

2001 ANNUAL MONITORING AND EVALUATION REPORT

GRAND MESA, UNCOMPAHGRE, AND GUNNISON NATIONAL FORESTS

The *Land and Resource Management Plan* for the Grand Mesa, Uncompahgre, and Gunnison National Forests (the Forest Plan) was adopted in 1983, and underwent significant amendment in 1991. The statutory 15-year period for Forest Plan revision ended in September, 1998. In the intervening years, the resources and people of the Western Slope of Colorado have changed in important ways. Population growth and development of private land; increases in recreation use; advances in scientific understanding of ecosystems; and changes in demand, use, and pricing of natural resources are only a few of the important trends affecting the region. The Forest Plan needs to be revised to account for these changes and to reflect our current understanding of the decisions made in forest plans.

The Forest is proceeding to establish a planning team and to gather information which will support Plan Revision. A Notice of Intent to prepare an EIS related to Plan Revision was published in the Federal Register on September 28. The notice lists in some detail the revision topics identified at that time. The comment period on this notice, indicated as January 31, 2000, has been extended indefinitely in order to allow both the Forest Service and the public to consider a number of National initiatives as part of the public comment process. These initiatives have included a new proposed Planning Rule, the Presidents Roadless Initiative, the Proposed Road Management Policy, a Special-Use Permit Cost Recovery Fee proposal and the listing of the Canada lynx as a threatened species. These initiatives have slowed efforts to begin on the revision.

While revision is needed to improve the clarity, relevancy, and focus of the Forest Plan, it is my finding that the current standards and guidelines and management prescriptions continue to provide adequate direction to guide management of the Grand Mesa, Uncompahgre, and Gunnison National Forests during the time in which the Plan is being revised.

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DATE

INTRODUCTION - MONITORING ACTIVITIES

Monitoring closes the loop between planning and implementation. This report assesses how well we are implementing the Forest Plan, whether Forest Plan direction is effective at achieving management goals, whether implementation of the Forest Plan is achieving the predicted effects, and whether the assumptions made in developing the plan remain valid. Monitoring provides the foundation on which we will build the Forest Plan revision. Monitoring is not a special "one-shot" activity or emphasis item. Rather, it is an integral part of every project and manifests itself most successfully in the day-to-day administration and documentation of each project.

Monitoring on this Forest consists of a range of activities. Plan objectives and standards are reviewed as part of NEPA analysis and decision making. Ongoing projects are reviewed in the field in the context of this continuing awareness. Interaction with the public through contact in the field and in field offices, and through public comment also serves as effective feedback to staff.

The actual preparation of this report consisted of the compilation of respective staff observations for their areas of responsibility.

Monitoring results are reported under three headings: Implementation Monitoring, Effectiveness Monitoring, and Validation Monitoring. These categories and the questions asked and answered are taken directly from the GMUG Monitoring Plan (pages IV- I through IV- 16 of the Forest Plan).

A. Implementation Monitoring

Are projects being implemented in accordance with Forest Plan direction?

1. Outputs and Activities

Are outputs and activities shown in the Forest Plan being accomplished?

In addition to the standards, guidelines, and management prescriptions which it establishes, the Forest Plan includes projections of certain outputs and activities as an indicator of the effects of management direction. These projections do not represent Forest Plan decisions or commitments; actual accomplishments reflect the annual appropriations available to the Forest to accomplish needed work. Accomplishments in 2000, as in prior years, were substantially below Forest Plan projections in many areas.

Table I was developed from annual Management Attainment Reports (MAR) for 1991-2000, and Table III- I of the Amended Forest Plan (pages 111-6 through III-8). Many of the outputs reported in MAR are not directly comparable with projections described in the Forest Plan. Table I displays those accomplishments which are comparable between the two.

Table 1 - Outputs of Goods and Services

Outputs & Services Plan Projection	Units	FY 2001 Accomplishments	FY 1991 – 2001 Avg Annual	Forest Plan Projection
<u>Recreation</u>				
Trail Const. & Reconst.	Miles	15	24	50
<u>Wilderness</u>				
Wilderness Mgt	M Acres	555	555	515
<u>Fish and Wildlife</u>				
Non-Struc WL Imp	Acres	6,600	10,330	2,000
<u>Range</u>				
Grazing Use (Livestock)	MAUM	274	N/A	300
Non-Struc Imp	Acres	1,565	1,365	2,500
<u>Timber</u>				
Conifer Sawtimber	MMBF	5.6	7.7	21.0
Conifer POL*	MMBF	0.8	0.7	2.4
Aspen POL	MMBF	0.2	6.7	15.0
Firewood & Other	MMBF	10.5	19.1	45.4
Reforestation	Acres	540	1,458	870
Timber Stand Imp	Acres	248	532	200
<u>Minerals</u>				
Leases and Permits	Op. Plans	38	N/A	136
Locatable Minerals	Op. Plans	12	N/A	100
<u>Protection</u>				
Fuel Treatment	Acres	9,314	3,673	2,000
<u>Lands</u>				
Land Exchange	Acres	5,755	1,482	240
ROW Acquisitions	Cases	5	N/A	8
Landline Location	Miles	20	18	20
<u>Soils</u>				
Soil/Water Imp	Acres	53	67	76
<u>Facilities</u>				
Road Const. & Reconst.	Miles	40.6	11	61
<u>Revenues</u>				
Returns to Treasury	M	\$3,926	N/A	845
<u>Costs</u>				
Total Budget	M	\$18,550.1	N/A	13,112

2. NEPA Compliance

Are NEPA documents in compliance with the Forest Plan? Are the projects being implemented in accordance with the documents

All NEPA documents for which the Forest Supervisor is the responsible official are reviewed by the Forest Environmental Coordinator prior to approval to ensure compliance with NEPA procedures. Decision documents are reviewed for consistency with the Forest Plan, and deficiencies are corrected prior to approval. The current quarterly Schedule of Proposed Actions lists 101 projects under way in terms of NEPA analysis. Each of these is evaluated in terms of consistency with the Plan at the time of decision (documented either in a Record of Decision, a Decision Notice or a Decision Memo) a positive declaration of conformance with the Plan is required. If such declaration can not be made the project is not implemented or the Plan is amended.

3. Recreation

Are visual quality objectives being met?

Two timber sale proposals were analyzed in respect to visual implications resulting from cutting unit prescriptions. Recommendations to modify prescriptions along a scenic byway corridor and adjacent to developed recreation sites were made. These sales will be checked to determine if visual objectives are being met during timber sale activity. No projects were field reviewed in 2001. No negative public comments have been received concerning visual impacts related to activities on the National Forest.

3. Recreation

Are ROS recreation settings being retained?

The monitoring requirement for Semi-Primitive recreation opportunity is a 10% sample of completed vegetation and ground disturbing projects. No timber sales were reviewed in the field during the year to determine the effects of road construction and timber cutting on the ROS.

Earlier concerns regarding the loss of semi-primitive non-motorized acres has been addressed as a result of the National roadless issue. Generally, most new roads proposed for timber sale areas are closed and/or obliterated after sale closure. Analysis of timber sale proposals usually addresses the need to close excessive, existing roads within the timber sale analysis area. This assists in restoring some of the semi-primitive non-motorized opportunities lost in the past.

We continue to have significant concerns regarding the impact to ROS with the pioneering of routes and access into previously inaccessible areas by ATV'S. Lower class trails and what might have been user-created paths are being discovered due in part to the sheer number of recreation users. This is having a significant impact on the character of these areas and is resulting in "ROS creep" towards the more developed/impacted settings of roaded natural and rural and away from the semi-primitive end of the spectrum. The Gunnison Travel Management Plan, the Grand Mesa Travel Plan, and the Uncompahgre Travel Plan addressed this. The Grand Mesa Travel Plan has been in effect for four years and has been effective in providing recreation

opportunity for all users while substantially reducing the effect described above. We expect similar effects with further implementation of these travel management plans.

Are the cultural resources being protected?

The Plan standards for protection of cultural resources include: completion of inventory before ground-disturbing activities; avoidance, if possible, to protect all listed or National Register eligible properties either historic or prehistoric; collection of data from sites when there is no other way to protect their values; and issuance of permits to institutions or agencies for research. In additions, sites should be maintained so as to prevent deterioration and damage from natural and human causes.

All ground-disturbing projects receive cultural resource inventories prior to implementation. The appropriate level of inventory is chosen for the proposed action and may range from a summary of previous reports and literature to a full 100% field survey. Predictive models for different types of sites in different environmental settings are used to design the inventories. All heritage resources in a survey area are recorded and eligibility for the National Register of Historic Places is determined. Reports and site records are sent to the State Historic Preservation Officer (SHPO) for concurrence with the eligibility determinations. All sites considered eligible, or that need further data to determine eligibility, are avoided during ground disturbing activities through project re-design and buffering if possible. If avoidance is not feasible, sites may be mitigated, for example through data salvage excavations or photo-documentation. Mitigation plans are approved by the SHPO and the national Advisory Council, and are accompanied by consultation with appropriate interested parties, such as Native American tribes.

In addition to these standard procedures based on 36 CFR 60 and 800 regulations for managing sites, several Programmatic Agreements have been developed to more effectively inventory and protect sites during Forest program activities; these cover implementation of prescribed fire and designation of areas for use of natural fires; implementation of travel management plans; and the planning and permitting of livestock grazing. Under each of these Agreements the Forest identifies specific types of cultural properties that may be affected by the program actions and evaluates/protects/monitors conditions on affected sites. In 2001, the Forest added a heritage program manager in part to oversee these cultural resource compliance programs Forest-wide.

In 2001, the Forest identified or reevaluated approximately 25 sites and conducted new intensive inventory on about 4,000 acres. Currently data are limited as to whether all sites requiring avoidance during project activities such as timber sales or road decommissioning were in fact avoided, but all cultural resource documentation was in place for most projects. Inventories of prescribed fire planning areas have fallen behind and it is expected that use of the new Programmatic Agreement for fires and implementation of the National Fire Plan will more effectively identify and protect sites in prescribed burn areas.

In 2001, negotiations with the Idarado mining company through the Trust for Public Lands and other partners resulted in the acquisition of the first 3200 acres of privately-held mining lands within the Red Mountain Mining District. An inventory of portions of this acquired land indicates that some 50 archaeological historical sites and at least 20 standing structures were transferred to the Forest for management and protection. This is a significant accomplishment.

Also this year, sites in need of stabilization were protected when the Forest used grant funds to restore the Vance Junction railroad coaling platform and used volunteer labor to continue building restoration work at the Alpine Tunnel historic railroad site. In addition, a major highway overlook was constructed to interpret mining sites for the public at Red Mountain Pass. Last year no sites were mitigated through data salvage or other alternatives, and no permits for research were issued other than those needed by contracting companies to carry out needed inventories for projects.

Is unauthorized use or are natural agents damaging or destroying cultural resource properties?

Heritage resources exposed to wind, water, and other natural agents are continually receiving impacts that vary in degree according to the amount of exposure. Prehistoric and historic subsurface deposits are naturally protected until exposed by erosion or vandalism, and surface remains can be protected if under a rock shelter or overhang. Standing historic buildings and features are impacted by moisture and weather and by animals nesting/rubbing/feeding on them. Humans impact sites through direct vandalism, theft, fires and illegal excavation, and through indirect impacts such as wear and tear, littering, and compaction in popular areas.

In 2001, the Forest revisited and inspected conditions at approximately 25 sites. This included five significant historic structures to determine their stabilization and maintenance needs and priorities. Sites are required to be revisited and re-evaluated during cultural surveys of all prescribed fire areas, all natural fire use designation zones, all sites being interpreted for public visiting, and all allotments being analyzed for livestock grazing permits. No ongoing damage requiring remediation from the project activities has been identified through this monitoring, although past changes and minor incremental losses of resource values have been found. Implementation of the Travel Management Programmatic Agreement has not yet begun; it would increase monitoring of sites easily visible and accessible from major travel routes to look for human-caused impacts. Several highly significant prehistoric sites are informally monitored every year for new impacts from vandalism and erosion. This monitoring suggests that a small percentage of sites are being negatively impacted each year from natural and human causes. There is a need for rehabilitating or mitigating these sites but no source of funding has been located.

Wilderness

There are approximately 39,375 acres of wilderness on the Forest (about 7% of the total) that do not have wilderness management prescriptions assigned to them. These include the Fossil Ridge Wilderness - 33,000 acres, the Oh-Be-Joyful addition to the Raggeds Wilderness - 5,500 acres, and the Bill Harelson Creek addition to the Uncompahgre Wilderness - 815 acres. All of these areas were designated by the Colorado Wilderness Act of 1993 and post date the Forest Plan amendment of 1991. These need to be addressed in Forest Plan Revision.

Observations reported in the FY 96 Monitoring report concerning prescribed natural fire, obsolete standards and guidelines, campsite conditions, and the implementation of special orders are valid in the 2000 year as well.

6. Wildlife

Are capability levels being achieved to sustain desired populations for vertebrate wildlife species?

For most management indicator species for which data is available to make this determination, populations are supported at sustainable levels across the Forest. Mule deer populations continue to be below desired levels, with local exceptions (though in no danger of loss of viability). Elk populations are near population objective levels in most Data Analysis Units as delineated by the Colorado Division of Wildlife. Some units within the Forest are slightly below population objective levels while others are slightly above population objective levels. Bighorn sheep remain stable overall, though some populations exhibit a downward trend. Black bear populations are stable and estimated to meet desired levels with the limited information available. Data is limited to determine population levels for the pine marten. Goshawk surveys continue on each ranger district, but we still lack sufficient information to determine overall population or trend.

The Forest has completed a Management Indicator Species Evaluation and Monitoring Analysis for a number of species. Reports have been completed for the Lewis' Woodpecker, Colorado River Cutthroat Trout, Abert's Squirrel, Pine Marten, Northern Goshawk, Mule Deer and Elk. These reports contain information concerning biology and distribution, specialized habitat requirements, limiting factors, Forest-wide habitat condition and trends, populations numbers and trend analysis, and monitoring protocol and strategy.

An intensive monitoring program continues on the Forest for small forest owls. This monitoring effort has been ongoing for ten years and has resulted in the gathering of important population data primarily for the boreal owl, saw-whet owl, and flammulated owl.

Are the minimum habitat needs for vertebrate wildlife species being met? Are seral stages, edge index, and spatial habitat requirements being achieved?

All projects comply with Forest Plan direction, including standards for old growth, edge, snags, down woody material, and vegetative composition and structure. Most such requirements apply at the diversity unit scale; to the extent that each diversity unit meets standards for old growth, snags, etc., we can be assured that they are met at the Forest level. However, habitat and diversity standards in the Forest Plan are primarily associated with vegetation management treatments. The implementation of the Uncompahgre Ecosystem Restoration Project and other projects on the forest will substantially increase the acreage of vegetation manipulation on the Forest.

Is existing or created habitat providing the most total effective use by big game within desired objectives?

Habitat effectiveness is limited primarily by open road density. Many Forest areas are still open to travel by off-highway vehicles, and user-developed routes continue to be created. Some areas, particularly on the Uncompahgre Plateau, are at less than the objective of 40% (or higher for specific management areas) for habitat effectiveness for elk and deer. An approved travel plan on the Uncompahgre Forest will greatly improve this situation. On the Gunnison Forest, a

decision restricting travel to existing routes was made in April 2001 and should improve habitat effectiveness on that Forest.

As the result of public comment on both timber sales EA's and EIS'S, and on the Uncompahgre Travel Management EIS it has again come to our attention that the 40% habitat capability (as indicated by the HABCAP model) standard in the Forest Plan needs to be reconsidered. This standard was originally intended to provide a quantifiable standard for assuring compliance with the NFMA requirement to maintain minimum viable populations of wildlife. It does not serve this purpose. Its applicability to various species (elk and deer vs. others) has been unclear, and our interpretation of the Plan has been revised this year after careful study of the Plan, the definitions of habitat effectiveness and habitat capability in the HABCAP model. The HABCAP model was designed as a tool for comparing the effects of alternatives and does not provide the link with populations that is supported by science. If this is not addressed in an earlier amendment, it will certainly be a primary issue in the Forest Plan Revision. This was reported in previous monitoring reports and remains true today.

7. Fisheries

Are we managing habitat for the needs of trout and macroinvertebrate species? Are we meeting standards and guidelines?

We are implementing the Colorado River Cutthroat Trout Conservation Strategy. Overall, aquatic habitat is managed indirectly during consideration of other Forest activities, especially recreation, range, lands, and timber projects. The Forest has implemented aquatic and riparian action plans to the extent possible considering the limited available budget and staffing. Fisheries specialists spend most of their time on interdisciplinary teams supporting other projects.

Are we meeting standards and guidelines for minimum flows?

Minimum flows are addressed at the project level during consideration of special use applications and water rights assessments. Where necessary and consistent with established water rights, the Forest requires bypass flows for proposed water developments. In other cases, the Forest pursues water rights and in-stream flows. The Colorado Division of Wildlife often files for in-stream water rights.

Across the GMUG, and particularly on the Grand Mesa, private parties hold many senior water rights, some pre-dating establishment of the national forests. Coordination with water right holders represents the single greatest challenge to achieving minimum flows for riparian ecosystems.

8. Threatened, Endangered, and Sensitive Species

What is the status of threatened and endangered plant and animal species?

The U.S. Fish and Wildlife Service has identified the following species as threatened, endangered, and candidate species for the Grand Mesa, Uncompahgre Plateau, San Juan Mountains, La Garita Mountains, Continental Divide, and the Elk Mountains:

Uncompahgre fritillary butterfly - endangered
Southwest willow flycatcher - endangered
Bald eagle - threatened
Mexican spotted owl - threatened
Boreal western toad - candidate
Canada lynx - threatened
Gunnison Sage Grouse – candidate

Four additional endangered species of fish occur downstream of the GMUG, and could be affected by management activities on the Forest:

Colorado squawfish - endangered
Bonytail chub - endangered
Humpback chub - endangered
Razorback sucker – endangered

A few remnant populations have been located. Additional inventories are being conducted to determine population size and distribution within selected drainages.

Surveys were conducted for the Uncompahgre fritillary butterfly and boreal western toad. An interagency contract was signed in 1997 for study of the butterfly. Small, apparently stable populations are known from four locations. Monitoring remains a high priority.

All projects on the Forest now must comply with analysis protocols considering the effects of proposed actions on potential lynx habitats. A federal recovery plan is being developed.

In addition to species listed by the Fish and Wildlife Service, the Forest Service maintains a list of sensitive species, for which maintenance of viability is a particular concern. The Forest's sensitive species list is currently under revision and additions and deletions will be finalized in the near future. Sensitive species which may be found on the GMUG include:

Mammals:

Wolverine	
Spotted bat	Townsend's big-eared bat
Ringtail cat	Southwestern otter
American marten	
Pygmy shrew	
Dwarf shrew	

Birds:

Olive-sided flycatcher	American bittern
Northern harrier	Black tern
Columbian sharp-tailed grouse	Ferruginous hawk
Merlin	Osprey*
Flammulated owl	Western burrowing owl
Boreal owl	Purple martin
Black swift	Three-toed woodpecker
Black-backed woodpecker	Lewis's woodpecker

Golden-crowned kinglet
Fox sparrow
Baird's sparrow
Pigmy Nuthatch
Loggerhead shrike

Common loon
Greater sandhill crane
Western plover
Long-billed curlew
White-faced ibis

Amphibians/Reptiles:

Tiger salamander
Northern leopard frog
Milk snake

Fish:

Colorado River Cutthroat trout

Each proposed project on the GMUG includes a Biological Assessment (BA) of potential impacts to threatened, endangered, and candidate species, and a Biological Evaluation (BE) for sensitive species, which is documented in a biological assessment and/or biological evaluation. Where this assessment indicates that the project may affect a threatened or endangered species, the Forest Service consults with the U.S. Fish and Wildlife Service before proceeding.

9. Riparian

Are we managing riparian habitat to meet the standards and guidelines in the 9A management prescription ?

Each protect environmental analysis includes the relevant standards and guidelines for Management Prescription 9A as management requirements/initigation measures.

In many cases, projects more than meet the standards set for Management Prescription 9A by incorporating more recent science, including design criteria from the Watershed Conservation Practices Handbook for the Rocky Mountain Region and assessments of Properly Functioning Condition (PFC). The Forest has recognized the Watershed Conservation Practices Handbook as the state of the art in protecting watershed resources.

Are we managing riparian areas to reach the latest seral stage possible within the stated objectives?

Project decisions are applying criteria which meet or exceed Forest Plan direction for management of riparian areas. At the same time, timber harvest and road construction are taking place at levels substantially lower than projected in the Forest Plan. Riparian areas are being managed for the latest seral stage possible within stated objectives.

10. Range

Are we meeting the utilization standard in the Forest Plan?

All recent Allotment Management Plans developed on the GMUG include standards at or above utilization standards set in the Forest Plan. Most recent AMP's set stubble heights for riparian herbaceous vegetation which exceed Forest Plan standards. In 2001, we completed 3 new

AMP'S, all of which meet Plan Standards, bringing the total with current environmental documentation meeting Forest Plan standards to 64.

In 2001, we monitored and evaluated 228,000 acres of rangeland according to standards. Rangelands on the GMUG are stable or in an upward trend, with very, isolated instances of downward.

Range personnel monitor achievement of these standards by rereading permanent transects, measuring utilization, checking permittee compliance with annual operating plans, assessing properly functioning condition of riparian areas, and ensuring that AMP objectives are being attained.

What is the habitat condition and trend?

Our inventories show strong upward trend in range condition Forest-wide. All show long-term improvement in range condition. As we update Allotment Management Plans, we are collecting vegetative information per the Rangeland Analysis and Management Training Guide for the Rocky Mountain Region.

What is the level of noxious weed infestation and need for treatment by species?

Noxious weeds continue to be a major source of concern on this forest as throughout the state. District personnel report increased numbers of weed species and occurrences on the forest each year. Each district maintains an atlas showing weeds by species, location, infestation level, and treatment history. The GMUG treats weeds through the Forest Noxious Weed Management Strategy, which provides for education, prevention, containment, and control in that order. We enforce weed-free feed restrictions, and all districts are actively involved in biological control of thistles. All of our ranger districts have ongoing cooperative programs with their respective county weed boards to treat weed infestations in a planned and coordinated manner to insure that we approach weed control in the most comprehensive manner possible. Unfortunately, we continue to find ourselves falling behind due to shortage of funding and staffing for this work. We estimate that 23,000 acres on the GMUG are affected by fifteen species of noxious weeds.

11. Timber

Are regeneration survival and stocking standards being met?

Regeneration surveys are being conducted one, three, and/or five years after final harvest on sites that are to remain in a forested condition. Of 1,249 acres surveyed in 2001, 104 acres were certified as meeting or exceeding regional standards for successful regeneration. In addition, 1,145 acres were 1st and 3rd year surveys on stands not yet ready for certification.

12. Soil and Water

Are standards and guidelines being implemented on projects with the potential to impact soil and water resources?

The Forest is continuing to incorporate appropriate standards and guidelines into the management of all ground disturbing activities, with special emphasis on the effects of roads, water development facilities, and livestock use in our watersheds. For livestock related actions this is being done as grazing plans are updated and Forest Service officials and operators agree to the details of annual operating plans.

The management of the existing road network continues to be a challenge to the National goal of maintaining and restoring healthy watersheds. Also the watershed improvement program and road maintenance funds have been targeting roads which are resource problems for either closure or correction of problems, i.e., surfacing, adding drainage, replacing drainage crossing, etc.

Recent timber sales and new logging roads incorporate the standards and guidelines into design and mitigation. Review of these activities on the ground confirms that soil and water protection measures are being implemented on the ground.

The Regional Watershed Conservation Practices Handbook continues to be the foundation on which watershed protection measures are based. It represents the most current strategy for watershed protection and is based upon the state of our knowledge.

It is recognized that many Forest Plan standards and guidelines are becoming outdated or are not sufficiently well defined. New approaches and tools have been developed since the Forest Plan was adopted which better serve our current understanding of physical/ecological processes; reflect public values and respond to political and legal requirements. The Forest Plan revision should evaluate and incorporate standards from the Watershed Conservation Practices Handbook and other sources into the Forest Plan.

13. Minerals

Are operating plans being followed and reclamation completed to meet management requirements and standards and guidelines?

Yes, operating plans are being followed and reclamation is being completed to meet management requirements and standards and guidelines. Forest plan standards are effective and objectives are being met. If the District Ranger determines that significant disturbance of the surface resources will likely result from the operations, the District Ranger will inform the operator of the requirement to prepare a plan of operations. Proper implementation, administration, and enforcement of mineral operations are contingent upon a plan of operation. Review and approval of the reclamation plan ensures that mitigation measures are in compliance with Forest Plan standards and guidelines.

A plan of operation must adequately describe the approved operation with sufficient quantitative information to verify and enforce compliance with the plan, include a termination date, identify the mining claim or mineral lease with an accurate location and site map, list the claimants and/or operators, include a detailed reclamation plan with quantitative and measurable reclamation standards, and document the costs of a reclamation bond, if applicable.

Documentation is essential for proper administration and enforcement. Monitoring intensity vary in accordance with the complexity of the project being administered. Case files contain

field exams, personal contacts, verbal and telephone conversations, e-mails, filed notes and photos. District lands/minerals personnel are making a conscientious effort to properly administer their mineral operations.

14. Transportation System

Are newly constructed local roads closed? If not, is reason documented?

All local roads require a Road Management Objective worksheet (RMO) as part the process of implementing decisions made through the NEPA process. The RMO reflects the short and long management goals for the road and displays whether or not the road should remain opened or be closed after the Forest land management activity is completed.

In FY2001 the following timber sale was sold on the Forest. Part of the West Pinos Timber Sale contract was the reconstruction of 12.2 miles of roads, the work consisted of placing aggregate on the primary haul road serving the timber sale and rehabilitating drainage. No new Timber Sale roads were constructed in FY2001. All new roads as a part of the Timber Sale had road closure gates installed as part of the contract requirements.

The Amphitheater Campground project reconstructed the primary campground loop roads and adjacent trailhead parking area, approximately 0.7 miles of interior campground roads. All project roads had RMO's prepared prior to any construction or reconstruction.

Approximately 8.6 miles of road stabilization work was performed using the ten percent deposit collection funds (TRTR). The Alpine Plateau Road, Owl Creek Road, Silver Jack Boat Ramp road and the Slide road were all stabilized using the TRTR funds. The focus of the stabilization work was to reduce the amount of sedimentation and improve the surface drainage.

The Forest decommissioned 35 miles of classified and non-classified routes. Twenty percent of the roads decommissioned were scarified and seeded as part of the process to bring the land back into natural production. The remaining eighty percent were closed using informational signing and natural barricades.

The West Elk Mine reconstructed 8.8 miles of exploratory roads for methane gas venting. The roads were constructed for temporary use and will be decommissioned at the conclusion of the venting process.

Are we meeting standards and guidelines rehabilitation of temporary roads?

When specified in a contract or part of the permit (lease) plan, rehabilitation of temporary roads is very successful. The rehabilitation is most effective if the road entrance is re-contoured and entrance discouragement techniques are utilized. Successful techniques in discouraging road use include positioning of selected trees at the entrance and placing slash in the roadway. The recent work on the Paonia Ranger District with Mountain Coal is an excellent example of rehabilitation.

Are we meeting standard for non-use of obliterated roads?

During FY20001 the Forest District Road Managers monitored the effectiveness of road obliteration. If obliteration is attempted more than a year after a road's initial construction, a permanent closure is increasingly difficult to implement with each year of public use. The greatest challenge for the Forest in road obliteration or decommissioning is removal of historic access. Roads open for more than 10 years require multiple attempts in re-closing and obliteration work. Public awareness and understanding of road closures is critical to effective obliteration. Observations in the field indicated that hunting season shows the greatest effect of people wanting to use closed routes. Motorized and mechanized (mountain bikes) users do go around barriers and do keep closed routes "open". This has been part of the clear need responded to in recent and upcoming travel planning efforts.

We implemented a commercial radio blitz program during the hunting season to reduce the number of new routes. The media campaign was very successful based upon the incidents reported in FY2001 versus previous years.

B. Effectiveness Monitoring

Is Forest Plan direction effective in achieving Forest Plan goals?

1. Riparian

Are vegetative treatments providing desired results?

Monitoring observations indicate that our riparian areas are healthier now than in the past. Vegetative measurements, photo points, and ocular observations reveal improved bank stability, denser vegetation, and cleaner streambeds. For three years, monitoring of streams using Properly Functioning Condition methodology has assessed the basic physical and hydrological characteristics of stream channels. The majority of streams checked are properly functioning.

Are we reaching the upper mid-seral stage in riparian areas? How does this relate to aquatic habitat condition ?

Surveys associated with project analysis indicate that riparian condition has improved in recent years and appears to continue in an upward trend. As riparian condition improves, we expect to see a corresponding improvement in aquatic habitat, but no studies have been conducted to date which correlate seral stage to aquatic habitat condition.

2. Range

Are forage utilization standards realistic and achieving the intended objectives?

The GMUG has for several years been using the R-2 Rangeland Analysis and Management Training Guide to supplement and enhance standards and guidelines in the Forest Plan. In most cases, short duration grazing scenarios and managing for plant growth and regrowth following use provide better measures of sustainable forage use than the utilization standards in the Forest Plan. The GMUG was a pilot forest for implementation of the Grazing Response Index (GRI)

developed by Colorado State University. The GRI allows us to evaluate grazing use in the context of time and duration of grazing. This method is far superior to standards of simple Percent Utilization. Based upon our experiences with the GRI, it was adopted as an accepted monitoring method in the R-2 Rangeland Analysis and Management Training Guide. We expect to propose replacing utilization standards with more appropriate measures in the upcoming Forest Plan revision.

3. Water

Is implementation of the 9A prescription preventing non-point sources of sediment and meeting Colorado Best Management Practices?

Non-point source sediment pollution is not 100% preventable when considered in the context of land management disturbance activities distributed over a range of climatic, geologic and topographic conditions. It is very difficult to separate sediment contributions related to natural watershed processes and that, which may be contributed by human activities.

We have been successful in our efforts to incorporate and implement best management practices into all facets of activity on the National Forest. However, our ability to monitoring the effectiveness of those practices is limited by funding and staffing.

Overall the quality of the water on the National Forest is considered to be excellent. It is our observation that the constraints imposed by the 9A Management Direction does effectively protect streams, water quality and fisheries habitat. The only stream located on National Forest land, which is listed by the State as an impaired stream is Marshall Creek, which is a tributary to the San Miguel River, near Telluride, Colorado. Zinc is the contaminate, with the cause being historic mining.

During fy2001 significant efforts were made towards completing projects within degraded watersheds, which are intended to improve watershed health. These restoration activities were directed at road maintenance and decommissioning, wetlands restoration; reducing soil loss by improving groundcover; and abandoned mine cleanup.

During fy2001 the Forest continued an intensive water quality monitoring project associates with expansion of the Telluride Ski Area. The objective is to assess the effectiveness of Best Management Practices in minimizing detectable increases of nutrients and sediment in surface waters within and downstream of construction areas. The project is a multi-year effort being done cooperatively with this Forest; the Rocky Mountain Research Station; and the Telluride Ski and Golf Company.

In conjunction with the USGS the Forest established and operating 5 streamflow discharge monitoring studies on the Forest. These sites will be used to augment long term gaging records to develop models for predicting flow characteristics for ungaged basins on the GMUG NF.

Are water yield increases causing channel and resource (fisheries) damage?

There is no evidence that our channels are being adversely impacted by increased water yields. Timber harvesting does have the capability of increasing water yields, however research has

demonstrated that significant water yield increases require removal of 25 to 30% of the basal area within a forested watershed. Over the last decade, reduced timber sale activities, in combination with hydrologic recovery of older cutting units, has resulted in all of our forested watersheds being far below the 25 to 30% threshold.

Again this year, the operation and maintenance of water diversions on the Forest is having a far more significant effect on channel conditions than vegetative treatments. There are several examples of water transmission facilities, which divert water out of one or more streams and then direct the collected water into a natural channel for conveyance off the Forest. In some cases this has resulted in significant adjustments to the condition of natural channels. Channels have also been impacted by the practice of using heavy equipment to routinely modify the channel alignment in order to direct the flow into a ditch.

The Forest is in the second year of a three-year program to inventory and monitor the effects of water diversions on National Forest streams. This information will be used along with other assessments to develop standards that will guide the Forest in determining instream flow protection requirements. At the end of 2001 we have completed inventories for 225 diversions.

4. Fire

Is our fire program cost effective?

The Forest met 100% MEL in FY01, and a larger than normal workforce was put into place as a result of the National Fire Plan funding strategy. At the end of the fiscal year the Forest ended up in deficit in WFPR by \$6,500 and in WFHF/WFW2 by \$42,000. The needed increases at mid-year were not received and also there was a slight reduction to the final budget. In the fuels account adjustments were made to offset discrepancies between Title II and Title IV funding. Currently data for NFMAS and FUELS out-year planning for FY04 is being gathered. This is the sixth year that the Forest has operated under a unified budget process. The percent of indirect costs of both WFPR and WFHF was substantially lower than in previous years therefore allowing more program dollars to the ground and to operate efficiently as directed.

There was no need for the use of severity funds for additional resource capabilities as no severity conditions were identified on the Forest.

As a result of the Cerro Grande wildfire in 2000 all active state issued permits for prescribed burning on federal lands in the State of Colorado had been suspended indefinitely. In mid-August (2000) this suspension was lifted for individual burn permits that met the checklist criteria for evaluating suspended prescribed fire projects. Continued dry conditions and high to extreme fire behavior warranted that no prescribed burning be continued on the GMUG Forest. Also all potential contingency forces were not available or were committed to wildfire activities. In the spring of 2001 strong efforts were made to accomplish the Forest's assigned fuels treatment target. The hiring of additional crews and personnel helped greatly. A larger portion of the assigned target was accomplished through mechanical methods – chainsaw work, chipping, machine piling & hydro-mowing. This treatment method is more costly and does not produce as many acres of accomplishment. The fire load for 2001 was slightly lower than the GMUG's annual average. The Forest ended up with 49 reportable fires for a total of 342 acres

burned. Of these, lightning ignited 38 fires. The majority of the activity occurred on the Uncompahgre Plateau.

Are fuel treatments effectively meeting habitat improvement and fire suppression objectives?

The Fuels Management program on the GMUG continues to increase. Given ongoing changes in the fire management organization, our skills base will continue to grow also. By jointly managing the fire management program with the BLM, the Forest is better able to share expertise and conduct burns needed to meet Wildland Urban Interface and ecological objectives.

All burn plans are current or have been revised to meet Forest Plan and policy direction and standards. Additional Rx burning occurred for range/wildlife habitat improvement.

National direction is working to increase fuels treatment while maintaining the pre-suppression program. By increasing the prescribed fire program it is hoped that there will be a measurable reduction in wildfire intensity in the future. Efforts continue to concentrate on areas of Communities at risk; Watersheds at risk; and Threatened and endangered areas. We are trying to also concentrate in areas that have repeated history of fire with the hopes of keeping the intensities at a manageable level.

5. Air

Is the Forest effectively complying with state air quality standards for prescribed burning?

The GMUG is required to apply for state burning permits for all prescribed fire planned or envisioned. The Colorado Air Pollution Control Division reviews all permits for compliance with permit standards. New standards have been developed and implemented of the Forest. Several permits were restricted to the types for burning to conduct. All burns conducted in 2001 were within smoke compliance guides established in the burning permits.

Smoke plumes are monitored on site by the burn boss, and at times off-site by others to check drift into sensitive areas. No adverse reports were received.

6. Insects and Disease

Are our treatment activities effectively reducing or preventing increases in insects and diseases?

The primary tool for the treatment and management of areas affected by forest insects and disease is timber harvest. Reduced levels of harvest on this Forest have resulted in essentially the loss of a program for treating or reducing insects and disease. Natural forces except fire are predominant in forest stands across most of the GMUG, a part of these forces being the replacement of tree stands though loss to age, insects and disease. Trade offs include the preservation of these same stands from the impacts of timber harvest, including road building, and the gradual shift of forest structure to older aged stands of trees. This leaves large areas more susceptible to outbreak of insect and disease (as well as to catastrophic fire). This trend is expected to continue.

Some specific effects observed in this year (and previous years) include:

- Decline of subalpine fir is evident throughout high elevations on the GMUG. A study of causal agents and the characteristics of impacted stands is ongoing.
- Dwarf mistletoe of lodgepole pine is very severe in many locations. Of particular note is the Taylor Park area.

* Wind events in the past several years have resulted in scattered areas of wind thrown Spruce. This downed material is being monitored for spruce beetle activity. Areas of particular interest include High Mesa, Grand Mesa, and vicinity of Kebler Pass.

- Mountain pine beetle-caused mortality is evident in ponderosa pine on the Uncompahgre Plateau, near Campbell Point and in Haley Draw. Widely scattered mortality is also present in the Upper Tomichi Creek area near Sargents.
- Western spruce budworm defoliation of Douglas fir and true fir is present in the Lake Fork drainage near Lake City and in the Cochetopa Dome area.
- Cankers and stem decays of aspen are management concerns throughout much of the GMUG. Areas of note include Grand Mesa and the Uncompahgre Plateau.
- High incidence of Armillaria root disease has been detected in spruce-fir stands, particularly on the Grand Mesa. Although initial concern has been focused on developed recreation sites, the disease also appears to be common in undeveloped forests, where it may contribute to windthrow, increased mortality, and spruce beetle.

The small sales timber program is being concentrated in these areas to minimize the effects to a limited extent. Harvest activities will continue to make a small impact on insect activity in high visibility areas, but the overall forest health will continue to decline as mortality increases over the general forested area as a result of insect and disease activity in combination with aging trees.

7. Soils

Are standards and guidelines effective in maintaining soil productivity?

Soil monitoring occurred on a variety of activities during FY 2001. Most soil monitoring was conducted by field observations. No formalized sampling, transecting or similar intensive monitoring occurred during FY2001.

Field observations were made at Powderhorn Ski Area in the spring of 2001, following snow melt to monitor the effectiveness of slope stabilization measures that had been applied to various locations during the summer and fall of 2000 and 1999. All measured applied appeared to function as designed, with the exception of a few bare areas, where seeding had not succeeded. It was recommended that they be reseeded, and mulched more firmly. Field observations were also made at the Crested Butte ski area concerning a debris flow that occurred following a rain event just after snowmelt. An environmental engineering firm was consulted concerning stabilization and rehabilitation. Work was completed during the late summer of 2001. The

effectiveness of measures applied will be analyzed during the spring of 2002. Field observations were also made at the Telluride Ski Area expansion area to observe erosion control and Fen protection measures. Follow up observations will continue following snowmelt in FY 2002 to assess the effectiveness of measures applied. Informal monitoring occurred during the NEPA analysis process involving the proposed Millswitch and Love Mesa Timber Sale areas. Both areas have had harvest activities occur on them 25 to 30 years ago. Observations by the Forest Soil Scientist indicate that many skid trails are still evident and are estimated to be above the R-2 Soil Quality standard for amount of area in a detrimental soil impact situation, involving soil compaction and displacement. Mitigation will be prescribed to be administered during the Timber Sale activities that will mitigate and rehabilitate those areas to the extent possible.

In General, assertive efforts are made in each project analysis and decision to protect the Soil Resource through understanding the soil characteristics involved and through the use of measures outlined in the R-2's Watershed Conservation Practices Handbook.

8. Transportation System

Is travel management effectively implemented to accomplish resource objectives? Travel management components are 1) roads; 2) trails; and 3) areas?

The Grand Mesa Travel Management Plan, adopted on December 12, 1994, changed the entire Grand Mesa National Forest to a restricted travel status (travel on designated routes only), and closed more than 200 miles of user-developed travelways. The Environmental Assessment for a proposal to allow a portion of the 200 miles to be reopened to motorized recreation use, in accordance with the appeals settlement agreement of 1995, will be released for public comment in spring of 2002.

Travel planning for the Uncompahgre National Forest has been underway since 1994. A decision was made in April in 2000 to adopt travel on designated routes only. Following appeal of the decision a supplemental analysis was published in 2001, and a new decision was issued in March of 2002. Implementation of this decision should result in substantial improvement in terms of travel management, and reduction of impacts of off-route motorized travel on the Uncompahgre Plateau.

The Forest began a new travel planning process on the Gunnison National Forest (Paonia / Gunnison Ranger Districts). Following public review of an Environmental Assessment, a decision was issued in April of 2000 restricting travel to existing routes, but deferring route by route designation. This essentially results in the elimination of cross-country travel. The objective is to prevent the further proliferation of user-created routes on the Forest. There is wide spread public support for this objective. Part of future monitoring will be to assess the effectiveness of the decision in this regard.

These travel planning processes provide a broad spectrum of recreation opportunities for all users. Implementation of the travel plans will be dependent upon available funding from the resource programs, including road maintenance, trail maintenance, recreation, watershed and soils.

How much and what type of recreation opportunity is being provided?

Analysis for the Uncompahgre Travel Plan recognizes that semi-primitive recreation opportunities are being limited from both directions. On the one hand, designation of Wilderness and other special management areas by Congress has established large areas emphasizing primitive, non-motorized recreation. On the other hand, most remaining areas are gradually becoming more and more developed as recreation uses increases and new routes are developed.

C. Validation Monitoring

Do assumptions used in developing the Forest Plan remain valid?

1. Riparian

Is the upper mid-seral stage providing adequate protection for aquatic habitat quality?

Generally speaking, the upper mid-seral standard is providing adequate protection and improvement for riparian areas and attendant aquatic conditions.

2. Timber

Is data used in FORPLAN accurate?

The yield projection discussions expressed in previous Monitoring Reports continue to be moot in that the offer and harvest levels are significantly below Forest Plan projections and Allowable Sale Quantity. Yield projections will be evaluated again during Forest Plan revision.

In the past few years, budgets were restricting the ability to provide even a portion of the demand described in the Forest Plan. Timber sales were offered without additional sales being initiated through the environmental documentation process. With a restored budget, the Forest has started rebuilding the backlog of environmental documentation to provide a stable timber program. Therefore, the overall timber program financial efficiency decreased due to the increased work on environmental documentation.

3. Facilities

Are road costs accurate?

The average road costs have increased annually at a rate of 10 percent per year. The average reconstruction for a timber sale road is \$20,000 per mile for a native surfaced road in moderate terrain. The average cost for reconstruction is about \$11,000 per mile per lane native surface road. For aggregate surfaced roads are nearly \$40-50,000 per mile. Road costs are dependent to the geographic location (Telluride-Crested Butte), topography, soil type, and availability of materials for construction (i.e., aggregate). When items such as silt fences and armoring road dips with rock are added to the road construction package, cost rise significantly.

ACTION PLAN

The Forest Plan revision effort is under way. The Forest is currently in the process of completing geographic assessments which will document scientific and technical information of land and resource conditions, as well as the results of the collaborative public involvement efforts. The forest planning team, working with other federal and state agencies, local governments, communities, and other public stakeholders, will consider new scientific information, changes in laws, regulations, policies, and new environmental, social, and economic conditions of the region. These elements will be addressed within the most critical context of current and projected public and community interests, values, objectives for, and uses of, this national forest.

Before the GMUG begins the formal plan analysis, as mandated by various laws and regulations, the forest service team has committed to a comprehensive pre-NEPA assessment of distinct geographic areas encompassed by the Forest. Given the size, diversity, and complexity of the GMUG region, the forest has been subdivided into five geographic areas, or “landscapes.” The identification of these smaller planning areas opens up opportunities for more focused assessments of ecological, social, and economic components. In addition, better opportunities are provided for community-based collaboration between the agency and public stakeholders. We’re referring to this assessment process as “Phase I” of plan revision. It will not result in any formal decisions, rather it will focus, inform, and expedite the subsequent analysis and decision-making phases.

This approach to public involvement will help connect natural resource planning and decision-making to places, or landscapes, that people care about, rather than focus it purely on policy matters. This collaborative effort is just one step in an integrated public involvement process that includes in-depth focus group interviews with community stakeholders, a random sample community survey, and ample public comment periods and open meetings as called for by the National Environmental Policy Act (NEPA).

Landscape Working Groups

The procedural framework to be used in developing the geographic assessments will be based upon the “collaborative learning” approach (see Daniels, S.E. and Walker, G.B., Working Through Environmental Conflict: The Collaborative Approach. Praeger 2001, and earlier works), that will be applied within Landscape Working Groups (LWGs) for each of the geographic areas. Collaborative learning is a beneficial approach for defining a range of landscape objectives as it allows stakeholders to integrate their own values and local knowledge with science technical expertise from a variety of sources. This will enable the participants to proactively influence the most important elements of the planning process and outcomes, starting with the geographic assessment, rather than to simply react to proposals already developed by the agency. Through the process of dialogue and deliberation, the participants will address historic and current conditions and trends to identify a range of possible desired future conditions.

The working groups, and their associated geographic assessments, have begun and will continue for through the summer of 2003. Each group process is estimated to take approximately six

months to develop the needed products for the first phase of forest plan revision. The LWGs, comprised of interested community stakeholders and planning team members, will be open to all who desire to participate. Stakeholders can participate in as many LWG processes as they want. The groups will be facilitated by a third-party neutral who will help establish and maintain a productive environment for mutual learning where there is a respectful, civil interchange between the participants.

The tangible results of the LWGs will be the identification of a range of desirable, feasible and viable landscape-specific management objectives that address the ecological and socioeconomic aspects of each geographic landscape. Three types of objectives will be identified: 1). Desired resource conditions, which reflect ecological, social and economic conditions that contribute to sustainability; 2). Measurable outcomes, which contribute to desired conditions within a specified time period; and, 3). Opportunities and recommendations for proposed action to achieve those measurable outcomes. These objectives will be identified within ranges that reflect the diversity of public values, attitudes and behaviors. The products of the collaborative effort will be combined with the other public involvement techniques, and documented in the assessments.

The completed assessments will document critical baseline information that will be carried into the Draft Forest Plan and its associated Draft Environmental Impact Statement, which are scheduled to be released early in 2004. The Final Plan and EIS are currently scheduled to be released in December 2004. All issues regarding the currency and sufficiency of the Forest Plan were to be addressed in the upcoming revision.

RESEARCH NEEDS

No additional research needs were identified through this report.

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PUBLIC PARTICIPATION / DISCLOSURE

This report has been made available on the FS Web (follow links to Forest Plan Monitoring Report on the “Policies and Projects” page at the Forest web page (www.fs.fed.us/r2/gmug/policy/). It is also printed in hard copy, and may be obtained by request to Forest Planner, GMUG National Forest, 2250 Highway 50, Delta, Colorado 81416.