**	**1**	**57**
FY2010					
Battle Creek NFSR 807	140500030109	BCH	1	0	0
Sixmile stock water crossing	101800020101	BCH	1	0	0
Ryan Park Illegal ATV Trail	101800020403	BCH	1	0	0.25
Mill Creek NFSR 822 Culvert - AOP	140500030407	BCH	0	0	2
Methodist Creek/NFSR 435 crossing	101800020701	BCH	1	0	0.25
Turner Reservoir Fishing Platform Extension	101201070104	DRD	0	1	0
TBNG - Road decommissioning (FY10)		DRD	28	0	0
Eastern Snowy Range Road Decomm.	1018000201	LRD	38.5	0	10
Upton/Osage 914 Road Improvements	101201070104	DRD	3.5	0	0
LaBonte Canyon Fencing	101800080301	DRD	1	0	1
McClain Culvert Installations	101800020801	BCH	0	0	0.5
Rock Creek Trailhead/road repair	101800040201	LRD	1	0	1
Oak Creek roads	140500010403	YAMPA	6	0	0
NFSR 329 decommission	140500010702	YAMPA	6	0	3
Elkhead Riparian Exclosure	140500010601	HPBE	5	0	1
NFSR 133 culvert replacements (2)	140500030302	HPBE	2	0	2
Indep Cr NFSR 550 culvert replacement	140500030102	HPBE	1	0	0
NFSR 429 culvert replacement	140500010205	HPBE	1	0	1.5

[1] HUC6 Watershed numbers are based on the 2010 NHD watershed layer for all south zone watersheds

Project	HUC	Ranger District	WSI Acres	Lake Acres	Stream Habitat Improved (Miles)
RCR 80 culvert replacements (2)	140500010601	HPBE	2	0	4
NFSR 499 stream reconnect	101800020505	PARKS	2	0	2
Three Forks Ranch riparian fencing	140500030105	HPBE	0	0	1.5
Willow Creek barrier/chemical treatment	140500030204	HPBE	0	0	4
California Park Toad Fence	140500010601	HPBE	0	0	1
Teal Lake Woody Debris	180100010302	PARKS	0	2	0
Coal Creek non native removal	140500010102	YAMPA	0	0	0.5
SF Slater Cr non native removal	140500030302	HPBE	0	0	1
	FY2010 Totals:		**101**	**3**	**37**

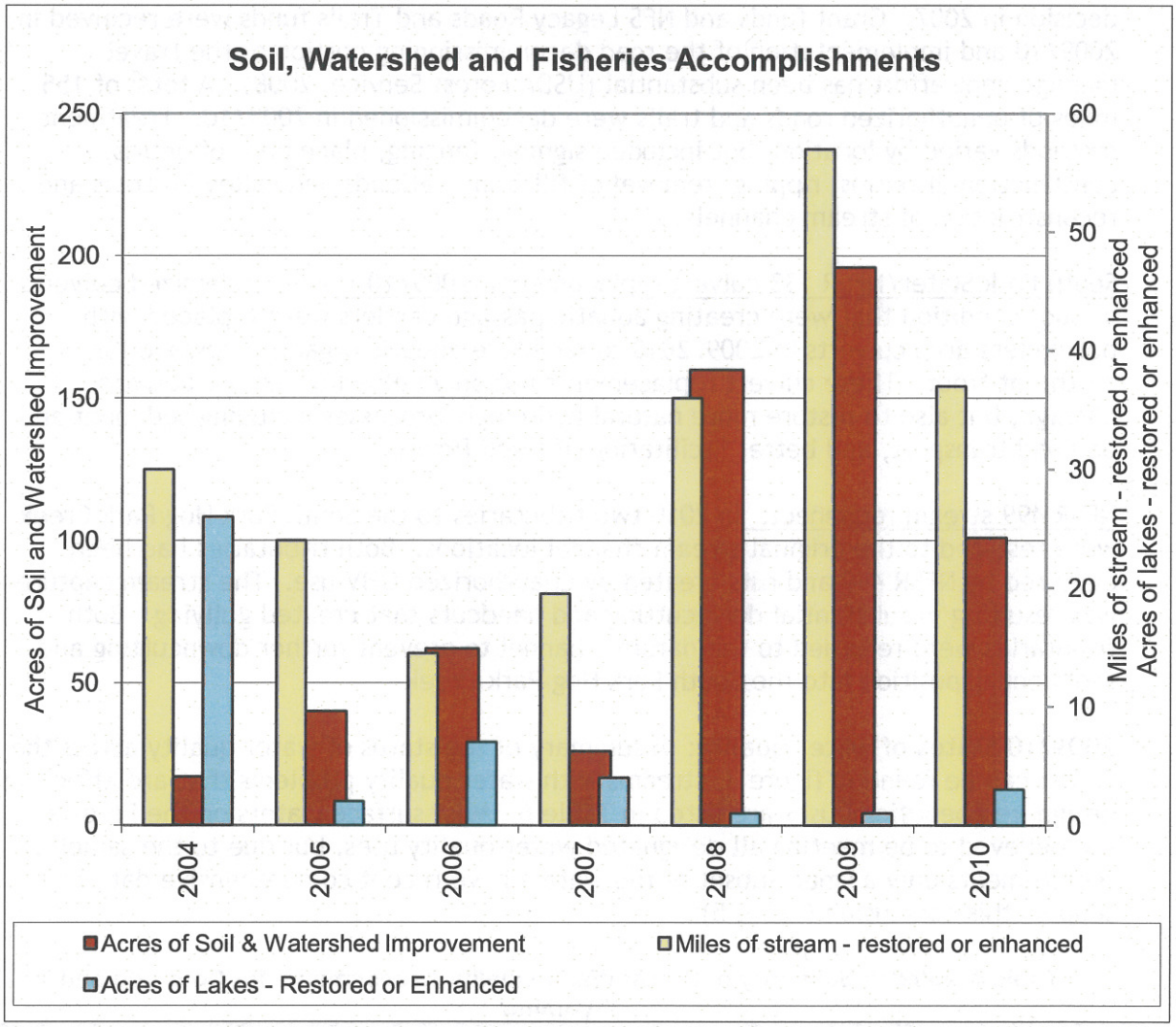


Figure 2. Soil, Watershed,and Fisheries Accomplishments.

Soil, water, and Fisheries Improvement Highlights

Turnbull Gulch Mine Rehabilitation (2009): The goal of this project was to restore a stream channel through a large, eroding fill comprised of mine spoils from the Turnbull Gulch Mine. The stream channel and valley were filled to a depth of over 30 feet for an old logging road long since removed from the road system. The road fill was removed and spread out over the old road on the south side of the creek. Logs were placed across the channel to provide gradient control structures. Top soil from nearby was placed on one side of the slope (the excavator could not reach the other side). Erosion mat, straw wattles, straw mulch and seed were used to stabilize and aid in revegetation of the disturbed area. The project restored aquatic habitat and stream channel function for 2 miles below the project site, reconnected the stream channel and aquatic movement upstream and downstream of this area and resulted in a significant reduction of sedimentation to Turnbull Gulch.

Eastern Snowy Range Travel Management - Road decommissioning (2009/10): Laramie Ranger District completed a comprehensive travel management effort and NEPA decision in 2007. Grant funds and NFS Legacy Roads and Trails funds were received in 2009/10 and implementation of the road decommissioning portion of the travel management effort has been substantial (USDA Forest Service, 2008). A total of 155 miles of unauthorized roads and trails were decommissioned in 2009/10. Treatment methods varied by location, but included signing, fencing, placement of debris, construction of berms, ripping, removal of fill from wetlands and valley bottoms and reconstruction of stream channels.

South Fork Slater/NFSR 133 culvert replacements (2009/10): Five undersized culverts in poor condition that were creating aquatic passage barriers were replaced with bottomless arch culverts in 2009/2010 to facilitate aquatic organism passage for cutthroat trout. These culvert replacements not only helped to restore aquatic passage, but also to restore more natural hydrologic processes including sediment and bedload transport, and better facilitation of flood flows.

NFSR 499 stream reconnect: In 2010 two tributaries to the South Fork Hog Park Creek were restored to the original stream channel locations. Both tributaries had been captured by NFSR 499 and ruts created by unauthorized OHV use. The stream capture was resulting in substantial downcutting and headcuts that created gullying. Both tributaries were returned to the natural channel to prevent further downcutting and sediment deposition into the South Fork Hog Park Creek.

2009/10 Status of water quality: A summary of the status of water quality across the Forest can be found in figure 3; streams with water quality problems that are affecting designated beneficial uses are listed in Table 6. Most surface waters on the Forests are believed to be meeting all designated water quality uses, but due to the sampling requirements only a small subset of the waters have recent comprehensive data to support this conclusion (Table 5).

Table 4. 2009/10 Summary of Forest Water Quality Assessments for Colorado and Wyoming

Water Body Name	Reach	Determination	Source
North Platte River Basin - Wyoming			

Bear Creek		Fully supports cold-water game and non-game fisheries, aquatic life, fish consumption, drinking water, ag., wildlife and industry. Indeterminate recreation	WYDEQ, 2010
South Fork Little Laramie River	WYNP10180010-664	Fully supports all designated uses.	WYDEQ, 2004
Middle Fork Mill Creek	WYNP10180010	Fully supports all designated uses.	WYDEQ, 2004
Miller Lake	WYNP10180010	Fully supports all designated uses, except insufficient data to determine if fish consumption and contact recreation uses are supported.	WYDEQ, 2006
Hanging Lake	WYNP10180010	Fully supports all designated uses, except insufficient data to determine if fish consumption and contact recreation uses are supported.	WYDEQ, 2006
South Fork Hog Park Creek	WYNP10180002	Fully supports all designated uses.	WYDEQ, 2004
Smith North Creek	WYNP10180002-666	Fully supports all designated uses.	WYDEQ, 2004
Encampment River	WYNP10180002-086	Fully supports all designated uses, except insufficient data to determine if contact recreation uses are supported.	WYDEQ, 2008
North Platte River Basin-- Colorado			
North Platte Tributaries within wilderness areas (except South Fork Big Creek)	COUCNP01	Fully supports all designated uses	CDPHE, 2003
South Fork Big Creek	COUCNP01	Fully supports aquatic life	CDPHE, 2003
Encampment River	COUCNP02	Fully supports all designated uses	CDPHE, 2003
North Platte River—Camp Creek to Colo/Wyo border	COUCNP03	Fully supports all designated uses	CDPHE, 2003
North Platte River--Tributaries above Camp Creek	COUCNP04	Fully supports all designated uses	CDPHE, 2003
Illinois River	COUCNP04	Not fully supporting aquatic life	CDPHE, 2003
North Platte River--Tributaries Camp Creek to Colo/Wyo border	COUCNP04	Fully supports all designated uses	CDPHE, 2003
Michigan River	COUCNP05a	Fully supports all designated uses	CDPHE, 2003
Yampa River Basin-- Colorado			
Tributaries to Yampa River—Flattops Wilderness down to Elk	COUCYA03	Fully supports all designated uses	CDPHE, 2003

River			
East Fork Williams Fork in Flattops Wilderness	COLCLY08	Fully supports all designated uses	CDPHE, 2001
East Fork Williams Fork River	COLCLY09	Not assessed	CDPHE, 2001
Tributaries to Yampa River—in National Fores	COUCYA20	Fully supports all designated uses	CDPHE, 2003; 2006
Elk River—mainstem and tributaries	COUCYA08	Fully supports all designated uses	CDPHE, 2003
Little Snake River Basin-- Colorado			
Slater Creek	COLCLY08	Fully supports all designated uses	CDPHE, 2001
Little Snake River Tributaries	COUCYA19	Fully supports all designated uses (except where noted in Table 3).	CDPHE, 2003

Most water quality monitoring has been conducted on streams where designated uses are known or suspected to be impaired; limited monitoring has occurred on streams likely to meet all designated uses. Table 4 and Figure 3 show the water bodies on the Forest that have been determined by the States of Colorado and Wyoming to have water quality concerns.

Table 5. 2009/10 Forest Water Quality Impairments for Colorado and Wyoming

Water Body Name	Ranger District	Threatened or Impaired	Year first identified as T or I	Impaired Designated Use	Cause of Impairment
North Platte River Basin - Colorado					
S F Big Creek in Wilderness	Parks	M&E list[2]	2004	Aquatic Life; drinking water	Metals-Cu, E.Coli
Grizzly Cr	Parks	M&E list	2006	Aquatic Life	Unknown
Little Grizzly Cr	Parks	M&E list	2008	Recreation; drinking water; aquatic life	E.Coli; Metals--Fe(Trec)
Lake Cr	Parks	M&E list	2008	Drinking Water; aquatic life	pH; Fe (Trec)
Yampa River Basin – Colorado					
Bushy Creek	Yampa	Yes - 303(d)	1998	Aquatic Life	Sediment
Lost Dog Creek	HPBE	M&E list	2008	Aquatic Life; Drinking water	Mercury
Little Bear Creek	HPBE	M&E list	2008	Drinking water; aquatic life	Copper; Zinc
Walton Cr	HPBE	M&E list	2010	Secondary Water Supply	Mn

[2]Streams are placed on the Colorado Monitoring and Evaluation List (M&E list) when there is reason to suspect water quality problems, but there is uncertainty regarding one or more factors.

Little Snake River Basin - Colorado					
Slater Creek	HPBE	M&E list	2008	Aquatic Life	Selenium
Little Snake River Basin - Wyoming					
W Fork Battle Creek	BCH	Yes – 303(d) Impaired	2000	Coldwater fisheries; Aquatic life	Metals
Haggerty Creek	BCH	Yes – 303(d) Impaired	<1988	Coldwater fisheries; Aquatic life	Metals
South Platte River Basin - Wyoming					
N. Branch N Fork Crow Creek	LRD	Yes – 303(d) Impaired	2004	Contact Recreation	E.coli
Middle Crow Creek	LRD	Yes – 303(d) Impaired	2010	Contact Recreation	E.coli

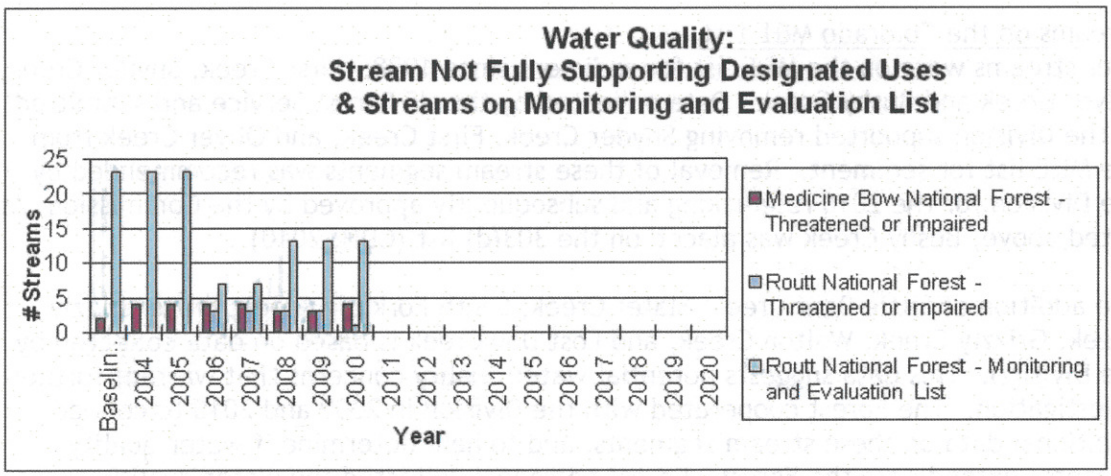


Figure 3: Forest Water Quality Impairments for Colorado and Wyoming

Colorado

Streams on the Colorado 303(d) list

First Creek and Elkhead Creek (HPBE RD) were placed on the 303(d) list in 2006 due to exceedance of the Recreation 1a standard for E.Coli. A Use Attainability Analysis (UAA) was conducted on the listed stream segments by the US Forest Service in 2007-2008. The UAA indicated minor potential for primary contact recreation use to occur on the listed stream segments, and indicated that Class N—Not Primary Contact Use would be a more appropriate standard. In 2008, the recreation standards were changed by the state to Class N to more accurately reflect recreational use.

Data collected by the US Forest Service from 2007-2009 indicated that First Creek and Elkhead Creek were meeting the Class N water quality standards for E.Coli. This data was submitted to the Colorado Water Quality Control Division (Division) in August 2009. Based on this data, the Division recommended that First Creek and Elkhead

Creek be removed from the 303(d) list during the 2010 rulemaking; this recommendation was approved by the Colorado Water Quality Control Commission (Commission) in February 2010, and became effective April 30, 2010.

Bushy Creek has been on the monitoring and evaluation list for sediment since 1998. Data was collected in 1999 and submitted to the Division. The data indicated that sediment concerns were still present, and additional data was collected in the fall of 2006. The 2006 data also indicated sediment problems, and the Division recommended that Bushy Creek be placed on the 303(d) list during the 2010 rulemaking. This recommendation was subsequently approved by the Water Quality Control Commission in February 2010.

Bushy Creek is considered a low priority by the State for development of a Total Maximum Daily Load (TMDL). This is largely due to the fact that sediment is not considered a health and safety issue for humans; higher priority is given to streams listed for E.Coli or other parameters that may affect drinking water quality as these are considered health and safety issues. Forest watershed personnel will work with the State to determine sources of sediment, potential remedies etc.

Streams on the Colorado M&E List

Four streams were on the M&E list for sediment since 1998: First Creek, Snyder Creek, Oliver Creek and Bushy Creek. Data collected by the US Forest Service and submitted to the Division supported removing Snyder Creek, First Creek, and Oliver Creek from the M&E list for sediment. Removal of these stream segments was recommended by the Division for the 2010 rulemaking and subsequently approved by the Commission. As noted above, Bushy Creek was placed on the 303(d) list (CDH, 2010)

The addition of Little Bear Creek, Slater Creek, South Fork Big Creek, Little Grizzly Creek, Grizzly Creek, Walton Creek, and Lost Dog Creek is based on data collected by the Division. This data suggests potential water quality concerns that warrant further investigation. The Forest cooperated with the Division in 2009 and 2010 to collect additional data on these stream segments, and to help determine if water quality concerns extend onto the Forest. Forest personnel collected the water quality samples, including macroinvertebrates to address sediment concerns, and then sent the samples to the state for analysis. These data are still being analyzed and no results were available for the 2010 Rulemaking Hearing. E.Coli samples collected on the South Fork Big Creek and Little Grizzly Creek and analyzed by the Forest were all meeting State water quality standards. Forest watershed personnel will continue to cooperate with the Division to collect additional data and identify if these water quality concerns apply to the Forest.

Wyoming

Haggerty Creek and West Fork of Battle Creek

These streams are not fully supporting designated uses due to metals contamination from the historic Ferris-Haggerty mine, which is located on private lands within the Forest boundary. Heavy metal contamination may also be from background levels of metals in this highly mineralized area. On-going WYDEQ monitoring continued in 2009/10 and is focused on determining the extent of the impairment and the levels of natural metals in the area. WYDEQ developed a TMDL for these streams, but EPA has

not fully accepted the TMDL at this time. WYDEQ revised the TMDL in 2009/10. Since the source of contamination is located in private lands WYDEQ-AML has been the primary entity with the authority for reclamation efforts. The Forest Service plays a minor role in this reclamation effort, but has cooperated with WYDEQ-AML for reclamation facilities and access across NFS lands.

North Branch of the North Fork Crow Creek and Middle Crow Creek

Since 2004, these streams have not consistently met their contact recreation uses due to elevated levels of bacteria. Middle Crow Creek had attained the contact recreational use criteria from 2004 to 2007 and it was removed from Wyoming's 2008 303(d) List of Waters Requiring Total Maximum Daily Loads. However, data collected on Middle Crow Creek in 2008-2010 indicate impairment and the stream is included on Wyoming's 2010 303(d) List of Waters Requiring Total Maximum Daily Loads. The Laramie County Conservation District continued to collect water quality samples (e coli) at one monitoring station on Middle Crow Creek and two stations on North Branch North Fork Crow Creek during 2009/10. Best Management Practices continue to be implemented in these watersheds to address elevated levels of bacteria. No new practices were implemented during 2009/10 in the North Branch North Fork Crow Creek watershed. The Forest Service and Laramie County Conservation District conducted a field review in the Middle Crow Creek watershed to identify potential Best Management Practices to implement in future years to address elevated bacteria.

Water Quality Conculsions:

The Forest developed an action plan to address the listing of Elkhead Creek and First Creek on the 303(d) list. This action plan resulted in water quality standards being more representitive of conditions on the ground, and resulted in delisting of these stream segments. This helped to achieve the Routt Forest Plan Goal 1 to meet the anti-degradation clause of the Clean Water Act across the Forest (RNF p. 1-2).

The listing of Bushy Creek on the Colorado 303(d) list as impaired in 2010 for sediment is based on monitoring data submitted by the Forest. Photos and data from 1998 and 2006 indicate a decline in stream health and increase in sediment. Causes of this are uncertain, although heavy elk use may be a contributor as well as livestock use. Listing of this stream segment moves the Forest away from the Routt Forest Plan goal of 'improve water quality... in areas not meeting State water quality standards... and meet the anti-degradation clause of the Clean Water Act across the Forest (RNF p.1-2).'

With the 2004 listing of two additional streams as impaired, the number of impaired streams on the Medicine Bow National Forest increased from two to four since the Medicine Bow Forest Plan was signed in 2003 (Figure 3). This has moved the Forest away from the objective in the Forest Plan stating "achieve an 80% reduction in the miles of State of Wyoming designated streams not fully supporting designated uses" (Medicine Bow Forest Plan, page 1-2). Monitoring data had shown an improving trend (lower bacteria) on Middle Fork Crow Creek from 2004-07, but elevated levels were seen again in 2008-10. There continue to be exceedances of numeric water quality criteria on North Branch North Fork Crow Creek, West Fork Battle Creek and Haggerty Creek. The Forest continued cooperative monitoring efforts and implementation of BMPs to address water quality issues in the Crow Creek drainage in 2009/10.

Recommendations: This analysis identified the following recommendations to restore, maintain, and improve water quality across the Forest:

1. Continue to implement watershed improvement projects that reduce sediment and connected disturbed areas so as to meet the anti-degradation clause of the Clean Water Act.
2. Work with the Colorado Water Quality Control Division to assess all sources of sediment impacts to Bushy Creek, and develop an action plan to address and ultimately delist this stream reach.
3. Monitor compliance with Forest Plan Standards and Guidelines and range BMP implementation to ensure compliance with water quality standards for bacteria.
4. Cooperate with the Colorado Water Quality Control Divison to obtain water quality data on streams placed on the Monitoring and Evaluation list for metals, pH, E.Coli and aquatic life. Cooperate with the State on additional data collection on these streams.
5. Continue to cooperate with Laramie County and Laramie Rivers Conservation Districts on bacteria monitoring and range utilization monitoring in upper Crow Creek watershed.
6. Continue adjusting management of grazing and recreational activities to improve water quality in upper Crow Creek.
7. Continue to participate in the Watershed Planning effort for the Upper Crow Creek Watershed.
8. Work with WYDEQ, as appropriate, to finalize and implement the TMDL for Haggerty and West Fork Battle Creeks.
9. Continue to analyze each proposed project and suggest Best Management Practices to protect water quality.
10. A sample of the soil and water mitigation measures should be monitored during and after implementation to determine the effectiveness for protecting water quality.

Actions taken on FY08 Recommendations

1. Continue to implement watershed improvement projects that reduce sediment and connected disturbed areas.

   FY09/10 Action: See Table 2: 2009/10 Soil, Watershed and Fisheries Improvement Accomplishments for acres of watershed improvement, all of which directly or indirectly reduced stream sedimentation.

2. Continue to collect E.Coli samples on First Creek and Elkhead Creek to determine if 303(d) listing of these segments is still warranted given the new recreation classifications.

   FY09/10 Action: Data collected by the US Forest Service from 2007-2009 indicated that First Creek and Elkhead Creek were meeting the Class N water quality standards for E.Coli. This data was submitted to the Colorado Water Quality Control Division (Division) in August 2009. Based on this data, the Division recommended that First Creek and Elkhead Creek be removed from the 303(d) list during the 2010 rulemaking

3. Monitor compliance with Forest Plan Standards and Guidelines and range BMP implementation on impaired streams or on the M&E list for bacterial impairment.

   FY09/10 Action: Range BMPs on Elkhead Creek and First Creek were monitored prior to, during, and following livestock grazaing.

4. Continue to cooperate with Laramie County and Laramie Rivers Conservation Districts on bacteria monitoring and range utilization monitoring in upper Crow Creek watershed.

   FY09/10 Action: Sampling strategy was jointly discussed and LCCD collected samples. The USFS conducted range utilization monitoring.

5. Continue adjusting management of grazing and recreational activities to improve water quality in upper Crow Creek.

   FY09/10 Action: Best Management Practices continue to be implemented in these watersheds to address elevated levels of bacteria. No new practices were implemented during 2009/10, but new potential BMPs were identified in the Middle Crow Creek watershed.

6. Continue to participate in the Watershed Planning effort for the Upper Crow Creek Watershed.

   FY09/10 Action: Forest staff are members of the Upper Crow Creek Watershed group, but no activity occurred during this period.

7. Submit a petition to WYDEQ to reclassify North Branch North Fork Crow Creek from primary to seconday recreation contact designated use.

   FY09/10 Action: WYDEQ reveiwed the draft Use Attainability Assessment and conducted a field visit with Forest Service staff during Spring 2009. WYDEQ provided the Forest Service with a letter stating that WYDEQs current interpretation was that North Branch North Fork Crow Creek should be managed for secondary contact recreation, but they acknowledged that EPA does not support WYDEQs current method for determining secondary contact recreation streams. The Forest Service assisted WYDEQ with the development of a draft UAA GIS model during 2009/10.

8. Implement the strategy finalized in April 2006 for addressing bacteria water quality issues on Range Allotment Management Planning projects.

   FY09/10 Action: 2006 range strategy to address bacterial water quality incorporated into range project NEPA.

9. Continue to assist WYDEQ-AML with reclamation efforts on Haggerty and West Fork Battle Creeks.

   FY09/10 Action: WYDEQ-AML did not complete any reclamation during 2009/10.

10. Forest staff should continue to analyze each proposed project and suggest Best Management Practices to protect water quality.

    FY09/10 Action: Forest staff continued to incorporate Best Management Practices and Design Criteria to protect water quality for all resource planning projects.

11. A sample of the soil and water mitigation measures should be monitored during and after implementation to determine the effectiveness for protecting water quality.

FY09/10 Action: Approximately ten projects per year were monitored for BMP implementation and effectiveness for protecting water.

Water Rights

During FY09/10 the Forest focused on two priorities: 1) Continuing to update and correct range stock water rights, as this is our largest group of water rights, and 2) ensuring that new water rights filed on National Forest System lands follow Forest Service directives. Principle accomplishments for 2009/10 on the Medicine Bow-Routt National Forests include:

- Entered or updated 196 water rights in NRIS.
- Reviewed and responded to monthly resumes (Colorado) and water right applications (Wyoming) for potential new water rights being filed on USFS land by private entities.
- Field inventory of 71 range water improvements.
- Completed 65 water rights actions (applications, abandonment, statement of beneficial use)
- Continued a temporary water use agreement to secure water for Barber Lake.
- 62 ditches with non-Forest Service water rights were inspected, mapped and/or inventoried on the Medicine Bow-Routt National Forests.

Insects and Disease

Legally Required Monitoring Item
Medicine Bow Item Objective 1.c.3
Routt Monitoring Item 1-4
Frequency of Measurement: Annual
Reporting Period: Five Years

This monitoring item asks the question:

Are insect and disease populations compatible with attainment of management area desired conditions and themes?

Monitoring Protocol/Data Collected

Aerial surveys were conducted over the Routt and Medicine Bow National Forests since 2003 to provide a broad indication of tree mortality resulting from forest insects and disease. Aerial survey data for 2009 and 2010 will be reported in the FY2011 monitoring report. More information and products from the R2 forest health monitoring program can be found on the following website:
http://www.fs.fed.us/r2/fhm/

Results/Evaluation

Bark beetle epidemics continued to develop and increase on the MBR. Aerial surveys completed in the summer of 2008 indicated that on the Routt National Forest approximately 426,000 acres had been impacted by mountain pine beetle (MPB) and 2,400 acres by the spruce beetle (SB). The Medicine Bow National Forest had approximately 345,000 acres attacked by MPB and 4,100 acres by SB. The survey data reflects the impacts of the prior year's beetle attacks, aerial surveys rely on the

fading crowns of dead trees to locate and quantify the severity of forest pest attacks. Trees attacked and killed in 2008, will not exhibit fading crowns till the summer of 2009.

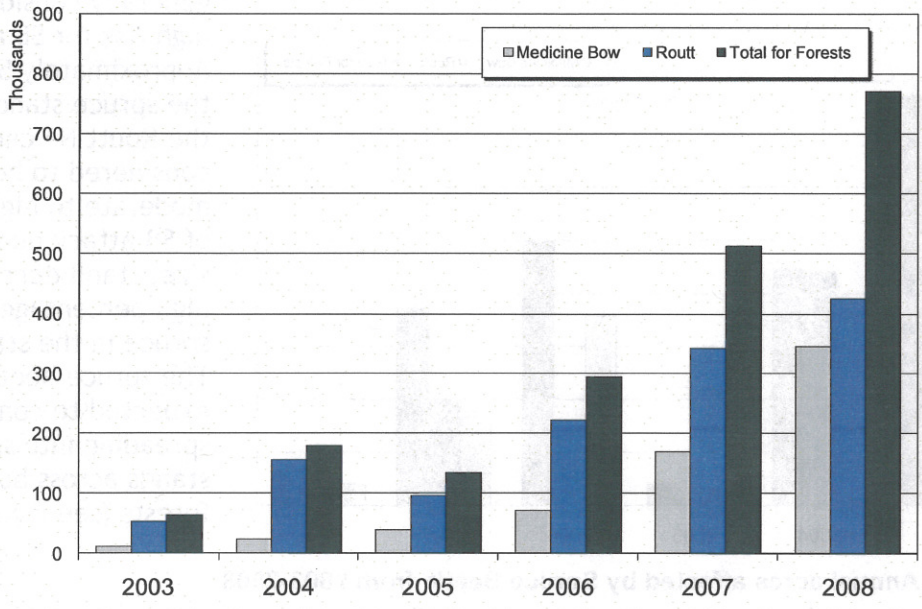


Figure 4. Annual acres affected by MPB epidemic from 2003-2008

The predominant tree species affected by the mountain pine beetle on the Medicine Bow - Routt NFs is lodgepole pine. Lodgepole pine stands with these attributes are considered to be at the highest risk: average dbh greater than 8 inches, average age greater than 80 years, stand basal area greater than 120 square feet per acre, and elevation less than 10,000 feet (Amman et al. 1977). Approximately 50% of the lodgepole pine on the Routt NF is considered moderate to high risk for MPB attack due to its age, dbh, and stand density. Weather conditions such as moderate winter temperatures, and warm, dry summers also contribute to the expansion of the epidemic.

The Medicine Bow National Forest is also experiencing continuing expansion of the MPB epidemic (see Figure 4). On the Medicine Bow NF approximately 46% of the lodgepole pine stands are considered to be moderate to high risk of MPB attack, while approximately 70% of the spruce are at moderate to high risk of spruce beetle attack.

Spruce stands with average dbh greater than 16 inches, stand density greater than 150 square feet per acre, and stands with a high percentage of spruce (65% or greater) are generally considered at high risk for SB attack. Approximately 56% of the spruce stands on the Routt NF can be considered to be at moderate to high risk of SB attack due to size, stand density, and high percentage of spruce in the stands. The spruce beetle is expected to continue spreading into spruce stands across both forests (see Figure 5).

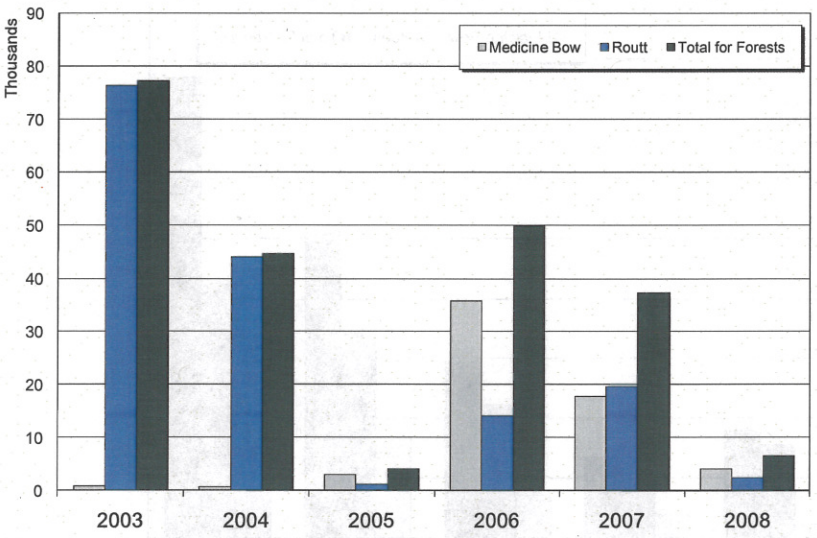


Figure 5. Annual acres affected by Spruce Beetle from 2003-2008

On the MBR in fiscal year 2008, the Forest Service applied direct control (spraying) of MPB and SB on 615 acres (25 campgrounds, 11 administrative sites), and sold 8 timber sales that will treat 6,000 acres affected by bark beetles. The Forest also initiated planning and analysis in the Red Dirt, Little Snake North, Shellrock, and Savory project areas for additional vegetation treatments utilizing Healthy Forests Restoration Act authority. All project areas are designed to salvage stands impacted by the MPB and SB epidemics.

Subalpine fir decline (SFD), caused by a combination of western balsam bark beetle and various root disease pathogens, is still causing significant mortality in subalpine fir stands. The Routt NF has approximately 17,000 acres affected by SFD, and the Medicine Bow NF has approximately 10,000 acres diagnosed with SFD. Generally SFD causes smaller amounts of mortality in stands as compared to that of the bark beetle epidemics.

White pine blister rust, a canker causing disease that is spread by a non-native fungus (*Cronartium ribicola*) is affecting limber pine stands across both Forests. The primary infection area is the Pole Mountain area of the Medicine Bow. The Routt NF is estimated that approximately 170 acres are infected, while the Medicine Bow NF has 1,600 acres affected. Currently the Medicine Bow - Routt NFs are working cooperatively with the Rocky Mountain Research Station, Region Two Forest Health Management, and Colorado State University to locate and develop genetically resistant strains of limber pine for future limber pine restoration.

Another significant mortality causing disease is sudden aspen decline (SAD) in quacking aspen. SAD is believed to be the result of the extended drought, and the large amount of aspen in mature age classes. SAD has affected approximately 55,200 acres on the Routt NF, and 12,100 acres on the Medicine Bow NF. SAD can be detected by declining

vigor in aspen (reduced leaf coverage and pale green foliage). Currently there is nothing that can be done to prevent continued dieback and mortality of affected trees. Where clones still retain some vigor and energy, but are deteriorating, regeneration may be stimulated by burning, cutting, or other stand manipulation before root systems are too weak to respond.

Conclusion:

The MBR NFs are experiencing a continuing escalation of bark beetle epidemics which started in the late 1990's. Until 2005 the majority of the bark beetle mortality was primarily in Colorado (Routt National Forest), but in the last three years, bark beetle populations have exploded on the Medicine Bow National Forest, particularly in the southern portions of the Medicine Bow & Sierra Madre mountain ranges. The mountain pine and spruce bark beetle epidemics will probably continue for at least another 3-5 years. Approximately 1,250,000 acres of Medicine Bow - Routt NFs have suffered some degree of tree mortality as a result of the bark beetle infestation. The current epidemic is unprecedented within the last 150 years.

Recommendations:

The rate of spread of mountain pine and spruce bark beetle that the Forests have experienced in the last few years will probably continue for the next 3-5 years. Any vegetative management in lodgepole pine and spruce should anticipate what the condition of the stands will be in 2-3 years. In the past forest managers have implemented silvicultural strategies to suppress beetle epidemics when recommending silvicultural treatments, and still suffered extensive mortality in the residual stands. When recommending vegetative treatments in moderate to high risk stands for beetle infestation, the forest manager should anticipate extensive mortality and strongly consider salvage treatment and reforestation of the affected stands.

Old Growth and Late Successional Forest Structure

Medicine Bow Item Objective 1.b.4
Routt Monitoring Item 1-8
Frequency of Measurement: Annual
Reporting Period: Annual/5 year

These monitoring items ask the questions:

Is old growth forest mapped and managed at least to minimum amounts and distribution stated in the plan?

How are management activities affecting late successional forest structure in Management areas 5.11 and 5.13?

Introduction

The Medicine Bow and Routt Forest Plans address old forests differently. The Medicine Bow Forest Plan has desired conditions, objectives and standards relating to the amount and distribution of *Old Growth*. The Routt Forest Plan described desired

conditions for *Late Successional Forest*. Both units use similar vegetative measurements to address these similar habitat conditions.

Monitoring Protocol/Data Collected

Medicine Bow NF

Old growth forests are ecosystems distinguished by relatively complex visible structure or external morphology, horizontal variability, relatively large old trees and related structural attributes (Thomas et al. 1988, Hayward 1991). Old growth encompasses the later stages of stand development that typically differ from earlier stages in a variety of characteristics which may include tree size, accumulations of large dead woody material, number of tree top layers, species composition and ecosystem function. It can require 80-200 years for forest stands within different cover types to develop the characteristics of old growth (Mehl 1992).

Old growth mapping was completed in 2008 using the cover type descriptions of old growth by Mehl (1992) (Kay, S.H for Mary H. Peterson. 2008). Old growth can be described in terms of the age of the largest trees, a minimum number of trees above a certain diameter (DBH) and canopy characteristics. Table 15 displays three of these criteria of old growth by cover type.

Table 6. Old Growth Description by Cover Types in 2008

Cover Type	Age of Largest Trees	Diameter of Largest Trees	Canopy Description
Lodgepole	150	10 tpa* > 10 inches	≥ 1 canopy layer
Spruce-fir	200	10 tpa > 16 inches	>1 canopy layer
Ponderosa pine	200	10 tpa > 16 inches	≥ 1 canopy layer
Aspen	100	20 tpa > 14 inches	≥ 1 canopy layer >50% cover

*tpa = trees per acre. Source (Mehl 1992)

The forest identified an implementation strategy that mapped more than the minimum percentage of old growth for each cover type as shown in table 16 (Peterson, 2008).

Table 7. Current (2010) Inventoried and Mapped Old Growth by Mountain Range

Mountain Unit	Cover Type	Total Cover (Acres)	Required Minimum Forest Plan Standard (Percent)	Old Growth Strategy (Percent)
Sierra Madre	Aspen	48,639	20	22
Sierra Madre	Lodgepole	136,513	15	18
Sierra Madre	Ponderosa	0	25	0
Sierra Madre	Spruce/Fir	56,024	25	30
Snowy Range	Aspen	15,843	20	21
Snowy Range	Lodgepole	289,728	15	19

Snowy Range	Ponderosa	186	25	70
Snowy Range	Spruce/Fir	115,408	25	30
Laramie Peak	Aspen	5,423	20	24
Laramie Peak	Lodgepole	40,876	15	18
Laramie Peak	Ponderosa	29,839	25	26
Laramie Peak	Spruce/Fir	4,791	25	26
Pole Mountain	Aspen	3,886	20	20
Pole Mountain	Lodgepole	4,748	15	17
Pole Mountain	Ponderosa	5,037	25	25
Pole Mountain	Spruce/Fir	0	25	0

Routt NF

The Routt Forest Plan predicted that the majority of the forest would be in late successional stands, and that over time more of the forest would move from younger and smaller age classes into older, late successional forest. The following is from the Desired Condition section of Chapter 1 of the Routt Forest Plan:

"The Forest in Ten Years
The majority of the forest will be in late successional habitats, with a portion in early to mid successional habitats.

The Forest in Fifty Years
The vast majority of the forested areas will be in late successional habitats"

The Routt Plan grouped HSS 4b, 4c, and 5 together as late successional forest. Amounts of late successional component reported in the Routt Plan FEIS are given in the following table.

Table 8. Routt Habitat Structural Stage Descriptions and Percentages*

Structural Stage Name and Number	Percent of Forested Total
Grass/forb - 1	1.3
Seedling/sapling - 2	2.5
Pole (Total) - 3a 3b 3c	35.4
Mature (Total) - 4a 4b 4c 5	60.9
Late Successional Component - 4b 4c 5	49.1

*From Routt Plan FEIS table 3-25

By cover type, the RNF reported the following amounts of late successional forest in 1997[3], as displayed in Table 22. This is total of 539,000 acres or 43 percent of forested cover types.

Table 9. Acreage and Percent Structural Stage by Cover Type from RNF LRMP FEIS

Cover Type	1		2		3		4		Late Successional (4a 4b 5)	
	Ac	%	Ac	%	Ac	%	Ac	%	Ac	%
Spruce-fir	4,595	1.0	6,183	1.4	123,045	27.1	320,154	70.5	254,317	56.0
Lodgepole pine	5,507	1.5	15,688	4.1	138,642	36.6	219,260	57.8	180,132	47.5
Aspen	4,378	1.7	5,077	2.0	125,439	48.2	125,470	48.2	101,616	39.0
Douglas-fir			69	1.3	1,406	26.3	3,861	72.4	2,939	55.1

The R2Veg database does not include HSS 5, which is referred to in the Routt Plan. Many of the acres of HSS 5 would now be counted as HSS 4B or C, however, HSS 5 stands with widely spaced, larger diameter trees (canopy cover < 40) would now fall into other habitat structure stages, or could be considered a non-forested stand.

2009 and 2010 Results

Mountain pine beetle epidemics continue to grow on public and private lands in Colorado and Wyoming. More than 1.5 million acres of forest in northern Colorado and southern Wyoming are affected by the mountain pine beetle epidemic, which was triggered by an extended drought in the late 1990s and early 2000s. Mountain pine beetle infestations continue to kill entire hillsides of lodgepole pine. Other tree species also suffer from this intrusive insect - ponderosa, and limber pine trees. The epidemic's core area exists in the Arapaho, White River, and Medicine Bow-Routt, National Forests and adjacent private forested lands. By about 2012, it is estimated that beetles will have killed nearly all of the mature lodgepole trees in northern Colorado and southern Wyoming. Annual monitoring will continue, and this data will be analyzed.

The full effect of the mountain pine beetle epidemic on cover type changes is expected to occur 3-10 years after the epidemic reached full force. Several different areas of the Routt National Forest had reached epidemic proportions between 2002-2003. Various areas of the Medicine Bow National Forest had reached epidemic proportions between 2005-2006. So by 2009, the Medicine Bow areas were 3-4 years into effects on HSS, and the Routt areas were 6-7 years into effects on late successional forest.

As this epidemic continues, late successional forests and areas providing old growth timber characteristics will change both in location and size. These changes are slow, and ongoing. Annual monitoring will continue each year. **In 2009, 3,000 acres were surveyed, and in 2010 an additional 3,000 acres were surveyed.** This annual report represents only a small, incremental change in the reduction of old growth and late successional forests on the Medicine Bow and Routt National Forests. The accumulation of the annual monitoring will be used to provide a meaningful evaluation of the changes to old growth habitats. This evaluation will be displayed at 5 year intervals as a part of the Forest Plan 5 Year Monitoring report. The short term analysis of annual monitoring should not be relied upon too heavily, as they are only a snap shot in time, and will continually be in a state of change.

Conclusions

Medicine Bow NF

Old Growth:

- **Spruce-Fir Cover Type**: A decrease in standing large lodgepole pine component is expected with an increase in snags and dead and down wood from dead lodgepole pine within spruce-fir cover type, but it is not expected that these stands will lose old growth characteristics. However on the Snowy Range area only, recent (2009, 2010) spruce beetle mortality may cause a loss of some old growth character.
- **Lodgepole Pine Cover Type**: A loss of virtually all old growth is projected in lodgepole pine cover type.

Recruitment Old Growth:

- Due to the current impacts from the mountain pine beetle epidemic, old growth conditions may not be able to be maintained into the future as the larger, older trees are killed.
- Stands that have displayed old growth characteristics before the MPB epidemic should be selected to be managed in the future to re-develop these characteristics.

Routt NF

Many of the provisions for sustainability of ecological functions of the forest were based upon the abundance of late successional forest prior to the MPB epidemic. Since the MPB epidemic altered the representation of late successional stands throughout the Routt NF, it is no longer possible to have confidence that the changed conditions will provide sustainability of pre-existing habitats.

Recommendations

Evaluate specific forest direction (desired conditions, goals, objectives, standards and guidelines) related to old growth (MBNF), and late successional forest (RNF). Management direction concerning management of old growth (MBNF) and late successional (RNF), and identification and management of potential recruitment stands, would be beneficial to guide management of the two forests until the forest plans are revised in the future.

Habitat Improvement

Medicine Bow Objective 1.b.3
Routt Monitoring Item 1-6
Frequency of Measurement: Annual
Reporting Period: Annual

These monitoring items ask the questions:

To what extent have habitat improvement needs been identified and implemented using structural and non-structural habitat improvement treatments?

Are habitats for threatened, endangered and Forest Service Region 2 Sensitive species being maintained or enhanced?

Terrestrial Wildlife

Monitoring Protocol/Data Collected

The Forests track the number acres of terrestrial habitat improved or enhanced.

Results/Evaluation

In 2010; 7,495 acres of terrestrial wildlife habitat were enhanced on the Medicine Bow-Routt National Forests. All of these acres were accomplished on the Medicine Bow NF. The Routt personnel were committed to providing wildlife assistance in response to the current bark beetle epidemic, and the Douglas District conducted habitat enhancements on the Thunder Basin National Grassland (reported separately in the National Grassland Annual Reports)

Habitat enhancements included 6.890 acres through road decommissioning, 600 acres crucial winter range closure patrol to prevent illegal ATV and snowmobile use, 5 acres riparian area restoration (rehabilitated illegal ATV trail) illustrated in Table 14.

Table 14. Terrestrial Wildlife Habitat Improvement Accomplished in FY10

	Project	Acres
Medicine Bow NF		
LRD	Road Decommissioning	6,080
BCH	Road Decommissioning	810
	crucial winter range closure patrol	600
	riparian area restoration (rehabilitated illegal ATV trail)	5
Total		**7,495**

In 2009; 40,019 acres of terrestrial wildlife habitat were enhanced on the Medicine Bow-Routt National Forests. Road decommissioning represented the majority of the acres enhanced on the Medicine Bow National Forest. This habitat improvement occurred on the Brush Creek/Hayden and Laramie Districts of the Medicine Bow NF. On both Districts this habitat enhancement was accomplished through internal cooperation and partnership with several District programs. The Douglas District conducted habitat enhancements on the Thunder Basin National Grassland in 2009 and is reported separately in the National Grassland Annual Reports.

On the Laramie District the result was the improvement of 37,440 acres of terrestrial wildlife habitat. The Laramie District Wildlife Program provided 5% of the funding and provided the wildlife habitat expertise to make this a successful collaboration. On the Brush Creek/Hayden District this resulted in 1,883 acres of habitat enhanced with the Wildlife program providing approximately 50 % of the funds as well as wildlife habitat expertise for this enhancement. There were approximately 127 miles of road decommissioned in the summer of 2009, 117 on Laramie District and approximately 10 miles on the Brush Creek/Hayden District. In addition, the Brush Creek/Hayden District biologist acquired additional funding from the Wyoming Wildlife and Natural

Resources Trust Fund for prescribed burning. Both districts also provided bear proof garbage containers to selected recreational use areas to prevent black bears from developing foraging habits at these sites.

The acres enhanced on the Routt NF were accomplished through the reseeding of Columbian sharp-tailed grouse habitat and the development of an exclosure to protect boreal toad breeding habitat. In addition, the Parks District provided 21 bear proof garbage containers to established campgrounds to reduce the potential human-bear interaction and possible conflicts.

Table 10. Terrestrial Wildlife Habitat Improvement Accomplished in FY09

	Project	Acres
Medicine Bow NF		
LRD	Road Decommissioning	37,440
	Bear Proof garbage containers	6
BCH	Road Decommissioning	1,000
	Winter Range patrol and enforcement	600
	Prescribed Burning	271
	Bear Proof garbage containers	12
Routt NF		
HPBE	Seeding for Columbian Sharp-tailed Grouse	350
	Exclosure for boreal toad breeding habitat	300
Parks	Bear proof garbage containers	40
Yampa		
Total		**40,019**

Recommendations

Continue to move toward increasing funding available for habitat improvement projects and continue to partner with interested groups in order to complete such projects. Strive to increase the number of projected acres of terrestrial habitat enhanced each year. Place more emphasis on habitats that contribute to maintaining well-distributed populations of TES species native to the Medicine Bow and Routt.

Fire Management Plans

Medicine Bow Item Objective 1.c.1
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

Has the Forest developed a fire management plan, which allows for implementing wildland fire use plans to work towards desired conditions?

Yes, all National Forests received direction to use a new FMP template to be completed by May of 2010. The MBR-TB has updated the FMP with the new format and it does reflect the latest national policy.

Monitoring Protocol/Data Collected

Annual fire statistics are reported in the Fire Stat database. The fire reports are divided by individual forests, thus there are separate reports for the Medicine Bow National Forest and Thunder Basin National Grassland as well as the Routt National Forest.

Results/Evaluation

The latest National Fire Policy directs the Forest Service to treat a wildland fire incident as follows:

All fires will receive a Wildfire Response. Wildland fire is a term describing any non-structure fire that occurs in the wild land setting. Wildland fires are categorized into two distinct types:

- Wildfires - Unplanned ignitions and planned ignitions that are declared wildfires. The wildfire term is to be applied to all unplanned ignitions, including events formally termed wild land fire use.
- Prescribed fires - Planned ignitions.

A wild land fire may be concurrently managed for one or more objectives and those objectives can change as the fire spreads across the landscape, encountering new fuels, weather, social conditions, and governmental jurisdictions.

This policy change will allow for the safest, most efficient and cost effective fire response activities to be used across the forest regardless of area designation. This policy change will also allow fire to be managed to affect desired conditions where necessary and preferred.

The 2010 wildfire season was relatively mild with generally cool and moist conditions through the months of June, July and August. There were no opportunities to manage any wildfires into long term events. September and October were abnormally dry and fire danger actually met or exceeded historic records. Thus, the fires that did occur received a rapid and aggressive suppression action due to location and probability of extreme fire behavior which would likely put various communities at risk.

Recommendations:

In the future, as directed by national policy and also reflected in the FMP, we will continue to evaluate each fire for the possibility of using strategies other than full suppression. With the current situation with the mountain pine beetle, with thousands of acres with red needles still intact, it becomes very challenging for fire managers and line officers to select strategies other than full suppression, especially during times of high fire danger. However, if weather conditions become hot and dry for extended periods of time, and we have multiple ignitions, the odds increase for multiple large extended attack fires and there will logically be a need to focus on point protection and let fires follow more of a natural course.

Fuels Treatments

Medicine Bow Item Objective 1.c.2
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

How many acres in high hazard/high risk and residential interface areas were treated with mechanical treatments or prescribed fire in an effort to move affected landscapes toward their desired vegetation composition and structure as described in the Geographic Area direction?

Monitoring Protocol/Data Collected

Annual accomplishment reports can be generated listing acres treated by Wildland Urban Interface (WUI) vs. non-WUI, and mechanical vs. prescribed fire. These reports can be found in the FACTS database, reference Key Points 3 and 6.

Results/Evaluation

There has been a very aggressive focus on treating WUI acres on this unit as well as the White River and Arapaho National Forest in what is now known as the Bark Beetle Theater. These acres are almost totally dependent on mechanical treatments with follow up piling and burning or chipping of activity fuels. The desired condition will be one in which in the event of large fire, a point protection strategy could be employed. The probability of success would increase due to increased defensible space and associated fuel breaks adjacent to communities at risk as well as other types of infrastructure such as roads, power lines, administrative sites and special use areas.

Table 11. Fuels Treatments on the Medicine Bow–Routt NFs, 2004-08

Treatment Type	2004	2005	2006	2007	2008	2009	2010
Mechanical Treatments							
WUI	4,818	346	1429	1290	3036	3550	2175
Non-WUI	115	409	592	452	1214	552	6065
Mechanical Treatment Total	4,933	755	2021	1742	4250	4102	8240
Prescribed Fire							
WUI	1,097	3,586	1563	200	289	205	71
Non-WUI	2,310	1,780	3070	1861	1535	2000	2719
Prescribed Fire Total	3,407	5,366	4633	2461	1824	2205	2750
Treatment Total	8,340	6,121	6654	4303	6074	6307	10990

Multiple Benefits to People

Outdoor Recreation

Medicine Bow Objective 2.a.3

Reporting Period: Annual

This monitoring item asks the question:

How many miles of trail meet agency standards?

Monitoring Protocol/Data Collected

This item is answered using the data collected by the districts on trail maintenance.

The following tables give the miles of trails meeting agency standards in FY2009 and FY2010.

Table 12. Miles of Summer Trails Meeting Agency Standards

District	Trails on District (miles)	Trails meeting agency Standards (miles)	Percent (%)
Medicine Bow			
Brush Creek/Hayden 2009 & 2010	252	78	31%
Douglas (Laramie Peak) 2009	112	46	41%
Douglas (Laramie Peak) 2010	112	28	25%
Laramie 2009 & 2010	153	65	42%
Routt			
Hahns Peak-Bears Ears	419	234	56%
Parks	271	203	75%
Yampa	218	218	100%

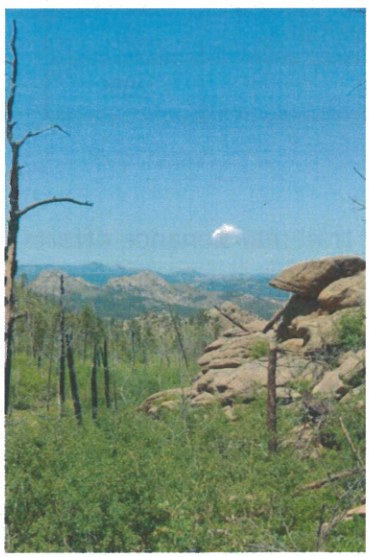
Table 13. Miles of Winter Trails Meeting Agency Standards

District	Trails on District (miles)	Trails meeting agency Standards (miles)	Percent (%)
Medicine Bow			
Brush Creek/Hayden 2009 & 2010	293	260	89%
Douglas (Laramie Peak)	0	0	
Laramie 2009 &2010	127	115	91%
Routt			
Hahns Peak-Bears Ears	305	250	82%
Parks	82	79	96%
Yampa	90	50	55%

Brush Creek/Hayden Ranger District

- Over 87 miles of trail were maintained across the district in 2010.
- State of Wyoming Trails completed 12.6 miles of trail along the Continental Divide Scenic Trail (CDST) from State HWY 70 to National Forest System Road (NFSR) 830.
- The District sponsored one Eagle Scout Project for trails. The project was to install four hitching rails, two rails at the Commissary Park trailhead and two at the South Hog Park trailhead
- Volunteers played an important role in completing maintenance on the CDST from NFSR 412 to the Heart Creek Trailhead. Six volunteers installed signs and assisted with downed tree removal.
- District personnel groomed the Battle Highway (A trail) and the Hog Park Road (B trail). The grooming was completed in cooperation with Wyoming State Parks and their trails funding.
- District personnel groomed two cross-country ski trail systems, one at the Bottle Creek Campground area and one at the Brush Creek Work Center area

Douglas Ranger District (Laramie Peak Unit) FY2009



- 2009 was an excellent budget year for the recreation/engineering program, so a full trail crew was hired and maintenance work done on the trails. Although the percentage appears small, much of the work was intensive maintenance on historic trails that had no trail maintenance in the past two years, so were in dire need. Maintenance for these trails had been identified as a high priority.

- Any newly established/converted roads to trails were not maintained with regards to drainage features, etc.; however, tree removal was completed. No drainage work was done either because intensive work had been done the year prior by the Wyoming State Trail Crew and therefore it wasn't necessary, or it was not deemed a priority.

Figure 6. Former Salt Lick Creek Trail in Ashenfelder Basin Looking Southeast (note the thick aspen regeneration)

- Parts of the trail system that had been considered a high priority, but did not receive maintenance were the Lost Creek Trail and Salt Lick Creek Trail, both inside Ashenfelder Basin. This was hard hit by the Hensel Fire in 2002, and very little to no trail maintenance has occurred on these trails either due to lack of funds or higher priorities. It was discovered after a thorough survey, that these two trails have almost completely disappeared, with just a few small portions of tread still visible. Aspen regeneration, particularly, has taken over much of the basin drainages where the trails were. There has been no

public outcry regarding the lost trails, and in speaking with outfitters and hunters who use the area, they prefer not having any trails and don't see a need for them. As a result, it has been decided not to rebuild the trails for the foreseeable future.

Figure 7. Wood Lilies are Thriving in the Post-Hensel Fire Regeneration, Especially in the Newly Growing Aspen Stands

Table 14. Miles of Summer Trails Meeting Agency Standards in 2010

District	Trails on District (miles)	Trails meeting agency Standards (miles)	Percent (%)
Douglas (Laramie Peak)	112	28	25%

Douglas Ranger District (Laramie Peak Unit) FY2010

- The mountain pine beetle both helped and hindered trail maintenance efforts on the district in 2010. The decision to siphon allocated funds towards a hazard tree mitigation effort seriously cut into the district recreation/engineering budget, leaving no room to hire a trail crew. However, the district later was determined to be a part of the "beetle theater" and subsequently had access to sawyer crews to remove mountain pine beetle hazard trees. The district took full advantage of this resource and in the time available, had three crews arrive who worked up to 21 days on the district, many of them on trails. Although these crews were only here to remove hazard trees, they frequently did minor trail repairs.
- Another fortuitous addition was the development of the Douglas Chapter of the Wyoming State Sportsmen and Fishermen volunteer group, who are mostly made up of ORV enthusiasts. They volunteered to clear and maintain many of the motorized trails on the district, which they did.

Laramie Ranger District

- The State continues to groom all the snowmobile trails on the district.
- The District has an agreement with the Medicine Bow Nordic Association to groom over 19 miles of cross country ski trails at least 3 times/week.

- 15 miles of cross country ski trails are groomed by the district at least once per week.
- 20 miles of summer trails were maintained by the district.
- A bridge over the Douglas Creek on the Keystone Single Track Loop was purchased in 2010, and footers were put in place. The weather prohibited installation in October, but this will occur in the summer 2011. This trail was ridden in by trail riders from Colorado, so that we don't have to do construction which would inevitably widen it, which is not the experience these riders are wanting. This was in the Eastern Snowy Range Travel Management decision.

Recommendations

- Encourage all Medicine Bow districts to continue to use volunteers and partners that do excellent work on maintaining summer use trails and grooming winter trails for cross-country skiing and snowmobiling.

Recreational Opportunities

Medicine Bow Objective 2.a.2
Reporting Period: Annual

These monitoring items ask the questions:

Where can we plan for and improve recreation sites?

Do recreational opportunities respond to Forest users' desires, needs and expectations?

Brush Creek/Hayden Ranger District

We can plan for and improve recreation sites as the majority of developed recreation sites, trails, roads on the district have been significantly impacted or changed, by the mountain pine beetle/spruce beetle epidemics.

- Vegetation management plans need to completed and implemented.
- Surveys of current recreation site infrastructure. Many of the campgrounds were designed around vegetation at the site, and at this time we can plan the vegetation around the site. With this we can develop campsites and roads more user friendly for the longer more modern recreational vehicle users.
- Complete hazard tree mitigation and clean-up on all recreational sites and trails.
- Winter Recreation is continuing to increase and is a growing concern. Parking areas and trailheads along HWY 130 and Wyoming State Highway 70 (HWY 70) need to be enlarged and bathroom facilities potentially added. Parking areas need to be planned for future use and not to only meet minimum standards.
- The District has continued to work at up-grading and expanding the cabin rental program.

- Develop the Mirror Lake Day Use Area to a fee site to offset operating expenses at the heavily used picnic area.
- The District has worked with forest personnel on design and planned implementation of improvements along the Snowy Range Scenic Byway at the Brush Creek Work Center.

The visual qualities have been significantly changed by the mountain pine beetle/spruce beetle epidemics. Nearly all recreation sites, trails and roads have seen some form of conversion from a densely forested area to areas with few mature trees remaining.

- Vegetation plans are needed to assist with natural screens, and openings along trails and roads.
- Developed recreation site plans to enhance the changed views and vegetation.
- The District has ordered three year old trees to plant for revegetation of several campgrounds.

Laramie Ranger District

- Summer rental cabins continue to be very popular with the public. Spruce Fire Tower is rented at 100% occupancy from June 15th to Sept 30th. The Little Brooklyn Guard Station is rented over half of the year. Keystone cabin rental is increasing in popularity. The office cabin at Keystone has been reconstructed over the past 2 years.

  The Keystone office had extensive water damage during the winter of 2010, as a result of broken pipes. The floor is being fixed, but the cabin is still not rentable. The Little Brooklyn Guard Station still needs to have extensive work done, with the historical aspect in mind. The spruce trees are very hazardous to the site, so they need to be cut out and a plan needs to be created to improve the structure.

- The ski trails on Pole Mountain need a plan for future use. The levels of use on that mountain have really increased over the recent years, especially with the grooming activities and so conflicts are also increasing. Public meetings are planned for January 2011 to discuss options for this location.
- The District is still looking at locations for snowmobile parking on the Snowy Range to replace the unsafe situation at Greenrock Picnic Area. This is on-going, with the Scenic Byway Corridor Management Plan.
- Developed sites are being heavily cut, due to the Bark Beetle epidemic, so the opportunity to re-design and/or improve on design for many of these sites will be a future effort. Some of the campgrounds are simply in need of a cleanup and some new table planks, but many of them have spurs that could be lengthened and furniture that could be re-done. This will have to be done with grants, as the FS has no disposable income for this effort.

Recommendations

Brush Creek/Hayden Ranger District

- Rehabilitate developed campsites where hazardous trees were removed by enlarging spurs and planting new trees to provide future screening and shade and to improve campground aesthetics.
- Continue hazard tree mitigation and slash clean up.
- Design and develop better snowmobile parking areas within the Snowy Range Highway and Battle Highway corridors.

Laramie Ranger District

- Finish the new flooring and plumbing activity at Keystone so it can be put on the cabin rental program.
- Continue to work on signing, a sign inventory and plan, and make environmental education a priority.
- A priority list will be created for facilities where opportunities exist to improve them, and when funds are available. Fee funds will be used accordingly.
- Work with winter and summer users to ensure the limited funds are being spent where they believe we will make the most difference.

Effects of Recreation Activities

Medicine Bow Objective 2.a.1
Routt Monitoring Item 2-3
Frequency of Measurement: Annual
Reporting Period: Annual / Five Year

These monitoring items ask the questions:

To what extent have dispersed recreation sites been rehabilitated?

How are recreational activities affecting the physical and biological resources of the Forest?

Monitoring Protocol/Data Collected

This monitoring item is answered using field observation, inventory data and the actions taken to reduce the effects of recreation on forest resources.

Results/Evaluation

Medicine Bow NF

Brush Creek/Hayden Ranger District

Dispersed recreation sites rehabilitated during the 2009-2010 field seasons were very limited due to the bark beetle hazard trees mitigation implemented at developed recreational sites, roads, trails and administration sites. Dispersed recreation sites were lower on the list of priorities with all the developed areas affected by the bark beetles.

- The District was able to install (no camping) signs at several campsites and trailheads.

- Enforcement along Wyoming State Highway 130 (HWY 130), Snow Range Scenic Byway (no camping 500 feet from center line of HWY 130), with this we were able to slow or stop more dispersed sites from being created along this route.
- The District worked to enforce 21 day stay limited, with law enforcement personnel and Forest Protection Officers. This effort reduced dispersed camping impacts on many of the more commonly used sites.
- The District concentrated on enforcing the travel management rule (no motorized travel more than 300 feet off routes). This measure helped to reduce the spread of dispersed camping along many forest roads.
- The District completed campsite inventories in Wilderness areas. This measure gives us a baseline to determine if dispersed camping is a growing recreation concern or is stable with little or no growth.
- Many of dispersed recreation sites in the North Savery Analysis area have been surveyed and closure or rehabilitation of these sites is pending on completion and decision on that analysis, anticipated by spring 2011.

Douglas Ranger District (Laramie Peak Unit)

- With the use of awarded Legacy Road and Trails funds, a two-track road which accessed several popular dispersed campsites was decommissioned (Elkhorn NFSR696A). However, an area was designed at the top of the decommissioned road to accommodate a dispersed campsite. The road decommissioning was completed in 2009, and the buck and rail fence and signing for the dispersed site were constructed in 2010. During the fall 2010 hunting season, a camp had set up on the site, and in talking with the hunters, they were very pleased to see the road had been closed and were enjoying the new campsite.

- Dispersed camping has changed in areas where there is no motorized access for camping 300' from an open road. This is most prevalent on the Bear Creek Road which does not allow for motorized access for camping, and many of the two-tracks that provided access to dispersed campsites have been closed. As a result, hunters have shifted their camps to much closer to the road to stay within the legal limits. Or, they have pushed the boundaries and we have had to adjust our management to make it clearer where camping is allowed. This use occurs almost entirely during hunting season only, so is for a relatively short period of time, and the newly affected areas recover easily.

Laramie Ranger District

- Removal of hazard trees from developed recreation sites has limited the time available to address other concerns such as dispersed campsite rehabilitation.
- The sites closed last year around Lake Owen remain closed but a few new sites have been created. The sites are signed as closed and the log piles have been sold for both, firewood to the public and as part of the timber sale.
- Signage on Pole Mountain to close sites has had limited success.
- Gates have been installed where the Motor Vehicle Use Map isn't being adhered to during the winter months. This should provide for some road and area

rehabilitation during the wet spring months. Sites are being developed by the recreating public in new areas.

- Map boxes were placed at portal sign locations on Pole Mountain so that visitors can get a map there, rather than drive into town. We hope this would provide better information, in a friendly manner as part of our education program. The maps were gone most days they were checked.
- In general, implementation of the travel management plan on the district and availability of motor vehicle use maps has helped to reduce the number of new roads being developed.

Routt NF

Hahns Peak/Bears Ears Ranger District

- Illegal off-road and off-trail motorized use continues to affect the physical and biological resources on the District. Closing and rehabilitating these non-system routes is ongoing and relatively successful at reducing resource impacts.
- Illegal non-motorized trail construction is also occurring, affecting both physical and biological resources.
- Roadside clearing of hazard trees has allowed the district to implement the Forest Plan Standard for dispersed campsites and proximity to water (page 1-18 Recreation - Dispersed Recreation, #3).
- Monitoring of effects of winter motorized travel, e.g snow compaction, is ongoing, and results are not final.
- Continued motorized and non-motorized winter recreation use in the 5.41 Management Area is affecting wildlife.

Parks Ranger District

Motorized uses have some of the most obvious impacts on biological and physical resources.

- Proliferation of illegal off-road and off-trail motorized use continues to affect the physical and biological resources on the District. Identifying, closing, enforcing and rehabilitating these non-system routes is an ongoing effort aided by partnerships, seasonal employees, and close work with Forest Law Enforcement Officers.
- Watershed and riparian resources are most affected by off-road or off-trail travel, and were affected along the historic Ellis Jeep Trail during spring 2010 as a result of high runoff and soil conditions that created channel diversions through OHV tracks. These conditions were corrected through an emergency project but will need to be addressed in the long run with a trail reroute to maintain adequate resource protection.
- Law enforcement cooperation and partnerships have also been key in patrolling and enforcing Wilderness boundaries where high use snowmobile areas are immediately adjacent to the Mount Zirkel Wilderness. Several citations have been issued there.

- Roadside clearing of hazard trees has necessitated the temporary closures of many primary access routes into and through the District. The closures, in combination with hazard tree reduction activities, is allowing the District to begin implementing the Forest Plan Standard for dispersed campsites and proximity to water (page 1-18 Recreation - Dispersed Recreation, #3). Considering tradeoffs between visitor safety and Forest Plan compliance is emerging as an issue where public education in "Leave No Trace" principles discouraging camping in meadows is weighed against avoiding overhead risks in the bark beetle environment.

Yampa Ranger District

- Roadside clearing of hazard trees has allowed the district to implement dispersed campsite closures identified in the Rock Creek EIS. Many sites in the water influence zone are being closed.
- 2010 campsite inventories in the Sarvis Creek Wilderness have shown improvement in site conditions from the previous surveys in 2003 and 1993.
- "Leave No Trace" ethics are promoted to backcountry users in order to minimize impacts of their use.
- Stopping illegal off-road and off-trail motorized use continues to be a management priority for the district. Closing and monitoring these unauthorized travel routes have shown success in reducing resource impacts.
- Travel management analysis for 2011 includes NSFRs 225,243,936,941 and 943.

Recommendations

Brush Creek/Hayden Ranger District

- Continue to monitor dispersed campsites. Harden popular dispersed campsite pads to minimize impacts to resources. Relocate or close dispersed campsites that are causing resource damage.

Douglas Ranger District (Laramie Peak Unit)

- Continue to monitor dispersed campsites. Harden popular dispersed campsite pads to minimize impacts to resources. Relocate or close dispersed campsites that are causing resource damage.

Laramie Ranger District

- Continue to provide visitor information in locations that will be useful and friendly, such as the Summit Visitor Center and local Chambers of Commerce.
- Work with the public affairs office to write more articles of local interest in the newspaper, and to coalesce with the public affairs offices at UW, Wyoming Technical Institute, and at the F.E. Warran Air Force Base.
- Respond to the bark beetle problem on Pole Mountain by signing areas of concern and increasing FS presence.

Hahns Peak/Bears Ears Ranger District

- Continue to monitor off-road motorized use and close roads and trails that were illegally created.
- Continue to monitor dispersed campsites. Harden popular dispersed campsite pads to minimize impacts to resources. Relocate or close dispersed campsites that are causing resource damage.

Parks Ranger District

- Continue to monitor off-road motorized use and close roads and trails that were illegally created.
- Work with engineer, soil scientist and hydrologist on future Ellis Trail Jeep relocation.
- Continue to monitor dispersed campsites. Harden popular dispersed campsite pads to minimize impacts to resources. Relocate or close dispersed campsites that are causing resource damage.

Yampa Ranger District

- Continue to monitor off-road motorized use and close roads and trails that were illegally created.
- Continue to monitor dispersed campsites. Harden popular dispersed campsite pads to minimize impacts to resources. Relocate or close dispersed campsites that are causing resource damage.

Effects of Off-Road Vehicles

Legally Required Monitoring Item
Medicine Bow Item Subgoal 2.a.
Reporting Period: Annual

This monitoring item asks the question:

What are the effects of vehicle use off roads?

Monitoring Protocol/Data Collected

This item is assessed using field observations, Forest patrol responses, and official law enforcement statistics.

Results/Evaluation

Medicine Bow NF

Brush Creek/Hayden Ranger District

- Continue patrol district wide
- Identify new areas of intense patrol during hunting season and holiday weekends.
- Sign illegal routes as needed
- Use State of Wyoming Trail funds, trail crews and equipment to repair damaged areas.

- Evaluate ATV use for user conflicts, with (livestock, non-motorized, hunters, fishermen, etc)
- Continue to work cooperatively with the State of Wyoming for enforcement of OHV regulations on forest service roads and ATV trails using state funding.
- Look for opportunities to create new ATV routes to decrease user conflicts and resource damage.
- Develop ATV routes off of forest system roads that would allow for families to legally ride together (under 16 year old operators).

Douglas Ranger District (Laramie Peak)

- Recreation riders (as opposed to hunters) continue to be a growing user group. This is especially true in the Big Bear Canyon motorized trail area where recreational riders have expanded the trail system well beyond the designated portions. This is a difficult area to get into and requires an ORV to be effective. As a result, no patrolling has occurred in this area, so there has been extensive damage in a boggy aspen stand and several other sensitive areas. There are plans to work with the Wyoming State Trail Crew to block off and reclaim these areas.
- Patrolling has resulted in more off-roaders being caught, which reflects in the law enforcement stats for the past two years. Off-road warnings, incident reports and violations have outstripped even the failure to pay fee violations so frequent in developed fee sites (115 vs. 64). Note: the 115 reflects the gross number of off-roading violations on both the Laramie Peak Unit and Thunder Basin National Grassland, as they are entered as the same unit in the Law Enforcement Investigation Management Attainment Reporting System.
- We have adjusted our hunting patrolling to two pairs of FPOs covering the unit, which has proven very effective. Education regarding the new travel management rules as per the MVUM was the main task for FPOs during the past two seasons. The MVUM has been a good tool for managing off-road vehicle use as it has made the rules much clearer as to where one can ride, and the consequences for riding off-road or on a closed road.
- The Wyoming Game and Fish wardens have been very effective in sending information re off-vehicle violators, as they are better able to be where the abuse is occurring.
- Signing for implementation of the Laramie Peak Travel Management Plan has been completed on the unit, and has further benefited the public and employees in clarifying where one can legally ride.
- There continues to be conflicts between hunters who hike into an area, and those who have illegally driven their ORV; however, they have not increased, and through public education, more hunters are reporting the illegal ORV use with good enough information to follow up with a Warning Notice or Violation Notice.

Laramie Ranger District

- There were four FPOs doing patrols in 2009, but only 2 in 2010. Much of the patrolling was done by other forest personnel. Boxes containing MVUMs were placed at portals on Pole Mountain, and re-filled regularly, but there are still numerous OHV areas on the district that are developing into full-blown trail systems. It is a difficult situation.
- Resource damage has been occurring in all locations with illegal use, especially when that use occurs during the wet periods of the spring and late summer.

Figure 8: Resource Damage from Unauthorized OHV Use

Recommendations

Brush Creek/Hayden Ranger District

- Develop ATV routes that would reduce conflicts with other recreation users and prevent resource damage.
- Continue to work with the Wyoming State Trails Program on funding and education plan.

Douglas Ranger District

- Continue to reduce conflicts between hunters and ATV riders through patrols and have the Wyoming Game and Fish wardens to share information with the Douglas District recreation staff.
- Continue to work with the Wyoming State Trails Program on funding and education plan.

Laramie Ranger District

- Hire more FPOs in 2011
- Work with the Regional Office to hire a professional crew to develop PSAs for the District
- Purchase and install signs at portals

- Develop sign plans for various 'hot spots'
- Complete closure of illegal routes.

Scenery

Routt Monitoring Item 2-4
Reporting Period: Annual

This monitoring item asks the question:

How are projects and programs affecting visual quality?

Monitoring Protocol/Data Collected

The effects of management on scenic/visual resources are assessed through field evaluation of Forest Service activities. The forest-wide Hazardous Tree Removal project on The Hahns Peak /Bear Ears District and Brush Creek /Hayden District of Medicine Bow-Routt National Forests and the Carbon Power and Light Powerline Clearing project were reviewed and evaluated for scenic/visual resources.

Results/Evaluation

RNF

The effects of management on scenic/visual resources are assessed through field evaluation of Forest Service activities. Hazardous tree removal activities implemented within Forest Road 550 (Whiskey Park Road) on the Hahns Peak/Bear Ears Ranger District were reviewed and evaluated in FY2009 and FY2010. The adopted visual quality objective of Partial Retention is assigned to the foreground of Forest Road 550. Hazardous trees were cut and decked with slash piled alongside the road corridor by contractors during the field season of FY2009 and FY2010. Most of the slash piles were burned after the first snowfall. Other slash piles were chipped and scattered on road sides. Decks of logs were sold and removed. Good efforts were made to protect remaining healthy understory vegetation, non-infested young lodgepole pine trees and spruce/fir to maintain the scenic quality within the road corridor. Some sites appear heavily altered but overtime visual impact would be reduced through the establishment of new ground vegetation. Overall, the removal of dead standing trees improves the scenic quality and maintains the desired landscape character within the forest road corridor.

MBNF

The MBR monitoring ID team and Brush Creek/Hayden District staff reviewed the Hazardous Tree Removal project within the Jack Creek Campground in FY2009. In the spring of 2009, the Arapaho/Roosevelt Hotshot crew cut down all hazardous trees and hand piled slash. Logs were cut into firewood size and piled in several sites. Firewood was later removed by the public as part of the free firewood program. Slash piles were burned in late fall with the snow on the ground. The hotshot crew did an excellent job in protecting all remaining healthy trees and understory vegetation. The remaining stands consist of mixed confers provide good shade and screen between campsites and maintain the forest appearance of the campground. This was an excellent hazardous tree removal project that met and exceeded the scenic integrity

objective of Low and maintains the desired condition for MA 8.21 - Developed Recreation.

In FY2010, the Carbon Powerline and Light Clearing project was reviewed on the Laramie District and Brush Creek/Hayden District. Carbon Powerline clearing adjacent to Wyoming State Highway 230 near the Colorado - Wyoming state line was implemented in the spring of 2010. Highway 230 is rated as high in concern on scenic quality. The powerline is located within the foreground zone as viewed from the highway and the adopted scenic integrity objective of Moderate is assigned in the foreground. Management Area 5.15 - Forest Products, Ecological Maintenance and Restoration Considering the Historic Range of Variability is designated within this project area. Removal of all trees within the 150 ft width powerline corridor resulted in the corridor to appear as Low/Very Low scenic integrity objective due to created openings having disturbed soil, slash piles, decked logs and access road closed with berms that contrast with the adjacent natural appearing landscape. Decked logs were later removed after the salvage and slash piles were burned in the fall. Small trees were cut and left on the Wyoming state highway right of way resulting in some visual impacts after turning brown in the fall. The scenic quality would improve over time when the ground vegetation is reestablished. There was a good effort to create natural appearing pattern through feathering and intermixing conifer stands and blending in with the natural openings. Removing small cut trees left on the state highway right of way and restoring access roads closed with berms to a natural state would improve the scenic quality as viewed from the State Highway 230.
In the Brush Creek/Hayden District, the Carbon Powerline and Light Clearing project was reviewed adjacent to Forest Road 550 and the Hog Park Lake Recreation Area. The 150 ft width powerline clearing can be observed from Forest Road 550 and the Hog Park Recreation Area. The linear edges created some contrasts with the surrounding landscape and can become highly visible in the winter when the snow is on the ground. The existing powerline appears as Unacceptable Low scenic integrity objective. Over time, adjacent dead standing trees would be blow down and could create some irregular edges in a decade or two. It is recommended that future timber and fuels management activities that would occur in the area to include reshaping the linear edges of the powerline corridor to better blend in with the natural landscape and to move towards a more desirable visual landscape appearance.

Harvested Land Adequately Restocked

Legally Required Monitoring Item
Medicine Bow Subgoal 2.c.
Routt Monitoring Item 1-10
Frequency of Measurement: Annual
Reporting Period: Annual

CFR 219.27 requires a determination of compliance with the Forest and Rangeland Renewable Resources Planning Act of 1974 that lands when harvested to achieve timber production are adequately restocked within 5 years after final harvest as specified in the Routt and Medicine Bow National Forests Land & Resource Management Plans. In addition, this monitoring item asks the question:

Are stands adequately restocked within 5 years of final harvest treatment?

Monitoring Protocol/Data Collected

The yearly monitoring report relies on the FACTS database to list stands and acreages that had final harvest 5 years prior, and which of those stands and acres have a regeneration certification code. If a harvested stand is adequately restocked, but lacks the regeneration certification code in the database, the stand is considered not adequately stocked.

Results/Evaluation

According to CFR 219.27(c)(3) "When trees are cut to achieve timber production objectives, the cuttings shall be made in such a way as to assure that the technology and knowledge exists to adequately restock the lands within 5 years after final harvest". Final harvest is defined as "clearcutting, final overstory removal in shelterwood cutting, seed tree removal in seed tree cutting, and selection cutting for a regeneration purpose". "Research and experience shall be the basis for determining whether the harvest and regeneration practices planned can be expected to result in adequate restocking".

The process for monitoring 5 year restocking success is scheduling and recording the results of regeneration (restocking) surveys in the FACTS database. If a regeneration survey indicates a lack of seedlings, the District can schedule planting or seeding with scheduled regeneration surveys to monitor restocking success. The table below gives the acres harvested in 2004 and 2005, which should be restocked as of 2009/2010.

Table 15. 2009-2010 Acres not adequately stocked.

Forest	Final Harvest (acres)		Acres not Adequately Restocked	
	2009	2010	2009	2010
Medicine Bow	131	82	4	33
Routt	0	351	0	0

Medicine Bow National Forest

In 2009, of the 131 acres harvested in 2004, all but 4 were adequately restocked. As of 2010, one 33 acre unit failed to adequately restock within 5 years due to a Canada thistle infestation. Both of these units are scheduled for a full planting in 2012.

Routt National Forest

Of the 82 acres harvested with a final harvest in 2004, all acres were determined to be adequately stocked within 5 years. The Routt NF reported no final harvest acres in 2005.

Costs

Legally Required Monitoring Item
Medicine Bow Subgoal 2.c
Routt Monitoring Item 3-2
Frequency of Measurement: Annual
Reporting Period: Annual

These monitoring items ask the questions:

> ***Are costs of implementing programs occurring as predicted in the Supplemental Table S-3 of the FEIS?***
>
> ***Comparison of estimated and actual costs***

Due to changes in how the US Forest Service tracks budget and finance, costs are tracked for all three units (the Medicine Bow and Routt NFs and Thunder Basin National Grassland) as one and cannot be allocated to individual units. Forest allocation for the years 2003 through 2008 are displayed in the Figure below. Allocated funds for FY2009 and 2010 will be displayed in the FY11 monitoring report. Funds received through partnership are tracked under the ***Partnerships*** monitoring item below.

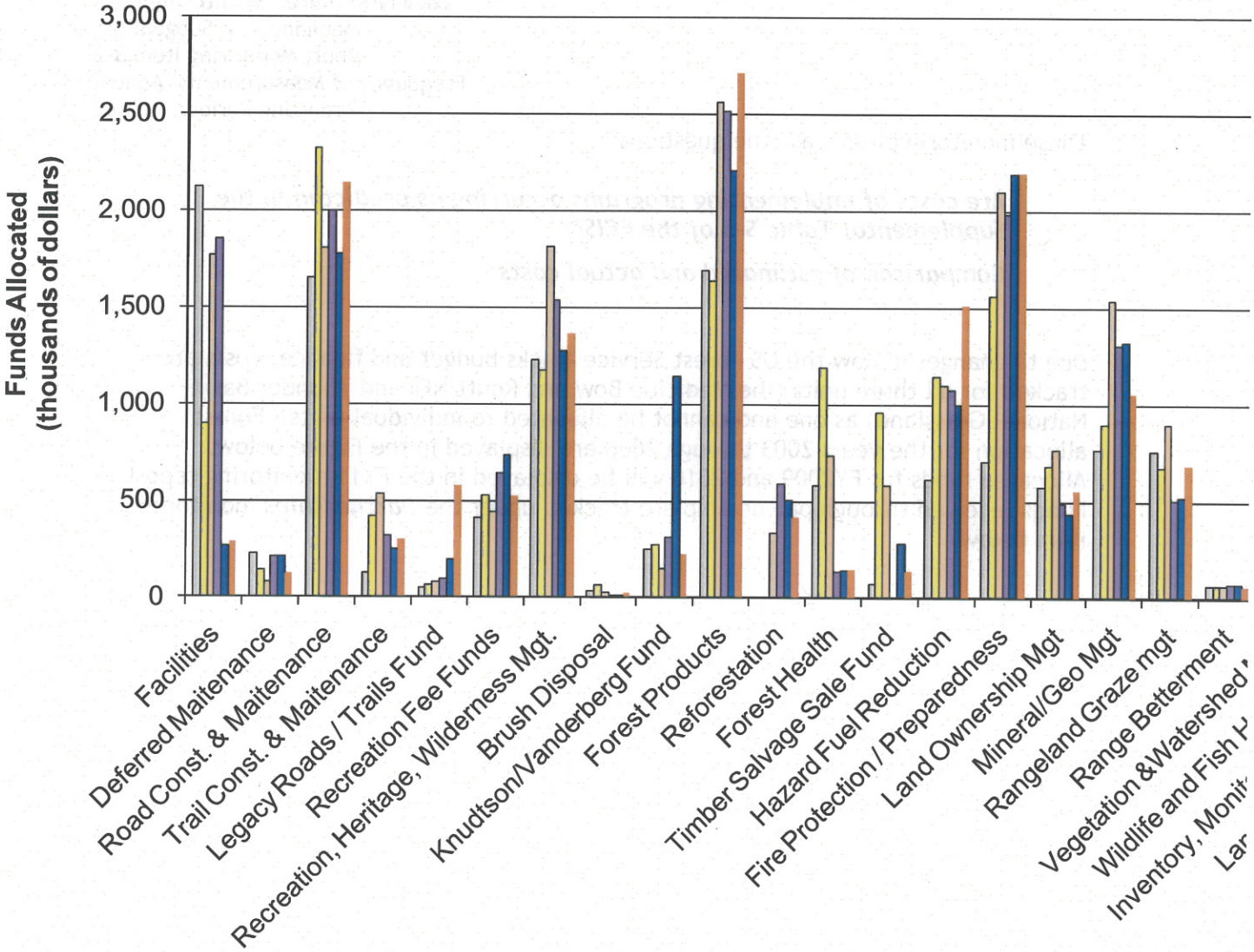


Figure 9. Allocated budget for Medicine Bow - Routt NF, Thunder Basin National Grassland for fiscal y

Comparison of Estimated and Actual Outputs and Services

Legally Required Monitoring Item
Medicine Bow Objective 2.c.1
Routt Monitoring Item 3-1
Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

Are outputs of goods and services being produced at a rate consistent with the projections in Supplemental Table S-2 of the FEIS?

The Forest Service output reporting is in transition, making it difficult to report outputs that can be compared to previous years for the two Forests. A further complication is the difficulty in comparing the categories of outputs in S-2 tables in the EISs for the two forest plans and in comparing these categories to the current target and outputs currently reported for NFS administrative purposes. Outputs are reported in monitoring items as appropriate and feasible, such as in the monitoring items for water quality, livestock grazing and facilities.

Scientific and Technical Assistance

Partnerships

Routt Monitoring Item 2-5
Reporting Period: Annual

These monitoring items ask the question:

How are partnerships contributing to maintaining or enhancing recreation resource opportunities?

Hahns Peak/Bears Ears Ranger District

Partners and volunteers continue to be an asset to the District. In addition to our long term partners, Friends of Wilderness (FOW), the District has the luxury of an engaged community helping in the following ways:

- The FOW continue to be a partner in Wilderness Management. Through public contacts, patrols and trail maintenance in the Mount Zirkel Wilderness, visitor impacts are lessened and impact monitoring is reported.
- Smartwool - employees provide 2-3 days annually of volunteer time assisting in developed recreation site rehabilitation and improvements, trail projects.
- Kiwanis Club - volunteers at Fish Creek Falls Recreation Area
- Yampa Valley Science School/Rocky Mountain Youth Corps - assisted the District in hazard tree removal clean-up at campgrounds.

- The District worked as a partner with ReTree Colorado, an effort that planted 15,000 trees in bark beetle impacted areas in one day. Volunteers planted 1500 trees in various campgrounds on the District.
- The Lowell Whiteman School - students and faculty offer a day of community service at a location of our choice.
- Snowmobile Clubs - groom and mark snowmobile trails
- OHV Clubs - assist in trail maintenance and clearing
- Campground Hosts - in all developed campgrounds, assist with compliance and maintenance of these areas.
- Sierra Club - provided as service day annually - projects include trailhead maintenance, travel management closures.

Parks Ranger District

Partnerships play a pivotal role in maintaining a viable Trails program on the Parks District. Colorado State OHV Trail Program grants fund trail crews and specific projects to a degree that would not be possible using allocated federal funds. In 2009-2010, Parks District received three significant OHV grants.

- The Good Management Grant was funded in both years for at least the 5th and 6th years running, providing $60,000 and $80,000 for maintenance and management of motorized trails on the District. Funds were used to provide year-round permanent Trails staffing, a 4-person seasonal OHV crew, purchase materials for improved stream crossings and signing, maintain District machinery, and provide Forest Protection Officer training for seasonal employees with OHV responsibilities.
- The Grizzly-Helena Trail Crossing Project was funded in 2010 at $357,865 for reconstruction of the crossing at the North Fork North Platte River, where beaver activity in a broad floodplain has challenged trail users and managers for years with dangerous flooded conditions and areas of damaged soil, water, and vegetation. A Forest Legacy funded design contract will be completed in 2011 for 2012 reconstruction of the crossing

In addition, volunteers from the Front Range Trail Riders and Jackson County Snow Snakes played an active role in clearing and grooming single track trails in the summer and snowmobile trails in the winters of 2008-9 and 2009-10. Partnerships with the Rocky Mountain Youth Corps have been used on an annual basis to construct segments of the Continental Divide National Scenic Trail, including approximately 3 miles of new tread in the 2009 and 2010 season. These long-standing partnerships ensure a great system of well-maintained trails is always available for visitors to the Parks District. The benefit extends beyond the motorized community since the same trails are also often used by hikers, mountain bikers, hunters, and outfitter/guides throughout the summer and fall seasons.

Partnerships are also important in the Developed Recreation program on the Parks District. Volunteers are key partners in the annual operation of the Big Creek Lakes Campground, where campground hosts provide visitor information, maintain sites, and perform simple site enhancements. Partnerships with the Rocky Mountain Youth Corps and Colorado Department of Corrections were critical during 2009 and 2010 in providing hazard tree removal, cleanup, and recreation area restoration at the Hidden

Lakes Campground, Teal Lake Day Use Area and Campground, Aspen Campground, and Pines Campground. Corrections crews are planned for repair and restoration work at Big Creek Lakes East Campground in 2011. Internal partnerships with Fire/Fuels crews at the District as well as visiting Sawyer Modules, Hotshot Crews, and Initial Attack crews have also contributed enormously to work capacity for bark beetle hazard reduction work at the Parks District.

Figure 10: Rocky Mountain Youth Corps Crew Building New Continental Divide Scenic Trail Tread on the North Ridge of Parkview Mountain, Parks RD, MBR NFs (2010)

Yampa Ranger District

The Friends of Wilderness continue to be a partner in Wilderness Management. Through public contacts and patrols in the Sarvis Creek and Flat Tops Wilderness, visitor impacts are lessened and impact monitoring is reported.

Recommendations

- Encourage all Routt districts to continue to use volunteers and partners that do excellent work on providing recreation opportunities, improvements and maintenance in dispersed and developed recreation areas and motorized and non-motorized trails/roads.

Interpretation and Watchable Wildlife

Medicine Bow Objective 3.a.3
Reporting Period: Annual

This monitoring item asks the questions:

To what extent have watchable wildlife activities been developed?

Does the Forest provide interpretive experiences that describe ecosystem functions and the Forest Service Mission?

Monitoring Protocol/Data Collected

Annually, document the number of watchable wildlife and plant sites, the development and interpretation activities at existing sites, naturewatch, interpretive programs and experiences that provide environmental interpretation and awareness.

Terrestrial wildlife

Results/Evaluation

Currently, there are no developed facilities that are specifically designed to be a "watchable wildlife site" on either Forest.

Naturewatch Activities

2009:

Laramie District Wildlife personnel Conducted 4 Nature Watch Programs. They Include;

Fishing Education Day: 1 presentation involving approximately 20 students and adults to get kids interested in fishing sports and conservation actions to preserve aquatic habitat. Partnership with Izaak Walton League Travelle Chapter.

Classroom Presentations: 2 presentations to over 20 students each on specific wildlife topics as coordinated with the local teacher.

Moon Walk: 1 presentation with 50 attendees to discuss nocturnal wildlife on Pole Mountain. Topics included bat echolocation and wildlife use of sound.

Douglas Ranger District wildlife personnel conducted multiple wildlife interpretation events.

Friend Park 5th Grade Environmental Education Day: A 1 day field trip with approximately 26 students, 4 parents, and 1 teacher went to Friend Creek and the nearby prescribed burn area to discuss riparian and beaver interactions as well as discussions associated with the historic Friend Park Burn. TES and other wildlife habitats and human interactions were discussed.

Ag and Natural Resource Expo: This is an education expo put on by the Campbell County Conservation District to increase agricultural and natural resource awareness in third grade students. Presentations were made on noise and off-road driving, and there effects on wildlife. Over 580 students attended the expo and visited all demonstration booths

Casper Heritage Expo: This expo is designed to educate students and their families in various aspects of the outdoors. Presentations were made at the U.S. Forest Service booth on bark beetles and their impacts to wildlife and their habitat. Over 1800 kids were visited with in one day. Over the 2 1/2 day program more than 3200 people passed thru the expo.

Sage Grouse Lek counts: District biologist took a total of 6 youth and 6 adults out in small groups to see Greater Sage Grouse displaying on breeding grounds. The Greater Sage Grouse is a candidate for listing under the Endangered Species Act, and this program was designed to increase the public awareness about this bird.

Brush Creek/Hayden District: Wildlife personnel conducted 8 programs. These combined programs reached a total of 287 students and 88 adults. They included

Animal tracks, skulls and hides

Platte Valley Festival of the Birds

Boy Scout Environmental Badge

A Day in the Forest

Hunter Education (2 programs)

Bark beetle impacts to wildlife

Wildlife in Winter. .

Hahns Peak/Bears Ears District: wildlife personnel conducted multiple wildlife interpretation events including.

Maintained elk winter range signs by posting during the closure and removing following the closure period. Installed an elk winter range interpretative sign on the Steamboat Ski Area.

Partnered with the Yampa Valley Birding Club Education program: discussed bird conservation issues and monitoring programs. This involved 12 adults

- Monitor approximately 70 owl nest boxes involving 4 adults
- Monitor approximately 30 goshawk nest visits involving 1 adult

Yampa District: wildlife personnel conducted several Nature Watch programs, they included;

Maintain elk winter range signs in elk winter range areas that inform the public about a voluntary closure to reduce the stress to elk related to human presence. The signs are posted during the closure and are removed following the closure period.

Maintained bear awareness signs in all campgrounds, information kiosks, and dispersed recreation sites.

The visitor information services (VIS) gave fire side chats to adults and children about bear awareness in campgrounds throughout the summer. These talks inform adults and children how to properly store their food.

Presented 1 talk to senior citizens on how wildlife will respond to the bark beetle epidemic at the South Routt Community Center.

Visitor Information Service and wildlife biologist provide nature walks and presentations such as Scat and Track to the South Routt Elementary School.

2010:

Laramie District: completed 2 presentations.

Fishing Education Day: 1 presentation involving approximately 20 students and adults to get kids interested in fishing sports and conservation actions to

preserve aquatic habitat. Partnership with Izaak Walton League Travelle Chapter.

Slade Elementary School-District biologist presented information on bats to 1st grade students including species biology/ecology and conservation.

Douglas Ranger District: wildlife personnel conducted multiple wildlife interpretation events.

Friend Park 5th Grade Environmental Education Day: A 1 day field trip with approximately 28 students, 3 parents, and 1 teacher went to Friend Creek and the nearby prescribed burn area to discuss riparian and beaver interactions as well as discussions associated with the historic Friend Park Burn. TES and other wildlife habitats and human interactions were discussed.

Ag and Natural Resource Expo: This is an education expo put on by the Campbell County Conservation District to increase agricultural and natural resource awareness in third grade students. Presentations were made on noise and off-road driving, and there effects on wildlife. Over 580 students and 60 adults attended the expo and visited all demonstration booths

Casper Heritage Expo: This expo is designed to educate students and their families in various aspects of the outdoors. Presentations were made at the U.S. Forest Service booth on noise and off-road driving, and there effects wildlife and their habitat. Over 8,100 kids were visited with in one day. Over the 2 1/2 day program more than 12,000 people passed thru the expo.

Sage Grouse Lek counts: District biologist took a total of 4 youth and 7 adults out in small groups to see Greater Sage Grouse displaying on breeding grounds. The Greater Sage Grouse is a candidate for listing under the Endangered Species Act, and this program was designed to increase the public awareness about this bird.

Brush Creek/Hayden District: Wildlife personnel conducted 7 programs. These combined programs reached a total of 257 students and 104 adults. They included

Animal tracks, skulls and hides

Platte Valley Festival of the Birds

Voices of the Valley: Wildlife habitat improvement information

Audubon Club: Bark beetle impacts to wildlife

Hunter Education (2 programs)

Wildlife in Winter.

The Pine Beetle Outbreak

Parks District: Conducted 1 presentations providing Information and Education to 210 students and 50 adults

Hahns Peak/Bears Ears District:

- Maintained elk winter range: signs posted during the closure and removed following the closure period. Temporary signs posted along ski area boundary

as well as permanent ski area sign monitored. Supplied local ski shops/ski area/local businesses with elk winter range brochures. PSA ran on local TV channel, TV 18. This program contacted numerous members of the public as they participated in winter sports.

- Partnered with the Yampa Valley Birding Club Education programs: discussed bird conservation issues and monitoring programs. These involved 12 adults.
  - Monitored approximately 70 owl nest boxes, estimate approximately 5 acres/box=350 acres surveyed involving 4 adults
  - Monitored approximately 26 goshawk territories, estimate approximately 30 acres/territory=780 acres surveyed.

- Partnered with HPBE archeologist and fisheries bio for a day of educational programs for local 4-6 year olds. This program reached 100 youth and 40 adults.

- Partnered with Yampatika--International Migratory Bird Day public education talk about long distance migratory species at the Legacy Ranch. This program reached 30 youth and 25 adults.

Yampa District: wildlife personnel conducted several NatureWatch programs, they included;

Maintain elk winter range signs in elk winter range areas that inform the public about a voluntary closure to reduce the stress to elk related to human presence. The signs are posted during the closure and are removed following the closure period.

Maintained bear awareness signs in all campgrounds, information kiosks, and dispersed recreation sites.

The visitor information services (VIS) gave fire side chats to adults and children about bear awareness in campgrounds throughout the summer. These talks inform adults and children how to properly store their food.

Presented 1 talk to senior citizens on how wildlife will respond to the bark beetle epidemic at the South Routt Community Center.

Visitor Information Service and wildlife biologist provide nature walks and presentations such as Scat and Track to the South Routt Elementary School.

Supervisor's Office: Conducted 1 presentations providing Information and Education to 80 students and 4 adults

The terrestrial wildlife program on the MBR has in the past, and continues to contribute funding and personnel time towards many conservation education and environmental awareness activities. The following is a generalized list of the kinds of activities supported by this program over the past several years:

- Participation in the annual International Migratory Bird Day festivities to celebrate the gift of birds.
- Organizing and conducting field trips on the forests for school children and others to increase the awareness, appreciation and understanding of ecosystems and all their ingredients.
- Providing many wildlife-related presentations and classroom exercises for countless students and adults of all ages to illustrate the many interactions among wildlife species, their habitats, and the complications of human involvement.
- Facilitating programs focused upon special sets of species, such as bear awareness.
- Contributing funding towards nature displays, conservation education brochures, environmental education activity sets, and Visitor Information Services personnel time.

Recommendations

Continue to promote and support conservation education and environmental awareness activities on both Forests and within local communities. Increase the Involvement of the local publics in their National Forests and its natural resources

Implementation Monitoring

Endangered Species Act

Medicine Bow Item Subgoal 1.b
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

Are actions identified in national recovery plans for threatened and endangered species being implemented where opportunities exist on the Forest?

Monitoring Protocol/Data Collected

A review of the opportunities to implement national recovery plans, and a description of any actions taken in support of a National Recovery Plan.

Plants

Prior to 2007, there were no Threatened or Endangered plant species documented on the Medicine Bow or Routt NFs and no identified habitat.

New information on Ute ladies tresses (ULT), a threatened plant species (Fertig et al. 2005) has identified that habitat for this plant reaches up to 7,000 feet in elevation. Potential habitat for ULT was identified in three project areas and surveys were completed. The Biological Assessments completed for two projects determined that there were no effects to the ULT potential habitat from the projects (Roche 2007a,b,c) and made the biological determination of "no effect" for ULT. There is a

draft recovery plan for ULT (USFWS 1995). There is not any critical habitat identified for ULT.

The effects of water depletions in the Platte River Basin have been identified to affect one threatened plant (western prairie fringed orchid) that occurs downstream in the Platte River in Nebraska (Kelly 2007). A biological assessment was prepared for this plant species in association with the re-issuance of permits for the Recreation Residences on both the Medicine Bow and Routt NFs (Roche 2007d,e). The biological determination for this project was "Not Likely to Adversely Impact". Implementation of the recovery plan for Platte River T&E species issued in 2006 (USFWS 2006) began in 2007 (Parker 2007). Although consultation with FWS occurred prior to the release of the recovery plan, all actions were in compliance with the recovery plan.

Conclusions

All actions were in compliance with the recovery plan for the Platte River T&E Species (USFWS 2006). There were not any actions that were not in compliance with the draft recovery plan for ULT.

Recommendations

Continue to monitor this item annually over the life of the plan.

Terrestrial Wildlife

The bald eagle was the only ESA-listed species on the Medicine Bow and Routt National Forests with a recovery plan. The bald eagle was delisted in August 2007. The recovery plans for the Canada lynx and the Preble's meadow jumping mouse are both under development. At this time the bald eagle is only an incidental visitor to the Laramie Peak Unit whereas, on Brush Creek/Hayden District, bald eagle nesting sites and winter-roosting sites are surveyed for activity. Very few bald eagles inhabit the Medicine Bow and Routt National Forests. The Forest continues to incorporate bald eagle considerations into project design as appropriate - including the use of a ½-mile no surface occupancy buffer prohibiting construction of new above-ground structures. In addition, we identify and monitor bald eagle communal roosts as specified in the Recovery Plan. No further opportunities were identified to implement action items in the Bald Eagle Recovery Plan on the Medicine Bow and Routt NFs.

Several documents do speak to conservation actions appropriate for the Canada lynx. Though the lynx has only recently been observed on the Medicine Bow and Routt National Forests, the Forest does adhere to the Lynx Conservation Strategy and Assessment. Since 1999, one, and possibly two, female lynx had litters on the Medicine Bow National Forest; but both lost their litters. Colorado Division of Wildlife tracks radio-collared lynx and reproductive patterns of the reintroduced population. The Hahns Peak-Bears Ears District field validated 1500 acres of Canada lynx habitat.

Recommendations

Continue to track lynx movements onto the Medicine Bow National Forest in partnership with the Colorado Division of Wildlife. Identify potential future actions in support of recovery for lynx. Continue monitoring bald eagle nest and roost sites and Preble's meadow jumping mouse as funds allow.

Continue to monitor this item annually over the life of the plan.

Implementation of Standards and Guidelines

Legally Required 36 CFR 219.12 (k)
Routt Monitoring Item 2
Frequency of Measurement: Annual
Reporting Period: Annual

These monitoring items ask the questions:

Are the standards and guidelines prescribed in the plan being incorporated in NEPA documents and implemented on the ground?

Have site-specific decisions successfully implemented the Forest Plan's Direction?

Monitoring Protocol/Data Collected

The Forest Interdisciplinary Monitoring Team (IDT) visited several sites on the Medicine Bow-Routt NFs during the 2009 and 2010 monitoring field trips. The trips are described below:

2009 Field Trip

Douglas Ranger District, Medicine Bow NF

Big Bear Canyon Trail:
This project converted a 4 WD road into a 50 inch wide ATV trail. Wetlands and stream crossings were improved and erosion was reduced. The road had not been maintained and had active erosion and muddy areas. There is a mudbogging area that will be fenced to block off access so the wetland can recover. The road does have a gate so that in case of a fire, fire engines can be driven up the road. The plan is to not clear brush from the trail so it will become narrower with time.

The State of Wyoming trail crew completed the work. They funded all of the work, except for the gate and the post and poles.

Since this was completed, mountain bikers and horse riders have used the trail. The district will be monitoring the level of ATV use, which will likely increase when the trail is put on the State Trails Map. If there is increased use, the District may consider making the canyon a fee use area and develop the dispersed sites along the road, by adding toilets, etc. There would need to be a review to determine if this is consistent with the forest plan and NEPA completed to implement more development and a fee site. The District has noticed that the campground and other recreational use has increased in this area.

Curtis Gulch Campground
The cottonwoods and pine trees in this campground were surveyed by the forest health group, which resulted in a 2001 project to cut down the hazardous cottonwoods. This left mostly ponderosa pines in the campground. As of this time, the pines have not been affected by bark beetles and the District will determine whether to spray the pine trees to reduce the risk of infestation.

La Bonte Canyon Trail
This trail takes off from the campground and goes up La Bonte Creek. It is an old road turned into an ATV trail. The trail was washed out in 2008 from the creek flowing down the trail during high runoff. The State Trails Crew laid down concrete geotextile on the trail to harden it in case of future high runoff, and improve drainage on the trail. The trail will be evaluated after next spring to determine if more work should be completed.

Devil's Pass Trail
This old road was turned into an ATV trail. A parking area was delineated with low log barriers at the beginning of the trail. Geotextiles were laid down across the wet areas along the trail, and a boardwalk crossing was built across a wide stream / wetland crossing. As with the other projects, the State Trails Crew accomplished the work on this trail.

Lessons Learned
It would be good to establish a maintenance schedule for our ATV trails and work that into the state trails grant program to have them help with this work. The District is working through the transition of the travel management workload being accomplished now by the recreation program, instead of the engineering program.

Table 16. IDT Team Evaluation Big Bear Canyon Trail

Resource Area	Evaluation
Archeology	It would be good to monitor cultural site near Big Bear Canyon. Consultation should include the application of geotextiles for these projects.
Renewable Resources	Good to implement now before the resource damage is worse. The dispersed sites in La Bonte Canyon should be evaluated for sanitation and stream impacts.
Planning	This is a good example of implementation of the travel management planning effort. Should look at the Forest Plan for guidance on developing the La Bonte Canyon area.
Engineering	The NEPA decision included motorized trails and it is good that it was implemented quickly. This shows the public we are serious about motorized trails. Should evaluate the safety aspects of the big bear trailhead and the maintenance needs of the geotextiles.
Scenery / Visuals	The boulders used to limit access at La Bonte Canyon are good from a visuals standpoint. The geotextile would be better if filled with soil and vegetation grows up. The trail should be accessible - the gaps should only be 1/4" wide or less.
Soils	These projects should narrow up the trail and hopefully limit off trail use.
Recreation	Great job at partnerships. The visual appearance of geotextiles is not good yet, hopefully this will improve in time. Should monitor again in several years.
Minerals/ Lands	Good use of partnerships. Should review to make sure projects are consistent with recreation master plan.
Wildlife	This is a good way to manage human use. Good for the Elk - a beneficial project.
Public Affairs	This investment may make the public appreciate the use of the

	resource. Would be good to encourage groups to help with maintenance.
Hydrology	Good job for developing ATV trails and for addressing the resource issues in wet areas. Should have a forest wide monitoring plan for ATV trails.
District Rangers	This was a big complex trail management project. The district tried to have an adaptive approach to this project. The interdisciplinary involvement is important. Enforcement is next step, have handed out warnings to folks violating the rules to help with education.
Forest Supervisor	The partnership is great. It is good that we are developing more motorized trail networks. Colorado also has groups donating money for motorized trails. The district should try to complete the kiosks and signs at the trailheads and be consistent with our signage rules.

Medicine Bow NF, Brush Creek/Hayden Ranger District

Jack Creek 3 Timber Sale

The EA for this timber sale had an appeal, but it was upheld. The purpose and need was to remove mistletoe and to create larger patches on the landscape. The project also included commercial thinning and sanitation salvage. This project also will reduce fuels around the Jack Creek Work Center.

The sale has the usual design criteria and 0.9 miles of new road construction. There are sensitive species (goshawk nests) nearby but none found in the sale area. Harvested areas will have a regeneration survey on the 3rd year to determine the need for site preparation.

Table 17. IDT Team Evaluation of Jack Creek 3 Timber Sale

Resource Area	Evaluation
Renewable Resources	Looks good. Should have the IDT look at how to refine the design criteria.
Scenery / Visuals	The unit has irregular edges - nice job. good to see good regeneration.
Soils	Looks good.
Wildlife	Would like to see more snags. The landscape approach is good.
Public Affairs	Would be good to have more interpretation for our past harvest acres so the public can see what a clearcut looks like after 30 years old.
District Rangers	With the wildlife tree requirements we do not really have a clearcut. Should have some flexibility with the design criteria.
Forest Supervisor	In 5.13 can have units up to 250 acres due to different emphasis than 5.12. We should not constrain ourselves to be able to take a landscape approach.

Jack Creek Campground and Work Center

This campground has had ongoing hazard tree removal. Last year the focus was to reduce the hazard from around as many sites as possible, and this year the rest of the hazard trees were removed. A hot shot crew was used to do the felling and a Wyoming YCC crew piled up the wood into piles. Vegetation management plans are in

progress. This campground has some spruce and fir that has not been affected by the beetle epidemic. The hotshot crew worked very efficiently to clear the campground of hazard trees. It worked well to combine the crews or to have the youth crews come in after the hotshots.

At the work center, hotshot crews were used to fell the trees near the buildings due to the difficulty of the task. They liked the work as it was more technical and provided good experience and saved the forest from having to hire a tree removal company.

Table 18. IDT Team Evaluation of Jack Creek Campground and Work Center

Resource Area	Evaluation
Archeology	Very little disturbance - good job.
Renewable Resources	Looks good. Work is being done with fuels funding which will transition to recreation funding, but will still count towards fuels targets. Should compare the per acre cost of hot shot crews to other crews.
Planning	Looks good.
Engineering	Roads and infrastructure in good shape.
Scenery / Visuals	Hotshots did a great job.
Soils	looks good
Recreation	Will look better next year once the piles are gone.
Minerals/ Lands	Looks great - should continue at other sites. Tools such as a tree spade and stump grinder could be used to improve visuals.
Safety	Have to accept some safety hazards in the forest. How to let the public know that in dispersed sites outside of campgrounds that there are hazards from beetle killed trees.
Public Affairs	Looks good. The hazard tree poster is up at the campground. Would be good to have some information as to why the trees were cut.
Timber	Should evaluate the wind firmness of the spruce remaining in the campground. Campgrounds should evaluate every year for hazard trees. Consider closing the campground for the year after tree removal to allow the spruce to blow over while it is not occupied.
District Rangers	Really appreciate the district recreation staff for pursuing the crews and funding and juggling all the projects. Hard to determine how many trees to cut - will the spruce fall from windthrow hazard. Cannot reduce all risk.
Forest Supervisor	Safety is primary - a R6 employee was killed from a snag. Campground looks good - great job! There is a strong understory here to help with visuals if the big spruce trees do blow down. The region is looking for partners to help with reforestation in campgrounds.

Parks Ranger District, Routt NF

Camp Creek Fuels

This goal of this project is to improve habitat and reduce fuels. The area is not classified as a WUI but there are nearby private lands. Multiple partners were involved in the project including North Park High School, Owl Mountain Partnership, Mule Deer Foundation, and the Habitat Partners Program. The purpose was to

increase bitterbrush and reduce sagebrush for wildlife habitat, using both mechanical treatments and prescribed fire. The prescribed burn did not cover as much area as was desired. Dixie harrow was used to try to increase grass in order that fine fuels could spread the fire. The project did meet wildlife objectives of increased grass and forbs and reduced sagebrush. The North Park High School grew bitterbrush plugs, which had an 11% success rate when planted. The area burned pretty well. An electric fence was used to prevent grazing for one year. Owl Mountain Partnership volunteered to do the monitoring using cover frequency transects. There appears to have been a good response and aspen is resprouting in the area.

The prescribed burn appears to have achieved the objectives a bit better than the dixie harrow. The costs are about the same for both treatments.

Table 19. IDT Team Evaluation of Camp Creek Fuels

Resource Area	Evaluation
Archeology	Dixie harrow has more ground disturbance, need to ensure the archeologist knows about the type of treatment so the correct survey type is completed.
Renewable Resources	Multiple objectives results in tradeoffs - this project met wildlife objectives but not fuels. Should evaluate how long to defer grazing, one year may be long enough.
Planning	Good project, consistent with the forest plan.
Wildlife	Nice mosaic created by the project. Great that aspen was included in the project. Great partnerships.
Range	Coordination with range could have been improved as we need to work with the permittee. It is important to defer grazing for one year, not necessarily for two years.
Soils	Looks good.
Minerals/ Lands	Looks good.
Timber	Should monitor the big game utilization to know if wildlife habitat was improved.
District Rangers	The project reached more of the objectives and it was a great project with the partner and school involvement.
Forest Supervisor	The partnerships are great. Clear objectives and the monitoring plan are good to determine if we reach objectives. This is an important step towards doing more landscape prescribed fire projects.

2010 Field Trip

Yampa Ranger District, Routt NF

Yampa Horse Pasture Water Rights

The spring was used to supply water for the district administrative horse pasture behind the office and has a NFS water right. The spring is on private land. The State contended that the water right was not being used as the horses were getting water from the ditch that runs through the pasture. Water rights are real property and should be maintained or they can be lost. To put the water to use, the district rebuilt the spring box and plumbing so that the tank in the pasture can be filled.

Egeria Allotment

This AMP was completed under the CE authority using a Decision Memo. There was no real reduction in numbers, just adjustments related to private lands within the allotments. Ocular monitoring indicated that utilization may have been above Forest Plan Standards, so cages were installed, which indicated utilization ranged from 30 to 50 percent.

Riparian monitoring indicated there were concerns on 1/2 mile of Egeria Creek, with the remaining 2 miles of creek found to be in good condition. Stubble height, ground cover and bank stability all showed effects from grazing in this 1/2 mile section of the creek.

Next year, the cows will come on the pasture later in the season. The allotment will continue to be monitored and adjustments made as necessary.

NFSR 212

This project was covered under the Rock Creek EIS. The purpose and need for this project included watershed protection. The old road is along Blacktail Creek and was relocated due to watershed and safety reasons, since the road had an unsafe approach to the highway. This resulted in 4 miles of new road construction, which was designed to also provide private land access to inholdings. The old road is planned to be decommissioned as the stewardship portion of the Blacktail Timber Sale. Two landowners on the new road now have year round access.

Table 20. IDT Team Evaluation for NFSR 212

Resource Area	Evaluation
Archeology	There is a cultural site in the range allotment that should be monitored, would be good to develop a tracking system.
Planning	Egeria - Good that this project incorporated monitoring into the project. NFSR 212 - This project addressed multiple issues and was proactive in considering future issues, such as access to private lands.
Engineering	For range allotments, consider having a clear policy on installation and maintenance of cattle guards so it is clear who is responsible. NFSR 212 - Should follow up monitoring to ensure cut and fill slope revegetation and for invasive species.
Scenery / Visuals	No comments
Botany	Observed some invasive weed species on the new road construction - need to consider how to minimize invasive species introduction, complete monitoring and treatment if necessary.
Minerals/ Lands	NFSR 212 addresses both resource concerns and access - good project.
District Ranger	The categorical exclusion process for range amps reduces the amount of public input into the project. The AMP does have the tools to address the resource concerns. NFSR 212 - There were issues as to whether this road should be built, but it does improve watershed condition.

Brush Creek/Hayden Ranger District, Medicine Bow NF
Hazard Tree Clearing Projects:

Carbon Power and Light Hazard Tree Clearing Project.
This project was designed to remove all trees, live and dead, within 75 feet on either side of the powerline to reduce risk of fire from a tree falling onto the line. With the current bark beetle epidemic, trees have been falling across the line in much higher numbers than before.

Carbon Power and Light paid for the consultant to complete the EA, and is paying for the on the ground clearing work.

Table 21. IDT Team Evaluation for Carbon Power and Light Hazard Tree Clearing Project

Resource Area	Evaluation
Archeology	The project met all survey requirements, good job.
Planning	This is a new type of project and is dealing with an emergency. This situation will be coming up often on other forests and it is good to keep the discussions going. This project is trying to meet the hazard reduction needs and stay with Forest Plan standards and guidelines. Project should be monitored and additional rehabilitation completed as needed.
Engineering	May be better to just leave the trees instead of skidding them out.
Presale	This is a linear project and problems have resulted from not having a wider project area to accommodate landings, access, etc.
Recreation	Where the powerline crosses the roads, there is now a large corridor that may get unauthorized use - there should be barriers to control access along the powerline.
Scenery / Visuals	It would be better to have scalloped edges, but this would make it more expensive to accomplish. Project may not be consistent with Forest Plan standards for scenic integrity.
Watershed	The watershed effects analysis did not represent the project accurately. The decision stated that equipment would be kept out of wetlands, however it was necessary to cross and cut trees in wetlands to accomplish the project. Timber removal was not required to meet purpose and need. Possibly this project should have had an EIS to more accurately describe the effects of implementing this project. Good to have specialists involved in implementation.
Minerals/ Lands	This project is in progress and additional rehabilitation will occur as well. Good project from a lands perspective.
Timber	This project had to meet everyone's need and meet the project purpose and need of hazard reduction. We should learn from this project and apply these lessons to future projects.
Sale Administration	Should have just not entered any wet areas with equipment. The skidding in this area was not authorized.
Aquatics	Should learn from this project and also do restoration as needed.
Forest Supervisor	This is a complex project that we were dealt. The forest plan did not solve the issues for this type of infrastructure. We set a high expectation that may not be reasonable, but still cannot ignore the resources. Everyone did the best job they could. We should learn

	from this project for future projects. Timber sales in addition to the powerline clearing could be used to accomplish the edge scalloping for a more natural appearance. As trees fall down, the edges should be less linear. Wetlands - avoid with flexibility. Are we meeting the Executive Order and the Forest Plan? We should disclose the effects better. This project looks good, but we can do better. Good that everyone is involved during implementation.

Lakeview Campground

This project involved removing beetle-killed lodgepole pine trees from the Lakeview Campground and from around the boat dock parking and picnic area on Hog Park Reservoir. This project was originally offered as a timber sale but it did not sell due to the cost from long skidding distances and road damage. It was offered as a stewardship contract, which stated that the trees should be removed using whole tree skidding. To reduce damage to the residual trees, the trees were cut to length before skidding. The logger used a timbco, and so did not drag the trees but the equipment could reach and grab them. Whole tree skidding also would have damaged the roads more than the method that was used.

Many live trees are left in the campground, although many have blown over as the previous stand was very dense so the trees left are not windfirm.

The contract did not specify that the smaller (less than 5" dbh) trees should be removed so there are additional smaller, dead trees that should be removed. The damaged tree provision did not address trees less than 5" dbh, so could not require the contractor to remove these smaller, damaged trees. Although the contractor did do some lopping that was not required. The Sale Administrator opted to have the skid trail through the center of the loop to avoid damaging the roads. The contract did not allow landings in the campground, but one was placed in the center to reduce skid distance.

Recreation will try to get a crew to clean up the slash, and clean up any trees that will blow over during the winter. This is an opportunity to modify some of the campsites to better accommodate RV's.

Standard specifications, such as requiring whole tree logging do not necessarily fit all situations. Better results were obtained from leaving the slash (tops and limbs) and taking out the logs. Although there will need to be cleanup crews to address the slash which is an added expense.

It would be good to stay closer to the contract provisions to reduce the amount of modifications while the contract is going on. The project specified no equipment within 100 feet of the lake shore, and that has been adjusted for many hazard tree projects to have a 30 foot buffer of no equipment, where trees would be cabled out. It would be good to see the difference between using the timbco and using cable (as specified in the contract) to remove the trees from the lakeshore and riparian areas, this would allow a comparison between the two methods - i.e. rutting versus damage to residual trees.

There is a struggle to determine which trees to leave and which will come down from windthrow. It is part of our core values to have trees in campgrounds and we try to leave as many as possible. It would be good to have the recreation folks on the forest go to hazard tree training to better identify hazard trees in the field.

There will need to be additional work completed - rehabilitation of slash pile areas after burning and seeding of skid trails. These are normally covered by the KV plan, although since this is not a timber sale there would be no funding for this work. Possibly developing an IDIQ to be able to complete the rehabilitation work would be a good way to go.

Table 22. IDT Team Evaluation of Lakeview Campground

Resource Area	Evaluation
Archeology	Good project from a cultural resources perspective. Would be good to GPS the burn pile locations.
Planning	Valuable to review this in the field. Keep working towards having the NEPA and implementation be more consistent.
Engineering	Need to consider road damage and protection of surface, ditches and culverts. This project has fewer impacts than earlier hazard tree projects. Dropping, lopping and leaving trees may be an option to consider to reduce road damage in some areas.
Safety	The remaining trees are a hazard. In other campgrounds where trees were removed, the remaining trees over about 20 feet high blew over. Should consider removing more trees when the canopy opens up more than 30%.
Wildlife	Look really good with no wildlife concerns.
Botany	It would be good to have GPS locations of where we are seeding, and to use the appropriate seed mix for the area.
Presale	Would be good to come to a consensus of the contract provisions so we can reduce the amount of modifications.
Recreation	Will work to get the campground open and may be able to accommodate larger vehicles now.
Watershed	Would like to see the difference in effects between cable logging and using the timbco. Also consider areas where the trees are cut, but not removed.
Sale Administration	Whole tree skidding and damage tree provisions should be evaluated to determine if want to change what we put in the contracts / task orders. Should consider lowering stump height near the roadsides.
Aquatics	All the resources have had to compromise as this is addressing a safety issue. We should learn from this and get better at implementing and also complete the follow up rehabilitation.
District Ranger	We should implement as had been designed / or agreed to in the field. This would reduce the amount of modifications and negotiations with the contractor.
Forest Supervisor	Good to see folks working together. There will be more discussion about these projects. Should have flexibility, not have rules that are black and white, but need to be careful. Communication and coordination are key. The public will continue to be interested in

	what we are doing and how rapidly we accomplish the hazard tree work. Need to rethink how we work in campgrounds. We are used to entering campgrounds multiple times to remove hazard trees, but this is a severe situation and we should rethink our paradigm.

District Project Monitoring

Douglas Ranger District

LaPrele Guard Station Septic Tank Replacement
This project includes the maintenance of an administration/recreation site. The project preserves the LaPrele Guard Station while enhancing recreation opportunities. The project also complied with sanitation code and the administered site to standard. The facility is on National Register of Historic Places.

The standards and guidelines were effectively implemented on this project, however the area needs reseeded and a lid needs to be placed over other hole for tank.

Recommendations

- May need to be reseeded (seeded again) next spring
- Need copy of as built documents
- Get a cover on tank
- Get septic tank pumped regularly
- Watch for issues sooner
- Need better communication between contract inspector, district and contractor

Elkhorn Road Decommissioning (FSR 696A)
This project is part of the implementation of Laramie Peak Travel Management Decision.

Standard mitigation measures applied to this project and these mitigation measures were found to be implemented and effective. The additional mitigation contained in decision included mitigation to prevent trespass (put in fence on both ends), and to allow for dispersed camping. The standards and guidelines were considered effective and there was good feedback from permittee and hunters. There was also a reduction of erosion and stabilizing archeological sites next to decommissioned road

Recommendations

- Archeological report was not competed prior to implementation (this seems to be a problem on big NEPA decisions where we are doing site specific actions later)
- Legacy roads and trails-need to get a step ahead instead of one step behind (ie. Planning and reports one year, implementation the next year)
- Water bars may need to be relocated to avoid being within 100 ft of a stream or directing water into streams

- Need to look at admin use

Laramie Ranger District

Forest-wide Hazardous Tree Removal and Fuels Reduction Project

Foxpark Road (NFSR 512): the project work along NFSR 512 meets the intent of the August 2008 Decision Notice. The majority of the trees were removed and decked in a NFS approved location. Remaining slash was disposed of according to the decision (i.e. slash heights were less than 24 inches) with the majority of it being placed in hand piles for future burning (see Figure 11). This area was winter logged and all project design criteria were satisfactorily implemented. Numerous public involvement efforts were made to inform the public of potential road closures during the time that the work was being accomplished, as required by Design Criteria.

Figure 11. Hazard Tree Clearing along NFSR 512.

Lake Owen Campground: the project work in the Lake Owen Campground is ongoing, so it is difficult to assess whether or not it will fully comply with the Decision once work is complete. Currently there are many log decks and numerous slash piles (see Photo below) within the campground which runs counter to the decision, specifically to Design Criterion 2; however, the recreation staff has indicated that the decked logs will be removed and slash piles will be burned during the winter season.

Given the volume of trees that needed to be removed from the site, it was not possible to remove product or waste as felling occurred. Roughly 700 hazard trees were cut during the 2009 field season and roughly 1,000 more were cut this year. Last year's removal of hazardous trees resulted in a canopy that was too open for the remaining green trees, causing them to become hazards in their own right. Due to lack of wind firmness, they too began to fall. Despite the log decks and the slash piles that still remain, it is obvious that workers made every effort to comply with all other aspects of the decision.

Figure 12. Hazard tree clearing at the Lake Owen Campground.

Standards and guidelines and Design Criteria were implemented on the ground, with the exception of Design Criteria 2, in the Lake Owen CG area were implemented. The

volume that was removed was too much to make product and waste removal feasible as felling occurred. Standards and guidelines and project design criteria appear to be effective in the two areas that were reviewed.

Recommendations

- Design Criteria 2 should either be removed in future, similar projects or it should be re-worded to state, "Where feasible..." This design criteria is not feasible in situations that require total tree removal in a developed site.

Carbon Power and Light Powerline

Boswell Creek Campground area: This project includes the felling of trees along the utility corridor within 75 feet of the centerline of the powerline. Slash disposal along slopes and flat areas complies with the decision; boles were limbed and bucked such that they lay flush with the ground and slash heights were less than 24 inches. Powerline clearing, with a few minor exceptions, appears to meet the intent of the decision.

There was one slash pile that was too close to a riparian area (less than 30 feet) - this implies that the pile was not in a Forest Service approved location, as required by the decision. The slash pile was from the felling and removal of a tree; the felling was acceptable under the decision, but the tree should have been left in place due to its proximity with a tie driven stream. This violated Design Criteria 13 (see discussion below). A few other DC were also violated, as described below.

Highway 230 wetland area: Tree felling in this area was a combination of heavy equipment and hand felling (primarily used immediately adjacent to the riparian area). Soils and water appear to have been protected during felling operations. Although the majority of the work looks very good, there are a few questionable areas in terms of visuals (berms and slash piles). There is also an area that was used for a landing that extends beyond 75 feet from the centerline. This site is within the area that was analyzed for effects; it falls within the scope of the decision.

Figure 13. Slash pile adjacent to a riparian area.

Aside from a few minor DC infractions, powerline clearing in these two areas appears to have been implemented according to the decision.

Boswell Creek Campground: Standards and Guidelines: Despite a slash pile being located immediately adjacent to the riparian area, and some associated bare ground from equipment use (see Photo 1), reviewers felt that Water and Aquatic Standard 4 is still being met. All applicable standards and guidelines are being met in this area.

South HWY 230: Standards and Guidelines: All applicable standards and guidelines are being met in this area. Design Criteria, however, may not all be met. There is a large slash pile; at least 15 feet tall, which needs to be disposed of since it's adjacent to Hwy 230 (see Figure 13). Neither the decision itself, nor the design criteria, put any limits on slash pile size.

Recommendations:

- We should consider eliminating DC 31 (Wildlife and Botany) in the future; specialist reviews are required by other DC. Therefore, it's redundant.
- We should consider reassessing the stump height requirement associated with DC 30.

Design Criteria 30: Clean up heavy slash within 50 feet from edges of FS arterial and collector roads, State Highway 130 and 230 and cut stumps to 4" or lower in height to meet the scenic integrity objectives.

Design Criteria 31: Prior to each field season, district wildlife biologists and botanists will be provided with GIS layers and hardcopy maps of potential treatment areas. Proposed, Threatened, Endangered, and Sensitive (PETS) species and species of local concern (known or discovered during project layout or implementation) will be individually evaluated as they occur within proposed tree removal projects.)

Figure 14. Slash pile along Highway 230.

Parks RD

FHTR Big Creek /660 Road

This project was a hazard tree removal on the east loop of Big Creek Campground and along NFSR 660. Mitigation measures for this project were included as part of the Forest-wide Hazardous Tree Removal and Fuels Reduction Project Decision Notice.

Harvesting was allowed closer than 100 feet to wetlands but was approved thus resulting in a minor departure from the standards and guidelines. The Standards and Guidelines were effectively implemented on this project.

Reviewed East loop of Big Creek Campground. Along northern side of campground along Big Creek a narrow strip of live and dead trees was left. Most were non-merchantable and some were outside the boundary due to sign placement on trees along creek. There were also some trees on the north side of the irrigation ditch which were in-accessible. There is still a need to hand fall the trees which were left and the trees north of the ditch, since they are still a safety hazards.

The Slash removal and piling looked good. Existing regeneration is scattered throughout the campground. Hold off on planting until after 3rd year to see if natural regeneration occurs and meets objectives for the campground.

High stumps with boundary signs could be cut.

Reviewed NFSR 660. Overall the project looks good. Three clumps of hazard trees were left out of the project, not sure why. These will need to be cut prior to reopening the road. There are also a few scattered dead trees along the boundary which need cut. At the start of the road there are several trees which were dropped from the project since they were located in standing water and it would be unsafe to fall them. FS personnel will need to come back in the winter when the water is frozen in order to safely access the trees for felling.

There was some concern about the piles on steep slopes and the potential for erosion after they are burned. Monitoring will be needed to assess the effects after burning.

Recommendations:

- S & G's for management area prescriptions should not be used along roads where there are other management objectives.
- Some design criteria are too restrictive.
- More engineering support is needed to determine existing road condition and to approve road conditions and whether road is safe to re-open after project completion.
- Layout crews should not determine SMZ'z, let hydrologist do it.
- Remove all live trees if a majority of the trees are being removed, do not leave trees which will become a hazard once the supporting trees are removed.
- Fell live and dead leave trees which pose a safety hazard. Narrow strip along northern side of campground and two - three clumps of hazard trees were left uncut along NFSR 660. Also need to remove some dead boundary trees.
- Monitor for noxious weeds, Pile burnt steep slopes, and regeneration in campground

Sierra Madre/Big Creek Stewardship Sale

This project review includes the Big Creek fuels unit #3.

Reviewed slash along driveway to Vanderhart's cabin. Contractor placed additional slash on top existed slash that was present on the project site prior to logging from a couple of blown down trees. The slash piles meet the 2 ft height limit above the existing slash. The area where the trees were removed was mostly aspen and scattering the slash would have resulted in more damage to the aspen stand. It was decided that the concentrated slash should be burned.

the IDT reviewed 40-50 foot section of skid trail above cabin. Trail was on a 30% slope with about a 20 foot section with exposed bare mineral soil and the rest of the trail meeting the 50% cover and water bar recommendations per the design features in the Decision Memo. While at the site, additional slash was placed on the bare soil.

A main skid trial on upper slope of unit which went from 0-5 % slope to a 20-30 % slope had been water barred and seeded for erosion control. Not much seed was visible.

In the upper part of the unit away from any cabins there were scattered un-merchantable trees and a few designated leave merchantable trees. Near the Vanderhart cabin was a ½ acre patch of designated leave merchantable trees mixed with some un-merchantable trees. Cabin owner had sprayed most of these trees to protect them from MPB. During sale marking, cabin owner asked that the spray trees be protected so they were marked a leave trees. Now that the unit has been cut individual trees are beginning to blow over or are leaning due to the wind. As it is now, trees are beginning to blow over and create a safety hazard, fuels problem, and visual problem.

The main skid trail on the west side of the unit near the Wilkins cabin had been seeded and water barred for erosion control. Trail was mostly exposed bare mineral soil. A large amount of slash was adjacent to the trail which could have been pulled over the trail to help with erosion control.

Recommendations

- Require better utilization near summer homes.
- Require more waterbars on steep ground.
- Require more slash treatments near summer homes.
- Require better seeding practices - need raking after seed is spread.
- Require better seed source management.
- Better long term management near cabins regarding tree retention.
- Monitor for noxious weeds and erosion control seeding success

Follow up Actions Needed

- Fell live and dead leave trees which pose a safety hazard.
- Repair driveway where skidding occurred.
- Burn slash along driveway where hazard trees were felled.

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Photographs are by USFS personnel unless otherwise noted.

Acronyms

4WD	Four-Wheel Drive
AML	Abandoned mineland
AMP	Allotment managment plan
ATV	All terrain vehicle
ARNF	Arapahoe Roosevelt National Forest
AUM	Animal Unit Months
BA / BE	Biological Assessment, Biological Evaluation
BAER	Burned Area Emergency Response
BBITF	Bark Beetle Information Task Force
BCH	Brush Creek / Hayden Ranger District
BLM	Bureau of Land Management
BMPs	Best Management Practices
CDF	Colorado Division of Forestry
CDI	The Rocky Mountain Region's Center for Design and Interpretation
CDNST	Continental Divide National Scenic Trail
CDOW	Colorado Division of Wildlife
CDTA	Continental Divide Trail Alliance
CIP	Capital Improvement Program
CRCT	Colorado River Cutthroat Trout
CWQCD	Colorado Water Quality Control Division
DM	Decision Memo
DN	Decision Notice
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ESA	Endangered Species Act
FACTS	Forest Service Activities Tracting System
FEIS	Final Environmental Impact Statement
FLPMA	Federal Land Management and Policy Act (1976)
FMP	Fire Management Plan
FPO	Forest Protection Officer
FWS	Fish and Wildlife Service
FS	Forest Service
FSH	Forest Service Handbook
FSM	Forest Service Manual
FY	Fiscal Year
GA	Geographic Area
GIS	Geographic Information System
GPRA	Government Performance and Results Act
HM	Head Months
HPBE	Hahns Peak - Bears Ears Ranger District
IDT	Interdisciplinary Team
INFRA	Forest Service Database for Infrastructure
IRA	Inventoried Roadless areas
LAC	*(found on page 64)*
LE&I	Law Enforcement and Investigations
LEO	Law Enforcement Officer
LRD	Laramie Ranger District
LRMP	Land and Resource Management Plan
MA	Management Area
MAII	May Adversely Impact Individuals
MBR	Medicine Bow – Routt National Forests
MBNF	Medicine Bow National Forest
MBRTB	Medicine Bow – Routt National Forests, Thunder Basin National Grassland
M&E	Monitoring and Evaluation List Colorado)
MIS	Management Indicator Species
MPB	Mountain Pine Beetle
MVUM	Motor Vehicle Use Map

MZW	Mount Zirkel Wilderness
NEPA	National Environmental Policy Act
NF	National Forest
NFIM	National Forest Inventory and Monitoring funds
NFMA	National Forest Management Act
NFPORS	National Fire Plan Operations and Reporting System
NRCS	National Resources Conservation Service
NFRW	National Forest Recreation Wilderness Funds
NFS	National Forest System
NFSR	National Forest System Road
NRIS	National Resource Information System
NVUM	National Visitor Use Monitoring
OHV	Off-Highway Vehicle
PCR	Polymerase Chain Reaction
PFC	Proper Functioning Condition
R2	Region 2 (Rocky Mountain Region of USFS)
RMBO	Rocky Mountain Bird Observatory
RMEF	Rocky Mountain Elk Foundation
RMRS	Rocky Mountain Research Station (USFS)
RNF	Routt National Forest
ROD	Record of Decision
SASEM	Simple Approach Smoke Estimation Model
SB	Spruce Beetles
S&G	Standards and Guidelines
SIA	Special Interest Area
SIO	Scenic Integrity Objective
SLC	Species of Local Concern
SOPA	Schedule of Proposed Actions
SS	Sensitive Species
T&E	Threatened and Endangered Species
TBNG	Thunder Basin National Grassland
TES	Threatened, Endangered and Sensitive Species
TMDL	Total Maximum Daily Load
TRTR	Roads and Trails Funding
TS	Timber Sale
TTFL	Trend Towards Federal Listing
UAA	Use Attainability Analysis
ULT	Ute ladies tresses
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United State Geologic Service
UW	University of Wyoming
VQO	Visual Quality Objectives
WGCD	Water Quality Control Division (Colorado)
WGFD	Wyoming Game and Fish Department
WUI	Wildland Urban Interface
WYDEQ	Wyoming Department of Environmental Quality
WYNDD	Wyoming Natural Diversity Database