

Land and Resource Management Plan
Monitoring and Evaluation Report
Fiscal Year 2000
Hoosier National Forest

Brown, Crawford, Dubois, Jackson, Lawrence, Martin, Monroe, Orange, and Perry Counties

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INTRODUCTION

The *Forest Plan*, as amended in 1991 provides guidance to ensure that National Forest System (NFS) lands in Indiana provide forest ecosystems that enhance biological diversity on a regional scale and provide high quality recreation opportunities. We are committed to forest activities that lie lightly on the landscape. Our mission is to allow people to enjoy the values and benefits the Forest provides through responsible resource management tailored to meet public desires.

Projects included here are the on-the-ground application of management practices and guidance to move toward the desired future condition identified in the *Forest Plan*. The final budget for any given year determines the annual program of work. This program lists the projects, along with the budgets necessary to accomplish those projects, based on site-specific environmental analysis. It also includes monitoring activities to help evaluate the quality of *Forest Plan* application.

Project monitoring determines how well we are carrying out the *Forest Plan*. It provides a check to review if *Forest Plan* guidance is realistic management direction. Monitoring also enables us to learn if we have achieved objectives identified in the *Forest Plan*. The National Forest Management Act [36 CFR 219.12(k)] requires monitoring and evaluation on an on-going basis. The attached narrative describes monitoring results for fiscal year 2000.

PROGRAM ACCOMPLISHMENTS

Outputs [219.12(k)(1)]

Compare goods and services with those projected on pages 2-14 and 2-15 of the FEIS, Management Attainment Report (MAR) and Non-MAR Performance Measures.

Fiscal Year 2000 Management Attainment Report - Resource Accomplishments

MAR Description	MAR Code	Regional Assigned Target	Forest Adjusted Target	Forest Accomplishment
Land Management Planning				
LRMP Monitoring and Evaluation Reports, Reports, FN	EM-LRMP-M&E	1		1
Inventory and Monitoring				
Heritage Resource Inventories, Acres, FN	EM-HR-I	500		904
Recreation, Wilderness and Heritage Resource Management				
Recreation Special Uses Administered, Permits, FN	RM-SU-ADMIN	11		11
Annual (wilderness) Education Contacts, Contacts, FN	RM-WLD-EC			400
Heritage Sites Evaluated, sites, FN	RM-HERT-EVAL	6		30
Heritage Sites Interpreted, sites, FN	RM-HERT-INTP	3		6
Heritage Sites Preserved and Protected, sites, FN	RM-HERT-P&P	6		23
Wildlife, Fisheries, TES Management				
Terrestrial Wildlife Habitat Restored or Enhanced, acres, FN	WL-THAB-RES	400		846
Terrestrial Wildlife Habitat Restored or Enhanced, acres, C	WL-THAB-RES	0		775
Inland Fish Lakes Restored or Enhanced, acres, FN	WL-IF-LAK-RE	5		5
TES Terrestrial Habitat Restored or Enhanced, acres, FN	WL-TES-HAB	20		20
Biological Assessments or Evaluations, tasks, FN	WL-BIO-A&E			1
Grazing and Rangeland Vegetation Management				
Noxious Weed Treatment, acres, FN	RG-NOX-WD-TR	55	0	Transferred to Mark Twain
Timber Sales				
Volume Offered - new, CCF, FN	FM-VOL-OFF-N	0		210

MAR Description	MAR Code	Regional Assigned Target	Forest Adjusted Target	Forest Accomplishment
Forest Vegetation Management				
Lands Restored by Reforestation (appropriated), acres, FN	FM-REF-APPR			42
Forestlands Maintained or Enhanced by TSI (appr), acres, FN	FM-TSI-APPR	45		50
Soil, Water and Air Resources Management				
Soil and Water Resource Improvements, acres, FN	SW-RES-IMP	35		105
Real Estate Management, Landlines, Land Acquisition				
Special Use Applications Processed, permits, FN	LM-SU-APPL	36		36
Special Use Permits Administered to Standard, permits, FN	LM-SUP-STD	49		49
Land Line Maintenance, miles, FN	LM-LL-MAINT	3		3
New Boundary Marked to Standard, miles, FN	LM-LL-NEW	6		6
Ownership Adjustment Excluding Exchanges, acres, FN	LA-OWNER-ADJ	1323		1323
Land Exchange - Partial Interest, acres, FN	LA-EXCH-PART			89
Rights-of-Way Acquired, cases, FN	LA-ROW-ACQ			5
Fire Protection				
Hazardous Fuels Reduction, Appropriated, acres, FN	FP-FUELS-APP			0
Prescribed Fire, Other, Leveraged, acres (16.25)	FP-FUELS-OTH			549
Prescribed Fire, Planning, Appropriated, acres, FN (16.1)	FP-FUELS-PLN			0
Public Asset Management				
Trails Maintained, miles, FN	TR-MAINTN			239
Recreation Trails on System, miles, FN	RM-TRAIL-SYS			239
Wilderness Trails on System, Miles, FN	RM-WLDTR-SYS			36
Trail Construction and Reconstruction, miles, FN	CR-TR-CNST-R	9		9
Seasonal Capacity Available - Total, PAOT days, FN	RM-PAOTS-TOT			1,560,000
Human Resources				
Youth Conservation Corps, enrollee weeks, FN	HR-YCC-PART			48
Senior Community Service Employees, enrollee hours, FN	HR-SCSEP			29,259.5
Volunteers in National Forest Programs, enrollee years, FN	HR-VOLN-NF			2.15

Comparison of Key Indicators

The following table includes key indicators identified in the Final Environmental Impact Statement for the *Forest Plan* (p. 2-14 and 2-15).

Key Indicator	Unit of Measure	Est. 1991-2001	1991 Output	1992 Output	1993 Output	1994 Output	1995 Output	1996 Output	1997 Output	1998 Output	1999 Output	2000 Output
Recreation Visitor Days (RVD)							230	510	510	525	525	525
Dispersed	MRVD	267				301						
Developed	MRVD	120				208						
Trail Construction												
Hiking	Miles	99	0	0	0	0	0	0	0	0	0	0
Horse	Miles	40	20	0	0	0	0	0	0	0	0	0
Bike	Miles	0	0	0	0	0	0	0	0	0	0	0
Multiple-use	Miles	0	0	0	0	3	8.6	7.5	22	0	6.5	0
Trail Reconst. (all)	Miles	0	0	0	33.4	0	0	0	51.5	28.1	28.0	9
Vegetation maintained												
Forest Openings ¹	Acres	4,000	657	459	350	509	322	480	650	439	290	1,373
Barrens Maint.	Acres	1,131	18	40	140	40	60	0	83	0	0	20
Wetlands Construc												
Lakes/Ponds	Acres	120	0	5	0	0	0	0	0	0	0	0
Marsh/Waterhole	Acres	15	5	0	0	0	0	0	1	20	0	50
Vegetation Regen.												
Hardwood 0-9	Acres	4,853	0	0	0	57	0	0	150	44	76	0
Pine 0-9	Acres	94	0	0	0	0	0	0	0	0	0	0
Timber Harvested												
Sawtimber	MMBF	26	0	0.042	0.019	0.395	0.159	0.114	0.67	3.839	0.903	0
Roundwood	MMBF	17	0.025	0.078	0.040	0.706	0.127	0.066	1.13	1.839	0.373	.0091
Total	MMBF	43	0.025	0.120	0.059	1.101	0.286	0.180	1.89	5.728	1.322	.0091
Roads Const./Reconst.	Miles	140	0.25	3.50	1.00	0.10	0.60	7.90	10.90	1.0	1.0	7.43

¹ To prevent forest openings from converting to forest, we must maintain each forest opening on a cycle of 3 to 5 years. To carry out the Forest Plan objective of 4,000 acres of forest openings, we should maintain 800 to 1,300 acres of forest openings a year. The average annual accomplishment is 554 acres for the period of 1991 to 2000.

Costs [219.12(k)(3)]

Quantitatively compares actual cost of applying management practices with Forest Plan estimates.

As shown on line 10 of the following table entitled: *Forest Plan* Budget Estimates versus Costs, Congress funded the Forest at 96 percent of the *Forest Plan* in total regular Forest Service funds. Total Regular funds is the best comparison for the *Forest Plan* cost estimates because the *Forest Plan* cost estimates did not include land acquisition funds or the Senior Community Service Program. In 1990, the estimate of regular USDA Forest Service funds necessary to carry out the *Forest Plan* was \$4,812,000 (all figures have been adjusted for inflation based on Gross National Product Implicit Price Deflator index¹).

The Hoosier National Forest received about 99 percent of the *Forest Plan* estimate (line 2 of following table) in National Forest System funds for operations. The mix of operation budget line items does not correspond to plan estimates. Funding was received in two budget items that were not estimated in the *Forest Plan* budget in 1991. This included \$339,000 to do *Forest Planning* and \$708,000 for inventorying and monitoring. Funds were less in recreation, timber, and wildlife than estimated in the 1991 *Forest Plan*. However, in maintenance and construction of public assets (facilities, roads, and trails) funding was 67 percent of the estimate (line 3 of following table).

Funding for recreation was about 42 percent of our *Forest Plan* estimate (\$805,000 vs. \$1,905,000). An Americorp crew worked for 6 weeks in the Charles C. Deam Wilderness. The Salmon-Challis National Forest trail crew worked for the fourth year on trails. Forest staff documented Underground Railroad sites. The Youngs Creek Horse camp was improved with assistance of the Orange County Saddle Club and school group volunteers. A shower facility was rehabilitated at the Hardin Ridge Recreation Area. Maintenance was conducted on multiple-use trails and several dispersed parking areas. Other accomplishments included improving the toilet facilities at Indian Lake and progress toward rehabilitating the Rickenbaugh House. We contracted with a USDA Forest Service Enterprise Team called Act-2 to develop an environmental assessment for the Wilderness trail relocation project.

Timber funding was about 40 percent of our *Forest Plan* estimate (\$329,000 vs. \$833,000). The timber program was curtailed while consulting with the USDI Fish and Wildlife Service for federally listed species. In the interim, we used the timber funds to conduct silvicultural examinations.

Congress funded the land acquisition program. Land acquisition costs were \$1,356,250 in 2000 to acquire 1,490 acres. Environmental assessments and decisions were completed for the Perry County Exchange and the Haverstock Exchange. The *Forest Plan* budget did not estimate land acquisition funds.

¹ Gross National Product Implicit Price Deflator index is prepared by the Bureau of Economic Analysis an agency of the United States Department of Commerce.
<http://www.bea.doc.gov/bea/dn/nipaweb/Index.htm>

Using funds from previous years, contracts were awarded for several dam maintenance projects:

- Saddle Lake Dam Rehabilitation Project
- U-38 Dam Access Road project.
- Celina Lake Dam Access Road project
- Grouse Hollow Dam Rehabilitation Project.

Other projects included:

Removal of garlic mustard (*Alliaria petiolata*) infestations from areas within the Shooting Star Cliffs Special Area, and in and adjacent to two proposed special areas: Beaver Creek and Huron Woods, and in the Buzzard Roost area. Work was conducted on reconstructing the fire history in Boone Creek oak barrens community. We restored the features and functions of approximately 105 acres of bottomland hardwood riparian ecosystem along the Lost River (Roland Riparian Restoration).

Forest Plan Budget Estimates versus Costs

(Shown in thousands of dollars)

Line Number	Budget Item	<i>Forest Plan Budget Estimate (FY 2000 dollars)</i>	FY 2000- Allocation (FY 2000 dollars)	Percent of Plan Funded
1				
2	Total National Forest System funds (Operation)	\$3,148	\$3,109	99 %
3	Total Fire funds	\$103	\$239	232 %
4	Total Public Asset management ²	\$1,473	\$985	67 %
5	Land Acquisition Administration	\$0	\$111	
6	Total Appropriated Funds (sum of above)	\$4,731	\$4,459	94 %
7	Total Permanent Appropriations (Recreation fee, Salvage etc.)	0	\$33	
8				
9	Total Trust Fund (KV, Reforestation, and other)	\$81	\$136	167 %
10	Total Regular Forest Service	\$4,812	\$4,628	96 %
11				
12	Total Other funds (Senior Community Service Program and others)	0	\$231	
13	Grand Total without land acquisition	\$4,812	\$4,859	
14				
15	Lands Acquisition	\$0	\$1,356	
16	Total All Funds	\$4,812	\$6,215	

² Public Asset management includes construction, reconstruction, and maintenance of facilities, roads, and trails.

Research [36 CFR 219.28(a)]

Review and update research activities on the Forest. Find out if the needs in the Forest Plan (pages 3-4 to 3-7) are being addressed, and are still appropriate. Identify additional research needs based on monitoring and evaluation and on changing societal needs.

Below we list research needs that were addressed in FY 2000 in ***bold italics*** (*Forest Plan*, pp. 3-4 to 3-7). Published research conducted in other years may be found on the Hoosier National Forest webpage at www.fs.fed.us/r9/hoosier. A complete listing of research since 1991 was also included in the 1998/99 Monitoring and Evaluation Report. Most research needs recognized in the *Forest Plan* are being addressed, many through partnerships with other entities. Some research studies are still in progress and work continues. A few research references are included which were not funded by the Hoosier NF but are relevant for forest application.

Hoosier National Forest Research Activities:

Need: Native Plant and Animal Community Research

Hedge, Cloyce and Homoya, Mike: March 2000. Surveys for invasive plant species on selected areas of the Hoosier National Forest (with recommended control measures). 20 p. Administrative report. On file with Hoosier National Forest, Bedford, IN.

Jenkins, Michael A.; Parker, George R. 2000. The response of herbaceous-layer vegetation to anthropogenic disturbance in intermittent stream bottomland forests of southern Indiana, USA. *Plant Ecology*. 151: 223-237

Parshall, David K. November 30, 2000. Final Report. Survey work with Lepidoptera in the Hoosier National Forest. 1 p. Administrative report. On file with Hoosier National Forest, Bedford, IN.

Theroff, Edward T.; Backs, Steven E.; Miller, Melody; Lehman, Larry E.; McCreedy, Clark D.; Mitchell, Jim; Walker, Zachary; Weaver, Mark. 1999-2000. Indiana Statewide Wildlife Research 1999-2000 Progress and Final Reports. Pittman-Robertson Project No. W-26-R-31. 266 p.

Need: Extensive Hardwood Forest Ecosystems and Forest Interior Species

Jenkins, Michael A.; Parker, George R. 2000. Changes in the forest landscape of the Charles C. Deam Wilderness, southern Indiana, 1939-1990. *Natural Areas Journal*. 20(1): 46-55.

Winslow, Donald E.; Whitehead, Donald R.; Whyte, Carolyn Frazer; Koukol, Matthew A.; Greenberg, Grant M.; & Ford, Thomas B. 2000. Within-landscape variation in patterns of cowbird parasitism in the forests of south-central Indiana. In: Smith, James N. M.; Cook, Terry L.; Rothstein, Stephen I.; Robinson, Scott K; Sealy, Spencer G., eds. *Ecology and Management of Cowbirds and Their Hosts*. Austin, TX: University of Texas Press: 298-310.

Additional research being done on the forest includes:

Prescribed Fire

Acquillani, Steven M.; LeBlanc, David C.; Morrell, Thomas E. 2000. Effects of prescribed surface fires on ground- and shrub-nesting neotropical migratory birds in a mature Indiana oak forest, USA. National Areas Journal. 20(4): 317-324

GIS and GPS Technology

Taylor, Ross H.; Jasumback, Tony; Karsky, Dick; Weigel, Dale. 2000. Evaluation of the Trimble ProXR GPS receiver under a hardwood canopy using CORS broadcast real-time DGPS corrections. Tech Tips 0071-2341-MTDC. Missoula, MT: U.S. Department of Agriculture, Forest Service, Technology and Development Program. 6 p.

FY 2000 Site Specific Project Decisions

DECISION	DATE	COUNTY
Roland Riparian Restoration Project	10/05/99	Orange
Perry County Land Exchange	10/25/99	Perry
Lake Celina Dam Access Road Project	12/08/99	Perry
U-38 Lake Dam Access Road Project	12/08/99	Perry
Reforestation Tree Planting	02/16/99	Orange
Thompson Exchange	03/26/99	Jackson
Pioneer Wagon Works	03/26/99	Jackson, Orange
Reforestation Tree Planting	04/15/99	Perry and Martin
Charles C. Deam Wilderness Trail Relocation Project	01/12/00	Monroe and Jackson
Hitching Area and Access Trail	02/08/00	Lawrence
Reconstruct Fire History	02/08/00	Perry
Saddle Lake Dam Rehabilitation Project	02/18/00	Perry
Celina Lake Toedrain Installation	04/26/00	Perry
Haverstock Exchange	07/27/00	Crawford and Jackson
Kimball International Road Use Permit	07/10/00	Orange
Garlic Mustard Removal	08/29/00	Crawford, Perry, Lawrence

Adjacent Lands [36 CFR 219.7(f)]

Consider effects of National Forest planned management on land, resources, and communities adjacent or near the National Forest and conversely, the effects on National Forest management from activities on nearby lands managed by other public land agencies or under the jurisdiction of local government. To be addressed from a perspective of current and emerging issues.

There is an interrelationship between the effects of National Forest management on nearby privately owned lands and the effects of activities on nearby privately owned lands on National Forest management. This is particularly the case in south central Indiana, where NFS land is interspersed with private or other public lands.

Because of the limited amount of public land in Indiana, there are many demands for its use. According to the Indiana Statewide Comprehensive Outdoor Recreation Plan (SCORP) only 3 percent of the state is in public ownership and but a fraction of an acre is available per capita of public land for recreation. Of the public ownership in Indiana, 31 percent is within the Hoosier NF. The impact of this concentration of visitors obviously affects adjacent lands as well as providing benefits and opportunities to our neighbors.

The scattered landownership pattern of the Hoosier results in many neighbors whose activities effect National Forest management. Current demands that affect National Forest management on adjacent lands include: trail use, land prices, trespass, small forest products, other special uses, community development, and flood control.

Trail use – In concert with the *Forest Plan*, demand for special use trails and permits to conduct events on NFS lands remains high. Most trail riding requests are for horse-riding events, but we have also received requests for mountain bike events. A Fee Demonstration Program went into effect in 1998. On the Hoosier NF this program entailed requiring a trail use permit for all horse and bike riders on forest trails. The permits are available as daily tags or as an annual trail use tag. In 2000, the forest sold 8,580 permits, up 9 percent over the previous years' sales. The fee demonstration project netted \$30,322 for projects.

Initially the permit requirement may have curtailed some users from recreating on NFS lands but most have now adjusted to the new policy and are willing to purchase tags. Trail use has a positive impact on the local economy and many businesses, which cater to these users, have continued to expand and add improvements. Horse camps in the northern portion of the forest are booked to capacity every weekend during the recreation season.

There are also negative impacts from the increased trail use to some adjacent lands. Undoubtedly trespass is a problem in many areas and a trail ranger has been hired to monitor trail use with a portion of the fee demonstration monies. Increased trail use adversely affected the Hickory Grove Church. This log structure which dates to 1881 is located on an access road to one of our most popular horse trail systems. Unfortunately, one loop of the trail crossed the road near the church's parking lot. The church parking lot then became an unofficial trailhead for the trail system. Visitors would not only park in the church's small lot, but they tied their horses to the trees and cemetery fence, which resulted in damage to both. Signs posted by the church congregation were ignored. In February 2000, the forest made a decision to construct an area on National Forest System land adjacent to the church with hitching racks and a short access trail connecting to the main trail system.

This has curtailed damage to the church property and the access trail has helped eliminate some erosion from user-made trails.



Hickory Grove Church and cemetery (west of church).



New hitching racks and parking area added to the east of the church building.

Land Prices and Real Estate – Most realtors when advertising private land for sale mention if the land borders NFS land. People usually consider locating adjacent to NFS land to be desirable.

Trespass – Trespass from NFS land to private land occurs inadvertently and purposefully on a continual basis. Only a fraction of the National Forest boundaries is marked and identifiable. As a result, people using the forest often wander onto private lands without realizing that they have trespassed. Local landowners complain about an increasing apathy on the part of these trespassers for attention to boundaries and a wanton disrespect for private landowner rights.

There is also the potential for private landowners to inadvertently trespass with land practices onto NFS land. As the numbers of neighbors increase through parcel subdivision, the likelihood of trespass also increases. Some of these cases can be resolved using the Small Tracts Act authority. The cases thus resolved vary from someone's garden or yard to substantial improvements such as homes. In FY 2000, there were nine Small Tract Act cases to resolve these kinds of trespasses. Resources permitting, we address these trespasses on a case-by-case basis.

Off-road vehicle use continues to be a problem as adjacent landowners illegally ride from their property onto NFS land. Efforts to apprehend these trespassers are rarely productive since they do not access the Forest by public points, however, the damage they do to the forest resource can be substantial. Horseback riders also often ride onto the forest from private lands and create their own trails, resulting in further resource impacts.

Dumping of trash, old appliances, and tires is also an ongoing problem on the forest. The forest is actively working with community recycling and solid waste districts to promote responsible waste disposal. The forest has one site under special use to the Orange County Solid Waste Disposal District. This site provides for recycling containers and household trash collection. In Perry County, a similar special use arrangement was in place. In 2000, a land exchange was completed which allowed the County to acquire ownership of the 27-acre transfer station and recycling center site. In return a 40-acre wooded tract was acquired by the Hoosier NF.

Small forest products – Frequent requests for small forest products include plant collection, grapevine collection, houselogs, fence posts, and other miscellaneous products. Plant collection was banned on the forest due to dwindling populations of several key species. Requests for other products, though rarely approved, may be allowed under certain circumstances if they fit into *Forest Plan* guidance. Resource specialists determine the best locations and impose restrictions. As appropriate, permittees pay a fee for the small forest products, commensurate with their value.

Other special uses – Occasionally private enterprises are authorized to use NFS land. One example is the concessionaire permit for Hardin Ridge, Indian/Celina Lakes and Tipsaw Lake Recreation Areas. These permits provide jobs and income to local people as well as services to NFS visitors in a cost-efficient manner.

Other examples are private drives to access in-holdings or utility rights-of-way to develop rural areas. Permittees uphold permit requirements and pay a fee to the United States for the use of NFS land. They are granted non-exclusive use of the land. See the "Provide for Human and Community Development" section for special uses monitoring information. An Orange County REMC power line was moved from a cross-country ROW route to a road corridor in accordance with *Forest Plan* guidance to consolidate utility lines along road corridors.

Community development – Community development and private land management also affects the National Forest. Development and subdivision of private parcels increases the number of people adjacent to NFS land, thus increasing the potential for direct use by neighbors. Louisville, Kentucky and Bloomington, Indiana are two large cities that continue to expand. Commuters preferring to live in a more rural area are creating a demand for more home construction in the forest area. Economic

development, primarily in the Tell City Ranger District, has the potential to greatly change the demographics of Perry and Crawford Counties. These developments include:

Riverboat casinos – The AztarCasino at Evansville and the Ceasars Casino near Corydon, are both located within 25-50 miles of the Tell City Ranger District. Both continue to be big attractions which have increased development in the area by bringing in money and jobs. Although the casinos are traveler's destination, it is likely that some visitors will also use the recreational facilities on NFS.

Ohio River Scenic Byway – This 981-mile route, of which only a portion crosses NFS lands in three states, was nominated as a National Scenic Byway in 1996. It continues to evolve into a growing tourist attraction. Brochures are now available with loop tours off the byway through the Hoosier NF as well as other rural communities. Kiosks and signage have begun to go up with a unique logo for the route. In 1999, Indiana forged a partnership with the states of Ohio and Illinois to extend the route at each end through its neighboring states. Signage, interpretive plan, and marketing are three emphasis areas to be completed in 2000-2001. Articles have appeared in most Midwest media markets and the route is drawing more visitors to the area. Key to the route's attraction are the rolling hills and scenic overlooks on the Hoosier NF.

Highway 50/Buffalo Trace Byway – Thirty-seven counties are involved in this effort to develop and market scenic byways on these two historic routes. A committee has been active in identifying attractions and points of interest on both routes, researching history, and building a coalition to support the two byways. U.S. Highway 50 crosses the state as part of one of the earliest coast-to-coast highways. Through Indiana, the highway route parallels the railroad that also has historic routes in the area. The Buffalo Trace predates all other routes, as the route migrating buffalo used to cross from wintering grounds in the south to the plains of the Midwest, crossing at the falls of the Ohio River (now Louisville, KY and Jeffersonville, IN). The route angles across the southern part of the state to Vincennes where the buffalo crossed the Wabash River and spread out onto the Illinois prairies. Later stagecoaches, travelers, and even the military used the trace as the easiest access across southern Indiana. Part of its route was paved and became Highway 150. Highway 150 and the original buffalo trace both cross the National Forest, and some of the last remnants of the unpaved portions of the trace remain on National Forest System lands. The Hoosier is an active part of the committee working toward recognition of these two byways.

Toyota plant – Toyota constructed a major facility within commuting distance to much of the Hoosier National Forest. The plant has provided employment to rural residents already living in the area as well as attracting more residents and development. In 1999, Toyota announced it would double the size of the current facilities so more jobs and expansion are expected. Adjacent satellite industries will also attract more people to the area thus increasing demands on National Forest System lands.

Steel plants -- AK Steel constructed a major steel mill in Spencer County, near the Tell City unit. The Wopaka Foundry in Perry County near Troy, IN now employs a significant number of people. The impact of these plants on the National Forest has not been determined.

Holiday World and Splashing Safari – This growing amusement park is the oldest theme park in continuous operation in the nation. In recent years, the park has undergone a major renovation. Its popularity has grown as the park has put significant money into expansion and construction. Each year they have opened a major new ride and the number of visitors continues to spiral upwards. Hotels, restaurants, and other tourist accommodations are springing up to

accommodate these visitors. Many of these tourists will also camp on the Forest or visit other Forest areas during their trip to the amusement park.

West Baden Hotel Renovation – The West Baden Springs Hotel has long been of interest to people from around the world. It was an architectural wonder when constructed shortly after the turn of the century. Cook, Inc. funded most of the renovations for the hotel's current owner, Historic Landmarks Foundation. Historic Landmarks Foundation sponsors tours of the site including the ongoing renovations and the restoration of the hotel grounds. Periodically events are sponsored as renovation milestones - such as the raising of the towers or the opening of the atrium. Each event is a huge extravaganza that serves to raise funds and bring influential people to the area. The tours have been very popular and helped raise money for the project. In addition to the outstanding architecture, the dome hosts some fabulous artwork and a beautiful atrium. The property is for sale and the hope is, that the new owner will finish the restoration and bring back visitors and affluence to the area. West Baden and French Lick were once popular resorts known for their hot springs and wonderful accommodations. A major fire and the 1930 depression played roles in the demise of this once famous landmark.



The Hoosier NF, in conjunction with local partners, is renovating the historic Rickenbaugh House, shown here with its new windows.

Community Center and School Curriculum Development – We continue renovation of the historic Rickenbaugh House at the Indian-Celina Lake Recreation Area in cooperation with the Lincoln Hills RC&D. Much of the money used to accomplish the renovation came from local donations or grants secured by the community. The community hopes to soon have the old stone house open for visitors, community meetings, and environmental education. In the meantime, interested local people continue to promote the house. The vision is that schools will come from all around the area to use the house as a hub for cultural and environmental education. A group of teachers and Forest Service employees developed a curriculum for schools to use. The USDI National Park Service's "Teaching with Historic Places" model was used. A grant from the Eastern National Forest Interpretive Association (ENFIA) paid for compiling the books, and the curriculum was completed and sent to 70 teachers in local schools (6-8th grade levels). One teacher used the theme for a class project that involved students interviewing local people and Forest Service employees, and developing a documentary video of the house.

Flood Control -- Other than streams, creeks, and rivers, there are few natural bodies of water within the boundary of the Hoosier National Forest. Most of the existing lakes and ponds were designed primarily for flood control with recreation as a secondary use. Many of the dams are located above private lands. It is critical that these structures are sound and are within guidelines to ensure safety to those who live below the structures. Floods and storm damage resulted in higher risk situations, and in June of 1997, \$2.4 million were received to renovate dams including: Springs Valley, Celina, Saddle Lake, and U-38 dam, all located on the Tell City Ranger District. The work has been ongoing through 1998, 1999, and 2000, including new access routes to Celina and U-38 dams, new valves for Celina and U-38 Lake, spillway for Saddle Lake, and earthwork to stabilize the structures.

Demand [36 CFR 219.10(g)]

The Forest Supervisor shall review the conditions on the land covered by the plan at least every 5 years to determine whether conditions or demands of the public have changed significantly.

With the *Forest Plan* in 1991, many demands for the National Forest were emphasized. Demand for National Forest System resources was displayed and discussed in depth in the Draft Environmental Impact Statement, Appendix B (p. 4-4 to 4-5), and in the *Forest Plan* (p. 3-3 to 3-4). The interdisciplinary team (ID team) estimated demands for dispersed recreation, developed recreation, timber, young forest, openings and shrubland, core areas, backcountry, and natural-appearing forest. Demand was estimated in order to address the management challenges of land ownership patterns, recreation use, oil and gas exploration, and biological diversity. The following demand and supply table shows the *Forest Plan* estimates for 1995 (an approximate midpoint of the Plan life), and for the year 2005 to show future demand trends.

FOREST PLAN DEMAND AND SUPPLY

<i>Benefit</i>	<i>Projected Demand For 1995</i>	<i>Projected Demand For 2005</i>	<i>Projected Supply From Forest Plan</i>
Dispersed Recreation (Rec. Visitor Days - RVDs)	272,000	347,502	267,000
Developed Recreation (RVDs)	120,000	168,315	120,000
Timber (Million Board Feet)	19.0	22.4	4.4
Young Forest (Acres of 0-19 hardwood, 0-9 pine, or reverting openings)	23,400	23,400	14,100
Openings and Shrubland (Acres of maintained openings, redcedar, barrens, & utility corridors)	6,300	6,300	5,800
Core Areas (Acres)	96,000	96,000	32,000
Backcountry (Acres)	78,000	78,000	53,000
Natural-appearing Forest (Acres)	185,000	185,000	96,000

As reported earlier in this report, recreation visitor days exceeded our expectations in 2000 (525,000 actual versus 387,500 projected in the Forest Plan Environmental Impact Statement, page 2-19). Demand for other benefits has not changed appreciably since the *Forest Plan* estimates.

During FY 2000, forest personnel hosted several open houses and public meetings to gather comments and concerns for forest plan revision. Each of these forums was attended by a large contingent of ORV and 4-wheel drive supporters. In some meetings the ORV supporters outnumbered all other participants 10:1. There is obviously still a tremendous demand for motorized recreation use of the national forest, and those advocating this use come with documented use figures, economic impacts, and projected visitor numbers.

Some people believe that controversy about national forest decisions demonstrate changes in demand. As stated in the April 8, 1991 Record of Decision (ROD) public concerns could not be completely resolved. Some forest users will continue to be dissatisfied with management direction (ROD, p. 17).

As evidence of this, in 2000 the Forest received three appeals on proposed projects. The issues raised in these appeals included planning process issues such as National Forest Management Act, the Wilderness Act, range of alternatives, cumulative effects, and public involvement, as well as on-the-ground concerns such as soil erosion and trail maintenance, violating the character of wilderness, fragmentation of habitat, and potential impacts on reptiles, turtles, and herps. Two of the appeals were on the relocation of wilderness trails and one was on forest opening maintenance. The Regional Forester reversed the District Ranger's decision on the Charles C. Deam Trail Relocation project. Additional analysis and documentation was completed on this project, and the decision re-issued in 2001. The Regional Forester affirmed the Supervisor's decision on opening maintenance. The appellants sued the Forest Service on the maintenance of forest openings in the U.S. District Court for the Southern District of Indiana. In 2001 this case was decided in favor of the Forest Service.

The planning process provides for people dissatisfied with project decisions to comment, appeal, and if still not satisfied, take legal recourse. We believe the ongoing debate over management of the forest has not resulted from changes in demand, but a continuation of the debate over values. Society's values however, are part of what shapes management of the forest, so we continue to analyze what people are telling us and what they want from their public lands.

The next section of this report is organized by *Forest Plan* goal. The appropriate regulations are referenced for each.

Protect and Manage Ecosystems

Restocked Lands [36 CFR 219.12(k)(5)(i)]

Assure lands are adequately restocked as specified in the Forest Plan (App. B, B-11 to B-13).

Reference: Annual National Forest Management Act (NFMA) Stocking Report.

Methodology: Certification for hardwood stands involved going to the particular stands and doing a walk through, observing the predominant species in the stand, and recording the percent stocked. Hardwood stand certification is based on a walk through and visual observation, no plots are taken. Seedling counts are taken on 1/750-acre plots at about one plot per acre.

Criteria for judging acceptability: We base management decisions on the information collected.

Results: In FY 2000, we surveyed 346 acres to determine if they had adequate stocking of regeneration. Three types of areas were surveyed.

- The tornado blow-down areas were surveyed. Two tornados swept through the Hoosier National Forest area, one on June 2, 1990 and the other on April 19, 1997. Surveys were done of natural regeneration in the areas most heavily impacted by the tornados. We found they were 80-100% stocked. However, the species composition of the regeneration was primarily yellow poplar and sugar maple. There was only a small component of oak in these stands. The silvicultural prescription for these areas recommends a prescribed fire through the stands to encourage the oak component.
- The second type area surveyed was also part of the tornado blow-down sites, however, these areas were impacted by salvage sales and then planted with oak seedlings. Tree shelters were used on 10-15 percent of the planted seedlings. In 1999, southern Indiana had one of the worst droughts in recorded history that took a severe toll on the young trees. The stocking survey indicated an overall average of 60 percent survival in the planted oaks. Those oaks planted in tree shelters had over a 70 percent survival rate. We estimate seedlings planted without shelters had only a 20 percent survival rate due to the effects of drought and predation in a lean food year.
- The third area surveyed was the Snow Pine Sale. This Virginia pine stand was harvested and allowed to regenerate naturally. Stocking surveys found it to be 100 percent stocked with mixed hardwood species, predominately yellow poplar.

Forest Plan met: Yes.



School children plant trees and put up protective tree shelters on strips within the new Roland Wetland area.

Roland Restoration Project – Tree Planting

Methodology: This report is based on observations of the Roland restoration project completed in T2N, R2W section 17 and 18 (compartment 67). In spring, 2000 approximately 2,000 seedlings of various species were planted for the purpose of increasing the species diversity in the area. Tree shelters were installed on all of the trees planted due to high mortality in an adjacent wetland planted without tree shelters. Site preparation consisted of plowing strips across the old fields to rip up the fescue sod and made it easier to get the seedlings into mineral soil. School children, Americorp volunteers, and Forest Service employees planted the trees.

Results: Fifty acres were planted with a mixture of bottomland hardwood species. Survival rates appear to be at approximately 75 percent.

Forest Plan met: Yes.

Recommendations: We followed recommendations made after monitoring a similar planting in the adjacent Moffitt Wetland. These recommendations included improving survival rates with site preparation of plowing furrows in the grass cover and using tree shelters. The survival rate of seedlings in the Roland Wetland is adequate to provide cover in this restored bottomland habitat.

Insects and Disease [36 CFR 219.12(k)(5)(iv)]

Discover, report, and evaluate areas of infestations. Coordinate with State and Private Forestry (S&PF) and appropriate state agencies.

Methodology: Introduced sawfly outbreaks were first observed in 1996. Since that time, stands have been monitored throughout the forest for further signs of the sawfly. Visual observations are made regularly in these pine stands.

Results: In 2000, there were no additional outbreaks on the forest.

Forest Plan met: Yes.

Recommendations: Continue to monitor pine stands since additional insect outbreaks are likely. Currently this insect is not a problem.

Monitor damage from March 19, 1996 storm and April 19, 1996 tornado for insect and disease infestations.

Methodology: Silviculturist monitored areas of damage by walk through.

Results: The silviculturist noticed scattered trees along the fringe or within the heavily impacted area that had subsequently died since the salvage operations. He attributed the additional mortality (higher than the normal) to the trees being in a weakened condition after the tornado and the drought in 1999. Time and stress left the trees vulnerable to insects and disease.

Forest Plan met: Yes.

Recommendations: Additional informal monitoring will be done whenever the silviculturist is in the area.



Photos above show blowdown in a pine stand and a hardwood stand hit by the 1996 tornado.

Soil and Water [36 CFR 219.27(a)(1)(2)(4),(b)(5),(e),(f)]
Forest Plan Appendix J and K.

Monitor to ensure implementation and effectiveness of soil mitigation and protection measures are applied to all management activities.

Reference to relevant laws and handbooks: 36 CFR 219.27 (a) (1) & (2) & (f).
Forest Service Handbook (FSH) 2309.18 section 3.12b - Exhibit 02.
FSH 2509.22 section 6.34 -Exhibit 8.
Draft R9 Supplement, FSH 2509.18, Chapter 2.
Indiana Forestry Best Management Practices Guidelines

Lake Celina Dam Access Road Project

This project was monitored to determine if erosion control practices described in the erosion control plan were used successfully during the construction of the access road.

Methodology: Visual observations were made to see if mitigation measures had been used and if they were effective in controlling soil erosion.

Results: Temporary sediment basins, diversions, and other erosion control practice seemed to be working. In one instance, a sediment basin was not installed and a recent intense rainstorm caused some soil erosion. In this case some of the soil was deposited as sediment in Lake Celina. The amount of soil deposited in the Lake was not significant considering the area of soil disturbing activities that occurred.

Forest Plan met: Yes

Recommendations: In the future Contracting Officers Representatives need to more closely ensure that erosion control practices are used during construction of projects.



Photo of Indiana Karst Conservancy volunteer outside a cave in southern Indiana.

Caves and Karst [36 CFR 219]

Conduct surveys to begin development of six cave management plans; begin ecological inventories.

Legal or Regulation Reference: Federal Cave Resources Protection Act of 1988 (FCRPA), 36 CFR 290, *Forest Plan* Appendix I

Methodology: A large percentage of this program depends on caver volunteers. Members of the Indiana Karst Conservancy conduct the actual base level inventories and cave mapping.

Results: Twenty-nine Hoosier National Forest/Indiana Karst Conservancy Karst Inventory Committee members donated 618 hours of volunteer time. The volunteers were involved in a number of activities including:

- Writing cave management plans – Three plans have been drafted.
- Attending HNF/IKC Karst Inventory Committee meetings – Meetings are held every other month to discuss items of interest on the Hoosier National Forest and to discuss cave and karst issues.
- Locating ten new caves, relocating eight caves that had poor location information, locating a connection between two caves, and verifying that one cave was physically closed.
- Training – Sponsored an HNF/IKC Karst Project Training Session in October 1999 that 22 people attended. Resource experts gave presentations on archaeological, biological, cultural, geological, hydrological, and recreational resources within caves. Committee members used the information presented in the training session to perform karst values inventory on a number of caves on the forest.
- Surveys for land acquisitions and other projects – Volunteers provided input on Hoosier NF projects including the *Forest Plan* revision, *Forest Plan* amendment for special areas, trails projects, kaolinite mine gating project, and land acquisitions.

- Take Pride in America – 20 individuals assisted at this event with a day of ridgewalking to search for new cave locations and pick up trash. Other interested members of the public were encouraged to help, allowing more people to be involved and interested in karst resources.
- Bat Surveys – Dr. John Whitaker from Indiana State University completed bat surveys at the South Gardner Kaolinite Mine entrance.
- Biota Inventory - Dr. Julian Lewis began a biota inventory of the caves on the Hoosier National Forest on August 1, 2000. Members of the HNF/IKC committee assisted Dr. Lewis in his work.
- Core sampling – Dr. Jim Durban collected sediment core samples from the floor of Wesley Chapel Gulf to document the sediments in the gulf and the stratigraphy.

Forest Plan met: Yes. We continue to work on acquiring locations, mapping interiors, listing resource values, and writing individual management plans (*Forest Plan* Appendix I).

Recommendations: Caves recommended for significance are required to be verified. When verification is complete, those caves that meet the significance criteria will be nominated.

Vegetative Management [36 CFR 219.15 and 219.27(b)]

Evaluate vegetative component on new acquisitions on the Hoosier National Forest

Methodology: A silvicultural examination was done on all new land acquisitions. Plots were inventoried on each tract to determine the site capabilities, vegetative components, and make recommendations for management activities. The silviculturist also conducted examinations on other forest areas to update the data base or document information for future management prescriptions.

Results: A total of 8,200 acres were inventoried and examined on the Tell City District and 4,378 acres were examined on the Brownstown District. For each area examined, we prepared a silvicultural report and made recommendations for future treatments.

Forest Plan met: Yes

Recommendations: Continue to inventory vegetative components on new acquisitions and other forest areas as time allows.

Monitor Forest Openings and Warm Season Grass Maintenance

Methodology: Actual project work is done cooperatively with Indiana Department of Natural Resources (IDNR), Division of Fish and Wildlife. Monitoring is done in field visits by the ecosystem team staff. We treated 549 acres of prescribed burning under three separate NEPA decisions. The forest biologist monitored weather conditions and results of each burn.

Results: In FY 2000 1,373 acres of forest opening maintenance have been completed. IDNR mowed 497 acres and assisted in fireline construction on the 296 acres of openings burned. The mowing of 580 acres was contracted. The 296 acres of openings were burned under the Forest Openings Maintenance (FO) decision (Day 1999). The objectives for burning those openings were to reset succession, reduce encroachment by woody vegetation, and maintain or enhance grass and forb dominated plant and animal habitats. These areas will require repeat burning at intervals of 2 – 5 years to achieve these objectives on a continual basis.

An additional 248 acres were prescribed burned in the spring of 2000 for warm season grass restoration. This project was done under a Warm Season Grass (WSG) Decision (Denoncour 1996). After it was burned, 30 acres were tilled between August and October. This area has been tilled three times to break up the fescue sod. Objectives for burning these areas were to increase domination of the sites by native warm season grasses and maintain grass and forb plant and animal habitats. These areas will require repeat burning on 2-3 year intervals to establish site dominance by warm season grasses. After that they could be burned on 5 – 10 year intervals to maintain that dominance.

A five-acre plantation was burned at the Paoli Experimental Forest under the Prescribed Burn on Paoli Experimental Forest (PBEX) decision (Denoncour 1999). Objectives for burning this site were to kill yellow poplar and favor establishment of planted and natural oak seedlings and saplings. Treatment response will be intensively monitored under the experimental design for this study.

The table below lists the date, time, size, and location of each burn as well as environmental conditions during the burn period. The NEPA decision being implemented is listed so we can consider the environmental analysis when reviewing the efficacy of each treatment.

FY 2000 Prescribed Fire Program

Date	Burn Period	Location	Comp/Stand District	Acres	Temp (Deg. F)	RH%	FSM%	Windspeed (MPH) Direction	NEPA Dec.
3/6/00	1130-1300	Starnes #2	49/210 BT	20	63-68	34-28	9.3-6.9	4-9 S	FO
	1415-1500	Silo #1	44/207 BT	5	70-73	24-21	5.9-5.0	7-9 S	FO
3/7/00	1010-1214	Maines Pond (E)	13/218 BT	35	65-75	35-33	7.7-6.3	5-8 S, SW	FO
3/14/00	1045-1132	Maines Pond	13/218 BT	37	50-53	59-51	14.4-11.5	4-8 W, SW	FO
	1240-1340	Scott Pond	13/203 BT	16	55	43-41	10.4-11.5	4-7 SE, SW	FO
	1420-1445	Fleetwood #1	43/218 BT	9	55-58	41-35	8.9-8.5	4-8 SE, NW	FO
	1515-1530	Starnes #1	42/206 BT	11	58-60	35-37	8.5-7.9	4-9 S, NW	FO
	1600-1710	Silo #2	44/208 BT	9	60	37-38	7.9-7.2	3-9 S	FO
3/15/00	1100-1219	Hager (N)	64/202 BT	25	66-70	37-32	9.2-6.8	6-10 S, SW	FO
3/23	1055-1210	Deuchars #15	16/024 TC	70	62-65	52-43	12.2-9.3	6-8 SE	WSG
	1255-1335	Blue River	16/211 TC	13	65-67	43-42	9.3-6.8	3-5 SE	FO
	1255-1355	Deuchars #16	16/214 TC	46	65-69	43-35	9.3-6.8	3-8 SE	WSG
	1359-1430	Harvey Flat	16/201	5	69	35	6.8	3-5 E	FO
	1600-1805	Birdseye #12b	62/062 TC	70	70-67	38-43	5.7-7.2	4-8 E	WSG
	1815-1850	Birdseye #11	62/055 TC	16	67	43	7.2	4-8 E	WSG
3/24	1010-1240	Hemlock #2	2/204 TC	26	69-78	45	12.0-9.0	5-10 S, SW	FO
	1330-1414	Seton #13	1/006 TC	46	78-79	43-42	7.2-7.7	6-10 S	WSG
3/29/00	1213-1238	Elder School	18/215 TC	35	54-58	37-35	11.0-10.0	3-7 S	FO
	1407-1430	Old Chapel	18/216 TC	25	56-58	32-30	7.0-6.7	4-10 SE, NW	FO
	1600-1700	Paoli Research	NA BT	5	60-58	31-38	5.8-6.3	3-10 W	PBEX
	1754-1845	Hager	64/202 BT	25	53	40	6.6	2-6 S	FO

RH = Relative Humidity
 FSM = Fuel Stick Moisture

Forest Plan Met: Yes

Recommendation: A review is recommended of some of the warm season grasses areas and forest that were treated once the vegetation has had a chance to develop. This could occur as part of the *Forest Plan* monitoring trip in the fall of 2001. This review would look at how the site has responded in comparison to our desired future condition and treatment objectives. Some variation in vegetative response may be affected by environmental conditions at the time of burn that in turn affected burn intensities.



Garlic mustard, an invasive exotic flower.

Monitoring of Garlic mustard populations.

Methodology: Recorded garlic mustard populations were checked, and where found, pulled, and removed from the forest. This is the fifth year for this effort.

Results: In FY 2000, garlic mustard plants were pulled in four areas of the forest. Those areas were: Shootingstar Cliffs, Beaver Creek, the Huron Woods Special Areas, and the Buzzard Roost area. The populations of this exotic weed appear to be getting smaller.

Forest Plan met: Yes

Recommendations: The sites will continue to be monitored in FY2001 to determine if the plant is still present.

Research Natural Areas (RNA's) and Special Areas (SA's) and Potential Candidates [36 CFR 219.25]

Monitor rare and exotic plant populations in Research Natural Areas and Special Areas.

Methodology: The Hoosier National Forest has an agreement with the Indiana Department of Natural Resources, Division of Nature Preserves to conduct a survey of rare and exotic plants in special areas.

Results: Field work was ongoing in FY 2000 and will run into FY 2001. Populations of rare plants are documented, former sites revisited and plot information collected, and each exact location is noted with Global Positioning System technology. Of the previously known rare plants sites on the Hoosier, 32 populations were relocated and 52 new populations were found. The botanists also discovered six rare plants not previously listed on the Hoosier National Forest.

The six new species were:

- Buchnera americana* – found at two locations. Last reported in southern Indiana in 1835.
- Linum striatum* – found at one location
- Linum sulcatum* – found at one location
- Sagittaria australis* – found at one location
- Scirpus purshianus* – found in two small ponds
- Verbesina virginica* – found for the first time in Indiana

The other rare plants found or rechecked from previous findings in FY 2000 were:

- Aconitum uncinatum* – Two new locations, one consisting of seven colonies spread over a ½ mile area
- Bacopa rotundifolia* – a thorough search revealed no plants remaining at the only previously known site
- Carex bushii* – the only known site is doing well and expanding
- Cheilantes lanosa* – located at one known site, found at one new site
- Cirsium carolinianum* – located at three known sites, found at two new sites
- Crataegus intricata* – possibly seen, but fruit and flowers never found, identification uncertain
- Desmodium humifusum* – located at the only known site. Thought to be a hybrid so should drop from the list
- Dodecatheon frenchii* – only two of the 20-some known sites were rechecked, two new sites found
- Eupatorium incarnatum* – located at the only known site
- Gentiana alba* – located at the only two known sites, appears to have increased at one site
- Gonolobus obliquus* – found at three new sites, very few plants at any location
- Hypericum denticulatum* – found at one new site
- Juncus secundus* – looked for but not found, may have fallen victim to succession in old field habitat
- Lechea racemulosa* – there is one old record of this plant, it was searched for without success, again a victim of plant succession
- Lilium canadense* – looked for at two sites but not found
- Ludwigia decurrens* – plant not found at its only known location, but it is not clear that the searcher reached the correct spot
- Magnolia tripetala* – located at one known site
- Nothoscordium bivalve* – the only known site has been checked several times in the past few

years but no plants were located

Ophioglossum engelmannii – located at one known site, one new site found

Oxalis illinoensis – located at one known site, one new site found (tens of thousands of plants in several colonies in one large area)

Oxydendrum arboretum – located at two known sites

Panicum verruscosum – located at only one known site

Panicum yadkinense – looked for but not found at the only recorded site

Phlox amplifolia – located at one known site

Polypodium polypodioides – located at one known site, found at two new sites

Polytaenia nuttallii – located at the only known site

Prenanthes aspera – located at one known site, found at nine new sites, but only a few plants found (less than ten) at any location

Rhynchospora corniculata – located at the only known site

Rubus centralis and *Rubus enslenii* – these two trailing blackberry species are difficult to distinguish and it is not clear these are two distinct species

Rudbeckia fulgida var. *fulgida* – found at five new sites

Rudbeckia fulgida var. *umbross* – a colony with roundish basal leaves was found

Sanicula smallii – looked for in several places, but not found

Saxifraga virginensis – located at one site, found at one new site

Scutellaria parvula – located at one known site, found at seven new locations. This plant could be moved to “watch list”

Scutellaria saxatilis – located at the only known site

Setaria geniculata – this plant should no longer be considered rare, it is found in large quantities at many roadside sites on the Hoosier

Sparganium androcladum – believe this plant was earlier included by mistake and may never have been found on the forest, but was mistaken for a similar species *S. americanum*

Stenanthium gramineum – one new site found

Tragia cordata – two known sites searched but not found

Trichomanes boschianum – located at one known site

Waldsteinia fragarioides – located at one known site

Woodwardia areolata – located at two known sites

Zizia aptera – located at two known sites, found in three new locations

Through an agreement, the Indiana Department of Natural Resources, Division of Nature Preserves earlier identified invasive plants in virtually every site on the Forest. Sites of concern are listed in the following table because they are either important natural features threatened by invasive plants, or had an exceptionally "heavy" invasive plant population.

Area Name	Invasive Species
Boone Creek Barrens	garlic mustard, Lespedeza sp., Microstegium, sweet clover
Buzzard Roost	garlic mustard, Japanese honeysuckle
Carnes Mill	Japanese honeysuckle, Microstegium, moneywort, unknown ground cover
Clover Lick Barrens	autumn olive, bush honeysuckle, crown vetch, day lily, Japanese honeysuckle, Microstegium, potato vine, sweet clover
Deam Wilderness	autumn olive, garlic mustard, Hosta, Japanese honeysuckle, Microstegium, myrtle
Oil Creek Cliffs/Peter Cave Hollow	garlic mustard, Microstegium
Pioneer Mothers	garlic mustard, bush honeysuckle, Japanese honeysuckle
Plaster Creek Seeps	reed canary grass
Rockhouse Hollow	autumn olive, bush honeysuckle, Japanese honeysuckle, Microstegium

IDNR, Division of Nature Preserves also separated the above invasive plants into three categories: most threat; medium threat; and least threat, as follows:

Most -- bush honeysuckle, crown vetch, garlic mustard, Japanese honeysuckle, Microstegium, potato vine, sweet clover and reed canary grass

Medium -- autumn olive, Lespedeza sp., and moneywort

Least -- day lily, Hosta, Johnson grass, multiflora rose, periwinkle, and teasel

Forest Plan met: Yes

Recommendations: The final report is expected by December 31, 2001. Once received we will move forward on the basis of what was found.

Management Indicator, Federal Threatened, Endangered, and Regionally Sensitive Species of Concern [36 CFR 219.9]

Monitor bald eagle activities near Lake Monroe, in coordination with USDI Fish and Wildlife Service (USFWS).

Methodology: The Brownstown District initiated informal consultation with the USFWS in 1993 to ensure protection of nesting bald eagles on NFS lands near Lake Monroe. We issued a closure order to protect the area surrounding the nest and monitored to determine the effectiveness of the closure.

Bald Eagle nest site: IDNR – Division of Fish and Wildlife coordinates monitoring of bald eagle nests. In 2000, bald eagles were observed incubating at the nest; however, no chicks were fledged. The nest is protected by a forest closure order to reduce disturbance to the site. The nest was checked 3 times during the year (March, April, June) by helicopter to determine how many chicks were produced.

Forest Plan met: Yes

Recommendations: Continue monitoring work through IDNR.

Monitor populations of butternut (*Juglans cinerea*), a Regional Forester's Sensitive Species.

Methodology: Monitor all live butternut trees using the butternut monitoring form, recording dbh, percent of live crown, and fruits produced.

Results: Prior to the monitoring efforts in 2000, the location of only seven butternut trees were known on the forest. After an employee noticed some butternut trees while hunting, he returned and located a total of 34 butternut trees, seven of which are dead. Information was collected on the other twenty-seven live trees in May, 2000. No seedlings were found at any of the sites.

Information on the trees found follows:

Tree #	Alive?	DBH (inches)	Height (feet)	Fruiting ?	% of live crown	Is it a Root Sprout	Remarks
1	No	8.0	35	No	None	No	Alive in 98
2	Yes	8.9	50	No	80	No	This patch was in a creek bottom. Lack of sunlight caused limbs to die. Crowns look good.
3	Yes	10.1	50	No	90	No	
4	Yes	6.2	40	No	60	No	
5	Yes	6.3	40	No	0	No	
6	Yes	9.9	50	No	80	No	
7	Yes	7.8	40	No	50	No	
8	Yes	8.1	40	No	60	No	
9	Yes	6.6	45	No	80	No	
10	Yes	8.3	40	No	40	No	
11	Yes	11.0	50	No	50	No	No scars, looks good
12	No	7.0	50	No	80	No	Located within clearcut. Most butternut trees are on the bottom 1/3 of north facing slope. There may be more trees in stand.
13	No	8.0	40	No	0	No	
14	No	5.0	35	No	0	No	
15	Yes	11.7	50	No	0	No	
16	Yes	6.0	40	No	50	No	
17	Yes	9.4	40	No	40	No	
18	Yes	8.5	45	No	25	No	
19	Yes	9.6	40	No	10	No	
20	No	6.0	30	No	0	No	
21	No	8.8	40	No	0	No	
22	Yes	10.0	50	No	60	No	
23	Yes	12.0	45	No	10	No	
24	No	5.0	30	No	0	No	
25	Yes	6.5	35	No	25	No	
26	No	6.0	35	No	0	No	
27	Yes	8.5	40	No	30	No	

Forest Plan met: Yes

Recommendations: Continue to monitor as well as widen the search of the surrounding area to determine if other trees may be nearby.

Fish and Wildlife [36 CFR 219.19]

Monitor Management Indicator Species (MIS)

Methodology: Consult references and monitor projects to maintain a viable population of existing native and desired non-native vertebrate species. Monitoring will be done in cooperation with state fish and wildlife agencies to the extent practicable. MIS are defined as "plant and animal species, communities, or special habitats selected for emphasis in planning in order to assess the effects of management activities on their populations and the populations of other species with similar habitat needs which they may represent" (U.S. Department of Agriculture, Forest Service 1991b, 2620.5). The FSM further states that species selected will be those that "best represent the issues, concerns, and opportunities to support the recovery of Federally-listed species, provide continued viability of sensitive species, and enhance management of wildlife and fish for commercial, recreational, scientific, subsistence, or aesthetic values or uses" (U.S. Department of Agriculture, Forest Service 1991b, 2621.1). The *Forest Plan* forest-wide guidance for managing vegetation to provide diverse ecosystems states that "habitat objectives and capability for management indicator species will be considered in forest management as appropriate. MIS are monitored on National Forest land to determine population trends and to evaluate effects of management activities on selected species" (U.S. Department of Agriculture, Forest Service 1991c, pp. 2-6, 5-5). Analysis of project level effects is used to determine an activity's contribution to meeting forest-wide objectives for providing for well distributed, viable populations. Management activity effects are examined in light of the existing habitat conditions, both within and outside the Forest, and documented population conditions or trends.

Results: Species effects are summarized below —

Wood duck (*Aix sponsa*) - This duck favors bodies of water with overhanging trees or brush and downed logs. It is often found in wetlands and marshes but will use any body of water. The wood duck nests in cavities in hardwood trees, which are not necessarily close to water, but are usually in bottomland areas. Breeding begins in early March. Ponds or perennial streams under forest canopy are required after eggs hatch, however. Acorns and grains provide most of the food for this species, but insects are frequently taken by young birds. Monitoring of wood duck production for Indiana indicates generally increasing populations with annual variability. Nesting success for this species was higher in Indiana than for the Mississippi Flyway as a whole (Hartman 1997, 1998a, 1998b).

American woodcock (*Scolopax minor*) - This bird nests in wet meadows and thickets but uses dry, upland, old-field habitats for courtship. Earthworms are their preferred food, although other invertebrates are also eaten. The 11-year trend for this species is downward about five percent (Lehman 1998a).

Wild turkey (*Meleagris gallopavo*) - This species uses both heavily wooded areas and openings. It typically nests in upland hardwood forests, although pine plantations are occasionally used. They begin nesting in early April. Grains of grasses, acorns, and other plant material form most of their food, but many invertebrates are also taken. Open land is also required for foraging for insects. Population trends for turkeys show continuing increases in Indiana (Backs 1998a). More information

is included below on wild turkey monitoring.

Ruffed grouse (*Bonasa umbellus*) - This species is found in woods, woods borders, brushy areas, dense young forest, or openings. It breeds during April and May. These birds feed largely on insects during the summer, but fruits and other plant material is consumed throughout the year. The population trend for this species indicates significant declines since a peak in the 1970's. (Bucks 1998b and 1998c). More information is included below on grouse monitoring.

Broad-winged hawk (*Buteo platypterus*) - These hawks tend to nest in extensive woodlands or larger woodlots. It typically requires a large foraging area which includes forest, edges, and openland. This species takes primarily small mammals, reptiles, and insects as food. Populations of this bird have not shown significant changes since 1966 (Castrale et al. 1998).

Pileated woodpecker (*Dryocopus pileatus*) - This bird uses deep woods, woodlots, residential areas, and narrow bands of woods along stream courses. It is a cavity nesting species which requires large snags and large woody debris on the forest floor. Nesting begins in early May. Insects and larvae provide most of this birds food. It is unlikely that suitable habitat is limiting populations of this species on the Forest, however the species is largely restricted to landscapes with high forest cover. Populations have shown a significant annual increase since 1966 (Castrale et al. 1998).

Acadian flycatcher (*Empidonax vireescens*) - This bird is found in heavily wooded areas with developed understories and on wooded streambanks within floodplains. This bird requires snags in the understory from which it forages for insects. Nests are located on slender branches of trees and shrubs, usually 10 to 20 feet above the ground. Nesting usually occurs during June. This bird eats insects taken primarily while in flight. Population trends for this species have not shown significant changes since 1966 (Castrale et al. 1998).

Scarlet tanager (*Piranga olivacea*) - This tanager nests in large, dry, upland forests and utilizes clearings and forest edges for foraging (Mumford and Keller 1984). Nests are found on horizontal branches often above openings during June. Insects and larvae provide most of this species food. These are gleaned from leaves and twigs. This species has showed a significant annual increase in population since 1966 (Castrale et al. 1998).

Louisiana waterthrush (*Seriurus motacilla*) - This bird lives along small, usually perennial, woodland streams and is seldom found far from water. Nests are usually found in root tangles along stream banks from early May through mid June. This bird eats insects and other invertebrates taken from the edges of streams. This species populations have increased significantly since 1966 (Castrale et al. 1998).

Wood thrush (*Hilocichla mustelina*) - This bird prefers woodlands and will nest near clearings or buildings in wooded areas (Mumford and Keller 1984). It nests in deciduous forest understory trees about ten feet above the ground during June. It is found in both open and closed canopy forests. This species feeds on insects, and fruits and berries. Population trends indicate a significant decline in this species statewide since 1966. They are much more abundant in south-central Indiana landscapes dominated by forest, including the Hoosier National Forest (Castrale et al. 1998).

Black-and-white warbler (*Mniotilta varia*) - This bird nests in both secondary and mature forests. It nests at the base of large trees among dense ground vegetation in May and early June. Insects and larvae provide most this species food. These are taken from the trunk and lower branches of large trees. While this species has been detected during Breeding Bird Surveys, there is no reported significant population trend information (Castrale et al. 1998).

Worm-eating warbler (*Helmitheros vermivorus*) - This warbler prefers dense woodlands with down timber or dense understory vegetation. Nests are near or on the ground in late May and early June. Insects and larvae provide most of this species food, and are taken mostly from the ground. Survey information has not shown a significant population trend for this species (Castrale et al. 1998).

Prairie warbler (*Dendroica discolor*) - This bird nests in overgrown, old-field habitats. It is found in somewhat open brushy areas with many shrubs and saplings. Nests average about seven to eight feet above the ground in shrubs and small trees. Breeding takes place from May to July. Insects and larvae provide most of this species food. Significant changes in populations have not been detected since 1966. The greatest concentrations of this species are in southern Indiana, including the Hoosier National Forest (Castrale et al. 1998).

Pine warbler (*Dendroica pinus*) - This warbler prefers to nest in pine plantations, usually of shortleaf, more rarely in white pine. Most nests are well above the ground from May to July. Insects and larvae provide most of this species food. While this species has been detected during Breeding Bird Surveys there is no reported significant population trend information (Castrale et al. 1998).

Yellow-breasted chat (*Icteria virens*) - This bird prefers thickets, briar patches, and somewhat open grassy area with many shrubs and saplings. Nests are near the ground, frequently in blackberry brambles from May to July. Insects and larvae provide most of this species food. Population monitoring for this species indicates a significant annual decline since 1966 (Castrale et al. 1998).

Raccoon (*Procyon lotor*) - This species is a habitat generalist although it prefers to forage near water. It uses most terrestrial habitats and generally needs streams or ponds. Raccoons travel along hedgerows and waterways. Dens are typically in large hollow trees. Young are born in April and May. Raccoons are omnivorous. Population indices for raccoons show increased populations since the 1970's with relative stability in recent years (Lehman 1998b). More information is included below on raccoon monitoring.

Bobcat (*Felis rufus*) - Bobcats may be found in a variety of habitats including forests and open lands. They often forage along roads and openings. They are nocturnal predators. Dens are usually in crevices in rock. Young are born in late spring. Although populations remain low, numbers of this species are apparently increasing with sightings tripling since 1992 and increased incidence of roadkill (Lehman and Weaver 1998, Indiana Department of Natural Resources 1999).

Gray squirrel (*Sciurus carolinensis*) - This species utilizes overmature or declining trees with hollows for den sites. It prefers mature deciduous forest, often with scattered brushy or open areas. This species may nest in cavities or build nests of twig and leaves in treetops. Litters of young are produced from February through October. It eats mostly plant material. Populations of this species are stable with some year to year fluctuation (Lehman and Weaver 1998). It is unlikely that habitat is limiting.

Cliff plant associations - These plant communities include a number of vascular and non-vascular plants which occur on sandstone cliffs. They may be moist or dry, or have species characteristic of both depending on their height and aspect. Monitoring of these associations on the forest indicates they are healthy and have not been disturbed (U.S. Department of Agriculture Forest Service 1998).

Barrens/glades - Barrens and glades are grass dominated plant communities with some degree of tree canopy, typically dry site oaks. Glades have large amounts of exposed bedrock. Both communities are dominated by prairie herbs. Restoration efforts are improving the health and vigor of

barrens and glades on the Forest. Monitoring indicates healthy and diverse vegetative conditions in these communities following treatments (Olson 1997).

Largemouth bass (*Micropterus salmoides*) - The largemouth bass has been stocked in most ponds and lakes on the Hoosier National Forest, and can sometimes be found in deep pools or backwaters of medium to larger streams. Spawning occurs during May and June. It feeds on insects, crustaceans, and smaller fish.

Smallmouth bass (*Micropterus dolomieu*) - The smallmouth is found in clear, gravel bottomed streams with relatively cool water. Spawning occurs during May and June. It feeds on insects, crustaceans, and smaller fish.

Rock bass (*Ambloplites rupestris*) - The rock bass is found in clear, relatively cool water, in silt-free rocky streams. It has been introduced into some lakes and ponds by anglers. It feeds on insects and crustaceans. It tends to utilize vegetated and brushy stream margins and pools, and the rocky and vegetated margins of lakes.

Bluegill (*Lepomis macrochirus*) - This fish is stocked into most ponds and lakes on the Hoosier National Forest. It is found most often in clear ponds with fairly dense vegetation, but may occur in many other bodies of water. It feeds on insects and crustaceans.

Grass pickerel (*Esox americanus*) - The pickerel is found in vegetated pools and slack waters in streams. Spawning occurs during March and April. It feeds on smaller fish.

Pugnose minnow (*Opsopoeodus emiliae*) - The pugnose minnow is found in vegetated pools and slack waters of streams. Spawning probably occurs in June. It feeds on small invertebrates.

Southern redbelly dace (*Phoxinus erythrogaster*) - This species prefers small, clear, cool streams in ravines. Spawning occurs during May and June. They feed mostly on algae and creek sediments.

Redfin shiner (*Lythrurus umbratilis*) - This species is found in pools in smaller streams. Their food habits are essentially unknown.

Stream invertebrates - Stream invertebrates occur in ephemeral, intermittent, and perennial streams. Each stream type has its own characteristic group of species. This group of animals includes crayfish, mollusks, aquatic larval forms of insects, segmented worms, and others.

Monitoring of Fish and Stream Invertebrates

Monitoring of management indicator fish species and stream invertebrates is accomplished by Hoosier National Forest personnel, the Indiana Department of Natural Resources Division of Fish and Wildlife, and the Indiana Department of Environmental Management. Surveys of each water body are completed to develop species composition profiles and information is gathered on water quality and habitat characteristics. Productivity varies between bodies of water and segments of streams and rivers. Baseline information has been gathered which shows comparatively healthy and dynamic aquatic ecosystems on and around the Hoosier National Forest. Population trend data is not yet available.

Wetlands

Wetlands include ephemeral wetlands, marshes (herbaceous dominated permanent wetlands), and

swamps (wetlands dominated by trees and or shrubs). Each type has distinct vegetation, soils, and hydrology. Acres of wetlands are recorded in Combined Data System (CDS) database. The number of acres of wetlands on the Forest has been increased through restoration projects and lake construction.

Cave invertebrates - Cave invertebrates may be found in true caves and in deep rock shelters. Cave habitats can be affected by changes in airflow or hydrologic regimes. Monitoring of caves on the Forest has found an array of species existing in a system with no major environmental problems. Population trends have not been determined (Lewis 1994, Lewis 1998, Hobbs 1995, Liddle 1995).

Reference

- Backs S. 1998a. Progress Report: Wild Turkey Hunter-Bag Check. In Indiana Statewide Wildlife Research 1996-97 Progress and Final Reports. p. 133-154.
- Backs S. 1998b. Progress Report: Population Status of Ruffed Grouse in Indiana. In Indiana Statewide Wildlife Research 1996-97 Progress and Final Reports. p. 116-123.
- Backs S. 1998c. Breeding indices of ruffed grouse - spring 1998. Wildlife and Research Management Notes, 6/8/98. 6 p.
- Castrale, J.; E. Hopkins; C. Keller. 1998. Atlas of Breeding Birds of Indiana. Indiana Department of Natural Resources. 388 p.
- Hartman, M. 1997. Progress Report: Fall and Winter Waterfowl Survey. In Indiana Statewide Wildlife Research 1996-97 Progress and Final Reports. p. 123-125.
- Hartman, M. 1998a. Progress Report: Fall and Winter Waterfowl Survey. In Indiana Statewide Wildlife Research 1996-97 Progress and Final Reports. p. 157-169.
- Hartman, M. 1998b. Progress Report: Wood Duck Nest Box Monitoring Program. In Indiana Statewide Wildlife Research 1996-97 Progress and Final Reports. p. 257-260.
- Hobbs, H. 1995. Final Report - Assessment of the Biological Resources of Selected Caves in the Hoosier National Forest, Southern Indiana 114 p.
- Indiana Department of Natural Resources. 1999. Confirmed records of bobcats in Indiana, 1970-1999. Unpublished IDNR Division of Fish and Wildlife information. 3 p.
- Lehman L. 1998a. Progress Report: Woodcock Singing Ground Survey. In Indiana Statewide Wildlife Research 1996-97 Progress and Final Reports. p. 181-182.
- Lehman L. 1998b. Progress Report: Raccoon Roadkill Survey. In Indiana Statewide Wildlife Research 1996-97 Progress and Final Reports. p. 70-76.
- Lehman L.; M. Weaver. 1998. Progress Report: Statewide Archers Index of Furbearer Populations. In Indiana Statewide Wildlife Research 1996-97 Progress and Final Reports. p. 101-108.
- Lewis, Julian J. 1994. Lost River cave and karst biological survey. Louisville District. U.S. Army Corps of Engineers. 63 p.
- Lewis, Julian J. 1998. Subterranean fauna of the Blue River area. Species at Risk Program, U.S. Geologic Survey; The Nature Conservancy; Natural Heritage Program, Division of Nature Preserves, Indiana Department

of Natural Resources; Non-game and Endangered Wildlife Program, Division of Fish and Wildlife, Indiana Department of Natural Resources. 267 p.

Liddle, T. 1995. Ecology and observed biota of selected caves in the Hoosier National Forest, Indiana. Unpublished. 36 p.

Olson, Steven. 1997. Boone Creek vegetation - post burn. A memorandum from Steve Olson to Ecosystem Program Manager dated July 9, 1997. Filed at Tell City Ranger District, Tell City, Indiana. 12 p.

U.S. Department of Agriculture, Forest Service. 1998. Eco-report 2. Unpublished report on monitoring and accomplishment. 20 p.

Forest Plan Met: Yes

Recommendations: Continue monitoring these species until a new list is developed.

Coordinate with IDNR Division of Fish and Wildlife in monitoring fish populations in selected waters.

Methodology: In July of 2000, IDNR biologist collected information on the fish composition of Spring Valley Lake.

Results: While data was collected for all species encountered the IDNR survey focused on sport fish composition. The following table indicates that within Spring Valley Lake high quality fishing opportunities exist for bluegill, redear sunfish, channel catfish, and largemouth bass.

Fish Survey Results Spring Valley Lake 2000

	NUMBER	%	LENGTH RANGE (in.)	WEIGHT (lbs.)	%
Bluegill	319	55.7	0.8- 8.7	22.15	16.7
Largemouth bass	135	23.6	2.3- 21.6	48.87	36.9
Redear sunfish	51	8.9	2.7- 10.7	10.99	8.3
Warmouth	26	4.5	2.2- 7.5	2.15	1.6
Channel catfish	21	3.7	13.5- 28.8	46.05	34.7
Longear sunfish	18	3.1	2.3- 4.8	0.74	0.6
Brown bullhead	2	0.3	10.6- 15.4	1.52	1.1
Black crappie	1	0.2	7.1	0.1	0.1
Totals	573			132.57	

Forest Plan met: Yes

Recommendations: Continue to monitor lakes on the forest.

Monitor condition of dams on forest lakes and ponds.

Methodology: Complete condition surveys on dams.

Results: Condition surveys were completed for 44 dams across the forest in 2000. Surveys focused on observing structural condition and vegetation cover of dams. Maintenance activities suggested or executed as a result of these surveys included prescribed burning, chainsaw work, root raking, and mowing.

Forest Plan met: Yes

Recommendations: Continue to monitor

Monitoring Fisheries Habitat in Streams

Methodology: Identify opportunities to improve fisheries habitat during forest project design.



Forest Service inventory crew assesses aquatic life in a pool made by a fallen log.

Results: An example of this awareness is shown in the above photo. This tree was marked to save during the tornado salvage operation in Starnes Branch on the Brownstown District. The blue “W” is still visible at the tree’s base. By saving the tree, a pool has formed above and below the fallen tree (note the depth of the water on the people standing above it). The habitat in both pools is a shallow

run/glide habitat with little complexity but as time goes by, these pools will provide increasingly good habitat for aquatic life.

Forest Plan met: Yes

Recommendations: Continue to monitor

Monitor Populations of Selected Species of Wildlife

Methodology: IDNR biologists collect information on several game and some non-game species in the Hoosier National Forest area. To some extent these game populations can be used as barometers of the health of other wildlife.

Results: The following charts by species have been collected by IDNR biologist.

A general trend in turkey populations can be estimated by the spring harvest of gobblers. IDNR records 1999 as the 17th consecutive year for an increase in harvest numbers. Biologists believe that the populations in many areas are now at long term habitat carrying capacity.

TURKEY HARVEST INFORMATION

Year	Reported Harvest	% 1 Year old	Avg. Weight	% 2 Year old	Avg. Weight	% 3+ Years	Avg. Weight
1988	905	45	15.4	39	20.7	16	21.8
1989	1,359	20	15.5	63	20.7	17	22.2
1990	1,505	31	15.2	41	21.0	28	21.9
1991	2,318	25	15.5	53	21.1	22	22.2
1992	2,531	38	15.1	43	20.8	19	22.2
1993	3,500	18	15.9	60	20.9	22	22.4
1994	3,741	41	15.2	37	21.2	22	22.4
1995	4,706	28	15.6	55	20.6	18	22.1
1996	4,859	24	15.6	53	21.6	23	22.7
1997	5,790	21	15.7	56	21.5	24	22.7
1998	6,384	22	15.5	51	21.1	28	22.5
1999	6,548	25	15.5	49	21.1	26	22.6
2000	7,822	27	15.2	44	20.7	28	21.9

Roadside gobbling counts are conducted by IDNR, Division of Fish and Wildlife along certain roads on NFS lands. The results are shown below for routes on NFS land. The 1999 brood production index increased to 4.2 poults per hen, up from 2.8 in 1998. Each route was driven twice with 15 stops along the route between April 6-18, 2000.

ROADSIDE GOBBLER COUNTS

County/Area	1998 Total Turkeys Heard/ Seen	1999 Total Turkeys Heard/ Seen	2000 Total Turkeys Heard/ Seen	Total Heard per stop in 1998	Total Heard per stop in 1999	Total Heard per stop in 2000
Jackson, Brown, Monroe/Hickory Ridge Area	32/8	22/0	11/2	1.40	0.80	0.60
Perry County/ Oriole - St Croix Area	13/0	13/0	16/0	0.47	0.47	0.53
Lawrence and Orange/ Lost River East Area	18/2	31/0	26/0	0.60	1.27	1.27
Martin and Orange/ Lost River West Area	13/5	47/1	12/0	0.53	2.53	0.47
Orange County/ Lick Creek Area	7/1	23/0	29/0	0.27	0.87	1.33

FURBEARING ANIMALS – South central Indiana

(South central Indiana region contains all NF counties as well as an additional four counties)

Declines in total numbers of pelts collected was seen statewide, perhaps fueled by decreasing pelt values. Raccoon pelt values have long driven the fur market in Indiana, and from the 98-99 season to the 99-2000 season, raccoon pelts decreased from an average price of \$5/pelt to under \$3/pelt.

Declining numbers of trappers and decreasing pelt values are thought to be more responsible for the dropping numbers than any change in population in the furbearer animals.

Season	Number of Pelts											Percent collected Statewide
	Sold	Muskrat	Raccoon	Red Fox	Gray Fox	Mink	Opossu m	Skunk	Beaver	Coyote	Weasel	
1996-97	10,212	1,763	7,580	99	93	124	394	8	112	39	0	4.61
1997-98	7,485	1,052	6,213	42	51	34	39	0	46	8	0	2.53
1999- 2000	3,377	212	2,954	39	50	23	25	1	59	13	1	3.95

RUFFED GROUSE DRUMMING COUNTS

IDNR, Division of Fish and Wildlife conducts drumming counts along certain roads on NFS lands. The results are shown below for routes on NFS land. Grouse populations have declined fairly steadily since a peak in 1979. The count in 2000 is only 11 percent of the 1979 population. The primary reason for the decline is due to habitat changes from advancing forest succession. Parallel declines are expected in other early forest successional birds such as woodcock and rufous-sided towhees. Each route was driven twice with 30 stops along the route between April 6-18, 2000.

County/Area	1998 Grouse Heard/ Seen	1998 Total Drums	1999 Grouse Heard/ Seen	1999 Total Drums	2000 Grouse Heard/ Seen	2000 Total Drums
Jackson, Brown, Monroe/Hickory Ridge Area	6/0	13	1/0	2	2/0	5
Perry County/ Oriole - St Croix Area	0/0	0	1/0	2	0/0	0
Lawrence and Orange/ Lost River Area	14/2	29	8/0	16	4/0	13
Martin and Orange/ Lost River Area	4/0	6	24/0	41	2/0	2
Orange County/ Lick Creek Area	2/0	2	0/0	0	2/0	5

Trends from drumming count indices - grouse heard per stop per year

Year	Jackson, Brown, Monroe/Hickory Ridge Area	Perry County/ Oriole - St Croix Area	Lawrence and Orange/ Lost River Area	Orange County/ Lick Creek Area
1987	0.40	0.20	0.27	0.33
1988	0.33	0.07	0.33	0.47
1989	0.67	0.21	0.27	0.73
1990	0.47	0.13	0.37	0.47
1991	0.13	0.07	0.40	0.53
1992	0.13	0.13	0.27	0.40
1993	0.07	0.13	0.33	0.40
1994	0.20	0.07	0.40	0.40
1995	0.13	0.07	0.47	0.40
1996	0.13	0.07	0.33	0.20
1997	0.20	0.07	0.53	0.07
1998	0.27	0.00	0.53	0.07
1999	0.07	0.07	0.40	0.00
2000	0.13	0.00	0.27	0.13

Protect our Cultural Resources

Cultural and Heritage Resources [36 CFR 219.24]

Conduct one project review to ensure mitigation and protection measures are correctly applied for ground disturbing activities, forest-wide.

Legal/Regulations Reference: Antiquities Act of 1906; National Historic Preservation Act of 1966 as amended; Executive Order 11593; Archaeological Resources Protection Act of 1979; 36 CFR 219, 296, 800.

Methodology: Methods include literature reviews, field inspections, and surface and subsurface investigations. A site condition assessment is prepared using original site forms and associated sketch maps. Any change is noted in these permanent records. If applicable mitigation measures are developed and implemented.

Acceptable Criteria: Project areas are inspected for the presence of historic and prehistoric properties prior to project implementation. Potentially significant properties are protected. Discovery of unrecorded resources is brought to the attention of the forest archaeologist.

Results: The archaeologist visited the Grouse Hollow Dam Outlet Replacement project to ensure that no earth disturbance had occurred to a known prehistoric site (12 Lr 513). This site was recorded prior to approval of the project and the boundary was clearly marked with flagging tape.

Replacement of the outlet and reconstruction of the dam was near completion. The earth moving was complete on the dam, although seeding remained to be done. Workers were laying riprap atop geotextile on the borrow area on the north end of the project area.

Flagging around the site was still visible. No ground disturbance had occurred within the site area or in any previously undisturbed areas. Because the level of the pond was so low, areas normally submerged were visible. On the ridge east of the island (goose island), fragments of unmodified local chert were observed. No formal tools or flakes were located during this inspection.

The individuals administering this project, as well as the contractors, followed the archaeologist's recommendations and were completely successful in protecting the archaeological resource.

Recommendations: Continue to monitor projects in the vicinity of potentially eligible properties to ensure protection measures are implemented.

Forest Plan met: Yes.

Monitor two National Register listed sites and potentially significant sites to ensure resource protection, forest-wide.

Legal or Regulation Reference: Antiquities Act of 1906; National Historic Preservation Act of 1966 as amended; Executive Order 11593; Archaeological Resources Protection Act of 1979; 36 CFR 219, 296, 800.

Methodology: Methods include literature reviews, field inspections, surface and subsurface investigations. A site assessment is prepared using original site forms and associated sketch maps. Any change is noted in these permanent records. If applicable mitigation measures are developed and implemented.

Acceptable Criteria: New resource damage does not occur and vandalism does not increase, i.e. deterioration/collapse of significant buildings is avoided and rockshelters are not looted. Steps are taken to protect sites through public education, signing, and law enforcement activities.

Results: A total of 24 sites were monitored and their condition assessed during FY 2000.

The National Register of Historic Places listed Rickenbaugh House (12 Pe 784) was monitored frequently during Phase II of the rehabilitation.

During the Wesley Chapel Gulf Survey (Cultural Resource Reconnaissance Report No. 09-12-02-0196) conducted by Archaeological Services Consultants, Inc., four sites were revisited (12 Or 382, 12 Or 383, 12 Or 384, and 12 Or 575).

During the Branchville Rockshelter Survey and Testing Project (Cultural Resource Reconnaissance Report No. 09-12-04-0190) conducted by Archaeological Resources Management Service at Ball State University 16 sites were revisited (12 Pe 202, 12 Pe 355, 12 Pe 443, 12 Pe 455, 12 Pe 456, 12 Pe 462, 12 Pe 474, 12 Pe 475, 12 Pe 476, 12 Pe 478, 12 Pe 479, 12 Pe 480, 12 Pe 481, 12 Pe 585, 12 Pe 586, 12 Pe 587). Two additional sites (12 Cr 479, and 12 Cr 480) were revisited to obtain GPS locations.

The site located within the Grouse Hollow Dam area (12 Lr 513) was monitored as described in the previous section.

Forest Plan met: Yes.

Recommendations: Continue to monitor significant and potentially significant sites throughout the forest to ensure their protection.

Provide for a Visually Pleasing Landscape

Visual Quality Objectives [36 CFR 219.21]

Monitor project design and execution to ensure visual quality objectives (VQO's) are met according to the Forest Plan.

Legal/Regulation Reference: 36 CFR 219.21 (f), *Forest Plan* (p.2-15 to 2-16)

Methodology: Inspect projects that affect landform, water, vegetation, and structures; furthermore, compare effects to *Forest Plan* criteria.

Acceptable Criteria: Meet the VQO's stated in the *Forest Plan*

Results: Projects that potentially affect the VQO's include soil and water improvements, wildlife opening maintenance, prescribed burns, trail maintenance, trail construction, and recreation construction. All projects inspected in 2000 met the assigned VQO.

Forest Plan met: Yes

Recommendations: Continue to follow VQO principles on all projects and coordinate with the forest VQO coordinator.

Provide for Recreation in Harmony with Natural Communities

Wilderness Management [36 CFR 219.18]

Monitor Wilderness Resources according to Wilderness Implementation Schedule (WIS).

Legal or Regulation Reference: 36 CFR 219.18, Forest Service Manual (FSM) 2320, FSH 2309.19 R9 Supplement 1, *Forest Plan* (pp. 2-36 through 2-39).

Methodology: Visual observation of limits of acceptable change (LAC) indicators per the WIS monitoring schedule.

Acceptable Criteria: Limits for acceptable change standards as developed for the Charles C. Deam Wilderness (see WIS and following information).

Results: All areas were monitored according to monitoring plan for the Charles C. Deam Wilderness.

1. Campsite Impact and Inventory: No campsites were monitored in 2000.
2. Trail Social Encounters: Data was not collected during 2000.
3. Trail Social Impact: The amount of garbage on the trails in 2000 was minimal. Garbage collected on the trails has gone down annually.
4. Trail Tread Condition: Trail tread conditions were collected to finalize the Meaningful Measures database. Specific problem erosion areas were not identified. The trail system as a whole was inventoried, including condition of drainage structures, for deferred maintenance purposes.
5. Access Trail and Impact: Minimal trash was collected at Hayes, Blackwell, and Grubb Ridge Trailheads. The amount of garbage at the Hickory Ridge Tower, especially alcohol containers picked up on Saturday and Sunday mornings, is steadily getting worse. Vehicle counts were also conducted at the trailheads throughout the year. Lack of parking continues to be a problem at Grubb Ridge Trailhead. About 50 vehicles were cited for parking along the road.

Forest Plan met: Yes.

Recommendations: Improve Monitoring Program for Deam Wilderness.

1. Campsite inventory utilizing either Frissell or Cole method will take place in fall 2001.
2. Three trail counters have been installed to improve trail use monitoring.
3. Collect trail encounter information on a more consistent basis. Trail encounter forms have been created for Wilderness Ranger and other forest staff to complete while patrolling the Deam Wilderness.

Recreation Facilities [36 CFR 219.21(C)]

Monitor public feedback to trailhead, campground, sign, and restroom designs and function, including accessibility.

Legal or Regulation Reference: 36 CFR 219.21(c), FSM 2300, *Forest Plan* (pages 2-17 and 2-18)

Methodology: Public comment is obtained from phone-ins, letters, Congressional inquiries, the "Serving People" customer survey cards, and personal contacts at Brooks Cabin, district offices, and field contacts. Comments are also occasionally found on bulletin boards or in the form of graffiti.

Acceptable Criteria: There is no standard regarding this type of public feedback. However, each comment is evaluated and action taken if warranted.

Results: Sixty-one Forest Service customer comment cards were received, 10 letters or phone calls were documented, and 134 customer response forms were forwarded to the forest by the concessionaire. The majority of the response cards indicated very favorable feedback from customers. In those instances where a complaint or concern was voiced, that person was contacted and the problem resolved. There was no common thread about any particular issue although many people commented on facilities and policies. Some examples of comments follow: repair Hardin Ridge amphitheater, provide water at German Ridge, concern over parking fees, need more showers, and need playground equipment. All suggestions and complaints (internal and external) were reviewed and action taken when possible and appropriate. For example, recreation opportunity guides (ROGs) have been revised to clarify and explain parking fees, the Hardin Ridge amphitheater is scheduled for rehabilitation, accessible toilets are scheduled for installation, and water at horse camps is being considered as a capital investment proposal.

Forest Plan met: Partially. As a result of scarce resources, the recreation program is not functioning at full level. Most notably, there is a backlog regarding replacement or rehabilitation of aging facilities, non-accessible facilities, and degraded trails.

Recommendations: Continue to enforce concessionaire requirements, emphasize customer service, and continue to pursue capital investment funds and other resources to address the facility backlog situation.

Trails [36 CFR 219.21(G)]

Set up and schedule trail use monitoring on selected trails. Evaluate the type and amount of use.

Legal or Regulation Reference: 36 CFR 219.21

Methodology: On multiple use trails, use is estimated by comparing the number of trail permits sold with field observations. The methodology and results are documented in a memorandum to file dated February 23, 2001 titled Methodology for estimating horse and bike use and final findings for CY2000, file code 2350, authored by Les Wadzinski.

Acceptable Criteria: For trails in the Charles C. Deam Wilderness, acceptable use criteria is based on limits of acceptable change social indicators for trails. We have no formal specific use criteria for forest-wide trails; however, the following general criteria are used: use must be high enough to justify keeping the trail on the system, yet not so high that severe resource damage occurs or undue user conflict occurs. This criteria is influenced by site specific conditions such as soil types, topography, weather, season, and use type.

Results: We estimate that 6,642 bike riders and 10,838 horse riders used the trails in 2000. More than $\frac{3}{4}$ of this use likely occurred on the Pleasant Run Unit based on permit sales in that area. It is more difficult to draw conclusions about hikers because they are not required to buy a trail permit. However, hikers accounted for 11 percent of the users observed on multiple use trails. There are also additional hikers using hiking-only trails such as the Two Lakes Loop and Hardin Ridge trails, although exact numbers are unknown. There is evidence of some illegal use of trails by ATVs, most notably in the Tell City District.

Forest Plan met: Yes. Generally, forest trail use is within moderate levels, with sporadic high use periods at some locations. Trail conditions have now been upgraded in most areas where work was needed to sustain the levels of use and to provide environmental protection.

Recommendations: Continue using the trail permit program to determine use. Install trail counters at locations where more specific data is needed.

Provide for a Useable Landbase

Land Ownership

Report land status changes by County, District, and Management Area using the lands status program database.

Land Acquisition Cases by County and District

COUNTY	DISTRICT	ACREAGE	VALUE (\$)	Management Area
Crawford	Tell City	786	921,240	2.4, 2.8, 8.2
Dubois	Tell City	1	2,500	2.8
Orange	Tell City	87	88,000	2.4
Perry	Tell City	280	289,872	2.8
TOTAL		1,154	\$1,301,612	

Land Exchange and other Adjustments by County and District

COUNTY	DISTRICT	ACREAGE	VALUE (\$)	Management Area
Brown	Brownstown	-0.789	12,247 ¹	6.2
Crawford	Tell City	200	149,900 ²	8.2
Lawrence	Brownstown	126	129,000 ³	8.2
Martin	Brownstown	-0.243	3,180 ⁴	2.8
Monroe	Brownstown	0	5,000 ⁵	2.8
Orange	Tell City	-0.10	120 ⁶	2.8
Perry	Tell City	13	72,000 ⁷	2.8
TOTAL		337.868		

¹ Small Tract Act Exchange – (2 exchanges, 2 sales) – resolved error in survey; exchanges were equal land value (1.593 acres and \$2,500 and 0.975 acres and \$2,500); sales were 0.445 acres for \$1,335 and 0.304 acres for \$912

² Sisk Act Exchange – acquired land with Sisk Act dollars

³ Sisk Act Exchange – acquired land with Sisk Act dollars

⁴ Small Tract Act – (1 exchange, 1 sale) – resolved error in survey; exchange was equal land (1.465 acres) and value (\$1,465); sale was 0.243 acre for \$250

⁵ Small Tract Act (exchange) – resolved error in survey; equal land (1.46 acres) and value

⁶ Small Tract Act (2 sales) – resolved error in survey; sales were 0.040 acre for \$48 and 0.060 acre for \$72

⁷ Land Exchange – equal land value of \$36,000, received 40 acres for 27 acres

Land Adjustment Changes and Total NFS land by Management Area

Management Area	Acreage added in FY 2000	Total NFS land Acres
2.4	651*	17,155
2.8	412	100,873
5.1	0	12,953
6.2	-1	20,354
6.4	0	24,900
7.1	0	6,205
8.1	0	88
8.2	428*	13,230
8.3	0	630
9.2	0	1,586
Total	478	197,974

*Some of the acres in M.A. 2.4 (564) and M.A. 8.2 (102) were outside the M.A. boundary; those acres were put in the nearest M.A.

Provide for Human and Community Development

Special Uses and Outstanding Rights

Monitor electrical aerial powerline rights-of-way for vegetation control and access. Inspect on-going special uses in frequency as specified in FSM or FSH direction.

Legal or Regulation Reference: 36 CFR Part 200 (221.10 Access by permit, 251.50 Special Uses), *Forest Plan* Appendix K

Methodology: We measure special use authorization and outstanding rights use of NFS land by three management attainment reporting accomplishment indicators:

<i>Code</i>	<i>Description</i>	<i>Accomplishments</i>
89.2	General Special Use Applications Processed	15
89.3	Authorizations Administered to Standard	55
89.4	Authorizations Administered in Total	166

Acceptable Criteria:

1. Meet National Environmental Policy Act (NEPA) regulations for notification and environmental analysis. Use proper level of decision based on level of controversy and impacts. Meet handbook and manual direction for permit administration and inspection schedule.
2. Monitor special uses closely during earth-disturbing activities for compliance with *Forest Plan* guidance (*Forest Plan* Appendix K), to ensure that mitigation measures are working. Inspect on-going special uses in frequency as specified in FSM or FSH direction.
3. Monitor the application of pesticides on outstanding rights lands for accomplishment of objectives, to prevent damage to non-target organisms, to prevent contamination of soil and water, and to ensure applications are made according to proper specifications.

Methodology: Monitor utility construction, maintenance work and road permit construction and maintenance.

Results: Hoosier Energy reconstructed two miles of access road across federal land east of Patoka Lake. The forest assisted this company with locating the new road. The work was inspected and done to standard and access has been restricted as specified.

Forest Plan Met: Yes

Recommendations: Continue to work closely with utility companies.

Soil and Water [36 CFR 219.27(f)]

Monitor special uses closely during earth-disturbing activities for compliance with soil and water guidance and to ensure that mitigation measures are working.

Methodology: Monitor any earth disturbing activities related to special use permits.

Results:

1. Road permit for Kimball International was granted to allow this company to remove timber from private land. Existing roads were in place. Forest engineering technicians inspected the roads to determine what efforts were needed to bring the roads up to standard. The engineers flagged 19 areas where drainage dips should be installed and three low spots needing geotech fabric and stone. Engineers also specified that any grading of the road would not change the existing cross slope or affect the existing ditches. Roads were to be gated by the company. Kimball road permit was scheduled to close in 2001.
2. I-64 slump repair – In October 2000, this slump was repaired by excavating and removing earth in the area of the slump. The earth was hauled across 300 feet of NFS land on an existing road to a private farm. The excavated area was then filled with rock, and 2 feet of topsoil was returned. The use of the road was closely monitored to ensure no resource damage was done. Road was seeded and access was fenced.
3. Indiana Gas Company had a 6" high pressure gas line exposed – the special use coordinator met with company engineers in July 2000, to arrange to have the line fixed. The exposed gas line was on an outstanding-rights portion of the line near the Orange/Lawrence County line. Three segments were exposed at drainage points. Exposed sections of pipe were covered with concrete collars at the creek crossing.
4. Harner Road easement for a graveled driveway to a private residence was issued March 17, 2000. This road had been earlier under permit from the forest. The easement was transferred to a new owner, Nova Gilliat on June 15, 2000. The road was inspected to ensure maintenance work was completed.

Forest Plan met: Most permittees are conscientious and meet or exceed the requirements of the *Forest Plan*.

Recommendations: Focus efforts to bring permittees under compliance. Concentrate efforts on updating records of utility companies to properly show rights-of-way widths; check against deeds for possible upgraded utilities that require new permits to be issued.

Nondiscrimination – Civil Rights Act of 1964 – Title VI

Monitor special uses for compliance with nondiscrimination requirements such as the Title VI law.

Legal or Regulation Reference: Civil Rights Act of 1964 Title VI prohibits discrimination on the basis of race, color, religion, sex, or national origin

Methodology: Anytime a permit involves public use permittees are subject to pre-award nondiscrimination reviews. The permittee is also notified of their responsibility. Assurance statements

Form 1700-1 are signed by all new "direct service" providers. Permittees must agree to comply; otherwise, we do not issue permit.

Results: All permittees agreed to sign assurance statements. Civil Rights/Nondiscrimination issues are discussed annually with all recreation type permittees. The "Simple Justice" video is shown and basic hospitality training is provided for all concessionaires each spring before the recreation season begins. There have been no complaints by the public concerning Title VI rights violations. The new owner and manager of Midwest Trail Rides, Inc. was contacted in July 2000 and informed of the requirements.

Forest Plan met: Yes.

Recommendations: Continue to monitor Title VI regulations with recreational type permits as the priority since the risk are greatest in this area for violating nondiscrimination rights, especially with new permittees.

Pesticide Use [36 CFR 219.27(a)(9)]

Monitor the application of pesticides on outstanding rights lands for accomplishment of objectives, prevention of damage to non-target organisms, contamination of soil and water on NFS lands, and to ensure applications are made according to specifications.

Methodology: Special Use coordinator accompanies the permittee to areas they plan to spray. After the spraying is done, the coordinator inspects the areas.

Results: The only company using pesticides on National Forest System land in 2000 was Public Service Indiana. Pesticide was applied to two miles of line in July 2000. This area was in Orange County 2 miles east of the Patoka Lake area. In this section only a few ¼ mile segments, 100 foot wide, were across National Forest System lands. Several new pesticides are being used such as bud inhibitors.

Forest Plan Met: Yes

Recommendations: Continue to monitor

Air Quality [36 CFR 219.27(a)(12)]

Monitor prescribed burns for adequacy of smoke management practices per burning plans.

Methodology: Record any comments or calls received.

Results: The Hoosier NF completed 18 prescribed burns for 549 acres in 2000. Post monitoring was completed on the burns to determine if objectives were met for ecological purposes. All burns were

monitored for smoke management and were in compliance with no negative comments or calls received.

Forest Plan met: Yes

Recommendations: Continue to monitor future burns, and accompany each burn with an aggressive public outreach to assure that people are aware of the plans to burn and know where to call if smoke is a problem.

Health and Safety

Monitor the effluent discharge at the Hardin Ridge Recreation area according to the National Pollution Discharge Elimination System (NPDES) permit requirements

Legal or Regulation Reference: NPDES, State of Indiana, and Monroe County

Methodology: Licensed operator collects and tests as required by NPDES permit.

Acceptable Criteria: Pass NPDES requirements

Results: All NPDES requirements were met.

Forest Plan met: Yes.

Recommendations: During FY 2001 continue working closely with concessionaire and monitor to meet NPDES permit requirements.

Check bacteria levels at public swimming beaches.

Legal or Regulation Reference: 36 CFR 219.21(c)

Methodology: Check five times each 30-day period and once each week for two weeks before beach is open to public, per state standards.

Acceptable Criteria: Meet state standards for bacteria

Results: State standards were met.

Forest Plan met: Yes.

Recommendations: Continue testing to meet state standards.

Handle Hazardous Material Spills Properly

Methodology: Have people on the forest trained in recognizing and dealing properly with hazardous material spills.

Results: There were no known incidents in FY2000.

Forest Plan Met: Yes

Recommendations: Continue to monitor for hazardous material concerns.

Conclusion

We carried out the fiscal year 2000 Monitoring and Evaluation Program to learn if our project activities and other resource uses are consistent with *Forest Plan* guidance. This program also provided an opportunity to evaluate if that guidance meets the goals and objectives established in the *Forest Plan*.

Meeting *Forest Plan* objectives is dependent on the level of funding allocated to the Hoosier National Forest. It is our responsibility, within this allocation and congressional direction, to emphasize a balanced mix of projects that are environmentally sound and provide benefits to people. We developed many projects in partnerships with individuals and organizations.

I have reviewed this Monitoring and Evaluation Report for the Hoosier National Forest for Fiscal Year 2000. Our deficiencies are noted. We will ensure that corrective action is taken where appropriate. I am satisfied that management activities accomplished during Fiscal Year 2000 were consistent with *Forest Plan* guidance, except where noted, and that the guidance provides solid direction in meeting the goals and objectives set forth in the *Forest Plan*.

This report documents our review of the conditions of Hoosier National Forest System lands. Since we replaced the plan in 1991, I have not observed any significant changes in conditions or demands. Therefore, I recommend that we continue the current course of carrying out the *Forest Plan* as we work toward plan revision.

This meets the intent of both the *Forest Plan* (Chapter 5) and the National Forest Management Act planning regulations (36 CFR 219).

/s/ Kenneth G. Day

KENNETH G. DAY
Forest Supervisor

November 5, 2001

Date