

Forest Plan Annual Monitoring Report for Fiscal Year 1990

Kootenai National Forest

INTRODUCTION

We have recently completed the monitoring of Forest Plan implementation for fiscal year 1990. This was the third year of operation under the Plan, and includes the period from October 1, 1989 to September 30, 1990.

Background: The Forest Plan for the Kootenai National Forest was approved on September 14, 1987. It established management direction on the Forest for a 10-year period that began on October 1, 1987 (fiscal year 1988). This direction was the result of a comprehensive analysis of land capabilities, public issues, and environmental effects, along with a balancing of intense public concern as well as a myriad of legal requirements.

Forest Plan Monitoring provides us an opportunity to periodically check and determine if we are proceeding on course with the Plan's new direction. It includes checks for implementation, effectiveness, and validation. Implementation monitoring can be summarized as "did we do what we said we would do?" Effectiveness monitoring is summarized as "did the management practices do what we wanted them to do?" Validation monitoring is a process used to determine if the Plan's assumptions and data calculations are still correct.

Process: At this point in our Plan period (the end of the third year), our concern is mostly with implementation monitoring. The Plan's guidance for this type of monitoring is found in Chapter IV of the Forest Plan (see Appendix C of this report). It lists specific items that we're tracking during implementation monitoring. It also provides guidance to help determine if implementation is within the stated variability limits. If an item is not within the stated limit, an evaluation is undertaken to find the reason for the deviation. The Forest can then take any needed steps to bring the implementation to within the desired limits.

The information that we gain from this periodic monitoring will be used for our formal 5-year Plan review. This 5-year review will begin after October 1, 1992. As indicated in Chapter IV of the Plan (see Appendix C), there are 39 items to be measured on a yearly basis. Of the 39 items, 13 are to be reported on an annual basis and 4 need to be reported every other year. The remaining 22 items are reported on a 5-year basis. This third-year report will discuss only the 13 annual-reporting items.

Procedure: For each of the 13 monitoring items, we first checked to see if it was within the desired limits of variability. If it was, then we concluded there was adequate compliance with the Plan. In some cases, we found that we could currently be within the desired limits, but the 3-year trend indicates that the allowable variation will be exceeded by the time the 5-year review begins (October 1, 1992). For these items, we are working to achieve the allowable variation during the next two years and to continue to carefully monitor in preparation for the formal 5-year review. Finally, there are monitoring items that

we found are not currently within the desired variability limits. For these items, the Forest will continue to work to improve in order to reach the desired limits.

SUMMARY

When we answer the question "Did we do what the Plan said we should do?", we find sufficient information to determine that we can say YES for three (3) items because we're within the Plan's stated limits, and NO for three (3) items because we're outside the limits. For those remaining monitoring items, one (1) is ON-TRACK and three (3) are OFF-TRACK. Two (2) others have INADEQUATE RESULTS to draw conclusions. One (1) item DOESN'T FIT into any of these five categories.

So what does all this mean? It means that on some areas we are in compliance with the Plan, and on others we need some improvement. It means that there are some areas where we will meet the Plan's direction by the 5-year reporting date if current trends continue. It also means there are some items where we will not meet the Plan's intention unless we take corrective action.

The monitoring items where we can say "YES, we are in compliance with the Plan" include: Threatened and Endangered (T & E) Species Habitat, Range Use, and Water Yield Increases. We're in compliance on these items because we're within the Plan's stated limits of variability. Specifically, here is what we found for these items:

T & E Species Habitat (C-7): Through this item we're monitoring the quantity and quality of habitat for the recovery of peregrine falcons, gray wolves, bald eagles and grizzly bears. We're also observing the animals to obtain population estimates and trends. We haven't observed increases in the number of sightings of peregrine falcons, but we have for bald eagles and gray wolves. Sightings of grizzly bears have increased in the Northern Continental Divide Ecosystem but have remained stable in the Cabinet Yaak Ecosystem. Overall, the amount and quality of habitat for all these species is being maintained or improved and the Forest is within the recovery goals stated in the Plan.

Range Use (D-1): Range use, which is primarily cattle grazing, has been less than projected but still remains within the variability limits stated in the Plan. Monitoring has disclosed some declining trends in range condition on some riparian areas in the northeast corner of the Forest.

Water Yield Increases (F-3): The Forest water yield model is used to analyze the potential effect of vegetative disturbance in a watershed before any timber sales are sold. (The watershed analysis includes both National Forest and private land.) About 53% of all the land within the National Forest drainage boundary has been analyzed, and many of these watersheds included significant amounts of intermingled private land. Of all these examined watersheds, 24% exceed the water yield guidelines. The stated limit in the monitoring plan is 20% of all the watersheds on the Forest. Watershed conditions are expected to be better throughout the remainder of the Forest which is predominantly National Forest land. As the remaining watersheds are analyzed, it should reduce the current forestwide percentage of 24% down to the stated limit of 20%. Whenever the water yield standard is exceeded in an area, planned activities on the National Forest lands have been deferred until watershed recovery occurs. This has been necessary to meet the Forest Plan standard and protect downstream beneficial uses as required by the Montana State water quality goals. In addition, an organization called the Montana Watershed

Co-operative has been formed to provide co-operation in timber harvest plans and methods on intermingled ownerships. The members of the organization include the Kootenai, Flathead and Lolo Forests, the State of Montana, Plum Creek Timber Company and Champion International Corporation.

The monitoring items where we answered "NO, we're not in compliance with the Plan" are: Soil and Water Conservation Practices, Forest Plan Costs, and Forest Plan Budget Levels. These items are not in compliance with the Plan because the results are outside of the Plan's stated limits. Specifically, here's what we found for these items:

Soil and Water Conservation Practices (F-1): Monitoring of soil and water quality conservation practices showed that we did not fully meet our objective of 100% compliance with the State water quality guidelines. The use of best management practices (BMP's) is a new practice for the Forest, and we're still learning how to stay within the State standards. Continued familiarity with BMP's and a better understanding of how certain practices affect water quality should bring up the level of implementation success.

Forest Plan Costs (H-3): Here we evaluated whether the costs of producing Forest Plan outputs continue to be valid. Of the items evaluated, timber sale preparation costs have increased significantly and exceed the 10% deviation limit in the Plan. In contrast, road construction costs are below Forest Plan projections.

Forest Plan Budget Levels (H-4): For fiscal years 1988-90, the average Forest budget has been less than stated in the Forest Plan (66% of the planned level). Most of this difference is the result of budget trends that were in-place prior to the approval of the Plan. Since the Plan was initiated, we have been working to achieve budgets more in line with projections. In at least one major area, Fish and Wildlife, there has been considerable progress in achieving this.

Several monitoring items are reported annually but are not formally evaluated until 5-years have elapsed. However, for these items, the data is evaluated as to whether the quantitative limits are being met. If the data indicates that the results are within the Plan's limits, then the item is determined to be ON-TRACK. If the data indicates that the limits are being exceeded, then the item is determined to be OFF-TRACK. The monitoring item that's ON-TRACK for the 5-year evaluation period is Timber Harvest Deferrals. The items that are OFF-TRACK for the 5-year evaluation period are: Timber Sell Volume, Acres Sold for Timber Harvest, and Suitable Timber Management Area Changes.

Monitoring items that are ON-TRACK:

Timber Harvest Deferrals (E-7): Acres of suitable timber can be deferred from timber sales due to economics, resource conflicts or other unforeseen reasons. During the 3-year monitoring period, several events or situations caused deferrals but not enough to initiate further action (10,000 acres net change in the size of any management area). The events and situations that deferred suitable timber acreage from sale proposals include poor timber sale economics, existing cutting units reaching big game hiding cover more slowly than expected, significant timber harvest on intermingled private land, and the impact of the injunction imposed by the Ninth Circuit Court in the Upper Yaak area. If the current trend of timber harvest acreage deferrals continues, this item may be off track by the end of fiscal year 1991 (September 30, 1991).

Monitoring Items that are OFF-TRACK:

Timber Sell Volume (E-1): The Forest's allowable sale quantity for the full decade of the plan on suitable lands is 2,270 MMBF. To reach this total in a steady fashion, the Forest's average annual programmed sell volume on suitable lands would be 227 MMBF/year. For the first three years of implementation, the average actual annual sell volume has been 167 MMBF/year, resulting in a deficit which averaged 60 MMBF/yr or 181 MMBF for the full three year period. This deviation has been the result of additional habitat delineation for grizzly bear management in the Cabinet-Yaak Ecosystem, deferrals to meet watershed standards in intermingled lands, and other reasons. It appears likely that the causes of the deficit will remain in place for the near future, and that projected sell levels will not be met under these conditions. For more detailed information regarding this trend, see the next section (Observations of Some Forestwide Trends) and Monitoring Item E-1, Timber Sell Volume.

Acres Sold for Timber Harvest (E-2): The total acres sold for regeneration harvest is below the planned level. This deficit results from the same factors affecting timber sell volume (see above).

Suitable Timber Management Area Changes (E-3): The Forest Plan allows for changes in the boundaries of management areas based upon site-specific analysis and interdisciplinary review. However, large changes could impact the ability of the Forest to produce particular outputs. One non-significant amendment of the Forest Plan has already been filed (Amendment #2 - February, 1989) to account for such a change. After three years, the total net change in Management Area 15 (Timber Production) is beyond the Plan's limit. The total net change of suitable timberland since October, 1987 has been a loss of one-half of one percent (6,120 acres).

The monitoring items where we have INADEQUATE RESULTS include: Noxious Weed Infestations (D-2) and Stream Sedimentation (F-2). These items were not monitored to a level sufficient to make firm determinations of whether or not they're within the variability limits.

The monitoring item that DOESN'T FIT into any of the five categories was Emerging Issues (H-2). This item focuses on issues that appear to be developing since the Plan was initiated, and also monitors the Forest Plan issues that appear to be changing. Emerging or potential issues identified include: air quality management, biodiversity, impacts to Forest Service activities from adjacent private lands, non-system road management, nutrient recycling, and sensitive plants and animals. The Forest Plan issues that are changing are: grizzly bear management, potential mineral development, state water quality standards, timber supply, elk security/cover and forage, snag habitat management, road access, wolf recovery, and roadless area partitioning for timber harvest.

OBSERVATIONS OF SOME FORESTWIDE TRENDS

The results of the last three years of monitoring indicates that a trend is emerging. This trend is the cumulative reduction of timber outputs from management areas suitable for timber harvest. We have not fully quantified this trend as yet, but we'll continue to monitor it between now and the formal 5-year review when an intensive analysis will be made. (The formal 5-year review will begin in 18 months in October, 1992.) Below is a summary of the items which appear to be affecting timber outputs and which will be monitored and then fully analyzed at the formal review point:

Results of Formal Forest Plan Monitoring

To illustrate this trend of reduced outputs from the suitable timber management areas, please note the monitoring results for Water Yield Increases (F-3), Timber Harvest Deferrals (E-7), and Suitable Timber Management Area Changes (E-3).

Water Yield Increases: In watersheds containing both National Forest and private industrial forestland, accelerated private land timber harvest has brought many areas near or beyond threshold levels for water yield. This situation has resulted in reductions of harvests on Forest lands to avoid adverse watershed effects. The estimated total land involved is 419,000 acres. About 210,000 acres of National Forest land are affected, which includes about 157,000 acres of suitable timber. During development of the Forest Plan no allowance was made for such reductions in timber harvest on National Forest land in intermingled ownership.

Timber Harvest Deferrals: When timber sales are being planned, a site-specific analysis is done to determine if the Forest Plan standards can be met. When discrepancies are observed, adjustments are made to the project to ensure compliance. These adjustments can result in a deferral of formerly planned harvest acres to some future time beyond the Forest Plan period. In addition to harvest acres deferred beyond the current Plan period to provide for watershed recovery, a number of deferrals have been made for unexpected conditions such as appeals and litigation. Others have been made because of low cost-effectiveness and other factors beyond the Forest's control. To date, over 14,200 acres have been deferred from timber harvest for at least the first decade.

Suitable Timber Management Area Changes: During the site specific timber sale project analysis, mapping and other errors are occasionally found for management area boundaries. Most of these are minor changes are needed to correct conditions inaccurately portrayed on the Forest Plan map, such as non-productive forest land, areas with regeneration problems, and newly found stands of old growth. As a result of this site specific analysis, the total net 3-year decrease of suitable timber acreage exceeds 6,500 acres.

Other Informal Monitoring Results

The Forest conducts informal functional monitoring in addition to the formal process the Forest Plan prescribed. This has also revealed conditions indicating reduced outputs from management areas suitable for timber harvest. The primary resource areas noted are: Grizzly Bear Habitat, Elk Security, Wildlife Snag Management, and Wildlife Hiding Cover. In addition to these functional monitoring items, recent experience in a large portion of the Forest (the Upper Yaak) has helped to illustrate some of these cumulative resource effects.

Grizzly Bear Habitat: The Forest Plan provides for 1,035,000 acres of grizzly bear habitat on the Forest within the North Continental Divide Ecosystem and the Cabinet-Yaak Ecosystem. During formal consultation with the U.S. Fish and Wildlife Service for the Upper Yaak EIS and other projects, analysis showed that there is habitat for grizzly bear beyond that specified in the Forest Plan. As a result, 248,000 acres was added to the area affected by grizzly bear standards and guides. Of this, 143,000 acres are in suitable management areas, which had been originally programmed for timber harvest at

levels higher than acceptable for grizzly bear recovery. This area is shown on the map at the end of this section. The U.S. Fish and Wildlife Service is expected to issue a revision of the Cabinet-Yaak Ecosystem Recovery Plan within a few months which will detail specific recovery objectives and constraints.

Elk Security: The Forest Plan provides for elk management on about 1,300,000 acres of summer range. About half of this acreage (645,000 acres) is located within the suitable timber management areas. The Forest Plan assumed that adequate opportunity for elk security could be provided in all summer range areas. This assumption is proving true in most cases, but some areas are being discovered where elk security appears to be below Forest Plan standards. Preliminary estimates indicate that about 84,000 acres of suitable timber in elk summer range might be involved.

Wildlife Snag Management. Because of previous timber harvest practices in many areas (primarily clearcutting in lodgepole pine timber or seedtree cutting and prompt overstory removal in mixed conifer timber), increased numbers of green leave-trees are now required to meet standards for replacement snags for cavity nesters and small mammals. This increased amount of leave trees was not fully anticipated in the yield calculations used to project the Forest harvest schedule. Although it has some effect in making it more difficult to maximize timber harvest on suitable management areas, the exact implications have not yet been defined.

Wildlife Hiding Cover: Recent experience indicates that regeneration harvest areas require 15-20 years to effectively provide wildlife hiding cover rather than the 10 years used for Forest Plan projections. As a result, harvest of mature timber adjacent to regeneration areas must occasionally be delayed 5-10 years until vegetative cover becomes dense enough to provide acceptable cover. This longer waiting period could possibly result in a lower harvest level over the long-term.

Upper Yaak: On-the-ground experience in the upper Yaak River drainage can serve as an example to illustrate the effect of the above factors on deviations to the Forest Plan. An intensive analysis was made for this area as part of the Upper Yaak River EIS. The results displayed in the Final EIS indicated that there is a difference between Forest Plan projected average outputs and the activities chosen to best implement the Plan's standards in a site-specific fashion. For example, the Yaak FEIS Alternative 3 harvested 7,845 acres (121 MMBF) and was designed around the Forest Plan average projections. Alternative 9A harvested 5,500 acres (90 MMBF) and was the final selected alternative that best met the Forest Plan standards in a site-specific fashion. This represents a difference of 2,345 acres in the currently available suitable timber land (-30%), and 31 MMBF in currently available timber volume (-26%) than projected in the Forest Plan. (See the Upper Yaak River Final EIS, pg. S-11.) Insofar as the Upper Yaak River analysis is a reflection of appropriate implementation of the Forest Plan, the difference between projected average Forest Plan outputs and actual site-specific determinations confirms the formal and informal monitoring results described above.

The Scope of Effects in both Formal and Informal Forest Monitoring

In total, a significant acreage of suitable management areas have been affected in the ways described above. Over 400,000 acres are involved in timber harvest reductions and deferrals for a variety of reasons, including deferring harvest on intermingled Forest ownership, identification of additional grizzly bear habitat, elk summer range security needs, and others. Since there is overlap between some

of these, and effects are not yet well quantified, it is estimated that as much as 300,000 acres have been restricted in some fashion. This amounts to about one-quarter of the total suitable management areas on the Forest (1,263,000 acres). Clearly, this is affecting the ability of the Forest to provide timber sell levels to eventually reach the Plan's allowable sale quantity. This is reflected in formal monitoring results which show 66% of planned regeneration harvest acres (-34%), and a 74% timber sell volume level (-26%) with indications that a continued decline can be expected (see Acres Sold for Timber Harvest (E-2) and Timber Sell Volume (E-1), respectively). At the 5-year review point, further analysis with additional monitoring information will show more detailed effects in terms of how these factors interact with achievement of the goals and objectives of the n of the Forest Plan, the difference bbe expected (see Acres Sold for Timber Harvest (E-2) and Timber Sell Volume (E-1), respectively). At the 5-year review point, further analysis with additional monitoring information will show more detailed effects in terms of how these factors interact with achievement of the goals and objectives of the Plan. Programmed harvest is only one of the goals of the Plan, and all will be considered interactively at that time.

Summary of the Last Three Years of Forestwide Trends

The similarities between the results described above for the formal and informal Forest Plan monitoring and the results experienced in the Upper Yaak River EIS seem to point in a similar direction. That direction indicates that the effectiveness of the Forest's suitable timber base is being increasingly constrained by a variety of resource factors that are cumulative in nature. The net effect appears to be a reduced ability of the suitable timber management areas to provide the harvest opportunities that were estimated in the Forest Plan projections. The magnitude of this reduced effectiveness may be as much as 30%. Given the size of this difference, the Forest will continue to closely monitor this emerging trend to ensure that we have adequate information available to make an accurate assessment of this situation at the 5-year review.