

**AMENDMENT TO THE MARCH 1, 2000 PROGRAMMATIC BIOLOGICAL  
ASSESSMENT, LAND AND RESOURCE MANAGEMENT PLAN**

**March 28, 2001**

Replace "Table 1" on Page 4 with:

Table 1. Forest Planning Consultation

Amendment	Action	Date	Type	NEPA documentation	Consultation
Off-road vehicle use areas	No ORV use areas	April 3, 1987	Non-significant	Environmental Impact Statement Supplement	Informal (letter from Hudak, 11/6/85)
Plan Amendment	Replaced 1985 Plan	April 8, 1991	Significant	Environmental Impact Statement	Informal (USDI Fish and Wildlife Service 1989a,b)
Amendment 3	Changed Charles C. Deam Wilderness Guidance	June 23, 1994	Non-significant	Environmental Assessment	Not documented
Amendment 4	Changed Trail Management Guidance	June 23, 1994	Non-significant	Environmental Assessment	Not documented
Amendment 5	Changed management area acreage of special areas	November 22, 2000	Non-significant	Environmental Assessment	Informal (USDI Fish and Wildlife Service 2000)

Replace “Table 5” on Page 12 with:

Table 5. Land Allocation by Management Area on the Hoosier NF (as of November 22, 2000).

Management Area Designation	Management Area Acres	Percent of Forest
2.4	16,051	8.2
2.8	99,039	50.4
5.1	12,953	6.6
6.2	19,871	10.2
6.4	23,114	11.8
7.1	6,205	3.16
8.1	88	0.04
8.2	18,721	9.6
8.3	630	0.3
9.2	0	0.0
Total	196,484	

Replace “Table 6” on Page 23 with:

MANAGEMENT ACTIVITY	FORESTED ACRES AFFECTED
Timber harvest	2,800
Prescribed fire	7,000
Wildlife habitat improvement	3,311
Timber stand improvement	2,264
Soil and water improvement	135
Special uses	286
Road construction	16

Replace paragraph beginning “Protect Unique Features” on Page 24 with:

Protect Unique Features - The Forest has 24 designated special areas (MA 8.2) encompassing 18,721 total acres (9.6 percent of the Forest), ranging in size from 7 acres to over 4,180 acres. Each of these areas has unique characteristics and has management guidelines developed specifically to perpetuate those special attributes. Activities that occur within special areas, such as prescribed fires and timber harvest, are done to further the goals of the area. Sites that include barrens communities have each been subjected to prescribed fire at least once during the last five years. Subsequent fires are needed to maintain these rare communities (see "Manage Plant Communities Through Prescribed Burning"). Some special areas have pine plantations within them. Because pines tend to invade the high quality natural areas, these stands are priorities for potential timber

harvest (see "Use Timber Harvest to Manage Forests"). Table 8 compares habitat type past projections with actual attainments and future projections.

Replace paragraph beginning "Each year, part of the Forest" on Page 29 with:

Each year, part of the Forest is affected by strong winds, tornados, or other natural disturbances. These events leave small to very large areas of dead, down, or severely damaged trees. After review and appropriate analysis, a decision is made whether or not to remove merchantable portions of the affected trees. In areas of wind throw, whether pine or hardwood, salvage generally involves removing dead, downed, severely damaged (cracked or broken boles, less than 20 percent live crown remaining from branch loss), or weakened trees (signs of root upheaval, twisting of the bole, or leaning more than 15 degrees from vertical). Healthy trees are not removed except for safety and timber harvest operations. Specific trees to be cut are determined visually during marking or under a "designation by description". Merchantable portions of downed trees would be harvested, leaving the remainder of tops, limbs, foliage, and non-merchantable parts of the bole on the site for wildlife cover. In effect, salvage operations may approximate even-aged or uneven-aged harvest. The Hoosier has salvaged, similar to even-aged treatments, 324 acres (0.17 percent of the Forest) and done sanitation harvest, similar to uneven-aged treatments, on 584 acres (0.30 percent) over the last five years.

Replace "Table 11" on Page 30 with:

	<b>Projected 1985 Plan</b>	<b>Projected 1991 Plan</b>	<b>Attainments 1994-1998</b>	<b>Projected 5 yrs.</b>
<i>Vegetative diversity (percent)</i>				
0-9 yrs. Hardwood	5.26	2.58	0.76	0.33
10-19 yrs. Hardwood	4.45	4.45	4.88	1.99
20-39 yrs. hardwood	9.53	9.53	5.59	5.09
40-59 yrs. Hardwood	8.75	8.75	5.08	5.43
60-79 yrs. Hardwood	22.67	22.93	16.14	8.40
80+ yrs. Hardwood	30.38	32.39	41.74	53.02
0-9 yrs. Pine	0.05	0.05	0.00	0.00
10+ pine	13.29	13.72	16.05	15.95
<i>Timber volume (MMBF)</i>				
Hardwood	84	33	5.4	0.46
Pine	10	10	4.1	6.67
Hardwood salvage			4.9	
Pine salvage			2.8	
<i>Timber quantity Green and Salvage (acres)</i>				
Suitable timber land	117,200	62,000	62,000	62,000
Clearcut	6,530	2,000	0	678
Shelterwood	1,770	840	255	391
Group selection	10,350	8,500	0	777
Single tree selection	4,290	1,110	0	518
Thinning	0	100	285	408
<i>Timber stand improvement (acres)</i>	3,490	2,500	57	2,264

Replace paragraph beginning “Forest openings are maintained” on Page 31 with:

Forest openings are maintained to perpetuate early successional conditions by various means including brush hogging, edge maintenance chainsaw work, and prescribed burning (see "Manage Plant Communities Through Prescribed Burning"). Forest opening maintenance may occur in most parts of the Forest except the Deam Wilderness, 6.2 MAs, and in the interior of 6.4 MAs. Maintained forest openings are usually smaller than five acres, but some of up to about 100 acres are kept open. Most work is done in late summer through autumn. Nearly 3,500 acres of openings have been treated in the last five years, some using more than one method, and are therefore double-counted. This double counting of acreage will continue. Volunteer organizations and Indiana Department of Natural Resources (IDNR), Division of Fish and Wildlife, will continue to work with the Forest to maintain habitat conditions.

Replace paragraph beginning “The majority of prescribed burns” on Page 34 with:

The majority of prescribed burns on the Forest have a layer of duff covering the soil in a prescribed burn unit after the fire. Only rarely are conditions extreme enough to result in areas of bare soil, even then, the amount of bare soil exposed rarely exceeds 20 percent of the prescribed burn unit. Areas adjacent to permanent streams which are within prescribed fire units generally contain live herbaceous vegetation which tends to stay green and burn less readily than leaf litter, leaving an unburned strip of vegetation between the main body of the prescribed fire and any permanent streams in or adjacent to the unit. Activities include hand-worked fireline construction and burning out. Activities such as constructing firebreaks by hand or machine and fuel load reduction are designed to reduce acreage affected by escaped prescribed fires (see "Manage Plant Communities Through Prescribed Burning"). Methods may include lop and scatter, chipping, crushing with mechanical equipment, mechanical or hand piling for later burning within the 7,000 acres of prescribed fire identified in the BA.

Replace “Table 16” on Page 37 with:

	Projected 1985 Plan	Projected 1991 Plan	Attainments 1994-1998	Projected 5 yrs.
RECREATION USE (RVD/yr.)				
Developed	120,332	120,332	198,000	200,000
Acres developed facilities	2,200	2,350	2,350	2,350

Replace paragraph beginning “There are currently” on Page 39 with:

There are currently about 470 miles of inventoried road maintained by the Hoosier National Forest (due to an on-going survey, this mileage is likely to increase dramatically in the near future). Typical road maintenance includes: tread work, hazard tree removal, pruning, pulling ditches, culvert cleaning, or replacement are anticipated in the next five years. During 2000, six miles (three county and three Forest) of level 3 to 5 roads were maintained. No work was done on level 1 or 2 roads. Most roadwork done by the USDA Forest Service consists of maintaining or reconstructing existing roadways. Additional activities consist of surface grading and minor realignment of existing roadways. These activities have some potential for soil movement off-site. However, if maintenance is not done, studies have shown that erosion from poorly maintained roads can continue for many years. In addition, "soil loss can be cut in half through proper planning and maintenance" (Scoles *et al.* 1995). In the past ten years, only 3.5 miles of new permanent road has been constructed on Hoosier National Forest. The Buzzard Roost project, if approved, would construct another 1.5 mile of temporary and 7.7 miles of system road. Temporary roads are constructed to access timber harvest units. Locating the roads on gentle slopes, grading breaks at frequent intervals on steep grades, using culverts and temporary bridges to protect streams at road crossings, gravelling roads, leaving vegetation along the stream to trap sediment and construction of properly placed dips, water bars or turnouts to divert water off roads and back to the forest are standard designs. The majority of Hoosier National Forest roads are located on or very near to ridgetop landscape positions. These roads contribute very little to sedimentation of the watershed.

Replace paragraph beginning “Unplanned fires that threaten” on Page 40 with:

Manage Wildfire - Unplanned fires that threaten life and private development are suppressed. Suppression activities include hand-worked fireline construction and burning out. Hazardous fuel reduction activities, such as constructing firebreaks by hand or machine and fuel load reduction, are designed to reduce acreage affected by wildfires (see "Manage Plant Communities Through Prescribed Burning"). Methods may include lop and scatter, chipping, crushing with mechanical equipment, mechanical or hand piling for later burning within the 7,000 acres of prescribed fire identified in the BA.

Replace paragraph beginning “There are ten counties” on page 44 with:

There are eleven counties having hibernacula in Indiana (Table 21), four of which are within Hoosier National Forest boundaries. There are 53 counties where summer foraging has been recorded, eight of which are within the Hoosier National Forest boundary (Appendix F). In addition there are several nearby counties in Kentucky where known hibernacula are documented or summer foraging has been recorded.

Replace “Table 21” on Page 46 with:

Table 21. Indiana counties with known Indiana bat hibernacula

County	NFS land	Hibernacula on NFS land
Clark	No	No
Crawford	Yes	No
Greene	No	No
Harrison	No	No
Jefferson	No	No
Lawrence	Yes	No
Martin	Yes	Yes
Monroe	Yes	No
Orange	Yes	No
Owen	No	No
Washington	No	No

Replace paragraph beginning “There is no designated” on Page 48 with:

There is no designated critical habitat and no known hibernacula on the Hoosier National Forest. The closest Priority One hibernacula are Ray's Cave in Greene County (18 miles from the nearest NFS land) and Twin Domes Cave in Harrison County (about 10 miles from the nearest NFS land). Wyandotte Cave in Crawford County is a Priority Two cave (about 8 miles from the nearest NFS land). Ray's and Wyandotte caves are listed as critical habitat for Indiana bat. In addition, there are seven other Priority Two hibernacula between one and ten miles of the Forest. Since there are a number of Indiana bat hibernacula within ten miles of the Hoosier National Forest and Indiana bat is a relatively wide-ranging species, it is possible that male Indiana bats use many parts of the Forest in the spring and fall for roosting and foraging. We have new information concerning the discovery of hibernating Indiana bats in a cave on the Hoosier National Forest. Over 130 individuals were found verifying the first hibernaculum located on National Forest System land. This cave is located within one of the new special areas designated in the Special Areas amendment to the Forest Plan.

Replace paragraph beginning “Appendix G contains an estimate” on Page 49 with:

Appendix G contains an estimate of potential live roost trees based on plots from the Hoosier National Forest, the nine county area containing the Hoosier, and for the entire state of Indiana. In 1998, the Hoosier had an estimated 471,000 potential live maternity roost trees (greater than 20 inches dbh). The state had an estimated 11,209,000 potential live maternity roost trees. The total number of potential roost trees (greater than 9 inches dbh) on the Hoosier is about 5,385,000. In the state, there are 133,051,000 potential roost trees.

Replace paragraph beginning “Provide Openings & Shrubland” on Page 53 with:  
Provide Openings & Shrubland - There is some benefit to Indiana bats by keeping an area's overall canopy closure within the optimal range described for the species. Conversion of fescue-dominated openings to native warm-season grasses has the indirect benefit of diversifying the potential prey items for the bats. Disturbances for any particular opening are at least once in five years, occasionally more. This acreage is counted only once. Because opening maintenance has little effect on the bats, their recovery period from this activity is very short.

Replace paragraph beginning “There are no known” on Page 57 with:

There is one known Indiana bat hibernacula on NFS land, and several others are nearby, including two Priority One hibernacula. The closest Priority One hibernacula are Ray's Cave in Greene County (18 miles from the nearest NFS land) and Twin Domes Cave in Harrison County (about 10 miles from the nearest NFS land). There is an unknown amount of activity on private land that may affect caves on or off the Forest because of their subterranean connections. Few activities implemented by the Forest Service adversely affect cave environments, and protection and inventory of caves is beneficial. Adverse effects on local populations of Indiana bat by Forest Service activities are so unlikely to occur as to be discountable.

Add paragraph in Appendix G after “Table G”:

According to 1998 FIA data, in the State of Indiana, there are 471,000 potential maternity roost trees. The following table shows a comparison between: (1) available maternity roost trees in the State of Indiana, (2) the nine counties where the Hoosier National Forest is located, and (3) the number of potential roost trees only on the Hoosier National Forest. Maternity roost trees were trees greater than 20 inches in diameter at breast height (dbh).

Add Table G2 after Table G1:

Table G2. Potential Maternity Roost Trees Trees greater than 20 inches dbh. Units – thousands of trees. (Information taken from FIA Database Retrieval System)

Tree Species		NFS Land	Nine counties	Indiana
Latin name	Common name			
<i>Acer rubrum</i>	Red maple	48	165	856
<i>Carya</i> spp.	Hickory	0	111	755
<i>Fraxinus</i> spp.	Ash	12	153	1,694
<i>Populus deltoides</i>	Eastern cottonwood	0	0	1,053
<i>Quercus alba</i>	White oak	297	1,648	4,120
<i>Quercus rubra</i>	Northern red oak	114	566	2,266
	Other soft hardwood	0	41	370
	Other hard hardwood	0	7	95
<b>Total</b>		471	2,689	11,209

The following tree species were selected as potential Indiana bat roosts: shagbark hickory, shellbark hickory, bitternut hickory, silver maple, green ash, white ash, eastern cottonwood, northern red oak, post oak, white oak, slippery elm, American elm, and black locust. Numbers in rows and columns may not add to total due to rounding.