

**Forest Management and Stump-to-Forest Gate Chain-of-Custody
Certification Evaluation Report for the:**

**Indiana State Forests
under the
Management of the
INDIANA DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FORESTRY**

**Conducted under auspices of the SCS Forest Conservation Program
SCS is an FSC Accredited Certification Body**

**CERTIFICATION REGISTRATION NUMBER
SCS-FM/COC-00099N**

Submitted to:

**Indiana Division of Forestry
Indianapolis, IN**

Lead Author: Dave Wager

Date of Field Audit: October 30-November 3, 2006

Date of Report: Draft 12/29/2006; Finalized: 7/12/2007

Certified: Date of Certificate

By:

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Organization of the Report

This report of the results of our evaluation is divided into two sections. Section A provides the public summary and background information that is required by the Forest Stewardship Council. This section is made available to the general public and is intended to provide an overview of the evaluation process, the management programs and policies applied to the forest, and the results of the evaluation. Section A will be posted on the SCS website (www.scs-certified.com) no less than 30 days after issue of the certificate. Section B contains more detailed results and information for the use of the Indiana Division of Forestry (DoF).

FOREWORD

Scientific Certification Systems, a certification body accredited by the Forest Stewardship Council (FSC), was retained by Indiana DNR Division of Forestry to conduct a certification evaluation of its State Forest Properties. Under the FSC/SCS certification system, forest management operations meeting international standards of forest stewardship can be certified as “well managed”, thereby enabling use of the FSC endorsement and logo in the marketplace.

In October 2006, an interdisciplinary team of natural resource specialists was empanelled by SCS to conduct the evaluation. The team collected and analyzed written materials, conducted interviews and completed a 4 day field and office audit of the subject property as part of the certification evaluation. Upon completion of the fact-finding phase of the evaluation, the team determined conformance to the 56 FSC Criteria in order to determine whether award of certification was warranted.

This report is issued in support of a recommendation to award FSC-endorsed certification to Indiana DoF for management of the Indiana State Forests. As detailed below, certain pre-conditions (also known as Major Corrective Action Requests) that were stipulated by the audit team upon completion of the field audit were adequately addressed by Indiana DoF and cleared by SCS prior to finalization of this report. In the event that a certificate is awarded, Scientific Certification Systems will post this public summary of the report on its web site (www.scs-certified.com).

SECTION A- PUBLIC SUMMARY AND BACKGROUND INFORMATION

1.0 GENERAL INFORMATION

1.1 FSC Data Request

Applicant entity	Indiana DNR, Division of Forestry
Contact person	John Seifert
Address	402 W. Washington St, Rm W296
Telephone	317/232-4105
Fax	317/233-3863
E-mail	
Certificate Number	
Certificate/Expiration Date	
Certificate Type	Single FMU
Number of FMU's <i>if applicable</i>	One
Location of certified forest area	State of Indiana
Latitude	W 86 degrees 10 minutes
Longitude	N 39 degrees 46 minutes
Forest zone	Temperate
Total forest area in scope of certificate which is:	
privately managed ¹	0
state managed	150,000 acres
community managed ²	0
Number of forest workers (including contractors) working in forest within scope of certificate	30
Area of forest and non-forest land protected from commercial harvesting of timber and managed primarily for conservation objectives	2,018
Area of forest protected from commercial harvesting of timber and managed primarily for the production of NTFPs or services	0
Area of forest classified as 'high conservation value forest'	2,018
List of high conservation values present ³	HCV 1-6
Chemical pesticides used	Copper Sulfate Copper chelate Metsulfaton methyl (Escort) Trichlopyr (Crossbow, Garlon 3a, Garlon 4) Picloram (Tordon K) Prometon (Pramitol) Glyphosate (Round-up, Rodeo, Aquapro, Eagre)

¹ The category of 'private management' includes state owned forests that are leased to private companies for management, e.g. through a concession system.

² A community managed forest management unit is one in which the management and use of the forest and tree resources is controlled by local communities.

³ High conservation values should be classified following the numbering system given in the ProForest High Conservation Value Forest Toolkit (2003) available at www.ProForest.net

	Imazapyr (Arsenal,Chopper and Stalker) 2,4-D Chlopyralid (Transline) Fluazifop-p (Fusilade) Sulfometuron methyl and metasulfuron methyl (Oust) Ammonium salt of Imazapic (Plateau) Fosamine ammonium (Krenite)
Total area of production forest (i.e. forest from which timber may be harvested)	146,000
Area of production forest classified as 'plantation' for the purpose of calculating the Annual Accreditation Fee (AAF)	0
Area of production forest regenerated primarily by replanting ⁴	0
Area of production forest regenerated primarily by natural regeneration	145,000
List of main commercial timber and non-timber species included in scope of certificate (botanical name and common trade name)	Quercus rubra (White oak), Quercus rubra (Northern red oak), Quercus velutina (Black oak), Liriodendron tulipifera (yellow-poplar), Acer saccharum (Sugar maple), Carya spp (Hickory)
Approximate annual allowable cut (AAC) of commercial timber	14 MMBF hardwoods and conifers
Approximate annual commercial production of non-timber forest products included in the scope of the certificate, by product type	0
List of product categories included in scope of joint FM/COC certificate and therefore available for sale as FSC-certified products (include basic description of product - e.g. round wood, pulp wood, sawn timber, kiln-dried sawn timber, chips, resin, non-timber forest products, etc.)	Roundwood, pulpwood, sawtimber, kiln dried lumber, chips, veneer, wood fiber, mulch, woody biomass

Conversion Table English Units to Metric Units

Length Conversion Factors

<u>To convert from</u>	<u>to</u>	<u>multiply by</u>
mile (US Statute)	kilometer (km)	1.609347
foot (ft)	meter (m)	0.3048
yard (yd)	meter (m)	0.9144

Area Conversion Factors

<u>To convert from</u>	<u>to</u>	<u>multiply by</u>
square foot (sq ft)	square meter (sq m)	0.09290304
acre (ac)	hectare (ha)	0.4047

Volume Conversion Factors

Volume

<u>To convert from</u>	<u>to</u>	<u>multiply by</u>
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⁴ The area is the *total* area being regenerated primarily by planting, *not* the area which is replanted annually. NB this area may be different to the area defined as a 'plantation' for the purpose of calculating the Annual Accreditation Fee (AAF) or for other purposes.

cubic foot (cu ft)	cubic meter (cu m)	0.02831685
gallon (gal)	liter	4.546

1 acre	= 0.404686 hectares
1,000 acres	= 404.686 hectares
1 board foot	= 0.00348 cubic meters
1,000 board feet	= 3.48 cubic meters
1 cubic foot	= 0.028317 cubic meters
1,000 cubic feet	= 28.317 cubic meters
Breast height	= 1.4 meters, or 4 1/2 feet, above ground level

Although 1,000 board feet is theoretically equivalent to 2.36 cubic meters, this is true only when a board foot is actually a piece of wood with a volume 1/12 of cubic foot. The conversion given here, 3.48 cubic meters, is based on the cubic volume of a log 16 feet long and 15 inches in diameter inside bark at the small end.

1.2 Management Context

As a public land management enterprise located in the Central Hardwood Region of the United States, management of the Indiana State Forests is subject to a host of local, state and federal regulations. The principal regulations of greatest relevance to forest managers, within the Central Hardwood Region, are associated with the following statutes:

Pertinent Regulations at the Federal Level:

- Endangered Species Act
- Clean Water Act (Section 404 wetland protection)
- Occupational Safety and Health Act
- National Historic Preservation Act
- Archaeological and Historic Preservation Act
- Americans with Disabilities Act
- U.S. ratified treaties, including CITES and tribal treaties

Pertinent Regulations at State and Local Level:

Four state regulations exist that affect Division of Forestry management. **IC 14-23-4-1** Sec. 1. (a) states “It is the public policy of Indiana to protect and conserve the timber, water resources, wildlife, and topsoil in the forests owned and operated by the division of forestry for the equal enjoyment and guaranteed use of future generations. However, by the employment of good husbandry, timber that has a substantial commercial value may be removed in a manner that benefits the growth of saplings and other trees by thinnings, improvement cuttings, and harvest processes and at the same time provides a source of revenue to the state and counties and provides local markets with a further source of building material.”

IC25-36.5-1-2 establishes the registration of timber buyers, stating that “. . . no person shall engage in the business of timber buying in the state of Indiana without a registration certificate issued by the department. Application for Indiana registration to engage in the business of timber buying shall be filed with the department. Such application shall set forth the name of the applicant, its principal officers if the applicant is a corporation, its managers

and members if the applicant is a limited liability company, or the partners if the applicant is a partnership, the location of any principal office or place of business of the applicant, the counties in this state from which the applicant proposes to engage in the business of timber buying and such additional information as the department by regulation may require.

IC 14-32 declares “(1) That the land and water resources of Indiana are among the basic assets of Indiana and that the proper management of these resources is necessary to protect and promote the health, safety, and general welfare of the people of Indiana. (2) That improper land use practices and failure to control and use rainfall and runoff water cause and contribute to deterioration and waste of these resources of Indiana. (3) That the breaking of natural grass, plant, and forest cover has interfered with the natural factors of soil stabilization, causing loosening of soil and exhaustion of humus and developing a soil condition that favors excessive runoff and erosion, with the following results:

(A) The topsoil is being blown and washed out of the fields and pastures.

(B) There has been an accelerated washing of sloping fields.

(C) These processes of erosion by wind and water speed up with removal of the topsoil, exposing the less absorptive, less protective, less productive, and more erosive subsoil.” The code further establishes the policy to “. . . provide for the proper management of soil and water resources, the control and prevention of soil erosion, the prevention of flood water and sediment damage, the prevention of water quality impairment, and the conservation development, use, and disposal of water in the watersheds of Indiana . . .”

IC 32-30 defines forestry operations as an agricultural activity.

Regulatory Context for State and Local Regulations:

The Division of Forestry (DoF) is a unit of the Department of Natural Resources, a state agency within the executive branch of the Indiana state government.

1.2.1 Environmental Context

An excellent description of the environmental context related to the forests managed by the DoF is found in *The Habitat Conservation Plan for Indiana Bat and Grey Bat on Indiana State Forests v. Oct, 2006* (hereafter referred to as “HCP”). The HCP is further quoted in sections 1.3 and 1.4 of this report. The HCP provides the following discussion on the Indiana forests environmental context:

“The climate of Indiana is dependent on latitude, which ranges from 38°N to nearly 42°N. The monthly mean temperature in southern portions of the state is 54°F compared to 50°F in northern areas (Scheeringa 2002). Annual mean precipitation ranges from 37 inches in the north to 47 inches in the south (Scheeringa 2002), although portions of northern Indiana that border Lake Michigan receive high amounts of precipitation owing to the lake effect. Across the state, May is typically the wettest month and rainfall decreases as summer progresses. The growing season in southern Indiana is approximately 180 to 200 days (Ponder 2004). Relative

humidity is greater in the north than the south. Cloudiness is greater in winter than in autumn. The sun is visible approximately 65 percent of daylight hours in summer and 30 percent in winter. The northern part of the state, influenced by Lake Michigan, is generally cloudier in winter than the southern half of Indiana. The Gulf of Mexico also affects the climate of Indiana by supplying warm, moist air that often collides with cooler, drier air from Canada to produce precipitation (Scheeringa 2002).

Most lands administered by DoF are south of the southernmost boundary of the Illinoian and Wisconsinan glaciers. Retreat of the Wisconsin glacier set the stage for an extended transitional period for forests of Indiana. Forests of the region were molded by these past environmental influences and formed a mosaic of oak-hickory, mixed-, and western mesophytic communities (Braun 1950). Oak-hickory and beech-maple associations that followed the moisture gradients of local topography and physiography dominated climax community composition; mixed mesophytic forest communities were generally found on northerly slopes, and oak-hickory on drier slopes, ridges, and areas with a southerly aspect.

Today, Oak-hickory habitat is the largest component of forests of Indiana, comprising 59.3 percent of the state's total forest cover (Woodall et al. 2004). Oak ecosystems are also prominent across the country, covering 114 million acres (Jackson and Buckley 2004). Some upland oak communities are physiographic climax communities that are self-perpetuating along drier ridges. However, many oak communities are disturbance-dependent and much of the oak-dominated forest present today developed as a result of fires set by Native Americans and intensive agriculture that followed European settlement. These activities increased light availability, reduced competition, dried soils, and created conditions suitable for establishment and maintenance of oak communities.

Indiana's forest, like the majority of forested regions in the eastern United States, is second growth forest. Due to the ecological impact of European settlement on forests of Indiana, no virgin forest (forest that reached maturity uninfluenced by human activity) remains on lands administered by DoF. Over 85 percent of Indiana was covered by forest as recently as 200 years ago (Woodall et al. 2004). Indiana's population grew from approximately 20,000 in the 1700s to almost 1.5 million people in 1860. During this time, approximately half of the state's forests were lost and, by 1900, only 7 percent of Indiana's original forest-cover remained (Woodall et al. 2004). Indiana's forests today are composed of second-growth stands that bear little resemblance to original forest communities."

The Indiana state forest system, established in 1903, was one of the first in the country. The first lands acquired and incorporated into the state forest system were eroding farm fields, pasture, or cut-over timberland, and were generally of marginal economic value. Most woodlands had been high-graded and residual trees were often poor quality, low vigor trees with defects from forest fires and livestock grazing. Many cropped areas had steep slopes or erodible soils and without modern

conservation farming practices, the topsoil was quickly depleted and lost. The poorer subsoil was unable to support continued agriculture. The first management prescriptions emphasized erosion control and restoration of long-term productive potential of the land.

In the 1960s, timber management improved with the arrival of professional foresters and improved record-keeping on state forest properties. In the 1970s, the first timber management procedures were written and timber management activities increased. Today, timber management has developed into integrated forest resource management that involves the integration of ecosystem management and ecological classification concepts. The degraded, cut-over forest of a few decades ago is now characterized by stands of medium to large sawtimber (>11" dbh). Over 20 cover types, containing over 50 species of trees are represented on state forest land.

DoF lands support many natural habitat types throughout Indiana including barrens, upland forests, floodplain forests, and riparian corridors. Each habitat supports a diversity of wildlife species, some of which are unique. Currently 203 fish, 38 amphibian, 53 reptilian, 393 avian, and 57 mammalian species occur in Indiana (Simon et al. 2002).

Barrens occur where soils are thin and bedrock is exposed, usually on ridge tops. Post oak and blackjack oak are scattered in open areas dominated by grasses and forbs more commonly encountered on dry prairies. Wildlife species typical of barren communities include lark sparrow, black king snake, midland rat snake, and Allegheny woodrat.

Oak-hickory and mixed hardwood forests dominate DoF lands in Indiana. Ovenbird, summer tanager, rose-breasted grosbeak, white-tailed deer, and eastern box turtle are common in these deciduous forest communities. Populations of wild turkey, blue jay, eastern chipmunk, and fox, gray, and southern flying squirrels are dependent on acorns and other nuts in this forest community.

Cerulean warbler, yellow-throated warbler, and several species of amphibians are characteristic in floodplain forests, particularly oxbows, sloughs, and backwaters of southwestern Indiana. Seasonally inundated portions of floodplains are home to gray tree frog, wood frog, marbled and small-mouthed salamander, and other amphibians dependent on ephemeral pools in floodplain forests.

Riparian corridors are narrow strips of forested land along rivers or streams. Although they are a small percentage of DoF lands, they are important as buffers and act as ecological links between uplands and aquatic habitats. Because of their transitional nature in the landscape, riparian corridors support a rich diversity of wildlife. Several bird species, such as Louisiana water thrush, prothonotary warbler, belted kingfisher, red-shouldered hawk, and yellow and black-crowned night-heron are dependent on wooded corridors for nesting and feeding. Riparian corridors are also foraging and dispersal areas for Indiana bat, river otter, weasel, and mink."

1.2.2 Socioeconomic Context

According to the HCP (draft v. Oct 2006):

“The population of the State of Indiana in 2004 was 6,237,569, a 2.3 percent increase from population estimates in 2000 (IBRC 2005). Indiana’s population growth has averaged 0.6 percent over the past five years as compared to the national level of 1 percent. The highest population growth occurred in Marion County. Nine of 92 counties in Indiana make up nearly 45 percent of the state’s population.

Approximately three-quarters of the land in Indiana is used for agriculture. Agriculture and food processing are an intrinsic part of the state’s economy, contributing \$17 million annually and supporting 500,000 jobs (Indiana Land Resources Council 2003). Indiana ranks 9th overall in the nation for crop production. Corn and soybeans were the leading source of income for Indiana farmers in 2004 and amounted to \$3.42 billion. Corn, soybeans, livestock production, dairy, and eggs accounted for over 90 percent of agricultural cash receipts in Indiana in 2004 (Indiana Agricultural Statistics Service 2005).

Approximately 20 percent of Indiana is forested. Of Indiana’s nearly 23 million acres, 4.5 million are forest land. Most forests are located in the southern half of the state, south of Indianapolis. Approximately 537,000 acres of Indiana forest land are publicly owned: 196,000 acres are held in national forests; 150,000 are in state forests and 191,000 are in other public ownerships, including military bases, fish and wildlife areas and state parks (Evergreen 1998

Indiana forest products industry is the 6th largest employer in Indiana. (Purdue University through data from Census of Manufacturers). Indiana forest products industry employees over 56,000 people with most of the industry concentrated in the southern half of the state (Evergreen 1998). Forest products manufacturing is a \$2.55 billion a year industry in Indiana (Evergreen 1998). Of 56,000 people working in Indiana’s timber industry, almost 86 percent work for secondary manufacturers, including furniture and cabinet makers and companies that manufacture flooring, doors, window frames, millwork, pallets and hundreds of other structural and decorative products made from hardwood. Indiana ranks 18th nationally in value added for all forest-based manufacturing industries and 1st nationally in value added manufacturing for both wood products and manufactured office furniture. Indiana’s economy is diverse and growing rapidly; but many southern counties are more than 50 percent dependent on revenues and wages generated by forest products manufacturers (Evergreen 1998). The 1997 Economic Census data determined there were 205 primary mills and 926 secondary manufacturing facilities in Indiana. Primary mills are those mills that use logs as their primary raw material to produce various forest products. Secondary manufacturing refers to the drying, cutting, and assembly of lumber and other wood-based primary products into parts and finished products.”

1.3 Forest Management Enterprise

1.3.1 Land Use

As described in the HCP (draft v. Oct 2006):

“The state forests were initially created to restore eroded, worn-out land when small, subsistence farms were abandoned early in the century. Early state forest management focused on reforesting eroded areas, creating wildlife habitat, demonstrating good forest land management, providing public recreation, and conserving forest resources. Today, the state forests are managed for multiple uses and benefits (IDNR Strategic Plan 2005). Income from timber sales on state forest lands represents a small but growing portion of annual revenues for the state of Indiana. From 2003 to 2004, nearly 2500 acres of forest were harvested with over 3.4 million board feet sold, generating revenue of \$897,313 (IDNR Strategic Plan 2005). Fifteen percent of state forest timber sale revenue is returned to the counties in which the harvest occurred. The DoF Strategic Plan 2005-2007 proposes to increase revenue from state forest timber sales to \$3 – 5 million annually by increasing harvest on state forest lands to 10 – 17 million board feet (IDNR Strategic Plan 2005). The average annual growth on state forests is 24,788,950 board feet, so this will represent an annual harvest of about 40 – 69 percent of annual growth. Seventeen percent of the revenue from the increased timber sales will go into a cost-share assistance program to enhance the management of private forest lands, 15 percent will be used for payments to the counties, and the remaining 68 percent will be used for reinvestment, research, acquisition of land and improvement of state forests and preserves (IDNR Strategic Plan 2005).

Indiana’s state forests and recreation areas provide a variety of recreational opportunities for the public. Most recreational activities, such as hunting, fishing, primitive camping, backpacking, and edibles gathering, are dispersed and require minimal development. Modern facilities are necessary for swimming, boating, camping, and nature education on several state recreation areas, but are held to the least developed level possible. The annual number of visitors to DoF properties is estimated to be between 1 and 2 million (B. Hubbard, pers. comm. 2006).

There are 526 miles of hiking, mountain bike, and horse trails on DoF lands and campgrounds are available on 11 DoF-managed properties (Table 3-13; B. Hubbard pers. comm. 2005). Approximately 1840 recreation sites (campsites, picnic areas, boat ramps, parking units, etc.) are found on DoF properties (Table 3-13). Between 6000 and 7000 acres of DoF properties (about 4%) are identified as developed recreation areas (B. Hubbard, pers. comm. 2006).

Recreational activities involving wildlife are major attractions to Indiana state forests. Hunting, fishing, and trapping are permitted on Indiana state forests in designated areas and under the statutes and regulations developed for these activities

(IDNR Specialist Report 2005). Hunting of whitetail deer, squirrel, fox, raccoon, rabbit, ruffed grouse, turkey, quail, woodcock, and dove is allowed within designated areas and seasons. A total of 125,526 deer was legally harvested in the state of Indiana during 2005 (IDNR 2006). Total deer harvest has increased annually since 2000 (IDNR 2006)."

1.3.2 Land Outside Scope of Certification

None, as the Indiana DoF has chosen to seek certification on all of its state forestland property.

1.4 Management Plan

1.4.1 Management Objectives

As described in the Properties Strategic Plan (1997), The objectives of the forest management operations are:

- *Indiana state forests are managed for all forest resources in an integrated and sustainable fashion that allows for both the long term integrity of the ecosystem and provides for timber production and watershed protection as well as consumptive and nonconsumptive use by the public. It is recognized that changing public demands, evolving resource management concepts, and a dynamic forest will require periodic adjustments in land use allocations and forest benefits.*
- *The philosophy of management of landholdings on state forests is to consolidate current landholdings where feasible to develop a more contiguous ownership pattern, to identify and monument all boundary lines, to resolve all encroachments in a fair manner and to provide public access to landholdings.*
- *The state forests will continue to provide consumptive and nonconsumptive outdoor recreational opportunities. Recreational development will not take precedence over natural resource conservation and protection, and will continue to be structured on the natural rather than the "built" environment.*
- *The state forests will strive to locate, evaluate, preserve, and where appropriate interpret and manage those natural resources which are deemed archaeologically, historically or ecologically significant. State forests will be surveyed for these resources in cooperation with the Division of Nature Preserves and the Division of Historic Preservation and Archaeology.*
- *All information and education programming will be directed toward providing the public with convenient access to accurate information on recreational opportunities and resource stewardship. Information and education programming will be directed at both on-property and off-property audiences.*
- *Fish and wildlife management will be an active and integral part of the overall state forest management direction. Habitat conservation and vegetation management will continue to be the major fish and wildlife management tools*

employed. Fish and wildlife management plans will be developed in cooperation with the Division of Fish and Wildlife for each state forest.

- *Develop an organization that is effectively organized and allows for efficient and effective use of budget, equipment and personnel resources between and among properties and within the Division.”*

1.4.2 Forest Composition

The HCP (draft v. Oct 2006) states:

“Oak-hickory and mixed-hardwoods are the most common habitat types on Indiana state forests, comprising nearly 80 percent of SWI plots. The relative proportions of cover types on all state forests are mixed hardwoods (42.8 %), oak-hickory (37.1 %), pine (7.0 %), non-forested (4.5 %), bottomland hardwoods (4.2 %), beech-maple (4.0 %), undefined (0.5 %), and tree plantation (0.1 %).

Table 0-1. Cover types on 12 state forests based on percentage of sample plots assigned to each cover type in the INDOF 2005 System-wide Inventory.

State Forest	Forest Cover Type Percent ¹							
	OH	BM	MH	BH	PI	NF	TP	UN
Clark	66.3	1.2	24.4	0.0	8.8	0.0	0.0	2.3
Ferdinand	42.0	8.0	23.0	0.0	27.0	0.0	0.0	0.0
Greene-Sullivan	2.3	2.3	49.4	5.7	6.9	32.2	1.0	0.0
Harrison-Crawford	42.5	1.0	42.5	1.0	10.3	2.0	0.0	0.0
Jackson-Washington	56.6	7.2	24.1	2.9	4.8	4.8	0.0	0.0
Martin	34.7	5.8	48.8	6.6	2.5	1.7	0.0	0.0
Morgan-Monroe	58.8	7.0	31.8	0.0	2.3	0.0	0.0	0.0
Owen-Putnam	24.3	5.4	60.8	2.7	6.8	0.0	0.0	0.0
Pike	21.9	6.8	39.7	26.0	5.5	0.0	0.0	0.0
Salamonie	5.6	4.2	63.4	0.0	21.1	5.6	0.0	0.0
Selmier	21.7	0.0	65.0	0.0	13.3	0.0	0.0	0.0
Yellowwood	60.0	1.2	30.6	1.2	3.5	1.2	0.0	2.6

¹ OH = oak-hickory, BM = beech-maple, MH = mixed hardwoods, BH = bottomland hardwoods, PI = pine and other conifer, NF = non-forested, TP = tree plantation/plantings, UN = undefined.

1.4.3 Silvicultural Systems

The DoF implements multiple silvicultural systems; the choice of silvicultural system is based on the management objectives for each state forest and objectives for individual forest tracts. The following silvicultural prescriptions are employed on DoF lands, as stated in the HCP (draft v. Oct 2006):

“Hardwood and Pine Group Selection Openings < 10 acres each

Prescriptions for group selection openings remove a small number of trees to create space for regeneration, establishment, and development of intermediate and shade

intolerant tree species. To limit impacts to visual aesthetics, these openings are usually not larger than 5 acres, but can be up to 10 acres. There is no set rotation for group selection openings. Some tracts may receive multiple group selection openings over time; others may receive none.

The need to conduct a group selection opening is based on the composition or condition of existing trees, goals for the tract, and the end result of creating the opening. Group selection is implemented on tracts that are damaged (defective or decaying), have poor vigor, or where regeneration success is less than desirable or not possible without allowing for more sunlight to reach the forest floor.

Hardwood Singletree Improvement

Hardwood singletree improvement harvests are a type of uneven-aged harvesting done in conjunction with group selection openings. Singletree improvement harvests are implemented in areas within an uneven-aged stand that are between created openings. Individual trees are selected and removed throughout the stand approximately every 15 to 25 years. The treatments are conducted to modify or guide the development of the existing crop of trees, but not to replace it with a new one. These activities include selective removal of some vegetation to allow the expansion of remaining tree crowns and root systems. The decision to remove a singletree under this method is based on in-field evaluation of that individual stem for condition, vigor, species composition, and impact to neighboring existing trees.

Pine Clearcuts

All silvicultural pine clearcuts are even-aged stand regeneration actions. All the pines in the stand are cut and removed at the same time, and replaced with a new stand of small seedling/sapling hardwood trees on the entire area. Almost all existing pines on DoF lands are nonnative and the result of plantation plantings established on abandoned farmlands to stabilize and improve soils. Pine clearcuts are implemented to replace nonnative pines with native hardwoods. This method mimics hardwood regeneration that naturally occurs when openings are created.

Pine Thinning

Pine thinning is the removal of pines from pine stands or a partial cutting in even-aged aggregations of trees. Tree removal is done to improve future growth and vigor by regulating stand density. Thinning methods are of two different types: commercial thinning where some or all of the wood harvested is put to use, and thinning without utilization of wood harvested. The latter scenario is considered a pre-commercial thinning and can be equated to removal of undesirable trees. Most of the pine thinning on DoF properties is conducted as commercial thinning and is usually done only once during the life of the pine stand. A typical pine thinning prescription is 0.5 to 20 acres and approximately less than 50 percent of the trees present are removed from an even-aged stand. Without conducting pine thinning harvest production on pine stands would eventually be lost to suppression of trees. Trees that are not harvested from overcrowded pine stands would die from lack of light and nutrients and their fiber value would be lost.

Hardwood Shelterwood

Shelterwood harvests are a method of even-aged regeneration. These harvests remove almost all trees in an existing stand, except the largest and most vigorous hardwood trees. Typically retained hardwood trees are 16 to 28" dbh. Harvested areas are then regenerated with a new stand of young hardwood seedling trees. The resulting natural regeneration is a mixture of hardwood species; as increasing amounts of sunlight reach the forest floor this allows oaks and hickories to compete with more shade tolerant species, and thus oaks and hickories will make up a large proportion of the regenerated stand. Harvesting the existing stand of trees is done in a series of cuttings to release the new seedling trees started under the old stand. The essential characteristic of the shelterwood method is that the new stand is established (naturally or artificially) before the last of the old hardwoods is removed. The final overstory removal in shelterwood harvests usually takes place within 10 years of the initial cutting.

Hardwood Clearcuts > 10 acres each

All silvicultural hardwood clearcuts are even-aged stand replacement actions on areas 10 acres or more in size. Usually clearcuts on DoF properties are between 10 and 25 acres. On rare occasion, larger areas may require a clearcut to manage the results of unforeseen events such as damage from wildfire, insects, storms, or disease. All trees in the stand are cut at the same time and replaced with a new stand of small hardwood trees on the entire area. Hardwood clearcuts on DoF lands are most often used in areas where an entire stand has been damaged by wildfire or storms or where, as a result of past activities, the stand composition is dominated by less desirable trees, exotics, or invasive plant species. The use of clearcut harvests provides the best opportunity for the establishment of new stands dominated by oaks and hickories as compared to uneven-aged harvests. Clearcuts also create openings for large continuous areas of early successional habitat."

1.4.4 Management Systems

The Indiana state forest system is made up of 12 properties ranging in size from 350 acres to 25,000 acres, totaling 148,650 acres. The DoF is responsible for managing the state forests, and does so using a combination of property level managers and field staff, central office administrators/specialists, and contractors. Each property is managed as its own independent unit.

1.4.5 Monitoring System

Division of Forestry employs a variety of monitoring techniques on State Forest lands. As described in the HCP (draft v. Oct 2006):

Tract level Inventory

Tract level inventory data provide short-term information on timber harvest prescriptions. The sampling method for a tract timber inventory is a systematic point sampling with a random start within the tract. The sampling intensity is usually one plot per two acres and may be more or less depending on site heterogeneity.

Information collected at the tract level is entered into an inventory program to guide forest management. Forest inventories can be used for planning management activities for up to seven years after completion of the inventory. A new tract inventory is needed after this time period. Tract inventories are not needed for activities that do not disturb trees or in situations of minimal disturbance such as TSI of regeneration openings for croptree release.

Tract-level inventory data measures how many trees in which size class were harvested in a given tract and provide an estimate of the number of trees remaining per acre at the tract level. A tract-level inventory is not completed again until 15 years after the initial harvest. New information is incorporated into the next decision-making process for harvest on the tracts. The DoF will conduct tract level forest resource inventory annually on an average of 10,000 to 15,000 acres.

System-wide Inventory (SWI)

A SWI also provides information on forest status and health. SWIs are planned approximately every seven to 10 years and provide long-term forest data. The DoF conducts a SWI of the entire state forest system to provide a “snapshot” of current forest conditions, to make strategic, system-wide decisions, and to measure trends over time. The SWI is composed of 1020 variable-radius plots positioned on DoF lands. Information and measurements on tree composition, canopy cover, slope, harvest history, and many other variables are recorded on each plot and added to a system-wide database for each state forest. Using the DoF’s 2005 SWI, the relative proportion of habitat cover types is obtained for each forest. The SWI is most effective at measuring landscape-level change, such as changes in forest composition and habitat cover types. The most recent SWI was in 2005. The next SWI is not anticipated to occur until 2011-2014.

Continuous Forest Inventory

The DoF anticipates that their processes and tracking system used for forest inventory will be updated in the next several years and enhanced to include a continuous forest inventory (CFI). CFI plots are already established and maintained on some state forest properties. They supply property-level information and model changes at specific sites over time. In CFI, permanent plots are established and the exact plots and trees are re-measured during the next inventory cycle, compared to random sampling where temporary new plots are established during each inventory cycle. Tract-level inventory, SWI, and CFI all measure essentially the same type of forest resource parameters. CFI is the most costly to establish and maintain, but provides a more definitive measure of growth and stand change over time.

Components of Effectiveness Monitoring

The DoF has begun a long-term research initiative planned on 16,200 acres of research forests with the goal of determining impacts from implementation of different types, combinations, and sequences of silvicultural systems on wildlife, native plants, and oak communities. The first phase of this long-term research began in 2006 with a 4-year schedule of sampling and treatments outlined in a MOU. The DoF expects to design studies and gather on-site field data, aided by a research team comprised of institutional researchers, resource managers and graduate students, to help develop forest management prescriptions that target certain forest components and to identify potential positive and negative effects to certain species of concern .”

1.4.6 Estimate of Maximum Sustainable Yield

As described in the HCP (draft v. Oct 2006):

“Indiana DoF uses system-wide and tract level inventories to determine stocking, growth and yield of the state forests. In 2005, a State Forest SWI was conducted on the state forest system and was used to calculate maximum sustained yield. This new inventory was designed to be compatible with older CFI inventories done on individual state forests. Because Martin State Forest and Ferdinand State Forest each had an extensive system of permanent Continuous Forest Inventory (CFI) plots established more than 40 years ago it was decided that a re-measurement of the existing CFI plots and the establishment of new plots as needed would be used as the SWI method on these two state forests.

Building on the structure and parameters used in the CFI plots, a variable-radius point sampling inventory was designed to be used on the remaining state forests. This similarity of design, technique and parameters makes the CFI data and the point sample data comparable. Both plot descriptive data and individual tree data were collected.

Both the CFI inventory and the point sample inventory were designed with an intensity that allows the results to be statistically valid at the state forest level, which is appropriate for strategic decision making. A total of 232 CFI plots were taken at Martin and Ferdinand State Forests and a total of 788 variable-radius plots were taken on the remaining state forests. This made a grand total of 1020 plots for the 2005 System-Wide Inventory. The data for all of the plots was entered into Two Dog Inventory Software, which was the same software used by the state forests for tract level inventories.

The following tables represent a compilation of a the growth data of the total SWI:

INDIANA DIVISION OF FORESTRY
AVERAGE ANNUAL VOLUME GROWTH/ACRE BY STATE FOREST PROPERTY
From
2005 System-wide Inventory

PROPERTY	AVERAGE ANNUAL BdFt. Volume Growth /Acre	APPROX. ACRES	AVERAGE ANNUAL BdFt Volume Growth/property
<i>Harrison-Crawford SF</i>	<i>146</i>	<i>24000</i>	<i>3,504,000</i>
<i>Greene-Sullivan SF</i>	<i>101</i>	<i>9000</i>	<i>909,000</i>
<i>Morgan-Monroe SF</i>	<i>192</i>	<i>24000</i>	<i>4,608,000</i>
<i>Yellowwood SF</i>	<i>159</i>	<i>23000</i>	<i>3,657,000</i>
<i>Selmier SF</i>	<i>267</i>	<i>350</i>	<i>93,450</i>
<i>Salamonie SF</i>	<i>140</i>	<i>900</i>	<i>126,000</i>
<i>Clark SF</i>	<i>140</i>	<i>25000</i>	<i>3,500,000</i>
<i>Pike SF</i>	<i>212</i>	<i>3100</i>	<i>657,200</i>
<i>Owen-Putnam SF</i>	<i>181</i>	<i>6300</i>	<i>1,140,300</i>
<i>Jackson-Washington SF</i>	<i>170</i>	<i>17000</i>	<i>2,890,000</i>
<i>Martin SF</i>	<i>175*</i>	<i>8000</i>	<i>1,400,000</i>
<i>Ferdinand SF</i>	<i>288*</i>	<i>8000</i>	<i>2,304,000</i>
<i>All</i>	<i>Average/acre=167 Bdft.</i>	<i>148,650 ac.</i>	<i>24,788,950</i>

- *Annual per acre growth for Martin and Ferdinand State Forest determined from CFI Inventory by dividing the change in volume, per acre, divided by years between re-measurements*
- *All other property annual growth, per acre, calculated using the following formula: 4 x volume/acre divided by the average DBH x Average growth rings per radial inch (USFS Publication NA-UP-01-91)*
- *The calculated average annual volume growth per acre (167 BdFt) should be considered a conservative estimate based on information from properties where data was available (Jackson-Washington and Morgan-Monroe) showing the change in volume per acre in two successive inventories. The annual volume growth rate calculated from the successive inventory volume change was significantly higher than the growth which was derived from increment core measurement.”*

1.4.7 Estimated, Current and Projected Production

The DoF Strategic Plan 2005-2007 proposes to increase annual harvest levels on state forest lands to 10 million board feet to 17 million board feet (IDNR Strategic Plan 2005). The average annual growth on state forests is 24.8 million board feet, so the higher harvest targets remain conservative representing an annual harvest of about 70 percent of annual growth.

1.4.8 Chemical Pesticide Use

The primary use of chemicals on forests administered by DoF is for vegetation control. Chemicals are used in conjunction with mechanical removal and prescribed fire. Chemical applications for vegetation control include:

- Herbicide applications to maintain wildlife openings
- non-routine instances of using herbicides to reduce competing vegetation and release plantings
- Use of herbicides to treat invasive plant species.

An additional chemical pesticide applications method is aerial spraying of biological control insecticide for Gypsy Moth.

All pesticides used on the state forestlands were reviewed by the auditors as to whether or not they are prohibited by FSC. The following pesticides are used by DoF:

Copper Sulfate
Copper chelate
Metsulfaton methyl (Escort)
Trichlopyr (Crossbow, Garlon 3a, Garlon 4)
Picloram (Tordon K)
Prometon (Pramitol)
Glyphosate (Round-up, Rodeo, Aquapro, Eagre)
Imazapyr (Arsenal, Chopper and Stalker)
2,4-D
Chlopyralid (Transline)
Fluazifop-p (Fusilade)
Sulfometuron methyl and metasulfuron methyl (Oust)
Ammonium salt of Imazapic (Plateau)
Fosamine ammonium (Krenite)

2.0 GUIDELINES/STANDARDS EMPLOYED

This certification evaluation was conducted against the FSC Lake States-Central Hardwood Regional Standard V. 3.0, which is available on the FSC-US web site, at: www.fscus.org. Notably, the Lake States-Central Hardwood Regional Standard was originally accredited in August 2002. At that time, the standard was written with the intent that non-conformance at the principle level would preclude certification. However, the working group identified several additional indicators and one criterion that would constitute a “fatal flaw” and also preclude certification. The FSC US continued to support this approach in February 2005, after the issuance of FSC-STD-002, when they stated that where accredited national/sub national standards exist, submitted for accreditation BEFORE January 2005, the CB must follow the decision making procedures defined in the standard. Specifically, where the accredited national standard establishes major failure at principle level then the certification body must use this system to make a certification decision.

3.0 THE CERTIFICATION ASSESSMENT PROCESS

3.1 Assessment Dates

Preliminary Evaluation:

The scoping visit was conducted July 25-27, 2006. The draft scoping visit report was finalized on August 23, 2006.

Main Evaluation:

The main assessment was conducted on October 30-November 3, 2006.

3.2 Assessment Team

Dave Wager, M.Sc. Forestry- SCS Director Forest Management Certification

Role: FSC Team Leader, SFI Team Member

Mr. Wager is Director of Forest Management Certification for SCS. During his 4.5 years as Director, Dave has administered Forest Stewardship Council (FSC) endorsed assessments on over 20 million acres of forestland worldwide. As a Forest Certification practitioner, he has led and/or participated in assessments of over 20 forest management operations including MN DNR administered forests (4.9 million acres), Pennsylvania State Forests (2.2 million acres), Massachusetts State Forests (500,000 acres), and Wisconsin County Forests (2.1 million acres), as well as operations in Malaysia, Canada, Costa Rica, and Japan. In his role as Program Director, Dave oversees all first-time certification evaluations, annual audits, and contract renewal certifications on 65 active clients. In other natural resources work, Dave played a key role in the development of Starbucks CAFE Practices- a program to ensure procurement of sustainably grown and processed coffee. Dave has expertise in business and forest ecology (B.S. business, Skidmore College; M.S. Forest Resources, Utah State University) and utilizes both in his position with SCS. While studying forest ecology at Utah State University, Dave was awarded a NASA Graduate Student Research Fellowship to develop dendrochronological techniques to assess Douglas-fir growth reduction in Utah's Central Wasatch Mountains.

Mike Ferrucci, Master Forestry Yale University- Program Manager NSF

Role: SFI Team Leader, FSC Team Member

Mike Ferrucci is the SFI Program Manager for NSF – International Strategic Registrations and is responsible for all aspects of the firm's SFI Certification programs. Mike has led Sustainable Forest Initiative (SFI) certification and precertification reviews throughout the United States. He has also led joint SFI and Forest Stewardship Council (FSC) certification projects in Wisconsin, Michigan, Maryland, Maine, and Connecticut and a joint scoping or precertification gap-analysis project on tribal lands throughout the United States. He is qualified as a RAB EMS Lead Auditor (ISO 14001 Environmental Management Systems), as an SFI Lead Auditor, as an FSC Team Leader, and as a Tree Farm Group Certification Lead Auditor.

Mike has 26 years of forest management experience. His expertise is in sustainable forest management planning; in certification of forests as sustainably managed, in the application of easements for large-scale working forests, and in the ecology, silviculture, and management of mixed species forests, with an emphasis on regeneration and management of native hardwood species. He has also developed expertise in the conservation of forest biodiversity at multiple spatial scales through his involvement in the founding and administration of The Conservation Forestry Network and through his work with the Northern Forest Protection Fund.

Mike has conducted or participated in assessments of forest management operations throughout the United States, with field experience in Maine, New Hampshire, New York, Massachusetts, Connecticut, Rhode Island, New Jersey, Pennsylvania, Maryland, West Virginia, Kentucky, Tennessee, Georgia, Alabama, Minnesota, Michigan, Wisconsin, Arizona, California, Oregon, and Washington. Mike is a 26-year member of the Society of American Foresters and is active in the Association of Consulting Foresters and the Connecticut, Massachusetts, and Rhode Island State Implementation Committee (SIC) for the Sustainable Forestry Initiative.

Mr. Sterling Griffin, B.S. Forestry- SCS Certification Forester

Team Member (Forest Management): Sterling Griffin is a Certification Forester with Scientific Certification Systems (SCS). He is a Registered Professional Forester in the State of California with professional experience in private and public land management. He is a graduate of Purdue University with a B.S in Forestry and has administered Forest Stewardship Council (FSC) endorsed assessments on over 4 million acres of forestland throughout the United States. As a forest certification practitioner, he has conducted certification assessments on public lands including Michigan DNR, Indiana Division of Forestry, and private operations in Oregon, Washington, and California. Prior to joining SCS, he was the founder of a private consulting firm in Northern California specializing in sustained yield management, fuel reduction, and forest health management. His professional career also includes conducting silvicultural and ecosystem research for the U.S. Forest Service. Areas of research activities included stand level response to vegetative competition and Long-Term Ecosystem Productivity (LTEP) in the Pacific Northwest.

Dr. David Capen, Independent Consultant

Team Member (Wildlife Biology and Ecology):

Dr. Capen is Research Professor, Rubenstein School of Environment and Natural Resources, University of Vermont. His research experiences and expertise are in the areas of wildlife habitat analysis, avian ecology, landscape ecology, biodiversity analysis, GIS and remote sensing, multivariate statistics, and conservation planning and reserve design. He holds the following degrees: B.S.F., University of Tennessee, 1969 (Forestry); M.S., University of Maine, 1972 (Wildlife Management); and Ph.D., Utah State University, 1977 (Wildlife Science). Dr. Capen has participated in a variety of forest certification projects, including SFI and FSC projects on public lands in Massachusetts, Maine, and Minnesota, and private forest lands in Maine and New York.

Fred Hadley, MFS Yale University- Independent Consultant

Team Member- Indiana Forester

Fred is a forester/natural resource management specialist, and President of Multi-Resource Management, Inc., a consulting company dealing with forest and natural resource management. The firm offers complete forest, wildlife, and land management services including: timber marking and sales, timber inventories and appraisals, timber taxation consultations, forest and wildlife management plans, timber stand improvement and mechanical tree planting programs. Fred is a licensed category 2 commercial pesticide applicator.

Prior to starting a consulting firm Fred held a variety of positions in public, private, and academic sector forestry. In those positions Fred worked with researchers, public officials, and the general public.

Fred's academic training includes an MFS, Yale University, 1981- Forest Management, a BSF, Purdue University, 1979-Forest and Wildlife Management, and numerous continuing education courses dealing with a wide variety of natural resource management topics.

Fred has been active in a variety of professional and voluntary positions, including: National Association of Consulting Foresters, Past President Indiana Association of Consulting Foresters, President Woodland Steward Institute, Currently member of Board of Directors, Past member of Indiana Commissioner of Agriculture Working Group on Agriculture and Natural Resource Land Use Planning, Indiana Woodland Owners Association, Editor "Woodland Steward Quarterly", Member of Indiana Woodland Health Initiative working group, Class Secretary Yale Forestry and Environmental Studies Alumni, Purdue Alumni Association, Indiana Tree Farm Committee, Member Xi Sigma Pi National Honor Society. Fred has also written numerous publications and reports and participated in forestry research activities.

3.3 Assessment Process

Itinerary (the following activities comprised the field phase of the full certification evaluation):

Tuesday, October 31, 2006

8-11 am	Specialist interviews at Indiana Division of Forestry Central Offices
11 am-12:30 pm	Drive to Morgan-Monroe State Forest (MMSF)
12:30- 5 pm	Field audit MMSF
6-7:30 pm	Stakeholder meeting Bloomington (Parks and Recreation Twin Lakes Conference Center)

Wednesday, November 1, 2006

8 am- 5 pm	Clark SF (2 team members)
8 am- 5 pm	Jackson Washington SF (2 team members)
Evening	team deliberations FSC & SFI synthesis and scoring

Thursday, November 2, 2006

8 am – 1 pm Harrison-Crawford SF
1 pm – 2 pm Stakeholder interview
2 pm – 6 pm Drive to Indianapolis area
Evening team deliberations FSC & SFI synthesis and scoring

Friday, November 3, 2006

8 am – 2 pm FSC & SFI Synthesis and Scoring
8 am – 2 pm phone availability of key Division of Forestry personnel
2 pm – 4 pm Travel to Indiana DNR Offices;
Lead Auditors Prepare for closing meeting
4 pm – 5 pm Closing Meeting, Audit Team and Indiana Division of Forestry

Prior to the main assessment, SCS conducted a scoping evaluation from July 25-27, 2006. The audit team conducted desk reviews of key documents describing the Indiana State Forest System. Itinerary (the following activities comprised the field phase of the scoping evaluation):

Tuesday July 25, Division of Forestry Office Indiana Gov. Center

8:30-9:00 am Opening meeting and introductions
9:30-11:30 am State Forest System Presentation
11:30- 1 pm Working Lunch – follow-up discussions
1-4:30 pm FSC Break-out session- detailed discussion of selected FSC topics

Wednesday July 26, Morgan-Monroe SF and DOF Office Indiana Gov. Center

7 am to 1 pm Field visit to Yellowwood SF
1-5 pm Audit planning session
3-5 pm Stakeholder meeting

Thursday July 27, Division of Forestry Office Indiana Gov. Center

8:30-11:30 am Specialist Interviews and Follow-up Questions
11:30-12:15 FSC Closing meeting

Following the on-site component of the assessment, the FSC lead auditor spent time reviewing DoF documents and preparing the assessment report.

3.3.2 Evaluation of Management System

The process by which Scientific Certification Systems evaluated the systems employed by DoF in managing the state forests entailed the following components:

- Empanelment of an interdisciplinary team with demonstrated credentials and expertise in forest certification, auditing protocols, forest management, wildlife management as well as a working knowledge of the forest types found on the Indiana State Forests and a general familiarity with the Indiana DoF
- Review of documents pertinent to the state forests, as are available on the DoF internet site, as well as that provided electronically, to the audit team members
- Extensive interviews with a broad cross-section of DoF personnel at the head office in Indianapolis and five state forest properties.
- Interviews and review of written comments from a broad cross-section of stakeholders external to the DNR.
- Field reconnaissance of a broad array of forest conditions and past and present management activities on the 4 State Forests that comprised the sample for the main assessment

3.3.3 Selection of FMU's to Evaluate

The forest management operation undergoing certification consists of a single Forest Management Unit, per FSC terminology. The audit team designed a field itinerary designed to obtain first-hand exposure to a representative cross section of individual properties within this single "forest management unit."

3.3.4 Sites Visited

Tuesday, October 31, 2006

8:00- 11:30 DNR Central Office-Indianapolis

- Interviews with DNR specialists

12:30- 5 pm Field Audit Morgan-Monroe and Yellowwood State Forest
North Tour (MF & DC)

- C06 Tract 7: 2004 selection harvest in mixed hardwoods, good BMPs, residual stand healthy and limited damage, no prescribed openings, but adjacent areas were damaged by 1991 tornado
- Disabled Hunters Route: logging road maintained for disabled hunters
- C04 Tracts 3 and 13: marked (prior to 2005-2007 Strategic Plan) hardwoods, conservative improvement thinning, discussed stand level retention

South Tour (DW, SG, FH)

- Unscheduled Harvest Unit Review: Recently harvested group and single tree selection unit, good retention and diameter distribution, moderate residual stand damage, slash (tops) left untreated in group opening, opening 2 acres with eastern exposure, aesthetics of concern, piles provide good wildlife cover
- C14 Tract 13: Selection harvest, mixed hardwoods in three units, unit C cut in 2005; B cut in 200, A cut in 2001. Good BMPs. Site used for logger training. Grazing Encroachment Area: Owner of adjacent inholding had placed electric

fencing across corner of State land (<1/2acre), Forest Manager attempts informal resolution before moving to attorney general on these cases, State has purchased adjacent in-holdings and is seeking others to reduce this problem.

- C03 Tract 1: Viewed unit two years following harvest, high value trees protected and left, discussed merits of various opening sizes, no openings visible in unit, waterbars installed along top of ridge on skid road where flagged by forester, good regeneration in single tree removal openings. Riparian area protected by sale boundary.

Wednesday, November 1, 2006

8 am- 5 pm Clark State Forest (DW, DC, SG)

- Hardwood Restoration Opening: 16 acre conversion of planted pine to hardwood done to take advantage of transitory pine market. Skid trail going through small wetland/seep area.
- C 09 Tract 1: Improvement cut and hardwood restoration. Viewed marked stand with large group opening to remove pine surrounded by hardwood improvement thinning, opening placed in largest concentration of pine, Good diversity of hardwood regeneration.
- C 11 Tract 1: View selection marking, openings placed to remove beech from stand, discussed watercourse crossing BMPs, viewed marking of cull trees (logger option to remove), older snags not marked, forester identified cultural site and had area flagged for protection
- Deam Lake blowdown area: Viewed salvage logging of tornado blowdown from 2005, discussed sale administration by forester, temporary waterbars placed on wet skid trails, discussed higher logging costs on state lands vs. private land due to complying with BMPs, viewed TSI on adjacent stand

8 am- 5 pm Jackson Washington State Forest (MF, FH)

- Skyline Drive Recreation Area: scenic drive, picnic areas, hiking trails
- C03, Tracts 10 and 11: reviewed planned selection treatments in a variety of stand types, including ridge top/upper slope chestnut oak, midslope mixed oak/hickory, and cove poplar
- C01, Tract 2: excellent quality and well-maintained access road, completed harvest 2005, good residual stand and BMPs, concerns about stand-level habitat retention guidelines
- Starve Hollow State Recreation Area: office and recreational facilities
- Shipley Acquisition: purchased to add to forest and provide access
- 2005-2006 Road Closure
- Active timber harvest, but logger not on site due to rainy weather

Thursday, November 2, 2006

8 am – 2 pm Harrison-Crawford State Forest (entire team)

- C19 Tract 03: completed typical selection harvest with a 2-acre opening that had large and small green tree retention (hickory) based on guidelines for Indiana bats
- C13 Tract 01: reviewed tract management guide, comparison of inventories at 16 year intervals shows 125 to 170 board foot per acre beyond mortality, completed sale 2005-2006, good retention and residuals, but somewhat more soil movement from skid trails due to requirement from “Voluntary Bat Guidelines” mandating harvest activities only between Nov. 16 and March 24
- Interview with TNC personnel

3.3.5 Stakeholder Consultation

Pursuant to SCS protocols and FSC requirements, consultations with key stakeholders were an integral component of the evaluation process. Consultation took place prior to, concurrent with, and following the field evaluation. The following were distinct purposes of the consultations:

- To solicit input from affected parties as to the strengths and weaknesses of Indiana DoF’s management, relative to the standard, and the nature of the interaction between the DoF and the surrounding communities.
- To solicit input on whether the forest management operation has consulted with stakeholders regarding identifying any high conservation value forests.

Principal stakeholder groups of relevance to this evaluation were identified based upon results from the scoping evaluation, lists of stakeholders from DoF, and additional stakeholder contacts from other sources (e.g., chair of the regional FSC working group). The following types of groups and individuals were determined to be principal stakeholders:

- DNR/DoF employees, including headquarters and field
- contractors
- adjacent property owners
- Members of the Lake States FSC Working Group/National Initiative
- FSC U.S. staff
- Local and regionally-based environmental organizations and conservationists
- Local and regionally-based social interest organizations
- Forest industry groups and organizations
- Purchasers of logs harvested on DoF forestlands
- Local, State and Federal regulatory agency personnel
- User groups, such as hikers
- Other relevant groups

The following stakeholder consultation activities were undertaken during the 2006 scoping

visit and the 2006 main assessment:

- A two-hour focused stakeholder meeting was held in the DNR headquarters office during the Scoping Visit; approximately 15 individuals representing a full range of interests met with the co-team leaders, offered input, and received briefings on the process.
- Public notices to approx 150 stakeholders were distributed through email, and web-based announcements. A public notice was sent July 18, 2006, that announced the timing of the field component of the full evaluation; the notice solicited comments and informed interested parties as to the availability of the FSC dispute resolution process; the public notice also solicited comment on matters related to FSC Principle 9, High Conservation Value Forests. A second public notice was sent in mid-October that announced the date, time and location of the open public meeting that was held during the full evaluation, and again solicited comments.
- During the 1-week field component of the full evaluation, the audit team conducted stakeholder meetings in Indianapolis and Bloomington. Additionally, team members phoned stakeholders and had in-person meetings. Approximately 41 individuals representing a full range of interests met with the team, offered input, and received briefings on the process.
- The audit team received and considered written comments submitted by a broad cross-section of stakeholder groups.

3.3.5.1 Summary of Stakeholder Concerns and Perspectives and Responses from the Team Where Applicable

A summary of stakeholder comments received during the course of this evaluation is provided the following table. The left column lists the stakeholder’s comments and the right column lists SCS’ response, e.g., whether or not a Corrective Action Requests (CAR) or Recommendation was stipulated for that particular issue. The CARs and Recommendations can be found in section 5.2 of this report.

Public Input and Related Concerns

Comments/Concerns	SCS Response
DNR “open houses” are scheduled on workdays and end before 5 p.m., so this severely limits the opportunity for citizens to comment on activities.	We found this comment to be factually inaccurate. Open houses are typically held on the weekend. However, we have issued CAR 2006.3 to improve communication with stakeholders.

Comments/Concerns	SCS Response
DNR “open houses” are scheduled on workdays and end before 5 p.m., so this severely limits the opportunity for citizens to comment on activities.	We found this comment to be factually inaccurate. Open houses are typically held on the weekend. However, we have issued CAR 2006.3 to improve communication with stakeholders.
The DOF drafted and enacted a new Division Strategic Plan in complete secrecy, there was no attempt to involve the public.	See Major CAR 2006.2
Neither the Friends of Yellowwood nor the Yellowwood Lake Watershed Planning Group were offered opportunity for input on the Division plan nor were they on the stakeholder list given to FSC/SCS.	See Major CAR 2006.2 and CAR 2006.3. We have added Friends of Yellowwood to our SCS stakeholder contact list.
A veneer of receiving input is applied, but I don’t believe they are listening to more than a small group of stakeholders.	See CAR 2006.3
Only select groups with a vested interest in State Forest management were invited to closed-door meetings to help draft the Division Strategic Plan.	See Major CAR 2006.2
DOF should involve the public in an open and inclusive conversation about how to move forward on a forest protection agenda that includes additional acquisition of public land and funding for research.	Major CAR 2006.2 will improve stakeholder consultations; however, legislative mandates for state forests are multi-use not “protection”, which typically refers to no harvest.
DOF does not provide adequate notice of proposed actions and meaningful opportunities for public comment or review.	See CAR 2006.3
Management of Indiana State Forests by the DNR does not provide a formal appeals process for concerned citizens.	An appeal process is available through the Natural Resources Commission. See section B.1.4 of report for conformance evaluation for more details.
Open house meetings don’t cover site specific activities or provide maps of proposed actions.	See CAR 2006.3
The new Division Strategic Plan was prepared in just three weeks without any attempt to involve the public.	See Major CAR 2006.2

Management Planning and Related Concerns

Comments/Concerns	SCS Response
The only science used in the new forest plan in deciding which trees to manage is the science of economics.	See Conformance Table Section B.1.7
Allowance has not been made in the new state plan for the needs for threatened and endangered species or for species of special concern, either state or federally listed.	The DOF procedures manual requires consideration of flora and fauna species, including all rare, threatened, and endangered species.
Strategic plans lack landscape level analysis including successional stages (e.g., old growth), influence of disturbance regimes, fragmentation, and habitat connectivity.	The Strategic Plan appears to address these issues by relying on an analysis of habitat needs presented in the paper titled “Increasing Wildlife Habitat Diversity on Forest Lands Managed by IN DNR”. Additionally, the Draft HCP provides extensive landscape level analysis.
Maintaining the appropriate diversity of forest	The Strategic Plan appears to address these issues

dependent species should be the goal. Only species that have evolved in forest systems of all age classes should be considered, not just those dependent upon “early successional” habitat.	by relying on an analysis of habitat needs presented in the paper titled “Increasing Wildlife Habitat Diversity on Forest Lands Managed by IN DNR”. Additionally, the Draft HCP provides substantial guidance on this topic.
Sensitive songbird species like the cerulean warbler require unbroken canopy forests to survive. Populations of migratory songbirds continue to decline, in large part due to lack of intact forests.	The Strategic Plan appears to address these issues by relying on an analysis of habitat needs presented in the paper titled “Increasing Wildlife Habitat Diversity on Forest Lands Managed by IN DNR”
There is no mention (in the new Strategic Plan) of soil erosion, invasive exotic species, harm to water quality, destruction of habitat for wildlife or other readily anticipatable effects of a five fold increase in state forest logging.	The Strategic Plan address these issues by relying on an analysis of habitat needs presented in the paper titled “Increasing Wildlife Habitat Diversity on Forest Lands Managed by IN DNR” and “Forest Management and Water Quality in Indiana”
No serious attempt was made to assess the potential harms associated with the dramatic increase in logging, the road building, and other disturbances required to implement this substantial departure from past practice.	The DOF procedures manual requires consideration of potential impacts associated with harvesting to be addressed in the Management Guide developed prior to operations. Post harvest BMP monitoring will continue. State forests already have a well established road network as most of the state forests have been harvested at least once.
The Strategic Plan for the Division of Forestry fails to take into account the findings of the Yellowwood Watershed Group, and, in fact, would accelerate some process that are degrading Yellowwood Lake and its watershed.	See Major CAR 2006.2
The plan to harvest up to 80% of the annual growth is based upon a system wide assessment without any apparent allowance for the wide variety of individual stand conditions. This level of timber harvest allows no room for error in their analysis.	According to the plan, 69% of growth will be harvested. The Inventory procedures used for calculations meet acceptable standards. To provide for error, 31% of growth will be retained.
Considering the rarity of old growth in Indiana and the proposed aggressive timber harvesting schedule, the new plan should have allowed for large tracts of old growth to compensate for the increase in logging.	See CAR 2006.8
“Old Forest” designations, designed to mimic old growth conditions, have been eliminated.	“Old forest” designation have not been eliminated. Management has been modified, but still seeks to maintain old growth conditions.
The state should strive to maintain areas set aside to undergo natural processes.	See CAR 2006.5
The new state plan does not take into account the High Conservation Value Forests located with the network of state forests.	See CAR 2006.8 and Section B.1.9
Much of the land within the state forest system in Indiana should be considered as High Conservation Value Forests.	See CAR 2006.8 and Section B.1.9
The management of Indiana State Forests by the DOF does not comply with the requirements or the standards or High Conservation Value Forests.	See CAR 2006.8 and Section B.1.9
The new state plan has no provisions for monitoring the forest except as in necessary to determine where to conduct timber harvesting.	Audit team found evidence to the contrary. The CFI system to be implemented covers both timber and non-timber forest conditions. Additionally, monitoring plans detailed in the Draft IN Bat HCP are comprehensive. . See conformance table

	section B.1.8 for more detail.
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Concerns over Multiple Use of Forests

Comments/Concerns	FSC Response
Non timber products are not promoted in the Strategic Plan. Hunting and timber interests are the only uses that benefit.	The Strategic Plan also proposes increases in recreation expenditures. Also, Major CAR 2006.2 issued
It is obvious that logging at any cost has superceded all the other watershed uses, values and efforts.	Comment noted. This stakeholder perspective helped to inform the assessment process and the audit team's dialogue with DoF
Changes in staffing within the Yellowwood Lake management structure indicate a serious weakening of support for non-extractive uses of the state forest and the watershed in particular.	The audit team did not find evidence of weakening support for non-extractive uses (e.g., recreation, watershed values) of the forest
Current logging prescriptions in the Yellowwood Lake watershed will increase sedimentation into the lake and degrade the experience of multiple users, including fisherman, boaters, and birders.	Mandatory BMPs and monitoring address soil erosion and sedimentation. There is no evidence that logging of state forests is significantly contributing to sedimentation of Yellowwood Lake.
The state's public forests should be managed to supply public benefits not readily available from private land, including watershed protection, habitat for forest wildlife, recreation, and other non-destructive public uses.	Indeed, DOF has a multiple use mandate.
Indiana forest's timber resource should be more utilized.	The new Strategic Plan proposes increased timber harvesting, specific recreational opportunities, and habitat diversity.
The increase in logging volume in the strategic plan will destroy the aesthetic and recreational experience for visitors and subsequently damage local economic diversity by favoring commercial timber extraction.	The Strategic Plan proposes increased recreational opportunities. Monitoring will be needed to determine management effects. Improved public participation procedures are addressed in CAR 2006.3
The DNR strategic plan proposes logging the watersheds around reservoirs that provide drinking water for large numbers of Hoosiers.	Comment noted. Mandatory BMPs and monitoring address soil erosion and sedimentation that would affect drinking water. There is no evidence that logging of state forests will impact water quality of Yellowwood.

Concerns over Harvesting Impacts

Comments/Concerns	SCS Response
The Indiana BMPs are the bare minimum that should be required of loggers and must be enforced on all logging operations.	Mandatory BMP compliance and monitoring will continue under new strategic plan
The new state plan will be "managing" the forests so frequently that impairment of forest soils is inevitable.	Mandatory BMPs address soil compaction. See CAR 2006.4 for additional discussion of downed woody debris
Riparian zones need to be explicitly protected from almost all management activities.	Mandatory BMPs address riparian management zones.
The Yellowwood watershed contains flash-flood-prone streams. Increased logging of 400% with	Riparian zone management and stream crossings are covered in BMP field guide. Additionally, soils are

clearcuts up to 30 acres will endanger this fragile ecosystem and its function as a catch basin for the lake.	assessed in Management Guides for each compartment.
Logging roads create runoff, erosion, and compacts the soil.	Roads, erosion, and soil compaction are addressed in BMP guide.
It is obvious that stilt grass is a problem in Yellowwood, Morgan Monroe, and Harrison Crawford State Forest.	Comment noted. See Section B.1.6 (Criterion 6.9)
No collection of data regarding changes in flora and fauna, and other environmental impacts of harvesting trees is being performed or being made public.	Assessments are being conducted. CAR 2006.3 requires improved presentation of this information.

Indiana Bat Protections

Comments/Concerns	SCS Response
The Indiana State Forests are in the middle of a process to obtain an incidental take permit and develop a habitat conservation plan for the endangered Indiana Bat. Logging in these forests should not be permitted until the process is complete.	As with other DNR activities, harvesting of trees must follow applicable laws and/or treaties. SCS is aware of no such laws or treaties that are being violated by harvesting activities.
Development of a HCP for the purpose of securing an incidental take permit should be a prima facie basis for denying certification	This point of view has been addressed long ago in the FSC. Several FSC-certified operations have HCPs/ITPs. In fact, a duly approved HCP provides a demonstration of compliance with the Federal Endangered Species Act.
The newly proposed large timber sale in Harrison-Crawford State Forest will have a damaging impact on the maternal roost habitat.	Harvesting in Harrison-Crawford meets voluntary guidelines established by DOF in cooperation with US Fish and Wildlife Service.
The new strategic plan shows an incredible bias against species that require late successional forests as habitat. For example, the Indiana Bat requires late successional hardwood forests including older hickory, white oak, and even sugar maple.	The Strategic Plan appears to address these issues by relying on an analysis of habitat needs presented in the paper titled "Increasing Wildlife Habitat Diversity on Forest Lands Managed by IN DNR". Additionally, this is addressed in the Draft Indiana Bat HCP.
The only area in which Indiana Bat populations are increasing in numbers is in the state of Indiana, and forest protection advocates point to the elimination of timber extraction in the Hoosier National Forest as the reason for the reproductive success of the species locally.	Comment noted.
In October 27, 2005, the DNR sold timber from an environmentally fragile area in Harrison Crawford State Forest that was close to an Indiana Bat hibernacula.	Harvesting in Harrison-Crawford meets voluntary guidelines established by DOF in cooperation with US Fish and Wildlife Service.

Miscellaneous Comments

Comments/Concerns	FSC Response
Bird nesting delays were also eliminated, so logging will have a damaging impact on the reproduction of migratory songbirds.	Audit team confirmed that the no-harvest period for bird nesting has not been eliminated on the Morgan Monroe and Yellowwood properties, which are the only forests where this no-harvest period was in

	place. None of the other ~15 publicly managed forests (state, federal, county) across the U.S. that have been assessed by SCS have such a protection mechanism in place. As such, this demonstrates exceptionally sensitive forestry practices.
There is inadequate scientific evidence to prove that logging provides early successional habitat for species that require this habitat type.	The overwhelming majority of peer reviewed scientific research concludes that logging does provide early successional habitat. Evidence indicates species requiring early successional habitat utilize recently logged (<10 years) area.
DOF does not comply with the Indiana Environmental Protection Act that requires all state agencies to ensure unquantified environmental amenities are given appropriate consideration in decision making along with economic and technical considerations.	DOF has become legally exempt from IEPA requirements. Prior to their legal exemption, they had submitted a document that met IEPA. FSC standards require consideration of full range of benefits provided by forests. See Section B.1.6 (Criterion 6.1)
Concerned DOF has taken advantage of loophole to get around the law.	Prior to legal exemption, DoF had addressed IEPA.
Siviculture as the DOF practices it, is to log the best healthiest trees. This ensures they are selecting for slow-growing, diseased or substandard trees.	Observations made during the audit do not support this comment.
The state forest boundaries are often poorly marked and infrequently policed. This situation has lead to some abuses. Providing for better and more regular law enforcement within the budget is sorely needed.	Comment noted.
The certification standards should include climate issues such as carbon sequestration and global warming	SCS is obligated to audit against the accredited regional standard, and these issues are not incorporated into the regional standard. Such comments should be submitted to FSC U.S.- see www.fscus.org for details.
Certification of public lands is opposed and, as such, all public lands certification projects are considered to be shams.	FSC certification of public lands has been occurring for many years throughout the U.S. and, even more extensively, throughout the world.
DOF relies too much on the court system for dispute resolution.	Comment noted.
A recent study by researchers from Purdue University found that 55.9% of respondents oppose logging on public lands.	Comment noted. Major CAR 2006.2 and CAR 2006.3 relate to improved public participation.

3.4 Total Time Spent on audit

Approximately 9 auditor days of review, interviews, and reporting was spent during the Scoping Visit in July 2006. For the main assessment in October/November 2006, approximately 16 auditor days were expended in field work, 4 auditor days in document review prior to the field work, 3 auditor days in advanced and follow-up stakeholder consultation, and 6 auditor days in writing the draft report.

3.5 Process of Determining Conformance

Consistent with SCS Forest Conservation Program evaluation protocols, for scoring purposes

the team collectively assigned weights of relative importance to the Criteria within each of the ten Principles of the FSC Lake States and Central Hardwood Regional Standard. Scores were assigned to each Criterion at the completion of the field phase and importance-weighted means (average scores) were calculated for each Principle. Scoring takes place on a 100-point scale, using a consensus process amongst all members of the evaluation team. Scores less than 80 points connote performance in which there is discernible non-conformance to the breadth of a Criterion. For any Criterion for which the team assigns a score below 80 points, the team is required to specify one or more Corrective Action Requests (CARs), also known as “conditions.” If the weighted average score of any Principle is less than 80, certification cannot be awarded and, instead, the evaluation team must stipulate one or more Major Corrective Action Requests (Major CARs), also known as “pre-conditions.” The evaluation team also retains the option to specify “discretionary CARs” even when the score for the pertinent Criterion is above 80 points. This may occur when, overall, the Criterion was highly scored but there are issues within the scope of a Criterion where important improvements are, in the judgment of the team, necessary even though these deficiencies are not severe enough to move the score below 80 for the totality of the Criterion. For certification to be awarded, the importance-weighted average score for each of the 10 FSC Principles must be 80 points or higher.

Interpretations of Preconditions (Major CARs), CARs and Recommendations

Preconditions/Major CARs: These are corrective actions that must be resolved or closed out prior to award of the certificate. These arise when the importance-weighted average score for a Principle is less than 80 points or where there is observed non-compliance with a “pre-emptive” indicator (e.g., use of GMOs is a “fatal flaw” that precludes award of certification regardless of the strength of the overall management program).

CARs: Corrective actions must be closed out within a specified time period of award of the certificate. Certification is contingent on the certified operations response to the CAR within the stipulated time frame.

Recommendations: These are suggestions that the audit team concludes would help the company move even further towards exemplary status. Action on the recommendations is voluntary and does not affect the maintenance of the certificate. Recommendations can be changed to CARs if performance with respect to the criterion triggering the recommendation falls into non-compliance.

4.0 RESULTS OF THE EVALUATION

Table 4.1 below, contains the evaluation team’s findings as to the strengths and weaknesses of the subject forest management operation relative to the FSC Principles of forest stewardship. The table also presents the corrective action request (car) numbers related to each principle.

Table 4.1 Notable strengths and weaknesses of the forest management enterprise relative to the FSC Principles &Criteria.

Principle/Subject Area	Strengths Relative to the Standard	Weaknesses Relative to the Standard	CAR/REC #s
P1: FSC Commitment and Legal Compliance	<p>There have been no regulatory violations in the previous 30 years</p> <p>Division of Forestry (DoF) has a solid program for assuring BMPs are followed, especially relative to other state program reviewed by SCS.</p> <p>DoF has made a formal commitment to manage the state forests in conformance with the FSC Principles & Criteria.</p>	<p>The majority of property DoF managers and field staff are not familiar with the FSC standard.</p> <p>Six years ago, a lawsuit was filed against DoF for their failure to comply with the Indiana Environmental Protection Act (IEPA) requiring an environmental assessment. This case has yet to be resolved; however, due to recent state legislative action, DoF has become exempt from IEPA requirements.</p>	<p>CAR 2006.1</p>
P2: Tenure & Use Rights & Responsibilities	<p>Unlike other regions of the world, and particularly so for publicly-owned forestland, there is no question as to the tenure status of the Indiana state forest system</p> <p>Customary recreational uses are accommodated and managed in an exemplary manner.</p> <p>DoF maintains an open door policy both at the level of the central office and each state forest.</p>	<p>No significant weaknesses noted</p>	
P3: Indigenous Peoples' Rights	<p>Consultation is done with the Division of Historic Preservations and Archaeology prior to major activities. State lands are open for hunting, fishing and other compatible uses</p> <p>DoF received an archeological award for their service at protecting both historic and pre-historic sites. Confidentiality of sites is maintained</p>	<p>DoF has not attempted to contact the non-recognized Indian Tribes currently residing in Indiana; The Indiana Native American Council, or federally recognized Tribes in adjacent states.</p>	<p>CAR 2006.2</p>

<p>P4: Community Relations & Workers' Rights</p>	<p>The State of Indiana purchasing program preferences Indiana businesses. Most service providers are local or regionally based.</p> <p>Most timber sales are purchased by contractors within 95 miles of sale units.</p> <p>DoF clearly has a program for soliciting viewpoints from groups directly affected by forest management, e.g., open houses, user survey forms, notifying adjacent landowners of timber harvests of upcoming activities, semi-annual Forest Stewardship Committee meetings. Efforts are made to provide good recreation opportunities on state lands.</p> <p>Contracts require liability insurance. All contractors (timber purchasers) must have worker's comp and liability insurance</p>	<p>Numerous stakeholders have expressed concern that the DoF public involvement approach is inadequate.</p> <p>Of particular concern, is the lack of involvement, both internal (DoF staff) and external (outside stakeholders), in developing the Strategic Plan 2005-2007.</p>	<p>Major CAR 2006.2 (Closed) CAR 2006.3</p>
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<p>P5: Benefits from the Forest</p>	<p>Clearly, DoF is a long term manager of a state forest system that will remain in state ownership. Necessary investment to support long-term forest management (e.g., TSI, inventory, research and monitoring, acquisition) is planned.</p> <p>Hardwood conversion of pine stands is undertaken when markets appear for these marginally desired species. Local mills are the purchasers of these sales.</p> <p>BMPs, contract terms, and timber sale oversight by field personnel collectively result in operations taking place well within reasonable limits for residual stand damage.</p> <p>There is an exemplary level of diversity of forest uses associated with the Indiana state forests including outdoor recreation, timber production, watersheds, research, and leases.</p> <p>Calculation of the sustainability of harvests is derived from the 2005 system-wide inventory, growth rates based on increment analysis, site index models, and truthing these estimates with actual growth data from FIA and CFI data for two state forests.</p>	<p>DoF is attempting to increase harvest levels by a factor of 3 to 4 with the same number of staff.</p> <p>Additionally, lack of pulp markets results in an increase in woody debris being left in the woods. However, there are no set guidelines or targets for levels of coarse woody debris.</p>	<p>Rec 2006.2</p>
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<p>P6: Environmental Impact</p>	<p>Assessments of current conditions are completed primarily through:</p> <ul style="list-style-type: none"> ▪ Management Guide, timber sale process, and wildlife review checklist- considers habitat types and other factors within 2.5 mile radius of sale ▪ State-wide forest inventory- includes assessments of soils, erosion, wildlife, rare species, invasives. ▪ Natural heritage surveys ▪ Nature Preserve inventory of state forests <p>Clearly, management of the state forests is undertaken by professionals employing scientifically sound methods and relying upon a large body of empirical and research-based information.</p> <p>DoF has a good track record of conforming with BMPs. The most recent BMP monitoring report in Indiana reports a rate of 89% compliance on state forest timber sales, which means that 89% of the 58 BMP specifications on 97 timber sales met the requirements of the BMP guidelines.</p>	<p>There are no specific guidelines for retention of trees, snags, and woody debris during salvage operations.</p> <p>Some disturbance regimes, such as wind driven events, and their contribution to successional stage diversity have not been thoroughly investigated.</p> <p>DoF mainly addresses habitat connectivity by reviewing adjacent forest within a 2.5 mile buffer of each tract. However, a more complete landscape-level analysis would enhance these efforts.</p> <p>It is unclear if the current network of Nature Preserves, in conjunction with other protected forests (National Forests, TNC properties, etc), covers the full complex of representative forest types and communities found on State Forest lands</p>	<p>Major CAR 2006.1 (Closed) CAR 2006.4 CAR 2006.5 Rec 2006.3 Rec 2006.4 Rec 2006.5 Rec 2006.6 Rec 2006.7 Rec 2006.8 Rec 2006.9</p>
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<p>P7: Management Plan</p>	<p>The Properties Strategic Plan includes detailed management goals and objectives. The Strategic Plan gives overall guidance to property activities and is implemented through the DoF Procedures Manual. The Procedures Manual requires that Management Guides be developed for individual tracts and gives direction on operations procedures</p> <p>Tract-level Management Guides are completed and updated prior to any major activity except those considered routine maintenance</p> <p>Management guides include a Wildlife Review Checklist that includes results of Natural Heritage Database queries and requires that habitat analysis be done prior to operations</p>	<p>The team identified some gaps in training of forestry staff in managing species of concern, landscape level planning, knowledge of disturbance regimes and successional pathways, and other requirements of the FSC standard.</p> <p>Discussions of desired future conditions (DFC) for the State Forests are found only in the Silvicultural Guidelines within the Procedures Manual. This description; however, is brief without quantitative descriptions.</p> <p>Overall socioeconomic impacts of State Forest management are not thoroughly documented in planning documents either at strategic or tactical level.</p>	<p>CAR 2006.6</p>
<p>P8: Monitoring & Assessment</p>	<p>A system wide inventory was conducted in 2005. The inventory followed procedures as described in the Resource Inventory section of the Procedures Manual. Monitoring is conducted as scheduled.</p> <p>Other inventories/monitoring on DoF properties includes Natural Areas inventory, fish population monitoring, cultural/archeological resource inventory.</p> <p>DoF is exemplary with respect to BMP monitoring through its internal and external BMP monitoring. Public participation process such as open houses, comment cards, and public outreach, provides feedback to managers regarding public perception of management activities.</p>	<p>Social effects are not presently being monitored</p> <p>Documentation of non-timber resources monitoring is not apparent.</p> <p>DoF has yet to develop a procedure for ensuring chain-of-custody of FSC certified logs</p>	<p>CAR 2006.7 CAR 2006.3</p>

<p>P9: Maintenance of High Conservation Value Forest</p>	<p>The audit team found that DoF management systems have worked to identify and conserve HCVF. The DoF has stated that on “Indiana State Forests, HCVF are designated as Dedicated State Nature Preserves, areas containing critical habitat for endangered species, Important Bird Areas, and areas that contribute directly to ecological values of Focal Areas as designated by The Nature Conservancy.”</p>	<p>In order to communicate DoF’s actions at identifying and maintaining HCVF, a list of specific sites and areas must be developed. Additionally, DoF must establish/clarify the process by which they monitor for new HCVF</p> <p>DoF needs more explicit and formal processes for consulting with stakeholders on HCVF</p>	<p>CAR 2006.8</p>
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4.2 Major Corrective Action Requests (Preconditions)

Major Corrective Action Requests (Major CARS) are issued when the assessment reveals major nonconformities in a forest management operation relative to the certification standard. Major CARs preclude the award of certification until responsive actions have either eliminated the major non-conformity or reduced it to the level of a minor non-conformity.

The following Major CARs were stipulated as a result of the main evaluation and conveyed to DoF shortly after completing of the field audits. Subsequent to that point in time and prior to issuance of this report, DoF took corrective actions that enabled the Major CARs to be either closed or downgraded to Minor CAR status.

Observation: The FSC-prohibited chemicals diquat dibromide is permitted for use on DoF administered forests.	
Major CAR 2006.1	Prior to award of certification, DoF must provide evidence that the use of diquat dibromide will not occur on State Forests (unless a derogation has first been granted by the FSC).
Deadline	Prior to award of certification
Reference	<i>FSC Criterion/Indicator 6.6.a</i>
Auditor Response - 6/5/2007	DOF has submitted to SCS a copy of the memo dated January 24, 2007 that informed all field staff that the use of diquat is restricted.
Status	<i>Closed</i>

Observation: The recent change in direction for the management of Indiana State Forests, as outlined in the Strategic Plan (2005-2007), occurred without adequate internal (DoF staff) and external (outside stakeholders) stakeholder involvement. DOF has prepared a document entitled: a <i>Commitment to an Improved Process for Detailing Strategic Operational Plans</i> that outlines the approach for internal and external involvement for completing the next Strategic Plan. However, at the time of the main assessment this process had not begun, and DoF was unable to demonstrate that strategic planning is being done with an adequate level of stakeholder involvement.	
Major CAR 2006.2	<p>The following Major CAR has two phases, both of which need to be completed prior to award of certification. Upon completion of these Major CAR phases, a minor CAR will be issued that requires completion and implementation of the next Strategic Operational Plan.</p> <p>Phase I: Provide a timeline and further details for completing “<i>Commitment to an Improved Process for Detailing Strategic Operational Plans</i>”, particularly steps 1-4.</p> <p>Phase II:</p>

	<p>Complete steps 1-3 of the improved process:</p> <p>Step 1) Issues Determination: Stakeholders (both internal to IDNR and external) will be provided opportunities to provide input to assist the DNR in determining the issues that should be addressed by the strategic plan.</p> <p>Step 2) Inter-disciplinary teams from within the DNR will create draft goals, objectives and actions for each designated issue.</p> <p>Step 3) All stakeholders will be provided with opportunities to comment on all of the draft goals, objectives and actions proposed.</p>
Deadline	Prior to award of certification
Reference	<i>FSC Criterion 4.4; fatal flaw indicator 4.4.e.</i>
DOF Response	<p>“We have identified 10 specific actions needed to complete Steps 1-3 identified in our “Commitment to an Improved Process for Detailing Strategic and Operational Plans”. We have held internal and external stakeholder input sessions in the form of meetings and open houses. These sessions included a planning session with all the properties section professional staff on March 8 and an issues development planning session for our Forest Stewardship Committee on December 15. We summarized the issues developed and returned to the stakeholder groups for review and comment; each day we receive comments on the issues. The 9 open houses were held March 1 through May 12; all property neighbors were invited to attend via property newsletters, and the open houses were announced through a statewide news release. We have met with our sister Divisions and developed goals which are currently being addressed in the form of draft objectives. Those meetings were conducted on January 30 with staff from the Division of Nature Preserves and on April 26 with staff from the Division of Fish and Wildlife. We have issued a statewide news release announcing the strategic plan for 2008 – 2012 and have asked for public input. That same news release announced the three upcoming public meetings, one each in the north (Salamonie State Park Interpretive Center), central (Indiana Government Center in Indianapolis) and south (Patoka Lake Visitor Center). In these sessions citizens will hear our accomplishments through the previous plan and our current draft goals and objectives. Attendees will also be given the opportunity to ask questions and provide ideas or comments on the next plan. Those three sessions are scheduled for May 29, 30 and 31.”</p>
Auditors Comments – 6/5/2007	SCS has received and reviewed documents related to the internal and external consultations held to determine issues and draft new goals and objectives as well as meetings with other agencies within DNR to develop the goals and objectives for the new Strategic Plan as

	required under Steps 1 and 2. The first draft of the new plan that was presented to stakeholders during the meetings required under step 3 has been received. The auditor confirmed the meetings were well attended and provided for open dialog between interested stakeholders and DNR staff working to finalize the new Strategic Plan. Based upon successful resolution of Phase I and II, steps 1-3, this CAR has been closed and replaced with minor CAR 2007.1
Status	<i>Closed</i>

5.0 CERTIFICATION DECISION

5.1 Certification Recommendation

Major CAR 2006.1 and Major CAR 2006.2 must be adequately addressed before certification can be recommended. (Update: as of June 5, 2007, the audit team closed the two Major CARs on the basis of corrective actions undertaken by DoF.)

5.2 Initial Corrective Action Requests and Recommendations

Minor CARs:

Background/Justification: The majority of property managers were not familiar with the FSC Lake States and Central Hardwood Regional Standard. In order to make a genuine commitment to manage in accordance with FSC Principles and Criteria, as required under Criterion 1.6, managers need to first understand the applicable standard.	
CAR 2006.1	By the 2007 surveillance audit, at least one staff member per state forest property must demonstrate an understanding of the P&C as elaborated by the Lake States and Central Hardwood Regional Standard.
Deadline	2007 surveillance audit
Reference	<i>FSC Criterion 1.6</i>

Background/Justification: We realize that there are no federally recognized tribes residing in Indiana. However, there are tribes outside of Indiana, that once inhabited forests in Indiana, and that may remain interested in the management and protection of their cultural and archeological sites that may still occur within the Indiana state forest system. Additionally there are at least two non-federally recognized Tribes in Indiana: Miami Nation of Indiana, Peru, IN (http://www.miamiindians.org/) Upper Kispoko Band of the Shawnee Nation, Kokomo, IN.	
DoF has not attempted to contact the non-federally recognized Indian Tribes, the Indiana Native American Council, or the federally recognized Tribes in adjacent states.	
CAR 2006.2	By the 2007 surveillance audit, DoF must contact non-federally recognized Indian Tribes currently residing in Indiana, the Indiana

	Native American Council, and federally recognized Tribes in adjacent states. DoF must invite their participation in planning processes for state forests, particularly planning related to identification and protection of Tribal resources, including cultural and archaeological sites.
Deadline	2007 surveillance audit
Reference	Criterion 3.2 and 3.3

Background/Justification: The audit team observed an adequate process, through annual open houses, for public involvement at the individual state forest level. However, many DoF opponents still criticized this process as being too restrictive or not accessible. It is possible that some of the concern expressed by stakeholders is due to a misunderstanding of the DoF public participation protocols. On a related issue, there is a need to improve public access to DoF plans, guidance documents, monitoring results, and other key planning documents. CAR 2006.3 addresses these findings.

CAR 2006.3	Within 3 months of award of certification, DoF must provide the public with easy access (e.g., via the DNR website) to a clear description of the DoF protocols for public involvement, how comments are considered, and available dispute resolution processes. Additionally, DoF must make its planning, monitoring results, and other key documents readily available to the public. Per FSC Criterion 7.4 and 8.5, respectively, these documents must include a public summary of the management plan and the results of monitoring activities.
Deadline	3 months following award of certification
Reference	<i>FSC Criterion 4.4, 7.4, 8.5</i>

Background/Justification: In the course of examining marked and harvested stands, the audit team observed variation across forest units and among individual foresters with respect to stand-level wildlife habitat elements (e.g., snags; green tree retention in clearcuts; den, nest, declining, and mast trees; downed woody debris). Attention to snags and mast trees was strong; however, there are no standards for other stand-level wildlife habitat elements.

CAR 2006.4	By the 2007 surveillance audit, DoF must develop and implement a comprehensive set of guidelines to provide stand-level wildlife habitat elements.
Deadline	2007 surveillance audit
Reference	<i>FSC Criterion 6.3.b and 6.3.c</i>

Background/Justification: The team recognizes that the Division of Nature Preserves, in cooperation with DoF, has done considerable work establishing nature preserves on

state forests. However, it is unclear if the current network of Nature Preserves, in conjunction with other protected forests (National Forests, TNC properties, etc), covers the full complex of representative forest types and communities found on State Forest lands (as required by Criterion 6.4)	
CAR 2006.5	By the 2008 surveillance audit, DoF must (working with partners, if possible) complete a gap analysis to identify needs for samples of representative ecosystems found on state forest lands. Upon completion of the gap analysis, DoF must determine through an interdisciplinary approach what, if any, opportunities there may be to establish representative samples on state forests. Between now and 2008, if there arise known opportunities on state forests to contribute to known gaps of representative samples, DoF must begin the process to establish active designations.
Reference	<i>Criterion 6.4</i>
Deadline	Year 2 surveillance audit

Background/Justification: The team identified some gaps in training of forestry staff in managing species of concern, landscape level planning, knowledge of disturbance regimes and successional pathways, and other requirements of the FSC standard.	
CAR.2006.6	By the 2007 surveillance audit, DOF must assess the effectiveness of current staffing and training opportunities at providing the necessary expertise to address gaps identified in the FSC report (both CARs and RECs). Prepare an action plan that details how gaps in training and/or expertise will be filled.
Reference	<i>Criterion 7.3</i>
Deadline	2007 surveillance audit

Background/Justification: DoF has yet to develop a procedure for ensuring chain-of-custody of FSC certified logs. For an entity selling only standing timber, the chain-of-custody obligations include:	
<ul style="list-style-type: none"> • Effectively notifying all purchasers of state forest timber sales that maintaining the FSC-certified status of the procured products requires each owner of the product, from severance at the stump onward, to hold valid FSC-endorsed chain-of-custody certificates; • Including IN DoF's FSC FM/COC registration number on timber sale contracts and sale prospectus; • Upon request from SCS, making available the following timber sale information: purchaser's name and contact information, species and volume sold, date of sale; • Notifying SCS and/or the FSC of any instances when a purchaser of state forest timber (not holding a valid FSC-endorsed chain-of-custody certificate) uses the FSC logo; • Maintaining timber sale records for at least 5 years 	

CAR 2006.7	Prior to selling wood as FSC certified, DoF must develop and implement a procedure covering the FSC CoC requirements.
Reference	<i>Criterion 8.3</i>
Deadline	Prior to sale of wood as FSC certified
DoF Response	DNR has made a commitment to include the FSC FM/COC registration number on timber sale notices and contracts. Within 2 years, DoF will explore opportunities to encourage purchasers to acquire valid FSC-endorsed-chain-of-custody certification. DoF will continue to maintain timber sale records for at least 5 years, and will notify SCS if any purchaser improperly uses the FSC logo.
Status	The response is sufficient to allow DoF to sell wood as FSC certified. At the Nov 2007 surveillance audit, SCS will review the implementation of this. Continued- due at 2008 surveillance audit.

Background/Justification: The audit team found that DoF managers, employing management systems, have worked to identify and conserve areas possessing High Conservation Value Forests. The DoF has stated that on <i>Indiana State Forests, HC VF are designated as Dedicated State Nature Preserves, areas containing critical habitat for endangered species, Important Bird Areas, and areas that contribute directly to ecological values of Focal Areas as designated by The Nature Conservancy.</i> In order to communicate DoF's actions at identifying and maintaining HC VF, a list of specific sites and areas must be developed.	
CAR 2006.8	By the 2007 surveillance audit, DoF must compile the list of specific sites and areas classified as HC VF- per the scope of the assessment required by Criterion 9.1. Additionally per Criterion 9.2, DoF must provide explicit opportunities to the public to offer input on identifying, designating, and managing HC VF. Thus, DoF must demonstrate what opportunities have and will occur for the public to nominate HC VF.
Reference	<i>Principle 9</i>
Deadline	2007 surveillance audit

Background/Justification: The recent change in direction for the management of Indiana State Forests, as outlined in the Strategic Plan (2005-2007), occurred without adequate internal (DoF staff) and external (outside stakeholders) stakeholder involvement. The 2005-2007 Strategic Plan will be replaced by a strategic plan developed during 2007 to cover activities from 2008-2013. DOF has prepared a document entitled: a <i>Commitment to an Improved Process for Detailing Strategic Operational Plans</i> that outlines the approach for internal and external involvement for completing the next Strategic Plan. Development of that replacement plan will consist of the following broad steps:	
Step 1) Issues Determination: Stakeholders (both internal to IDNR and external) will be provided opportunities to provide input to assist the DNR in determining the issues that should be addressed by the strategic plan.	

Step 2) Inter-disciplinary teams from within the DNR will create draft goals, objectives and actions for each designated issue.	
Step 3) All stakeholders will be provided with opportunities to comment on all of the draft goals, objectives and actions proposed.	
Step 4) Finalize the Plan: The DNR will then use those comments to finalize the Strategic Plan for 2008-2013.	
DOF has submitted documentation to demonstrate completion of step 1-3. DOF has not yet completed step 4. This step is required in order to complete the process and fully integrate the public comments into development of the next Strategic Plan.	
CAR 2007.1	DOF must complete Step 4 (Finalize the Plan: The DNR will then use those comments to finalize the Strategic Plan for 2008-2013) of the document entitled Commitment to an Improved Process for Detailing Strategic Operational Plans.
Deadline	12/31/2007
Reference	<i>FSC Criterion 4.4</i>

Recommendations:

Background/Justification: DoF should readily provide SCS within information regarding significant unresolved disputes at each surveillance audit.	
REC 2006.1	At the time of each surveillance audit, DoF should provide SCS a summary/status report of current unresolved disputes.
Reference	<i>FSC Indicator 2.3.b</i>

Background/Justification: There are no set guidelines or target levels for coarse woody debris.	
REC 2006.2	DoF should develop standards for coarse woody debris retention ensuring sufficient levels in a diversity of size classes are retained.
Reference	<i>FSC Criterion 5.3</i>

Background/Justification: Disturbance regimes, such as wind driven events, and their contribution to a diversity of successional stages have not been thoroughly investigated and incorporated into management of state forests	
REC 2006.3	DoF should emphasize continuing education and/or acquiring additional expertise on forest ecology including disturbance regimes and pathways and flora and fauna communities.
Reference	<i>FSC Criterion 6.1</i>

Background/Justification: There is lack of understanding and documentation of habitat	
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needs and management considerations pertaining to species of concern, as defined by the Natural Heritage Element Occurrence Record dataset	
REC 2006.4	DoF should improve the presentation and distribution of information describing habitat and best management practices for species of concern.
Reference	<i>FSC Criterion 6.2</i>

Background/Justification: Ecological characteristics of adjacent forested stands are not consistently considered. Although each management guide looks within a 2.5 mile radius of the tract- this rarely results in any new information or alteration to the proposed treatment.	
REC 2006.5	DoF should improve the process for considering ecological characteristics of adjacent forested stands
Reference	<i>FSC Criterion 6.3</i>

Background/Justification: There is an opportunity to use more prescribed fire	
REC 2006.6	DoF should make a commitment to using prescribed fire when possible, and prepare an operating procedure that guides when and how prescribed fire should be used.
Reference	<i>FSC Criterion 6.3</i>

Background/Justification: Although the vast majority of chemical use follows a written prescription, occasionally DoF staff will treat invasive exotic species without first preparing a written strategy.	
REC 2006.7	DoF should ensure that every herbicide application is done in accordance with a written prescription
Reference	<i>FSC Criterion 6.6</i>

Background/Justification: IN BMP's require operators to carry spill kits; however DoF is not consistently enforcing this requirement.	
REC 2006.8	DoF should ensure that all equipment operators carry spill kits, and are properly trained in containment and clean-up procedures.
Reference	<i>FSC Criterion 6.7</i>

Background/Justification: DoF has an active program and strategies for treating invasive exotic plants; however, these were not communicated in the 2005-2007 Strategic Plan. Due to the recent increases in harvesting, plans and actions to address invasive exotic plants should be clearly communicated in the Strategic Plan.	
REC 2006.9	DoF should prepare a section in the strategic plan that details their

	programs for controlling invasive exotic plants, specifically how invasive species control will be enhanced to be commensurate with the increase in harvesting.
Reference	<i>FSC Criterion 6.9</i>

6.0 SURVEILLANCE EVALUATIONS

If certification is awarded, surveillance evaluations will take place at least annually to monitor the status of any open corrective action requests and review the continued conformance of DoF to the Lake States Standard. Public summaries of surveillance evaluations will be posted separately on the SCS website (www.scscertified.com).

7.0 SUMMARY OF SCS COMPLAINT AND APPEAL INVESTIGATION PROCEDURE

The following is a summary of the SCS Complaint and Appeal Investigation Procedures, the full versions of the procedures are available from SCS upon request. The SCS Complaint and Appeal Investigation Procedures are designed for and available to any individual or organization that perceives a stake in the affairs of the SCS Forest Conservation Program and that/who has reason to question either the actions of SCS itself or the actions of a SCS certificate holder.

A **complaint** is a written expression of dissatisfaction, other than **appeal**, by any person or organization, to a certification body, relating to the activities of staff of the SCS Forest Conservation Program and/or representatives of a company or entity holding either a forest management (FM) or chain-of-custody (CoC) certificate issued by SCS and duly endorsed by FSC, where a response is expected (ISO/IEC 17011:2004 (E)). The SCS Complaint Investigation Procedure functions as a first-stage mechanism for resolving complaints and avoiding the need to involve FSC.

An **“appeal”** is a request by a certificate holder or a certification applicant for formal reconsideration of any adverse decision made by the certification body related to its desired certification status. A certificate holder or applicant may formally lodge an appeal with SCS against any adverse certification decision taken by SCS, within thirty (30) days after notification of the decision.

The written Complaint or Appeal must:

- Identify and provide contact information for the complainant or appellant
- Clearly identify the basis of the aggrieved action (date, place, nature of action) and which parties or individuals are associated with the action
- Explain how the action is alleged to violate an SCS or FSC requirement, being as specific as possible with respect to the applicable SCS or FSC requirement

- In the case of complaints against the actions of a certificate holder, rather than SCS itself, the complainant must also describe efforts taken to resolve the matter directly with the certificate holder
- Propose what actions would, in the opinion of the complainant or appellant, rectify the matter.

Written complaints and appeals should be submitted to:

Dr. Robert J. Hrubes
Senior Vice-President
Scientific Certification Systems
2200 Powell Street, Suite 725
Emeryville, California, USA94608
Email: rhrubes@scscertified.com

As detailed in the *SCS-FCP Certification Manual*, investigation of the complaint or appeal will be confidentially conducted in a timely manner. As appropriate, corrective and preventive action and resolution of any deficiencies found in products or services shall be taken and documented.