Medicine Bow National Forest
Routt National Forest

2005 Annual Monitoring And Evaluation Report

October 1, 2004 through September 30, 2005

United States Forest Service
Rocky Mountain Region

October, 2006

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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 Forest 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 plan or our modifications of management actions are necessary.

Overall, the 2005 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 2005 Annual Monitoring and Evaluation Report for the Medicine Bow and Routt National Forests that was prepared by the Forest Interdisciplinary Team. I believe that the results of monitoring and evaluation for FY 2005 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 ID Team has not identified any modifications to the Plans or adjustments to management actions, except for the Routt MIS amendment (in progress) which was identified as a need through a 2001 Forest Service Region 2 review of MIS. The Medicine Bow Plan and Routt Plan are sufficient to continue to guide management of the Forests.

Please contact Frank Romero 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.

/s/ MARY H. PETERSON
MARY H. PETERSON
Forest Supervisor

October 27, 2006
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 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 two Forest Plans.

Beginning in the previous (2004) monitoring report, monitoring questions are combined from both forests, where possible. Chapter 4 in each Plan contains monitoring direction. Some of the monitoring direction is similar between 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 5050 feet above sea level in the Laramie Range to 12,013 feet above sea level at Medicine Bow Peak. More than 50% 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, 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 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 2005 or earlier, in addition to the annual objectives, the progress made towards 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.

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, and 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 following goals and objectives:

Conclusions, Recommendations and Action Plan

The IDT concluded that with the exception of the ongoing Routt MIS amendment, no immediate changes (amendments) are needed to either the Medicine Bow or Routt Forest Plans. However, the forest is initiating a review of Medicine Bow Revised Forest Plan water resource management standards for consistency and compliance with prior Department of Agriculture, USFS direction and pertinent case law, to comply with recent Washington Office direction.

Numerous recommendations are contained within the monitoring items below on methods to improve both monitoring and forest resource management.

Action Plan

Complete the Routt MIS amendment (described in the following section) in FY07.

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. No amendments have been approved for the Medicine Bow Plan. The Routt Plan was approved in 1998. Since then, five errata have been issued (no administrative corrections) and three amendments have been approved. As mentioned earlier, the Plans are dynamic and ever changing. To stay current with these plans, please reference the following internet website: http://www.fs.fed.us/r2/mbr/projects/forestplans/index.shtml

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. This project was not completed in 2005 due to insufficient funding. It is scheduled to be completed in the fall of 2006 (FY2007).

The Southern Rockies Canada Lynx Amendment is still in progress. The White River Forest Plan was recently incorporated into the EIS so progress on amending the initial Region 2 forests was halted to allow for public involvement related to the White River. That amendment will modify direction in both the Medicine Bow and Routt Plans. It is expected to be completed in December 2006.

New Laws, Regulations and Policies

Planning Regulations

On January 5, 2005, a final planning rule was published in the Federal Register. This rule supercedes the 2000 rule and implements the 1976 National Forest Management Act (NFMA). The 2005 Rule contains direction for modifying Forest and Grassland Plans

that were developed under previous planning rules. If this review results in a decision to correct, amend or revise either plan, the Forest will adhere to the 2005 rule, specifically 36 CFR 219.14 to accomplish that work. Information concerning the 2005 planning rule can be found at the following website:

http://www.fs.fed.us/emc/nfma/index2.html

Travel Management

In November, 2005, the US Forest Service announced new travel management regulations (36 CFR Parts 212, 251, 261, and 295). 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. Local units will seek public input and coordinate with federal, state, county and other local governmental entities as well as tribal governments before any decision is made on a particular road, trail or area. Unplanned, user-created routes will be considered at the local level during the designation process.

The agency expects that it will take up to four years to complete the designation process for all 155 national forests and 20 grasslands. Each unit will also publish a motor vehicle use map. The final rule addresses the more than 80,000 comments received on the 2004 proposed rule. Most comments strongly supported the concept of designating routes and areas for motor vehicle use.

Once the designation process is complete, motor vehicle use off these routes and outside those areas (cross-country travel) will be prohibited. This prohibition will not affect over-snow vehicles, such as snowmobiles.

The rule will impact motor vehicle use on roads, trails and areas under Forest Service management. State, county or other public roads within national forest and grassland boundaries will not be included in the designation process. Travel management on the Medicine Bow and Routt NFs is scheduled to be completed by the end FY2008. Information concerning completed and ongoing travel management projects can be found at the following website:

http://www.fs.fed.us/r2/mbr/recreation/travel_management/index.shtml

Travel Management will be on-going after the initial designations are made to implement the rule. More information, included a link to the new regulation can be found at the following website:

http://www.fs.fed.us/r2/recreation/travel_mgmt/

Roadless Area Conservation

Roadless Area Conservation Rule, also known as the roadless rule, has undergone many challenges and changes over the past several years. Currently, the previous interim roadless direction was extended with slight changes on January 16, 2006. This direction guides the current management of the Forest's roadless areas until such time as this direction is removed or enjoined.

This roadless direction established 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. USDA will accept state petitions until November 13, 2006. Wyoming had not filed a petition as of July, 2006.

The state of Colorado has designated The Roadless Areas Review Taskforce – a bipartisan 13-member group, created under Colorado Senate Bill 05-243. This taskforce will help determine the future of roadless areas in Colorado, including what uses, if any, will be allowed in the applicable forest areas. Based upon public comment, the taskforce will make recommendations to Colorado Governor Bill Owens regarding how inventoried roadless areas should be managed. The Governor will then submit a petition to the United States Forest Service on behalf of the State of Colorado.

In 2005, the Roadless Areas Review Task Force began public meetings in Colorado. The Grand Mesa, Uncompahgre, Gunnison (GMUG) and the San Juan National forests were the first, with the Routt National Forest being scheduled for May, 2006. More information about the Task Force can be found at the following websites: www.dnr.state.co.us, http://www.keystone.org/html/roadless_areas_task_force.html

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/

The Bark Beetle Information Task Force

This taskforce 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.

In 2005, the Bark Beetle Information Task Force produced the booklet "What's Eating the Trees?" (volume one) in partnership with the Bureau of Land Management. The booklet helps the public identify beetle infestations, explains actions to protect their trees, and provides contacts and websites for more information. 5,000 booklets were printed and distributed throughout the Routt National Forest's area of influence.

The Task Force also recorded a set of Public Service Announcements reminding people about beetle epidemics, how to protect trees, and providing contacts for more information. These PSAs are a yearly undertaking and every member of the Task Force participates, assuring a consistent message.

Projects Completed During FY05

Environment analysis (EA or EIS) was completed for the following projects on the MBR. Many smaller projects were also completed using the Categorical Exclusion authority appropriate for smaller projects such as road access permits and rights of way (these projects are not listed in the table below).

The table on the following page lists the environmental analysis projects completed during FY2005:

Table 1. Projects Completed in FY05.

Name	EA/EIS	Date Signed	Primary Purpose
Hahns Peak/Bears Ears District:			
Site II Redevelopment (Bunkhouse)	EA	1/27/05	Fire
Mann (Hot Springs) Land Exchange	EA	2/23/05	Lands
Winter Recreation Analysis	EA	5/27/05	Recreation
Lost Park Allotment Management Plan	EA	9/28/05	Range
Laramie Ranger District:			
Medicine Bow Trail Development	EA	4/14/05	Recreation
West Beaver Allotment Management Plan	EA	9/16/05	Range
Yampa Ranger District:			
Dunckley Pass Gravel Pit	EA	10/20/04	Recreation, soils
Coberly / Maudlin, Blacktail, Bobcat Allotment Management Plans	EA	9/23/05	Range
Brush Creek / Hayden Ranger District			
Cottonwood Rim Restoration Project	EA	1/11/05	Fuels/Travel Mgt
Upper North Platte Allotment Management Plan	EA	9/28/05	Range AMP / Travel Mgt
Parks Ranger District:			
Troublesome Allotment Management Plan	EA	9/28/05	Range AMP

Monitoring items

The National Forest Management Act (NFMA) requires specific legally required monitoring items for forest plan implementation as well as additional monitoring that will be 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 items asks the question:

Are long-term soil health and productivity being maintained?

Monitoring Protocol/Data Collected

This item is assessed using field observations.

Results/Evaluation

During Fiscal Year 2005 (FY05), soil resource monitoring was conducted on the Pop Springs timber sale on the Brush Creek-Hayden District (MBNF). This monitoring was initiated through a request by the Sale Administrator to evaluate the sale due to concerns over soil impacts.

Timber staff identified regeneration problems on clearcut unit nine of the Pop Springs timber sale, which was harvested in 1999. Field inspection of the unit indicated the presence of a severely compacted layer averaging six inches in thickness with an upper boundary averaging three inches in depth on soils of the Cowdrey series. Compaction severity was determined by the presence of strong, very coarse platy structure; vegetative response; and pronounced resistance to penetration. Severity was verified using physical comparisons with pedons of similar taxonomic classification located in adjacent, unharvested stands.

Detrimental compaction is defined as a 15% increase in bulk density or a 10% reduction in total pore space. Visual evidence used to determine the presence of detrimental compaction in the field include the presence of coarse platy structure, difficulty in digging (resistance to penetration), horizontal roots, and the presence of ruts without berms.

Conversations with timber staff indicated that site preparation on unit nine may have occurred during a period of seasonal soil saturation in the first spring following harvest. The original Pop Springs Area Soil Resource Existing Condition Report from 1994 indicated the Cowdrey series, the dominant soil series in the analysis area, "is limited for wet condition operations due to fine textured subsoils with low bearing

strength." It continues by specifying that the Cowdrey series is "susceptible to compaction ... by equipment when wet and may necessitate mitigation measures such as utilizing dry-season or frozen ground logging periods."

Monitoring results indicated the need to break up the continuous compaction layer present in unit nine. Subsoiling to decrease the detrimental effects of soil compaction on unit nine was completed in late FY05.

Soil condition observations were made in other units of the Pop Springs timber sale. These units did not exhibit detrimental soil impacts and were meeting forest plan standards with respect to the soil resource.

Conclusions

- Continue to emphasize wet soil condition stipulations for management activities affecting the Cowdrey series and similar fine textured, low bearing strength soils.
- With the exception of unit nine, the Pop Springs timber sale was well implemented with respect to the maintenance of long-term soil health and productivity.
- Soil monitoring efforts on the MBR in FY05 were minimal due to a lack of supporting staff, and increasing project analysis-specific workload, and the addition of the air resource program management by the soil scientist.

Recommendations

- Monitor rehabilitation response in Pop Springs timber sale unit nine.
- Add seasonal staff to assist with future soil monitoring efforts.
- Develop a standardized soil quality monitoring strategy utilizing Region 2 draft soil health monitoring and assessment protocol.
- Soil Scientist to continue to visit treatment units with Timber Sale Administrators to observe and discuss soil resource impacts.

Water Quality

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

This monitoring items 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 is 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.

Results/Evaluation

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. Most water quality monitoring has been conducted on streams where designated uses are known or suspected to be impaired and limited monitoring has occurred on streams likely to meet all designated uses. Table 2 shows the status of water bodies on the Forest that have been determined or suspected by the States of Colorado and Wyoming to have "threatened" or "impaired" water quality. The State of Colorado places streams 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. The Forest is recommending that selected streams (those in italics in Table 2) be removed from this list.

COLORADO

Streams on the Colorado M&E list: All 22 streams listed for sediment have been surveyed at least once during 1998-2005; the 23rd stream (South Fork Big Creek) listed for copper has not been sampled by the USFS. Monitoring for sediment includes

1) Evaluating physical stream characteristics through pebble counts, longitudinal profiles, and cross-sections.
2) Riparian condition through Proper Functioning Condition surveys (BLM, 1993), and greenline and vegetative cross-sections (Winward, 2000).
3) Soil health through soil compaction samples, percent ground cover, and infiltration rates.
4) On some reaches evaluation of biological health through macroinvertebrate sampling and electroshocking fish to determine biomass.
5) Basic water quality measurements for water temperature, pH, and dissolved oxygen.

Initial evaluation of the data indicates that the water quality parameters meet state water quality standards; however data analysis is not complete for the other factors. From 1999-2002, 14 reference reaches were surveyed to determine reference conditions for the physical, riparian, soil, and biological factors. These reaches will be used as a comparison for the reaches in question.

Colorado Streams recommended for removal from list: The Forest analyzed the monitoring information for each stream reach on the monitoring and evaluation list, as well as relevant reference reach data for each reach. Individual stream segment summary reports were submitted to the Colorado Water Quality Control Division (WQCD) in April 2005. The Forest met with the WQCD in May 2005 to discuss the reports and recommendations for whether a stream segment should remain on the M&E list, be listed on the 303(d) list, or removed from the M&E list. Following the meeting, the WQCD division agreed that 17 streams should be removed from the M&E list, but felt that the remaining five stream segments (First Creek, Puppy Dog Creek, Oliver Creek, Bushy Creek, and Snyder Creek) needed additional information.

Table 2 . 2005 Forest Water Quality Assessment (streams in italics recommended for removal from list).

Water Body Name	Status	Year Placed on State List	Designated Use Impaired	Cause of Impairment
Colorado				
North Platte River Basin				
South Fork Big Creek in Wilderness	M&E list	2004	Aquatic Life; drinking water	Metals-Copper
Snyder Creek	M&E list	1998	Aquatic Life	Sediment
Grassy Run	M&E list	1998	Aquatic Life	Sediment
Ninegar Creek	M&E list	1998	Aquatic Life	Sediment
Newcomb Creek	M&E list	1998	Aquatic Life	Sediment
Republic Creek	M&E list	1998	Aquatic Life	Sediment
Pinkham Creek	M&E list	1998	Aquatic Life	Sediment
Colorado River Basin				
Corral Creek	M&E list	1998	Aquatic Life	Sediment
Smith Ditch	M&E list	1998	Aquatic Life	Sediment
Little Rock Creek	M&E list	1998	Aquatic Life	Sediment
Gore Creek	M&E list	1998	Aquatic Life	Sediment
Muddy Creek	M&E list	1998	Aquatic Life	Sediment
Yampa River Basin				
First Creek	M&E list	1998	Aquatic Life	Sediment
Spronks Creek	M&E list	1998	Aquatic Life	Sediment
Puppy Dog Creek	M&E list	1998	Aquatic Life	Sediment
Muddy Creek	M&E list	1998	Aquatic Life	Sediment
Bushy Creek	M&E list	1998	Aquatic Life	Sediment
Beaver Creek	M&E list	1998	Aquatic Life	Sediment
Little Snake River Basin				
South Fork Little Snake	M&E list	1998	Aquatic Life	Sediment
Oliver Creek*	M&E list	1998	Aquatic Life	Sediment
Johnson Creek	M&E list	1998	Aquatic Life	Sediment
South Fork Slater Creek	M&E list	1998	Aquatic Life	Sediment
Silver City Creek	M&E list	1998	Aquatic Life	Sediment
Wyoming				
South Platte River Basin				
Middle Crow Creek	Impaired	2004	Contact Recreation	Fecal Coliform
N. Branch N Fk Crow Creek	Impaired	2004	Contact Recreation	Fecal Coliform
Little Snake River Basin				
West Fork Battle Creek	Impaired	2000	Coldwater fisheries; Aquatic life	Metals
Haggerty Creek	Impaired	<1988	Coldwater fisheries; Aquatic life	Metals

The Forest and the WQCD collected additional information on First Creek in 2005, and visited Puppy Dog Creek which resulted in a recommendation of removing Puppy Dog Creek from the M&E list. The final decision regarding removal of the 18 stream segments from the M&E list for sediment will be made during the spring of 2006 by the Colorado Water Quality Control Commission. The Forest plans to collect additional

data on Bushy Creek, Snyder Creek, and Oliver Creek for sediment during the summer of 2006.

Routt National Forest bacterial monitoring: The Forest initiated monitoring of bacterial concentrations on a few selected streams in response to scoping questions on grazing allotments. A total of seven reaches were sampled during 2003 and 2004. Data from this sampling effort was sent to the Colorado Water Quality Control Division in March 2005. After reviewing the data the WQCD indicated that two stream reaches (Big Rock Creek and Little Rock Creek) would be recommended for placement on the 2006 State Monitoring and Evaluation list, and two reaches (First Creek and Elkhead Creek) would be proposed for listing on the 2006 Colorado 303(d) list. The Forest will continue to work closely with the State on this issue. Bacterial concentrations are highly variable in water bodies, and it is difficult to characterize the extent and persistence of water quality exceedances.

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-Haggarty 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. In 2005, the Wyoming Department of Environmental Quality Abandoned Mines Land (WYDEQ - AML) Division conducted a reclamation project to plug the upper mine shaft in order to reduce the volume of discharge from the mine. On-going WYDEQ monitoring is focused on determining the extent of the impairment and the levels of natural metals in the area. WYDEQ developed a TMDL (Total Maximum Daily Load) for these streams, but EPA has not fully accepted the TMDL at this time. 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.

Middle Crow and North Branch North Fork Crow Creeks: These streams are not meeting their contact recreation uses due to elevated levels of fecal coliform. The Laramie County Conservation District worked cooperatively with the Laramie Rivers Conservation District and Forest Service in 2005 to collect 64 water quality samples (fecal coliform and e coli) at five monitoring stations on Middle Crow and North Branch North Fork Crow Creeks. The majority of these samples were well below the primary recreation use numeric criteria established by the State of Wyoming for fecal coliform, suggesting fecal pollution is not widespread or persistent on the Forest. North Branch North Fork Crow Creek met numeric criteria for water quality during two sample periods, but did exceed the numeric criteria during one heavy recreation/grazing sampling period in 2005. Numeric water quality criteria for fecal coliform was met during all three sample periods on Middle Crow Creek in 2005.

Discussion*:* Water quality trends on the Routt National Forest have been constant since the Revised Routt Forest Plan was signed in 1998, with no threatened or impaired streams, and 23 streams on the Monitoring and Evaluation List (Figure 1). Monitoring data indicate that 18 of the 22 streams on the Colorado Monitoring and Evaluation List for sediment are not impaired. However, two streams on the Routt

may be listed as impaired, and two streams place on the M&E list in the future due to elevated levels of E.coli not meeting designated primary contact recreation uses.

With the 2004 listing of two streams as impaired, the number of impaired streams on the Medicine Bow National Forest has increased from two to four since the Medicine Bow Revised Forest Plan was signed in 2003 (Figure 1). 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 indicate an improving trend (lower fecal coliform) on Middle Fork Crow Creek, but continued exceedances of numeric water quality criteria on North Branch North Fork Crow Creek, West Fork Battle Creek and Haggerty Creek.

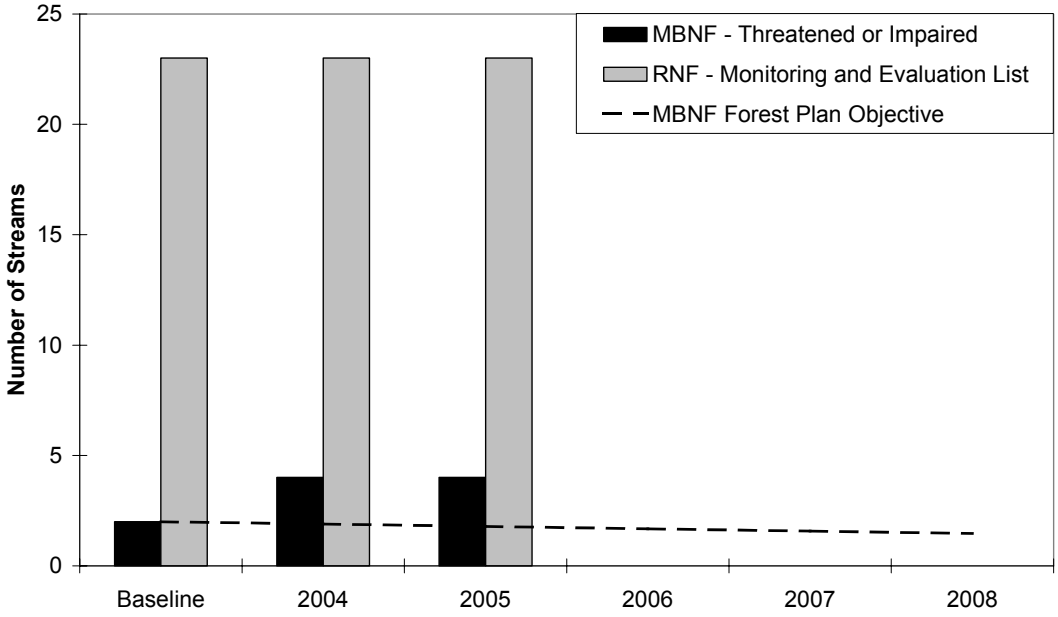

Figure 1. Water quality trends on the Medicine Bow - Routt NFs.

Recommendations:

1. Continue to support Colorado WQCD recommending removal of 18 streams – from the M&E list due to monitoring data indicating no impairment.
2. Collect additional data on streams still on the Colorado M&E list for sediment.
3. Continue to implement watershed improvement projects that reduce sediment and connected disturbed areas in streams on the M&E list for sediment.
4. Work with the Colorado WQCD to develop a strategy on streams likely to be listed on the 303(d) list and M&E list in spring 2006 for bacteria.
5. Monitor compliance with Forest Plan Standards and Guidelines as well range Best Management Practice (BMP) implementation on impaired streams and those streams likely to be listed on the 303(d) list or M&E list for bacterial impairment.
6. Continue to cooperate with Laramie County and Laramie Rivers Conservation Districts on bacteria monitoring and range utilization monitoring in Upper Crow Creek watershed.

7. Continue adjusting management of grazing and recreational activities to improve water quality in Upper Crow Creek, as outlined in the 2006 Water Quality Action Plan for Upper Crow Creek.
8. Continue to participate in the Watershed Planning effort for the Upper Crow Creek Watershed.
9. Finalize a strategy for addressing bacteria water quality issues on Range Allotment Management Planning projects.
10. Continue to assist WYDEQ-AML with reclamation efforts on Haggerty and West Fork Battle Creeks.
11. Forest staff should continue to analyze each proposed project and recommend implementation of Best Management Practices to protect water quality.
12. A sample of the soil and water mitigation measures should be monitored during and after implementation to determine the effectiveness for protecting water quality.

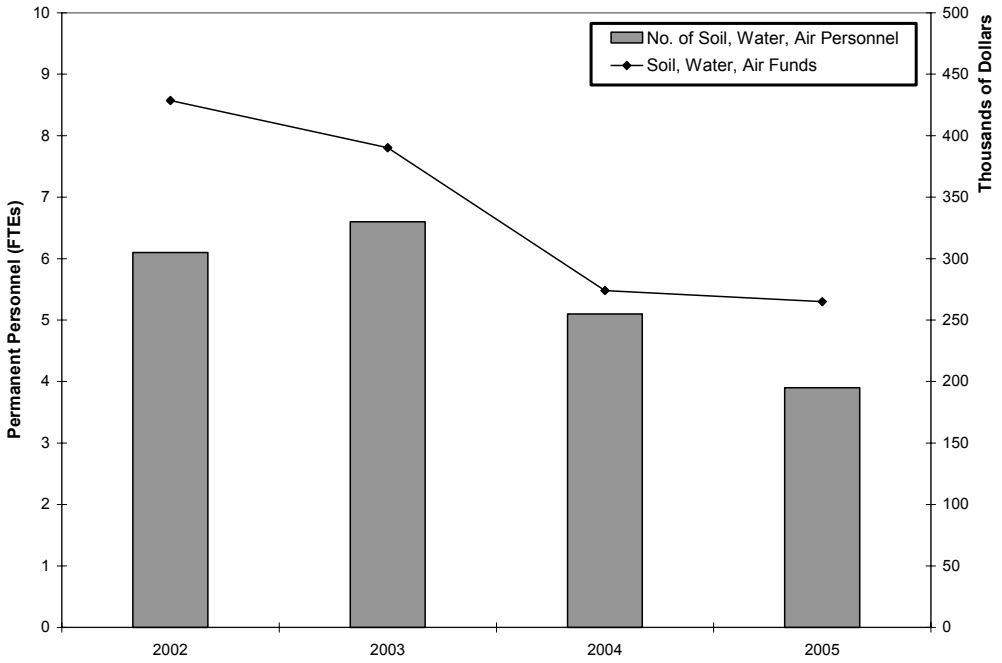

Figure 2. Soil, Water and Air Program Staffing and Funds.[1]

Watershed Program Funding and Accomplishments

Watershed, Air and Soils program summary**:** Staffing and budgets for the Forests watershed, air and soils programs reached their lowest point in the last four years (see figure below). The program manager for watershed, soils and air retired in 2005 and the program manager for fisheries on the Forest assumed responsibilities for soil and water; the Forest soil scientist assumed responsibilities for the air program. A part time hydrological technician station at the Douglas, WY office also left the Forest in 2005. The Forest has no plans to refill that position. Other watershed personnel on the Forest assumed the job duties associated with that position. Program funding declined significantly in 2005, but recovered to 96% of 2004 levels when the Forest

[1] FTE stands for *full-time equivalent* and is a USFS measure of personnel staff levels.

received an additional $30,000 for Water Rights Administration and $25,000 for Soil and Watershed Improvement Projects.

Personnel time and money spent on Forest Plan Monitoring and Evaluation is not tracked directly and is therefore difficult to accurately quantify. Forest Plan Monitoring and Evaluation tasks vary from programmatic efforts to compile and report information for the annual Forest Plan Monitoring and Evaluation reports to project level monitoring of Best Management Practices. The amount of resources the Watershed, Soil and Air Programs allocated to Forest Plan Monitoring and Evaluation is believed to be proportional to the overall staffing and budget levels. As a general estimate, approximately 10 percent of the Watershed, Soil and Air Program staffing and budget is allocated to Forest Plan Monitoring and Evaluation.

Watershed, Soil and Fisheries improvement accomplishments: Watershed, Soil and Fisheries Program accomplishments are shown in the figure and table below. There was an increase in the number of acres treated through the Soil and Watershed improvement program from 2004 to 2005. Funding for improvement projects came from multiple sources including watershed program funds, TRTR, and partnerships. From 2004 to 2005, the miles of stream restored or enhanced decreased slightly and the acres of lakes restored or enhanced decreased significantly.

Table 3. 2005 Soil and Watershed Improvement Accomplishments.

Project	Acres	Watershed
Battle Creek Dispersed Campsite Reclamation and Road Decommissioning	7	1405000301
Cottonwood Rim – Road Decommissioning	5	1405000301
Trail 1203 stream crossing stabilization	1	1405000301
King Solomon trail-stream crossing	1	1405000301
California Park wetland development project	5	1405000106
North Fork Elkhead headcut stabilization	1	1405000106
NFSR 123 road-stream crossing stabilization	4	1405000106
Little Rock Creek – Willow Planting	1	1401000122
Crow Creek Allotment – Stock Water Developments	4	1019000901
Sand Lake Reservoir – streamflow provision	1	1018000402
Beaver Dam Park – Stream and Riparian Fencing	8	1018000205
Big Creek Stream/Road Ford Improvements	2	1018000203
TOTAL	**40**	

Wetland enhancement and restoration: During the summer of 2005, a project was implemented in the California Park area of the Routt National Forests that resulted in the creation of approximately 5 acres of new wetland (Table 2: California Park wetland development project), and protection of 4 acres of existing wetland. The project had the multiple benefits of restoring an existing gravel pit site, developing new wetlands, and protecting existing wetlands. The project was funded 2/3 through a partnership, and 1/3 by USFS funds. In addition, the Rocky Mountain Youth Corps, a local nonprofit group, was used to construct a fence for protection of both the new and existing wetlands.

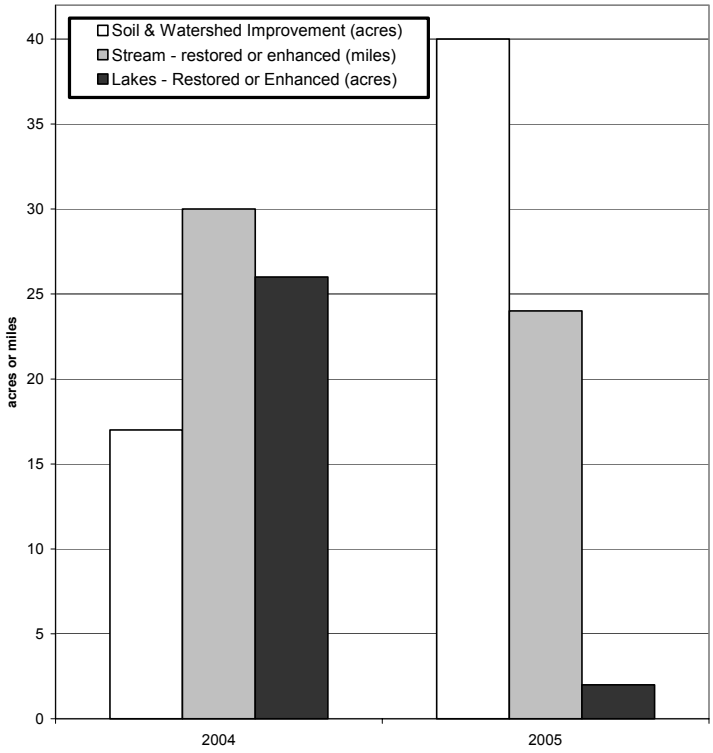

Figure 3. Soil, Water, Air and Fisheries Improvements.

Water Rights: During FY05 the Forest focused on two priorities: 1) Field inventory of water rights which have an unknown status – such as water rights for old ranger stations which are no longer being used, and 2) Updating and correcting range stock water rights, as this is our largest group of water rights. Key accomplishments in 2005 include:

- 288 water rights were inventoried and records updated.
- The Forest secured a temporary water use agreement for a recreational fishing lake (Barber Lake on the Laramie District) using water donated by a local irrigator.
- The water right for one new stock water development was secured, and four existing stock water developments were reconstructed and put to beneficial use to supply water for an active grazing allotment on Pole Mountain.
- The Forest secured a water right for a new well at the Snowy Range Ski Area.
- The Forest secured a provisional water right to drill a well for the Sandstone Work Center water supply. Water rights will be finalized when the well is completed in FY06.
- The Forest coordinated with our Regional Office and the Office of General Counsel on the following water rights projects:
    - Abandonment of an existing ditch (Four Counties Ditch) with multiple breaches (Routt NF),
    - Stream flow issues on a new large scale water development (Coal Creek, Routt NF),
    - Letter to proponent on new water rights application with potential channel maintenance and stream flow issues (Trout Creek and Rich Ditch, Routt NF),

    - Ditch bill and special use easements: terms and conditions to address resource concerns (Medicine Bow and Routt NFs), and
    - An MOU between the USFS and the State of Wyoming concerning water rights (WYSEO and Medicine Bow and other Wyoming forests are involved in this project).
- Thirty-nine ditches and five reservoir water facilities with non-FS water rights were mapped and inventoried.
- Review of 24 Colorado monthly water rights resumes to determine if any new proposed water rights may affect NFS lands; and, where applicable, letters sent to the proponent.

Inventory Stream & Riparian Area Condition: In 2005, the Forest completed 15.7 miles of stream and riparian condition assessment on the Medicine Bow and Routt NFs using a variety of inventory and monitoring methods. Primary survey techniques used include: Proper Functioning Condition (BLM, 1998), Stream Channel Reference Sites (Harrelson, et al, 1994), Rangeland Analysis and Management (USDA Forest Service, 1996) and qualitative assessments associated with fish population sampling (WGF). Methods vary from quantitative to qualitative and some are repeatable while other are not repeatable. The table below summarizes the results.

Watershed Assessments: A rapid assessment was completed in the Sand Mountain Geographic Area on the Routt National Forest, which is equivalent to the Upper Willow Creek sixth level watershed (1405000101). This assessment identified the existing condition and desired condition, and opportunities to move towards the desired condition for all resources including watershed.

Table 4. 2005 Stream and Riparian Area Condition Inventories.

Stream Name	Reach length (miles)	Watershed HUC Code	Method / Rating
Colorado River Headwaters (Routt NF)			
Egeria Creek: reach 1	1.2	1401000122	BLM, 1998 / Proper Functioning Condition
Egeria Creek: reach 2	0.3	1401000122	BLM, 1998 / Proper Functioning Condition
Egeria Creek: reach 3	0.5	1401000122	BLM, 1998 / Proper Functioning Condition
N.Egeria tributary	0.5	1401000122	BLM, 1998 / Functional at risk
M Fk L Snake River	0.1	1405000301	Permanent Photo Point / n/a
Teddy Creek	0.1	1405000304	Permanent Photo Point / n/a
Bear Creek	0.1	1405000304	Permanent Photo Point / n/a
Trout Creek	0.2	1405000105	Harrelson, et al. 1994 / n/a
Hinman Creek	0.2	1405000101	Harrelson, et al, 1994 / n/a
Lost Dog Creek	0.2	1405000101	Harrelson, et al, 1994 / n/a
Mica Creek	0.2	1405000101	Harrelson, et al, 1994 / n/a
Mill Creek	0.2	1405000101	Harrelson, et al, 1994 / n/a
Elkhead Creek	0.2	1405000106	Harrelson, et al, 1994 / n/a
First Creek	0.2	1405000106	Harrelson, et al, 1994 / n/a

Stream Name	Reach length (miles)	Watershed HUC Code	Method / Rating
South Platte River (Medicine Bow NF)			
S Fk Middle Crow Creek	1.0	1019000901	Harrelson, et al, 1994 & USDA Forest Service, 1996 / n/a
North Platte River (Medicine Bow NF)			
Unnamed N Platte Tributary	0.10	1018000203	Permanent Photo Point / n/a
Middle Fork Big Creek	0.10	1018000203	Permanent Photo Point / n/a
South Brush Creek	0.5	1018000204	Harrelson, et al, 1994 & USDA Forest Service, 1996 / n/a
Hog Park Creek	1.5	1018000205	Harrelson, et al, 1994 / n/a
S Fk Hog Park Creek	0.25	1018000205	Harrelson, et al, 1994 / n/a
Beaver Creek	0.10	1018000206	Permanent Photo Point / n/a
Cumberland Gulch	0.5	1018000206	Harrelson, et al, 1994 & USDA Forest Service, 1996 / n/a
S Fk Goetze Creek	0.25	1018000206	Harrelson, et al, 1994 & USDA Forest Service, 1996 / n/a
N Cedar Creek	0.5	1018000206	WGF / n/a
M Cedar Creek	0.25	1018000206	WGF / n/a
S Cedar Creek	0.25	1018000206	WGF / n/a
Sawmill Creek	0.25	1018000206	WGF / n/a
Spring Creek	0.1	1018000207	Permanent Photo Point / n/a
Jack Creek	0.1	1018000208	Permanent Photo Point / n/a
E Fk Pass Creek	0.5	1018000211	WGF / n/a
Pass Creek	0.75	1018000211	WGF / n/a
Wagonhound Creek	1.0	1018000401	WGF / n/a
E Fk Wagonhound Creek	0.25	1018000401	WGF / n/a
Turpin Creek	0.5	1018000401	WGF / n/a
Medicine Bow River	0.25	1018000401	WGF / n/a
E Fk Medicine Bow River	0.5	1018000401	WGF / n/a
Overland Creek	0.25	1018000402	WGF / n/a
Carlson Creek	0.25	1018000402	WGF / n/a
Foote Creek	0.25	1018000402	WGF / n/a
Rock Creek	0.5	1018000402	WGF / n/a
Bear Creek	0.25	1018001106	WGF / n/a
Friend Creek	0.5	1018001106	WGF / n/a
Total:	15.7		

Invasive Species

Medicine Bow Item Objective 1.c.4
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring items asks the question:

> ***To what extent have noxious weed populations been managed (Forest-wide and within wilderness)?***

This monitoring item tracks the extent and treatment of invasive species, which is one of the four threats to the National Forests.

Monitoring Protocol/Data Collected

Acres treated chemically, mechanical and manual treatments, including insect releases. Data from the targets reported in the U.S. Forest Service budget and target tracking system (WorkPlan).

Results/Evaluation

Yellow toadflax was treated in the Flattops Wilderness Area on the Routt NF and leafy spurge was treated in the Platte River Wilderness area on the Medicine Bow NF.

Table 5. Invasive Weed Treatment in 2005.

Forest	Forest Plan Acres Expected to be Treated per year	Acres Treated	Wilderness Acres Treated
Routt	385	945	19
Medicine Bow	1,200	884	1
Total	**1,585**	**1,829**	**20**

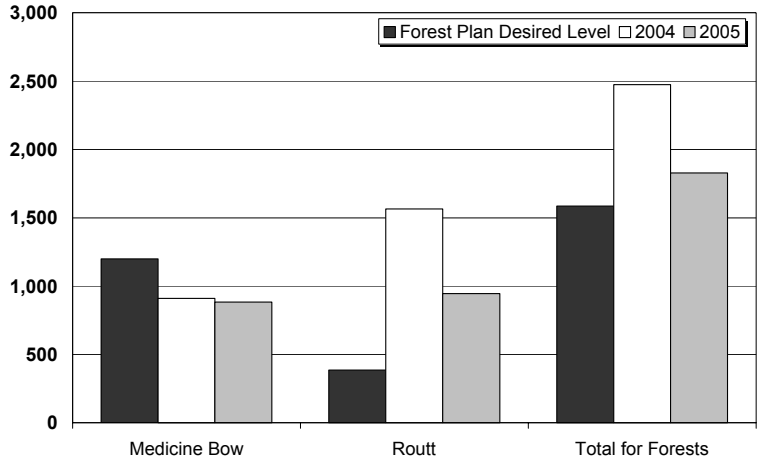

Figure 4. Acres of Invasive weed Treatment 2004-2005.

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 items 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 between 2003 to 2005 to provide a broad indication of tree mortality resulting from forest insects and disease. The results of these surveys are presented in the graphs below. The discussion is summarized from the 2004 annual report on insect and disease conditions in the Rocky Mountain Region (USDA FS, 2004). While the 2005 aerial survey data is available in time for this report, the annual summary of the data is not available until after this report is published. The analysis of the 2005 survey results will be summarized in the 2006 annual monitoring report. The data summary can be accessed on the following website: http://www.fs.fed.us/r2/fhm/

Results/Evaluation

Aerial surveys provide a rough estimate of acres affected and trees killed, and cannot quantify or exactly locate insect and disease impacts. The aerial surveys indicated increased losses from insect activity, especially from mountain pine beetles. The primary insects causing damage are the spruce beetle, *Dendroctonus rufipennis*, and the mountain pine beetle, *Dendroctonus ponderosae*.

Mountain Pine Beetle:
Mountain Pine activity increased in lodgepole and ponderosa pines in Colorado. It appears that recent warmer summers may be pushing up the reported elevation ranges for greater mortality.

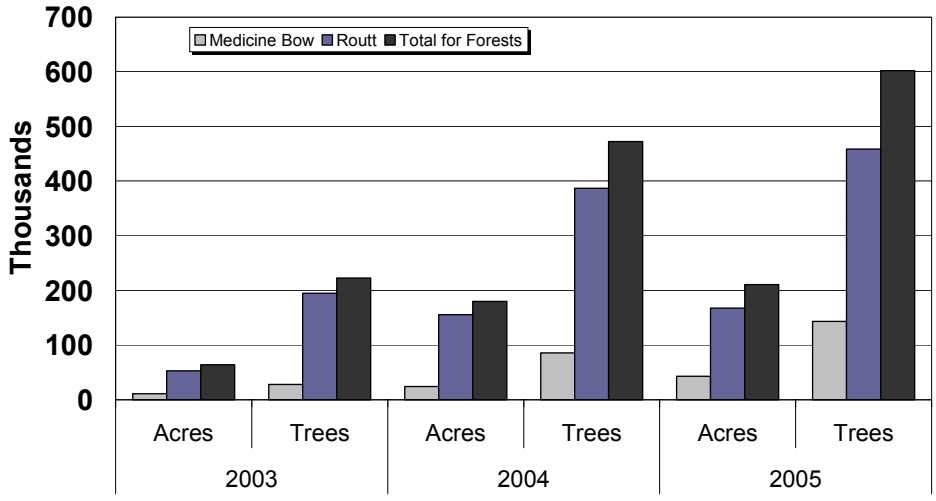

Figure 5. Annual Acres and Trees Affected by Mountain Pine Beetle.

Mountain Pine Beetle infestations are increasing in the lower elevations on both the Sierra Madre and Snowy Mountain Ranges on the Medicine Bow and Routt NFs, and in Grand County on the Routt NF. In some areas, beetle populations increased in limber pine and then moved onto other pine host species of lodgepole and ponderosa.

Annual losses from mountain pine beetle appear to be increasing across both National Forests. Acres affected by mountain pine beetle increased three-fold and trees killed increased five-fold in 2003.

Figure 6. Mountain Pine Beetle Mortality in the Sierra Madre Mountain Range.

Spruce Beetle:

Spruce beetles attack Engelmann and blue spruce trees, and are still at epidemic levels (as of 2004) in the Routt Divide blowdown area and in nearby Jackson County. Spruce Beetle populations increased greatly due to the 1997 blowdown on the Routt NF. Spruce Beetles are increasing on the Snowy Range and Sierra Madre Mountain Ranges in Wyoming.

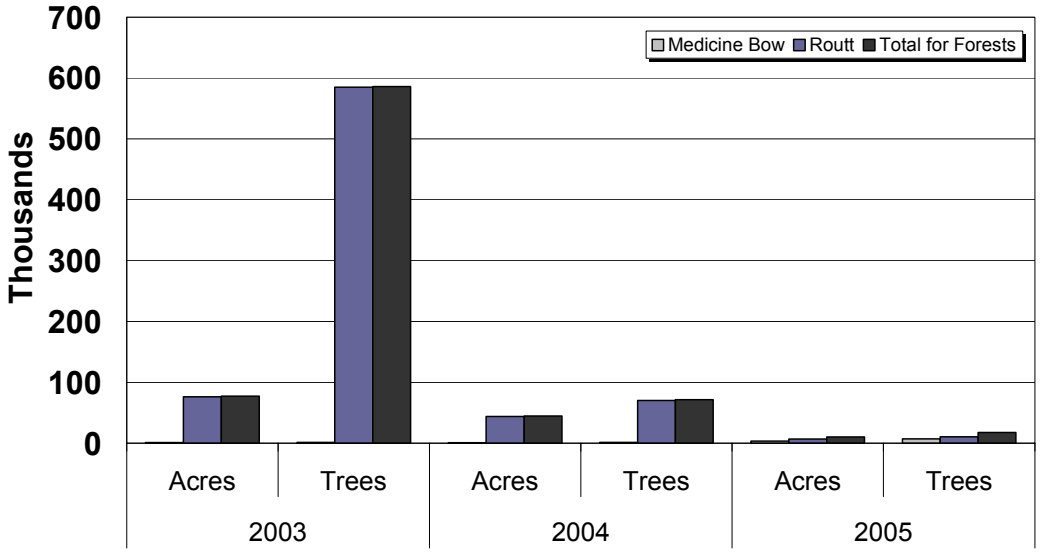

Figure 7. Annual Acres and Trees Affected by Spruce Beetle Activity.

Other Insect and Disease Damage.

Limber pines in the Pole Mountain Unit of the Medicine Bow NF were killed by pine engraver beetles (*Ips spp*.). The trees were susceptible to attack due to drought and white pine blister rust disease.

Douglas Fir Beetles are active in Routt and Grand Counties in Colorado and in Carbon County in Wyoming.

Actions Taken during FY05:

Routt NF: During fiscal year 2005, the Forest Service applied direct control of MPB and SB on 3500 acres (Steamboat Ski Area, and eight campgrounds), sold 5 timber sales with vegetation treatments designed to suppress the beetle epidemic by removing brood trees or thinning stands to reduce susceptibility to bark beetle attacks. The Forest also completed planning and analysis (Rock Creek and Little Snake) for additional vegetation treatments utilizing Healthy Forests Restoration Act authority, and started analysis for the Sierra Madre project area. All project areas were designed to salvage, or reduce the impacts of the building MPB and SB epidemics.

The forest also continued participation on the Bark Beetle Information Taskforce (described above under New Laws, Regulations, Policies), which is working to educate the public about bark beetles and fire /fuels prevention in Routt County and surrounding areas.

Medicine Bow NF: During fiscal year 2005, the Medicine Bow National Forest completed direct control of spruce beetle and completed a hazard tree assessment in Silver Lake Campground. In the Pole Mountain area of the Medicine Bow, direct control of white pine blister rust was initiated in the Vedauwoo Campground and a hazard tree assessment in the Tie City Campground were completed. Also in FY 2005, the Medicine Bow NF sold 2 timber sales with vegetation treatments designed to suppress the beetle epidemic by removing brood trees or thinning stands to reduce susceptibility to bark beetle attacks. The Forest also completed project area analysis for bark beetle epidemics in the French Creek and continued analysis in the Devils Gate project area.

Old Growth

Medicine Bow Item Objective 1.b.4
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

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

Monitoring Protocol/Data Collected

The Planning, Wildlife and Timber Programs continue to lead the process to define and map potential old growth on the Medicine Bow National Forest using GIS. In 2005, stratified random points were generated across the Medicine Bow National Forests in order to begin ground-verification on a portion of the potential old growth identified in the GIS process. In 2006, field data will be used to correct the identified old growth produced by the GIS effort. Then a Forest-level team will map the old growth to be managed for retention by adhering to Biological Diversity Standard 1 and Guideline 1

in the 2003 Revised Medicine Bow Plan. Use of Standard 1 and Guideline 1 will assure appropriate percentages of old forest on each mountain range and geographic area, and will create a well-distributed assemblage of old forest that provides large patches, riparian stringers, and connective corridors. A similar approach is planned for the Routt National Forest to adequately provide for old growth and maintain consistency between the units.

Results/Evaluation

In 2005, the Old Growth Core Team developed field methods and field forms for collecting attribute data that either verifies existing information (R2VEG database) or provides additional information not available from existing databases (e.g. coarse woody debris). Field data were collected at 82 points (53 on the Medicine Bow and 29 on the Routt), with the remainder to be completed in 2006.

Recommendations

- Continue the process of defining and mapping old growth with a target goal of completion by December 2006 for the Medicine Bow NF.
- Continue to conduct annual ground-verification plot surveys to gradually expand our confidence in a primarily GIS-based mapping effort and to identify and rectify incorrectly identified polygons in GIS.
- Develop a Forest-level process by which old growth is managed for retention as old forest, including a systematic process for correcting errors and assuring we meet forest plan direction for old forest.

Threatened, Endangered and Sensitive Species 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:

> ***Are habitats for threatened, endangered and Forest Service Region 2 Sensitive species being maintained or enhanced?***
>
> ***To what extent have habitat improvement needs been identified and implemented using structural and non-structural habitat improvement treatments?***

Terrestrial Wildlife

Monitoring Protocol/Data Collected

The Terrestrial Wildlife Program continues to focus on completing inventories to establish baseline distribution information and to begin to assess relative trends. Habitat improvement has primarily involved prescribed burning, road decommissioning, and noxious weed treatments to restore ecosystem structure and composition and reduce fragmentation for both Forest and Grassland TES species. Partnerships are an important part of achieving these accomplishments. To emphasize

the importance of TES species, both Plans have goals to maintain or increase TES habitats and to protect biological diversity.

The Forest tracks the number of acres surveyed for terrestrial TES species, acres of terrestrial habitat improved, and number of wildlife structures added or enhanced. Surveys may range from general TES project clearances, to species-specific detection methods such as songbird point counts, goshawk call-playback, monitoring of activity of known raptor nests, DNA-analysis of hair snares, baited-camera stations, or snow-track surveys. Some surveys were conducted as part of monitoring for Management Indicator Species (MIS). Please see individual species reports for specific protocols.

Results/Evaluation

TES Surveys: During fiscal year 2005, terrestrial wildlife biologists surveyed over 83,000 acres for TES species and completed several projects to enhance TES habitat. Beyond normal project clearance surveys, the bald eagle and Preble's meadow jumping mouse were the focus of surveys to specific ESA-listed species in 2005. Bald eagle surveys were conducted across approximately 9,000 acres of the Brush Creek / Hayden District as part of a larger project. Future efforts of this magnitude are not anticipated for bald eagles. However, work on Preble's meadow jumping mouse is planned to continue as a short-term administrative study for about 7 years. The 2005 effort for Preble's was the second year this on-going project to ascertain baseline presence, numbers, and to eventually increase our understanding of how management impacts this mouse.

Some species are designated as Management Indicator Species as well as Sensitive Species. Those species are monitored at a minimum using the MIS protocols, and sometimes are also augmented with a combination of wildlife-funded inventories and project clearances. For instance, goshawk inventories totaled 9,880 acres on the MBR, of which 3,810 acres were nest-activity checks of known territories. The remaining 6,070 acres were call-playback inventories of potential goshawk habitat for project clearances. Martens were monitored as MIS across approximately 4,340 acres on the Medicine Bow using DNA-analysis of hair collected from hair snares located in stratified random positions. Additional marten surveys were conducted across about 700 acres. TES songbirds were monitored across both the Medicine Bow and Routt NFs during our MIS songbird surveys in partnership with the Wyoming Natural Diversity Database (WYNDD) and Rocky Mountain Bird Observatory (RMBO) on 26,722 acres using point-transect methodology developed by RMBO. Snowshoe hares (prey for the listed Canada lynx) were monitored on approximately 12,000 acres across the Medicine Bow-Routt National Forests.

Biologists also monitored for the presence/absence of boreal owls on approximately 100 acres, bats on 250 acres, raptors on 700 acres, woodpeckers on 700 acres, pygmy shrews on 50 acres, and sage grouse on 60 acres. Additionally, they conducted general TES clearance surveys for approximately 35,242 acres of proposed project areas. The biologists assisted in project designs to maintain, avoid, or enhance TES habitat wherever possible.

Terrestrial Wildlife Habitat Enhanced: In 2005, 3,321 acres of terrestrial wildlife habitat were enhanced on the Medicine Bow-Routt National Forests. Of these, 1,613 acres were accomplished on the Medicine Bow NF and 1,445 acres on the Routt NF.

Most of the Medicine Bow acres (1,153) consisted of "Wildlife FN-Other" acres which were funded by the Fuels Program and accomplished the dual objective of reducing the fuel loading and risk of catastrophic fire in the area as well as improving wildlife habitat. Laramie District accomplished these acres through a prescribed burn with a project that created a mosaic of vegetation successional stages deemed more adequate for supporting year-round (particularly winter/spring) foraging needs of big game in the Iron Mountain area. This mosaic consisted of young forbs, grasses, and shrubs, mixed among later seral plants. An uneven, or "unclean," burn method was employed, blackening 30% to 50% of vegetation to produce a mosaic of vegetation seral stages and burn intensities.

Table 6. Acres of surveys for threatened, endangered, or sensitive species on the Medicine Bow-Routt National Forests in fiscal year 2005.

	Goshawk	Bald Eagle	Boreal Owl	Sage Grouse	Raptors	Wood-peckers	Songbirds	Bats	Pine Marten	Snow-shoe Hare	Preble's Meadow Jumping Mouse	Pygmy Shrew	General TES surveys	Total
Project Clearances	6,070	9,000	0	0	0	700	NA	0	700	0	0	50	18,772	35,242
Wildlife Surveys	2,280	0	100	60	700	0	NA	300	0	0	200	0	NA	3,640
MIS Surveys	1,530	0	0	0	0	See songbirds	26,722	0	4,340	12,000	0	0	NA	44,592
Total	9,880	9,000	100	60	700	700	26,722	300	5,040	12,000	200	50	18,772	83,474

Figure 8. Northern Goshawk.

Brush Creek-Hayden District accomplished 460 acres through a road-decommissioning /closure project. This project restored wildlife habitat in the roadbed and reduced motorized vehicle disturbance across approximately 18,000 acres in the south-eastern edge of the Sierra Madre and the Big Creek Watershed. The project was a cooperative effort among the Brush Creek-Hayden wildlife and engineering programs and the Rocky Mountain Elk Foundation. Wildlife of particular interest in this area included summer habitat for sage-grouse, nesting areas for goshawks and flammulated owls, and winter range for mule deer, moose, and elk.

Using mechanical treatments and prescribed fire, the Parks District partnered with Colorado Division of Wildlife (CDOW), Mule Deer Foundation, and the Owl Mountain Partnership to improve the quality of winter range forage for big game on 460 acres in the Camp Creek area. The long-term goals were to enhance wildlife habitat by creating a mosaic, increasing forb diversity, and reducing decadent stands of grass, aspen, and sagebrush. In addition, these improvements should reduce depredation on private lands and reduce fuels by returning aspen stands to an early successional condition.

Hahns Peak-Bears Ears District partnered with the Habitat Partnership Program, the State of Colorado Land Board, private land owners, CDOW and Rocky Mountain Elk Foundation (RMEF) to improve 800 acres of elk and deer winter range in the 5.41 Management Area and reduced hazardous fuel loads by applying a prescribed fire to the area through aerial ignition. Follow-up monitoring was done through field review following the prescribed fire; noxious weeds were surveyed and treated on approximately 30 acres. Furthermore, 5 acres of wetland habitat were created on Hahns-Peak Bears Ears District by converting an old gravel pit into a wetland in California Park. Heavy equipment was used to reshape the pit surface to maximize hydrological potential. Top soil was applied to the pit surface and seeded with a rangeland seed drill to hold the soil and reduce the potential for noxious weeds. The site was then fenced to reduce grazing impacts.

Habitat improvement needs have been identified for big horn sheep, boreal toads, Preble's meadow jumping mouse, riparian species, and aspen stand improvement. In addition, there is a need for an administrative study to assess potential impacts of snow compaction on a variety of species and a need to survey pika populations due to the isolated nature of their populations and uncertainty regarding their status.

Conclusion

Thus far, habitats for TES species appear to be maintained adequately by the provisions of the Forest Plans. Relatively high goshawk activity gives the impression that their population is stable. However, with the extensive beetle outbreak killing large tracts of lodgepole pines it seems reasonably foreseeable that goshawk populations may decline in future years from this natural disturbance causing the loss of nesting habitat. Such a decline would be a normal reaction to the cyclic changes brought about by native beetle populations and would be considered within the natural range of variability.

Though it is too early to develop trend information, boreal owls have been consistent in their level of use of nest boxes. Snowshoe hare pellet counts indicate that

snowshoe hares are present in many different cover types and appear to be stable. The Medicine Bow-Routt National Forests are maintaining adequate habitat for the snowshoe hare and consequently the Canada lynx by maintaining various seral stages of habitat utilized by the snowshoe hare. Habitat enhancement projects continue to improve the overall capability of the Medicine Bow-Routt National Forests to support desirable wildlife species.

Recommendations

TES Surveys: Develop an landscape level approach to inventory for terrestrial Sensitive Species. Continue to monitor sensitive terrestrial species.

Specific Recommendations:

1. Prioritize the list of terrestrial Sensitive Species for landscape inventories.
2. Submit a project proposal for NFIM funding for FY07 to inventory a priority list of terrestrial Sensitive Species across the Medicine Bow and Routt National Forest.

Terrestrial Wildlife Habitat Enhanced: Increase funding available for habitat improvement projects and continue to partner with interested groups in order to complete such projects. Possibly reduce the number of projected acres of terrestrial habitat enhanced each year, as that may be an over-estimate of what can reasonably be accomplished.

Aquatic Species

Monitoring Protocol/Data Collected

Report on habitat improvement accomplished during the fiscal year.

Results/Evaluation

Medicine Bow NF

North Barrett Creek Barrier Removal:
A 30-year old gabion-basket barrier on North Barrett Creek was removed that was originally installed to prevent the spread of bacterial kidney disease. The barrier has since lost its effectiveness and was causing resource damage.

A backhoe was used to remove the gabion baskets, recontour the stream channel and remove silt from behind the barrier off site. The disturbed stream banks were reseeded with native grass seed.

This is the first barrier removal accomplished on the Medicine Bow NF. It reconnected 6 upstream miles of common trout habitat and eliminated the source of ongoing resource damage. The project was completed in 4 hours at a cost of $750.00.

Big Creek Fords:

Two fords in the Big Creek Watershed were hardened and improved to reduce sedimentation of Big Creek and it's tributaries. One ford is on North Fork Big Creek, on the north end of Cunningham Park and the other is on the Middle Fork Big Creek,

just above the confluence of the North and South Forks of Big Creek. On both of these fords, the approaches were rocked to provide a stable roadbed through the muddy floodplain soils. Alternate fords in the area were blocked and revegetated to limit use to one stream crossing.

Routt NF

Elkhead Creek Brook Trout Removal: In FY 2005, the South Zone Aquatics Team in cooperation with the Colorado Division of Wildlife removed brook trout in an ongoing effort started in 1997 in the Elkhead Creek watershed. The last remaining brook trout in the Elkhead Creek drainage are in Circle Creek. Brook trout were removed in approximately 3 miles of stream in Circle Creek in FY2005 and one of the headwater ponds. Elkhead Creek has been identified as a priority watershed for the Medicine Bow – Routt National Forests.

West Prong Creek Brook Trout Removal: In FY 2005, the South Zone Aquatics Team in cooperation with the Colorado Division of Wildlife removed brook trout for 2 miles in West Prong Creek, a tributary to South Fork Slater Creek. The objective of the project was to remove brook trout in hopes of buying some time for Colorado River cutthroat trout because studies have shown that where brook trout are present with cutthroat, cutthroat trout are extirpated.

Vaughn Lake: In FY2005 the South Zone Aquatics Team and the Colorado Division of Wildlife monitored the safety mitigations around the Vaughn Lake Aerator and the objectives of having the aerator. The aerator was installed in Vaughn Lake in October 1998. Due to mechanical problems and lack of safety mitigations the aerator wasn't totally functional until spring 2002. The safety mitigations consists of "Thin Ice" signs, orange cross poles (similar to what ski areas use to mark hazards) and closure order signs. Safety mitigations are needed to provide for the safety of the snowmobilers using FH 16 from the Pyramid Guard Station area to the Ripple Creek Pass area and beyond. The mitigation measures are monitored on monthly basis during the winter to ensure that they are properly functioning. Vaughan Lake was visited a total of six times during the winter in FY2005 and all mitigation measures and aerator were properly functioning.

The primary objective of installing aeration equipment in Vaughn Lake is to prevent oxygen depletion and a potential fish kill situation, particularly during winter months. Aeration equipment will be used to promote the establishment and survival of a Colorado River cutthroat trout population. A brood source fishery is planned for Vaughan Lake as part of the Colorado River Native Recovery Project. Cutthroat trout have been stocked in the lake in 2001-2003. An outlet spawning channel was constructed in June 2004 by CDOW.

Threatened, Endangered, Sensitive Species and MIS Habitat and Populations

Medicine Bow Objective 1.b.5
Routt Monitoring Item 1-12
Frequency of Measurement: Annual
Reporting Period: Five Year

These monitoring items ask the questions:

> ***What is the relationship between changes in habitat and population trends of management indicator species?***
>
> ***To what extent are listed species, sensitive species and species of local concern and MIS species habitat availability, habitat quality and populations maintaining stable or positive trends?***

Plants

Monitoring Protocol/Data Collected

Annually document the number of Biological Assessments/Biological Evaluations (BA/BEs) for T/E and R2 Sensitive plant species which were completed for projects on the Routt National Forest. Annually compile and compare the determinations as a percent of BA/BEs prepared.

Results/Evaluation

Because there are not any Threatened or Endangered plant species documented on the Routt NF, the following information is portrayed only for Sensitive plant species.

Table 7. Biological Evaluations for Sensitive Plant Species Completed on the Routt NF.

Biological Evaluations	% No Effect	% Beneficial Effect	% May Adversely Impact Individuals (MAII) (neutral effect)	% Likely to Adversely Impact Individuals (LAII)
26	70	0	30*	0

Data are available for 26 BEs which were completed for projects on Parks RD and Yampa RD of the Routt National Forest in FY05. Although evaluations were likewise completed for all projects on the HPBE RD, total numbers of reports are not readily available; accomplishment for this RD next year will be included in the FY06 Report.

- No Beneficial determinations were made for Sensitive plant species in FY05. This is largely due to the fact that there were not any projects designed specifically to benefit Sensitive plant species. However, during rapid assessments in FY 05, opportunities were identified on the Routt NF which could benefit habitat for select Sensitive plant species in the future. Opportunities to benefit Sensitive plant species and their habitats across the MBRTB planning unit have also been identified in the MBRTB Botany 5 year plan (Proctor 2004).

- No Beneficial determinations were made for Sensitive plant species in FY05. This suggests that habitats for Sensitive plant species are generally being maintained across the planning unit. This can be attributed to; 1) Botany

participation upfront in project design. 2) Proactive project level surveys adequate to determine presence or absence of Sensitive plant species. 3) Provision of effective project mitigation to minimize or avoid negative impacts to Sensitive plant species.

- Excluding *Botrychium lineare*, MAII* determinations were made for Sensitive plant species in 30% of the BEs completed for projects in FY05. These include; 1). Projects that did not require surveys because the proposed action posed a low risk to Sensitive plant species. 2). Projects where potential adverse effects to Sensitive plant species were avoided or minimized through project design and/or mitigation.

- MAII determinations for *Botrychium lineare* were made for 88% of the BEs completed for projects on the Routt because presence or absence can generally not be determined through project level surveys for this species.

- It is currently challenging and confusing to manage plant species consistently across the CO (Routt) and WY (Medicine Bow) state lines with respect to the varying LRMPs Standards and Guidelines, largely because 1) the R-2 Sensitive Species List was updated after the Routt Plan was signed and before the Medicine Bow Revised Plan was completed and 2) Species of Local Concern were included on the MB but were not delineated for the RT at that time.
-

Sensitive plant species surveys were completed, and BA/BEs prepared, for projects on the Medicine Bow Forest just as they were for the Routt. Since the monitoring item is different for the MB, BA/BE totals were not compiled for the Wyoming Ranger Districts. In order to be consistent across both Forests, these figures will be compiled and reported in the FY06 Monitoring Report for all six Ranger Districts.

Conclusions

FY05 data demonstrate that Sensitive plant species for the Routt National Forest are being maintained (no LAII determinations) but are not being enhanced (no beneficial determinations).

Aquatic Species

Monitoring Protocol/Data Collected

Methods were primarily three-pass depletion estimates using standard electrofishing protocol used by the Wyoming Game and Fish Department (Medicine Bow) and by Colorado Division of Wildlife (Routt). Existing WGFD stations are re-sampled where possible and new stations are developed if needed to characterize populations in new areas. Survey protocol outlined in the Boreal Toad Conservation Plan and Agreement (Leoffler 2001) for all amphibians. All data would be stored in NRIS Water and Fauna.

Results/Evaluation

Aquatic Threatened and Endangered Species: There are no threatened or endangered aquatic or riparian-dependent species or habitats documented on the Medicine Bow -

Routt National Forests. However, stream flows from the Forest ultimately contribute to conditions in the Colorado River and Platte River mainstems. Species listed in Table 6 are native to the Colorado River and Platte River mainstem ecosystems, where their life cycles depend on natural flow regimes that include flood flows and substantial sediment transport. Their biology is fully described in USFWS 2002 (Revised Intra-Service Section 7 Consultation for Federal Agency Actions Resulting in Minor Water Depletions to the Platte River System, March 4, 2002) and USFWS 1999 (Final Programmatic Biological Opinion for Bureau of Reclamation's Operations and Depletions, Other Depletions and Funding and Implementation of Recovery Program Actions in the Upper Colorado River above the Gunnison River, December 21, 1999).

The large river fish species occur far outside the forest. Projects that change timing or amounts of flow through cumulative water depletions have been found to adversely affect habitat and populations of these species in the Colorado River, Platte River and Yampa River mainstem ecosystems. It has been suggested that increases in water yield resulting from vegetation treatment may benefit mainstem ecosystem species. Changes in forested vegetation (e.g. timber harvest, fire, beetle kill) can lead to increases in water yield at the local level due to reductions in transpiration and reduced interception losses of snow in the tree canopy. These effects are seen most obviously when more than 25% of the watershed is in an equivalent clear-cut area (Watershed Conservation Handbook, FSH 2509.25). However, local increases in water yield are small and often immeasurable.

Table 8. Colorado River and Platte River Aquatic Threatened and Endangered Listed Species.

Species	Scientific Name	River System	Federal Status
Bonytail	*Gila elegans*	Colorado	Endangered
Colorado Pikeminnow	*Ptychocheilus lucius*	Colorado	Endangered
Humpback Chub	*Gila cypha*	Colorado	Endangered
Pallid Sturgeon	*Scaphirhynchus albus*	Platte	Endangered
Razorback Sucker	*Xyrauchen texanus*	Colorado	Endangered

Increases in water yield are real, but are almost impossible to measure beyond the project area let alone the forest boundary, because they are masked by natural variation in flows at the watershed scale. There could be immeasurable, potentially beneficial effects to downstream species if this water reached habitat for listed species in the Colorado River mainstem, Yampa River mainstem and Platte River mainstem and in Nebraska. However, because the Colorado River, Yampa River and Platte River basins are significantly over appropriated for water rights, any new water is likely to be used by water rights holders. Therefore, any increases in water yield are not expected to reach downstream critical habitat. Furthermore, there is no legal mechanism to protect the water yield increases and deliver them to the Colorado, Yampa and Central Platte critical habitats. Flows from the forest into the Colorado River, Yampa River or Platte River are not likely to change. Therefore, any natural processes or project that changes forested vegetation would not have any net effect

on habitats in the mainstem Colorado River and Platte River and is determined to have no effect on bonytail, Colorado pikeminnow, humpback chub, pallid sturgeon, or razorback sucker populations or habitat.

The Fish and Wildlife Service (FWS) has determined that projects that change timing or amounts of flow through cumulative water depletions adversely affect habitat and populations of these species in the Colorado River and Platte River mainstem ecosystems. Therefore, we consulted on one project on the Hahns Peak/Bears Ears Ranger District resulting in 0.03 acre-feet/year annual water depletion to the Yampa River in FY2005. We also consulted on one project on the Yampa Ranger District resulting in 0.11 acre-feet/year annual depletion to the Yampa River. And we consulted on one project on the Parks Ranger District resulting in 0.04 acre-feet/year annual depletion to the Platte River.

In summary, there are no threatened or endangered aquatic or riparian-dependent species or habitats documented on the Routt National Forest, water yield increases resulting from natural disturbances or vegetation manipulation do not effect habitat or populations of the listed aquatic species because projected water yield increases do not reach critical habitat and cumulative water depletions have been determined to adversely affect habitat and populations of the listed fishes. Given that we consult with the FWS on our water depletion actions and it is the FWS's responsibility to regulate our actions in regards to listed species, we conclude that habitats for threatened and endangered aquatic species for the Medicine Bow and Routt National Forest are being maintained or enhanced.

Aquatic Sensitive Species: Table 9 lists the sensitive aquatic species that are located or that may be affected by management actions on the Medicine Bow and Routt National Forests. All listed species except the dragonfly Hudsonian emerald are also State Species of Concern. The current Regional Forester's list for sensitive species in the Region was effective December 1, 2003.

Table 9. Region 2 sensitive aquatic species located on the Medicine Bow and Routt National Forests.

Species	Scientific Name	Forest
Fishes		
Colorado River Cutthroat Trout	*Oncorhynchus clarki pleuriticus*	Medicine Bow - Routt
Mountain Sucker	*Castostomus platyrhynchus*	Medicine Bow - Routt
HornyHead Chub	*Nocomis biguttatus*	Medicine Bow
Amphibians		
Boreal Toad	*Bufo boreas boreas*	Medicine Bow - Routt
Northern Leopard Frog	*Rana pipiens*	Medicine Bow - Routt
Wood Frog	*Rana sylvatica*	Medicine Bow - Routt
Insects		

Species	Scientific Name	Forest
Hudsonian Emerald	*Somatochlora hudsonica*	Medicine Bow - Routt
Mollusk		
Rocky Mountain Capshell Snail	*Acroloxus coloradensis*	Routt

Fishes

Colorado River Cutthroat Trout Inventory and Monitoring

Extensive chemical and electrofishing treatments have been used over the past three years to remove invasive non-native trout from historic native Colorado River cutthroat trout habitat. The crew inventoried stream habitat above and below municipal water diversions for the possibility of reconnecting isolated populations.

Electrofishing was used to determine the presence/absence of non-native trout species (brook and rainbow) the third year following treatment to remove non-native species. This method also was used to determine the extent of repopulation by CRCT through downstream migration. 3-pass depletion electrofishing sampling protocols were used to determine relative abundance in streams post treatment for repopulation.

Green Timber Creek (Medicine Bow NF) was sampled below the municipal diversion for population recovery of CRCT. The population is rebuilding nicely with representation of all age classes. With the WGFD, 150 2-3 year class CRCT were collected to populate a small lake as a potential breeding population on private property. A fish barrier site was established on private property to prevent upstream migration of non-native trout species that could out compete or hybridize with CRCT.

Fire Monitoring (Routt NF): Monitoring of the Mt. Zirkel Fire Complex (2002), has determined that recovery is occurring. The fire burned very hot and dead fish were seen in the creek. Total consumption of the riparian vegetation occurred throughout much of the Lost Dog Creek watershed. Sampling just after the fire showed that macroinvertebrates, brook trout and Colorado River cutthroat trout were gone from upper Lost Dog Creek. Sampling in 2005 has shown recovery of the macroinvertebrate and brook trout populations in this area. No cutthroat were sampled in 2005, where as one was sampled in 2004. The South Zone Aquatics Team will work cooperatively with the Division of Wildlife to determine the appropriate course of action for this watershed in terms of restoring Colorado River cutthroat trout.

Conclusion:

A recent MIS analysis for Colorado River cutthroat for the Rock Creek Integrated Management Project (Routt NF) summarized that populations of cutthroat trout are stable across the Forest but we should expect populations to decline where brook trout are present. Therefore, we could surmise that habitats for Colorado River cutthroat trout are being maintained across the Forest and that we are enhancing habitat where we are removing brook trout.

Mountain Sucker: Mountain suckers are not well distributed across the two Forests. They are only known to occur in Elkhead Creek (Routt NF), Little Snake River (Medicine Bow and Routt NF) and Rock Creek (Routt NF) watersheds in the Colorado River drainage. There are no mountain suckers in the North Platte River Drainage (Ken Kehmeier, personal communication, 5/28/04). There is an impending mountain pine

epidemic in the Rock Creek watershed and it is anticipated that the mountain pine beetle epidemic would cause channel instability in Upper Rock Creek and Little Rock Creek. Proposed management actions would slightly reduce water yield increases. Thus, the potential still exists that these streams would become unstable. When channels are destabilized, fish habitat becomes greatly simplified, which may affect fish populations until the stream finds its balance again. Adverse impacts would occur with the loss of spawning, rearing and foraging habitat needed for all aspects of the sucker's life cycle. Therefore, habitats for the mountain sucker may not be maintained because of the impending beetle mortality anticipated in the Rock Creek watershed.

Amphibians

There has been a continuing effort to determine population distribution and status of sensitive amphibians across the forest. Work includes project surveys for timber sales, fuels and range projects, land exchanges, and the resurvey of historic boreal toad site locations.

Boreal Toad: Boreal toads are found throughout much of the western United States, but have declined dramatically in some areas, particularly in the southern Rocky Mountains. Latest findings indicate that the recently described fungus *Batrachochytrium dendrobatidis* (also known as chytrid fungus) is the primary pathogen causing significant die-offs of amphibians world wide, including the boreal toad. The most recent available data demonstrate that the Southern Rocky Mountain population of the boreal toad has declined dramatically in the past 20 to 25 years most likely from chytrid fungus. This fungus has been positively identified at several locations on the forest including a known boreal toad breeding sites.

Figure 9. Boreal Toad.

Boreal Toad Study: Conservation tactics include monitoring existing populations and conducting surveys to identify new populations, thus techniques that improve the detection of boreal toad populations would be welcome. This study evaluates a new method for detecting the presence of boreal toads by using hoop nets in streams, and compare it to visual encounter surveys conducted during the same year. We also collected amphibians to assess the prevalence of the chytrid fungus *Batrachochytrium dendrobatidis*. Partners in this study included WGFD, CDOW, USGS, USFWS, RMRS and other FS biologists. A peer-reviewed journal article is in preparation that should lend credibility to the effort and allow managers in other areas access to information on how they might adapt this approach to their situation. Captured boreal toads were

subject to the same information data protocols as were used in 2004. The major change in 2005 from the previous year was that mud and algae sampling for chytrid fungus were discontinued as we found no correlation between them and amphibians that tested positive at the same location.
We placed nets at 145 sites in 65 streams on the Medicine Bow-Routt National Forests in the summers of 2004 and 2005 and captured 36 boreal toads in hoop nets and observed 3 during visual encounter surveys.

The Routt National Forest has six identified active boreal toad breeding sites (the Medicine Bow Forest currently has no known breeding sites). The FS monitored four of the six sites, with the other two monitored by CDOW. The results of this monitoring include:

- Confirmed breeding in an area where we suspected breeding was occurring.
- Egg masses were observed at 2 of the 4 monitored sites. Egg masses were not observed at one breeding site because the water is very turbid and the actual breeding sites move from year to year based on beaver activity. No egg masses were observed at that other site because the field observation occurred as breeding was taking place and 5 breeding pairs were observed.
- Tadpoles and metamorphosis were observed at all of the sites monitored by the South Zone.

Across the forest, in 2005, 5200 acres of amphibian habitat was visually ground surveyed to identify adult amphibians, egg masses, tadpoles and juveniles.

Chytrid Fungus: 206 samples from captured amphibians (156 from the Routt, 40 from the Medicine Bow), of these 87 were positive for the fungus. Of great concern, one of our previously negative breeding on the Routt is now positive, resulting in four out of the six known boreal toad breeding sites on the Routt National Forest are positive for the chytrid fungus.

Northern Leopard Frog: No new individual sightings of northern leopard frogs were observed on the Routt portion of the forest in areas not previously known to have leopard frogs. However, through the surveys from the boreal toad study, it was discovered that there is an excellent leopard frog population on Laramie Peak as well as on Pole Mountain.

Wood Frog: The wood frog in Colorado is only known to occur east of the Continental Divide in North Park along the slopes of the Parks, Rabbit Ears, and Medicine Bow ranges in Jackson County (Puttmann and Kehmeier 1994). Disjunct populations also occur in the upper Laramie River drainage in Larimer County and along the eastern slope of the Never-Summer Range (southern portion of the Medicine Bow Range) in Grand County. In addition to a known population that occurs in Fox Park, Albany County, Wyoming (Haynes and Aird 1981), the surveys conducted as part of the boreal toad study found that wood frogs are widely distributed across the Snowy Range portion of the Medicine Bow NF.

The current wood frog population status across its range in Colorado appears to be maintaining a dynamic status quo with some populations disappearing as others develop in adjacent areas (Puttmann and Kehmeier 1994). Recent sampling by CDOW personnel indicate that wood frog populations are increasing (Ken Kehmeier, personal communication, Colorado Division of Wildlife, 4/25/05).

Conclusion

In our surveys across the Forest all the sensitive amphibian species were sighted along with many sightings of chorus frogs and tiger salamanders. The numerous sightings indicate that amphibian habitats are being maintained on the Forest.

Insects

Hudsonian Emerald: This dragonfly is known only from Boulder and Teller Counties in Colorado, and Albany and Teton Counties in Wyoming, comprising only a "handful of small sites". Populations appear to be relict and highly disjunct. Changes to habitats could presumably eliminate entire breeding populations. While little is known of population or habitat trends, habitat requirements are highly specific. They require boggy ponds that are extremely vulnerable to modification through dewatering, grazing, pollution, and siltation. The species does not recover well from disturbance. Suitable habitat exists throughout the Forest. Because of our Forest Plan standards and guidelines, Watershed Conservation Practices Handbook and project design requirement that we do not disturb wetland habitats during project implementation, habitats for the dragonfly are being maintained across the Forest.

Mollusks

Rocky Mountain Capshell Snail: The Rocky Mountain capshell snail is known in two lakes on the Parks Ranger District, east of the Continental Divide (Pioneer 1993). The snail utilizes boulder and cobble substrates in shallow water of high elevation lakes in the Rocky Mountains and requires a certain set of water quality characteristics to live and reproduce; particularly high concentrations of bound carbonates, dissolved oxygen and alkaline pH. It would be difficult for management action to change these particular water quality characteristics. Therefore, habitats for the Rocky Mountain capshell snail are being maintained. It is very difficult to survey for this species since it would require diving at high elevations. The South Zone Aquatics Team is currently working with CDOW on some monitoring techniques.

North Zone (Medicine Bow) Management Indicator Species Monitoring

Monitoring of aquatic MIS species (common trout-brook trout, brown trout, rainbow trout) on the Medicine Bow NF is conducted to determine distribution, status, and population trend information. This provides updated aquatic management indicator species data for 5th level watersheds at the Forest scale and 6th and 7th level watersheds at the project scale. In addition to documenting the current status of brook, brown and rainbow trout where they exist, as well as mountain sucker (sensitive species), creek chub and other non-game species.

Thirty (30) sites were sampled in 2005 representing 40 miles of inland coldwater habitat. Sampling results will be summarized in the five year (Medicine Bow) and 10 year (Routt) evaluations due in 2009.

Recommendations

- Continue to monitor all MIS and sensitive aquatic species.
- Continue to consult on all water depletions if they have not already has consultation completed.
- Boreal Toads: Continue with breeding site surveys, potential habitat surveys and Bd fungus sampling for FY06.

- Colorado River cutthroat trout: Monitor the previous brook trout removal efforts in the Elkhead Creek watershed and continue with brook trout removal in West Prong Creek. Start preparing for chemical treatment in Slater Creek watershed in cooperation with CDOW for cutthroat trout restoration.
- Monitor effectiveness of outlet spawning channel at Vaughan Lake in cooperation with CDOW.
- Hudsonian Emerald: Submit a project proposal for NFIM funding for FY07 to contract out surveys across the Forest.

Terrestrial Wildlife

Monitoring Protocol/Data Collected

The Terrestrial Wildlife Program continues to focus on completing inventories to establish baseline distribution information and to begin to assess relative trends. Habitat improvement has primarily involved prescribed burning, road decommissioning, and noxious weed treatments to restore ecosystem structure and composition and reduce fragmentation for both Forest and Grassland TES species. Partnerships are an important part of achieving these accomplishments. To emphasize the importance of TES species, both Plans have goals to maintain or increase TES habitats and to protect biological diversity.

The Forest tracks the number of acres surveyed for terrestrial TES species, acres of terrestrial habitat improved, and number of wildlife structures added or enhanced. Surveys may range from general TES project clearances, to species-specific detection methods such as songbird point counts, goshawk call-playback, monitoring of activity of known raptor nests, DNA-analysis of hair snares, baited-camera stations, or snow-track surveys. Some surveys were conducted as part of monitoring for Management Indicator Species (MIS). Please see individual species reports for specific protocols.

Results/Evaluation

During fiscal year 2005, terrestrial wildlife biologists surveyed over 83,000 acres for TES species and completed several projects to enhance TES habitat on the Medicine Bow and Routt NFs. Beyond normal project clearance surveys, the bald eagle and Preble's meadow jumping mouse were the focus of surveys to specific ESA-listed in 2005. Bald eagle surveys were conducted across approximately 9,000 acres of the Brush Creek Hayden District as part of a larger project. Future efforts of this magnitude are not anticipated for bald eagles. However, work on Preble's meadow jumping mouse is planned to continue as a short-term administrative study for about 7 years. The 2005 effort for Preble's was the second year this on-going project to ascertain baseline presence, numbers, and to eventually increase our understanding of how management impacts this mouse.

Table 10. Acres of surveys for threatened, endangered, or sensitive species on the Medicine Bow-Routt National Forests in fiscal year 2005.

	Project Clearances	Wildlife Surveys	MIS Surveys	Total
Goshawk	6,070	2,280	1,530	**9,880**
Bald Eagle	9,000	0	0	**9,000**

Boreal Owl	0	100	0	**100**
Sage Grouse	0	60	0	**60**
Raptors	0	700	0	**700**
Wood-peckers	700	0	See Songbirds	**700**
Songbirds	NA	NA	26,722	**26,722**
Bats	0	300	0	**300**
Pine Marten	700	0	4,340	**5,040**
Snow-shoe Hare	0	0	12,000	**12,000**
Preble's Meadow Jumping Mouse	0	200	0	**200**
Pygmy Shrew	50	0	0	**50**
General TES surveys	18,772	NA	NA	**18,722**
Total	**35,242**	**3,640**	**44,592**	**83,474**

Some species are designated as Management Indicator Species as well as Sensitive Species. Those species are monitored at a minimum using the MIS protocols, and sometimes are also augmented with a combination of wildlife-funded inventories and project clearances. For instance, goshawk inventories totaled 9,880 acres, of which 3,810 acres were nest-activity checks of known territories. The remaining 6,070 acres were call-playback inventories of potential goshawk habitat for project clearances. Martens were monitored as MIS across approximately 4,340 acres using DNA-analysis of hair collected from hair snares located in stratified random positions across the Medicine Bow NF. Additional marten surveys were conducted across about 700 acres. TES songbirds were monitored during our MIS songbird surveys in partnership with the Wyoming Natural Diversity Database (WYNDD) and Rocky Mountain Bird Observatory (RMBO) on 26,722 acres using point-transect methodology developed by RMBO. Snowshoe hares (prey for the listed Canada lynx) were monitored on approximately 12,000 acres across the Medicine Bow-Routt National Forests.

Biologists also monitored for the presence/absence of boreal owls on approximately 100 acres, bats on 250 acres, raptors on 700 acres, woodpeckers on 700 acres, pygmy shrews on 50 acres, and sage grouse on 60 acres. Additionally, they conducted general TES clearance surveys for approximately 35,242 acres of proposed project areas. The biologists assisted in project designs to maintain, avoid, or enhance TES habitat wherever possible.

Recommendations

Develop an above-project level approach to inventory for terrestrial Sensitive Species. Continue to monitor sensitive terrestrial species.

Report on MIS, Sensitive Species and Species of Local Concern for both the Routt NF and the Medicine Bow NF.

Specific Recommendations:

1. Prioritize the list of terrestrial Sensitive Species for landscape level inventories.

2. Submit a project proposal for NFIM funding for FY07 to inventory a priority list of terrestrial Sensitive Species across the Medicine Bow and Routt National Forests.

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***

Monitoring Protocol/Data Collected

This item is answered with an annual update of the progress on wildland fire use plans.

Results/Evaluation

The Routt Fire Management Plan (FMP) is complete. The Medicine Bow FMP will be completed fall of 2006.

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

Planning and accomplishment activities are compiled and reported in the NFPORS (National Fire Plan Operations and Reporting System) database. Annual accomplishment reports can by generated listing acres treated by WUI (Wildland Urban Interface) vs. non-WUI, and mechanical vs. prescribed fire. This database will be replaced in 2006 with the new FACTS database system.

Results/Evaluation

Table 11. Fuels Treatments on the Medicine Bow – Routt NFs, 2004-2005.

Treatment Type	2004	2005
Mechanical Treatments		
WUI	4,818	346
Non-WUI	115	409
Mechanical Treatment Total	4,933	755
Prescribed Fire		
WUI	1,097	3,586
Non-WUI	2,310	1,780
Prescribed Fire Total	3,407	5,366
Treatment Total	**8,340**	**6,121**

Implementation of mechanical treatments is many times the per acre cost of prescribed burning treatments. As a result, many times mechanical treatments are left on the shelf and replaced by prescribed burning, which yields the Forest many more acres for the dollar spent. This may have the potential to influence the number of WUI mechanical acres treated annually. Washington Office and Regional Office direction outlines an optimum treatment ratio of 60% WUI to 40% non-WUI. For FY-05, the ratio of WUI to non WUI was approximately 65 percent WUI and 35 % non-WUI.

Multiple Benefits to People

Outdoor Recreation

Medicine Bow Objective 2.a.3
Frequency of Measurement: Annual
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.

Results/ Evaluation

Brush Creek/Hayden RD

The Brush Creek/Hayden District completed maintenance on approximately 181 miles (84%) of the District trails.

Forest hand crews completed the majority of the trail maintenance. A volunteer group from the Sierra Club completed trail maintenance work on the Platte and Encampment River Trials. A volunteer group from the Continental Divide Trail Alliance completed much need maintenance on the Continental Divide National Scenic Trail in the Red Mountain area.

Our partner the State of Wyoming Trail Crew completed maintenance on the Districts motorized trails on the west side of the Snowy Range. This group also completed construction work on the Cedar ORV/ATV trails. The Forest has a cooperative agreement with the State of Wyoming Trail Program to assist in snowmobile trail signage, snowmobile sticker compliance and grooming the fifty miles of trail in the Sierra Madre Range weekly. The winter snowmobile mileage is not counted in the above miles.

Field review was conducted on the Roaring Fork Trail to review the West Sheep Mountain Supply Ditch crossing. The largest contributor to this problem was ORV/ATV use of the trail which has been prohibited for the last three years.

The Rocky Mountain Youth Corps continued work on the Continental Divide National Scenic Trail to relocate and construct the trail from Hart Creek to Divide Peak trailhead. In 2005 this group constructed four (4) miles of trail to finalize approximately 11.7 miles of the CDNST over a two-year period. The reconstruction should be complete in FY05. The Continental Divide Trail Alliance provided volunteers to mark and/or sign this portion of the reconstruction between the Wyoming Highway 70 and Bridger Peak. Two segments were completed totaling approximately 2 miles.

Table 12. Trail Maintenance and Construction for FY2005

District	Trails on District (miles)	Trails meeting agency Standards (miles)	Percent (%)	Trail Construction or Reconstruction (miles)
Medicine Bow				
Brush Creek / Hayden	216	181	84%	4
Douglas (Laramie Peak)	49	10	20%	4
Laramie	142	89	63%	
Medicine Bow Totals	407	280	69%	8
Routt				
Hahns Peak Bears Ears	355	204	57%	
Parks	343	214	62%	4
Yampa	287	150	52%	
Routt Totals	985	568	58%	4
Forest Totals	**1392**	**848**	**61%**	**12**

Douglas RD (Laramie Peak)

The Douglas District completed maintenance on approximately 10 miles (20%) of the District trails on the Laramie Peak Unit.

The Wyoming State Trails crew was a terrific asset (and free), and did an outstanding job on the Laramie Peak Trail. A district (pooled financing) trail crew managed to do

maintenance work on approximately 9.6 miles of trail (N. Laramie River Trail, Harris Park Trail, Friend Park Trail, Sunset Ridge Trail). They also rebuilt 1 mile, and built .5 mile of new trail on the Old Twin Peaks trail (a hiker only trail).

The Wyoming State Trails crew accomplished heavy maintenance work on the Laramie Peak Trail, including smoothing out the tread on large portions where OHVs have rutted the trail, rehabbing user-created side trails, cleaning out drainage features, and removing and rebuilding the upper bridge, placing it at an angle better suited to motorized use. They managed to finish approximately 2.5 miles of maintenance / reconstruction.

The district will work to bring the Wyoming State Trails crew here to complete the Laramie Peak trail maintenance, and finish the new Old Twin Peaks trail for 2006.

The district will have a dedicated trail crew for 2006, and the focus for them will be inside Ashenfelder to rehabilitate those trails damaged in the Hensel fire in 2002. After they have accomplished that, they will work on maintaining the other trails on Laramie Peak that have been neglected over the past two years.

The pooled district work crew was a great way to get a seasonal crew, but it was difficult to schedule everyone's work in the short season they are available. This option will definitely be considered in the future if budgets are tight again, but it is not a panacea for keeping all of the trails to standard yearly.

Laramie RD

The majority of the District's trails are in very good shape, with a few exceptions, most notably Wilderness trails.

Approximately 63% of LRD trails were maintained to standard (89 miles) during 2005 through the use of District crews, partner organizations, and several volunteer groups and events.

The Headquarters Trailhead was improved in FY05, with the work being completed in FY06.

The following work was accomplished on the Medicine Bow Rail-Trail Project in FY05, the miles of construction / reconstruction will be reported in 2006 when the project is completed:

- 1.2 miles of trail around Lake Owen constructed--80% complete
- 300 feet of helical pier boardwalk constructed as part of trail around lake--100% complete
- 23 miles of rail-trail cleared of debris and vegetation--100% complete
- 23 miles of rail-trail shaped (bladed)--60% complete
- 23 miles of rail-trail surfaced--40% complete
- Wheelchair accessible fishing pier constructed--100% complete
- 400 feet of wheelchair accessible trail to fishing pier constructed--100% complete
- New trailhead at Lake Owen constructed--70% complete (including fee station, informational signing, perimeter fencing, new toilet, access trail)

Parks RD

A total of 214 miles of trail were managed to standard (62% of the district's trails).

Approximately 4 miles of trail was constructed or reconstructed: 3.7 miles of new trail were constructed on the Continental Divide National Scenic Trail, Illinois Pass – Bowen Pass Segment; 300 feet of turnpike & ½ mile of re-routes were reconstructed on the Snyder Creek motorized trail system.

210 miles of trails were managed to standard through light to heavy maintenance (123 motorized trails, 80 wilderness trails, 17 non-motorized, non-Wilderness trails) throughout the Parks RD. In addition 35 miles of non-motorized trails were pruned out (maintained to 75-85% of standard).

Along all of these trails, trail signs were reviewed and replaced or new signs installed as appropriate.

All Trailhead signs were reviewed and refreshed or replaced as necessary. Trail etiquette signs were placed on each trailhead sign this year.

The Rocky Mountain Youth Corps, the Volunteers for Outdoor Colorado, the Continental Divide Trail Alliance, the Northern Colorado Trail Riders, and the Routt NF Motorized Trail Crew (sponsored by the State of Colorado) all helped the Forest Service trail crews construct, reconstruct and maintain these trails.

Yampa RD

A total of 150 miles of trail were managed to standard (52% of the district's trails).

242 miles of trails were monitored at least one time throughout the season. The trails miles meeting standard were selected for maintenance based on public level of use and potential risk to public based on historical trail maintenance data. The remaining miles of trail were assessed for pubic health and safety issues only. The District was still able to provide a full range of trail opportunities from motorized ATV trails to Wilderness trails.

The District again applied for TRTR funding for a section of the East Williams Fork trail that will require a special project work to bring back standards that can be routinely maintained.

All Trailhead signs were reviewed and refreshed or replaced as necessary. Trail etiquette signs were placed on each trailhead sign this year.

The Friends of the Wilderness, a non profit volunteer group enabled us to prioritize our Wilderness trail maintenance efforts. They provided reconnaissance and trail conditions on a number of Wilderness trails.

Hahns Peak–Bears Ears RD

A total of 204 miles of trail were managed to standard (57% of the district's trails).

The trails miles meeting standard were selected for maintenance based on public level of use and potential risk to public based on historical trail maintenance data. The District was still able to provide a full range of trail opportunities from motorized ATV trails to Wilderness trails.

An additional 68 miles of trails were maintained at 75-80% of standard.

The District did extensive work on trails in the Bears Ears country with funding received from the Round Up Riders of the Rockies.

All Trailhead signs were reviewed and refreshed or replaced as necessary. New Wilderness maps were put on all trailheads accessing the Mount Zirkel Wilderness.

The Friends of the Wilderness, a non profit volunteer group enabled us to prioritize our Wilderness trail maintenance efforts. They provided reconnaissance and trail conditions on a number of Wilderness trails as well as trail maintenance and rehab.

Recommendations

- Continue to work with partners to increase the level of trail maintenance.
- Continue to secure grants to supplement trail dollars to help fund construction and use compliance.

Action Items:

- Harden the Roaring Fork Trail crossing of the West Sheep Mountain Supply Ditch on the Brush Creek Hayden District. The review team found that to reach this place on the trail would require other bridge construction. The lower use of this trail does not justify the construction of the bridge but a hardened crossing would be better.

Recreational Opportunities

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

These monitoring items asks the question:

Where can we plan for and improve recreation sites?

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

This monitoring item is best suited to five year reporting schedule and will be addressed in five year reviews scheduled for completion in 2009.

Figure 10. Fisherman at Silver Lake on the Snowy Range.

Effects of Recreational Activities

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

These monitoring items asks the question:

> ***To what extent have dispersed recreation sites been rehabilitated?***
>
> ***How are recreational activities affecting the physical and biological resources of the Forest?***

The primary effect of recreation on other resources is from unauthorized off road vehicle use, which is discussed in the next monitoring item. Another effect of recreation is the use of dispersed camping sites, particularly those near streams, lakes and wetlands.

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

Brush Creek/Hayden RD

Review of dispersed site rehabilitation and closure conducted along North Spring Creek in 2004 found good compliance in the area. This review resulted in additional rehabilitation and closure of access to the westerly dispersed site along North Spring Creek on NFSR 452. The site was physically closed with large boulders and seeded and will be monitored over the next several years. The site has started healing, grass is growing in areas where it was rutted and stale water was standing.

A portion of the Cottonwood Rim Analysis Decision was implemented by closing ten dispersed recreation sites along Battle Creek and through site rehabilitatation. The District staff created the closure order, which was then executed by the Forest Supervisor. The sites were signed closed and blocked by buck and rail fence, earthen berm or boulders.

District staff and volunteers rehabilitated three dispersed sites in The Platte River Wilderness, three dispersed sites in The Huston Park Wilderness and nine sites in The Encampment River Wilderness.

District staff reviewed and inventoried the dispersed campsites along the North Fork of the Encampment River west of the NFSR 550 crossing as part of field work for the Soldier Summit Environmental Analysis. A preferred alternative is being developed that includes, closure, rehabilitation or hardening.

Laramie RD

There are numerous dispersed campsites throughout the Laramie District that are in need of closure and rehabilitation per Forest Plan direction, however due to fiscal and

time constraints, efforts during the 2005 season were confined to areas of significant need near Lake Owen.

Douglas RD (Laramie Peak)
No dispersed sites have been targeted for rehabilitation or were rehabilitated in 2005.

Parks RD

Conversations with the Colorado Division of Wildlife indicate that they believe the motorized trail system in the Snyder Creek area has led to reduced wildlife security in this area (the elk do not stay in this area, they move elsewhere to summer.)

Dispersed camping sites – these sites, many of them illegal or user created, impact riparian areas or sites near lakes, streams and wetlands. The District has closed and rehabilitated some of these and reduced illegal travel to some of these, however the majority of these are still used.

Soil & Water effects – some trails are resulting in sedimentation and erosion into streams or wetlands. Trail crews have been hardening sites, building turnpikes (elevated trails) and re-routing small segments of trails to reduce these impacts. However, there are still some key problems (the north end of the Grizzly-Helena trail for instance) that will take very large efforts (time & money) to reduce these impacts. The District has attempted to address these issues; however the solutions are broader than on a District scale.

Hahns Peak–Bears Ears RD

Dispersed camping sites: The district has had a number of historically used dispersed campsites in too close proximity to water. The district has identified priority areas to harden, move further from water sources or rehabilitate sites. Improvements on the priority areas will be accomplished in the future when funds are available.

Early and late OHV trail use: There is increased trail erosion, braiding and short reroutes as users are using our trails longer and with more frequency. Rutting is occurring from wet hunting seasons. This creates more runoff and loss of soil on trails in spring. More folks are out prior to initial opening maintenance and are driving around gates.

User-created OHV Trails: User-created trails in the Big/Little Red Park area and extending north to Wyoming and east to the Parks RD are contributing to erosion, damage to meadows, and illegal motorized use in the Wilderness. This area is patrolled by the Routt Motorized Trail Crew, sponsored by the State of Colorado.

Yampa RD

Dispersed camping sites: The district has a number of historically used dispersed campsites in too close proximity to water. The district has identified priority areas to harden, move further from water sources or rehabilitate sites.

Early and late OHV trail use – There is increased trail erosion, braiding and short reroutes as users are using our trails longer and with more frequency. Rutting is occurring from wet hunting seasons. This creates more runoff and loss of soil on trails

in spring. More folks are out prior to initial opening maintenance and driving off trail to go around down trees or very wet areas of trails. New tracks and ruts are being created adjacent to existing trails.

Recommendations

- Continually monitor dispersed sites for rehabilitation needs, particularly in the Lake Owen, Pole Mountain, and LaBonte Canyon areas.
- Continue to reduce illegal off route travel by motorized vehicles through travel management decisions, information, education and enforcement of travel orders. (see next monitoring item)
- Continue to identify and obliterate/rehabilitate dispersed sites causing unacceptable resource damage
- Continue to address unacceptable soil & water impacts by re-routing trails and hardening sites. Continue to pursue a longterm solution for the north end of the Grizzly-Helena trail.
- Continue to develop partnerships with OHV groups to assist us with trail maintenance and rehabilitation.

Specific Recommendations:

- Progress with the Soldier Summit NEPA process to address management of the North Fork of the Encampment River dispersed sites.
- Develop and install permanent signage for the closed Battle Creek dispersed sites.
- Complete maintenance on the Jack Creek signage and dispersed site closures.
- Patrol and monitor LaBonte Canyon as the campground is checked by the campground compliance officer.

Action taken on 2004 recommendations:

- Additional dispersed sites along North Spring Creek were closed.
- Battle Creek dispersed sites were closed.
- 12 dispersed sites around Lake Owen were closed and rehabilitated. One dispersed site on Pole Mountain adjacent to a sensitive riparian area was closed and rehabilitated.
- The compliance officer regularly patrolled, monitored and cleaned the dispersed sites along the campground patrol route on Laramie Peak. Although some rehabilitation needs were noted (primarily in the Friend Park and LaBonte Canyon areas), no rehabilitation occurred in 2005.

Effects of Off-Road Vehicles

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

This monitoring items 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 offical law enforcement statistics.

Results/Evaluation

Laramie RD

Vehicle use off-road continues to be a significant problem for the Laramie Ranger District despite increased law enforcement, signage, and outreach/education efforts.

- Illegal off highway vehicle (OHV) use is widespread in both the Pole Mountain and Snowy Range areas.
- The "extension" of open roads beyond their designated termini, the creation of unauthorized user trails, and the phenomena of "mud-bogging" and "hill climbing" are recurring problems for law enforcement and management.
- Road closures (gates, berms, fences) and travel management signage are often ineffective at stopping illegal OHV use; however, the majority of OHV users do adhere to travel regulations.
- Resource and property damage occur on a regular basis, although damage from single instances is not typically extensive.
- Law enforcement efforts were increased dramatically in 2005, resulting in numerous citations, vehicle impoundments, and restitution monies paid directly from violators to the District for rehabilitation work.
- Several popular "mud-bogging" and other sensitive riparian areas were physically closed to motorized use during 2005 using buck and pole fencing :
    - Nelson Park in Snowy Range unit
    - Riparian access off 715 road in Pole Mountain unit
    - Riparian access off 700 road in Pole Mountain unit
    - 700BA road in Pole Mountain unit.

Yampa RD

Through implementation of the new sign policy, trailhead information and public contacts, the Yampa Ranger District has aggressively tried to stop illegal OHV use. Despite these efforts, OHV violations continue to occur.

- Recreational OHV users generally comply with travel management policy.
- Most OHV violations occur during big game hunting seasons.
- OHVs are often used illegally in the pursuit and retrieval of game.

- Most road closures (gates, berms) are ineffective at stopping illegal OHV use. Resource and property damage can occur when closures are circumvented.
- This use causes a negative effect on revegetation of and soil stability on non-system roads.
- Snowmobile trespass in wilderness is low, but does occur in the Sheriffs reservoir area of the Flat Tops Wilderness and on the north end of Sarvis Creek Wilderness. This use creates an adverse effect on wilderness value's.

Hahns Peak/Bears Ears RD

Through implementation of the new sign policy, trailhead information, and public contacts, the Hahns Peak/Bears Ears Ranger District has aggressively tried to curb illegal OHV use. Despite these efforts, OHV violations continue to occur.

- Recreational OHV users are largely compliant with travel management policy.
- Most OHV violations occur during big game hunting seasons.
- OHVs are often used illegally in the retrieval of game.
- Most road closures (gates, berms) are ineffective at stopping illegal OHV use.

There are a few non-system trails in the Big Red Park area north of Steamboat Springs that are ridden all summer. Some resource damage is occurring in this area. Most of the illegal use is confined to all terrain vehicles (ATVs) traveling behind gates and beyond tank traps. A majority of these violations happen during the big game hunting seasons. The district has a motorized trail crew that patrols on weekends during the summer and full-time during the hunting season.

During hunting season there are reports of ATVs on and off the trails around Bears Ears. This illegal use is occurring on non-motorized, single track trails.

Parks RD

There appears to be increasing illegal motorized use in parts of the District. This illegal use has resulted in increased wildlife disturbance, soil & water impacts, and impacts to plant resources, and conflicts with legal recreation activities (primarily non-motorized trail users, and disturbance to big game hunters.) Some of these illegal uses include:

- Sierra Madre area –many illegal motorized trails have been found while inventorying the future Sierra Madre timber sale. These illegal motorized trails have been flagged with pin flags and purposely developed.
- Snyder Creek – Radial Mountain area – many old, non-system Enduro trails continue to receive use, even after they have been rehabilitated (rocks and logs and stumps are dragged onto long sections of these trails; efforts are continuously made to obliterate them.)
- Trail Braiding – trail braiding (multiple parallel routes) continue to occur in wet areas. As the trail crews find these, they have hardened the appropriate routes and rehabilitated or obliterated the other routes. In some cases, a long term fix (north end of the Grizzly-Helena trail through the headwaters of the North Platte River) is necessary, since temporary fixes have proven only to be temporary.

- Snowmobile trespass in Wilderness areas – there are still some motorized violations within the Wilderness areas with snowmobiles, which affects the solitude and primitive nature of Wilderness areas. However, these incidents seem to be decreasing with increased patrols of high use areas.

Douglas RD (Laramie Peak)

Numerous illegal routes were discovered in 2005. The Wyoming Game and Fish warden and biologist reported numerous new routes which were confirmed by Forest Service personnel. The most affected areas for this past year were Brumley Mountain and Devil's Pass. These routes were all signed closed.

Other illegal routes have been created by recreation users on top of Brumley Mountain and Devil's Pass. These routes often trespass onto private land, as well. All of these routes were signed "closed."

Many of these illegal routes have seriously eroded or washed out. In one spot on the Big Bear Canyon Road heading to the top of Devil's Pass, OHV users have driven up a steep incline. This activity has caused slope failure and has resulted in the deposition 20+ yards of gravel at the bottom of the hill. It is predicted that another series of rain events will cause further failure which will might cover the Big Bear Canyon road. In other places, there are large mud bogs and braiding occurring.

In all of these areas where illegal routes have occurred, the game has apparently been displaced where they had been plentiful before.

Aggressive signing of illegal routes for closure has proven fairly successful. With the signing of the routes on Brumley Mountain, the elk have apparently moved back in and the hunting season proved very successful. The work on top of Devil's Pass was only somewhat successful as these routes were more established and there are numerous legal routes that may be affecting big game habitat.

Brush Creek-Hayden RD

Off-road vehicle use is a national issue that has been specifically identified by the Chief of the Forest Service in the Four Threats to National Forest System Lands. The District has taken a multi-tasked approach in dealing with off-road vehicles. At this time the Forest has designated travel routes with very restricted off road travel. The most important task is for continued education of OHV users about off road travel restrictions. Many opportunities to educate users exist, including the volunteer staff at the Brush Creek Visitor Center. At this location the District has provided a space for the Wyoming State Trails Program's Trail Volunteer to assist the state in recruiting individuals to inform users of the rules. The Forest has also developed a partnership with the Wyoming State Trails program for funding to complete education and enforcement with Forest Service employees in the field.

The District continues to include travel management analysis at the project level, reviewing the existing travel management, making decisions close roads, and also developing motorized trails where it fits the environment and landscape. The District continues to complete sign maintenance, repairs, and posting of travel management signing.

In 2005 the District implemented several closure orders to enforce off road vehicle use. These would include the order to close vehicle use between Battle Creek Campground and the Battle Creek Bridge on NFSR 807, the seasonal area closure at the old Ryan Park Ski Slope to restrict snowmobile use and road closures under the Blackhall-McAnulty and Cottonwood Rim decisions.

Compliance patrols occurred throughout the field season, especially during big game hunting seasons. Areas patrolled included the Six Mile, Holroyd, Bear Mountain, Pennock Mountain, Cottonwood Rim, Battle Creek, and Jack Creek areas.

Law and Regulations Offense Statistics
The following table contains a summary of incidents and offenses for illegal OHV use on all units of the Medicine Bow-Routt National Forests and Thunder Basin National Grassland (MBRNF-TBNG).

Table 13. MBRNF-TBNG illegal OHV use incident and offense summary for FY05.

Description of Violation	Offense Code	Unit	Warnings	Incidents	Violations/ Tickets	Total
Special order area closure to vehicle travel off Forest Development Roads.	36CFR26156	MBNF	20	124	39	183
		RNF	27	98	6	131

Recommendations

- Request an increase in law enforcement funding and presence.
- Continue to physically close sensitive areas to OHV use.
- Designate OHV trail systems to provide legal opportunities for OHV use.
- Follow up on signing all routes.
- Follow up on signing all trails.
- Follow up on signing all closed roads.
- Continue maintenance of signing.
- Continue with patrols, especially during hunting season, in the areas most adversely affected by the ATV/ORV use.
- Work with Wyoming Game and Fish department to identify new illegal routes in Laramie Peak unit.
- Add additional Forest Protection Officer patrols at the District level.
- Continued education and enforcement of the regulations.

Specific Recommendations

- Complete Snowy Range Travel Management analysis to designate an official OHV trail system for the east side of the Snowy Range of the Laramie Ranger District.
- Monitor effectiveness of a selected closure in FY2006.

Scenery

Routt Monitoring Item 2-4
Frequency of Measurement: Annual
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 visual resources are assessed through field evaluation of Forest Service activities. Two projects were selected for monitoring: Whiskey Timber Sale and Iron Mountain Road Closures.

Results/Evaluation

Whiskey Timber Sale: The Whiskey Timber Sale area on the Parks District was visited on August 23, 2005 by MBR monitoring ID team, including the Forest Landscape Architect, and several District employees as part of the Routt NF annual Forest Plan Monitoring. The sanitation salvage sale unit located within Colorado State Highway 125 near the intersection of NFSR 106 was reviewed for scenery. Adopted visual quality objectives (VQO) for MA 5.11 are partial retention in the foreground of arterial/collector roads and primary trails and modification VQO in all other areas. This unit was treated to minimize the spread of ongoing mountain pine beetles within the lodgepole pine stand. Large diameter mature trees were removed in most of the unit except for numerous trees in the immediate foreground of Highway 125 that were retained to meet the revised Routt Forest Plan adopted visual quality objective of partial retention and to maintain large tree character.

However, after the completion of the treatment, beetles attacked and killed remaining large diameter trees that are visible from the highway. The existing beetle killed trees with orange colored needles currently degrades the scenery of the highway corridor; however these trees are also a hazard as they could fall into Highway 125. More discussion relating to this can be found under the Whiskey Timber Sale portion of the *Implementation and Standards and Guidelines* monitoring item located towards the end of this document.

Conclusions

By removing remaining beetle killed trees and protecting existing small diameter trees and understory vegetation in the immediate foreground of the highway corridor, the unit can still meet the visual quality objective of partial retention and desired scenic condition of the revised Routt Forest Plan. Natural occurrences such as beetle mortality will affect the short-term visual quality.

Iron Mountain Road Closure: The Forest Plan Monitoring and Evaluation Team reviewed a road closure in the Iron Mountain area of the Laramie Ranger District. A user-created road was closed and rehabilitated. The excellent work was done to blend the rehabilitated road with the surrounding sagebrush landscape. This road would become unnoticeable after another season of vegetation growth.

Conclusion

This project meets scenic integrity objective of Moderate assigned to MA 3.58.

Livestock Use

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

This monitoring item asks the question:

> ***What levels of grazing use are permitted while still meeting or moving toward desired vegetative condition?***

Monitoring Protocol/Data Collected

Animal Unit Months (AUMs) grazing use for the year and Head Months (HMs) grazing use for the year. Displayed for cattle/horses and for sheep/goats and for total livestock.

Results/Evaluation

Routt NF: Year 2005 was the sixth consecutive year of this extended drought. The Routt received slightly less than average precipitation, however the timing of spring rains was ideal and produced above-average forage growth. The Routt was in far better shape than much of Colorado, which experienced the driest year in more than 700 years in 2002 (according to representative tree ring data collected across much of the state)! Moisture conditions have improved considerably since 2002. Most operators were able to run a majority of their permitted numbers. Some have not yet fully replaced all of their herds sold off in earlier years, taking partial non-use for resource protection; some went on a little later than normal, some came off early. All of these efforts are good examples of proper rangeland vegetation management techniques – reducing livestock commensurate with the level of forage production and water availability. All in all, it was the best year on the Routt since 2000 for precipitation and resultant vegetative/forage production.

Medicine Bow NF: Southeastern Wyoming received less than average precipitation (both in winter snowpack and in summer rains), but the timing of the spring rains was ideal for producing slightly above-average forage growth. The amount of grazing use on the Medicine Bow was about 86% of the projected Forest Plan level. Livestock numbers were about 15-20% less than permitted due to 2005 being the sixth consecutive year of this drought, and following 2002 – the driest year since Wyoming became a state (in 1890). Quite a few operators across the Units went home early, a few went on late. Still about 1/3 of the producers have not replaced their depleted herd numbers, waiting for land and water resources to better recover before doing so. Lower outputs result from the non-use for resource protection.

Table 14. Planned and actual livestock use during 2005.

	Unit of Measure (in thousands)	Planned Level	2005 Level	Percent of Planned Level
Routt				
Active Allotments	Allotments	126	126	100%
Sheep Grazing	Head-Months	174.0	168.1	96%
	AUMs	52.5	50.1	95%
Cattle Grazing	Head-Months	39.6	39.1	99%
	AUMs	49.5	49.3	99%
Total Grazing	Head-Months	214.0	209.0	98%
	AUMs	102.0	99.4	97%
Medicine Bow				
Active Allotments		104	104	100%
Sheep Grazing	Head-Months	42.0	26.6	63%
	AUMs	12.6	7.4	59%
Cattle Grazing	Head-Months	57.0	55.7	98%
	AUMs	74.0	66.9	90%
Total Grazing	Head-Months	99.0	86.2	87%
	AUMs	86.6	74.3	86%

Costs of implementing the range program.

The table below gives the 2005 appropriated budget for range management to the forest, in addition to the planned levels in the Medicine Bow and Routt Forest Plans. The dollars below do not count overhead / administration amounts and so the figures differ from the overall budget amounts shown below under the *Costs* monitoring item. Cost Pool (administrative overhead) amounts for Fiscal Year 2005 for all Units totaled $282,100 in NFRG and $253,500 in NFVW (the rangeland vegetation portion only).

Congress continues to fund NFVW at high levels (the rangeland vegetation portion of that Budget Line Item, which also includes soils and watershed management, air quality, reforestation, and thinning), with increases predominantly to conduct noxious weed control work and to manage non-native species. Increases in funding are dedicated to those efforts, and most of the noxious weed management work is focused in pass-through cooperative monies to the Counties. About 20% of the identified NFVW funds are committed to weed management. The remainder pays for allotment/NEPA inventory and analysis efforts for all functional specialists, and for monitoring of rangeland vegetation by rangeland management specialists.

Congress has increased NFRG funding by an average of approximately 8% in each of the last three years to accelerate allotment planning efforts to meet the required 1995 Rescissions Act schedule. While most of that funding increase made it to the Forest/Districts in 2003, incremental increases as well as additional funding levels were retained at higher organizational levels in 2004 and 2005 – and the funding is actually going down at the ground level, with a resulting fall-down in target completion.

Rangeland resource improvement dollars (returned from collected grazing fee receipts) were down as a result of reducing grazing levels (in number of head-months) due to drought. Total amount should be about $75,000 if full numbers were run; amount received was $64,000.

Table 15. 2005 Rangeland Management Budget

Activity	Planned Budget	2005 Budget Received	Percentage of Planned Level
Rangeland Vegetation (NFVW)			
Routt	370.0	255.7	69%
Medicine Bow	436.0	238.4	55%
Grazing Permit Administration (NFRG)			
Routt	464	214.2	46%
Medicine Bow	529	250	47%
Rangeland Resource Improvement (RBRB)			
Routt	61	22	36%
Medicine Bow		42	

Harvested Land Adequately Restocked (Item 1-10)

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 standard that lands are adequately restocked within five years as specified in the Forest Plan. In addition, these monitoring items ask the question:

> ***Are stands adequately restocked within five years of final harvest treatment?***

Monitoring Protocol/Data Collected

The yearly monitoring report relies on the FACTS database to list stands and acres that had final harvests 5 years prior, and which of those stands and acres have a regeneration certification code. If a harvested stand is adequately regenerated, 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 regeneration success is scheduling and recording the results of regeneration surveys in the FACTS database. If a regeneration survey indicates a lack of seedlings, the district can schedule planting in the database, followed with scheduled regeneration surveys to monitor plantation success.

Table 16. . Acres not Adequately Stocked Five Years after Final Harvest.

Year of Final Harvest	5th Year After Final Harvest	Acres of Final Harvest	Acres not Adequately Restocked as of 2005
1999	2004	614	0
2000	2005	772	4

On the Medicine Bow-Routt, of the 772 acres of final harvest, 4 acres have not been adequately restocked in 5 years, for a failure rate of 0.5%. These 4 acres are located on the Brush Creek–Hayden Ranger District. One unit is in the West Barrett timber sale and one unit is in the Banner timber sale. Both units are scheduled for seeding.

Acres not Adequately Restocked as of 2004
Of the 138 acres harvested in 1999, which were not restocked as of 2004, 31 acres were part of the Banner Timber Sale on the BCH district. As of 2005, all of these non-stocked units have either been seeded, planted or certified as stocked.

The other 107 acres of 1999 final harvest not adequately restocked as of 2004, are part of either the Double D or Cyclone Timber Sales. The Double D sale units show a one and a half year delay between cut and site prep, and the Cyclone units show a delay of one year between cut and site prep. This delay between harvest and site preparation delayed the regeneration surveys. All these units were surveyed again in 2005, and all of the units have either been seeded, planted or certified as stocked.

Monitoring will continue annually as required by the National Forest Management Act. The Supervisor's Office will remind the Districts of stands that require surveys to determine regeneration status 5 years after regeneration harvest.

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 a unit and cannot be allocated to individual units. Fiscal Year (Oct 1 – Sept. 30) allocated budgets for 2003 to 2005 are given in the graph on the next page:

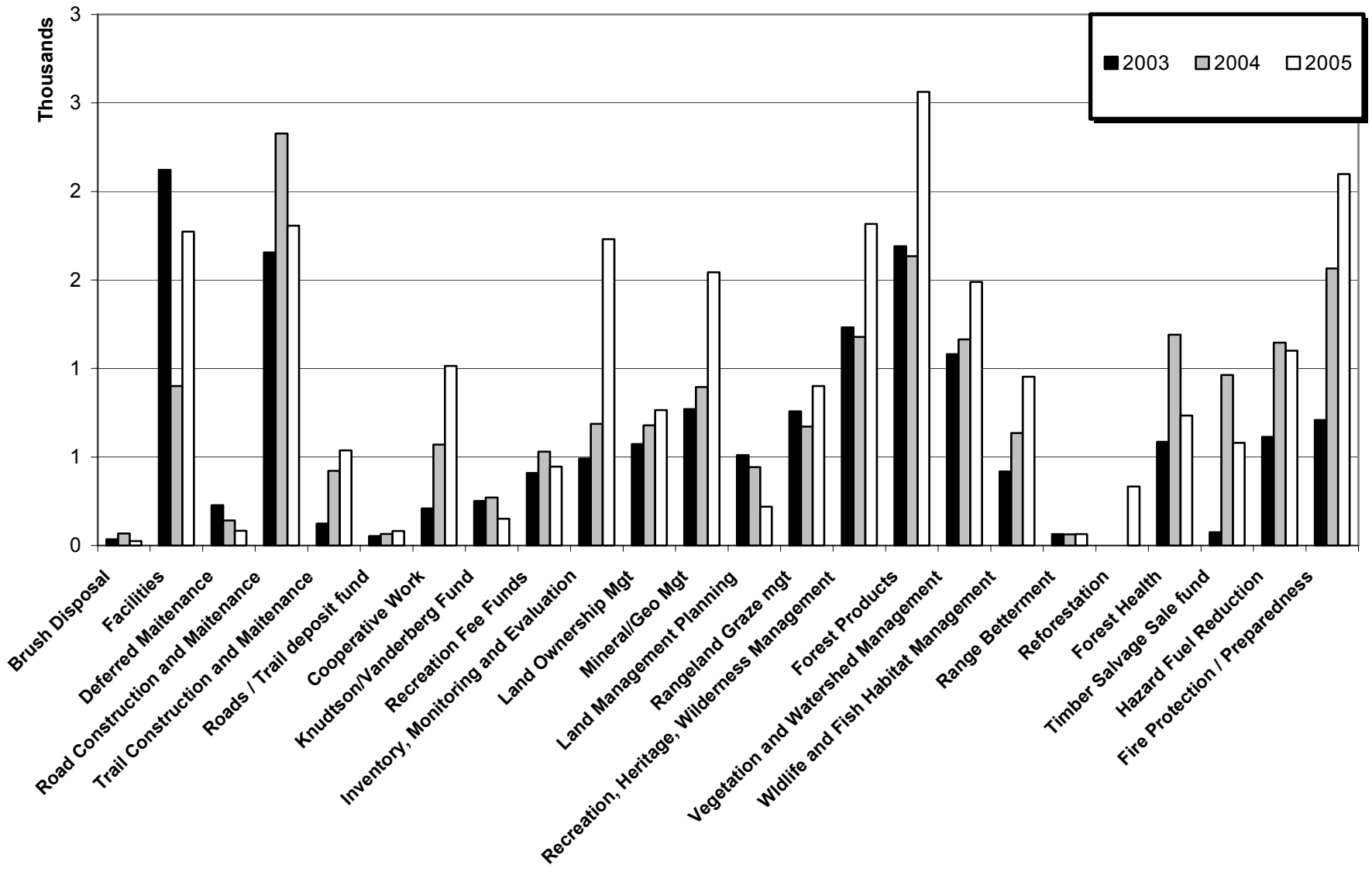

Figure 11. Medicine Bow-Routt NFs and Thunder Basin NG Budget 2003-2005.

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 items 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 EIS's 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

Medicine Bow Item Objective 3.a.2
Routt Monitoring Item 2-5
Frequency of Measurement: Annual
Reporting Period: Annual

These monitoring items ask the questions:

> ***To what extent is public assistance and participation being utilized in implementing monitoring activities?***
>
> ***How are partnerships contributing to maintaining or enhancing recreation resource opportunities?***

Monitoring Protocol/Data Collected

Compilation of partnership activities on the forest through query of the Grants and Agreements database and review of partnerships on the Forest. These amounts include agreements both for the MBR portion of the forest, but also the TBNG due to the three units being administered centrally.

Results/Evaluation

Partnerships have greatly enhanced the forests ability to accomplish work. In FY05, a total of 102 agreements resulted in almost 3 million dollars of work being accomplished on the forest and grassland. Many different types of work are being accomplished.

Working with counties has helped the MBR to accomplish invasive weed treatment, fire and law enforcement activities. Agreements with WGFD, CDF and WYNDD increase our ability to inventory and monitor terrestrial and aquatic wildlife in addition to plants.

Utilizing the skills of the Rocky Mountain Youth Corps, and of trail user groups such as Front Range Trailriders increases our ability to maintain and improve trails and recreation sites.

Agreements with the BLM, State of Wyoming and private landowners enable cooperative prescribe burning projects. Organizations such as the Owl Mountain Partnership have contributed to fencing and other rangeland management projects.

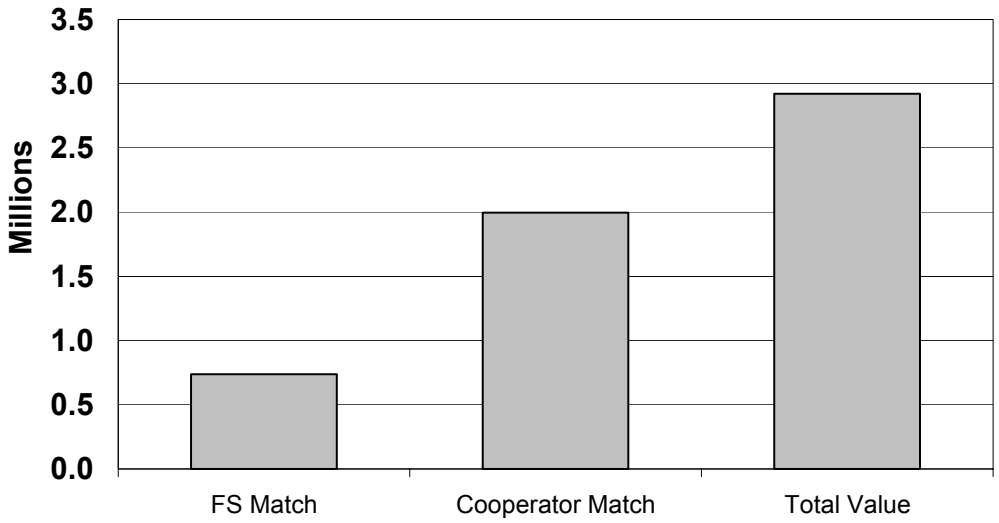

Figure 12. Value of Partnerships Contributed in FY05.

Collaborating with researchers, such as from the UW and the RMRS have enabled forest specific research studies tailored to the needs of forest management.

Watchable Wildlife

Medicine Bow Objective 3.a.3
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

To what extent have watchable wildlife activities been developed?

Monitoring Protocol/Data Collected

Annually, document the number of Watchable Wildlife sites, and any development and interpretation activities.

Aquatic Life

There is one fish-observation platform (Ralph Hesson memorial) located adjacent to North French Creek, along Highway 130.

Results/Evaluation

Plant Viewing Sites:

- MBNF SIAs with botanical emphasis: Ashenfelder, Cinnabar Park, Medicine Bow Peak, Kettle Ponds, Sunken Gardens and Ribbon Forest.
- Brush Creek Visitor Center;
- Vedauwoo Interpretive Area and Interpretive Handout (LRD);
- Pole Mountain Rest Area Interstate 80 (LRD);
- Centennial Visitor Center (LRD);
- Libby Flat Interpretive Area (LRD);
- Brooklyn Lake Interpretive Area (LRD);

Plant Viewing Activities:

  - Two interpretive botanical hikes / moonwalk programs were lead by forest botanists (LRD and BCH).

The 6 botanical SIAs for the MBNF were identified in the ROD for the LRMP (12/03), so FY04 was the first year that these sites were noted as available for plant viewing activities. The 6 other sites noted have existed for sometime and generally have moderate to heavy visitor use. A need to complete official documentation of these sites as "Watchable Wildlife-Plant sites" was identified in FY04.

Official documentation of these sites as "Watchable Wildlife-Plant sites" remains to be completed as of FY05. Expected increases in MBRTB botany program personnel may allow the MBNF to move forward on this task in the near future.

Increased coordination between visitor information staff, engineering (roads and signs) and botany program personnel was identified as need in order to inform the public about where "Watchable Wildlife-Plant sites" occur on the MBNF.

Two interpretive botanical hikes occurred in FY05, an increase of one hike since FY04.

Recommendations

- Continue to monitor this item yearly over the life of the plan.
- Consider including this question as an annual monitoring item for the Routt NF.
- There are no changes to the LRMP identified as part of monitoring this question for the MBNF for FY05.

Action Taken on FY04 Recommendations

No Actions were taken during FY05 which were responsive to the need to complete official documentation of "Watchable Wildlife-Plant sites".

Effective Public Service

Road System – Passenger Cars

Medicine Bow Objective 4.a.1
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

Does the road system meet public safety and management needs for passenger vehicles while protecting resources?

On the Medicine Bow National Forest, 80 miles of roads suitable for passenger cars were maintained to standard (11%).

Roads– High Clearance Vehicles

Medicine Bow Objective 4.a.2
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

Does the road system meet public safety and management needs for high clearance vehicles while protecting resources?

On the Medicine Bow National Forest, 1,618 miles of high clearance roads were maintained to standard (80%).

Roads – Road Decommissioning

Medicine Bow Objective 4.a.3
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

To what extent have roads that have been identified as unneeded by a roads analysis been decommissioned?

17.5 miles of road were decommissioned in FY04 on the Medicine Bow National Forest.

Table 17. FY05 Road related ouputs compared to outputs projected in the forest plans.*

Resource Program Activity/Outcome	Units	Forest Plan Desired Condition Level	Forest Plan Experienced Budget Level	FY 2005 Level
Medicine Bow NF				
Roads Maintained to National Standards	Miles	2,291	1,250	1,753
Road Construction	Miles/yr	4.1	2.0	0.5

Road Reconstruction	Miles/yr	9.2	4.0	1.0
Roads Decommissioned System and Non-System	Miles/yr	27	18	17.5
Routt NF				
Roads Maintained	Miles	1,500	1,448	1,018
Road Construction	Miles/yr	16.2	9.3	3.5
Road Reconstruction	Miles/yr	9.8	5.2	4.1
Road Obliteration	Miles/yr	18.4	18.4	0

* Forest Plan outputs are from the S-2 tables in the EIS documents for the Routt and Medicine Bow Revised LRMPs.

Facilities – Safety and Security

Medicine Bow Objective 4.a.5
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

Do the existing facilities with the potential for reconstruction provide for safety and security of the public and employees?

Major construction and reconstruction projects are funded through the Regional Capital Improvements Program (CIP). The CIP funding is limited and must cover projects throughout the Rocky Mountain Region. The only FY05 facility construction/reconstruction project on the Forest was Sugarloaf Campground on the Laramie Ranger District.

In addition, the Forest began planning and design for several FY06 projects:

- Steamboat Springs Bunkhouse, Hahns Peak/Bears Ears RD
- Thunder Basin Bunkhouse, Douglas RD
- Esterbrook Work Center Consolidated Storage, Douglas RD
- Saratoga Work Center Consolidated Storage, Brush Creek/Hayden RD

Facilities - Maintenance

Medicine Bow Objective 4.a.5
Frequency of Measurement: Annual
Reporting Period: Annual

This monitoring item asks the question:

To what extent are the existing buildings, bridges and other facilities maintained to standard??

Planning and accomplishment activities are compiled and reported in the INFRA database, an NFS corporate database. For buildings, annual accomplishment reports can be generated listing total deferred maintenance and the end of year facility condition index ratings. Maintained to standard requires a condition survey be accomplished no less than every five years and the facility condition index be good or fair. In FY05, the forest building inventory included 405 recreational and administrative buildings, 45% of those were maintained to good or fair condition and 90% had received the required facility condition survey. Dams, water systems, and waste water systems were in a similar condition.

Declining budgets require the forest to assess and prioritize facility needs and then focus limited funds on our highest priorities. At the end of FY05, the backlog of deferred maintenance on all facility classes was nearly $5.5 Million. In order to balance the constrained budget and deferred maintenance backlog, the Forest is aggressively pursing a facility disposal program. Progress is slow but small steps are made each year.

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

There are no documented occurrences of Threatened or Endangered Plant Species on the Medicine Bow or Routt National Forests at this time.

Terrestrial Wildlife

The Bald eagle is the only ESA-listed species on the Medicine Bow National Forest with a recovery plan. 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 and winter-roosting sites were surveyed for activity. Even so, very few bald eagles inhabit the Medicine Bow National Forest. In 2005, as in the past, we continued 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 identified and monitored some of the bald eagle communal roosts as specified in the Recovery Plan. Otherwise, no further opportunities were identified to implement action items in the Bald Eagle Recovery Plan on the Medicine Bow NF.

There are several documents that do speak to conservation actions appropriate for the Canada lynx. Though the lynx has only recently been observed on the Medicine Bow National Forest, and has dispersed here from a reintroduction effort in Colorado, the Forest does adhere to the Lynx Conservation Strategy and Assessment. At least one, and possibly two, female lynx had litters on the Medicine Bow National Forest, but lost their litters. Colorado Division of Wildlife tracks radio-collared lynx and reproductive patterns of the reintroduced population.

As of yet, there is little direction for proper management, conservation, or recovery of the Preble's meadow jumping mouse. However in 2005, the Forest completed its 3rd year of monitoring this mouse through a partnership with the Wyoming Natural Diversity Database (WYNDD).

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 2005 monitoring field trip. This trip looked at the Whisky Timber Sale and the Little Buffalo AMP on the Parks RD, road closures and a prescribed burn in the Iron Mountain area of the Laramie RD (LRD and discussed water quality issues on Pole Mountain (also on the LRD).

District IDTs reviewed various projects during FY05 and the following are the conclusions and recommendations from both the Forest and District project reviews.

Results/Evaluation

Whiskey Timber Sale – Parks Ranger District

Stop 1 – Along Hwy 125: Stop Objectives: To evaluate effects of this unit on visual impacts to Hwy 125 corridor, and to discuss riparian buffers.

This unit is a sanitation salvage, leaving smaller diameter trees which are more beetle resistant and removing the larger diameter lodgepole to both reduce the spread of beetles and to provide timber products. On this unit, larger diameter trees along the edge of the highway were retained to meet the visual quality objective of partial retention in foreground of the highway corridor. The unit was also whole tree yarded to also reduce visual impacts. Marking was done on the side away from the road for visuals, however wildlife trees were painted all the way around to make sure they were visible to the loggers.

Currently, most of the larger diameter trees left along the highway are dying due to beetle attacks, the smaller diameter trees within the unit are still green. The IDT determined that the visual quality objective along the highway will still be met, even with the larger trees dying as the harvest was a partial cut rather than a clearcut.

There was discussion of what riparian buffers would be used if we had treated an area adjacent to a wetland, which was adjacent to the highway in this area. Discussed that leaving infected trees in riparian areas probably does not significantly contribute to the spread of beetles as they can fly a ¼ mile or more and there are many untreated areas around the area. Also discussed that site specific buffers can be laid out with the hydrologist and/or fisheries biologist if the 100 ft standard is not appropriate – but it does take more specialist time to lay out site specific buffers.

Stop 2: Whiskey T.S. Unit 136: Stop Objectives: Wildlife trees and coarse woody debris

This unit is a sanitation/salvage, and the marking tried to avoid leaving trees with beetles. This unit appeared to have left good wildlife trees. Some of the trees left as live trees are now dead or dying due to beetles, but it appears that the overall wildlife tree objectives listed in NEPA decision are being met.

Coarse woody debris (cwd) was left throughout the unit. The logging equipment used to harvest this unit was a boom de-limber. This meant that the tops and limbs were left where the equipment traveled up and down the skid trail. The result is a heavy accumulation of slash on the skid trail, with other areas of cwd throughout the unit. The amount of cwd appeared to meet standards. There was discussion over trying to have the larger pieces more jackstrawed to allow for better winter habitat for small mammals. Methods for achieving this were discussed, along with conflicts with fuels and visuals objectives, and the need for the serotinous lodgepole cones to be in contact with the ground to be hot enough to release seeds.

The large amount of slash on the skid trail was a concern after the harvest was completed, so the forest bulldozer was used to distribute some of the slash off of the

trail. Excess slash on skid trails has also been raised as a concern in recent reviews of other timber sales. It was proposed that existing contract clauses be used to state the end-desired conditions for slash on the skid trails so all of the work can be done through the contract.

In the adjacent clearcut, the wildlife trees are now dead due to beetles.

Stop 3: Whiskey T.S. Unit 141: Stop Objectives: Protection of ephemeral draws, road closures and goshawk nest.

This unit is a shelterwood prep which was whole tree yarded to reduce fuels as this unit is adjacent to private land. Whole tree yarding reduces woody debris left on site, creating a more effective fuel break adjacent to private land. FSR 759.1 was scheduled to be decommissioned, and culverts pulled, but the decision was made (with the hydrologist's input), to keep the road and monitor the culverts. An ephemeral draw (receives snowmelt runoff but has no scoured channel) was protected by no skidding across the draw and by retaining trees on the edge of the draw. The culvert installed at the road crossing is sized large enough to pass high flows.

This unit was winter logged, and the skid trails show no ground disturbance. Coarse woody debris is less in this unit than in Unit 136, but beetles are killing some of the retained trees, providing additional woody debris recruitment.

A pair of goshawks built a nest on the edge of the unit in a retention tree after logging was completed. It was discussed that it probably was a young pair of goshawks that had not yet learned that it is safer from predation to build nests in denser forest cover.

Whiskey Timber Sale Summary:
Did we do what we said we would do? Yes, this project followed Forest Plan Standards and guidelines, and the mitigation specified in the NEPA decision for visual quality objectives, wildlife trees, coarse woody debris, riparian area protection, ephemeral draws, and road building.

What did we learn? / What would we do differently in the future?
Harvest the larger trees along the highway that are likely to fall into the road to reduce the safety hazard. Tree removal in along the visual corridor could have been accommodated when loggers were still on site by contract administrator and through contract adjustment. Now, we will need to return to site with equipment and drop the dead trees. Even when we drop the recently dead trees, the visual quality standard would still likely be met.

Have it clear in the contract in what condition the skid trails should be left in terms of the amount of woody debris on the skid trail, to avoid having to come in with other equipment outside of the contract.

Did we meet overall Project Objectives: Yes, we feel we reduced spread of beetles into smaller diameter trees within units, and provided wood products.

Additional Monitoring Needs: Monitor the mortality of smaller diameter trees within unit and within comparable untreated acres to determine effectiveness of treatments.

Follow up Actions Needed:
1. Work with Colorado DOT to remove hazard trees along Hwy 125.

2. Have the Soil Scientist work with Timber and Contracting to address the desired condition of skid trails through the timber harvest contract process.

Buffalo Creek and Little Buffalo Creek Grazing – Parks Ranger District

Stop 1 – Coconut Grove: Stop Objectives**:** Utilization monitoring

Allotment history: In the past there were two permittees for this allotment – a 2 pasture rotation where one permittee grazed early (110 c/c pair from July 1 – Sept 30), the other permittee later (135 c/c pair from July 24 – Sept 30), and the herds were kept separate. In the past, the Coconut Grove area was hit hard by grazing and also had dispersed recreation impacts. The latest EA was completed in April 1998. Currently, this allotment has a 4 pasture rotation system implemented, with one permittee only. There are no internal fences, riders move the cattle around.

Utilization Monitoring Results: In 2002~~,~~ visual estimates indicated overall moderate use of the uplands. There was some localized heavy use in Coconut Grove area and in the riparian stringer along FDR 715. The recommendation is that the permittee needs to improve dispersal of livestock in order to achieve even better distribution of forage utilization.

Utilization in 2003, Cages 1 and 3 were clipped and weighed. These two sites averaged 60% utilization. Coconut Grove looked much better this year. Overall use across both allotments was within S&G's (less than 50% use).

An electric fence was placed around the riparian stringer on NFSR 715. The cattle distribution was much improved this year and overall utilization estimated to be moderate overall.

Improvements are being implemented in stages. Last year (2004) an electric fence was put around a stringer meadow to keep the cows out. The meadow has some headcuts and is now recovering. As this area recovers, the fence will be installed in a different area of the meadow. The Owl Mountain Partnership provided funds for the electric fence.

Buffalo Creek AMP Summary:
Did we do what we said we would do? Yes, rangeland management on this allotment is improving; we are meeting utilization standards and guidelines.

What did we learn? / What would we do differently in the future?
It helps to have partners to be able to implement improvements. Electric fencing appears to be an effective means of keeping cows out and protecting resources within for a short period. It is difficult~~,~~ to achieve desired utilization levels in both the

uplands and the riparian areas. The uplands are consistently under utilized by the time riparian utilization standards have been met. There may be a future need to construct some permanent fencing in order to aid in livestock rotations.

Did we meet overall Project Objectives: Yes, the vegetation and riparian conditions are moving in an upward trend over the last ten years.

Additional Monitoring Needs: None were identified.

Follow up Actions Needed:
Work with permittees to make sure they recognize when riparian areas are nearing the point of allowable utilization.

Iron Mountain Prescribed Burn – Laramie Ranger District

Stop 1**:** Stop Objectives: Discuss use of newer Categorical Exclusions (CE), prescribed burn implementation and cheatgrass

This prescribed burn was a spring burn to improve wildlife habitat and to reduce fuels near the scattered residences located near the forest boundary in this area. It is a 2 year project with 1100 acres burned this year and another 1100 to 1200 acres next year. The objectives are to decrease the mature sagebrush and promote increased grass forage for winter game.

The NEPA process was followed, using CE category #10, with a scoping statement and 30-day comment period and 9-10 letters were received. Vern Bentley (FMO) made some phone calls to these individuals and the project was split into 2 burn projects, one on Sheep Mountain and one on Iron Mountain.

The NEPA decision stated that cheatgrass in the project area would be monitored and if necessary, treated. Discussions with the district range staff confirmed that there was a plan to work with the county to treat cheatgrass in the burn unit.

The NEPA decision also stated that the burn units planned for 2006 would be surveyed for cheatgrass. Discussion at the site indicated that surveys would be conducted in the fall.

A cultural structure (wood structure) was found within the burn unit and it was protected.

Although no watershed surveys were completed, since the burn occurred while there was snow in the draws, this project was a low risk for adverse effects to these resources.

There was discussion about how the mitigation in the NEPA decision was carried forward into the burn plan. A map with cheatgrass locations produced during the NEPA process, was not part of the burn plan and could have been used to avoid the known cheatgrass areas.

Iron Mountain Burn Summary:

Did we do what we said we would do? The prescribed burn followed the burn plan for the type and condition of the burn. It is unknown whether FP standards for other resources have been met. Field surveys were not conducted for sensitive plant species, or watershed resources. The decision stated that the project should avoid burning cheatgrass. While that was the case on a large patch that was not included within the burn boundary, three smaller cheatgrass areas within the boundary were burned.

What did we learn? / What would we do differently in the future?
Earlier involvement with all the appropriate resource specialists is an area we can improve upon.

Include all mitigation in the NEPA decision into the Burn Plan so it will be implemented. This should help to ensure communication between the burn boss and the resource specialists so the mitigation is feasible and is implemented on the ground.

Did we meet overall Project Objectives: Project objectives for wildlife and fuels appear to have been met. It is unknown if objectives tied to mitigation measures to protect other resources have been met at this time.

Additional Monitoring Needs: Monitor long term vegetation change in this and other past prescribed burns in the area. Work with University of Wyoming and others to form partnerships to be able to accomplish this monitoring.

Follow up Actions Needed:

- Treat cheatgrass within 2005 burn units, through the cooperative agreement with Albany County weed and pest department.
- Survey for cheatgrass in 2006 burn units.
- Provide resource specialists with maps for these units prior to the end of the 2005 field season.
- Complete a decision for the 2006 burn on Sheep Mountain. Ensure mitigation is included in the burn plan.

Iron Mountain Stop 2: Stop Objectives: Evaluate road closure methods

The Laramie RD (LRD) received extra funding to accomplish Phase 2 of Travel Management on the LRD portion of the Snowy Range. The district had been mapping user created roads for several years, and received money from the State of Wyoming to hire a consultant to develop a motorized trail system for both single track and ATV trails. Several rounds of scoping have been completed and the project will include closing many user created roads in addition to converting existing roads into trails and building a small amount of new trail to connect trails into loops. This project does not address system roads, which are analyzed under other NEPA analysis such as timber sales and AMPs. This project has had several IDT meetings with good participation from all resource specialists.

The team discussed a user created road, which had been ripped in the area. The road had already partially grown in and would be undetectable in a few years if it is not

used during hunting season. Road closure methods were discussed. Large boulder placement is generally preferable to berms from a visual perspective. The group recommended removing closure signs as soon as the user created road has grown over. This is intended to reduce the enticement a sign might create. The new Forest Plan Standards increase management flexibility to allow higher densities in some areas, rather than every area having the same road density standards.

Iron Mountain Illegal Off-road use Summary:
Did we do what we said we would do? Yes, we are closing user-created roads as we have funds available. The ongoing Snowy Range Travel management has had extensive scoping and public involvement. In addition, the comprehensive mapping effort prior to scoping has provided a good base for public comments and NEPA analysis.

What did we learn? / What would we do different in the future?
Partners and funds are available from the state and user groups to help us accomplish our Travel Management planning. The two rounds of scoping have identified the important roads and trails of the local communities.

Did we meet overall Project Objectives: The project is not yet done, however the process is on track to meet objectives. The road, which was ripped, is on track to blend in with the surrounding sagebrush and so will meet objectives if the public stays off of it.

Additional Monitoring Needs: Monitor effectiveness of road closures in different types of forest and grassland settings.

Follow up Actions Needed:
Continue work on completing the Snowy Range Travel Management project.(Decision expected 9/2006)

Pole Mountain Range Monitoring

Pole Mountain Stop: Stop Objectives: Discuss utilization monitoring and the ongoing lawsuit related to grazing effects on water quality and Preble's meadow jumping mouse habitat.

History of the lawsuit

The lawsuit started in 2002 when water quality monitoring by a private individual prompted the State of Wyoming to monitor several streams in this area. The state's monitoring has since indicated that two streams are not meeting state water quality standards for bacteria. The State of Wyoming has since placed Middle Crow Creek and North Branch North Fork Crow Creek on the list of impaired water bodies (303d list). As a result, Biodiversity Conservation Alliance filed suit over water quality and Preble's jumping meadow mouse habitat

Utilization Monitoring

The district received extra NFIM funds in 2005 to monitor utilization due to the lawsuit. This intensity of monitoring is not sustainable indefinitely due to the high cost. The monitoring has shown that utilization standards were being met allotment wide in 2005. Although individual areas and pastures may exceed allowable utilization levels, the determination is made from aggregating the data up from key areas to

pastures to allotments. Over the past two years, fewer key areas have exceeded allowable use each year, although one area near North Fork Crow Creek, in an impaired stream, has exceeded allowable utilization levels over that time period.

Water Quality Monitoring
Water quality monitoring started in 2002 and is now being done in partnership between the USFS, state and conservation districts. This monitoring indicates that water quality is a problem in certain areas but not widespread, however N. Branch North Fork Crow Creek has exceeded numeric water quality criteria each year since 2002, and Middle Crow Creek exceeded numeric water quality criteria in 2003, but has not exceeded numeric water quality criteria in subsequent years. The Laramie County Conservation District has formed a watershed group to develop a watershed plan to improve water quality.

Preble's Meadow Jumping Mouse
This mouse was listed in 1998 as threatened, which was before the EA was completed. Mitigation in the ea was to have 45% to 55% utilization in Preble's habitat (riparian areas). The FWS concurred with this mitigation for protecting preble's habitat. Some of the riparian areas have exceeded utilization standards in the past. With the proposed de-listing, the mouse may become a sensitive species, and we would still want to maintain habitat.

Several mice were found in the area in 2005. There is a wide variation in survey results year-to year over the past few years. 2005 rainfall was much greater than the previous four years. This may have contributed to the increase in number of mice.

Actions taken to address these issues
Midterm monitoring (ocular utilization estimates) is being used to let the permittees know when they need to move to another pasture in their rotation. To reduce utilization, the district has been working with the permittees and the Conservation District to install upland water sources and salt locations to try to encourage the cattle to spend less time in the riparian areas. In addition, the ranchers have reduced stocking levels by about 40% in response to the drought and have not yet replenished their herds.

Photos from the 1960's to present indicate that willow growth and riparian conditions are improving in this allotment, as it is for all allotments on Pole Mountain. Utilization appears to be gradually improving towards meeting allowable levels for most key areas. The range staff visited this allotment with the technical team from the Wyoming Department of Agriculture and UW professors who feel that this allotment is in good condition.

Pole Mountain Summary:
Did we do what we said we would do? We are meeting utilization standards in all pastures. For 2005, numeric water quality criteria were met, except for the one site in the North Branch North Fork Crow Creek.

What did we learn? / What would we do differently in the future?
Mid term monitoring is being used to better estimate when to move the cattle and we are continuing to work with the permittees to be able to better assess when areas are approaching proper use levels. Administration is the key to meeting Forest Plan guidelines for utilization. We are continuing to work with the permittees to be more

aggressive in moving cattle from the listed stream's pastures to continue to reduce the probability of over utilization in these riparian areas.

Did we meet overall Project Objectives: Partially. Water improvements are being implemented and the trend is towards improving utilization and improved water quality. However we may not be able to keep up the intensive administration and monitoring in future years if funding levels continue to decrease as has been predicted. In 2005, we did not meet state numeric water quality criteria in one location but did meet it again in the second location. Water quality impairment has moved us away from Forest Plan Objectives.

Additional Monitoring Needs: Continue to monitor utilization, both the cages and midterm ocular estimates. Continue to monitor water quality.

Follow up Actions Needed:
Continue to work with permittees on moving cattle as needed.

Singer Peak District Project Review – Brush Creek / Hayden Ranger District

Objectives: Review implementation of new Medicine Bow FP Revision wildlife tree standard within the Singer Peak Timber Sale.

Table 18. Minimum forest requirements for snags and continuing recruitment on forested sites following timber harvest in the 2003 Medicine Bow LRMP.

Cover Type	Snags/acre	Size	Snag recruits/acre
Spruce/Fir	6-10	Over 10" if available	8-12
Lodgepole pine	1-2	Over 10" if available	8-12
Aspen	0		0

The snag retention design/mitigation requirements listed in the above table and in the Singer Peak EA, DN and FONSI were slightly different than the final FP version. The main difference is the MBNF LRMP lists 1 snag/acre for the aspen cover type.

Are S&Gs incorporated into decision? Singer Peak EA/DN/FONSI is unique in that, though it was analyzed under the 1984 Medicine Bow FP, it incorporated the new 2003 FP wildlife snag standard as part of the project design/mitigation.

Figure 13. IDT at Singer Peak Project Review.

Additional mitigation contained in decision: Field trip focused just on the wildlife tree design/mitigation measure described above.

Are S&Gs and mitigation incorporated into contract and/or project design? Wildlife trees are addressed through a C provision under the Singer Peak 2400-6T Contract. Wildlife trees were marked as leave trees (orange paint) in all the timber sales clearcut and overstory removal units. In the sanitation/salvage units, because only 30-40% of the overstory was to be removed, an agreement was made between the District Ranger, District wildlife biologist, and implementation team to not mark wildlife trees in these units.

Are S & G implemented on the ground? As part of their documentation, the implementation team kept track of how many wildlife trees were marked per harvest unit. It was the group consensus that the wildlife tree standard had been adequately implemented on the ground.

Are the S & Gs Effective? Wildlife tree retention is addressing the need for maintaining dead and green trees for dependent wildlife and leaving more vegetation variability in managed areas.

Recommendations

- It was unclear to the group what research/rationale was used to determine number of wildlife trees by timber type. Recommend a short white paper be drafted by the SO planning staff to explain the rationale.
- If stand has distinct pockets of aspen, then wildlife tree standards for aspen can be applied to those pockets, rather than applying the lodgepole standard to the entire stand.
- When dealing with heavily mistletoed lodgepole pine as the only choice for wildlife trees, due to the silvicultural concern for mistletoe spread, it is best to leave in large groups and/or as uncut islands. "Uniformly distributed wildlife trees" does not mean single wildlife trees have to scattered across entire harvest unit.
- Wildlife tree standard, as it pertains to mistletoe, contradicts silvicultural objectives in 5.13 timber emphasis management area. Future consideration should be given to whether the wildlife tree standard should be revised for the 5.13 MA.

California Park Gravel Pit Reclamation and Wetland Enhancement
Hahns Peak – Bears Ears Ranger District

Objectives: Determine if implementation had occurred as planned and if expectations were met.

S&Gs related to review objectives

- Scenery Management Area 4.2. Wildlife Guideline #1: Encourage habitat improvement projects which increase opportunities for wildlife viewing, habitat management, interpretation, fishing and hunting.
- Special Interest Area 2.1 General Standard #1: Protect and manage the biological, geological, historical, paleontological, or other values for which the SIA was identified

Are S&Gs incorporated into decision? S&G's were incorporated into the project design and purpose and need and thus there was not a need to state them in the decision.

Additional mitigation contained in decision: No project mitigation was developed

Are S&Gs and mitigation incorporated into contract and/or project design? Yes, S&G's are incorporated into the project design.

Are S & G implemented on the ground?
Regarding Scenery guideline #1 – the project was successful in creating a wildlife and habitat improvement project and increasing opportunities for wildlife viewing, habitat management and interpretation in and adjacent to a 4.2 management area.

The project purpose and need successfully meets 2.1 general standard #1 by managing the values for which the SIA was identified. One of the SIA values is 'boreal toads'. Part of the purpose of the project was to increase available breeding habitat as specified in the California Park Management Plan.

Are the S & Gs Effective? These S&G's were effective in guiding the project design.

Recommendations
The decision clarifies that interpretative signing would be designed for the site. This would better meet the interpretative intent of scenery management wildlife guideline #1. This had not been developed or installed at the time of the site visit. Completing this would complement the project.

2004 California Park SIA Roads and Trails Maintenance Project
Hahns Peak – Bears Ears Ranger District

Objectives: Review project implemented on NFSR 151 in 2004 and determine if purpose and need were met and if effects anticipated were correct

S&Gs[2] related to review objectives:
- Special Interest Area 2.1 General Standard #1: Protect and manage the biological, geological, historical, paleontological, or other values for which the SIA was identified.

[2] Standards and guidelines from the Forest Plan in addition to relevant FSM and FSH direction.

- Water and Aquatic Standard #6: Conduct actions so that stream pattern, geometry, and habitats are maintained or improved towards robust stream health.

Are S&Gs incorporated into decision? S&G's were incorporated into the project design and purpose and need and thus there was not a need to state them in the decision.

Additional mitigation contained in decision: Dispersed campsite relocation was incorporated as design criteria, rather than mitigation in the project.

Are S&Gs and mitigation incorporated into contract and/or project design? Yes, S&G's are incorporated into the project design.

Are S & G implemented on the ground? The project purpose and need successfully meets 2.1 general Standard #1 by protecting and managing the values for which the SIA was identified. One of the SIA values is 'Columbian sharp-tailed grouse'. One of the intents of this project was to improve the road sufficiently as to encourage people to keep their vehicles on the road, as opposed to driving off the road and damaging grouse habitat that is being restored. The project appeared to have successfully achieved this objective as no new off road vehicle tracks were observed in the restoration area.

The project meets Water and Aquatic Standard #6. part of the purpose and need of the project was stated as follows:

> *Further maintenance of the remaining road will reduce impacts to the vegetation and stream systems by providing a higher quality roadbed, reducing illegal off road travel thus reducing the negative impacts associated with erosion and vegetation damage. By pulling the terminal end of the road back prior to the last crossing of Armstrong Creek, the Forest can provide a better parking area, reduce impacts to Armstrong Creek and increase elk security areas on the Forest.'*

The implementation of the project has contributed towards improved stream health by reducing sedimentation and undeveloped motorized stream crossings.

Are the S & Gs Effective? These S&G's were effective in guiding the project design.

Recommendations

Approximately 0.7 miles of road was decommissioned as a result of the project. There were several dispersed camping sites along the decommissioned section of road that became unavailable for people wanting to drive to them. As a result a dispersed camping loop was created at the terminal end of the road with several spurs radiating from it for dispersed camping use. It was the assessment of the HPBE recreation staff, that the dispersed campsites were placed too close together and that a larger loop that distributed the sites farther apart would have been more desirable in maintaining a quality dispersed camping experience.

References

Haynes, C. M., and S. D.Aird. 1981. The Distribution and Habitat Requirements of the Wood Frog (Ranidae: *Rana Sylvatica* Le Conte) in Colorado. Colorado Division of Wildlife, Denver.

Loeffler, C., editor. 2001. Conservation Plan and Agreement for the Management and Recovery of the Southern Rocky Mountain Population of the Boreal Toad *(Bufo boreas boreas)*. Boreal Toad Recovery Team. 76 pp + appendices.

Pioneer (Pioneer Environmental Services). 1993. Results of Survey for the Rocky Mountain Capshell Snail in Colorado Alpine Lakes. Prepared for Eldora Enterprises Limited Liability Company, Lake Eldora Corporation and Colorado Division of Wildlife.

Puttmann, S.J. and K.J. Kehmeier. 1994. Rocky Mountain Wood Frog, *Rana sylvatic*, Recovery Plan. State of Colorado, Department of Natural Resources, Division of Wildlife. 20 p.

USDA Forest Service. 2005. 2004 annual report on insect and disease conditions in the Rocky Mountain Region.

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District Staff from all of the districts contributed much of the content in addition to photographs for this report.

Photographs are by USFS personnel unless otherwise noted.

Acronyms

AML	Abandoned mineland
AMP	Allotment managment plan
ARNF	Arapahoe Roosevelt National Forest
AUM	Animal Unit Months
BA / BE	Biological Assessment, Biological Evaluation
BCH	Brush Creek / Hayden Ranger District
BLM	Bureau of Land Management
BMPS	Best Management Practices
CDF	Colorado Division of Forestry
CDOW	Colorado Division of Wildlife
CIP	Capital Improvement Program
CRCT	Colorado River Cutthroat Trout
DN	Decision Notice
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FACTS	Forest Service Activities Tracting System
FWS	Fish and Wildlife Service
FY	Fiscal Year
GA	Geographic Area
GIS	Geographic Information System
GPRA	Government Performance and Results Act
HPBE	Hahns Peak - Bears Ears Ranger District
IDT	Interdisciplinary Team
LRD	Laramie Ranger District
LRMP	Land and Resource Management Plan
MBR	Medicine Bow – Routt National Forests

MBNF	Medicine Bow National Forest
M&E	Monitoring and Evaluation List Colorado)
MIS	Management Indicator Species
MBRTB	Medicine Bow – Routt National Forests, Thunder Basin National Grassland
NEPA	National Environmental Policy Act
NFIM	National Forest Inventory and Monitoring funds
NFMA	National Forest Management Act
NFPORS	National Fire Plan Operations and Reporting System
NFS	National Forest System
NFSR	National Forest System Road
OHV	Off-Highway Vehicle
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)
ROD	Record of Decision
S&G	Standards and Guidelines
SIA	Special Interest Area
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
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 Division
WUI	Wildland Urban Interface
WYDEQ	Wyoming Department of Environmental Quality
WYNDD	Wyoming Natural Heritage Database

Appendix 1 – Medicine Bow Goals and Objectives

Goal 1: Ensure Sustainable Ecosystems: Promote ecosystem health and conservation using a collaborative approach to sustain the Nation's forests, grasslands, and watersheds.	
Subgoal 1.b: Provide ecological conditions to sustain viable populations of native and desired non-native species. (USDA Forest Service Strategic Plan 2000 Revision Objective 1.b)	
Objective 4. Within 3 years, identify and map old growth forestwide to be used in project planning to ensure that desired old growth amounts and distribution are maintained as defined in Chapter 1-Standards and Guidelines.	**Year Due** 2006
The Forest is on target for accomplishing this old growth objective. In 2005, the Old growth Core Team developed field methods and field forms for collecting attribute data that either verifies existing information (R2VEG) or provides additional information not available from existing databases (e.g. coarse woody debris). Stratified random points were generated across the Medicine Bow-Routt National Forests in order to begin ground-verification on a portion of the potential old growth identified in the GIS process. Field data were collected at 53 points with the remainder to be completed in 2006. In 2006, field data from both seasons will be used to correct the identified old growth produced by the GIS effort. Then a Forest-level team will map the old growth to be managed for retention. Use of Standard 1 and Guideline 1 will assure appropriate percentages of old forest on each mountain range and geographic area, and will create a well-distributed assemblage of old forest that provides large patches, riparian stringers, and connective corridors.	
Subgoal 1.c: When appropriate or where necessary to meet resource management objectives, increase the amount of forests and rangelands restored to or maintained in a healthy condition with reduced risk and damage from fires, insects and diseases, and invasive species. (USDA Forest Service Strategic Plan 2000 Revision Objective 1.c)	
Objective 1. Within 2 years, complete Forestwide Fire Management Plan including Wilderness areas.	**Year Due** 2005
The Medicine Bow FMP will be completed fall of 2006.	
Goal 2: Multiple Benefits to People: Provide a variety of uses, values, products, and services for present and future generations by managing within the capability of sustainable ecosystems.	
Subgoal 2.a: **Improve the capability of the Nation's forests and rangelands to provide diverse, high-quality outdoor recreation opportunities. (USDA Forest Service Strategic Plan 2000 Revision Objective 2.a)**	

Objective 3. Annually maintain or reconstruct up to 20% of National Forest trails to meet resource standards. **Year Due** Annually

In 2005, 24% of the total Forest (Medicine Bow and Routt) trail target of 'trails meeting standards' was met.

Subgoal 2.b: **Improve the capability of wilderness and protected areas to sustain a desired range of benefits and values. (USDA Forest Service Strategic Plan 2000 Revision Objective 2.b)**

Subgoal 2.c: **Improve the capability of the Nation's forests and rangelands to provide a desired sustainable level of uses, values, products, and services. (USDA Forest Service Strategic Plan 2000 Revision Objective 2.c)**

Objective 1. Between the Medicine Bow and Routt National Forests, implement a consistent timber program each year. **Year Due** Annually

Since fiscal year 2004 the Medicine Bow – Routt NFs have offered or plans to offer approximately 45,000 to 50,000 CCF (100 cubic feet) per year. The level of timber sale offer is currently constrained by funding. Planned offer for 2006-2010 is based on 2004/2005 funding levels.

Fiscal Year	Volume offered (CCF)	Estimated / Planned Offer (CCF)
2004	46.894	35.000
2005	51.432	50.000
2006		50.000
2007		52,200
2008		49,100
2009		54,500
2010		46,100

Objective 3. Meet annually with Wyoming Game and Fish to coordinate population management issues including big game herd objectives. **Year Due** Annually

This coordination generally occurs at the district level, and it varies from unit to unit on degree of coordination and who attends. Efforts to improve coordination are ongoing. Coordination meetings concerning fisheries resources inventory and management are held annually.

Goal 3 - Scientific and Technical Assistance: Develop and use the best scientific information available to deliver technical and community assistance and to support ecological, economic, and social sustainability.

Subgoal 3.a: Provide better assistance in building the capacity of Tribal governments, rural communities, and private landowners to adapt to economic, environmental, and social change related to natural resources. (USDA Forest Service Strategic Plan 2000 Revision Objective 3.a)

	Objective 2. Annually, provide opportunities for individuals and organizations to assist the Forest Service in implementing and monitoring the Plan.	**Year Due** Annually
	There are numerous ongoing projects that are making progress towards this goal, which are detailed under many of the other objectives. Examples include: Partnerships with various organizations to accomplish trail construction and maintenance Cooperative agreements with counties to inventory and treat noxious weeds. Forest Service, Laramie County and Laramie Rivers Conservation Districts have entered into an MOU to address range and water quality issues in the Crow Creek watershed on Pole Mountain.	

Appendix 2 – Routt Goals and Objectives

Goal 1 – Ecosystem management on the Routt National Forest shall provide for multiple-use outputs and the habitats and processes necessary to maintain the biological diversity found on the Forest.

Maintain Soil Productivity

Management activities on the RNF are monitored annually to determine compliance with R2 soil quality standards. Annual monitoring reports are summarized at 5 and 10 year intervals. No soil monitoring was conducted on the RNF in FY03 and 05.

Work cooperatively with National, State and local interests to protect water related values in perpetuity on National Forest System Lands.

The following actions addressed this goal in 2005:

Review of 24 monthly water rights resumes to determine if any new water rights have the potential to affect National Forest resources: letters were sent to two proponents regarding potential impacts to channel maintenance and stream flow issues, and need to follow proper procedures to obtain permits

Work with Stream Systems Technology Center (Stream Team) in Fort Collins to (1) determine potential effects of a large scale water development on channel processes, aquatic habitat, and riparian conditions and, (2) recommendations for additional studies and analyses to better quantify and assess the effects of the proposed diversion on channel, aquatic habitat, and riparian conditions and processes.

Inventory and verification of existing water rights

Field inventory of 7 existing water facilities (ditches and reservoirs) to determine operation and maintenance needs to minimize effects to soil, water, riparian, and aquatic resources

Improve water quality , channel stability, and aquatic habitat in areas not meeting State water quality standards and in watersheds of concern and meet the anti –degradation clause of the Clean Water Act across the Forest

The following actions addressed this goal in 2005:

Provided summary reports and data on 22 streams on the Colorado monitoring and evaluation list (M&E list); worked with the Colorado Water Quality Control Commission in recommending 18 reaches for removal from the M&E list

12 acres watershed improvement projects including creation of 5 acres of wetland and protection of 4 acres of existing wetlands in California Park.

BMP and Forest Plan Standards and Guideline monitoring for range in California Park is part of the process to minimize impacts to water quality from nonpoint sources

Avoid activities which contribute to air quality degradation and atmospheric deposition in the Mount Zirkel wilderness.

The goal of the air program is to conduct management activities to comply with all applicable federal, state, and local air quality standards and regulations. The Forest Service is also responsible for protecting the Mount Zirkel Wilderness (MZW) Class I airshed from adverse effects caused by air pollution resulting from forest management activites. Management activities with potential air quality impacts, specifically particulate matter contributions, will be summarized annually for compliance and impacts. NADP, MDN, and IMPROVE data from Buffalo Pass will be tabulated and summarized at 5 and 10 year intervals for trend evaluation.

Conduct project analysis at the landscape scale, where appropriate.

Three Landscape scale projects were completed in FY05: The Coberly-Maudlin, Blacktail, Bobcat AMP Projects.

Maintain or create habitats suitable for a stable or increasing population of federally listed threatened and endangered species and Forest Service, Region 2 sensitive species for the Routt National forest, including the Colorado River cutthroat trout.

Plants

- NFIM funding has resulted in the majority of botany program progression.
- Floristic Inventory of Routt provides baseline data result of CCS with UW and USFS with IM$.
- The Botany Zone Agreement Identified a S. Zone Botanist which will allow progression towards this goal for Routt NF.
- MBRTB Botany Process/Protocol according to R2 direction and LRMPs are currently being institutionalized on all units. Management status species lists (TE, SS, SLC) specific to units have been developed but have not been formalized other then on MBNF. SO Direction has been requested.
- Progress is being made annually on components of the Botany 5 year plan which identifies action items specific to moving toward meeting this objective.
- Effects matrices are nearly completed for all R2 SS plant species allowing us to be more effective in avoiding or reducing impacts during project planning and design.
- Two of ten Empirical Surveys (broad scale surveys) have been conducted on portions of the MBRTB. After 10 we will have Baseline and/or Updated Data for Management status plants including Predictive Modeling and inventory of habitat and Expanded Surveys for select species. One in the Owl Mountain Geographic Area is planned for FY06.
- The forest is working to develop local sources of native plant materials specific to the MBRTB.

Terrestrial Wildlife

This complex objective contains both a habitat component and a population component, and addresses numerous species. For terrestrial wildlife, there are 2 ESA-listed species, potentially 35 regional forester sensitive species, and 23 MIS. The Forest has begun to make progress towards this objective, though limited funding necessitates focusing on a subset of species (our MIS) that, taken together, depend on the primary covertypes available on the Routt NF – namely, mature lodgepole, mature spruce/fir, riparian areas

and, to some degree, aspen.

Thus far, our habitat availability information is limited to broad assumptions that associate a given species with a combination of vegetation attributes in GIS such as dominant tree species and habitat structural stage. For example, we defined marten habitat as ≥75% T (timbered), ≥17% TSF (spruce/fir), and ≤20% in habitat structural stage 1T or 2T (non-stocked or seedling/sapling). For many species, we do not know the true population trend on the Forest, though a non-exhaustive literature and data review suggests that, with the exception of Wilson's warbler, all MIS have stable populations on the Routt. Since funding limits the number of species we can survey for population trends, we assume that where the appropriate combination of vegetation characteristics exists, there is suitable habitat that is occupied by the species in question. Such suitable habitat tends to be surveyed for TES species only where projects are scheduled to occur and usually only using visual detection while walking through an area for less than a day.

We have not created a GIS layer of likely habitat for all of our species, and do not have field data to distinguish the varying quality of habitats. Despite this lack of field data, we can make some broad assumptions about habitat quality with regards to forest-wide changes. For instance, the increased number of mountain pine and spruce beetles can reasonably be expected to improve the quantity (number of snags or acres of snags) and quality of habitat (increased beetles equate to increased forage) for the three-toed woodpecker. At the same time, we can predict that beetle kill trees are creating a natural influx of coarse woody debris that may be used as lynx denning sites, whereas beetle treatment and salvage may reduce the quality of lynx habitat. In addition, wildfires in beetle-infected mature forest can change lynx denning habitat to lynx foraging habitat. Therefore, it is not a simple analysis for any of these 60-odd species to assess whether the Forest is maintaining habitat, nor can we expect to increase habitat for multiple species that have conflicting habitat requirements – creating habitat for one species could simultaneously degrade the habitat for another species.

In some cases, the Forest can rely on partners, such as the Colorado Division of Wildlife (CDOW) to monitor wildlife populations. For instance, CDOW is intensively tracking the progress of the lynx reintroduction with the use of radio-collars. CDOW then provides brief reports on lynx movements, numbers, and reproduction approximately 1 year after breeding occurs.

During the past 9 years, several habitat improvement projects were completed that create or improve habitat for at least one, and usually multiple, species. The Forest continues to make progress maintaining and creating habitat for species such as deer, elk, boreal toads, and Colombian sharp-tailed grouse. During the past 3 years, in addition to creating or improving habitat for the above species, the Terrestrial Wildlife Cadre focused on developing and executing protocols to monitor MIS. In 2006, the Wildlife Cadre is prioritizing the list of sensitive species in order to focus limited future funding on those species where concern is relatively high, knowledge is relatively low, and forest activities can be expected to either improve or degrade their habitat or population trends. It is not likely that funding will allow the Forest to maintain or create habitat or accurately demonstrated population trends for all of these species within the life of the Plan.

Limit the proliferation of undesirable nonnative plant and animal species through various activities and practices.
In 2004, 1,565 acres of noxious weeds were treated on the Forest; that number was 965 acres in 2005, in spite of reduced funding levels. Efforts are designed to control existing populations and to limit further expansions of noxious weed species. Primary species treated were yellow toadflax, whitetop, houndstongue, musk thistle, and Canada thistle. Jackson, Grand, and Routt counties are cooperating parties with the Forest Service in controlling noxious weed infestations. We are currently expanding efforts for a Cooperative Weed Management Area in Routt county. It is quite possible that efforts to limit noxious weed expansion on the federal lands may not be successful if all land ownerships and landowners are not equally committed to the desired outcomes (infestation sources may remain on adjacent lands or on intermingled ownerships).
Goal 2 – Provide a wide variety of outdoor recreational opportunities and experiences to meet the full range of visitor expectations.
Identify appropriate programs and compatible levels of use for Forest recreation and resource programs in collaboration with user groups, communities, and other agencies.
Through their relationship with Yampatika, the Routt National Forest has an active environmental education and interpretation program. In addition, forest recreation program managers work closely with a number of user groups and other agencies to enhance the recreation program.
Provide Forest visitors with a full range of interpretive experiences.
See response to the above objective.
Provide recreation opportunities to accommodate a wide range of abilities.
Accessibility is one of the main components of our Forest capital improvement program. Whenever deferred maintenance is performed on a developed site, accessibility is taken into consideration. Not all facilities are accessible, however, and continual maintenance of trail access is vital - this includes access to toilets, picnic and camping areas.

Goal 3 – Cooperate with local governments and communities to develop opportunities that contribute to economic viability.

Support development and maintenance of a sustained flow of market and nonmarket products to regional and local economies.

Non-market products are issued as personal use permits to the public through VIS or front-liners at district offices. These products are not sold competitively and are issued for personal use, rather than commercial re-sale.

Non-market Products (Routt NF)

Fiscal Year	Fuelwood (permits	Transplants (each)	Christmas Trees (permits)	Post & Poles (permits)	Misc (ferns, botanicals,etc (permits)
2004	1301	189	1728	46	393
2005	1492	464	1492	101	383

Fiscal Year	Sawlogs (CCF)
2004	31,600
2005	32,200

Market products are generally prepared as commercial products (sawlogs, post & poles, firewood) through vegetative treatments that are designed to improve forest health, achieve resource objectives, or salvage damaged trees.

Develop programs and projects that are complementary to local community objectives and plans.

Bark Beetle Information Task Force - local city and county government, state and federal agencies, the local chamber, and local non-profits joined forces to provide information and education about the huge bark beetle epidemics and the resulting effects on natural resources, the landscape, and tourism. Many projects have come from leveraging funds with all these entities – exhibits, brochures, interpretive signs, PSAs, events, etc.

Yampatika Interpretive Association – the FS partners with the association to provide interpretive opportunities across the forest, on the Steamboat Ski area, and in communities. The focus is natural and cultural interpretation. Projects include interpretive brochures, educational displays, walks, talks, children's programs, natural resource education for adults, and fund raisers that get needed work accomplished on the ground. These efforts contribute to tourism and community economic viability.

Routt County Wildland Fire Council (Education Committee) – an interagency educational group that promotes wildland fire prevention and mitigation.

North Park High School Greenhouse – continue to work in partnership with the school district to collect native seeds and raise them in the greenhouse to revegetate National Forest Lands and private lands with native plants.

Rocky Mountain Youth Corps and Steamboat Community Youth Corps – The FS works with this organization to get needed work done on the forest and to mentor youth into natural resource appreciation.

Natural Resource Interpretation – Numerous interpretive projects have been planned and implemented in partnership with local entities including Fish Creek Brochure, Teller City signs, ski area signs, signs across the forest about blowdown, beetles, and forest health, Red Elephant trail, local history and tourism signs and brochures and kiosks in Yampa and Hayden.

Yampa Valley Info – participated in their mission to gather and display valley-wide information to promote the spirit, culture and heritage of our communities. Linked the MBR website to Yampa Valley Info, which is one-stop website shopping for information about theYampa Valley, especially for people desiring to recreate here or to relocate to Routt County.

Assist local governments in developing specific programs that promote economic stability

Wood Seminar – through the Bark Beetle Information Task Force the Forest Service worked with local rural development coordinators, local government, and federal (USDA and Dept. of Labor) agencies to put on a one day seminar that included instruction, information, and discussion about how the community and local businesses (existing and potential) could utilize the excess biomass in the forests of Routt County.

North Park Natural Resources Group – a local group in Jackson County that works to market beetle-kill timber and seek economic development opportunities for the county. It is also involved in promoting stewardship opportunities on the Forest.

Forest Centennial – worked in partnership with local communities to promote understanding and appreciation of the Routt National Forest's contribution to the economic viability of Routt County, including recreation, ranching, hunting, water and wood supplies, and scenic beauty and tranquility.

Bio-mass Generator – A partnership between Jackson County (school district), Forest Service, and county commissioners worked to bring a pilot project to provide electricity for the high school greenhouse first and then the entire high school. This project was a Department of Energy pilot project and it is anticipated that it will serve to start up other biomass industry in the area. North Park high School won the National rural Community Assistance Spirit Award for it biomass project.

Owl Mountain Partnership – A partnership with BLM, the Forest Service and local ranchers to accomplish rangeland improvements.

Rural Development Grants include – library computer kiosks in Yampa and Oak Creek; a tourism brochure for South Routt; heritage park development in Walden; The Orton Family Foundation for their project entitled, Community Placemaps: Connecting Young Faces to Rural Places; Historic Routt County for Barns Etc., a Historic Ranch Survey; a project entitled The California Park Ethnobotanical Project, the

Rocky Mountain Youth Corps and the Routt County Transition Program for an environmental education project for special needs students ages fourteen to twenty-one.

Fuel reduction projects – working with private/adjacent landowners on several ongoing fuel reduction projects.

Moffat County and Routt County Public Information Officers groups – helped develop public information officer groups so that all entities work together in talking about issues that affect local communities. Example: the Routt County PIO Group worked together extensively to ensure that the Rainbow gathering did not negatively impact local tourism.