



United States
Department of
Agriculture

Forest Service

Beaverhead-
Deerlodge
National Forest

FOREST PLAN MONITORING AND EVALUATION REPORT



Fiscal Year 2003



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FOREST PLAN MONITORING AND EVALUATION REPORT FISCAL YEAR 2003

Beaverhead-Deerlodge National Forest

Monitoring and evaluation are the primary tools the Beaverhead-Deerlodge National Forest uses to assess whether we are accomplishing the goals set forth in the Forest Plans. The results provide Forest line officers and employees, Regional and Washington offices, Congress, and the public with information on the progress and results of implementing the Beaverhead-Deerlodge Forest Plan. Forest Plan monitoring involves gathering information and observing management activities to document their effects on people and the environment. There are three types of Forest Plan monitoring:

Forest Plan monitoring is required by the NFMA regulations (36 CFR 219). These regulations (36 CFR 219.12(k)) state monitoring and evaluation should ask the questions: 1) How well are objectives being met; 2) How closely have we applied standards and guidelines? When evaluations indicate the need to change management direction, the Forest can recommend amendments or a revision to the Forest Plan (36 CFR 219.12(k)). This dynamic process keeps the Forest Plan responsive to current needs.

It has been 17 years since the Beaverhead and Deerlodge Forest Plans were approved. An Interdisciplinary Team is in the process of revising those Forest Plans and consolidating them into one plan. In preparation for revision, we completed an Analysis of the Management Situation, published in December 2002 which summarizes the findings from a dozen Forest Monitoring and Evaluation Reports and recommends changes to the Forest Plan. We know many of our current Plans Goals, Objectives, Standards, and related monitoring items will be changing soon with the revised Plan. This year's monitoring effort recognizes that fact. We have focused on information that will continue to be pertinent with a revised Plan.

Monitoring information for the Beaverhead-Deerlodge Forest is presented in two separate reports because we are still following two separate Forest Plans. Monitoring requirements are unique (though sometimes overlapping) for each Forest. The Beaverhead Report is presented first, then the Deerlodge. They are separated in the hard copy by colored sheets and contain separate Tables of Contents and Summaries of the monitoring observations made in Fiscal Year 2003. See the main reports for further discussions on individual monitoring items.

Research

BEAVERHEAD NATIONAL FOREST

**FOREST PLAN MONITORING
AND EVALUATION REPORT**

FY 2003

Research

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Beaverhead Summary

Beaverhead National Forest

SUMMARY of OBSERVATIONS

Fiscal Year 2003

Table S-1. Summary of Monitoring Item Observations

Monitoring Item	Title	Observation
1-1	Elk Population Trend	Elk populations have increased in some areas and remained stable in others. All elk management units (EMU) have reached or exceeded Fish Wildlife and Parks (FWP) objectives for elk populations, hunter numbers, and recreation days. (FWP elk plan evaluation. 2001). FWP has instituted widespread non-quota either sex harvest on the Beaverhead NF to reduce elk numbers
1-2	Elk Winter Forage	Winter range forage is adequate in areas where elk do winter on Forest lands. FWP is receiving increasing numbers of complaints about winter elk depredations on private land forage supplies..
1-3	Big Game Population Trend	Moose populations appear stable overall. Mule deer numbers are rebounding from declines in the 1990s White-tailed deer have increased.. Bighorn sheep herds at Spanish Peaks, Hilgard, Lima-Tendoys, and the Highlands are currently closed to hunting. Tendoy & FWP has transplanted bighorns into the Greenhorn Range on the Madison RD.
1-4	Big Game Winter Range	Forest Service winter range does not appear to be limiting any big game species. The bulk of deer & elk winter ranges occur on private and BLM lands.
1-5	Habitat Improvement	Accomplishments were 3566 acres of terrestrial habitat improvement from appropriated and partnership funding. The Forest has been very successful in competing for Sikes Act and RMEF funding to leverage limited appropriated funding for habitat improvement. Continuing CCS partnership with UM-Western is providing monitoring of Northern Goshawk.
1-6	Sage Grouse	Sage grouse numbers have shown some increase in

Beaverhead Summary

Monitoring Item	Title	Observation
		2003.,The Forest is funding a CCS with MSU to trap, radio tag and monitor sage-grouse in Big Sheep Creek Basin.
1-7	Trumpeter Swan	Swans are still present on Elk Lake and Conklin Lake. Reproduction is erratic.
1-8	T&E Species	No adverse determinations have been in project level biological assessments. Bald eagle and peregrine falcon nesting has remained steady on the Madison. The Canada lynx has been added to the forest's T&E list. There are no detections of this species for 2003. The entirety of the Gravelly Range is no considered occupied by grizzly bears. No bear depredations on sheep allotments occurred. Wolf populations have expanded with five packs (27 wolves) using portions of the forest. Five (5) wolves were killed by Wildlife Services for preying on livestock.. Grizzly bear sightings were reported in the Gravelly I Madison, and Tobacco Root Mountain Ranges. Two wolves in the Upper Big Hole were relocated after killing and wounding cattle.
1-9	Cavity Nesting Habitat	Cavity nester requirements addressed in 2003 NEPA documents.
1-10	Habitat Effectiveness	Travel plan restrictions provide for hunting season HE of 50-100% depending on hunting district. FWP first week elk harvest of $\leq 40\%$ was met on 73% of hunting districts based on resident hunter success.
1-11	Diversity of Plant Communities	There were no projects implemented in 2003 believed to adversely influence old growth indicator species or the related wildlife community. FIA data indicates that all forest types meet standards for old growth.
2-1	Fisheries Habitat Improvements	No report was available for this monitoring item in 2003.
2-2	Indicator Species	To date, 301 WCT populations exist in Forest streams. Conservation populations occupy about 1,280 steam miles, representing approximately 14% of historically occupied stream miles within the Forest. Fluvial arctic grayling have been reintroduced in the Ruby and Beaverhead Rivers. The most promising reestablished population seems to be upstream of Ruby Reservoir. Limited reproduction has been documented.

Beaverhead Summary

Monitoring Item	Title	Observation
2-3	Riparian Habitat	By the end of 2002, roughly 700 non-randomly sampled stream monitoring reaches have been permanently established on the combined Beaverhead-Deerlodge Forest. Of these, 56% are functioning, 19% are functioning at risk and 25% are non-functional.
3-1	Sediment Production	No monitoring was conducted for this item in 2003. Monitoring now focuses on determining status of streams with respect to their riparian function.
3-2	Watershed Standards	No specific monitoring of timber sales was conducted in 2003. The forest is now concentrating watershed standard monitoring in grazing allotments.
3-3	BMP Effectiveness	No specific monitoring of timber sale BMPs were conducted in 2003. We are now concentrating on monitoring the effectiveness of grazing standards.
4-1	Soil Displacement/ Organic Residue	Soil attributes were monitored on one proposed timber sale in 2003.
5-1	Recreation Use	Forest monitoring transitioned from the RIMs data base to NVUM surveys of visitor use. The FY2000 data from the NVUM survey is provided here as a base for future trend and satisfaction information.
5-2	Wilderness Compliance	This item was not reported on in FY03.
5-3	Roadless Acres	Actual changes in the inventoried roadless acres are only 16% of that predicted over the life of the Plan.
5-4	Facility Access	All new or reconstructed developed sites are designed for disabled persons.
5-5	Historic Preservation	In 2003, 50 archaeological inventories were completed. As a result of these inventories, 10 new prehistoric and historic sites were located and recorded during 2003.
6-1	Forage utilization and grazing capacity	Five out of 165 allotments were out of compliance with forage utilization standards.
6-2	Range improvement construction and maintenance	67 structural improvements were completed.
6-3	Noxious weed control	3050 acres were treated.
6-4	Allotment Management Plan updates	14 updated AMPs were completed on allotments identified as not NEPA sufficient in the Beaverhead Lawsuit.
6-5	AUM outputs	Beaverhead portion provided 121,923 AUMs of actual use compared to 165,224 permitted.

Beaverhead Summary

7-1	Timber Sold	A total of 0.9 MMBF was sold in 2003, of which 0.1 MMBF was live, chargeable volume..
7-2	Timber Harvested	There were 931 acres harvested with a volume of 4.2 MMBF
7-3	Changes in suitable base	Not reported on in FY03
7-4	Silvicultural Treatments	Timber stand improvement occurred on 0 acres. Reforestation was completed on 0 acres.
7-5	Natural Regeneration	Natural regeneration occurred on 96 acres, 100 % of the total regeneration.
7-6	Silvicultural Practices	The 2003, harvest was 1% even aged practices and 99% intermediate harvest.
8-1	Roads	We constructed 0.4 mile of new road, reconstructed 0.6 mile of existing roads, and decommissioned 30 miles of system or unclassified roads.
8-2	Road Restrictions	There are approximately 334 miles of National Forest System Roads closed year-round to standard highway vehicles, and 869 miles closed seasonally.
8-3	Trail maintenance and construction	Not reported in 2003
8-4	Road Management	Maintenance was accomplished on 567 miles of road.
8-5	Exterior Access	No exterior access roads were constructed or reconstructed in FY2003.
9-1	Insects and Disease	Not reported on in FY03
10-1	Economic Assumptions	Timber costs have exceeded Forest Plan ranges, due to litigation, appeals, T & E Species and more intermediate harvests.
10-2	Timber Values	We received \$112 per MBF for its combined sawlog, post and pole, and fuel wood sales.
10-3	Budgets	Total Forestwide budget was \$15,941,000, which is 100% of Forest Plan requirements.
11-1	Local Economies	Over \$60 million in income was generated by activities and products from Beaverhead-Deerlodge National Forests lands.
11-2	Adjacent Lands	Participation of the public and other agencies in project planning has influenced the outcome of National Forest management decisions.
11-3	Emerging Issues	Emerging issues were described at length in the December

Beaverhead Summary

		2002 Analysis of the Management Situation. Highlighted are: travel management, fire and fuels management and inventoried roadless area management.
12-1	Land Allocations	No change.
12-8	FP Data Base	The Geographic Information System and corporate data bases were updated for Forest Plan Revision. Major projects for FY03 included: 10 year soil inventory and data base, wildlife sighting data entered in FAUNA data base, cultural sites data converted to digital format, westslope cutthroat data entered for 3 sub-basins
13-1*	Appeals	Six appeals were processed during the year. Five were affirmed and one was remanded.

Beaverhead Summary

Wildlife

Beaverhead National Forest

FOREST PLAN MONITORING AND EVALUATION REPORTING ITEMSFiscal Year 2003

Monitoring Item:	1.1, Wildlife
Activity, Practice or Effect to be Measured:	Elk Population Trend -How are populations responding to the National Forest habitat capacity?
Unit of Measure:	Number of elk
Reporting Period	5 years
Variability which would initiate further evaluation:	+/- 10% deviation from projected capacity

Monitoring Results:

In 2003, the approximate number of elk using the Beaverhead Forest during summer likely exceeded 18,000. This is based on State monitoring (2001) that shows all elk management units (EMUs) meeting or exceeding State objectives for population, hunter numbers, and hunter recreation days. During winter that number probably never exceeded 6,000. The Forest Plan (1987) projected a Forest base carrying capacity of 12,200 for summer and 4,150 for winter range. No monitoring projects were conducted related specifically to habitat carrying capacity for any big game species. The Montana Department of Fish, Wildlife and Parks (FWP) collects all population trend data for elk and other big game species. These numbers are compiled by national forest or ranger district but inferences from this population trend data are provided by the State.

Wildlife

Table 1. Elk Populations 2001*

Elk Management Unit	Elk Population Current Survey	Elk Population Objective	Current Estimated Recreation Days	Objective For Recreation Days
Highland	1371	1500 - 1700	25548	17000
Gravelly (est. 75% BDNF)	6825	6000-6375	46935	26025
Fleecer	2063	1500 - 1800	21396	19000
Madison (est. 30% BDNF)	2370	1590-1740	7987	7110
Tobacco Root	1300	900 - 1000	14590	8700
Pioneer	3565	2700 - 3200	38569	35000
Tendoy	2869	1800 - 2300	17556	8500
Sapphire (est. 25% BDNF)	1198	1000-1050	15035	12500
Total	18,000	16,990-19165	187,616	133,835

* Montana FWP Elk Plan Evaluation, Final May 15, 2001

Evaluation: Summer and winter elk populations on the Beaverhead NF have increased by about 45% over the 1986 Plans projections. This far exceeds the 10% variation suggested to trigger a change in management. Elk populations, however, are controlled by the State of Montana, Fish Wildlife and Parks (FWP). In recognition of the increase in populations, the State instituted non-quota either-sex elk harvest virtually Forest-wide for the 2004 season.

Elk herbivory is appearing to be detrimental to aspen regeneration. A big game exclosure on the Wise River RD shows a dramatic difference in aspen regeneration where moose and elk are prevented from browsing young aspen. Alternative strategies for managing both elk habitat and aspen are being evaluated during Forest Plan Revision.

Monitoring Item:

1-2, Wildlife

Activity, Practice or Effect to be Measured:

Forage on winter and seasonal range -Is adequate forage available to sustain the projected big game (elk) population?

Unit of Measure:
Reporting Period:

Acres
5 years

Variability which would initiate further evaluation:

10% of Allotment Management Plans (AMPs) do not meet Forest Plan standards for utilization of seasonal range; 10% decline in acres by condition or trend.

Wildlife

Monitoring Results:

Spring and summer forage for elk still appear adequate to sustain current elk populations. Winter range forage also appears to be adequate on National Forest ownership. The State is receiving increasing complaints about elk depredations on private land forage supplies.

The 2003 range review indicated only 5 of 164 allotments were out of compliance with grazing standards. Five years of extended drought has significantly contributed to use problems in riparian areas. Upland utilization across the Forest averaged 45% - 55%. Plan standards allow for 45% - 60%. Forest-wide there has been a reduction of 30% in actual livestock AUMs below permitted use. This has effectively left more forage on the allotments for wildlife.

Evaluation: Fewer than 10% of the 164 allotments were out of compliance with Forest Plan standards for grazing utilization. No further evaluation is required.

Monitoring Item:

1-3, Wildlife

Activity, Practice or
Effect to be Measured:

Population trend (moose, deer, and bighorn
sheep) -How do populations respond to
National Forest habitat capacity?

Unit of Measure:

Number of animals by species

Reporting Period:

5 years

Variability which would initiate further
evaluation:

+/- 10% deviation from projected capacity

Monitoring Results:

Moose, mule deer and bighorn sheep populations are surveyed by Montana Fish, Wildlife and Parks (FWP). These surveys are conducted in winter or early spring, predominantly through aerial counts. The objective of these surveys is to monitor long-term population trends; the data cannot be used to accurately estimate total population numbers.

Moose

Moose populations are stable across Hunting Districts encompassing the Forest (Craig Fager, FWP biologist. Pers. Comm.) FWP has encouraged reductions in the Big Hole via permit allocations. While populations are stable overall, there are reports of localized over browsing of riparian areas by moose. Anecdotal reports indicate some displacement of wintering moose along the West Fork of the Madison by snowmobile activity.

Mule Deer

Beaverhead Summary

Mule deer populations have been rebounding from declines that occurred in the mid-1990s. Montana Fish, Wildlife & Parks' spring 2003 population surveys showed mule deer numbers at average to above average in most of Montana

In FWP Region 3, encompassing the Forest, FWP biologists believe mule deer produced a healthy fawn crop as a result of a favorable growing season through mid-July. Positive production has been occurring since 1997 (Craig Fager, FWP biologist Pers. Comm). Buck/doe ratios are affected by hunting pressure with areas of greatest access incurring the lowest post-season buck/doe ratios. Antlerless hunting permits have increased substantially.

White-tailed Deer

White-tailed deer populations and harvest have increased steadily. Populations are now at the point where the state offers non-quota antlerless tags over the counter with no restrictions as to hunting districts that encompass the Forest.

Big Horn Sheep

The Tendoy and Highlands-Pioneer populations have rebounded from severe *Pasturella* mortalities incurred in the mid 1990s. The former population has rebounded back to approximately 60 animals with the latter up to approximately 100 animals. Montana Fish, Wildlife, and Parks (FWP) introduced more than 70 bighorns to the Greenhorn Range on the Madison RD. Some of these animals have been moving out of the Greenhorns into the Ruby River drainage where they are subject to control activities by the State. (Craig Fager, FWP biologist Pers. Comm.)

Evaluation: Bighorn sheep have grown beyond the 10% variability from Plan projections allowed for this monitoring item. This is partly a result of transplanting a new population into the Greenhorn Range. Habitat does not appear to be limiting. Numbers were not reported for mule deer and moose, but FWP has not indicated a concern with habitat being a limiting factor. The current hunting season regulations for moose, deer, and sheep provide for population levels well within the ability of Forest's habitat to support them.

Monitoring Item:

1-4, Wildlife

Activity, Practice or
Effect to be Measured:

Winter Range Condition/Trend (moose,
deer, big horn sheep) – Are winter range
conditions being maintained or improved?

Unit of Measure:

Acres

Reporting Period

5 years

Variability which would initiate further
evaluation:

10% decline in acres by condition or trend in
five-year period

Monitoring Results:

Beaverhead Summary

Winter range maps are based on aerial flights, as identified by State and Forest Service biologists in the late 1970's and early 1980's. They represent the general vicinity where wildlife was observed during winters at that time.

Moose

There are no indications that current winter range conditions are limiting moose populations. Willow communities at low elevations do provide important winter range habitat for moose. In some areas of the Forest, riparian willow communities are being over browsed.

In the Upper Big Hole area moose winter primarily on private land and haystack complaints are not uncommon. FWP has instituted reductions through additional hunting permit allocations that appear to have controlled this issue in the Big Hole (Craig Fager, FWP biologist. Pers. Comm.).

Mule Deer

Mule deer populations have rebounded in southwestern Montana, but localized post hunting season buck: doe ratios have skirted minimum FWP parameters in areas with greater access. (Craig Fager, FWP biologist. Pers. Comm.)

Evaluation: There are no indications that current winter range conditions have declined more than 10% or are limiting populations of moose, mule deer or bighorn sheep.

Monitoring Item:

1-5, Wildlife

Activity, Practice or
Effect to be Measured:

Wildlife Habitat Improvements – Were
scheduled habitat improvement projects
accomplished?

Unit of Measure:

Acres (and Structures)

Reporting Period

5 years

Variability initiating further evaluation:

Less than 90% accomplishment in 5 years

Monitoring Results:

Monitoring of this item now checks on how the Forest is meeting its wildlife improvement workload, and not the accomplishment of projects listed in the Forest Plan. After 17 years, specific projects listed are either accomplished or no longer relevant. The Forest Plan listed an average annual workload of 250 acres and 21 structures for wildlife habitat improvements. Accomplishments from all funding sources totaled 3566 acres, 2906 acres were accomplished through RMEF projects. In 2003, Forest Plan projections were exceeded through the use of appropriated (NFWF), Sikes Act, and RMEF funding

Wildlife

Challenge Cost Share Projects (CCS) - Our continuing Challenge Cost Share (CCS) partnership with UM-Western is providing monitoring of 32 Northern Goshawk territories using wildlife funding (NFWF). Approximately 20,000 acres were monitored and two new nesting territories were discovered. Active nesting occurred on 12 territories with 86% nesting success. The project is on-going but all nests are found between 6000-8000 feet with the largest proportion (43%) of nests in pure lodgepole pine. Nest tree mean diameter is 14" dbh and 204 yrs old. Diameter and age range from 5.6-33.9" dbh and 75 – 436 yrs.

Using NFIM funding the Forest has funded a CCS study with MSU of sage-grouse in the Big Sheep Creek basin. The project is on-going with a final report due in 2005. Strong partnerships with Rocky Mountain Elk Foundation are ongoing.

Consultation - Seventy nine Biological Evaluations or Biological Assessments were developed for other resource area projects for terrestrial plants and animals. Eleven required informal" consultation (concurrence) with the U.S. Fish and Wildlife Service and 4 required "formal" consultation.

Evaluation: Wildlife habitat improvement projects exceeded Forest Plan projections. No further evaluation is required.

Monitoring Item:

1-6, Wildlife

Activity, Practice or
Effect to be Measured:

Sage grouse - indicator for sagebrush
dependent species

Unit of Measure:

Number of animals

Reporting Period

5 years

Variability which would initiate further
evaluation:

More than 10% decline in population in a
five-year period

Monitoring Results:

The is still a sensitive species on the Forest list. No active or inactive leks nesting or wintering grounds have been found on the BDNF. Birds do move onto the Forest in some locations in summer for brood-rearing and dispersal. Reproduction off the Forest in 2003 was excellent (Craig Fager, FWP biologist. Pers. Comm.).

Evaluation: We do not have an accurate count of sage grouse on Beaverhead National Forest lands to establish a trend over the last 5 years. However, we know population trends for sage-grouse in southwestern Montana have been downward for the past decade (Crowely & Connelly, 1996). This is due to a combination of factors including loss of winter range, degradation of habitat and conversion of sagebrush habitat to agricultural use. A primary controlling factor in sage-grouse populations is breeding. Based on information developed over the last 10 years from FWP breeding survey data, key breeding habitat for sage-grouse is off-Forest. (Antelope

Wildlife

Basin sage-grouse habitat model, Antelope Basin/Elk Lake AMP Updates EA, 2002). No leks, nesting areas or wintering grounds have been found on National Forest land.

The Forest is participating in several efforts to learn more about sage-grouse. The Forest is in partnership with MSU and the National Wildlife Federation to evaluate sage-grouse habitat and movement in the Big Sheep Creek basin. We are an active party in the Dillon Sage-grouse Working Group and were active in developing the Statewide Sage-grouse Management Plan. Connelly, Schroeder, Sands and Braun, 2000, "Guidelines to Manage Sage-grouse Populations and Their Habitats" is being used in allotment plan revisions to meet sage-grouse needs.

Monitoring Item:

1-7, Wildlife

Activity, Practice or Effect to be Measured:

Trumpeter Swan – indicator for marshland-dependent species.

Unit of Measure:

Number of active nests.

Variability which would initiate further evaluation:

More than 10% decline in numbers in 5 year period.

Monitoring Results:

Trumpeter swans are still using the private inholdings at Elk and Conklin lakes. Conklin Lake, on private land, provides the only known breeding area within the Forest boundary. It is unknown if successful fledging of cygnets occurred in 2003. Breeding is the primary controlling factor for swan populations. The breeding population of swans locates itself at Red Rocks Wildlife Refuge.

Evaluation: There has been no change in numbers of active nests in the 5 year period. There are no active nests on the Beaverhead Deerlodge NF lands to monitor and there have not been for at least the last 10 years. There is suitable nesting habitat at the south end of Elk Lake and in the Chain of Lakes area, however, no birds have engaged in nesting activities at these sites.

Monitoring Item:

1-8, Wildlife

Activity, Practice or Effect to be Measured:

Threatened and Endangered Species – bald eagle, peregrine falcon, gray wolf, grizzly bear

Unit of Measure:
Reporting Period

Acres of habitat; number of animals
5 years

Variability which would initiate further evaluation:

Any measurement of decline in habitat

Monitoring Results:

Wildlife

Sixteen bald eagle nests and two peregrine falcon nests were monitored on the Madison RD. On August 25, 1999, the American peregrine falcon was de-listed. Monitoring continues as per the US Fish & Wildlife Service plan. The F&WS monitoring effort is scheduled to end in 2015.

Grizzly bear sightings continue in the Madison and Gravelly Ranges. The latter landscape is now classified as “occupied” as bears have increased and dispersed out of the Yellowstone primary conservation area. No bear depredations on sheep allotments occurred in 2003. Bear sightings were also reported in the Tobacco Root Mountain Range in 2003. Efforts are underway to delist the grizzly bear.

The gray wolf, because of re-introductions into the Yellowstone Ecosystem, is now considered part of a nonessential population on the Beaverhead NF. Five wolf packs use portions of the Forest with the Freezeout Pack in the Gravelly Range being the largest at eight wolves. Four were removed by Wildlife Services for preying on livestock in the Madison Valley. Two wolves in the Upper Big Hole were relocated after killing and wounding cattle. The wolf is addressed in biological assessments if a project is believed to have some affect on this species.

The Canada Lynx has been added to the Forest list since its listing as threatened by the Fish & Wildlife Service on March 24, 2000. There were no detections of this species in 2003. Transient tracks of Lynx have been detected on the BDNF but there are no known residents. Studies of lynx and wolverine are being conducted in the Big Hole, Pioneers, and Anaconda/Pintler mountains to ascertain if we do have resident populations. We use guidelines in the Lynx Conservation Assessment and Strategy (LCAS) to evaluate all projects in lynx habitat, with the goal of protecting that habitat. There have been no projects receiving a determination more adverse than *not likely to adversely affect*. All 2003 determinations have received concurrence from the Fish and Wildlife Service.

Evaluation: There has not been any measured decline in habitat for bald eagle, peregrine falcon, gray wolf, grizzly bear or lynx. No further evaluation is required.

Monitoring Item:

1-9. Wildlife

Activity, Practice or
Effect to be Measured:

Cavity nesting habitat management

Unit of Measure:

Number of snags per acre

Reporting Period

5 years

Variability which would initiate further
evaluation:

Snag level 10% below Forest Plan standards

Monitoring Results:

Wildlife

Forestwide - Extensive natural snag recruitment is occurring across the Forest as insects and disease attack drought stressed trees. The Basin Creek area around Butte, MT provides a graphic example of the extent of drought/insect related mortality. All landscapes on the Forest are incurring related mortality, although not at the same intensity as Basin Creek. Forest Inventory Analysis (FIA) data shows that densities of snags greater than 10 inches diameter breast height range from 2.1 trees per acre to 11.7 trees per acre depending on the landscape. The Plan recommends 1.5 snags/acre in Douglas-fir, 2.5 snags/acre in spruce, and 1 snag/acre in sub-alpine fir. FIA data shows that snags exceed Forest Plan standards on every landscape across the Forest. Snag management is not an issue on this Forest for 2003.

Projects - The Mussigbrod fire salvage provided for extensive snag retention on this 70,000 acre fire

Evaluation: Forest Plan standards have been exceeded. No further evaluation is required.

Monitoring Item:

1-10, Wildlife

Activity, Practice or
Effect to be Measured:

Habitat effectiveness -security cover/road
closures

Unit of Measure:

Effective cover percentage

Reporting Period

Annual

Variability which would initiate further
evaluation:

Any change in projection below 70%
effective cover

Monitoring Results:

Habitat effectiveness is fundamentally related to road densities which is the most significant consideration on elk summer range (Christensen et. al. 1993). The Forest Plan applied habitat effectiveness (HE) to mitigate hunting pressure which is most significant during the five week general season. It has little to do with herd population dynamics other than affecting bull/cow ratios. A 70% HE equates to a road density of approximately 0.7 to 0.8 mi/sq.mi. As noted in the narrative at item 1.1 all Elk Management Units that encompass portions of the Forest have reached or exceeded State objectives for herd population, hunter numbers, and hunter recreation days. ***This is with the existing road densities and road management objectives.***

Hunting district fall road densities range from 0.0 to 1.3 miles/sq.mi. This converts to habitat effectiveness based on roads to approximately 55% - 100%. This is in agreement with Christensen's recommendation that habitat effectiveness should be 50% or greater where elk are one of the primary resource considerations.

Wildlife

Table 2. Fall Elk Road Density

Hunting District	Fall Elk Road Density
300	0.6 mi/sq mi
302	1.1
319	0.7
320	0.8
321	1.3
323	0.9
324	0.7
327	0.9
328	0.9
329	1.0
330	0.9
331	1.3
332	0.8
360	0.0
362	0.0

Christensen, Alan G., L. Jack Lyon, James W. Unsworth. 1993. Elk Management in the Northern Region: Consideration in Forest Plan Updates or Revisions

Evaluation: Some of our HAU's fall below the 70% elk effective cover standard even before management activities like harvest or roading take place. The Beaverhead-Deerlodge Analysis of the Management Situation, 2002, identified several problems with the use of elk effective cover analysis as established in the 1986 Forest Plan. Habitat effectiveness was designed as a measure of elk summer range security. State Elk Management Units were not compatible with the scale of management units (Habitat Analysis Units (HAU)) described in the Plan. Alternatives being considered for Forest Plan Revision address more effective and meaningful measures for elk security – these focus largely on road density.

This item was designed to assure elk security which would lead to elk population stability. As noted in the narrative at item 1.1 all Elk Management Units that encompass portions of the Forest have reached or exceeded State objectives for herd population, hunter numbers, and hunter recreation days. *This is with the existing road densities and road management objectives.*

Wildlife

Monitoring Item:**1.11, Wildlife**

Activity; Practice or

Diversity of Plant Communities (old growth habitat acres), Habitat for Old Growth Dependent Species (pine marten, goshawk)

Unit of Measure:

Acres

Reporting Period

5 yrs by District; 10 yrs Forest-wide

Variability which would initiate further evaluation:

Anything less than Forest Plan standard

Monitoring Results:

There were no projects implemented during 2003 that altered old growth communities. Current Forest Inventory Analysis (FIA) shows that the old growth component by forest type exceeds the Plan standard of 10% across the board.

Table 3. Current Old Growth

Forest Type	Current Old Growth
Douglas Fir	20%
Lodgepole Pine	14
Englemann Spruce	34
Sub-alpine Fir	30
Whitebark Pine	29
Limber Pine	28

Goshawks

We currently partner with University of Montana-Western on a goshawk inventory/monitoring effort. As noted at item 1-5 this partnership is providing monitoring of 32 Northern Goshawk territories on the Dillon, Wisdom, and Wise River Ranger Districts. Approximately 20,000 acres were monitored with two new nesting territories being discovered. Active nesting occurred on 12 territories with 86% nesting success. The project is on-going but all nests are found between 6000-8000 feet with the largest proportion (43%) of nests in pure lodgepole pine (Kirkley 2003). Nest tree mean diameter is 14" dbh with a mean age of 204 years. Diameter ranges from 5.6 to 33.9" diameter breast height, age ranges from 75 to 436 yrs.

Various activities including timber harvest, mining, and recreational continue to occur in potential nesting and foraging habitat. Biological evaluations analyze effects to goshawks as this is a Northern Region sensitive species. Districts implement mitigation measures as needed to protect known active nest sites.

Wildlife

Kirkely, Jack. 2003. Unpublished Report. Northern Goshawk (*Accipiter gentilis*) Productivity, Movements and Habitat Selection in Southwestern Montana. Results for 2003.

Pine Marten

No specific monitoring for pine marten was accomplished in 2003. This species is not on the current (2000) sensitive species list so does not require a determination in a biological evaluation. Nevertheless, Ranger Districts address its habitat in NEPA assessments.

Evaluation: Current Forest Inventory Analysis (FIA) shows that the old growth component by forest type exceeds Plan standards (10%) across the board. No further evaluation is required.

Fisheries

Monitoring Item:**2-1, Fisheries**

Activity, Practice or
Effect to be Measured:

Fisheries habitat improvement – Were
scheduled habitat improvement projects
determined to be necessary and were they
accomplished?

Unit of Measure:

Acres, structures

Reporting Period

Annual

Variability which would initiate further
evaluation:

Less than 90% accomplishment in 5 years

Monitoring Results:

Fish habitat improvement projects were not reported on in detail in 2003.

Evaluation: Data is not available to evaluate this item.

Monitoring Item:**2-2, Fisheries**

Activity, Practice or
Effect to be Measured:

Westslope Cutthroat trout and Arctic
grayling. indicator species

Unit of Measure:

Number of fish

Reporting Period

5 years

Variability which would initiate further
evaluation:

Measurable declines in populations

Riparian

Monitoring Results:

Westslope Cutthroat Trout

Information to date suggests that historic distribution and abundance of westslope cutthroat trout (WCT) has decreased substantially, not only on this National Forest, but also through out the fish's historic range in the Upper Missouri river basin. Beginning in 2001, the Beaverhead-Deerlodge National Forest began an intensive westslope cutthroat trout inventory. The inventory gathered population data, genetic sampling, and habitat data in preparation for Subbasin planning.

Describing current WCT distribution is complicated by an abundance of populations with varied levels of genetic purity. The question is, at what point has a hybridized individual/population become sufficiently altered so that it no longer has value from a WCT conservation standpoint? We have adopted specific criteria outlined by Shepard et. al. (2002) to designate conservation populations. These are genetically unaltered; or are hybridized or the genetic status is unknown, but have ecological, genetic and behavioral attributes of significance.

Table 4. Distribution of Conservation and Non-Conservation Populations by River Drainage

River Drainage (4th Code Hydrologic Unit)	# of Conservation Populations	Approximate # of Non- Conservation Populations
Beaverhead	18	7
Big Hole	48	27
Boulder	6	1
Jefferson	7	2
Madison	9	20
Red Rock	40	22
Rock Creek	8	5
Ruby	16	19
Upper Clark Fork	21	25
TOTAL	173	128

Currently, about 301 WCT populations have been inventoried in streams in the analysis area. Fifty-seven percent, or 173 of these are conservation populations. Table 4 above displays the distribution across river drainages. Conservation populations occupy about 1,280 stream miles, representing approximately 14% of historically occupied stream miles within the Forest.

The inventory project will be completed in 2004. Westslope cutthroat sub-basin plans will be prepared for the Big Hole, Beaverhead, Ruby, Red Rock, Madison and Jefferson drainages from 2004 to 2006.

Fluvial Arctic Grayling

Extensive work continues to be done on the Big Hole River fluvial grayling by the Montana Department of Fish, Wildlife and Parks in cooperation with the Beaverhead N.F., U.S. Fish and

Fisheries

Wildlife Service, and Montana Natural Heritage Program. Information continued to be collected on recruitment, population dynamics, habitat requirements and grayling susceptibility to predation by trout.

Grayling have been reintroduced in the Beaverhead and Ruby Rivers. The most promising place to reestablish grayling seems to be upstream of Ruby Reservoir on Forest lands. Limited reproduction has been documented in the Ruby, adult numbers are quite low. However, grayling are distributed over about 47 miles of stream, approximately 66 percent which are on the Forest. Stocking continues and the population is being monitored by FWP.

Evaluation: Declines in westlope cutthroat trout (WCT) are apparent, further evaluation is required. The declines in WCT populations throughout the fish's historic range in the Upper Missouri river basin have been recognized for years. Where cutthroat populations have been monitored, many show a negative trend. Unfortunately, changes in densities do not show a statistical correlation with habitat conditions. Population trends can seldom be related to a single cause, because many factors influence fish abundance. Management effects must still be considered, but we are not observing a dependable relationship between changes in habitat quality and population declines. The probable over-riding causes of decline are associated with reductions in habitat due to drought and competition by non-native trout.

The BDNF has responded to WCT declines in two ways. We have modified Forest Plan direction by incorporating the Short Term Strategy for Westslope Cutthroat into our Riparian Standards since 1998. Stream function and fish habitat have shown improvement with application of the new riparian standards (see item 2-3). We have also intensified inventory and genetic testing coupled with development of subbasin Plans for conservation and restoration. We have discovered new populations of westslope since this inventory began in 2001. This does not, however, translate into a growing population, just improved data.

Grayling show no measureable decline on the National Forest portions of the Big Hole. Because grayling were not present in the Ruby River when the Plan was developed, we've had a positive effect. No further evaluation of grayling is required

Monitoring Item:

2-3, Riparian

Activity, Practice or Effect to be Measured:

What are management effects on the functioning of riparian areas?

Unit of Measure:

Number of reaches in functioning, functioning-at-risk, and non-functioning categories, combined with the trend of those reaches

Reporting Period

Annual report of 50 reaches.

Variability which would initiate further evaluation:

<85% of 50 reaches show an upward trend, Forest Plan goals are not being met

Riparian

Monitoring Results:

This monitoring item was modified in 1997 with the Beaverhead Forest Plan Riparian Amendment. Initial inventory work to establish a baseline for trend analysis was completed in 2002. Roughly 700 non-randomly sampled stream monitoring reaches have been permanently established on the combined Beaverhead-Deerlodge National Forest. Rereading of surveys located in streams with grazing impacts will be conducted at 5-year intervals to determine trend. Look for this trend data in the FY04 report.

The results of baseline surveys show that over half of the reaches on the Forest are functioning properly as compared to reference conditions from similar valley bottoms. However, a quarter of the reaches are determined to be non-functional and lack the necessary components of a healthy stream. These will be the important reaches to track through time to see if management or restoration techniques are effective.

Table 5. Forestwide Stream Function Determinations

Stream Function	Number of Reaches	Percent of Reaches
Functioning	380	56%
Functioning at Risk	129	19%
Non-Functional	166	25%

Evaluation: We did not monitor trend on 50 streams in 2003. We are still measuring new streams and adding to the baseline. Five stream segments were remeasured on streams where riparian standards have been in place 5 years. The data has not been analyzed as of the writing of this report. Results will be published in the FY04 report. At this point, we have established extensive baseline information to begin trend comparisons. Compliance with riparian standards was achieved on 97% of the allotments monitored in 2003 (see Item 6-1).

Watershed

Monitoring Item:

3-1, Watershed

Activity, Practice or
Effect to be Measured:

What are the impacts of management
activities on sediment production?

Unit of Measure:

Tons per year/sampled from stations

Reporting Period

Annual

Variability which would initiate further
evaluation:

Any increase that is in violation Forest Plan
Standards

Monitoring Results:

No results. The reason for this monitoring was to provide data to validate the R1R4 sediment prediction model (see 1987 Monitoring and Evaluation Report). The objective of the monitoring was met by 1993. Operation of eight monitoring stations was discontinued after the 1993 season.

Evaluation: The purpose of this monitoring item has already been accomplished. All data are on file at the Forest Supervisor's Office in Dillon. Monitoring efforts now focus on determining the status of streams with respect to their riparian function. See Monitoring Item 2-3, Riparian..

Monitoring Item:

3-2, Watershed

Activity, Practice or
Effect to be Measured:

How accurate are assumptions that
scheduled harvest can meet watershed
standards?

Unit of Measure:

Acres of timber harvest scheduled

Reporting Period

5 years

Variability which would initiate further
evaluation:

+/- 15% change in the amount that can be
scheduled within Plan standards vs. planned
timber harvest acres

Monitoring Results:

The Forest Plan projects harvest of 2715 acres/year. The average from 1999-2003 was 925 acres. This is a 65% change in the amount planned.

Evaluation: The acres of timber harvest has dropped far below the 15% change allowed from Forest Plan projections. It is very difficult to say how much of that is due to implementation of watershed standards. Public pressure and new agreements (Short Term Strategy for WCT) have

Watershed

driven projects designed to generate no increase in sediment – which is a much more stringent criteria than Plan standards require. A number of other issues (old growth, clearcutting, species viability, declining budgets) have also driven these reductions. See more discussion about this monitoring item in the Analysis of the Management Situation, 2002.

Monitoring Item:	3-3, Watershed/Soils
Activity. Practice or Effect to be Measured:	Are “Best Management Practices” (BMPs) effective?
Unit of Measure:	Projects
Reporting Period	Annual
Variability which would initiate further evaluation:	Application of Best Management Practices (BMPs) found inadequate or ineffective

Monitoring Results:

No BMP implementation for timber sales was monitored in 2003 on the former Beaverhead Forest. A BMP review did take place on the former Deerlodge, see Deerlodge item 9-1.

The Forest has refocused its monitoring efforts to evaluate the effectiveness of riparian grazing standards. Between 3 and 6 allotments are reviewed by an Interdisciplinary Range Review Team each year to assess the effectiveness of riparian standards in protecting stream function.

Evaluation: There have been no indications that BMP’s are inadequate or ineffective. Range riparian grazing standards are being reviewed for effectiveness. An analysis of data being gathered should be available in 2004.

Soils

Monitoring Item:

4-1, Soils

Activity, Practice or
Effect to be Measured:

What are the impacts of activities on soil displacement and organic residue?

Unit of Measure:

Benchmark vs. sample soils

Reporting Period

5 years

Variability which would initiate further evaluation:

Forest Plan standards not met

Monitoring Results:

Soil samples were taken on the proposed Mussigbrod timber sale (Wisdom Ranger District) to monitor soil moisture conditions over the summer. The objective was to determine if soils would dry enough to allow equipment use on them. During the summer, none of the samples reached the target of 6 percent water content. The final decision for the Mussigbrod timber sale was to log over snow and frozen ground.

Evaluation: Forest Plan standards were met on the timber sale implemented in FY03. Forest Plan standards require management activities be designed to sustain site productivity. Soil moisture affects compaction, which in turn affects soil productivity. The timber sale planned for FY03 was modified to assure compliance with Plan standards.

Monitoring Item:

5-1, Recreation

Activity, Practice or
Effect to be Measured:

How does actual dispersed/developed/
wilderness use compare to projected use?

Unit of Measure:

RVDs (Recreation Visitor Days)

Reporting Period

5 years

Variability which would initiate further evaluation:

+/- 20% variation from projections over five years

Recreation

Monitoring Results:

Monitoring reports from both the Beaverhead and Deerlodge Forests in the mid 1990s show a more rapid increase in use in both developed and dispersed categories than predicted. Since then a new national system for monitoring recreation use was created. The National Visitor Use Monitoring (NVUM) project was implemented in 2000 responding to the need to better understand the use of, importance of and satisfaction with national forest system recreation opportunities. NVUM is based on actual surveys of individuals exiting the Forest following participation in a recreational activity. The visitor numbers should be more accurate than the previous estimates based on Recreation Information Management (RIM) system protocols. The Beaverhead-Deerlodge Forest was included in the first 25% of forests scheduled for sampling. The five year cycle will be repeated here in 2005. The results of the BDNF NVUM survey will be comparable to all other forests in the nation and will provide our forest with base and trend information useful for managing demand for and quality of recreation opportunities. Besides visitation, the survey also tells us: gender, age and race/ethnicity distribution of forest visitors; zip code distribution of visitors, satisfaction of visitors at designated wilderness, and per person expenditures by activity and trip

The table below shows the visitor days projected in the Forest Plan compared to visits from the 2000 NVUM survey. The NVUM survey did not break out the Beaverhead or Deerlodge NF areas. We attempted to compare the projected visitation numbers from the 1986 and 1987 plans, but the plans didn't use all the categories. The discrepancy in numbers between the Forest Plans and NVUM is partly because one tallies visitor days, the other visits. Also, the previous RIMs data was based on estimates and not actual surveys. The activities included in "developed use" may also have changed.

Table 6. Recreation Use in Thousands of Recreation Visitor Days

Recreation Type	Forest Plan Projection Based on RIM system	NVUM survey results For 2000
Developed Use In M RVDs	Beaverhead 190 Deerlodge 310 Total 500	Total 389
Dispersed Use In M RVDs	Beaverhead 344 Deerlodge 674 Total 1,018	Total 651
Wilderness Use in M RVDs	Beaverhead 22 Deerlodge 0	Total 17
Total Use	1,540 visitor days	1,057 visits

Recreation

The NVUM survey results are presented below. This will become the new base for the Forest to monitor trends and visitor satisfaction.

Table 7. National Visitor Use Monitoring Survey Results from 200

RPA category	NVUM category	% primary activity from NVUM report	# visits **	# visits by RPA category
Camping Picnicking, Swimming	Camping in developed sites	5	49,861	289,193
	Picnicking and family gatherings	13	129,638	
	Nature Study	0	-	
	General/other-relaxing, hanging out	8	79,777	
	Other non-motorized (swimming, sports)	0	-	
	Gathering mushrooms, berries, firewood, ..	3	29,917	
Mechanical Travel & viewing scenery	Viewing natural features, scenery, flowers,..	3	29,917	109,694
	Viewing historic/prehistoric sites	4	39,889	
	Visiting a nature center, trail,..	0	-	
	Off-highway vehicle travel	2	19,944	
	Driving for pleasure on roads	1	9,972	
	Motorized water travel	1	9,972	
	Other motorized land/air activities	0	-	
	Hiking, horseback riding, water travel	Hiking or walking*	2	
	Horseback riding	0	-	
	Bicycling	0	-	
	Non-motorized water travel	0	-	
Winter sports	Snowmobile travel	3	29,917	99,722
	Downhill skiing or snowboarding	4	39,889	
	Cross-country skiing, snowshoeing	3	29,917	
Resorts	Resorts, cabins, other	6	59,833	59,833

Recreation

RPA category	NVUM category	% primary activity from NVUM report	# visits **	# visits by RPA category
Wilderness	Backpacking, camping in unroaded areas	0	6,495	17,300
	Primitive camping	1	9,972	
Wildlife - Hunting	Hunting - all types	24	239,332	239,332
Wildlife - Fishing	Fishing - all types	7	69,805	69,805
Wildlife Watching	Viewing wildlife, birds, fish, etc	16	159,555	159,555
		106	1,057,049	1,057,050

** Based on Adjusted % to equal 100

Evaluation: Because of the shift from visits to visitor days, it is very difficult to assess if actual use varies more than 20% from projections made in the Forest Plans. Because NVUM has been adopted nationwide and offers a much superior statistically supported methodology, this will become the new base for the Forest to monitor trends and visitor satisfaction. The 5-year survey is being repeated on the Forest in 2005. Trends in visitor use, spending and satisfaction should be available to us late in 2006.

Monitoring Item:

5-2, Recreation

Activity, Practice or Effect to be Measured:

Wilderness use compliance.

Monitoring Results:

Wilderness compliance is reported annually through the Forest Service INFRA data base, available on request through District Offices. The data was not evaluated for this report.

Monitoring Item:

5-3, Recreation

Activity, Practice or Effect to be Measured:

Are the actual changes in the inventoried roadless acres comparable with the changes predicted in Forest planning?

Unit of Measure:

Acres

Reporting Period

5 years

Variability which would initiate further evaluation

Decrease in roadless acres 5% greater than predicted

Recreation

Monitoring Results:

At the time the Forest Plan was approved in 1986, there were approximately 1.245 million acres of inventoried roadless land on the Beaverhead National Forest. This included lands proposed for wilderness designation and the West Pioneers Montana Wilderness Study Act area (refer to Appendix C, Forest Plan Environmental Impact Statement, Volume 2, for a complete description of each roadless area). The Forest Plan projected that about 10% or 125,255 acres of the road less areas allocated for timber management would be developed during the first decade. Currently, development of roadless areas is about 1% of the total acres or 16% of that projected in the Forest Plan at the end of the first decade.

Evaluation: Currently, development of roadless areas is far less than the Forest Plan predicted. Only 1% of the total acres projected for development in the Forest Plan were actually developed by the end of the first decade. Several things have happened since 1996. The Analysis of the Management Situation (AMS) prepared for Forest Plan Revision describes a shift in public interest in roadless areas. The Roadless Area Conservation Rule of 2001 is a reflection of national pressure to protect roadless lands in the National Forest System. The Rule has not been implemented to date because of legal controversy and process. However, the Chief of the Forest Service issued an Interim Directive for protection of roadless areas, part of which reserved decision authority for certain road construction and timber harvest activities in inventoried roadless areas to the Chief. The Directive also delegates to the Regional Forester certain responsibilities. As a result, little or no activity has taken place in inventoried roadless areas on the Forest since 2000. A re-inventory of roadless areas will take place during revision of the Forest Plan, noting those changes made since the 1986 Plan was written and accounting for areas with roadless values that should be included.

Monitoring Item:

5-4, Recreation

Activity, Practice or
Effect to be Measured:

Are all newly constructed and reconstructed recreation facilities designed to be accessible to people with disabilities?

Unit of Measure:

Projects

Reporting Period

5 years

Variability which would initiate further evaluation:

Greater than 25% of facilities constructed or reconstructed in a 5 year period do not provide Access for people with disabilities.

Monitoring Results:

All developed site recreation facilities constructed and reconstructed in 2003 were designed to be accessible to people with disabilities. The Forest Service now uses the book "Universal Access

Recreation

to Outdoor Recreation: A design guide” published in 1994, as the reference for accessibility design of recreation facilities. This book is based on Americans with Disabilities Act (ADA) guidelines.

Evaluation: All projects comply with requirements for access for people with disabilities. No further evaluation required.

Recreation

Monitoring Item:

5-5, Recreation

Activity, Practice or
Effect to be Measured:

Are management activities conducted in
accordance with Section 106 of the National
Historic Preservation Act?

Unit of Measure:

Projects

Reporting Period

Annual

Variability which would initiate further
evaluation:

Any project found to be out of compliance.

Monitoring Results:

During the 2003 fiscal year 50 projects were inventoried for heritage resources prior to project implementation. These projects resulted in a file letter, compliance report or other documentation detailing the location, archaeological methodology and results of the archaeological surveys conducted. This documentation was reviewed by the Montana State Historic Preservation Officer (SHPO) in compliance with Section 106 of the National Historic Preservation Act (NHPA). No projects on the Beaverhead Unit went forward without the necessary SHPO consultation.

Archaeological inventory during 2003 resulted in the location and recordation of 10 new heritage properties; both prehistoric and historic.

As a result of archaeological surveys done in support of other projects 1500 acres were examined for heritage resources. Non-project surveys completed for heritage resource management purposes resulted in another 1000 acres inventoried on the Beaverhead unit of the Forest.

Twenty previously recorded heritage properties were formally monitored during the 2003 field season. Many of these sites had not been visited since they were originally recorded in the mid-1970s and early 1980's. Instances of vandalism, erosion, deterioration and other adverse impacts were noted and recommendations made to District Rangers concerning correction of the problems noted. Almost without exception each of these site monitoring visits required the completion of a new and more comprehensive site recordation form. The sites were usually poorly recorded when first discovered. Copies of site monitoring forms were sent to the Montana SHPO and the University of Montana archaeological site records office to update their files on these heritage resources.

Evaluation: All projects comply with Section 106. No further evaluation required.

Range

Monitoring Item:

6-1, Range

Activity, Practice or
Effect to be Measured:

Forage utilization – Are actual use levels
and capacity similar?

Unit of Measure:

Number of AUMs

Reporting Period

5 years

Variability which would initiate further
evaluation:

+/- 5% change from the projected AUM
capacity

Monitoring Results:

The settlement agreement for the Beaverhead Grazing Lawsuit entered into its ninth year in 2003. The higher level of monitoring required in this agreement indicated that 5 out of 165 allotments were out of compliance with this standard in FY03. Permitted use and actual use continue to fall below the projected Forest Plan output of 190,000 Animal Unit Month's (AUMs). In general it is felt that the actual use figure of 121,923 AUMs is approaching a more realistic capacity figure for the Forest.

Evaluation: Actual use is 64% of the capacity projected in the Forest Plan, a 5% change triggers further evaluation. However, projected AUM capacities in the Forest Plan were determined based solely on upland and winter range forage utilization standards. In 1996, the Riparian Amendment added more stringent riparian forage utilization and stream bank compaction guidelines and estimated a greater decline in AUM capacity. The variability measure for this monitoring item was not adjusted accordingly. Compliance with forage utilization standards on 97% of the allotments *has* resulted in a decline of actual AUMs grazed as projected by the Riparian Amendment FEIS.

Monitoring Item:

6-2, Range

Activity, Practice or
Effect to be Measured:

Range improvement construction and
maintenance – Are the projects being
accomplished as programmed?

Unit of Measure:

Projects, acres

Reporting Period

5 years

Variability which would initiate further
evaluation:

Less than 90% of scheduled projects
accomplished over five years.

Range

Monitoring Results:

In Fy-03 67 structural range improvements were completed with a combination of range betterment and KV funds. This level of construction is far behind what is needed to replace worn out structures and for new construction needed to implement existing approved AMPs.

Evaluation: This monitoring item is outdated. The project schedule in Appendix B was only developed through 1991. These projects were either completed or became outdated. Projects are currently derived through AMP updates. The BDNF accomplished its range improvement targets for FY03.

Monitoring Item:

6-3, Range

Activity, Practice or
Effect to be Measured:

Noxious Weed Infestations and Control
Program – Are the program levels necessary
to control weed infestations being identified
and accomplished?

Unit of Measure:

Acres

Reporting Period

5 years

Variability which would initiate further
evaluation:

Less than 80% accomplished over 5 years

Monitoring Results:

Approximately 3600 acres of noxious weeds were treated on the Forest in FY03. This was accomplished through a combination of biological, mechanical, and chemical treatments.. The noxious weed seed free forage program initiated in 1993 is being continued and appears to be quite effective with few violations being monitored and acted upon. There continues to be strong emphasis on education and coordination with local weed districts and cooperators.

Evaluation: The BDNF far exceeded noxious weed treatment acres scheduled in the Forest Plan. However, noxious weeds have become a much more severe problem than it was in 1986, largely because of the appearance of new species on the Forest like knapweed. The Forest Plan identified 2500 acres of noxious weed control for the first decade and 500 acres a year in the 2nd decade. We are currently treating 122% of the acres projected. The 2002 BDNF Noxious Weed FEIS identifies 43,000 weed infested acres along with authorizing a new tool to address the infestations: aerial application of herbicides. All indications are that this method of treatment is very effective.

Range

Monitoring Item:**6-4, Range**

Activity, Practice or
Effect to be Measured:

Are allotment management plans and
updates being done as scheduled?

Unit of Measure:

Number of plans

Reporting Period

5 years

Variability which would initiate further
evaluation:

Less than 4 new plans per year; less than 13
updates per year.

Monitoring Results:

Forest staff completed 14 updated AMPs on allotments that were identified as not being NEPA sufficient in the Beaverhead Lawsuit. No new AMPs were completed.

Evaluation: AMP updates are within expectations but new plans are not. Prior to FY03 the Forest had been on track with the schedule outlined in the settlement agreement. However, in 03 decisions being tied up with appeals caused the Forest to fall behind on the schedule by approximately one year as a result of not being able to work on the out year program. Planning efforts will likely continue to be slowed as a result of the controversy involved with the range NEPA decisions.

Monitoring Item:**6-5, Range**

Activity, Practice or
Effect to be Measured:

Are Forest Plan outputs (AUMs) consistent
with Forest Plan projections?

Unit of Measure:

AUMs

Reporting Period

5 years

Variability which would initiate further
evaluation:

10% less than projected carrying capacity

Monitoring Results:

Actual use in FY03 was 121,923 Animal Unit Months (AUMs).

Evaluation: Permitted use and actual use continue to fall below the projected Forest Plan output of 190,000 Animal Unit Month's. In general it is felt that the actual use figure of 121,923 AUMs is approaching a more realistic capacity figure for the Forest (see Analysis of the Management

Range

Situation, 2002). A number of factors enter into this situation, some of which include loss of transitory range, loss of capacity due to conifer encroachment, and more stringent standards in place that are needed to respond to T&E species and riparian health.

Timber

Monitoring Item:

7.1, Timber

Activity, Practice or Effect to be Measured:

Volume of Timber Offered for Sale – Are Forest outputs (MCF, MBF, Acres) consistent with Forest Plan projections/yield assumptions/conversion ratios?

Unit of Measure:

Acres, MMCF, MMBF

Reporting Period

5 years

Variability which would initiate further evaluation:

±10% change from ASQ and/or projected acres harvested over five years

Monitoring Results:

The Forest Plan projects an allowable sale quantity of 5.8 MMCF (17.3 MMBF) of timber to be harvested annually from 2700 acres for the first decade. The information presented in Table 8 below displays the timber sale program and harvest data for Fiscal Years 1999-2003, as well as the projected Forest Plan outputs.

Table 8. Timber Sale Program, Fiscal Years 1999-2003

	FOREST PLAN	1999	2000	2001	2002	2003	AVE 1999-2003
Volume Sold (MMBF)¹:							
Chargeable Volume							
Live	17.3	2.6	2.7	2.1	2.8	0.1	2.1
Dead	n/a	0.1	0.0	0.0	0.0	0.0	0.0
Chargeable Total	17.3	2.7	2.7	2.1	2.8	0.1	2.1
Non-chargeable Volume	n/a	0.7	0.3	2.9	2.4	0.8	1.4
Total Volume Sold	n/a	3.4	3.0	5.0	5.2	0.9	3.5
Volume Not Sold:²							
Chargeable Volume	n/a	1.5	0.0	0.0	0.1	0.4	0.4
Non-chargeable Volume	n/a	0.0	0.0	0.0	0.0	0.0	0.0
Total Volume Not Sold	n/a	1.5	0.0	0.0	0.1	0.4	0.4
Volume Harvested	17.3	9.7	4.2	4.2	5.8	4.2	5.6
Acres Harvested	2700	1951	532	315	895	931	925

¹ MMBF = million board feet

² Not Sold due to lack of bids, litigation, or deficit with no request.

Timber

A total of 3.5 MMBF was offered and sold by the Forest in FY2003. Of that amount, 2.1 MMBF was chargeable volume credited to the ASQ.

Harvest activities occurred on 931 acres.

The five year average figures showed a total volume sold of 3.5 MMBF/year. Total chargeable volume sold was 2.1 MMBF/year, or about 12 hundredths the average annual ASQ volume. The total volume harvested averaged 5.6 MMBF/year, which is about 32 percent of the Forest Plan projected level. Total acres harvested averaged 925 acres/year, approximately 34 percent of the Forest Plan level. The volume harvested has decreased over the past five year period due to a decrease in the volume under contract as less volume is sold.

The five year average timber volume per harvest acre is approximately 6.1 MBF/acre. as compared to the Forest Plan projected yield of approximately 6.4 MBF/acre.

Evaluation: Over the last 5 years, only 33% of the ASQ is being offered and 33% of the acres projected in the Plan are being harvested, far below the 10% change which triggers further evaluation. The problem with meeting ASQ was already becoming apparent one year after the Plan was approved (1987 Monitoring and Evaluation Report). The 5 Year Monitoring Report (1992) and Analysis of the Management Situation describe in detail the many reasons for this short fall. Alternatives being considered during Forest Plan Revision include constraining ASQ projections with realistic budget projections and eliminating suitable timber base in those areas where conflicts prevented us from harvesting in the past, like inventoried roadless areas.

Timber

Monitoring Item:

7-2, Timber

Activity, Practice or
Effect to be Measured:

Volume and area harvested by logging system, harvest method, working group, species, and management area. Is harvest accomplished as scheduled?

Unit of Measure:

Acres, MBF

Reporting Period

5 years

Variability which would initiate further
evaluation:

+/- 20% change from the projected mix of
lands and species.

Monitoring Results:

Acres harvest by Management Area as projected in the Forest Plan is compared with FY2003 and average FY99-FY2003 data in Table 9.

Table 9. Summary of Acres Harvested by Management Area.

Management Area	Forest Plan		Fy2003		Ave. 1999-2003	
	Acres	Percent Of Total	Acres	Percent of Total	Acres	Percent of Total
1 MINMA	0	0	2	<1	42	5
13 TMWET	0	0	0	0	17	2
16 TIMBR	1204	44	420	45	464	50
17 TMRNG	32	1	0	0	0	0
18 TMREC	143	5	0	0	0	0
19 TMLOW	54	2	2	<1	2	<1
20 TWTDS	866	32	469	50	290	31
21 TMWLD	273	10	0	0	39	4
24 BGRNG	-	0	0	0	24	3
26 TMEKS	143	5	35	2	11	1
8 SPREC	0	0	1	<1	2	<1
25 ELKSU	0	0	2	<1	32	3
RIPRN	0	0	0	0	2	<1
TOTAL	2715	100	931	100	925	100

Timber

In FY 2003 chargeable volume was removed from 924 acres, approximately 34 percent of acres projected in the Forest Plan.

Evaluation: Volume and area harvested vary more than 20% from Forest Plan projections, they actually fall short by 30%. For the five year average, chargeable volume was harvested from 821 acres annually. The problem with acres and type of harvest were becoming apparent within a couple years of implementing the 1986 Forest Plan. The 5 Year Monitoring Report (1992) and Analysis of the Management Situation describe in detail the many reasons for this short fall. Alternatives being considered during Forest Plan Revision include constraining acre projections with realistic budget projections and eliminating suitable timber base in those areas where conflicts prevented us from harvesting in the past, like inventoried roadless areas.

Monitoring Item:

7-3, Timber

Activity, Practice or Effect to be Measured:

Changes in the suitable timber base

Monitoring Results:

This item was not reported on in 2003. Suitable timber acres are being re-allocated as part of Forest Plan Revision. No evaluation was made.

Monitoring Item:

7-4, Timber

Activity, Practice or Effect to be Measured:

Cultural treatments -are Forest Plan projections accurate and is work accomplished as scheduled?

Unit of Measure:

Acres

Reporting Period

5 years

Variability which would initiate further evaluation:

+/- 20% change from projections over five year

Monitoring Results:

Timber stand improvement includes pre-commercial thinning and stand improvement after selection harvests. Usually this occurs within the suitable timber base. Occasionally we treat acres outside the suitable base for reasons other than timber production, such as cleaning up an old selective post and pole harvest along a main road.

Timber

Reforestation includes both planting and natural regeneration from seeds left after harvest. Most natural tree regeneration occurs on harvest sites prepared by dozer piling, trampling, or other mechanical soil.

Timber

Table 10 shows the acreage of timber stand improvement and initiation of natural reforestation as predicted by Management Area in the Forest Plan, accomplished in 2003, and the average accomplishments from 1999 through 2003.

FY 2003 Timber Stand Improvement was at 0 percent of Forest Plan average annual projections. Reforestation was at 0 percent of average annual projections.

Table 10. Acres of Cultural Practices by Management Area.

	MANAGEMENT AREA														Total
	1	8	13	14	16	17	18	19	20	21	22	24	25	26	
Forest Plan Levels															
Timber Stand Improvement	0	0	0	0	382	1	0	0	237	0	0	0	0	0	620
Reforestation	0	0	0	0	1204	32	143	54	866	273	0	0	0	143	2715
FY2003 Accomplishments															
Timber Stand Improvement	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reforestation	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Planting	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nat. Regen.	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Five Year Averages															
Average TSI 1999 – 2003	0	0	0	0	0	0	0	0	13	7	0	0	0	0	20
Average Reforestation 1999 – 2003	0	0	0	0	0	0	0	0	12	0	0	0	0	0	12

Evaluation: Average Timber Stand Improvement for the last five years (20 acres) is 2 percent of Forest Plan projections. Large acreage reduction in TSI is due to the listing of Lynx as a Threatened and Endangered Species. Reforestation acres are at 0.4% of the Forest Plan level. Reduced reforestation acres are due to lower than planned timber harvests and not from inadequate reforestation of harvested acres. Also, the forest is harvesting a higher percentage of commercial thinning than projected. These do not require reforestation. Concern about the acres of suitable timber base that can realistically be managed for growth and yield is central to developing alternatives during Forest Plan Revision.

Timber

Monitoring Item:

7-5, Timber

Activity, Practice or
Effect to be Measured:

Accomplishment of regeneration – Is natural regeneration occurring as predicted and are harvested lands being reforested promptly?

Unit of Measure:

Acres

Reporting Period

5 years

Variability which would initiate further
evaluation:

Less than 90% accomplishment of natural regeneration; 10% of harvested lands not adequately restocked in five years.

Monitoring Results:

The Plan projects that 72 percent of harvested stands will be regenerated by natural means. 28 percent would be by planting.

In FY 2003, of 96 acres (100%) regenerated on unprepared sites by natural seed fall, 0 percent were planted.

For the last five years our regeneration has been 97 percent by natural seed fall and 3 percent by planting.

Only stands harvested in 1986 through 1999 have completed a full five year monitoring period since the Forest Plan has been in effect. During this period, 248 stands totaling 6043 acres have been harvested using even aged regeneration methods. One hundred percent of those stands are adequately restocked either through planting or natural seeding. Ninety-seven percent of the total acres harvested during this time period were adequately stocked within 5 years. Only one stand of three acres has been harvested using even aged harvest systems between 1999 and 2003. This stand was harvested in 2003 and has not gone through the five year monitoring period.

Evaluation: Natural regeneration is occurring at higher rates than predicted. No further evaluation required.

Monitoring Item:

7 -6, Timber

Activity, Practice or
Effect to be Measured:

Assess silvicultural assumptions and practices – Are standards being followed?

Unit of Measure:

Projects

Reporting Period

5 years

Variability which would initiate further
evaluation:

Noncompliance with silvicultural guidance, questions regarding the validity of the silvicultural assumptions

Timber

Monitoring Results:

The Plan projects 100 percent of the harvest will be in even aged systems (clearcut, seed tree, and shelterwood). The FY2003 harvest was 1 percent even aged and 99 percent uneven-aged and commercial thins.

The five year average shows less than 1 percent of the harvest being in the even-aged category and 99+ percent was selection and commercial thinning.

The following chart summarizes harvest method by year and compares it to predictions in the Forest Plan.

Table 11. Acres Harvested by Harvest Method.

Harvest Method	Forest Plan	Fy2003	Ave 1999-2003
Clearcut/Seed Tree	2013	3	<1
Shelterwood	702	0	0
Selection/intermediate harvest	-	928	925
Salvage	-	0	0
Total	2715	931	925

Evaluation: Silvicultural guidance is being followed as required. However, Forest Plan assumptions that clearcutting would be the primary harvest method through the entire planning period are erroneous. In 1992 a policy decision was made to reduce the use of this practice and clearcut acres have steadily fallen. The shift to selective treatments from clearcutting has also reduced the volume per acre harvested. This issue is being reconsidered during Forest Plan Revision.

Monitoring Item:

Activity, Practice or

8-1, Facilities

Are the assumptions about local/collector miles, standards and costs correct?

Unit of Measure:

miles, standards, costs

Reporting Period

5 years

Variability which would initiate further evaluation:

±10% in any one year; noncompliance with Forest Plan standards

Timber

Monitoring Results:

Table 12 displays Beaverhead-Deerlodge National Forest accomplishments in road construction and reconstruction over the past five years, as well as the projections from the individual Beaverhead and Deerlodge Forest Plans. (*Note:* Until 1998, the Beaverhead and Deerlodge National Forests reported road accomplishments separately. Due to the consolidation of the two Forests and subsequent changes in budgeting and reporting, the mileages shown are totals for the combined Beaverhead-Deerlodge National Forest. Thus, these numbers cannot be directly compared to the tables shown in Beaverhead Forest Monitoring and Evaluation reports for FY1996 and earlier.)

Table 12. Road Construction and Reconstruction, Fiscal Years 1999-2003.

	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles	Miles
Activity	Beaverhead	Deerlodge	Total	1999	2000	2001	2002	2003	Average
Construction	30.8	24.7	55.5	0	0	1.0	0.6	0.5	0.4
Reconstruction	11.7	4.5	16.2	30.4	0	2.6	5.1	5.4	8.7

The Plan projects 29 miles of new road construction per year to provide for timber access, for an average of 1.7 miles per million board feet (MMBF) of timber offered. In actuality, less than one mile of specified road was constructed for timber sales during the entire five-year period (FY1999-2003), only a tiny fraction of the projected miles. Reconstruction averaged slightly over fifty percent of the combined Forest Plan projected level during the same period. In FY2003, only 0.4 mile of road was constructed and 0.3 mile reconstructed on the Beaverhead, for relocation and reconstruction of the Lemhi Pass road.

In FY03, 1.5 miles of system roads and 1.5 miles of unclassified roads were decommissioned (obliterated). The engineering data base does not track obliteration of temporary roads.

Evaluation: The Forest Plan projections about miles of road constructed annually are far from the current situation. The trend of decreased road construction is occurring, at least in part, due to public opposition to the development of new specified roads; as a result, timber harvest units are situated along existing roads or are accessed with temporary roads. Even temporary road construction is limited, however, with an estimated average of 0.5 mile/MMBF. Emphasis has shifted toward reconstruction and maintenance of the existing road system, and identifying the minimum transportation system necessary for meeting Forest management objectives. This issue is being reevaluated through Forest Plan Revision.

Monitoring Item:

Activity, Practice or
Effect to be Measured:

8-2, Facilities

Are the assumptions about road
management valid, especially those
regarding closures and restrictions?

Economics

Unit of Measure:	Miles
Reporting Period	5 years
Variability which would initiate further evaluation:	Noncompliance with Forest Plan

Monitoring Results:

Gates are the primary method of physically closing specified roads on the Forest, followed by signs only (no physical barrier), natural barriers, and man-made barriers. Many roads have been obliterated near the entry and/or have had right-of-way slash scattered on the road bed where long-term closures are planned. Approximately 3 miles of low standard roads were decommissioned this year. Table 13 shows the extent of road use restrictions on the Forest.

Table 13. Road Use Restrictions¹, Fiscal Year 2003.

Restriction Period	Restricted Miles
Yearlong	334
Seasonal	869

¹ Table 13 displays restrictions applicable to standard highway vehicles. Many roads have different restrictions for other types of traffic, such as motorcycles, ATVs, and snowmobiles.

Evaluation: Assumptions about road closures and restrictions are still appropriate. No further evaluation is required.

Monitoring Item:

8-3, Facilities

Activity, Practice or Effect to be Measured:	Trail Maintenance - Is the scheduled maintenance and reconstruction occurring?
Unit of Measure:	Miles
Reporting Period	5 years
Variability which would initiate further evaluation:	Less than 80% of schedule accomplished over five years

Monitoring Results:

In F03, 755 miles of trail were maintained and 20 miles were improved or reconstructed on the whole Forest.

Evaluation: This monitoring item is outdated. The Forest Plan scheduled reconstruction for the those projects have been completed. Accomplishment is now measured relative to targets. One hundred percent of the FY03 targets were accomplished.

Economics

Monitoring Item:**8-4, Facilities**

Activity, Practice or
Effect to be Measured:

Road Management - Is the scheduled
maintenance and planned management
occurring?

Unit of Measure:

Miles

Reporting Period

5 years

Variability which would
initiate further evaluation:

Less than 80% of schedule
accomplished over five years

Monitoring Results:

Although the Forest Plan displays no annual target for maintenance, the Forest prepares an annual road maintenance schedule. Miles of road maintenance accomplished during Fiscal Year 2003 are displayed in Table 14.

Table 14. Road Maintenance Accomplishments, Fiscal Year 2003.

MILES OF ROAD		
FOREST SERVICE	COOPERATOR	TOTAL
555	12	567

Forest Service maintenance shown in Table 14 consisted of 195 miles of patrol blading and 360 miles of other maintenance. Miles in the "Cooperator" column reflect patrol blading accomplished under cooperative agreements by County road crews on National Forest roads.

Scheduled maintenance activities depend on the availability of funds. The Beaverhead contains approximately 2569 miles of existing National Forest System Roads. We estimate that about 30 percent of this mileage receives some maintenance in a typical year, but only about 15 percent is fully maintained to the desired standard and is consequently deteriorating

In addition, three miles of road were decommissioned on the Forest in FY2003, including 1.5 miles of system road and 1.5 miles of unclassified (non-system) road. Special road maintenance projects included replacement of the Cottonwood Creek bridge and resurfacing 0.3 mile of the adjacent road on the Madison Ranger District.

Evaluation: The Forest Plan did not establish a baseline or target against which to measure accomplishment for this item. No further evaluation is possible.

Economics

Monitoring Item:**8-5, Facilities**

Activity, Practice or

Exterior Access - Are access points being developed as scheduled?

Unit of Measure:

Miles

Monitoring Results:

This monitoring item is not included in the list of monitoring requirements found in Table VI-1 of the Forest Plan. The item was identified during a "needs assessment" as part of the monitoring process for 1988, and is included in this year's report for informational purposes only.

Public and administrative access to the Forest is difficult or unavailable in many areas due to intervening private landholdings. A list of potential access points is displayed in Appendix E of the Forest Plan. A number of additional access points have been identified since the Forest Plan was implemented (see Monitoring Item 8-5 of the Fiscal Year 1990 Forest Plan Monitoring and Evaluation Report for specific examples).

The Forest Plan estimates an average of 1.8 miles of exterior access road construction and 8.2 miles of reconstruction per year. Actual construction and reconstruction has been considerably less. During the five-year period from FY1999-2003, only one major exterior access project was completed. Approximately five miles of road were constructed, reconstructed, or reconditioned to improve recreational access to the Willow Creek area in the northwest portion of the Gravelly Range. During 2003, no new exterior access projects were initiated.

Evaluation: No further evaluation is required. This is an informal addition to the Monitoring Plan.

Economics

Monitoring Item:**10-1, Economics**

Activity, Practice or
Effect to be Measured:

Verification of predicted costs vs.
experienced costs

Unit of Measure:

Dollars

Reporting Period:

5 years

Variability initiating evaluation:

+/- 15% of predicted costs over 5 years

Monitoring Results:

The Forest Plan projected an annual timber budget of \$971,111 in FY03 dollars to prepare and administer 17.3 mmbf of timber and manage the suitable timber base – roughly \$56/mbf. In FY03, the Forest spent \$976,000 on its timber program averaging 9 mmbf – roughly \$108/mbf.

Evaluation: We have exceeded predicted costs well above the 15% variability. This is partly due to litigation, appeals, and listed species making the environmental analysis and project design more labor intensive. A shift from clearcutting to intermediate harvests has decreased the volume derived from projects, hence increasing the cost per acre. Cost of harvesting timber is being re-evaluated during Forest Plan Revision.

Monitoring Item:**10-2, Timber Values**

Activity, Practice or
Effect to be Measured:

Verification of predicted values for timber

Unit of Measure:

Dollars

Reporting Period

5 years

Variability which would initiate further
evaluation:

+/- 25% prediction over 5 years

Monitoring Results:

We received \$112 per MBF for its combined sawlog, post and pole, and fuel wood sales in FY03. Forest Plan values for lodgepole pine were \$136 in 1987 dollars or \$200 in 2003 dollars (using a GDP deflator of 1.4711).

Evaluation: Plan predictions made prior to 1986 are no longer valid. Timber values in 2003 have fallen well below 25% of those predictions. The drop in value was recognized by 1991 in

Economics

the 5 year review. No action was identified to be taken at that time. Timber values are being reassessed during Forest Plan Revision.

Monitoring Item:

10.3, Economics

Activity, Practice or
Effect to be Measured:

Assess program budget vs. actual dollars
received

Unit of Measure:

Dollars

Reporting Period

5 years

Variability which would initiate further
evaluation:

+/- 15% of prediction by funding item over
5 years

Monitoring Results:

Table 15 displays actual expenditures in FY 03 within current expanded budget line items (EBLI). Periodic changes have been made in the budget code structure, making it difficult to compare individual programs (individual EBLI expenditures) over the years.

Table 15. Expenditures In Fiscal Year 2003 by EBLI.

EBLI	DESCRIPTION	FY03 Budget (\$000)
BDBD	Brush Disposal	105
CMFC	Facilities	1,035
CWFS	Cooperative Work	218
CMRD	Rd Const & Mtce	1,218
CMTL	Trail Const & Mtce	1,057
CWKV	Knudtson/Vander	345
HWHW	Hazardous Waste	131
WFHF	Hazardous Fuels	763
WFPR	Fire Protection/Preparedness	2,768
NFIM	Inventory and Monitoring	490
NFLM	Land Ownership	189
NFMG	Minerals and Geology	441
NFPN	Land Mgt Planning (Plan Revision)	1,076
NFRG	Grazing Mgt	819
NFRW	Recreation, Heritage, Wilderness	908
NFTM	Timber Sales Mgt	976
NFWW	Vegetation and Watershed	849
NFWF	Wildlife and Fish	449
RBRB	Range Betterment	103
SSSS	Timber Salvage	676
WCWC	Computer Services	235
WCFE	Fleet	949
		36

Economics

TRTR SPSP	Road and Trail Rest State and Private, Fire Plan	198
	Total*	16034

*this does not include actual fire suppression costs or special land acquisition project dollars.

Evaluation: Funding has varied more than the 15% variance allowed for this item. The combined budget projections made in the Beaverhead and Deerlodge Plans were \$9,214,000 in 1978 dollars. Adjusted to 2003 dollars, this projection equals \$22,039,000. Experienced budgets are 73% of projections. The distribution of funds between program activities has changed as much. It would have been difficult for Forest planners in the late 1970's to accurately project all of the changes which have taken place affecting Forest budgets over the last 20 years.

Monitoring Item:

11-1, Adjacent Lands, Resources, Communities

Activity, Practice or
Effect to be Measured:

How management of the National Forest affects the local economy, resource values, local uses, and lifestyles?

Unit of Measure:

N/A

Reporting Period

5 years

Variability which would initiate further
evaluation:

Unacceptable results or impacts according to
ID team and/or Management Team review

Economics

Monitoring Results:

National Forest land nearby greatly enhances the quality of life for the people living in and southwest Montana. Residents in local communities around the Beaverhead-Deerlodge National Forest have maintained a high degree of interest in Forest management. This has been reflected in the level of participation in Forest Plan Revision. Work on revising the 1987 Deerlodge Forest Plan and 1986 Beaverhead Forest Plan began in earnest in FY03 and is scheduled to be completed in January of 2006.

A preliminary economic impact analysis for the Beaverhead-Deerlodge Forest has been completed for Forest Plan Revision using the IMPLAN economic impact analysis system. The information provided here reflects current conditions used to compare against the alternatives.

An economic input output model, called IMPLAN, was used to develop the effects of Forest Service outputs, revenues, expenditures and employment. IMPLAN provides both direct and indirect effects of Forest Service activities. An IMPLAN model was developed using 2000 IMPLAN data, the most recent data available at the time of the analysis. 2003 Forest Service resource output data and Forest employment and expenditure data was used to estimate the employment and labor income effects related to Forest Service activities. As Table 16 shows, in 2003 the Beaverhead-Deerlodge National Forest was responsible for approximately **1655 jobs** and **\$65.3 million in labor income** to the 8-county area studied. We did not separate the counties influenced by the Beaverhead or the Deerlodge National Forests.

Table 16. Values of Activities and Resources from the Beaverhead-Deerlodge National Forest In 2003.

Resource Area	Output	Employment (Jobs related to FS activities)	Labor Income (\$million related to FS activities)
Recreation	588,119 visits	610	\$15.1
Range	162,748 head months	65	\$1.6
Timber	8.9 MMBF	300	\$13.2
Minerals	Not Available	Not available	Not available
Fish and Wildlife	468,931 visits	370	\$15.4
Payments to States/Counties		10	\$.3
Forest Service Expenditures	Budget of \$16,035,000	300	\$19.7
TOTAL		1655	\$65.3

Economics

Evaluation: The Forest Leadership Team has not identified unacceptable impacts.

Monitoring Item:

11-2, Adjacent Lands

Activity, Practice or
Effect to be Measured:

What is the effect of other agencies or private landowners on National Forest management?

Unit of Measure:

N/A

Reporting Period

5 years

Variability which would initiate further evaluation:

Unacceptable impacts on proposed activities, Forest Plan goals and objectives, or Forest Plan targets

The impacts experienced by the Forest from other agencies and the public are primarily changes to proposed actions resulting from active public participation in management decisions. Listing of the Gravelly mountain range as occupied grizzly bear habitat has increased the involvement of Fish and Wildlife Service in activities proposed on National Forest land. Activities on public or private land outside of Forest Service jurisdiction have had some impact on our ability to implement the Forest Plan.

The Bureau of Land Management, Dillon Field Office, is in the process of revising their Resource Management Plan. Resource specialists for both the BLM and Forest Service have coordinated data bases, mapping, and other aspects of planning to avoid unacceptable impacts on agency goals, objectives, targets or activities.

Evaluation: The Forest Leadership Team has not identified unacceptable impacts from other agencies or adjacent landowners.

Monitoring Item:

11-3, Emerging Issues

Activity, Practice or
Effect to be Measured:

Emerging issues and changing social values

Unit of Measure:

Issues

Reporting Period

5 years

Variability which would initiate further evaluation:

Issues not resolved or adequately addressed by Forest Plan

Allocations/Database

Evaluation: An Analysis of the Management Situation document was released in December 2002 (FY03) to address changes since the 1986 Plan was written, specifically, those emerging or changing issues not adequately addressed by the Forest Plan. These will all be key issues in revising the Forest Plan. Please refer to that document (available at <http://www.fs.fed.us/r1/b-d/>) for a comprehensive discussion of this monitoring item. Some of the new issues include:

Travel Management - Demand for both motorized and non-motorized opportunities are increasing. Motorized access to remote areas is increasing due to technological advances in ATVs and snowmobiles. Conflicts around motorized use are increasing. The Statewide Off Highway Vehicle Amendment in 2001 restricted cross-country vehicle travel, changing the BDNF travel plan, and requiring subsequent travel planning.

Fire Management - Agency fire management policies have been through a significant change, particularly since 2000 when significant drought hit the West and large scale fires broke out in nearly every western state. The National Fire Plan (2001) acknowledged an environment of increasing risk to firefighters, rural communities (wildland urban interface), and resource values (TES, water quality, air quality, soils, etc.) affected by wildland fire. Agency policy and direction for fire and fuel management has expanded significantly since.

Roadless Area Management - Public interest in roadless areas has shifted since the 1986 Plan was written. The Roadless Area Conservation Rule of 2001 is a reflection of national pressure to protect roadless lands in the National Forest System. The Rule has not been implemented to date because of legal controversy and process. However, the Chief of the Forest Service issued an Interim Directive for protection of roadless areas, part of which reserved decision authority for certain road construction and timber harvest activities in inventoried roadless areas to the Chief. The Directive also delegates to the Regional Forester certain responsibilities. As a result, little or no activity has taken place in inventoried roadless areas on the Forest since 2000. A re-inventory of roadless areas will take place during revision of the Forest Plan, noting those changes made since the 1986 Plan was written and accounting for areas with roadless values that should be included.

Monitoring Item:

12-1, Allocations

Activity, Practice or
Effect to be Measured:

Evaluate lands identified as not meeting
physical or biological characteristics within
assigned MA.

Unit of Measure:

Acres

Reporting Period

5 years

Variability which would initiate further
evaluation:

+/- 15% change in acres considered suitable
for range or timber management

Allocations/Database

Evaluation:

Allocations of other lands to and from range and timber suitability did not change in 2003.

Monitoring Item:

12-8, Data Base

Activity, Practice or
Effect to be Measured:

Assess and update Forest Plan data base as
needed

Unit of Measure:

Reporting Period

Annual

Variability which would initiate further
evaluation:

Any deviation

Monitoring Results:

With upcoming Forest Plan Revision, FY03 was a big year for accomplishing updates to the Geographic Information System and corporate data bases. Major projects included:

Soil Inventory - Completion of the forestwide 10-year inventory, in preparation for conversion to NASIS in FY04.

Wildlife sightings - Conversion of written data to FAUNA data base, both spatial and tabular

Cultural sites - Conversion of cultural site legacy data to digital format

Westslope Cutthroat Sub-basin project – Entry of genetic, population and habitat data for 3 sub-basins in both spatial and tabular format

Stream Surveys – annual updates to stream survey data base, both tabular and spatial

Roads – annual updates to road location, condition and mgt objectives as part of 10-yr project

Evaluation: The BDNF continues to meet the Regional and National requirements for corporate data layers. Forest Plan data bases are being updated as needed.

Monitoring Item:

13, Appeals

This item is not part of the Beaverhead Forest Plan Monitoring requirements. We choose to track this information for a variety of purposes. Table 16 displays the appeals filed on Fiscal Year 2003 decisions.

Research

Table 16. 2003 Project/Activity Appeals.

DECISION UNDER APPEAL	APPELLANT(S)	STATUS*
Post-Fire Vegetation and Fuels Management	The Ecology Center, et. al.	1
Post-Fire Vegetation and Fuels Management	Native Ecosystems Council	1
Keystone-Quartz Ecosystem Management	Ecology Center, et. al.	1
Keystone-Quartz Ecosystem Management	Native Ecosystems Council, et. al.	1
East Fork Post and Poles	Bill Graber	2
Nicholson Mine	Native Ecosystems Council et al.	1

- * 1 = Decision affirmed
- 2 = Decision Remanded
- 3 = Appellants withdrew appeal
- 4 = Forest Service withdrew decision

Evaluation: No evaluation is required by the Monitoring Plan.