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CHANGES IN THE MANAGEMENT SITUATION
Supplement To
THE 1982 ANALYSIS OF THE MANAGEMENT SITUATION
For The
Daniel Boone National Forest

Forest Planning Team
Winchester, Kentucky
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EXECUTIVE SUMMARY

Objectives of the Analysis of the Management Situation are to describe the Daniel Boone National Forest, the past and present management, and the opportunities for the future. This supplement to the 1982 Analysis of the Management Situation (USFS, 1982) identifies the changes in the management situation since the Land and Resource Management Plan for the Daniel Boone National Forest (Plan) (USFS, 1985) was approved.

Institutionalization and application of Ecosystem Management has begun within all facets of National Forest resource management, and planning is now using information at the landscape level. The long term objectives of the Plan did not consider some of the ecosystem functions, processes and biological diversity concepts known today. The significant cost of additional resource inventories, monitoring and analysis is not in the present Plan. A plan revision is needed to address the new inventory information, monitoring, and cost needs. Plan objectives and guidelines must be adjusted accordingly.

Changes in policy have affected the factors used to predict timber yield in the Forest Plan. Since there has been a shift in emphasis from timber production to other resources on 34% of suitable timberland, and since volumes per acre are significantly below projections, the timber program needs to be re-analyzed and the Plan needs to be amended or revised.

An increased interest in reducing timber sales in which profits are below-cost, has resulted in an emphasis on harvesting stands having a higher value per acre, and a reduction of silvicultural activity in low quality stands. Timber harvesting was recognized in the Plan as a silvicultural tool which directly manipulates wildlife habitat and can positively affect other resources. A restriction or loss of this tool will require some other vegetation management technique to meet plan objectives.

The recreation use and condition of recreation facilities on the Forest have changed. Although overall use has increased slower than predicted, recreation areas have deteriorated over the past nine years due to changes in use patterns and funding below Plan levels. The types of recreation uses have changed, with faster growth in horse back riding, and OHV use and slower increases in hiking, and backpacking as an example. The Plan does not adequately address the changes in recreation use patterns. The cost to address these changes will be significant. The American Disabilities Act will significantly increase the cost of making the changes and cost of bring existing facilities up to standard.

There is an increased demand for non-traditional forest products as well as traditional forest products. The plan needs to address the economic, biological and management impacts the increased demand will have on the overall condition of the Forest.

The cost of the Heritage Resources Program and the number of potentially significant sites are greater than predicted by the plan. the cost to address this change is great enough to effect a variety of plan objectives and needs to be addressed in a plan revision.

There has been an increase in development and a change in the type of development and urban interface adjacent to the Forest. These changes are affecting the management options available on lands immediately adjacent to the Forest boundary. The plan should be amended to more accurately address the impacts of changing land ownership patterns on adjacent National Forest lands. A review of the desired landownership patterns and associated guidelines for landownership adjustments is necessary to assure that resource management and public interest needs are being met.

Habitat aspects of the riparian community need to be reviewed. Standards and guidelines need to be developed to ensure the biological and ecological

integrity of this resource feature and it's contribution to long-term forest diversity. This needs to be done within the context of the ecologically based aquatic land types and incorporated as needed into a plan amendment or revision.

Plan implementation monitoring standards need to be revised. A review and revision of the Forest MIS is needed to incorporate assemblages of species that better represent habitat conditions. New Forest MIS need to be identified and incorporated to represent communities that have been more clearly identified over the past 10 years of the Forest Plan, such as cliffline, and specific habitat conditions found to be essential to support biodiversity.

The Forest Plan does not address all of the currently threatening forest pests and noxious (invasive) species, although the Plan currently has provisions to control newly identified pests. Minor pests and noxious (invasive) species can be addressed without amendment or revision of the plan. However, the major impacts expected from the gypsy moth and hemlock wooly adelgid need to be fully assessed and incorporated into new standards, guidelines, and/or prescriptions.

The following are other changes that were identified that were within the authority of the present plan.

The public has become increasingly more aware of the need for mine reclamation on the Forest. This issue should be considered as part of the resolution of other issues in a Plan revision.

New laws concerning the handling of hazardous materials have come into effect. Although not specifically identified in the Plan, the compliance with such laws were considered a part of doing business during the development of the Plan.

There has been an increased interest in identification of unique and special areas on the Forest such as potential Research Natural Areas and caves. The Cave Resource Protection Act, and any new nominations of areas that are unique and special, can be addressed without Plan modification. A Plan revision should incorporate specific constraints and costs as other adjustments are made in desired future condition, standards and guidelines and monitoring.

Changes concerning Wild and Scenic rivers were called for in the Plan. If Wild and Scenic river management plans called for by the Forest Plan alter the objectives of the Forest Plan then an amendment would need to be made to the Forest Plan after these River plans are completed.

There were several identified changes in federal, state and local laws or new interpretations of old laws. The present Plan meets or exceeds the requirements of these changes. Other identified changes that are not addressed in detail, are grouped and briefly discussed. A list of all identified changes is given in an appendix.

CHANGES IN THE MANAGEMENT SITUATION
Supplement To
THE 1982 ANALYSIS OF THE MANAGEMENT SITUATION
For The
Daniel Boone National Forest

I. INTRODUCTION

The purpose of this document, "Changes in the Management Situation", is to identify what has changed since the Forest Plan was approved, and to determine if any of these changes warrant a revision of the Forest Plan. This examination is the basis for developing a statement of purpose and need for revision of the Forest Plan, and it provides information for public review and comment. This document is tiered to and supplements the initial Analysis of the Management Situation (AMS) for the Daniel Boone National Forest Land and Resource Management Plan (USFS, 1982).

The original AMS described the Forest and identified traditional products such as timber volume, animals per acre, people visiting recreation areas at one time, funds to U.S. Treasury and counties, outdoor recreation opportunities including camping, hiking, hunting, fishing, bird watching, photography, and others. Supply and demand relationships of these products were examined to identify the management situation and future projections were made to provide an assessment of management opportunities. Resource and legal limitations were used to formulate forest planning side-boards, or benchmarks, which framed management alternatives.

Changes in the management situation that have occurred over the ten year period of the Forest Plan were identified through solicitation of Agency personnel and interested publics. Identified changes were grouped in four categories: 1/ warranting a Plan Revision, 2/ warranting a Plan Amendment, and 3/ within authority of the present Plan, 4/ identified changes not addressed in detail. Significant changes effecting potential outputs of the Forest and capabilities to achieve the Desired Future Condition warrant a Plan Revision. Changes that indicate a need to adjust management standards and guidelines, or other Forest Plan direction, require an Amendment. Changes that were beyond the scope of the Forest Plan, administrative changes, technological changes, or changes provided for in the Plan were not addressed in detail in this document. Identified changes are listed in Appendix A.

II. CHANGES WARRANTING A PLAN REVISION

A. Ecosystem Management

A national policy for ecosystem management was established for National Forest System lands in a Chief's memo dated June 4, 1992. Ecosystem management is a change in the way we view and manage natural resources on the Forest. Ecosystem management considers the small plants and animals as well as the large ones, the obscure and rare as well as the common, and even the tiny creatures we can't see, for the role each plays in contributing to a healthy, diverse, and sustainable forest environment. The emphasis is to protect ecosystem functions and processes that frame inherent forest productivity and resiliency. Success in applying ecosystem management will be measured by outcomes as well as outputs of our actions. Maintenance and restoration of biological diversity over the Forest landscape is a key element, and must be balanced with commodity outputs and products. This changed emphasis in the fundamental land ethic of the Agency, as directed by the Chief, Jack Ward Thomas, in his paper, "The Forest Service Agenda for the Future", may be the greatest undertaking ever attempted by the Forest Service.

Commodity outputs can be an objective or they can be a result of ecosystem maintenance or restoration activities. Resource-specific emphases are diminished with the mutually shared objectives of ecosystem management. With everyone working toward the common goal of Forest health, diversity, and productivity, any divergence to achieve some special interest or functional objective will only be acceptable to the degree it supports this overall goal or a specific legal requirement.

Many changes have, and are, taking place to integrate and apply ecosystem management. A budget line item is now in place to fund ecosystem management activities. The agency organizational structure is being adjusted to better support this new strategy. In addition, the Forest Service is developing an ecological classification system to inventory and integrate the characteristics of soils, geology, vegetation, slope, and aspect. This system will provide a standard approach to assess the capabilities of forest lands and the lands compatibility with different management objectives.

The condition of National Forest resources affects adjacent lands and the present status of forest resources has consequences that extend over many years. A broad view of the landscape is essential to identify and plan activities in concert with ecological systems and processes, to conserve biological diversity, and identify impacts to the forest resources. Political, administrative, and ownership boundaries are of little importance in examining and assessing specific regional influences on resources or cumulative effects. However, these boundaries are important in evaluating and prescribing management options.

Information, resources, and management tools such as remote sensing data and geographic information systems are becoming available to allow analysis beyond relatively small administratively designated units of land such as a "compartment". Analysis and evaluation can also extend farther into the future than ever before.

Ecosystem restoration has been identified by the Chief of the Forest Service as a key element in the strategic agenda for the agency. "The FS will improve the status of damaged ecosystems on National Forest System lands, particularly aquatic and riparian areas. Management will improve the likelihood that diversity, long-term sustainability, and options are maintained." (Thomas, 1994).

Restoration efforts are long-term goals which may be limited by available technology, budgets, and manpower. The potential to restore the pine-savanna community on the south end of the Forest, the short grass prairie on the north end of the Forest, the re-introduction of the black bear, and the restoration of

native species to scattered areas of the Forest have been recognized and preliminary studies begun in the past ten years. Results from monitoring the effects of fire in the recent past, and from research on the historical role of fire, have identified the importance of this disturbance parameter as an ecological component of the Daniel Boone. The Forest Plan projected a 10 year average annual burn of 5,800 acres. From 1986 to 1995 the average annual burn was 2,280 acres, with 8,700 acres in 1995.

Action That Should Be Taken

Although the Forest Plan does not preclude the use of ecosystem management to accomplish its desired future condition, the long term objectives of the Forest Plan did not consider some of the ecosystem functions, processes, and biological diversity concerns known today. Continuing biological inventories have identified species not previously known to be on the Forest. Some processes, such as fire, are better understood in the context of past and present species composition. New information is available that improves the ability to do landscape level analysis in assessing biological diversity and impacts to the environment. The Forest Plan permits the restoration of ecosystem health but limits the use of fire in management of the yellow pine working group and does not recognize the magnitude of the economic and social effects of this effort.

Ecosystem management requires a shift in resource inventory needs. These needs were not addressed in the Plan. The significant cost of additional resource inventories, monitoring, and analysis is not reflected in the Plan.

To incorporate the types of changes described above into the Forest Plan would entail making changes throughout the document, from the goals and objectives, to standards and guidelines, to the monitoring requirements. A change this broad warrants a Plan revision. A revision should address the new information, inventory, monitoring, and cost needs. Plan objectives and guidelines should be adjusted accordingly.

B. Biological Diversity

Biological diversity is the variety of life in an area, and the variety of genes, species, communities, ecosystems, and the interactions of these elements. Retention of forest diversity is provided for in the National Forest Management Act implementing regulations in 36 CFR 219.19, 219.26, and as a basic element in effective implementation of ecosystem management. The retention and recovery of diversity is a primary consideration in land allocations and management emphasis.

Suitable representation of all forest communities provides for the integrity of the ecosystem and the structure, function, and processes to which local plants and animals have adapted. Old growth or old age forest is a forest community that has received a great deal of attention in the past ten years. There has also been an increased interest and emphasis in the aquatic biota over the past ten years.

Resource inventory efforts and investigation activities have provided new insight into habitat relationships. Research and investigation of the cliffline community identified dependant species and led to interim management guidelines and proposals for further research. Research, technology development, and analysis of population trends of the red-cockaded woodpecker (RCW) have led not only to advances in recovery of this endangered species, but a restoration strategy for the upland pine-grassland community on which the species depends.

Cooperative field surveys for threatened, endangered, sensitive, and rare species of flora and fauna have identified numerous unique sites--from sphagnum bog communities to dry rock outcrop glades. Many areas contain an unusually high density of rare species. The proposed, endangered, threatened, and sensitive species list (PETS) has more than tripled and the total number of sight occurrence records has increased over five-fold.

Fragmentation of forest landscapes has been identified as a factor in affecting populations of some forest species. Its effect is still being studied and analyzed. The scope of analysis in planning and prescribing resource management activities has greatly increased both spatially and temporally during the past ten years of Plan implementation. Part of these changes have resulted from new scientific information and management technology, and part due to the emphasis on ecosystem management.

Action That Should Be Taken

Management goals, standards and guidelines must be developed and incorporated into a Plan Revision that addresses the retention and development of resource diversity at all levels. Program flexibility must be a part of the Plan revision to accommodate new scientific findings and changing societal interests.

C. Timber Management

Timber Program Economics

In the past ten years the public, both locally and nationally, has expressed concern about the cost of selling timber relative to the funds returned to the treasury. Since the implementation of the Forest Plan in 1985, various legislation has been introduced to limit or eliminate timber programs where costs exceed revenues.

The Timber Sale Program Information Reporting System (TSPIRS) has been used for public disclosure of the costs and revenues of the Forest Service timber program. This disclosure has led to a change in public sentiment against spending more money to sell timber than is returned to the treasury, and has increasingly affected timber management. As a result, management has shifted from intensive silvicultural practices to an emphasis on a less costly, less intensive silvicultural program that is not meeting Plan objectives. The degree of shift is just beginning to become apparent.

Ten years ago the emphasis was on achieving full utilization of all forest products during a timber sale, based upon public concern about wasted products left in the woods (LRMP, p.IV-2 #18). At present, only products that provide a net gain in revenues are removed, while other products are left behind. There has also been a reduction in intermediate treatments and cuts used to improve the timber quality and growth of forest stands. Removal of damaged or low timber quality stands, some of which have little commercial value, for replacement with more productive young stands of better composition, has declined in favor of removing a higher proportion of better quality and higher value stands to maintain a positive net return.

Timber Yields and Supply

There has been a shortfall in annual timber harvest of 2.07 million cubic feet (11.36 million board feet) below planned volumes. Average sawtimber volumes from regeneration harvests have been 18 percent below Forest Plan estimates. The following factors have contributed to this shortfall.

The Forest has shifted its predominant harvest method from clearcutting to two-aged shelterwood, which reduces harvest volume of small sawtimber and roundwood on each unit by up to 10%.

Commercial thinning on the Forest has been non-existent due to limited markets for roundwood, low prices, and low volumes per acre. The expected new markets for small roundwood have not yet materialized. However, new industry moving into the area may improve the small roundwood markets on portions of the Forest in the future.

Several developments over the past 10 years have resulted in timber harvest

deferrals. Threatened and endangered species habitat and occurrences have been found in numerous new locations, and corridors associated with proposed Wild and Scenic River segments are continuing to be deferred pending consideration for official designation.

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 Changed Management Emphasis on Suitable Land Base

Total Suitable Land Base (1995)	573,000 acres	(90% of forested lands)
RCW-related emphasis *	50,000 acres	9% of suitable lands
T&E Bat-related emphasis	48,000 acres	8% of suitable lands
W&S River Study-related emphasis	49,000 acres	9% of suitable lands
Total Suitable Lands Impacted	147,000 acres	26% of suitable lands

*RCW-related harvest deferrals will probably be only a temporary condition within the proposed RCW Habitat Management Area. Increased harvest of hardwood for habitat development should offset decreased harvest of yellow pine.

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 Harvest deferrals, poor roundwood markets, and timber sale appeals have contributed to the inability to meet the planned objective of harvesting 5,000 acres per year (FLRMP-chap.IV, pg. 56). Actual regeneration harvests from 1986 to 1995 have averaged 4,117 acres per year.

Action That Should Be Taken

Timber harvest and regeneration affects the overall quality, diversity, and health of the forest ecosystem. It was recognized in the Plan as a silvicultural tool which directly manipulates wildlife habitat and may be applied to positively affect other resource opportunities. A restriction or loss of this tool will require some other vegetation management technique to meet Plan objectives.

With timber harvesting deferred on 26% of suitable timberland, and per-acre harvest volumes falling below Forest Plan projections, the timber program needs to be re-analyzed and the Plan needs to be revised. A plan revision should incorporate new yield projections, and clarify timber management goals.

D. Recreation Demand and Use

The demand for recreation on the Daniel Boone National Forest appears to be less than predicted by the 1982 Analysis of the Management Situation (AMS). The AMS predicted a 63% increase in developed recreation use from 1980 to 1990. Actual use increased by 25%. Trail use by hikers has increased at a slower rate (3.9%) than motorcycle (41.5%), and horse (60.9%) use of trails.

For 1990, wilderness use was predicted to be 13,558 recreation visitor-days. Actual 1990 use for both Wildernesses was 23,100 visitor-days, 70% greater than predicted. The predicted increase in wilderness use from 1980 to 1990 was 4% per year. The sharp jump in wilderness use from 1980 to 1990 may be attributed to the designation of the Clifty Wilderness to the Wilderness system. Clifty Wilderness use was not collected until after the plan was approved. The original estimates for 1980 may have been low. Wilderness use has leveled off since 1990 to a rate at or below the annual 4% increase predicted by the AMS.

The use of mountain bikes is new to the Daniel Boone since 1985 and is not presently recorded as a separate visitor use. Rock climbing did not occur enough to record until 1988, when 1,000 recreation visitor-days (RVDs) were recorded. In 1994 there were 11,800 RVDs of rock climbing use on the Forest. The Red River Gorge is now recognized internationally as a superb climbing area. There is now a conflict between types of climbers (bolters and free climbers) as well as between other users and the resources.

There has also been an increase in recreation events by large user groups such as the "Rainbows", clubs, and special recreation organizations. The changing

uses and user patterns have also resulted in increased conflicts between some recreation users.

Visitors with trailers hauling mountain bikes, off-road vehicles, and horses represent a significant new type of use at the recreation areas. Facilities designed for vehicles with transporting trailers are not presently available at most recreation sites. The length of stay for visitors has gradually shortened, with more active recreational activities such as OHV riding, mountain biking, and rock climbing occurring during the shorter stays.

Many present facilities no longer serve the type of recreation visitor arriving at the site, and many sites are now utilized at full capacity during extended weekends but below capacity during the week. Parking lot capacity is significantly reduced by vehicles pulling trailers, and some camping sites do not have the capacity to handle vehicles pulling trailers. There are very few sites with overnight horseback rider accommodations, although some new horse camps have been built through cost share agreements with trail riding groups. Increased trail use by OHVs, horseback riders, and mountain bikes has caused a significant increase in maintenance and reconstruction needs along the Forest's existing trails. The increase in trail funding has not kept up with the increase in trail use. Accelerated damage resulting from wind, ice storms, and heavier use has increased the backlog of trails needing heavy maintenance or reconstruction.

The Forest Plan addressed the present overall demand and the need to change visitor patterns to "...promote mid-week and off-season use..." (p.IV-142). Present data indicates a movement away from vacations of more than a week to day trips or extended weekend trips (Cordell, 1990). Family life-style changes include more two-income families and more single-parent families. These changes have affected the availability, duration, and amount of leisure time. Efforts to shift the use patterns to weekdays and off-season may be limited in effect. The types of use have changed enough to create unplanned pressure on sites designed to handle a different recreation demand. The outdated designs, increase in unplanned use, and the continued shortfall of funding to do major facility maintenance combine to make the existing management direction inadequate. The present management direction and use will further reduce the operability of recreation facilities and the quality of recreation experiences.

Action That Should Be Taken

The Plan does not adequately address the changes in recreation use patterns. The cost to address these changes will be significant. The Plan should be revised to address the changes in recreation activities as they affect plan objectives, standards and guidelines. The cost to manage these changes and a monitoring program to insure meeting modified plan objectives should be included in the Plan revision.

E. Recreation Facility Maintenance and Improvement

Changes in visitor use patterns, combined with inadequate maintenance budgets, have increased the backlog of heavy maintenance and reconstruction needs. For several years prior to 1986, and through 1988, the Forest did not receive funding for recreation heavy maintenance or rehabilitation. This lack of funding for a number of consecutive years created a situation where some significant site deterioration occurred at some of the older, more popular, developed sites. In addition, several new sites as well as many of the older sites are beginning to deteriorate at an accelerated rate due to normal aging. The AMS estimates an average annual need of \$650,000 to rehabilitate recreation facilities to keep them up to standard. The Plan (p.II-24, #3) calls for increasing emphasis on acquiring funds for recreation maintenance and reconstruction. It also identifies this as a national problem. An average of \$329,000 per year has been available since 1988. The Forest Plan (p.IV-145) calls for a normal resurfacing cycle of 10 years for paved roads and parking areas to protect investments. Most sites are now beyond the ten-year cycle.

Action That Should Be Taken

The Forest Plan does not specifically address the need to improve access to national forest facilities for people with disabilities. The American Disabilities Act mandates that reconstructed, as well as new, facilities accommodate Americans with disabilities. The 2 to 5 million dollar cost of retrofitting old facilities, as well as building new facilities with special designs to meet the access needs of people with disabilities, was not considered in the present Forest Plan.

The increased backlog of heavy maintenance and reconstruction, along with the need to redesign existing facilities to meet changing visitor use patterns and meet the Americans with Disabilities Act of 1990, raises the recreation funding needs significantly above Plan estimates.

The Plan should be amended to address the increased heavy maintenance and reconstruction backlog and the increased cost of doing the heavy maintenance and reconstruction. Adjustments may have to be made in the Plan objectives and guidelines when the above costs are considered.

F. Federal Oil and Gas Leasing Process

Prior to the 1987 Reform Act

The leasing of minerals has been done for many years on National Forest land. Mineral leasing was governed by two Acts, the Mineral Leasing Act of 1920 and the Mineral Leasing Act for Acquired Lands of 1947. The authority to issue all leases including those on national forests, resided (and still resides) in the Department of Interior through the Bureau of Land Management (BLM). For acquired lands, the Forest Service consent was necessary for a lease. Consent or refusal to consent and specification of lease terms were appealable decisions.

After the 1987 Reform Act

Mineral leasing has gone through several changes since there early leasing laws. The Federal Onshore Oil and Gas Leasing Reform Act (FOOGLRA or the Reform Act) as an amendment to the Mineral Leasing Act of 1920, has instituted a different process for mineral leasing. The Act insures that the actions of the Secretary of Interior are carried out by the authority delegated to the BLM, and the actions of the Secretary of Agriculture are carried out by the authority delegated to the Forest Service. The Act had the most impact in these two areas:

1. The Reform Act expanded the role of the Secretary of Agriculture in the leasing decision process. The Secretary was directed to identify the National Forest System lands for which leases could be sold. The Secretary or his/her officers were directed to determine the appropriate stipulations to apply to a lease to protect the surface resources.
2. The Secretary of Agriculture also has the authority to make leasing decisions for specific lands (36 CFR 228.102(e)). The Regional Forester shall authorize the BLM to offer specific lands for lease subject to the following:
 - a. Verification of adequate NEPA compliance and consistency with the Forest Plan. If NEPA has not been adequately addressed, additional analysis shall be completed prior to a leasing decision. If there is inconsistency with the Forest Plan, no authorization for leasing shall be given unless the Forest Plan is amended or revised.
 - b. Insurance that conditions of surface occupancy are properly included as stipulations in the resulting leases.
 - c. Determination that operations and development could be allowed somewhere on each proposed lease, except where stipulations will prohibit all surface occupancy.

Action That Should Be Taken

Although the Land and Resource Management Plan (LRMP) did touch on mineral resources, it did not address them adequately to encompass the changes of the last decade. The impact that the Reform Act had on the leasing process should be addressed in the LRMP. Stated simply, they are:

1. The Forest Service has been directed to identify the National Forest System lands for which leases could be sold.
2. The Forest Service will determine the appropriate stipulations to apply to a lease to protect the surface resources.
3. The Forest Service will make leasing decisions for specific lands subject to conditions listed in 36 CFR 228.102(e)).

III. CHANGES WARRANTING A PLAN AMENDMENT

A. Special Forest Products

Interest in forest products of both commodity and amenity value have increased over the past nine years of the Forest Land Management Plan (LRMP). Average sawtimber values nearly tripled from \$41.27/MBF in 1986 to \$118.98/MBF in 1993, according to the Transaction Evidence Analysis System (TREV Report) for the Daniel Boone. Increased timber prices allow opportunities to accomplish needed regeneration where stands are of marginal value or costs are high. They also provide improved opportunities to re-invest timber sale revenues (KV funds) in the sale area to improve forest health and address improvement needs of other resources, such as habitat improvement and soil stabilization.

There has been a trend of increasing harvest of non-timber special forest products (SFP's) over the past 10 years. Interest was primarily in the collection of ginseng and other medicinal herbs until about 1992. At that time there was an increase in requests for moss, grapevine, and tree/shrub permits, as reported by the Forest botanist. The number of permits issued for the collection of special products was 21 in 1985, 109 in 1990, and 148 in 1994, according to the Automated Timber Sales Accounting System on the Forest. Indications are that many other forests in the Southern Region and in the Eastern Region (R9) have also had an increased interest in special forest products, especially in the easternmost part of the country.

The trend appears to be towards more SFP's becoming valuable to the public and at least some increase in the number of people interested in the products. It is difficult to monitor and control the removal of small plant and animal specimens. The change is probably spurred by: 1) uncertainties in the economy, especially in rural areas; 2) a loss or decrease in previous sources for material, at least for this Forest, (e.g. North Carolina moss supply is not keeping up with demand, personal communication with Bill Lea, NF's in NC, 1992); and 3) an upswing in the popularity of "natural" crafts, as evidenced by florist, discount store, and specialty shop shelf stocking.

Little is known about the long term effect of collecting any of these SFP's. Ginseng has long been of value to collectors. Ginseng material now being turned in is smaller, and less valuable (Chris Kring, Ky. Dept. of Ag., pers.comm.). Moss collectors are now looking for large quantities, such as pickup truck loads. There is no known research on the effect to the ecosystem of taking that quantity of material from a site.

Interest in non-consumptive resources and the role they play in the forest environment have increased, as evidenced by participation in organized nature events; wildflower, herpetological, and mushroom weekends; public viewing opportunities; birding blind and eagle tours; and volunteer participation to help accomplish needed work on the Forest, such as construction and placement of bluebird and wood duck nest boxes, execution of bird census routes, and participation in plant and threatened and endangered species surveys. Part of the increased interest in non-game species and forest flora have been expressed as intrinsic values by people that only occasionally or rarely visit the Forest but feel good knowing that the native biota of the Cumberland Plateau is represented and functional in the wild. The Forest Service recognizes the value of all native forest species for the contribution in maintaining a healthy and productive ecosystem and the relative importance of the forest ecosystem at a regional landscape scale. The cost of monitoring, managing, and enhancing the populations of some native species impacted by human activity is greater than estimated in the present Plan.

Action That Should Be Taken

The increased demand for traditional non-commodity products and its increased impacts to the National Forest environment and habitats off the Forest are becoming significant. There is a need to monitor more species, manage for more

species, and enhance habitat for a wider variety of species than called for in the Plan. The Plan needs to provide adequate monitoring to ensure that harvest of SFP's does not contribute to a decline in population viability for any affected species. The Plan needs to address the economic impacts and management implications that the increased demand will have on overall management of the forest.

B. Heritage Resources

The Forest Plan addresses the need for inventory, compliance with existing laws, and interpretation and development of significant cultural sites. It also calls for the monitoring and protection of known sites. The Plan anticipated one potentially significant site per 80 acres (pg II-4). At present, an average of one potentially significant site per 52 acres is being discovered. At the time the Plan was being written one site was being found for every 53 acres surveyed. At present, one site for every 28 acres is being found. Sites are being discovered in areas previously considered unlikely to have sites.

Action That Should Be Taken

The Plan did not anticipate the quantity of potentially significant cultural sites and, therefore, does not adequately address the present cost or the impact that inventory, compliance, and protection of cultural sites have on other activities.

The Plan needs to be amended to address the added cost and effect potentially significant sites impose on all management activities on the Forest. The sites and costs may affect plan objectives which will require adjustments to the monitoring plan.

C. Urban/Rural Interface

The overall population is aging. Many in the work force are moving to non-urban counties (Cordell, 1990). There has been a significant amount of development within and adjacent to the National Forest. Housing developments, trailer lots, parks, apartments, and individual homes are being constructed adjacent to, or in proximity to, the National Forest. This development is bringing people with a city or suburban background to live in a rural setting. Before 1985, most Forest neighbors grew up on working farms and woodlands. The perceptions of what constitutes acceptable land management activities are changing as people born and raised in suburban and urban environments purchase homes and property near the National Forest. These changing attitudes are affecting forest management decisions on National Forest System lands near new private land developments. In addition, pest management activities and needs on the National Forest lands may affect or be affected by the interests and attitudes of adjacent landowners.

The migration of people to the rural setting has just begun adjacent to the National Forest. The Forest Plan (II-25 #7) identifies some of the changes occurring, but primarily addresses demand for access by mineral owners and public utilities. The need to identify land use proposals that affect resource management is recognized and calls for mitigating measures. Private land development that does not directly encumber the National Forest cannot be addressed in the Plan. Development that directly affects management options can and should be addressed.

Action That Should Be Taken

The present Plan does not adequately consider the potential effect that present and future private land development may have on management options. The Plan should be amended to address the impacts changing land ownership patterns have on adjacent National Forest System lands. More importantly, the Plan should incorporate the desired landownership adjustment guidelines associated with urban interface management concerns. At present these changes are not

significant enough to warrant a Forest Plan revision.

D. Riparian Area

Riparian areas are described in the National Forest Management Act implementing regulations at 36 CFR 219.27(e), as the lands within approximately 100 feet from the edge of perennial streams, lakes, and other water bodies, and corresponds to at least the recognizable area dominated by riparian vegetation. Management emphasis provided by the regulations stipulates that this land and vegetation will be given special attention. No practices will be permitted that cause detrimental changes in water temperature or chemical composition, stream blockage, or sediment which adversely affect water conditions or fish habitat.

Streamside forests or riparian areas are extremely complex ecosystems that are very important to many wildlife, aquatic, & vegetative species and the overall biological diversity of the Forest. Many rare plant and animal species on the Forest are dependant on riparian and floodplain habitat conditions. This forest component provides a generally linear connective matrix between habitat types essential to the movements and dispersal of various animal populations. Riparian areas are also essential for flood control, providing clean water, erosion control, and as a place for recreation visitors to enjoy. They provide an important biological buffer between the hydrologic and lithologic life zones. These streamside forests are also very vulnerable to road building, oil drilling, mining, off-highway vehicle traffic, and other similar activities, primarily due to the characteristically reduced slope of the land and linear nature.

Action That Should Be Taken

In 1982 the AMS for the Forest Plan estimated 7,000 acres of floodplains and 12,500 acres of riparian areas on the Daniel Boone. Management direction concerning water quality and thermal characteristics for flood plains and riparian areas are addressed in the Plan on page IV-29-34. Habitat aspects of the riparian community need to be reviewed. Standards and guidelines need to be developed to ensure the biological and ecological integrity of this resource feature and it's contribution to long-term Forest diversity. This needs to be done within the context of the ecologically based aquatic land types and incorporated as needed into a plan amendment or revision.

E. Monitoring

The present Plan relied on the data gathered at the time the Plan was developed and analysis of that data. Very few new initiatives were recommended in the Plan to monitor the effects of planned activities. The Plan emphasizes the monitoring of outputs rather than systems. The Plan monitoring program does not provide feedback needed to address many of the issues associated with present forest programs and activities. There have been significantly more monitoring programs carried out than what is described in Chapter VI of the Forest Plan. The additional cost of this monitoring was not addressed in the Plan.

Action That Should Be Taken

For a monitoring program to be effective it should address the purpose of each monitoring activity and provide an improved information foundation for future management decisions. The monitoring program should examine natural systems and processes as well as specific outputs.

Forest habitat conditions and the results of management activities are monitored through the use of Management Indicator Species (MIS). A review and revision of the Forest MIS is needed to incorporate assemblages of species, such as macro-invertebrates or guilds, that better represent habitat conditions. New Forest MIS need to be identified and incorporated to represent communities that have been characterized over the past 10 years of the Forest Plan, such as cliffline, and specific habitat conditions found to be essential to support the

diversity of forest plants and animals.

Although monitoring requirements in a Forest Plan do not limit the monitoring that can be performed, an amendment of the Forest Plan is needed to update and revise Forest MIS. This will better assure that Forest Plan management direction is working as intended.

F. Forest Disease and Pests

Insects, disease, noxious weeds, and other destructive agents can change an entire ecosystem by killing or impeding the growth of desirable vegetation. Insects can denude large areas of forest, leaving soils prone to erosion. Forest pests can weaken trees at recreation sites increasing the safety hazard, and can reduce visual quality throughout the forest. Insects and disease can cause mortality and growth loss of timber growing stock, and can kill other trees and understory vegetation needed to support various fauna found throughout the forest.

Since the inception of the Land and Resource Management Plan for the Daniel Boone National Forest (Forest) in 1985, the Forest has experienced relatively few problems from forest pests. On the other hand, newly discovered activity, and probable future invasions may have the potential to significantly affect the Forest.

Two small outbreaks of Virginia pine sawfly, *Neodiprion pratti pratti* occurred on the Berea District in the late 80's, but soon declined due to natural causes. A few southern pine beetles, *Dendroctonus frontalis* were found on the Stearns District in 1992, but they soon subsided due to natural causes and the removal of infected trees. Littleleaf disease (a complex) occurred in a few scattered locations on the three southern districts, at the beginning of the period. There has been no recurrence of Virginia pine sawfly, southern pine beetle, or littleleaf disease.

Other insects and diseases which have created minor problems include fusiform rust, root rot *Fomes heterobasidion annosum*, and various oak pests, such as oak decline, and oak dieback. Chestnut blight *Endothia parasitica* is prevalent in many of the scarlet oak stands found on dry ridge tops in the Forest, although it may not kill the tree, it degrades the butt log and reduces its commercial value.

The Forest has been significantly invaded by dogwood anthracnose *Discula* destructive, which was first reported on the Forest in 1986. This pest is killing flowering dogwood, *Cornus florida* trees of all sizes, and appears to be spreading quite rapidly. The majority of mortality occurs where dogwoods are in the shaded understory. Dogwood seems to be surviving in sunny openings, such as occurs following harvest operations. At this time the outlook for flowering dogwood on the Forest is unknown.

The Forest received information in 1983 regarding a disease (commonly known as butternut canker) that is attacking butternut, *Juglans cinerea*. Butternut is being damaged and often killed throughout its range in North America by a fungus of unknown origin *Sirococcus calavignenti-juglandacearum* (USFS, 1995). The butternut is currently classified as a "C-2" species by the USFWS and has been recommended to be classified as "Sensitive" by the DBNF. The status of the tree is due in part to the activity of this disease.

The Hemlock Woolly Adelgid (HWA), *Adelges tsugae*, is an introduced insect pest with real potential for destruction of eastern hemlock, *Tsuga canadensis*. The HWA has a piercing sucking mouth that is inserted into the tree where it feeds on plant fluids. This weakens the tree and will lead to mortality within a few years. The HWA is currently distributed throughout the northeast ranging south into Virginia and West Virginia. The success of the HWA indicates that within the next few years the entire range of eastern hemlock will be infested and a

majority of the population lost (USFS, 1995). Success of future hemlock natural regeneration in Kentucky under the stress of this insect is unknown.

The gypsy moth *Porthetria dispar* will become a problem in the near future as it continues to migrate both south and west. At the time the Land and Resource Management Plan for the Daniel Boone National Forest was written, the gypsy moth was far removed from National Forest Land and the State of Kentucky. However, gypsy moths have since been trapped on the Daniel Boone National Forest and at various locations through out the state. In 1993, eradication projects were scheduled for Jackson County, West Virginia, approximately 120 miles from the Forest, and Hamilton County, Ohio, approximately 100 miles from the Forest. The vegetative species composition of the Forest is 85-90% preferred or intermediately preferred by the gypsy moth; therefore just right for swift movement of these pests throughout the forest once they become established. All indications are that the gypsy moth will become established on the DBNF during this planning period

Noxious weeds have long been a concern mainly on western range lands, even though they do occur throughout the country. The list of species declared noxious by USDA are nearly all of western concern. The noxious designation has been traditionally applied to agricultural weeds, yet weeds deserving of the designation (aggressive, spreading, and species-displacing) affect woodlands, forests and other "natural" areas as well. Some of them affect this Forest now or have the potential to in time. There is concern for the biological damage introduced species (most noxious weeds are introduced) may cause to the biological diversity. The Daniel Boone is currently planning and carrying out specific projects designed to reduce the effect of noxious (or other introduced) species on native communities.

The biology of many species with potential to harm native communities is still being investigated. Actions are planned as new information becomes available.

The interest in invasive species has increased significantly in the last couple of years. This interest in exotics is expressed in letters to the Forest and Districts, in internal comments in planning meetings, in concerns raised in dealings with cooperators, and in letters and articles in papers.

Action That Should Be Taken

The Forest Plan does not address all of the currently threatening forest pests and noxious (invasive) species, although the Plan currently has provisions to control newly identified pests. Minor pests and noxious (invasive) species can be addressed without amendment or revision of the plan. However, the major impacts expected from the gypsy moth and hemlock wooly adelgid need to be fully assessed and incorporated into new standards, guidelines, and/or prescriptions.

The imminent invasion of the Forest's woody species by these two pests could require a shift in silvicultural prescriptions, which may warrant an additional future amendment of the Plan, pending on going research.

IV. CHANGES WITHIN AUTHORITY OF THE PRESENT PLAN

A. Water Quality/Abandoned Mines

The Water Pollution Control Act of 1948 (Clean Water Act), and its subsequent amendments through 1987, demonstrate strong congressional and public determination to improve the quality of our water resources. The Act will most likely be amended again in the next few years. These laws have done much to clean up point source contaminants by requiring states to establish and enforce water quality standards, by requiring specifications and licensing for discharge of effluents, and by funding the installation of municipal sewage treatment plants. As a result of the cleanup of concentrated pollution from specific sites, nonpoint source pollutants, which are typically dispersed in origin, have

increased in relative importance and now account for more than 50% of the pollution in our nation's waters. Nonpoint source pollutants include sediment, nutrients, pesticides and other substances which enter our water supply as components of runoff and ground water flow. (Welsch, 1991).

In recent years there has been an increased emphasis by the State and Federal government on reclamation of mined lands and improving water quality. On National Forest System land approximately 30 miles of stream has been impacted by Acid Mine Drainage (AMD) and 13 miles of stream by brine disposal from oil and gas operations. Several other agencies, such as Office of Surface Mining, United States Geological Survey, Environmental Protection Agency, Natural Resource Conservation Service, Kentucky Division of Abandon Mine Lands, and Kentucky Division of Water have stepped up their efforts to clean up streams affected by mining. The public is also demanding that we do a better job of reclaiming the mined land that we have acquired. We have made some excellent efforts in the last several years to improve our AMD and brine problems. Improvements in technology will most likely help us solve some of the cost problems, but more money will also be needed for restoration work. Some of the benefits associated with cleaning up these streams include improved water quality for domestic and recreational use, improve aquatic habitat, and improved aesthetics.

Action That Should Be Taken

The Forest Plan is in compliance with current water quality laws. Therefore, at the present time the Plan does not need to be amended or revised to address these changes in the management situation.

With the cooperation of other government agencies, abandoned mine problems on and off the Forest are being addressed. The Plan is not affected by the present activities in abandoned mine restoration so a Plan amendment is not needed at this time. However, this issue should be considered as part of the resolution of other issues in a Plan revision.

B. Hazardous Materials

General: Environmental laws covering hazardous materials were not specifically addressed in the Daniel Boone Land and Resource Management Plan. Many laws such as the Comprehensive Environmental Response, Compensation and Liability Act of 1980 (CERCLA) and the Resource Conservation and Recovery Act of 1976 (RCRA) were in effect and already incorporated into Forest management actions.

An increased interest by the federal government and the public to enforce the old laws, plus the passage of new laws such as Super Fund Amendments and Re-authorization Act of 1986 (SARA), and Emergency Planning and Community Right-to-Know Act of 1986 (EP&CRTK), have brought the use and handling of hazardous materials to the forefront.

An example of unforeseen costs to the Daniel Boone National Forest in the past 10 years due to environmental laws was the removal of underground storage tanks. These were underground tanks used to store gasoline and fuel oil. Some of the tanks were leaking and cleanup was quite extensive. In all, the cost was approximately \$760,000. Another example is the recent need for funding to inventory and dispose of unneeded hazardous materials being stored at administrative sites around the Forest.

Naturally Occurring Radioactive Material (NORM) has been found at one site on the Stanton Ranger District and may be found at other oil/gas operations on the Forest.

Pesticides: The Final Environmental Impact Statement (EIS) for Vegetation Management in The Appalachian Mountains was completed in 1989 and amended the Daniel Boone Land and Resource Management Plan. The Vegetation Management EIS analyzed the effects of an array of chemical, mechanical, and manual techniques

used to improve the vegetative composition of the Forest. In addition to requiring the compliance with all labeling instructions of chemicals, the Vegetative Management amendment established additional standards and guidelines to follow based upon local site conditions.

Action That Should Be Taken

Coverage of the safe use of herbicides and their effect on the environment is adequately covered by the Plan with the inclusion of the vegetation management standards and guidelines in Amendment #3. Concern with the use of herbicides and other artificial regeneration techniques has always been considered during project planning. Compliance with CERCLA and RCRA were considered a part of doing business during the development of the Forest Plan. The plan does not need to be amended or revised to address these changes in the management situation.

C. Forest Type Conversion

The recognition of mixed-forest stand classes and the reduction of acres converted from one forest type to another in the past four years have led to a reduction in the amount of artificial regeneration applied on the Daniel Boone. This reduction has been reflected in the amount of herbicides used and the number of acres planted.

Action That Should Be Taken

The 1994 forest type distribution is within 1% of the range allowed by amendment 6 of the Forest Plan, however proposals for management of the RCW will increase the proportion of pine and pine hardwood. An amendment will be needed to provide for the proposed Southern Region RCW Management Plan.

D. Special Areas

Current Studies: Although there is a perception that the public is more interested in special area designation, there has been only one specific effort to create special interest areas (dated August 18, 1995), beyond those specified in the Forest Plan. Those efforts include the Wild and Scenic River Suitability Study currently underway, and the analysis of Tight Hollow and Elisha Branch as potential Research Natural Areas, also underway.

The Forest Plan (IV-6a) states, "The public may identify and nominate areas of unique special interest...". August 18, 1995 was the first specific nomination for areas of special interest since the plan was approved.

There have been informal discussions and written correspondence, but no formal proposals concerning Cave Hollow Area (The Nature Conservancy), the "Claw Tract" portion of the Stargap RAU and other significant areas identified in the cooperative T & E inventories (Kentucky State Nature Preserves Commission).

Cave and Karst Resource

The Forest Plan (IV-34a) recognizes the importance of karst areas and caves. There are several known caving groups and organizations that are aware of caves on the Forest and use the caves for recreational activities.

The Federal Caves Resource Protection Act (FCRPA) passed in 1988. Passage of this act reflected a growing interest by the public in the management of the unique ecosystems of the cave systems, and a growing desire by the public to protect cave resources. The increasing interest in protecting cave resources has been a gradual trend which intensified with the passage of the FCRPA and intensified further still between 1992 and the present as the revised USDI and USDA Cave Management Regulations were finalized.

Since the implementation of the present Forest Plan, surveys have indicated that

there are over 2,000 cave openings on National Forest System lands and 8-10,000 cave openings within the proclamation boundaries. The land acquisition program provides the potential for further increasing the numbers of openings falling under Forest Service jurisdiction.

The numbers of cavers that use caves on National Forest System land has increased, and many of these users express interest in helping with the management of the cave resource. The Boone Karst Conservation Task Force was created since the Forest Plan was approved. This organization is an umbrella organization developed to coordinate communications between cavers and the Daniel Boone National Forest, and to promote volunteer efforts by cavers on the Forest. The Task Force has also become increasingly concerned about the environmental effects of surface management activities on the cave resources and have consequently become more involved in project planning and analysis.

Wilderness: Changes have been made to the Forest Service Handbook guidance for wilderness management and there is now a separate Director of Wilderness Management in the Washington Office. These changes are adding emphasis to appropriate wilderness management at the local level. The present Forest Plan includes a specific management prescription for Beaver Creek Wilderness, but was completed prior to the designation of the Clifty Wilderness. The Plan recommended Clifty for Wilderness designation and provides direction for the completion of wilderness plans for each Wilderness. These plans are in the final phases of approval. Once approved they will be incorporated into the Forest Plan through amendment.

Action That Should Be Taken

The Forest Plan provides for identification and nomination of areas that are unique and special areas.

The Plan recognizes the unique character of Karst resources. The Federal Cave Resource Protection Act of 1988 further defines the need to protect the cave resources and is not in conflict with the Plan.

The Wilderness management direction in the Forest Plan will be updated through an amendment currently under development; therefore, no additional action is needed to meet changes in Wilderness emphasis.

E. National Wild and Scenic Rivers

The Forest Plan management direction requires that we, "Manage rivers, included in the Nation-wide Rivers inventory, to ensure that the free flowing nature of the river and its surroundings are not diminished." (pg.IV-5) The Plan also states in Appendix D-2, "This management will include the necessary measures to ensure that the free flowing nature of the river, and its natural elements which might cause it to become eligible, are not diminished." The Forest Supervisor clarified this statement as it pertains to timber harvesting by letter in May 1989, "A policy of managing the study areas as through they had a wild classification has been established."

The Standards and Guidelines for Management Areas 2 and 4 provide protection of the Red River as a Wild and Scenic River, as designated. The designation requires that a River Plan be completed. If, during the development of this river plan, site specific actions are recommended outside the standard and guidelines of the Forest Plan, the Forest Plan should then be amended. The status of the remaining rivers on the Nation-wide Rivers inventory has not changed, although the study of eligibility has progressed as planned. The present State Wild Rivers within the Daniel Boone National Forest are all under study and the above management measures comply with State Regulations. A cooperative agreement with the State signed in 1987 reinforces the established protection. The designation of any river as a National Wild and Scenic River will require that a river plan be completed.

Action That Should Be Taken

If, during the development of the Red River Plan or any of the other Study Rivers' plans, site specific actions are recommended outside the standard and guidelines of the Forest Plan, the Forest Plan should then be amended. At this time there is no effect on the Forest Plan.

V. IDENTIFIED CHANGES NOT ADDRESSED IN DETAIL

Nine identified changes were predicted or proposed by the Plan. Twenty-five changes were changes in Forest Service Policy, management techniques and office technology which has effected the internal administrative operations of the Forest but not the Plan. Eleven changes affect how the plan is implemented but do not address a need to adjust the Plan. Four changes affect how the present management of the National Forest is perceived but do not effect the guidance provided by the Plan. Four changes address how we are accomplishing the Forest land adjustment program but do not effect the purpose or intent of the land adjustment program as described in the Plan. Ten changes were outside the scope of the plan. Fifteen changes were not a significant change covered by the plan or had a minor effect on the implementation of the Plan.

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APPENDIX A

Changes Identified by the Public and the Forest Service
(Changed conditions since 1985 on the Daniel Boone National Forest)

Each change was initially identified by its effect on the plan.

A= Enough change in the management situation to warrant a plan revision.

B= Change is not enough to warrant a plan revision. It could be handled by an amendment. These will probably be dealt with during a plan revision.

C= A non-significant change covered by the plan or has a minor effect on the implementation of the plan. These could be addressed but it is not needed.

D= Should not be addressed in the Plan. They are outside the scope of the Plan.

Number on left is original input from management team and specialists. This includes information gathered from annual reports, 5th year review, and public input into projects over the past ten years.

-0- numbers correspond to public input list compiled from input received from November 1994 to December 1994. Input was requested from cooperators, state and local agencies and concerned groups for changes that have occurred in the management situation since 1985.

CHANGE	NUMBER	
B	1	"Clean Water Act, Clean Air Act, Soil Quality"
B	2	S&G for Acid Mine Drainage (Clearer)
C	3	Increased emphasis in Air Quality
C		-21- Stress caused by air pollution & acid deposition, (outside agents)
D	4	Lack of progress in solid waste management (counties)
B	5	CERCLA (HAZMAT) Law
C	6	Increased demand for flood control
B	7	Sensitivity to soil erosion on unmaintained roads
B	8	Increased needs for abandoned mine land reclamation
C	9	Increased demand to purchase mineral rights
D	10	Potential changes in Valid Existing Mineral Rights
B	11	Change in oil and gas regulations by the state
B	12	OSM initiative
B	13	State and EPA program for abandon wells
B	14	Red River WSR designation
B		-12- Support for preserving wild rivers
A	15	public interest in special area designation
A		-33- Increased interest in establishing special management areas
D	16	Forest wide Wildlife management area by state
D	17	Increase in land acquisition
D		-11- Greater public support for land acquisition
D	18	Increased public emphasis on buffer strips
B	19	Cumulative effects to include private property
D	20	Increased emphasis on national rec. areas
D	21	Reduction in emphasis on land exchanges
D		-13- Lack of public support for exchanges
B	22	Status of Wild and Scenic Rivers Studies
D	23	Increased concern by public over private property rights
D	24	transfer of Big South Fork to Park Service
D	25	Recognition of inability to secure access to NFS lands
D	26	Sig. Changes in Mgt. Direction on surrounding Public Lands
D	27	Increased access to the Forest (more roads)
CHANGE	NUMBER	
A	28	Cave Resource Protection Act / cave resources identified
A		-30- Changes in law, Cave Resources Protection Act

B 29 OHV use increased
 B -3- Increase in Impacts caused by ORV's (OHV's)
 B 30 -2- Increased demand for dispersed recreation
 B -1- Increase in foot traffic on trails
 B 31 Increased demand for access to rivers and Nat'l For. Land
 B 32 Increased developed Rec. use at Laurel and Cave Run lake
 B 33 New demands for recreation (construction)
 B -10- Role of public lands to provide recreation opportunities
 B -15- Increase in recreation use and conflict between users
 B 34 Increase in horseback riding
 B -43- Development of Horse camps
 B 35 Changes in Recreation use patterns
 B -16- Increase in diversity of recreation use
 B 36 Increase in rock climbing
 B 37 more diverse trail visitors
 C 38 Increased investment by PVT. sector in Rec. Opportunities
 C 39 New Local Recreation Facilities Available
 D 40 Marijuana and drug use increased
 D -36- Marijuana Impact
 D 41 Increased need for strong law enforcement
 D 42 Increased Timber Theft
 D 43 Increased emphasis on use of partners
 D -40- New MOU's with Special interest groups and KDFWR
 D -44- Wild Wings projects at Cave Run Lake
 D 44 Increased Rivers Management
 D 45 Forest Service Involvement in Rural Development new
 B 46 Change in Wilderness Management Policy and emphasis
 B -29- Increased wilderness demand
 A 47 Increased emphasis on cost benefits (by public)
 D 48 More protection of surface owner rights
 D 49 Increased emphasis in public interest and involvement
 D -4- Increased awareness/interest in public role National
 Forests play in preserving our natural heritage
 D -28- Increased public involvement
 B 50 Heritage mgt. from compliance to compliance & outreach
 B 51 Increased emphasis on protection of heritage res.
 B 52 Increased heavy maintenance needs on recreation facilities
 B 53 American Disabilities Act (Admin. & Rec. Facilities
 B 54 "Increase need for heavy mtc. on paved parking,rds,trails"
 D 55 ISTEFA (roads & trails) Simms act National Trails & Rec. Act
 D 56 Forest hwy. funding formula has increased
 C 57 Decrease in road construction and mtc. money
 B 58 Urban/rural interface
 D 59 ROS as a management objective
 D 60 New scenery management guidelines to be dealt with
 B 61 Increased emphasis on wilderness management
 D 62 Changed Technology in Wood processing industry
 D -27- New forest products industries
 D 63 State permitting/licensing requirements stricter
 D 64 Increased emphasis on Environmental Ed. and I.S.
 D -34- Increased demand for education programs
 A 65 Cliff line policy
 A 66 RCW Management Guidelines
 CHANGE NUMBER
 A -37- Red cockaded woodpecker recovery plan
 B 67 Application of new PETS recovery plans
 B 68 -47- Increased concern about impacts to neotropical migrants
 B 69 -42- Increased emphasis in restoration of extirpated species
 B 70 increased public interest in Mussels
 B 71 Increased emphasis in aquatic wildlife
 A 72 Decrease in suitable timber base
 A 73 -6- Interest in below cost timber sales (economics)
 C 74 increased demand for wood fiber in KY
 C -8- Shift in timber production from Northwest to Southeast

D	75	Change in policy on clearcutting
B	76	Dramatic increase in timber values
B	77	Need to recognize role of fire in hardwood management
B		-18- Lack of fire has increased fuel loads and effected community types
B	78	Shelterwood guidelines
B		-39- Change from Clearcut to Shelterwood cuts
B		-14- Lack of public support for clearcutting and commercial sales
B	79	Political and Economic constraints on TSI & reforestation
B		-32- Concern for use of herbicides
B	80	increased interest in non-game species & plants
B		-17- Increase in demand for non timber values of the forest
D	81	Ecological Classification System
A	82	Ecosystem Management
A		-5- Greater Scientific Knowledge - Ecosystems and ecosystem management
B		-25- Watershed approach to decision making
B	83	-19- Fragmentation as a issue
B	84	Increased emphasis on regional effects planning
B	85	Increased public interest/concern about old growth
A	86	Shift in Mgt. Emphasis from outputs to results (ecosystem)
B	87	Emphasis on riparian area management
B		-26- Increased emphasis on protection of riparian zones
B	88	Imminent threat of gypsy moth
B	89	Forest Pest Situation
B		-20- Increase in non-native species, plants, gypsy moth, diseases
B	90	Increased applications for permits to collect unique products
B	91	Increased concern about changes in forest composition
B		-9- Role of public lands to provide biological diversity
B		-24- Decline in species diversity/populations
B		-22- Forest type changes
D	92	Changing public perception of future stand condition
D	93	Larger % of forest is in a younger age class
C	94	Less emphasis on dev. of artificial WL openings (crops)
B	95	Noxious Weeds Regulations
C	96	Native Species Emphasis
B	97	-23- More emphasis on monitoring
D	98	GIS availability
D	99	Changes in delegations of authority
C	100	Changes in NEPA/ Appeal Regs.
C		-38- Change in the appeal process
C	101	Increase in # of Projects appealed
D	102	Increased emphasis on workforce diversity
CHANGE	NUMBER	
D	103	Improved logging techniques
D	104	Increased workloads
D	105	Emphasis on reorganization and consolidation
D		-35- Change in Law Enforcement organization
D	106	Revise organizational structure to match work loads
D		-48- New Forest Specialists
D	107	Improve FS image, new brochures, new VIS, more interpretive programs.
D	108	Improve budget and accounting process
B	109	Reconstruction and relocation of trails to provide for new uses
D	110	Relocate trails off roads
B	111	Increase emphasis on acid mine drainage problems on watershed basis rather than project basis
B	112	Increasing development of private lands affecting acceptable activities on adjacent National Forest.
B	113	Increased timber values
D	114	Increased use of fines as management tool
D	115	More emphasis on management of Karst systems

D 116 Several herbicides listed in Vegetative Management EIS no longer being used

B 117 -31- Tripling of PETS List

B 118 Higher demand for game species and their increasing populations.

B -41- Increase in Game Populations

B -49- Increase in hunting

B -50- Increase in fishing

D 119 Many low standard roads build in the last 10 years will require reconstruction prior to reuse.

C 120 Right of way needs for timber are declining.

D 121 New road construction needs are declining.

B 122 Increased use of forest by large groups (Rainbows)

B 123 Don't yet have an amendment to plan addressing Clifty as a wilderness.

D 124 Need to incorporate Forest Inventory Plot data analysis into monitoring program.

D 125 Larger % of forest in older age classes

A 126 Change in the way we view & manage natural resources

A 127 Change from a historical focus on multiple commodities to a land ethic focusing on forest health, diversity, & productivity

B 128 Allocation of land uses are to support Forest biological diversity rather than for the production of commodities.

B 129 Emphasis on ecosystem restoration, such as restoration of the Am. Chestnut, the upland piney-woods community, & fire regime.

B 130 Re-introduction of the Black Bear

B 131 Defining, allocating, and managing true old growth

B 132 Increased fishing demand associated with small ponds and lakes (1-10 acres) on the Forest.

D -7- U.S. Acceptance of U.N. Conference position on sustainable development

D -45- Visitor Centers at Gladie and Morehead

D -46- Promotion of Cave Run Resort

D -51- Anti resource management movement