

Summary of the Forest Plan Annual Monitoring Report

for Fiscal Year 1992

Kootenai National Forest

February, 1993

INTRODUCTION

We've recently completed the monitoring of Forest Plan implementation for fiscal year 1992. This was the 5th year of operation under the Plan and includes the period from October 1, 1991 to September 30, 1992. Background: The Forest Plan for the Kootenai Forest was approved on September 14, 1987. It established management direction 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 a myriad of legal requirements.

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

Process: At the end of the 5th year, we're still mostly concerned with implementation and effectiveness monitoring but validation concerns are now raising important questions. The Plan's guidance for monitoring and evaluation is found in Chapter IV of the Forest Plan. It lists specific items that we're tracking during implementation monitoring. It also provides guidance to determine if implementation is within the prescribed range of variability. If an item is not within the prescribed range, an evaluation is undertaken to find the reason for the deviation. When the reason is determined, the Forest can then take the needed steps to correct the deviation.

As indicated in Chapter IV of the Plan, there are 39 items to be measured on a yearly basis. Of these, one item was dropped because of duplication (C-8) and another was split for consistency with the other Wildlife items (C-3.) Of these 39 remaining 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 5th-year report discusses all 39 items. In addition, the Regional Forester assigned an additional monitoring item in 1991 (E-9). This annual-reporting item, also included in this report, brings the total monitoring items to 40.

Procedure: For each of the 40 monitoring items, we first checked to see if it was within the prescribed range of variability. If it was, then we concluded there was compliance with the Plan. In some cases, we found that we could currently be close to the prescribed

range and the 5-year trend indicates that the expected level will be met by October 1, 1997. For these items, we concluded that the monitoring item was on-track and meeting the Plan's intent. Finally, there are monitoring items that we found are not currently within or close to the prescribed range, and the trend indicates that the expected level will not be met.

For these items, we concluded that the monitoring item is out of compliance or off-track with the Plan's intent and we'll make a determination of what to do to correct them. The information that we've gained from the monitoring displayed in this Report will be used to help us make these determinations. They'll be completed by March 15, 1994 and will constitute the formal 5-year review and evaluation of the Plan. This upcoming 5-year Review and Evaluation Report will discuss what changes are needed in the Plan and why they are needed. It will discuss how and when these changes will be implemented. All of these changes must be approved by the Regional Forester.

SUMMARY OF THE LAST 5 YEARS

(Fiscal Years 1988-1992)

When we answer the question "Did we do what the Plan said we should do?", we find adequate information to say YES for 21 monitoring items because we're within the Plan's prescribed range or ON-TRACK because we're close and moving toward the prescribed range. For another 9 items, we find adequate information to say NO because we're outside the Plan's prescribed range or OFF-TRACK because we're close but moving away from the prescribed range. For 9 other items we have inadequate results to draw any supportable conclusions (inconclusive). One final item doesn't fit into any of these three categories.

The monitoring items where we can say "YES we're in compliance with the Plan", or we're close and ON-TRACK moving toward that compliance, include: Roadless Area Use, Visual Quality Objectives (VQO's), Developed Site Use, Roadless Area Changes, Cultural Resource Management, Elk Habitat, Elk Populations, Other Big-Game Habitat, Other Big-Game Populations, Old-Growth Habitat, Threatened and Endangered (T & E) Species Habitat, Range Use, Timber Growth Trends, Reforestation, Timber Stand Improvement, Harvest Area Size, Clearcut Acres Sold, Mineral Activity Effects, Road Access Management, Road Density, and Insect and Disease Status. This is what we found for these items:

Roadless Area Use (A-1): During the last 5 years, the average annual recreation use on all 34 roadless areas combined has been less than projected but still within the range prescribed in the Plan. This includes the 32 inventoried roadless areas, one wilderness study area and one designated wilderness. A comparison of the monitoring data shows that the average use in the wilderness is above the prescribed range. In fact, the average use in the wilderness is almost the same as the total average use in the 33 other roadless areas combined, even though there's four times more total acreage available in these other roadless areas. This heavier-than-projected use indicates we may be experiencing more

than the expected resource damage in the wilderness (see Roadless Area Overuse, Item A-2). Therefore, we'll evaluate the wilderness use further during our 5-year review.

Visual Quality Objectives (VQO's) (A-3): After five years, about 3% of the total acres monitored did not meet the prescribed VQO's, but this is within the 10% range stated in the Plan. The primary reasons for not meeting the prescribed VQO's were timber harvesting in fire-killed stands and in dead and dying lodgepole pine stands that were infested with mountain pine beetle. This type of harvesting (mostly clearcutting and seedtree cutting) provides limited opportunities for leaving vegetative screening, or to shape and blend harvest-unit edges into the adjacent stands. Although this monitoring item is technically within the specified limits stated in the Plan, other informal monitoring information indicates that some further evaluation is warranted during the 5-year review.

Developed Site Use (A-4): The annual recreation use of all the campgrounds, picnic grounds, etc., has been on an upward trend since FY 1990. If this trend continues at its current rate, the use should be within the range specified in the Plan in FY 1993.

Roadless Area Changes (A-6): About 4,480 acres of the 400,000 total inventoried roadless acres (IRA's) on the Forest have been developed by timber sales during the last five years. This is within 85% of the 5,250 acres estimated in the Forest Plan EIS. This acreage, plus the portions of IRA's developed prior to the Plan's approval, total 10,500 acres of change. This is 3% of the total IRA's, which leaves 97% of the IRA's intact (389,000 acres) of which 84% are not available for development (334,000 acres) during the life of the Plan.

Cultural Resource Management (A-7): The annual accomplishment in consultation with the State Historic Preservation Office (SHPO) ranged from 73% in FY 1988 to 99% in FY 1992. The average annual accomplishment for the last five years is 88% which is close to the 90% level prescribed in the Plan.

Elk Habitat (C-1): There's 1,300,000 acres of elk summer range on the Kootenai Forest, and during the last five years, 472,000 acres (36%) were evaluated. Based on this amount of analysis, about 60% of the elk summer range is in a condition of improving habitat effectiveness (HE) and another 29% is maintaining the existing HE. The remaining 11% is in a declining HE. Most of the improvement in elk HE is probably a result of the increased amount of road closures implemented during the last five years (see Monitoring Item L-1, Road Access Management).

Elk Population (C-2): Elk numbers have increased on the Forest during the last five years, and one reason may be the increase in the amount of road closures that have been directed by the Plan. Changes in the elk hunting season may have also contributed to the increase. A large factor contributing to this increased elk population may also be the mild winters that have been occurring since the Plan was approved five years ago.

Other Big-Game Habitat (C-3a): Whitetail deer, mule deer, moose, bighorn sheep, black bear and mountain lion habitats appear to be either maintaining or improving. There's some concern whether mountain goat habitat is beginning to develop a downward trend because of the advancing state of the vegetation (from predominantly browse to trees) due to fire control. Further monitoring of goat habitat trends is warranted.

Other Big-Game Populations (C-3b): Whitetail deer, moose, bighorn sheep, mountain goat and mountain lion populations appear to be either stable or increasing. There's some concern whether the mule deer population is beginning to develop a downward trend after a lengthy increase, and the black bear population may be stabilizing or beginning to increase after a long downward trend. Further monitoring of these trends is warranted.

Old-Growth Habitat (C-5): is necessary to support viable populations of dependent wildlife species. The Forest Plan requires that 10% of the land area below 5,500 feet elevation be protected to provide proceed with site-specific project planning, we're checking the quantity and quality of old-growth habitat before any projects are implemented. After five years, we've completed the necessary surveys on over 817,000 acres. The results show we've protected almost 92,000 acres of old-growth habitat on this surveyed acreage. This is 49% of our forestwide commitment of 186,500 acres.

T & E Species Habitat (C-7): 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 or trends. We haven't observed any peregrine falcons in FY 1992, but we have numerous sightings for bald eagles, gray wolves and grizzly bears. Habitat and population information indicates that the bald eagle could be considered for downlisting from endangered to threatened in the near future. Our information also displays that grizzly bear habitat effectiveness is above the Plan's standard on a Forestwide average. Overall, the quantity and quality of habitat for all these species is being improved or maintained, and we're progressing toward providing habitat needed for recovery.

Range Use (D-1): which is cattle grazing has been averaging 11,400 animal unit months (AUM's) per year. This is about 10% less than the projected 12,600 AUM's but still within the prescribed range stated in the Plan (+/- 20%).

Timber Growth Trends (E-4): The measurements done on the sampled plots show that the Forest Plan Timber Yield Tables are still reasonable for even-aged management. The permanent growth plots remeasured show that the sampled stands are still within the parameters established for their age. In fact, the height measurements are exceeding the projections by 10%.

Reforestation (E-5): The average annual accomplishment is 13,100 acres per year. This is about 93% of the Plan's goal of 14,100 acres and within the range specified in the Plan (+/- 10%). The average failure rate of 4% is also within the Plan's limit of 10%.

Timber Stand Improvement (TSI) (E-6): The annual accomplishments over the last five years have been variable and ranged from about 2,900 to 4,800 acres. The 5-year average is 4,100 acres per year which is within the prescribed range of 4,000 to 6,000 acres per year.

Harvest Area Size (E-8): The Forest Plan provides standards for the maximum size of regeneration harvest units using the clearcut, seedtree, or shelterwood cutting methods. The standard is generally 40 acres maximum, except in big-game winter range which is usually 20 acres. After five years, all suitable timber management areas are within the prescribed limits. The only exceptions are where catastrophic events occurred such as insects, fire or blowdown. Where these situations occurred, procedures to deviate from the prescribed size-limits were followed, including an interdisciplinary review and notification of the public.

Clearcut Acres Sold (E-9): Because of the national concern for the amount of clearcutting on the National Forests, Congress has directed that clearcutting be reduced by 25% by 1995. The Chief of the Forest Service has further directed that it be reduced by 70% by 1997. The results indicate that, by FY 1992, the amount of clearcut acres sold for harvest has decreased 38% since FY 1988, the baseline year used for comparison.

Mineral Activity Effects (G-1): There have been no Management Area (MA) changes required as a result of mineral development activity during the last five years. Currently, Noranda's Montanore Mine proposal is being evaluated in an EIS. This project would involve 1,370 acres, if approved, and any MA changes needed would be within the projections outlined in the Plan.

Road Access Management (L-1): Restrictions on the use of some Forest roads are necessary at different times of the year and in some locations, yearlong. This is because of the need to provide for big-game security in both winter and summer range, reduce road maintenance costs, reduce soil erosion from roads, and provide for grizzly bear recovery. The miles of road needing some sort of restriction has increased steadily from 1,669 miles, just prior to the Plan's approval in 1987 to 3,784 miles in FY 1992. This is an increase from 27% of the total road miles to 53% and is on-track with the Plan's projection of 57% at the end of 10 years. This monitoring item has identified an incorrect assumption that about 4,530 miles of general public access would remain unrestricted throughout the Plan period. Currently, 3,365 miles are unrestricted.

Road Densities (L-2): The projected final road densities used in the FORPLAN computer model ranged from 4.4 to 5.8 miles per square mile in the suitable timberland. (The suitable timberland is where road construction is needed to provide access for timber harvest.) These densities were calculated from actual experience during the 1970's. After five years, the actual road densities measured on 886,000 acres are 39% less than projected (3.2 miles per square mile actual average versus 5.1 miles per square mile projected average). This is on-track with the Forest Goal of building the least amount of roads possible to manage the Forest. There's some concern about how much the reduced amount of total road construction is contributing to this lower road-density being

experienced (see Appendix A). This item will be further evaluated during the 5-year review.

Insect and Disease Status as a Result of Activities (P-1): We've used aerial reconnaissance and individual timber stand analyses to determine the level of insect and disease organisms found in residual and surrounding timber. This analysis was done following management activities such as timber harvest, thinning and road construction. Although a significant amount of acreage is affected by insects and disease, no evidence suggests that any of the management activities are contributing to this situation. In fact, activities appear to produce beneficial results in terms of health of timber stands.

The monitoring items where we answered "NO we're out of compliance with the Forest Plan", or we're close but OFF-TRACK moving away from that compliance, include: Timber Sell Volume, Acres Sold for Timber Harvest, Suitable Timber Management Area Changes, Timber Harvest Deferrals, Soil and Water Conservation Practices, Water Yield Increases, Soil Productivity, Forest Plan Costs, and Forest Plan Budget Levels. This is what we found for these items:

Timber Sell Volume (E-1): The Forest's allowable sale quantity (ASQ or projected upper limit) 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 ASQ would be 227 MMBF per year for a 10-year period. For the first five years of the Plan, the average annual timber sell has been 159 MMBF per year or 30% below the projected upper limit (ASQ). This deviation has been the result of a court injunction against road construction and timber harvest in the Upper Yaak River valley, harvest deferrals to meet watershed standards in drainages containing private lands, and other reasons such as the clarification in the management of grizzly bear habitat in the Cabinet-Yaak Ecosystem. The cumulative difference resulting from these and other factors totals 342 MMBF for the first five years of the Plan. Trends appear to be firmly in-place which will not allow for this difference to be made up in the next five years. At the current rate of separation between the average annual sell and the ASQ, the Forest will have a cumulative difference of 684 MMBF at the end of the 10-year Plan period on September 30, 1997. An evaluation of this cumulative difference will be made during the 5-Year Review.

Acres Sold for Timber Harvest (E-2): The total acres sold for regeneration harvest is 43% below the planned level. This difference results from the same factors affecting timber sell volume and confirms the downward trend (see Item E-1, above).

Suitable Timber Management Area (MA) Changes (E-3): The Forest Plan allows for minor corrections in the boundaries of management areas based upon site-specific analysis and interdisciplinary review. However, any significant cumulative net changes could affect the ability of the Forest to produce particular outputs. After five years, the decrease in MA-11 (Big-Game Winter Range in Suitable Timber) and MA-15 (Timber Production) are over 10,000 acres each which is outside the Plan's prescribed range of +/- 5,000 acres. The total net change of suitable timberland since October, 1987 has been a

decrease of over 29,000 acres. The effect of this net change will be evaluated during the 5-year review.

Timber Harvest Deferrals (E-7): Acres of suitable timber can be deferred from timber sales due to economics, resource conflicts or other unforeseen reasons such as lawsuits including court injunctions. During the 5-year monitoring period, many different events or situations caused deferrals and one management area (MA-12) has deferrals large enough to initiate further evaluation (10,000 acres). The FY 1992 situations that deferred suitable timber acreage from sale proposals include timber sale design adjustments to meet wildlife security/displacement/hiding cover needs, old-growth habitat replacement, and stands destroyed by fires.

Soil and Water Conservation Practices (F-1): In FY 1992, we achieved 93% in the implementation of Best Management Practices (BMP's) and 86% for BMP effectiveness. This is a decline of 3-5 percentage points, respectively, from FY 1990. This is below our goal of 100% compliance with the State water quality guidelines, and indicates the need for more on-the-ground training for field personnel responsible for ensuring that these conservation practices are incorporated whenever and wherever needed, and that they are done properly.

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. About 51% of all the land within the National Forest drainage boundary has now been analyzed, and many of these watersheds included significant amounts of intermingled private land. (The watershed analysis includes both National Forest and private land.) The current situation is that 26% of the surveyed areas exceed the water yield guidelines according to the model. This is outside the 20% level prescribed in the Plan. Whenever the water yield guideline is projected to be exceeded in an area, planned activities on the National Forest lands have been deferred until watershed recovery occurs (or in the case of a wildfire, an exception to proceed is granted by the State of Montana). This has been necessary to meet the Forest Plan standard and protect downstream beneficial uses as required by the Montana State water quality goals. The effect of this large amount of land being beyond the water yield limits will be analyzed during the 5-year review.

Soil Productivity (F-4): The proposed Regional standard for significant soil disturbance is that no more than 15% of an area should be significantly disturbed after all activities have occurred such as skidding, slash piling, etc./EN/The survey results completed on 511 acres indicate that 52% of the acreage exceeded the 15% disturbance standard. Most of the areas where the 15% standard was exceeded were in locations where tractor logging and associated machine piling of slash was required. In contrast, the areas where cable logging and broadcast burning were used were within the 15% standard. These results indicate a need for further evaluation during the 5-year review.

Forest Plan Costs (H-3): Timber Sales costs have increased +41% over the last five years. This is because of the increased complexity in timber sale preparation, but the 30% reduction in timber sell volume has also contributed.

Forest Plan Budget Levels (H-4): For the last five years, the average Forest budget has been less than estimated in the Forest Plan (72% of the planned level), but the trend has been moving upward. The lower average budget level in the first two fiscal years (65%) was the result of budget trends that were in place prior to the approval of the Plan. Since the Plan was initiated, we've been achieving budgets that are more in line with the original estimations (81% average of the planned level during the last two years). The FY 92 budget was the closest to the Plan's estimation (84% of the Forest Plan level), and it now seems to be more in line with what can be achieved based on the overall Forest monitoring results.

The monitoring items where we have inadequate results to support reasonable conclusions include: Roadless Area Overuse, Off-Road Vehicle (ORV) Use Effects, Old-Growth Habitat Species, Cavity Nesters, Riparian Areas, Fisheries, Noxious Weed Infestations, Stream Sedimentation and Effects on the Local Economy. These items were not monitored to a level sufficient to make firm determinations of whether or not they're within the Plan's prescribed range, or moving toward or away from that range. Because of the lack of sampling or baseline data, these monitoring items will be further evaluated during the 5-year review to determine if any changes are needed in the monitoring plan to improve the future reporting.

Roadless Area Overuse (A-2): Some vegetative damage has been observed from overuse at popular campsites or where people become concentrated because of steep topography. Most of these observations have been in the Cabinet Mountain Wilderness and the Ten Lakes Wilderness Study Area; two popular and easily-accessible areas. Remedies are being applied to mitigate the observed damage.

ORV Use Effects (A-5): Some disturbance has been observed in the open bench area below the high-waterline of Lake Koocanusa near Tobacco Plains. No other significant effects have been reported although some disturbance to big-game in some winter range areas is suspected and some damage to closed roads has been observed (destroying earthen barriers).

Old-Growth Habitat Species (C-4): No known surveys were undertaken during the last five years.

Cavity Nesters (C-6): Information obtained through Forest Plan monitoring and a special survey indicate a wide variance in the amount of cavity habitat being retained. A few drainages are now below the Forest standard of 40% cavity habitat potential because of timber harvest operations that pre-dated the Plan's approval. The remaining drainages appear to be above the Forest standard, but snag-retention objectives are often not achieved on a site-specific basis where timber harvest occurs.

Riparian Areas (C-9): The two indicators used to assess riparian area protection are the miles of streams mapped in the suitable timberland, and the achievement level obtained in riparian area Best Management Practices (BMP's). We've completed the mapping on almost 2,200 miles of streams which is about 8% of the 28,000 miles estimated to need

mapping on the suitable timberland. We've also been achieving about 90% in implementation and 94% in effectiveness for the riparian BMP's. This is still below our goal of 100% achievement.

Fisheries (C-10): Monitoring data for fisheries habitat from 1989-1992 has been gathered from five representative watersheds but the results are inconclusive. Based on fish population surveys done during the last five years, 43 watersheds have now been identified that contain sensitive fish species (such as the bull, interior redband and westslope cutthroat trout, and the torrent and shorthead sculpin).

Noxious Weeds (D-2): Baseline mapping hasn't been completed yet, but progress is being made in the introduction of biological control agents for spotted knapweed in cooperation with the Western Agricultural Research Station and the Lincoln County Weed and Rodent Control Board.

Stream Sedimentation (F-2): Monitoring has been done on seven "forestwide change" indicator streams for the last five years. The results are inconclusive in allowing us to determine if a 20% increase in stream bedload and suspended solids has been surpassed over the natural background conditions.

Effects on the Local Economy (H-1): The Forest Plan EIS projected local economic growth through contributions of increased levels of timber supply to the timber industry, which has been a major factor (70%) of the local 2-County economy. During the last five years, the number of jobs and community income provided by the local timber industry has declined by 16%. Much of this economic decline was due to the national recession, but reduced timber supplies from the Kootenai Forest (-30%) may have also contributed. This reduction in timber volume sold has resulted in a 57% reduction in the available timber volume under contract which may result in higher stumpage prices for the reduced timber supplies remaining on both private and federal lands. This increased stumpage value could contribute to the local economic wealth of the community and offset some of the economic decline resulting from the reduced timber supply.

The monitoring item that doesn't fit into any of the three previous categories is Emerging Issues.

Emerging Issues (H-2): This item focuses on those issues that appear to be developing since the Plan was initiated, and also monitors the original Forest Plan issues that appear to be resisting a timely resolution. Emerging or potential issues identified include: Ecosystem Management, adjacent private land activities and their impact on Kootenai Forest programs, air quality, noxious weeds, new T & E Species, and elk vulnerability. The Forest Plan issues that are resisting resolution are: grizzly bear management, state water quality standards, available timber supply, road management and public access, potential mineral development and visual (scenic) quality.

OBSERVATIONS OF SOME FORESTWIDE TRENDS

The results of the last five years of monitoring indicates that a definite trend is now in place. This trend is the cumulative reduced ability to provide the timber harvest opportunities that were projected in the Forest Plan. We've quantified some components of this trend, and will make a determination during the 5-year review currently underway about what adjustments are needed. The 5-year review begins in March, 1993 to make a determination of the significance of this changed situation. Below is a summary of the items which appear to be affecting the projected timber harvest levels.

Results of Formal Forest Plan Monitoring

To illustrate the 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 Kootenai 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 Kootenai Forest lands to avoid adverse watershed effects. The estimated total land involved is almost 400,000 acres. About 190,000 acres of Kootenai Forest land are affected, which includes over 130,000 acres of suitable timber. During development of the Forest Plan, no allowance was made for such reductions in timber harvest on Kootenai Forest land intermingled with private ownership.

Timber Harvest Deferrals: When timber sales are being planned and designed, a site-specific analysis is done to determine how to best meet Forest Plan objectives. Sometimes all the objectives can't be met, and when this occurs, an adjustment is usually needed in the sale design which defers a previously estimated harvest area to some future time beyond the Plan's 10-year period. In addition to harvest areas deferred to provide for watershed recovery, a number of deferrals have also been made as a result of appeals and litigation. Over 24,000 acres have now been deferred from timber harvest for these and other reasons during the first half of the Plan's 10-year period.

Suitable Timber Management Area Changes: During site-specific timber sale project analysis, incorrect map boundaries are occasionally discovered that indicate the exact location of an on-the-ground situation needs a map correction. Most of these map corrections concern minor boundary changes, and are made and reported promptly to correct the conditions inaccurately portrayed on the Forest Plan Map. Examples of these needed changes are: non-productive forest land found within productive forest areas; locations discovered with regeneration problems; and newly found stands of old-growth habitat. The original Plan assumption was that most of these map corrections would balance out over the 10-year life of the Plan. The result of all the map changes made over the last five years is a net decrease of 29,000 acres in management areas suitable for timber harvest.

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: Wildlife Snag Management, Wildlife Hiding Cover, Grizzly Bear Habitat, Elk Security, and Watershed Condition. In addition to these functional monitoring items, recent experience in a large portion of the Forest (the Upper Yaak) and the results of a citizen monitoring effort (Inventory Inquiry Project) have helped to illustrate some of these cumulative resource effects.

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 live, green leaf trees are now required to meet standards for replacement snags for cavity nesters and small mammals. The increased number of leaf trees was not anticipated in the yield calculations used to project the Forest harvest schedule. Although it has some effect on maximizing timber harvest on suitable management areas, the exact implications have not yet been defined.

Wildlife Hiding Cover: Experience now 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 sometimes be delayed 5-10 years until the newly-established vegetation becomes dense enough to provide acceptable hiding cover. This longer waiting period has resulted in some deferrals of timber sales beyond the Plan period (1997) and could result in a lower harvest level over the long-term.

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 because of the roughness of the topography and the nearness to other unsuitable timber areas. This assumption is proving true in many cases, but some areas are being discovered where elk security appears to be below an adequate level. Estimates indicate that over 86,000 acres of suitable timber in elk summer range might be involved.

Grizzly Bear Habitat: The Forest Plan provides for 1,035,000 acres of grizzly bear habitat. During the analysis for the Upper Yaak EIS, clarifications for grizzly bear habitat management brought an additional 248,000 acres within the standards and guides for grizzly bear management. Of this, 143,000 acres were in suitable timber management areas which had been programmed for harvest at levels higher than acceptable for grizzly bear management.

Timber Inventory Modeling: An analysis done by a citizens' group alleges that an incorrect classification procedure was used in the assignment of timber condition (age) class acreages used in the FORPLAN model. According to the citizens group, a significant amount of acreage should be re-classified from mature sawtimber to

seedlings/saplings. This infers that less mature sawtimber is actually available for harvest than estimated in the Forest Plan.

Watershed Condition Assessment: Because of the concerns being expressed for adequate water quality protection, a preliminary review of over 750 watersheds was recently completed. This review included 2,706,000 acres of both public and private lands within the Forest boundary. The results indicate that about 12% of this total combined acreage is in an unacceptable hydrologic condition and that another 29% is close to, or at, the critical threshold of acceptable hydrologic condition. This suggests that 41% of the total combined Forest area has limitations to further developmental activity in the near future (such as timber harvest and road construction). The amount of suitable timberland involved on the Kootenai Forest with this identified area of watershed limitation is 457,000 acres which is 36% of the total suitable timber (1,263,000 acres).

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. About 550,000 acres are involved in timber harvest reductions and deferrals for a variety of reasons, including deferring harvest on intermingled Forest ownership, clarification in grizzly bear habitat management, elk summer range security needs, and others. In addition, there's the mature sawtimber inventory question which has also been identified. Since there's overlap between some of these, and effects haven't been quantified yet, it's tentatively estimated that as much as 360,000 acres have probably been affected in some manner. This amounts to over one-quarter (28%) of the total suitable management areas on the Forest. Clearly, this has been affecting the ability of the Forest to provide timber sell levels to eventually reach the Plan's allowable sale quantity. This is reflected in our formal monitoring results which show 57% of planned regeneration harvest acres and a 70% timber sell volume level with indications that this significantly reduced level can be expected to continue (see Acres Sold for Timber Harvest (E-2) and Timber Sell Volume (E-1), respectively). The 5-year review will analyze the available monitoring information to determine how these factors interact with achievement of the goals of the Plan. Programmed harvest is only one of the goals, and all of them will be considered interactively.

Summary of the Last Five Years of Forestwide Trends

The results described above for the formal and informal Forest Plan monitoring and the experience obtained from on-the-ground project implementation all seem to indicate the same thing. 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. The magnitude of this reduced level appears to be very Forest Plan. The magnitude of this reduced level appears to be very significant. The Forest will make a determination about this reduced level of effectiveness and, as part of the evaluation process, provide a recommendation to the Regional Forester for possible adjustments in the Plan.

What's the Next Step?

The 5-Year Review will begin immediately following the publishing of this 5th-year Monitoring Report. The monitoring items that will be analyzed during this review are those that were previously indicated to not be in compliance with the Plan or are outside the range prescribed in the Plan. In addition, the emerging issues (identified in Monitoring Item H-2) will also be assessed to determine what effect, if any, they may be having on the Forest Goals and Objectives. Also, the monitoring items that appeared to be in compliance with the Forest Plan but raised questions concerning particular points, and the monitoring item rated as inconclusive, will be re-analyzed to determine if any changes are needed in the monitoring plan to get a more conclusive determination in future reports.