



Daniel Boone
National Forest

Monitoring
and
Evaluation
Report

Fiscal Year
2001



MONITORING AND EVALUATION REPORT - Fiscal Year 2001

DANIEL BOONE NATIONAL FOREST

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FOREST SUPERVISOR'S CERTIFICATION

I have evaluated the monitoring results and recommendations in this report. I have directed that the Action Plan that was developed to respond to these recommendations be implemented according to the time frames indicated, unless new information or changed resource conditions warrant otherwise. I have considered the funding required necessary to implement these actions.

The Forest Plan as amended is sufficient to guide forest management for fiscal year 2002, unless ongoing monitoring and evaluation identify further need for change.

The Forest is currently in the process of revising its Forest Plan. A draft of the Forest Plan and associated Draft Environmental Impact Statement is on schedule for release in 2002. Even while the Forest Plan is being revised, the current Plan is sufficient for implementing activities designed to maintain and enhance the health of the forest and provide for goods and services.

/s/ Margrett Boley (for)

BENJAMIN T. WORTHINGTON
Forest Supervisor

July 29, 2002

Date

MONITORING AND EVALUATION REPORT - Fiscal Year 2001

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EXECUTIVE SUMMARY

Over the years, points of contention on how the Daniel Boone National Forest should be managed have come and gone. Some of the more recent concerns are listed below. These points of contention have been identified to help focus monitoring and evaluation in areas appropriate to any controversy.

The following is a summary of NOTEWORTHY ISSUES for fiscal year 2001:

Forest Health

- Southern pine beetle infestation continues to kill pine trees.
- Restoration of areas where pine trees were killed by the southern pine beetle.

Recreation

- Public and employee safety from hazard trees resulting from the southern pine beetle infestation.

Cultural Resources

- Inventory and protection of archaeologically significant sites within the Red River Gorge and Geological Area.

Lands

- Acid mine drainage from abandoned mine sites continues to impact some streams flowing across the National Forest.
- Requests for access to outstanding and reserved minerals continue to increase.
- Land exchange proposals where the recipient of National Forest System lands intends to mine coal.

Fuels

- Increased fuels from storms and SPB infestation has created hazardous conditions.

Property Boundaries

- Potential for trespass and damage to resources resulting from the condition of landline boundaries.

Monitoring and Evaluation Findings

1. Game and non-game management indicator fish species do not make good indicators and should not be used in the revised Forest Plan. (pp. 3)
2. White-tail deer management indicator species appears to be increasing in population. Population viability is not a concern at this time. Population predictions remain below Forest Plan predictions, probably due to a decline in the acreage of early successional habitat. (pp. 4)
3. Rufus-sided towhee and eastern bluebird management indicator species represent early seral habitat. Habitat conditions have continued to decrease since 1995. About 35% of the compartments contain minimum habitat needs (>320 acres in 0-10 age). (pp. 4)
4. Pileated woodpecker management indicator species represents old age stands. This habitat is relatively stable. About 78% of the compartments contain minimum habitat needs. (pp. 5)
5. Red-cockaded woodpecker habitat has been essentially eliminated by southern pine beetle infestation. Currently there are no active clusters and none are likely to occur for several decades. (pp. 6)
6. White-haired goldenrod sites in the Red River Gorge were protected by fencing. The fencing appears to be a success. De-listing under the Endangered Species Act may be an option in the future. (pp. 6)
7. Fuel conditions have increased from southern pine beetle activity killing pine trees. Prescribed burn objectives are being met. (pp. 7)
8. Southern pine beetle activity is decreasing as a result of increased populations of predator beetles and a significant reduction in pine habitat. (pp. 7)

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Executive Summary continued:

9. Gypsy moth trapping has resulted in the capture of 2 male gypsy moths. There is no indication that reproduction has occurred. (pp. 9)
10. The Licking River watershed is in good condition especially where water comes from National Forest System land. (pp. 10)
11. The Red River watershed is in excellent condition. Some opportunities for additional improvement occur near roads, trails and camping areas. (pp. 11)
12. Water samples meet State water quality standards for swimming in Laurel River Lake and Cave Run Lake. (pp. 11)
13. The majority of streams forest-wide are of the highest quality. However, 40 miles of streams still have acid mine drainage. (pp. 11)
14. Developed and dispersed recreation sites are in good condition. Dead pine trees continue to present safety concerns in these areas. User-developed trails continue to impact resources. (pp. 12)
15. A nominal amount of property lines were established or maintained. Currently, 65% of property lines have not been maintained in the last 10 years. (pp. 12)
16. Eight tracts of land totaling 2,498 acres were purchased, bringing the forest total to 697,902 acres. (pp. 13)
17. No regeneration timber harvests occurred. (pp. 14)
18. Abandoned mineral operations (coal and oil) still have needed work to clean up hazardous substances. HAZMAT and CERCLA funds were used and more are needed to continue with this work. (pp. 15)
19. Fifty percent of special-use permits were not in compliance. (pp. 15)
20. Threat to destruction of heritage resources, especially in the Red River Gorge Geologic Area, continues to be a concern even though a closure order is in effect to restrict camp fires and camping along cliffs. (pp. 15)
21. The Action Plan for FY 2002 can be found on page 17.
22. The status of the Action Plan for FY 2001 can be found on page 20.

DANIEL BOONE NATIONAL FOREST
MONITORING AND EVALAUTION REPORT
For
Fiscal Year 2001

1.0 INTRODUCTION, REPORT LAYOUT, AND NOTEWORTHY ISSUES

The Monitoring and Evaluation (M&E) Report is structured to correspond with Chapter VI of the Daniel Boone National Forest Land and Resource Management Plan (Forest Plan; Plan; FLMP). It is also structured to address the monitoring and evaluation requirements found in the National Forest Management Act (NFMA).

The purpose of this process is to document the results of the Forest Plan monitoring and evaluation for fiscal year 2001. Monitoring and evaluation of programs is done to determine the progress toward achieving management goals, objectives and applying standards and guidelines (S&G) for the Forest Plan.

Monitoring and evaluation is an ongoing process. It is documented through annual reviews made by the Forest Supervisor, Forest Staff Officers, District Rangers, and other Forest personnel. Information from these reviews is compiled into a comprehensive report after the fiscal year is completed. Monitoring indicates whether the management direction contained in the Forest Plan is being effectively carried out, and if any modification in direction is needed. It also indicates if the effects of implementing the Plan are occurring as predicted; whether the application of management area prescriptions are responding to public issues as well as management concerns; and if the costs of implementing the Plan are on target.

Organization of the Findings and Recommendations Section of this Report

Specific monitoring requirements are listed in the Forest Plan, Table VI-1, on pages VI-4 through VI-15; OHV Forest Plan amendment, Appendix E-3; and SHNS Forest Plan Amendment, Appendix D. Section II - DETAILED M&E RESULTS AND FINDINGS, of this report is formatted similar to this table and contains the following information:

Monitoring Item Description - The activity, practice, effect or resource being monitored, with a statement discussing the method used for monitoring and its objectives.

Variability, which would initiate future action - The acceptable tolerance level beyond which, some future action would be initiated.

Findings - Summary of findings.

Recommendations - Actions to take in response to the findings. Recommendations are made by Forest Staff Officers after they evaluate the findings. Possible recommendations include: 1) no action is needed; 2) continue Forest Plan implementation and monitoring; 3) amend the Forest Plan to clarify, revise, or improve resource management; 4) further study to determine the best action to take; 5) eliminate current monitoring item; or 6) include a new item.

Section III - 2002 M&E ACTION PLAN, of this report summarizes recommendations from section II, and contains the following information:

Action - Summary of one or more recommendations.

Responsibility - The person or position responsible for this action.

Completion date - Anticipated completion date.

Over the years, points of contention on how the Daniel Boone National Forest should be managed have come and gone. Some of the more recent concerns are listed below. These points of contention have been identified to help focus monitoring and evaluation in areas appropriate to any controversy.

The following is a summary of NOTEWORTHY ISSUES for fiscal year 2001:

1.1.1 Forest Health

- Southern pine beetle infestation continues to kill pine trees.
- Restoration of areas where pine trees were killed by the southern pine beetle.

1.1.2 Recreation

- Public and employee safety from hazard trees resulting from the southern pine beetle infestation.

1.1.3 Cultural Resources

- Inventory and protection of archaeologically significant sites within the Red River Gorge and Geological Area.

1.1.4 Lands

- Acid mine drainage from abandoned mine sites continues to impact some streams flowing across the National Forest.
- Requests for access to outstanding and reserved minerals continues to increase.
- Land exchange proposals where the recipient of National Forest System lands intends to mine coal.

1.1.5 Fuels

- Increased fuels from storms and SPB infestation has created hazardous conditions.

1.1.6 Property Boundaries

- Potential for trespass and damage to resources resulting from the condition of landline boundaries.

2.0 MONITORING RESULTS AND FINDINGS

2.1.1 Ecosystem Condition, Health and Sustainability

2.1.1.1 *Biological Diversity*

2.1.1.1.A Management indicator species

The following are excerpts from the [Management Indicator Species Population and Habitat Trends Report 1985-2000](http://www.southernregion.fs.fed.us/boone/plan.htm). The document, in its entirety, can be viewed on the Daniel Boone National Forest web site <http://www.southernregion.fs.fed.us/boone/plan.htm>

2.1.1.1.A.1 Aquatic non-game

Six stream fish species (blackside dace, arrow darter, fantail darter, rainbow darter, brindled madtom, and stoneroller) are identified to represent aquatic ecosystem conditions, and ensure that viable populations of all stream fish are maintained on the Forest.

Variability, which would initiate future action: Significant reduction of species occurrence or habitat quality.

Findings: Fish will readily move from sections of stream that become unsuitable. Adverse changes may occur to streams as a result of stochastic events such as rain or drought; seasonal changes in food levels or water volume; or from changes in the surrounding habitat such as deforestation or erosion. In response to these adverse conditions fish will swim up or downstream or into tributaries, but when conditions improve the fish will return. Sampling at sites during these periods will result in fewer individuals collected. This may seem to indicate that individuals have died from the changed conditions causing population decline when the population has actually been preserved by its temporary relocation. Therefore, low collection numbers may indicate that stream conditions have declined, but they cannot show there has been a decline in population numbers.

Many of the sites discussed above seem to show evidence of this fluctuation. Collections taken in different seasons of the same year varied in the number of individuals collected. Numbers of individuals frequently returned to more expected levels in subsequent years. This makes determining trends in MIS populations difficult without more years of monitoring.

The high level of private land interspersed within Daniel Boone National Forest ownership also reduces the ability to link management of National Forest System lands with changes in populations over time. Most of the watersheds on the Daniel Boone National Forest have a relatively low percentage of Forest Service management. Thirty-four of 48 watersheds have less than 37 percent National Forest System lands. Activities taking place on private land may affect any collection site downstream even if that site is located on National Forest. Sampling sites and collection methods have not been designed to differentiate the effects of National Forest management from the activities on surrounding private land, and because of the private land interspersed developing an effective sampling design would be extremely difficult.

None of the seven fish species selected in 1985 serve their intended purpose as MIS. This was first pointed out in the 5th Year Review Daniel Boone National Forest Land and Resource Management Plan (1991). That document recommended the fish species be replaced as MIS by macro-invertebrates (page 13). The recent 15-year MIS report documents and agree with the 1991 recommendation to remove all seven fish species as MIS. The following discussion is a summary of the reasons that fish make poor choices as MIS. This in no way diminishes the biological importance of these organisms or suggests that monitoring of fish species should be reduced on the DBNF. Fish populations simply do not lend themselves to the analysis of cause and effect relationships with land management activities for the following reasons.

1. Interspersed land ownership—Most of the 48 watersheds on the DBNF have a relatively low percentage of National Forest managed land. In fact, the DBNF exhibits a highly unconsolidated land ownership pattern. Thirty-four of 48 watersheds have less than 37 percent National Forest managed lands (Walker 2001). Thus, fish populations in a given watershed are likely to be significantly influenced by factors occurring on private land, which are both out of DBNF control and largely unknown to Forest Service personnel.

2. These events may be natural, such as flood or drought conditions, or human related alterations in land management. In either event sampling methods designed to establish long-term population trends can be greatly affected by short-term movements of an indicator species (fish).

Recommendations: As suggested in the 1991 5th Year Review Report, a better group of aquatic MIS would be macro-invertebrates. MIS species will be addressed in the revision of the Daniel Boone's Forest Plan. As part of this, consideration should be given to the macro-invertebrate group. These species are much less mobile than fish and population trends could be related to long-term land management activities. Analysis would require a more rigorous sampling system than currently occurs on the Forest.

2.1.1.1.A.2 Smallmouth bass

This indicator was selected to determine output levels in comparison to the Forest Plan projections, and assure maintenance of viable populations of existing vertebrates.

Variability, which would initiate future action: Significant decrease in fish populations or habitat from previously reported levels, for individual populations.

Findings: Aquatic surveys done on the DBNF indicate that the smallmouth bass is present in scattered sites across the forest. One hundred seventy-one surveys collected 525 individuals between 1968 and 1999. These surveys took place at 146 sites within 33 of 48 watersheds. Various agencies and individuals used seining, electro-shocking, and chemicals, including rotenone and NaCN, made collections. Five sites were surveyed more than once using the same collection method, but were not surveyed at a frequency from which a trend in the number of individuals capture over time could be determined. Data collected from these sites indicate that the smallmouth bass has been present in these streams over time, but does not indicate the size of stability of the population.

Recommendations: See the “aquatic species” section above.

2.1.1.1.A.3 White-tail deer

Selection was made to monitor this high demand species in comparison to Forest Plan output projections and assure viability of associates.

Variability, which would initiate future action: A trend representing a significant population decline or unexplained difference in State population estimates vs. habitat trends.

Findings: The deer herd on the Forest is healthy and growing, within the carrying capacity and well above levels where viability would be a concern. Population densities are at or above Forest Plan objectives in a few areas, such as the Pioneer Weapons Hunting Area, but overall, still below the one deer per 32-acre objective. Habitat conditions are lower than those projected in the Forest Plan due to the decline of the early seral forest component and a relatively constant acreage in wildlife openings, but acorn mast production capabilities appear to be fairly good.

Recommendations: None

2.1.1.1.A.4 Rufous-sided towhee and eastern bluebird

These two species were selected to represent early forest seral stages to ensure viability of associated and dependent native vertebrates.

Variability, which would initiate future action: Significant deviation of habitat levels from Plan projections or population levels near minimum viable levels.

Findings: Over the period of 1985-2000, the availability of 0-10 year old forest has shown a slight decrease on the Daniel Boone National Forest. Additional habitat analysis indicates that the availability of early successional habitat on the Daniel Boone National Forest has fallen below the minimum standard required by the Forest Land Management and Resource Plan (FLMP –IV9). Analyses have determined that in 1995, 61.7% of the compartments that contain > 320 suitable forest acres met the minimum standard; however, by year 2000, only 34.9% of the compartments that contain > 320 suitable forest acres met the minimum standard. The minimum standard was established to ensure that acceptable habitat was available across the National Forest to ensure viability of species such as the eastern bluebird and others that prefer early successional habitat. When the minimum standard is no longer met, it is assumed that eastern bluebirds and other MIS species that depend upon early successional habitat will be negatively affected.

Since Forest-wide Point Count Survey data (as well as other research) indicates that eastern bluebirds show a preference for young successional forest within the 0-10 year age class, any decrease in availability of this habitat would be expected to result in a corresponding decrease in eastern bluebird populations. This theory is supported by results of the Road Route Survey data and the North American Breeding Bird Survey data analysis presented here.

Recommendations: Eastern towhees are believed to be good early successional MIS and should be retained as such on the DBNF. This bird is a resident and has a relatively small home range (4-15 acres). Thus, even in areas of interspersed land ownership, changes in National Forest managed land can be related to eastern towhee population changes. Further, both the Breeding Bird Survey and the R8 Bird Point Survey are well established on the forest along with a group of trained professional and volunteer observers.

Eastern Bluebird—Cause and effect relationships between population trends and national forest management are difficult to establish. When DBNF MIS are addressed as part of the Forest Plan revision, it is recommended that this species be dropped.

2.1.1.1.A.5 Pileated Woodpecker

The pileated woodpecker represents the old-age, large-tree component of the Forest, assuring suitable habitat to maintain viable populations of associated species.

Variability, which would initiate future action: Significant deviation of habitat trends from Plan projections or population levels near minimum viable populations of associated species.

Findings: Over the period of 1985-2000, the availability of mature forest (i.e., cove hardwood stands > 80 years of age and upland hardwood stands > 100 years of age) has remained relatively stable on the Daniel Boone National Forest. Additional habitat analysis indicates that the availability of mature forest habitat on the Daniel Boone National Forest has remained well above the minimum standard required by the Forest Land Management and Resource Plan (FLMP –IV9). Analyses have determined that in 1995, 65.9% of the compartments that contain > 320 acres met the minimum standard and that by year 2000, 78.3% of the compartments that contain > 320 acres met the minimum standard. The minimum standard was established to ensure that acceptable habitat for species such as the pileated woodpecker and others that prefer mature forest habitat is maintained across the National Forest to ensure those species' viability. When the minimum standard is no longer met, it is assumed that pileated woodpecker and other MIS species that depend upon mature forest will be negatively affected.

Since Forest-wide Point Count Survey data (as well as other research) indicates that pileated woodpeckers show a preference for mature forest stands, any changes in the availability of this habitat would be expected to result in a corresponding change in pileated woodpecker populations. Since analyses indicate that the availability of mature forest habitat on the Daniel Boone National Forest has remained relatively stable for the period of 1985-2000, it would be assumed that pileated woodpecker populations on the National Forest would also remain relatively stable during this time period. This theory is supported by results of the Road Route Survey, Forest-wide Point Count Survey data and the North American Breeding Bird Survey data analysis presented here.

Another factor that could heavily influence population trends of pileated woodpeckers is the availability of snags and cavity trees for their nesting and roosting. No adequate trend information on the availability of

snags and cavity trees on the National Forest is currently available for this analysis. As part of the Forest-wide Point Count Surveys, however, the number of snags and cavities within 50 meters of each survey point has been recorded. A review of this data indicates that prior to 1998, an average of 0.34 snags >12” diameter at breast height (dbh) (0.04 snags >20” dbh) and 0.13 cavities >12” dbh (0.11 cavities >20” dbh) per acre existed on the National Forest. After spring of 1998, however, the number of snags per acre likely increased as a result of storm events on the south half of the DBNF. In August 1998, random plots taken in eight forest stands of varying age and forest type indicated that an average of 16 snags per acre existed in those areas affected by the storm events (refer to “Draft EIS for Salvage Harvest Due to 1998 Storm Damage”, DBNF). Thus, the availability of snags and cavities for pileated woodpeckers has likely increased on the National Forest where these 1998 storm events occurred. Elsewhere on the National Forest, snag and cavity availability is assumed to be near the levels indicated by the pre-1998 data, and based upon the minimum standards in the FLMP, could be limiting factors for pileated woodpeckers in those areas.

Recommendations: None

2.1.1.1.A.6 Red-cockaded woodpecker (RCW)

Variability, which would initiate future action: Significant reduction of active colonies or significant reduction of habitat below levels projected in the Forest Plan.

Findings: The DBNF RCW recovery program was well underway when in January 2000 an epidemic of southern pine beetles began destroying the habitat of the RCW on the forest. During the post-breeding season in 2000, 22 RCW were known. By December 2000, (based on comprehensive aerial detection flights and on-the-ground surveys) southern pine beetles had destroyed 70% to 80% of the RCW habitat management area (HMA) on the DBNF. Most of the remaining pine trees in the HMA are expected to die during the summer of 2001. This will have major impacts on the RCW habitat management areas ability to support RCW.

Recommendations: Drop the RCW as a Management Indicator Species during revision of the Forest Plan.

2.1.1.1.B Proposed, Endangered, Threatened, and Sensitive Species - (Additions to Plan monitoring requirements)

2.1.1.1.B.1 Red-cockaded woodpecker

(SHNS, Appendix D, p.3&4) – Annually, within each active or recruitment RCW cluster site, evaluate the height of midstory.

Variability, which would initiate future action: None.

Findings: Given the level of habitat destruction caused by the SPB, no recruitment cluster sites remained on the forest in FY 2001. Also, the removal of all known red-cockaded woodpeckers from the Forest resulted in no active cluster sites left to evaluate. In consultation with the U.S. Fish and Wildlife Service, and the Kentucky Division of Fish and Wildlife Resources, 13 of 15 known red-cockaded woodpeckers were successfully relocated to Arkansas and South Carolina in March 2001. The remaining two birds were moved later to Georgia in September 2001.

Recommendations: None

2.1.1.1.B.2 Other Plants

Variability, which would initiate future action: The FLMP was developed with a sensitive plant list. Changes to the Forest list would initiate future action. Also, information that showed increases or decreases in numbers or threats to the species would initiate future action.

Findings: #1 - Regional Foresters Regional Sensitive Species list was update in 2001.

Findings: #2 - The FWRP staff visited several white-haired goldenrod *Solidago albopilosa*; (federal listed T) sites in conjunction with the Kentucky State Nature Preserves Commission (KSNPC), the U.S. Fish and

Wildlife Service (USFWS), and staff from the Stanton Ranger District. During this visit, Forest Service efforts to work with the public in the protection of the species were reviewed. Cooperative monitoring efforts (KSNPC and Forest Service) were discussed. Efforts were considered positive and providing good information.

Recommendations #1: None.

Recommendations #2: A discussion at several sites led to an agreement by the USFWS to help define terms such as population and occurrence in the light of recovery goals. The meeting also confirmed that further discussion of de-listing of the species over the next planning period was warranted.

2.1.1.1.B.3 Other Animals

Variability, which would initiate future action: The FLMP was developed with a sensitive animal list. Changes to the Forest list would initiate future action. Also, information that showed increases or decreases in numbers or threats to the species would initiate future action.

Findings: - Regional Forester's Regional Sensitive Species list was update in 2001

Recommendations: None.

2.1.1.2 *Forest Health*

2.1.1.2.A Fuels

Evaluate the extent and effects of prescribed fire. Review prescribed fire plans before and after burning and on-site inspections of prescribed fires during the burn and post-burn to evaluate burning conditions, smoke behavior, smoke dispersal, and burn objectives.

Variability, which would initiate future action: Objectives of prescribed fire are not being met.

Findings: Prescribed fire objectives are being met. Nearly 7,000 acres were burned for fuel reduction purposes in FY 2001. There are some minor exceptions due to site-specific conditions, but this will always be present when conducting these types of operations over variable conditions such as weather, terrain, etc.

Recommendations: None

2.1.1.2.B Insect and disease

Determine extent of insect and disease activity. Assess effect of insect and disease occurrence on resources so that destructive insects and disease organisms do not increase to potentially damaging levels following management activities. Describe any aerial and ground surveys, and forest pest management biological evaluation.

Variability which would initiate future action: Based on forest pest management biological evaluation.

Findings:

Southern pine beetle (SPB)

Southern pine beetle activity has decreased dramatically from the past two years. Reasons include a decrease in the number of host pine over several thousand acres of the Daniel Boone National Forest, and an increase in predator populations. The Somerset and Stearns Ranger Districts continue to monitor predator and southern pine beetle populations. Suppression activities continue on the Somerset District, in areas where uninfected trees occur. Uninfected trees occur in groups or individually across the landscape. These trees will be important contributors to pine restoration from seeding and for seed collection.

Table 2.1.1.1 – Results of trapping for southern pine beetle predators on the Daniel Boone National Forest, FY-2000

DISTRICT	PEST SPB TRAP/DAY		PREDATOR Clerids trap/day	
	2000	2001	2000	2001
Somerset	30.9	70.6	8.5	101.0
Stearns	364.2	148.6	5.6	118.1
Kentucky-wide*	n/a	34.3	n/a	37.9

*Bell, Carter, Estill, Powell, and Taylor counties, Kentucky

Table 2.1.1.2 – Events and progression of southern pine beetle activity on the Daniel Boone National Forest, 1999-2001

Date	Status or event
December 19, 1999	SPB infested trees found in the Gilreath red-cockaded woodpecker (federally listed species) cluster site, an active cluster site on the Stearns district.
January 11, 2000	Forest Health Protection personnel visit the Forest and recommend immediate removal of SPB infested trees in cluster sites and recreation areas.
January 19, 2000	London, Somerset, and Stearns districts begin to look for SPB infestation in all cluster sites. London and Somerset RD’s – light and scattered SPB infestation in all cluster sites looked at Stearns RD – 4 of the cluster sites are heavily infested, and the remaining 10 are lightly infested.
February 15, 2000	Forest Supervisor, Worthington made a decision (categorical exclusion and decision memo) to protect RCW cavity trees within the 9-active RCW cluster sites through control of SPB activity within 200 feet of cavity trees.
February 2000	Because of the urgency to take action, SPB infested trees were cut and removed to a location where emerging SPB would not pose a threat to pine trees.
March 2000	In areas where SPB control treatments occurred, newly infested trees were being found. It was apparent that the treatment did not provide adequate protection to the cavity trees. Additional control measures were needed within the entire cluster site. At this point, there was still a belief that the SPB infestation was minor and would die out with little impact to the pine ecosystem.
April 19, 2000	Forest Supervisor, Worthington made a second decision (categorical exclusion and decision memo) to make use of the cut-and-remove and the cut-and-leave SPB control methods within the nine active RCW cluster sites.
May 2000	Begin cut and removal of infested trees in active cluster stands.
June 2000	Stearns district finds RCW cavity trees infested with SPB. The infestation is increasing in intensity.
June 9, 2000	Forest Supervisor, Worthington made a decision (environmental assessment, FONSI, and decision notice) to protect RCW habitat through control of SPB infestation within the RCW habitat management area (HMA).
July 2000	Protection efforts are concentrated on the London district because infestation on the Stearns district has increased beyond the Forest’s ability to control. In the best

Date	Status or event
	interest of the RCW, biologist's felt that there was a better chance of protecting cluster sites at London than at Stearns. Gilreath cluster site on Stearns is now completely infested. Bowman cluster site on Somerset is 50% infested.
August 2000	All of the Stearns active RCW cluster sites are at risk of becoming inactive due to loss of cavity trees and suitable habitat. The rate of spread has greatly increased and the buffer zones were not effective. Additional pine trees within the active cluster sites continue to become infested, even after treatment.
August 21, 2000	Forest Health Protection personnel revisit Stearns and London districts. There is high concern about losing the Airport RCW cluster site at Stearns because there are several SPB spots moving toward and into the site. The overall stress level of host trees on the forest is high. The SPB population is large and continues to increase. Several factors have contributed to the SPB epidemic. No one reason by itself is responsible. Cumulatively, these environmental factors and conditions have resulted in conditions appropriate for SPB growth. Some of these factors include, but are not limited to, recent and successive mild winters, drought, storm damage, and mature, over-mature and over-stocked stands.
September 9, 2000	The Airport and Prewitt's RCW cluster sites were nearly 100% infested. Most other RCW cluster sites are either heavily infested or have SPB spots in close proximity. Within 1 week, Ridner RCW cluster went from having no infested trees to being 100% infested.
November 2000	SPB activity has been observed in every County on the Daniel Boone National Forest. Morehead has 20 or SPB spots recorded. Stanton has 12 SPB spots within or near the Red River Gorge Geologic Area. Redbird, with its limited amount of pine, also has SPB infestations occurring. A switch in tactics has occurred. Rather than target SPB spots for treatment. Identification of sizeable areas of uninfected pine habitat is located and SPB suppression methods were used to keep SPB infestation from reaching these areas.
December 2000	The Forest is beginning to inventory pine ecosystems in an effort to identify actions needed to restore the pine ecosystems. The restoration of pine ecosystems is expected to be a long-term effort.
2001	Continue with suppression activities, mainly on the Somerset District. Suppression activities focused on protecting areas of uninfected pine trees.

The results from pheromone trapping indicates that the predator clerid population has increased dramatically, resulting in a decrease in the southern pine beetle population. However, southern pine beetle activity is expected to remain high. Predators are just one of many contributing factors responsible for declines in southern pine beetle activity. Results of the southern pine beetle survey, including predictions for 2001 for over 150 locations within 17 states, are posted on the Internet at <http://www.srs.fs.fed.us/4501>.

Gypsy Moth - Annual monitoring for gypsy moth was done using pheromone traps, locating them in high-use recreation areas and travel corridors. These locations provide the best opportunity to monitor for Gypsy moth encroachment because moths will attach themselves to vehicles and equipment located in infested portions of the country and could be transferred to high-use recreation areas during summer vacation and travel in the area.

Table 2.1.1.3 – Results of Gypsy Moth trapping on the Daniel Boone National Forest, FY-2001

District	Pheromone trapping occurred (yes / no)	Results of trapping (NO. & sex of gypsy moths captured)	Delimited grid trapping occurred (yes / no)	Results of delimited grid trapping (NO. & sex of gypsy moths trapped)
Morehead	Yes	1 – Male	No	
Stanton	Yes	0	No	
London	Yes	1 – Male	Yes	0
Somerset	Yes	0	No	
Stearns	Yes	0	No	
Redbird	Yes	0	No	

The most recent issue of *Gypsy Moth News* is available on the Internet at:
<http://www.fsl.wvnet.edu/gmoth/gmnews/gmnews.html>.

Beginning in 1999, the USDA Forest Service, State partners, and other USDA agencies began to use the “Slow The Spread” (STS) program along the 1,200-mile front that stretches from North Carolina to Wisconsin. Intensive monitoring will occur to identify recently established, low-level populations in the transition area for possible treatment. With the STS in place, gypsy moth populations are estimated to enter the northeastern portion of Kentucky by the year 2025. Without STS, gypsy moths are expected to become a pest in Kentucky within three to five years.

Using the STS strategy, experts predict gypsy moth to inhabit Kentucky within the next 10-15 years. Trapping indicates that an infestation is not yet here. Isolated moths are routinely found, probably brought in on vehicles traveling from infested regions in other states. At this time there is no reason for alarm. However, it would be prudent to be proactive and prepare for the gypsy moth’s eventual occurrence in Kentucky. Across the Forest stands that are dominated by preferred species of oak are becoming old and decadent. A large portion of the landscape is dominated by mixed hardwood stands in excess of 80 years old.

Action to prepare for natural regeneration over a large area should occur, beginning on the northern end of the Forest where the gypsy moth is most likely to come from.

Recommendations: Evaluate the Forest’s susceptibility to gypsy moth attack. Take action to increase advance regeneration, especially oaks.

2.1.1.3 Watershed Conditions

2.1.1.3.A Water resource inventory

Track inventory progress, evaluate quality/completeness of work and determine whether objectives are being achieved through program reviews and Management Attainment Report.

Variability, which would initiate future action: Improper analysis or mapping.

Findings: During 2001 a basin-wide inventory project was completed in the Licking River watershed. Monitoring results were evaluated and, based on the condition and vulnerability, sub-watersheds were ranked. The final results showed that when compared with other sub-watersheds in the Licking River, the watersheds on the DBNF were in relatively good condition.

A second report was completed in 2001 for the Red River watershed on the Stanton District. The report followed the Forest Service Hydrologic Condition Assessment (HCA) protocols. The report found that even though this watershed is in excellent shape there are several opportunities for improving conditions.

Most of the recommendations centered on the need to improve and maintain facilities (trails, roads, and camping areas) in this high recreation use watershed.

Physical stream characteristics were monitored in the Licking, Kentucky, and Upper Cumberland basins. Many of these sites will be used for “reference sites”. The information that was collected used Forest Service protocols that were developed at the Rocky Mountain Forest and Range Experiment Station.

Recommendations: None

2.1.1.3.B Water quality monitoring at swimming areas

Ensure that the water quality is suitable for water contact sport activities. Monitor with water samples collected at swimming areas. Follow E.P.A approved technique for analysis.

Variability, which would initiate future action: Exceeding minimum Forest Service water quality standards. (Reference FSM 2532.5, Region-8 Supplement No. 42, dated 11/87)

Findings: Eleven sites were regularly monitored at Laurel River Lake and three at Cave Run Lake for swimming water quality during 2000. All samples were in compliance.

Recommendations: None

2.1.1.3.C Effects of activities on water quality and riparian areas

Determine if management practices on analysis areas and drainage basins are affecting water quality. Verify predicted water yield and sediment rates in relation to beneficial use of water. Monitor projects using above, below or paired watershed sampling techniques. Select areas having a high potential for adverse impacts such as soils developing from Pennington shale.

Variability, which would initiate future action: Activities not meeting State and Federal water quality standards or leading to possible long-term degradation of the watershed.

Findings: Results from past water quality monitoring has shown that a vast majority of streams on National Forest System land are of the highest quality and land management activities are not significantly degrading water quality. Even though most of the streams on the Daniel Boone National Forest are of highest quality, there are still over 40 miles that are impacted by acid mine drainage from past coal mining activities and brine from old oil wells. Most of these streams are impacted from land use prior to Forest Service ownership, and do not meet state water quality standards or support aquatic life. Some of these streams were monitored in 2001. However, due to a limited monitoring budget the program was smaller than in past years. In 2001 a restoration project was complete in Wildcat Branch on the Somerset Ranger District in an effort to improve one stream that was impaired by coal mining. Future monitoring will determine if this project was successful.

Recommendations: None

2.1.1.3.D Trends for water quantity, quality, and timing

Determine effect of plan on long-term trend for water quality, quantity and timing. Determined by specific sampling design, available data, and data to be collected. Monitor representative drainage basins with a mix of practices.

Variability, which would initiate future action: Any downward trend or lack of progress in achieving stated goals and objectives.

Findings: Water quality standards are generally being met. However, the exception is on severely disturbed mining areas and acid mine drainage on acquired lands. Funding for trend analysis is limited.

For the most part, research studies conducted by other federal and state agencies are being relied on for information on water yield and timing of flows (e.g. USGS, KY Geological Survey, and KY Division of Water).

Recommendations: None

2.1.2 Sustainable Multiple Forest Benefits

2.1.2.1 *Outdoor Recreation Opportunities*

2.1.2.1.A **Developed site condition**

To ensure that facilities and the general areas of developed sites are maintained in a safe and sanitary condition in accordance with appropriate management levels. These conditions are monitored annually through on-site inspections.

Variability, which would initiate future action: Deterioration rates higher than historic patterns at heavily developed sites.

Findings: Many pine trees died from southern pine beetle infestation. Actions were taken to remove the dead pine trees. Constructed sites do not show deterioration beyond greater than expected.

Recommendations: None.

2.1.2.1.B **Dispersed area condition**

Identify problems and changing situations and conditions. Provide assistance in management of dispersed activities.

Variability, which would initiate future action: When problem areas or situations are identified by an interdisciplinary team review or line officer.

Findings: An evaluation of impacts from dispersed recreation on species that are federally listed as Proposed, Threatened, or Endangered, including species that appear on the Regional Forester's list of sensitive species for the Daniel Boone National Forest was conducted. This evaluation found several aquatic species being impacted from portions of designated and user-developed trails. These trails have either been repaired or closed.

Recommendations: Continue to monitor areas near sites of known species at risk. Continue to improve existing designated trails and to close user-developed trails as appropriate for the protection of species at risk. Initiate seasonal closures on trails not capable of handling year-round traffic. Restrict all trail uses, except hiking, to existing routes that were constructed for that type of use.

2.1.2.1.C **Dispersed area condition – off-highway vehicle routes-natural resources**

(OHV Amendment, Appendix E, p. E-3) – Annually, check all designated OHV routes and associated structures for impacts to natural resources or possibly cause sedimentation in streams important to PETS species and their habitat.

Variability, which would initiate future action: When problem areas or situations are identified by field checks that would take more than routine maintenance to correct.

Findings: Many pine trees died from southern pine beetle infestation. Actions were taken to remove the dead pine trees. Inspections were completed on all off-highway vehicle trails. These inspections did not identify any conditions that would initiate action beyond routine maintenance.

Recommendations: None.

2.1.2.2 *Infrastructure*

2.1.2.2.A **Property line location maintenance**

Through activity reviews and management attainment reports, determine if objectives, standards, and guidelines are met.

Variability, which would initiate future action: 10% of property lines not meeting direction to standard.

Findings: More than 65% of the landlines have not received maintenance work in the last 10 years. Paint is disappearing; witness trees are dying and falling; and the backlog of maintenance is increasing. If landlines are not maintained, additional costs are incurred to reestablish the landline using appropriate survey methods.

Table 2.1.2.1 – Landline maintenance, DBNF

Property boundary line (miles)	Prior to 1970	1970-1979	1980-0989	1990-1999	2001
4,085	51	207	1,155	1,534	0
Percent:	1.2%	5.1%	28.3%	37.5%	0%

Recommendations: Increase target and funding allocations for landline maintenance.

2.1.2.2.B Property line establishment

Through activity reviews and management attainment reports, determine if objectives, standards, and guidelines are met.

Variability, which would initiate future action: 10% of property lines not meeting direction to standard.

Findings: A nominal amount of landline establishment occurred, but was never reported accomplished. Most likely this would have occurred in areas where other resource management activities occurred.

Recommendations: Increase target and funding allocations for property line establishment.

2.1.2.2.C Landownership – exchange

Determine if objectives are met by the acres reported in the Management Attainment Report.

Variability, which would initiate future action: None.

Findings: No exchange of landownership occurred.

Recommendations: None.

2.1.2.2.D Landownership adjustment – purchase

Through activity reviews and management attainment reports, determine if objectives, standards, and guidelines are met.

Variability, which would initiate future action: None.

Findings: Each tract of land purchased met one or more of the “criteria for [the] land adjustment program”, as outlined in appendix C – Land Adjustment Plan of the Forest Plan (page C-5). Eight tracts of land, or 2,498 acres were purchased and became part of the National Forest System. Currently, National Forest System lands that are administered by the Daniel Boone National Forest occur in 21 counties in Kentucky as shown in the following table.

Table 2.1.2.2 – Summary of National Forest System land by County and District, DBNF (9/30/2001)

County	Administrative Unit						TOTAL
	Morehead	Stanton	London	Somerset	Stearns	Redbird	
Bath	19,300						19,300
Clay						77,594	77,594
Estill		2,265	3,333				5,598
Harlan						803	803
Jackson			58,375				58,375
Knox						74	74
Laurel			62,478				62,478
Lee		5,822	2,765				8,587
Leslie						52,194	52,194
McCreary				41,048	101,074		142,122
Menifee	24,270	22,352					46,622
Morgan	12,948						12,948
Owsley			3,848			12,432	16,280
Perry						2,191	2,191
Powell		15,528					15,528
Pulaski			109	37,332			37,441
Rockcastle			14,793				14,793
Rowan	62,509						62,509
Wayne						642	642
Whitley			32,865		12,500		45,365
Wolfe		16,458					16,458
TOTAL	119,027	62,425	178,566	78,380	114,216	145,288	697,902

Recommendations: None.

2.1.2.3 *Timber*

2.1.2.3.A **Regeneration unit**

(SHNS, Appendix D, p. 2) – Annually, in one regeneration unit per district, at the end of site preparation for a unit, determine whether project implementation occurred as planned. Evaluate the number, size, and species of “leave trees”. The same unit should be evaluated and reported at one, three, five and ten year intervals.

Variability, which would initiate future action: N/A

Findings: No regeneration units were site prepared.

Recommendations: None.

2.1.2.3.B **Two-age harvest unit**

(SHNS, Appendix D, p. 2) – Annually, each district will evaluate the number, size, and species of “leave trees” occurring in a 5-year old two-age harvest unit. The same unit should be evaluated and reported at age ten.

Variability, which would initiate future action: N/A

Findings: No activities occurred where the two-aged shelterwood system was prescribed.

Recommendations: None.

2.1.2.4 *Other Products*

2.1.2.4.A Administration of reserved and outstanding rights

Determine if operations are administered in compliance with State, Federal, and operating plan.

Variability, which would initiate future action: 10% of operations not in compliance.

Findings:

- 1) Oil and gas administration is within the variability for compliance, however there are some abandoned sites with no owner/operator to gain compliance from. Areas that are deemed to have hazardous substances are being handled through HAZMAT funds. Those abandoned sites without hazardous substances are not being reclaimed due to minimal funding options.
- 2) Coal operations are within the variability for compliance as well, although there are abandoned sites on the forest that are not in compliance with many of the reclamation requirements. The National Forest System has acquired approximately 90-95% of these sites in order to add to the protection of other forest resources that have been affected. The inventory and prioritization of these sites is ongoing in order to compete for CERCLA funds for completing the reclamation of these sites.

Recommendations:

- 1) Identify funding sources that could assist in reclaiming the sites that are not found to contain hazardous materials.
- 2) Continue to prepare to compete for the CERCLA funding to complete the reclamation. Due to the number of acid mine drainage sites, work toward completing the inventory and prioritization within two years.

2.1.2.4.B Special uses administration

Determine if permit conditions are being met by assistance trips, inspections of permit areas for permit compliance.

Variability, which would initiate future action: 10% of permits not in compliance.

Findings: Fifty percent (50%) of permits were not in compliance. Little to no funding is available to administer existing permits. Applications that include a collection agreement continue to be processed.

Recommendations: Seek additional funding for administering special use permits.

2.1.2.5 *Heritage Resources*

2.1.2.5.A Heritage resources

Ensure compliance with the National Environmental Policy Act (NEPA), the National Historic Preservation Act (NHPA), Archaeological Resource Protection Act (ARPA), and Forest Plan standards and guidelines. Strive to meet Forest Plan goals for inventoried acres and sites evaluated for National Register of Historic Places. Field and office reviews monitor field compliance of project plans and implementation.

Variability, which would initiate future action: Non-compliance with applicable regulations and Plan standards and guidelines.

Findings: A closure order restricting fires and camping in the Red River Gorge Geological Area instituted to protect sensitive heritage resources continues to be enforced. In addition, archeological surveys were undertaken on cliffline sites with known disturbance from dispersed recreation activities. Damage continues to occur to sites and closures or mitigation needs to be completed.

Recommendations: During revision of the Forest Plan, ensure that appropriate protection of heritage resources occur, particularly within the Red River Gorge Geological Area.

2.1.3 Organizational Effectiveness

2.1.3.1 Accomplishments

Table 2.1.3.1 - FLMP Accomplishments 2001, Daniel Boone National Forest

MAR No.	Management Description	Unit of Measure	ANTICIPATED FLMP 10-year average	FY-2001 Accomplished
RECREATION				
RM-PAOTS-TOT	Developed sites-ops & maint.	PAOT day	4,486,000	5,492,000
CR-TR-CNSTR-R	Developed sites Trail constr. ¹ /maint	PAOT day mile	12.5 / 322	41 / 165
HERITAGE				
	Surveys	acre	67,000	1200
RM-HERT-EVAL	Site evaluation	each	5	7
RM-HERT-INTP	Site interpreted	each		5
RM-HERT-P&P	Site protected	each		4
VEGETATION				
FM-VOL-OFF	Timber offered	mmcf mmbf	8.2 45	0.8 4.8
FM-REF-xxx	Silviculture Px. Reforestation	acre	66,413	36
FM-TSI-xxx	Timber stand imp Regen. MA 5:	acre	4,035	223
	Morehead	acre	57	0
	London	acre	64	0
	Somerset	acre	24	0
	TOTAL	acre	145	0
WILDLIFE				
WL-THAB-RES	Habitat imprv.	acre	450	685
WL-STRUCTURE	Habitat structures	each	120	181
WL-IF-LAK-RE	Fish hab. imprv.	acre	30	89
WL-IF-STR-RE	Fish structures	each	10	0
WL-TES-HAB	T&E hab. imprv.	acre	600	0
WL-TES-STRUC	T&E structures	each	2	11
RANGE				
RG-GZ-ADM-ST	Grazing permitted	aum	100	0
RG-N-STR-IMP	Range non-struct.	each	50	0
RG-STRUC-IMP	Range structures	acre	2	0
SOIL, WATER & AIR				
SW-RES-IMP	Improvements	acre	144	152
	Improv. maint.	acre	495	
MINERALS & GEOLOGY				
MG-BNE-OP-PR	Energy Operation	each	720	Not available
LANDS				
LA-EXCH-	Land exchange	acre	2,056	0
LA-OWNER-ADJ	Land purchase	acre	300	2,498
LM-LL-NEW	Landline establish	mile	115	6.6
LM-LL-MAINT	Landline maint.	mile	280	0.2
LA-ROW-ACQ	Right-of-way	cases	33	6
PROTECTION				
FP-FUELS-APP	Fuel reduction	Acre	5,830	6,858
FP-FUELS-MCH	Fuels reduction	acre		500
FACILITIES				
	Maintained	mile	1,144	Not available
FC-RECON	Constr./reconstr.	mile	92	Not available
RD-DECOMM	Decommissioned	mile	n/a	Not available

¹Trail construction miles does not include construction of trail bridges.

3.0 2002 ACTION PLAN

3.1.1 NOT REQUIRING a Forest Plan Amendment or Revision

3.1.1.1 **Action:** Eastern towhees are believed to be good early successional MIS and should be retained as such on the DBNF. This bird is a resident and has a relatively small home range (4-15 acres). Thus, even in areas of interspersed land ownership, changes in National Forest managed land can be related to eastern towhee population changes. Further, both the Breeding Bird Survey and the R8 Bird Point Survey are well established on the forest along with a group of trained professional and volunteer observers.

Responsibility: Forest Biologist

Completion Date: Prior to Fiscal year 2003

3.1.1.2 **Action:** Evaluate the Forest's susceptibility to gypsy moth attack. Take action to increase advance regeneration, especially oaks.

Responsibility: Forest Silviculturist

Completion Date: Prior to Fiscal year 2003

3.1.1.3 **Action:** Continue to monitor areas near sites of known species at risk. Continue to improve existing designated trails and to close user-developed trails as appropriate for the protection of species at risk. Initiate seasonal closures on trails not capable of handling year-round traffic. Restrict all trail uses, except hiking, to existing routes that were constructed for that type of use.

Responsibility: Forest Threatened and Endangered Species Biologist

Completion Date: Prior to Fiscal year 2003

3.1.1.4 **Action:** Increase target and funding allocations for landline maintenance.

Responsibility: Lands Staff Officer

Completion Date: Fiscal year 2002

3.1.1.5 **Action:** Increase target and funding allocations for property line establishment.

Responsibility: Lands Staff Officer

Completion Date: Fiscal year 2002

3.1.1.6 **Action:**

1. Identify funding sources that could assist in reclaiming the sites that are not found to contain hazardous materials.
2. Continue to prepare to compete for the CERCLA funding to complete the reclamation. Within two years, inventory the number of acid mine drainage sites should be completed and needed work prioritized.

Responsibility: Lands Staff Officer

Completion Date: Fiscal year 2002

3.1.1.7 **Action:** Seek additional funding for administering special use permits.

Responsibility: Lands Staff Officer

Completion Date: Fiscal year 2002

3.1.2 **REQUIRING a Forest Plan Amendment or a Revision**

3.1.2.1 **Action:** During revision of the Forest Plan, drop the RCW as a Management Indicator Species.

3.1.2.2 **Action:** During revision of the Forest Plan, ensure that appropriate protection of heritage resources occur, particularly within the Red River Gorge Geological Area.

3.1.2.3 **Action:** As suggested in the 1991 5th Year Review Report, a better group of aquatic MIS would be macro-invertebrates. MIS species will be addressed in the revision of the Daniel Boone's Forest Plan. As part of this, consideration should be given to the macro-invertebrate group. These species are much less mobile than fish and population trends could be related to long-term land management activities. Analysis would require a more rigorous sampling system than now exists on the DBNF.

3.1.2.4 **Action:** Eastern Bluebird—Cause and effect relationships between population trends and national forest management are difficult to establish. When DBNF MIS are addressed as part of the Forest Plan revision, it is recommended that this species be dropped.

3.1.3 **Forest Plan Amendments to be completed**

3.1.3.1 **Action:** Proposed project-specific amendment to use equipment in the Clifty Wilderness on the Stanton district.

3.1.3.2 **Action:** Proposed project-specific amendment for an off-highway trail location on the Redbird district.

3.1.4 No Action will be taken in fiscal year 2002

- 3.1.4.1 **Recommendation:** A discussion at several sites led to an agreement by the USFWS to help define terms such as population and occurrence in the light of recovery goals. The meeting also confirmed that further discussion of de-listing of the species over the next planning period was warranted.

4.0 APPENDICIES

4.1.1 List of Preparers

Table 4.1.1.1 – Preparers of the Monitoring and Evaluation Report, DBNF

<u>Name</u>	<u>Contributions</u>
Braun, Dick	Fish & Wildlife
Catron, Mike	Property boundaries
Chalfant, George	Soils
Finke, Paul	Silviculture, Timber, Report Preparation
Marriott, Fred	Engineering, Recreation
Mertz, David	Fuels, Fire
Miller, Corey	Minerals
Miller, Mason	Engineering, Recreation
Rock, Mike	Land adjustment
Walker, Jon	Hydrology

4.1.2 Forest Plan Amendments Since September 27, 1985

Table 4.1.2.1 – Forest Plan Amendments Since September 27, 1985

Amendment No.	Date	Responsible Official	Amendment Description
1	04-06-87	Chief, Robertson	EIS/ROD Suppression of southern Pine Beetle
2	01-21-88	Forest Supervisor, Wengert	Updated implementation schedules for trail construction, timber sales, studies of rivers, Cave Run Lake botanical area.
3	07-27-89	Regional Forester, Alcock	Incorporation of methods and tools for use in the FEIS on Vegetation Management in the Appalachian Mountains
4	03-27-89	Regional Forester	Cutting policy within 3/4 mile of RCW colonies on existing timber sale contracts
5	May 1990	Regional Forester	Interim Standards and Guidelines for the Protection and Management of RCW Habitat within 3/4 mile of colony sites.
6	07-09-90	Forest Supervisor, Wengert	Direction for management of mixed types (pine-hardwood or hardwood-pine)
7	12-20-90	Forest Supervisor, Wengert	Changes to Standards and Guidelines for soil and water.
8	06-21-95	Regional Forester, Joslin	Designation of tentative HMA for suitable RCW habitat
9	06-19-95	Forest Supervisor, Powell	Removal of Two Gauging Stations from within the Beaver Creek Wilderness Area
10	04-24-98	Forest Supervisor, Worthington	OHV Management Direction
11	7-28-00	Forest Supervisor Worthington	Special Habitat Needs and Silviculture (SHNS)

4.1.3 Status of 2001 Action Plan

1. **Action:** Wildlife opening maintenance will not resume until the [District] program is in compliance with all applicable laws. We will accomplish this in two years; 3 districts in FY 2001 and 3 districts in FY 2002.

Responsibility: District Rangers

Completion Date: Ongoing beyond FY 2001.

Status - In fiscal year 2001, Morehead, London, and Redbird Ranger Districts completed necessary documentation satisfying NEPA and ESA requirements.

Stanton, Stearns, and Somerset Rangers Districts plan to satisfy this action item in fiscal year 2002.

2. **Action:** Due to the magnitude of habitat loss and the certain eventual extirpation of the DBNF population, “rescuing” the birds is a logical and reasonable course of action. We will explore rescue options. When the SPB infestation first began to spread on the Forest, personnel attempted to control SPB activity that was within or threatening the active cluster sites for the federally endangered red-cockaded woodpecker (RCW). These birds are extremely dependent upon mature pine forests for nesting and forage. SPB-infested trees were cut from the active RCW sites and

surrounding areas. While the cutting activities slowed the spread of the beetles into the RCW sites, the birds' habitat was eventually lost to SPB. It became apparent by the early months of 2001 that the RCW habitat on the Forest would succumb to the SPB

Responsibility: Wildlife Staff Officer

Completion Date: FY 2001

Status - In consultation with the U.S. Fish and Wildlife Service, and the Kentucky Division of Fish and Wildlife Resources, 13 of 15 known red-cockaded woodpeckers were successfully relocated to Arkansas and South Carolina in March 2001. The remaining two birds were moved later to Georgia in September 2001.

3. **Action:** London district to perform delimited grid trapping for gypsy moth.
Responsibility: London district Ranger
Completion Date: FY 2001
Status – Delimited grid trapping occurred in the Craigs Creek Group-use Recreation Area and resulted in no additional captures of gypsy moth.
4. **Action:** Soil and water resource improvements - Strengthen project level maintenance and monitoring activities. This is necessary to provide adequate information and specificity for future direction, assessment of effects and the critical feedback needed to make changes in management or a specific practice/BMP.
Responsibility: Soil and Water Staff Officer
Completion Date: FY 2001
Status – No action taken.
5. **Action:** Changes in Land Productivity - Give emphasis to watershed improvement needs within watersheds not attaining the requirements for Class I conditions. Likewise, in those watersheds classified by the State as “priority” for restoration as part of their Watershed Management Framework activities of which the Forest is participating.
Responsibility: Soil and Water Staff Officer
Completion Date: FY 2001
Status – Approximately 35 acres in a Class I watershed condition, as defined by the State as “priority” for restoration, were treated in projects to improve watershed function and value, and water quality.
6. **Action:** Developed site Condition - Continue to monitor and pursue new opportunities for funding deferred maintenance backlog on the forest.
Responsibility: Engineering/Recreation Staff Officer
Completion Date: FY 2001
Status – Districts are able to keep up with the hazard trees in these sites. However, funding is being drained away from other areas of recreation maintenance causing needed maintenance to be deferred.
7. **Action:** Dispersed area condition –
 - 1) Institute seasonal closures on some trails, for some types of use to reduce damage caused during the wet period of the year between December and April.
 - 2) Provide more hardening of trail tread, especially near creek crossings and seeps.
 - 3) Expand the inventory and monitoring of aquatic PETS sites to include more of the watersheds in which they exist.**Responsibility:** Engineering/Recreation Staff Officer
Completion Date: FY 2001
Status:
 - 1) The Management Team was presented with soils, water, and recreation information summarizing the problem and proposing action. The decision was made to consider such closures on a case-by-case basis, rather than programmatically.

- 2) This has been an on-going process and has been specially incorporated into the Morehead off-highway vehicle trail system.
- 3) Limited work is being done in this area, but funding is not there to do the job to the desired level.
8. **Action:** Dispersed area condition (OHV) - Where possible, continue to add OHV loop trail systems of at least 20+ miles to help disperse use and meet current demand. Construction of a 34-mile OHV trail system has been started on the Morehead Ranger District.
Responsibility: Recreation Staff Officer
Completion Date: FY 2001
Status: No action has been taken.
9. **Action:** Scenery management objectives - Train more personnel in use of the GIS layer to assist forest personnel in assessing Scenery Management Objectives.
Responsibility: Recreation Staff Officer
Completion Date: Ongoing beyond FY 2001.
Status: No action has been taken.
10. **Action:** Local road obliteration - Continue to target all roads that are not needed for future access to be obliterated.
Responsibility: Engineering Staff Officer
Completion Date: FY 2001
Status: Two roads totaling 10 miles in length were identified and obliterated.
11. **Action:** Road maintenance - Continue to concentrate our efforts to reduce hazard trees along our roads. Explore opportunities to establish and build collaborative relationships with county, state, and federal agencies to generate a means of getting the necessary work accomplished. Continue to review level 1 and 2 maintenance needs on a case-by-case basis.
Responsibility: Engineering Staff Officer
Completion Date: Ongoing beyond FY 2001.
Status: In response to the safety concerns that have resulted from trees killed in southeastern Kentucky by the southern pine beetle, a multi-agency task force known as the “Interagency Partnership for Public Safety” has been formed. Included in this group are federal, state, and county agencies, and rural electric cooperatives. The Forest has received some additional funding for treating hazard trees. Additional trees continue to die and work is progressing.
12. **Action:** Heritage resources - Develop an Interim Programmatic Agreement with the Kentucky SHPO and ACHP to address non-compliance issues and to rebuild working relationship with SHPO and ACHP.
Responsibility: Recreation Staff Officer
Completion Date: FY 2001
Status – The Programmatic Agreement with the Kentucky SHPO has been extended through the end of 2002.

4.1.4 Field Reviews and Other Administrative Activities

1. During January and February 2001 winter hibernation counts were conducted for twelve caves located on the Stanton and Somerset Ranger Districts of the Daniel Boone National Forest. Counts included all bat species encountered, but focused on the federally listed Indiana bat and Virginia big-eared bat. Agencies and organizations with personnel participating in the counts included U. S. Forest Service, Kentucky Dept. of Fish and Wildlife Resources, East Kentucky Power and individuals from local grottos (cave groups).
2. In July 2001 summer emergence counts of Virginia big-eared bats were conducted at three maternity caves on the Stanton Ranger District. Personnel from the U. S. Forest Service and the Kentucky Dept. of Fish and Wildlife Resources utilized infrared technology and night vision scopes.

4.1.5 Summary of Research Needs

Cliff zone distances (200 ft at base of cliff, 100 ft at top of cliff) need to be verified. The distance below is primarily based on an estimate to maintain microclimate (light, humidity primarily) on cliff faces, but may be greater than needed or may be much less than needed. The 100 ft above was based on maintaining hydrology on cliff faces and may or may not reflect what is actually needed.

Earlier work with white-haired goldenrod indicated that the species might be suffering from genetic depression. Work to determine genetic changes following controlled crosses is needed to see if such crosses would benefit the species without genetic loss.

Vegetation response to regular prescribed fire is needed to help managers make better decisions for actions on the ground. Fire is believed to be important to create and maintain habitats that support numerous PETS and conservation species, habitats that are now uncommon to rare on the forest.

The response and potential control or encouragement of invasive exotic weeds following increased use of prescribed burning is needed, especially as recreational use of the forest is on the increase.

Determine the effect of forest overstory management and prescribed burning on the use of treated areas by Indiana bats. Past research on the DBNF has shown that bats will use forested areas that have been prescribed burned and/or undergone regeneration via shelterwood harvest techniques. Whether or not these areas were used more, the same or less after the treatment was applied to the land is unknown. This study will establish a baseline of Indiana bat use prior to treatment and document the use after the treatment.

Determine the seasonal movement of Blackside Dace.

Determine the number of fish (federally listed and Forest sensitive) needed to sustain a viable population.

Determine the feasibility of artificially reproducing mussels, specifically Pegias, Villosa, and Alasmodonta.